



# Factors Affecting Choice of Milk Marketing Channels by Dairy Farmers in Punjab

Ravneet Singh Brar<sup>1\*</sup>, Inderpreet Kaur<sup>1</sup>, Varinder Pal Singh<sup>1</sup> and Navjot Kaur<sup>2</sup>

Department of Dairy Economics and Business Management  
Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana-141 004 ( Punjab)

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## ABSTRACT

There exist various milk marketing channels in the Punjab state which provide a conflicting set of preferences to the dairy farmers. Present study unravels the importance of various factors affecting the choice of milk marketing channels by small and medium dairy farmers in the state using Garrett's Ranking Technique. The results revealed that the higher prices for milk to be most important factor followed by doorstep collection in case of both small and medium dairy farmers. The study also provides a glimpse over the comparative profitability of the milk marketing channels. Among the various milk marketing channels, Channel-II (Producer-Co-operative milk plant-Consumer) was most profitable and efficient. The study emphasized that the government must follow a suitable integrated policy for the growth and expansion of dairy business by providing infrastructural facility for strengthening marketing of milk in the state.

**Key Words:** Profitability, Garrett's ranking technique, Medium dairy farmers, Milk, Marketing channels, Punjab, Small dairy farmers.

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## INTRODUCTION

The livestock sector in India has grown stupendously in past decades. Livestock products contributes 26.90 per cent of the agricultural gross domestic product (GDP) which is around 4.40 per cent of the national GDP at current prices and milk constitutes almost 67.20 per cent (Anon, 2016). With the adoption of better management practices at the dairy farms and use of better quality feed and fodder, the total milk production has increased from 17mt in 1950-51 to 155.50mt in 2015-16 (Anon, 2016). The combined share of landless, marginal and small dairy households in country's milk production is 77.34 per cent (Singh *et al*, 2013) and the dairying contributes about 28.89, 13.30 and 11.13 per cent to the total family income in case of landless, marginal and smallholders respectively (NSSO, 2014).

Currently, Punjab produces 10.77mt of milk per year, out of which two-third is marketed and

one-third is retained for home consumption. More than 75 per cent of milk production and marketed milk are contributed by the households keeping 3 or more milch animals (Kumar *et al*, 2011) which make small and medium farmers an indispensable part of the milk production system. These farmers are scattered throughout the state and continue practicing conventional milk production, distribution and marketing strategies.

There exist various milk marketing channels in the Punjab state which provide a conflicting set of choices and preferences to the dairy farmers. Unorganized channels having various loopholes drastically affect the quality of milk and milk products and tilt the pendulum in favor of more organized milk marketing channels. In the light of above, there was a dire need to analyze the importance of various factors affecting the adoption process of milk marketing channels by small and medium dairy farmers especially in the state of

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\*Corresponding Author's Email: ravbrar0456@yahoo.com

1 Department of Dairy Economics and Business Management, GADVASU, Ludhiana-141004, Punjab

2 Department of Economics and Sociology, Punjab Agricultural University, Ludhiana 141 004 Punjab

Punjab where dairy is a major subsector. Thus, the present study has been undertaken in this direction with the aim to analyze the importance of various factors affecting the choice of milk marketing channels by small and medium dairy farmers in Punjab State.

## MATERIALS AND METHODS

A descriptive cross sectional research design was employed in the study with an aim of identifying factors influencing the choice of market channels by dairy farmers. The study was conducted in three agro-climatic zones of Punjab state *viz.*, sub mountainous zone, central zone and south-western zone in the year 2015. A multistage sampling technique was used to select the sample population. In first stage, the district having highest milk production from each zone was selected and further two blocks were selected randomly from each district based on different situations of marketing of milk. In next stage, two villages were selected randomly from each selected block. Overall twelve villages were selected from three districts for detailed study. A sample of 15 dairy farmers (small and medium category) from each village was selected using probability proportional to size method. Consequently, 133 small and 47 medium size dairy farmers were selected randomly making a total sample of 180 dairy farmers.

There were ten factors identified for the purpose of studying the choice of milk marketing channels by small and medium dairy farmers. The factors were higher prices for milk, timely payments by buyer, transparent in pricing, know the buyer well and trust him, less price fluctuation, transparency in measurement, provides advances purchases less quantity of milk even when milk production is low, doorstep collection, provides dairy inputs at cheaper prices. The primary data for this study were collected through personal interview schedule by asking the respondents to rank the factors affecting the choice of milk marketing channels.

## Garrett's Ranking

Garrets Ranking Technique has been used to analyze the factors affecting the choice of milk marketing channels by small and medium dairy farmers. Under the Garrett's Ranking Technique the percentage position was calculated by using the following formula:

Where;  $R_{ij}$  = Rank given for  $i$ th variable by the  $j$ th respondent.  $N_j$  = Number of variables ranked by the  $j$ th respondent.

## RESULTS AND DISCUSSION

### Milk marketing channels

Marketing channels are the routes through which the products move from producers to consumers. As per study, in Punjab all forms of marketing channels exist in dairy sector. These include organized marketing channels (co-operatives and private dairy plants) and unorganized marketing channels (milk vendor, sweet shops/creameries etc.) comprising the marketing of liquid milk. The major market channels involved in the marketing of milk are presented in Table 1. The results of the table revealed that mainly there were five milk marketing channels existing in the state.

Out of these five, two channels were categorized under organized sector and remaining three under unorganized sector of marketing. It was observed that in Channel-I the producers were selling milk directly to the consumers. Channel-II is of co-operative milk plant. The milk was collected by the co-operative societies at village level from where it is transported to the co-operative milk plant. Channel-III is of private milk plant. There exist collection centre of private milk plants at village level from where the collected milk is sent to the private dairy plant for further processing. Channel-IV consisted of milk vendors who collect milk from the producers and then sell liquid milk to the

## Choice of Milk Marketing Channels

**Table 1: Existing milk marketing channels in Punjab.**

Channel Name	Description of Channel
<b>Organized Marketing Channels</b>	
Channel II	Producer → Co-operative Milk Plant → Consumers
Channel III	Producer → Private Milk Plant → Consumers
<b>Unorganized Marketing Channels</b>	
Channel I	Producer → Consumer
Channel IV	Producer → Milk Vendor → Consumers
Channel V	Producer → Milk Vendors → Sweet Shops/Creameries → Consumers

**Table 2: Profits per litre of milk earned by small and medium sized dairy farmers in Punjab (₹/l)**

Marketing channel	Profit earned per litre of milk			
	Small		Medium	
	Summer	Winter	Summer	Winter
Channel I	0.49	2.04	2.97	6.03
Channel II	-2.32	-0.27	1.99	4.43
Channel III	-3.90	-1.03	0.63	3.38
Channel IV	-2.86	-0.52	1.23	4.22
Channel V	-4.26	-1.28	0.17	3.41

consumers. In Channel-V, two intermediaries were included. The milk vendors collect milk from the producers and then sell it to the sweet shops or creameries in nearby city which further sell the liquid milk or milk products to the consumers.

Comparative profitability pattern of various milk marketing channels

Different marketing channels give different profits to the producers. It was due to the variation in costs incurred and price received of milk by dairy farmers among different marketing channels. The profits earned by small and medium sized dairy farmers have been represented in Table 2.

A perusal of the data (Table 2) represent that the net profit earned by small farmers in winter was observed to be highest in Channel-I (₹ 2.04/L). In all the other channels farmers were bearing losses. The value of loss was found to be least in Channel-II (₹ 0.27/L) followed by Channel-IV (₹ 0.52/L), Channel-III (₹ 1.03/L) and Channel-V (₹ 1.28/L). In summer season the trend was again found to be same.

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**Table 3. Percentage of responses given in yes by small and medium sized dairy farmers.**

Sr. No.	Factor	Percentage response given by farmers	
		Small	Medium
1	Higher price for milk	100.00	100.00
2	Timely payment by buyer	100.00	100.00
3	Transparent pricing	98.50	100.00
4	Know the buyer well and trust him	95.49	100.00
5	Less price fluctuation	88.72	100.00
6	Transparency in measurement	84.96	100.00
7	Provides advance	84.21	91.49
8	Purchases less quantity of milk even when milk production is low	83.46	100.00
9	Doorstep collection	51.13	48.94
10	Provides dairy inputs at cheaper prices	9.77	10.64

in an increase in profit. The season wise analysis concluded that the profits earned by both small and medium sized dairy farmers were higher in summer in all channels. It was due to the decreased yield of milk in summer season thus increasing the cost of milk production.

#### **Percentage of responses for various factors**

The percentage of responses for various factors affecting choice of milk marketing channels given in yes by small and medium sized dairy farmers is represented in Table 3. A perusal of table represented that in small size category all the farmers responded to the factors higher prices of milk and timely payments by the buyer while in medium size category the factors which were responded yes by all the farmers were observed to be higher prices for milk, timely payment by buyer, transparent in pricing, know the buyer well and trust him, less price fluctuation, transparency in measurement and purchases less quantity of milk even when milk production is low. The factor provides dairy inputs at cheaper prices was responded yes by least number of farmers in both small and medium size category. The factor doorstep collection was responded yes by 51.13 per cent farmers in small size category while in medium size category 48.94 per cent of the farmers responded yes to it.

#### **Factors affecting choice of milk marketing channels**

The number of respondents ranked the factors as 1,2,3,4,5,6,7,8,9 and 10 for the preference for the factors affecting choice of milk marketing channels by small and medium sized dairy farmers is represented in Table 4 and 5, respectively. The data also show the total score and the mean score. For factor higher prices of milk the total score i.e. 10420 for small sized farmers and 3720 for medium sized farmers was calculated by multiplying the number of respondents ranking that factor as 1,2,3,4,5,6,7,8,9 and 10 by their respective table values given in Table II. Mean score for factor higher prices of milk i.e. 78.35 for small sized farmers and 79.15 for medium sized farmers was calculated by dividing the total score by the number of respondents. The total and mean score for all other factors was calculated by using same technique. The perusal of data (Table 4 and 5) represent that according to the Garrett ranking, the factors which induces the respondents to show preference for the factors affecting choice of milk marketing channels by small sized dairy farmers are in this order namely higher prices for milk, doorstep collection, provides dairy inputs at cheaper prices, provides advances, timely payments by buyer, know the buyer well and

**Table 4. Preference for different milk marketing channels by small dairy farmers.**

Sr. No.	Factor	Rank										Number of respondents	Total Score	Mean Score	Rank
		1	2	3	4	5	6	7	8	9	10				
1.	Higher price for milk	97	29	6	1	0	0	0	0	0	0	133	10420	78.35	I
2.	Doorstep collection	31	28	4	1	0	3	1	0	0	0	68	4998	73.50	II
3.	Provides dairy inputs at cheaper prices	0	2	4	4	1	1	0	1	2	0	13	821	63.15	III
4.	Provide advances	6	38	34	14	9	3	4	3	1	1	112	7045	62.90	IV
5.	Timely payment by buyer	2	27	38	37	13	12	2	2	0	0	133	8004	60.18	V
6.	Know the buyer well	1	5	11	24	37	23	13	13	6	0	127	6752	53.17	VI
7.	Transparent pricing	0	6	26	27	23	15	18	16	2	0	131	6948	53.04	VII
8.	Transparent measurement	0	4	2	8	18	22	34	25	18	0	113	5755	50.93	VIII
9.	Purchases less quantity	0	0	4	9	15	27	26	30	17	0	111	5562	50.11	IX
10.	Less price fluctuation	0	0	5	11	15	28	28	31	14	0	118	5820	49.32	X

**Table 5. Preference for different milk marketing channels by medium dairy farmer.**

Sr No	Factors	Rank										Total no of respondents	Total Score	Mean Score	Rank
		1	2	3	4	5	6	7	8	9	10				
1.	Higher Prices for milk	37	8	2	0	0	0	0	0	0	0	47	3720	79.15	I
2.	Doorstep collection	8	8	3	1	1	1	0	1	0	0	23	1600	69.57	II
3.	Provides advances	2	18	10	5	3	1	1	2	1	0	43	2694	62.65	III
4.	Timely payment by buyer	1	12	16	9	6	2	1	0	0	0	47	2902	61.74	IV
5.	Provides dairy inputs at cheaper rates	0	1	1	1	1	1	0	0	0	0	5	291	58.20	V
6.	Transparent pricing	1	0	11	10	8	7	4	3	3	0	47	2476	52.68	VI
7.	Know the buyer well	1	1	2	15	11	6	2	6	3	0	47	2404	51.15	VII
8.	Transparent measurement	1	0	1	5	2	13	14	7	4	0	47	2130	45.32	VIII
9.	Purchases less quantity	0	1	0	1	7	9	10	17	2	0	47	2033	43.26	IX
10.	Less price fluctuation	0	0	0	1	6	6	15	10	9	0	47	1928	41.02	X

## Choice of Milk Marketing Channels

trust him, transparent in pricing, transparency in measurement, purchases less quantity of milk even when milk production is low, less price fluctuation while the preference for the factors affecting choice of milk marketing channels by medium sized dairy farmers are in the order namely higher prices for milk, doorstep collection, provides advances, timely payments by buyer, provides dairy inputs at cheaper prices, transparent in pricing, know the buyer well and trust him, transparency in measurement, purchases less quantity of milk even when milk production is low, less price fluctuation.

### CONCLUSION

The results of the study revealed that out of various milk marketing channels that exist in the state the most profitable channel was found to be channel- I i.e. Producers - Consumers for both small and medium sized dairy farmers. It was further observed that out of various factors affecting the choice of milk marketing channels higher price of milk was found to be most important factor as it was ranked number I using the garrett's ranking method for both small and medium sized dairy farmers followed by doorstep collection as it is ranked number II by both and medium sized dairy farmers. The results of the study further revealed that there is a need to arrange awareness camps in villages so that the dairy farmers can get proper information regarding the milk market. The government must follow a conducive integrate policy for the improvement of dairy enterprise.

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