

Milk Market Dynamics in Shri Muktsar Sahib District, Punjab

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Abstract

This study examines the milk marketing patterns and channel preferences among dairy producers in the Shri Muktsar Sahib district of Punjab. Despite the availability of organized channels such as cooperative societies and private dairies, unorganized channels—particularly milk vendors—continue to dominate, accounting for a significant share of the marketed surplus. Data collected from sampled households reveal that over three-fourths of the total milk production is marketed, while buffalo milk is preferred for domestic use due to its higher fat and protein content. The study identifies key factors influencing channel selection, including better prices, timely payments, doorstep collection, and input supply. Direct sales to consumers and private dairies were preferred for economic returns, while convenience and flexibility drove sales through vendors. The findings underscore the need for policy interventions aimed at strengthening organized marketing systems by ensuring timely payments, expanding doorstep collection, and enhancing trust and service delivery to encourage broader producer participation.

Keywords: Rural Economy, Milk Markets, Dairy Farming, Producer Preferences

Introduction

Punjab, known as the "Granary of India", has historically been a hub for agricultural innovation. Punjab has fostered a robust dairy culture in addition to its dominant crop economy—where milk production has not just met local nutritional needs but gradually emerged as an important source of income for millions of rural families and assumed the most important role in providing employment (Singh and Singh, 2021). As the state undergoes agrarian distress due to monocropping and resource depletion, dairy farming provides an alternative and sustainable source for livelihood.

The farming classes in the state of Punjab have been rearing the milch animals since the traditional times but there was virtually no market for milk. The milch animals were mainly kept to meet the needs of domestic milk consumption and draft animals and selling of milk was considered to be a sin. Things have changed with the passage of time, as agriculture has become more commercialized and consumption pattern of the rural population also has undergone changes due to the growth in income and development of the links between rural and urban areas. The attitude of the farming community has also changed and they have started exploring the new possibilities for increasing their income and milk production is one of them. The growth of the demand for milk in the urban areas is one of the major drivers to promote the activity of milk production in the rural areas. The milk markets have come up in the rural areas of the state of Punjab. With the development of the milk market system in the state of Punjab the activity of milk production started receiving increased attention (Grewal and Ranghi, 1980).

In the present study, an attempt has been made to estimate the marketing pattern of milk production in the Shri Muktsar Sahib district of Punjab. The analysis focuses on three key aspects: the pattern of production, consumption, and marketed surplus of milk; the various marketing channels through which milk is distributed; and the factors influencing producers' preferences in selecting specific milk marketing channels.

Milk Production, Consumption and Marketed Surplus of Total Milk

Household milk production is generally allocated between two primary uses: domestic consumption and marketable surplus. Table 1 presents data on milk production, consumption, and marketed surplus across various dairy farmers in the Shri Muktsar Sahib district of Punjab. On average, the sampled households produced 839 litres of milk per day. Approximately 29.80 percent of this quantity was retained for household consumption, while the remaining 70.20 percent represented the surplus available for sale in the market. Similar patterns of milk utilization have been observed in earlier studies, which highlight that a significant proportion of milk produced in rural households is marketed to generate regular cash income (Birthal & Jha, 2005).

Table 1. Pattern of Production, Consumption, and Marketed Surplus of Total Milk Production (Litres per day)

Particulars	Daily Production (in litres per Day)
Total Production	839(100)
Domestic Consumption	250 (29.80)
Marketed Surplus	589 (70.20)

Source: Primary Survey 2025

Figures in the brackets indicate the percentage to the respective total

Marketing Channels of Milk Production

Milk, being a highly perishable commodity, requires a prompt and efficient marketing system to prevent spoilage and ensure timely delivery to consumers. An efficient marketing system plays a dual role: it minimizes the cost of marketing services, thereby maximizing the producer's share in the consumer's rupee, and simultaneously ensures the availability of the product to consumers at fair prices. The overall effectiveness of milk marketing largely depends on the efficiency of the marketing channels employed. These channels serve as the pathways through which milk is transferred from producers to end consumers and are generally classified into two broad types: organized and unorganized channels.

In the organized marketing system, milk is typically collected from producers at cooperative or privately operated collection centers located at the village level. It is then transported to processing units, where quality assessments are conducted prior to distribution. Studies have emphasized that organized channels help improve milk quality, ensure fair pricing for producers, and enhance consumer trust in dairy products (Birthal & Jha, 2005; Kurup & Suresh, 2011). Conversely, the unorganized marketing system involves direct sale from producers to consumers or the involvement of intermediaries such as local milk vendors. In this system, pricing is generally influenced by demand-supply dynamics and seasonal fluctuations, with limited attention to quality parameters like fat and SNF (Solids-Not-Fat) content (Kumar et al., 2010). The dominance of unorganized channels in rural areas continues to pose challenges to standardization, hygiene, and producer welfare.

Table 2. Marketing Channels

Name of Channel	Description of Channel
Organised Marketing Channels	
Channel I	Producer→ Cooperative Societies→ Consumer
Channel II	Producer→ Private Dairy→ Consumer
Unorganized Marketing Channels	
Channel III	Producer→ Milk Vendor→ Consumer
Channel IV	Producer→ Consumer

The study identified four major milk marketing channels functioning in the surveyed areas, categorized into two organized and two unorganized types (Table 2). The organized channels include: Channel I, where producers deliver milk to cooperative societies that collect it at village-level centers and transport it to cooperative milk processing plants; and Channel II, where milk is sold to private processors through village-based collection points operated by private dairy firms. These firms then route the milk to processing facilities. In contrast, the unorganized sector comprises Channel III, where local milk vendors procure milk directly from producers' homes and supply it to consumers, and Channel IV, which involves direct sales by producers to consumers without intermediaries.

Analysis of Table 3 reveals that the total milk marketed by all sampled households was estimated at 589 litres per day. Among this, 54.67 percent was routed through unorganized channels, while the remaining 45.33 percent flowed through organized systems. A breakdown shows the highest proportion of milk was sold via Channel III (32.94%), followed by Channel II (29.20%), Channel I (25.47%), and Channel IV (12.39%). Despite the fact that cooperative societies often offer higher prices due to quality-based procurement based on fat and solids-not-fat (SNF) content, informal channels like milk vendors still dominate. Previous studies suggest this is largely due to the convenience, flexibility, and daily payment structure offered by unorganized channels (Kumar et al., 2010; Birthal & Jha, 2005).

Table 3. Marketing Pattern of Milk Production (in Liters per day)

Particulars	Channel I	Channel II	Channel III	Channel IV	Total Sale
Quantity of Milk Sale	150 (25.47)	172 (29.20)	194 (32.94)	73 (12.39)	589 (100)

Source: Primary Survey 2025

Figures in the brackets indicate the percentage to the respective total

Producers prefer unorganized channels primarily because vendors offer immediate or advance payments upon request, while cooperatives tend to delay payments—often exceeding ten days. Moreover, some producers expressed dissatisfaction with the accuracy of fat and SNF testing in cooperative channels, which affects their income. This perception is supported by findings from other studies indicating that inefficiencies in cooperative governance, delayed payments, and lack of transparency often hinder their effectiveness (Chatterjee, 2018; Joshi & Singh, 2020). Meanwhile, the limited milk sold directly to consumers (Channel IV) can be attributed to low local demand, as most rural households in the sampled area rear their own milch animals and thus meet their domestic milk needs independently.

Factors Determining the Choice of Marketing Channel

The presence of multiple milk marketing channels in the study area presents dairy producers with a diverse and often conflicting set of options for selling their produce. In this context, it becomes essential to examine the key factors influencing the selection of specific marketing channels by various categories of farmers, including landless households, in the selected districts of Punjab. Understanding these determinants is crucial for effectively directing milk marketing through appropriate and efficient channels. To assess producer preferences, respondents were presented with a set of predetermined factors potentially influencing their choice of marketing outlet. They were then asked to rank these factors based on the level of importance attributed to each. In order to identify and prioritize the most significant factors influencing channel selection, Garrett's ranking technique was employed as a methodological tool.

6.3.1 Direct Sale to Consumer

From the producer's perspective, direct sale to consumers is considered the most advantageous milk marketing channel, primarily because it allows producers to retain a greater share of the final consumer price. This advantage arises from the elimination of intermediary involvement, which reduces both marketing costs and profit margins typically captured by middlemen. In addition to higher returns, several other factors also influence the preference for direct marketing.

An analysis of producer preferences for these influencing factors is presented in Table 4. The data indicate that the most significant determinant in favoring direct sales was the opportunity to receive a better price for milk, which recorded the highest mean score of 18.50 among all sampled households. Timely payments emerged as the second most important factor (mean score 18.05), followed closely by the convenience of selling from home (mean score 16.70). The assurance of fixed pricing and the presence of friendly relations with buyers were ranked fourth and fifth, with mean scores of 16.25 and 15.67, respectively. In contrast, lower milk production and lower fat content were identified as the least influential factors in determining the choice of this channel, with mean scores of 12.50 and 11.73, respectively.

Table 4. Factors Affecting Sale of Milk Direct to Consumer

Category/ Particulars	Mean Score	Rank
Sale from Home	16.25	4
Payment on time	18.05	2
Better Price	18.50	1
Fix Price	15.67	5
Friendly relations	13.86	6
Lower Production	11.73	8
Lower fat	12.50	7
Advance payment	16.70	3

Source: Primary Survey 2025

Figures in the brackets indicate the percentage to the respective total

Cooperative Societies

Cooperative societies were found to be the important organized milk marketing channel in the study area as about 23 per cent of the total milk production was marketed through this channel. These societies also

supply some inputs like cattle feed, seeds for fodder production etc, to the milk producers along with paying better prices of their milk. In case of Punjab, 'The Punjab State Cooperative Milk Producers Federation Limited' (MILKFED) is the only cooperative model which was established in 1973 with the primary aim of providing a lucrative price of milk to the producers by value addition and marketing of produce.

The key factors influencing producers' decisions to market their milk through cooperative societies, based on respondent preferences, are presented in Table 5. The analysis indicates that the most influential factor encouraging the sampled households to engage with cooperative societies was the prospect of receiving better prices for their milk, reflected by the highest mean score of 20.87. The provision of agricultural and dairy inputs by the cooperatives emerged as the second most significant factor, with a mean score of 14.89. Timely payments ranked third, with a mean score of 14.68, while the proximity of the milk collection centre to the producer's residence was identified as the fourth most important consideration, with a mean score of 11.21.

Table 5. Factors Affecting Sale of Milk to Cooperative Societies

Category/ Particulars	Mean Score	Rank
Payment on time	14.68	3
Better Price	20.87	1
Near to home	11.21	4
Supply of inputs	14.89	2

Source: Primary Survey 2025

Figures in the brackets indicate the percentage to the respective total

Milk Vendor

Despite the availability of modern milk marketing channels such as cooperative societies and private dairy firms, traditional channels—particularly milk vendors—continue to play a dominant role in the study area's milk marketing system. Approximately 39 percent of the total milk produced by sampled households was marketed through milk vendors, indicating the continued reliance on informal networks. Table 6 presents the factors influencing producers' preference for this channel.

Table 6. Factors Affecting Sale of Milk to Milk Vendor

Category/ Particulars	Mean Score	Rank
Sale from home	9.29	1
Payment on time	8.36	2
Better Price	5.13	6
Fix Price	6.87	4
Friendly relations	4.28	7
Lower Production	3.69	8
Lower fat	6.69	5
Advance payment	7.38	3

Source: Primary Survey 2025

Figures in the brackets indicate the percentage to the respective

The analysis reveals that the most influential factors prompting producers to sell their milk to vendors were doorstep collection (mean score 9.29) and timely payment (mean score 8.36). These conveniences reduce the burden of transportation and ensure liquidity for producers, making vendors a preferred option. Other motivating factors included fixed pricing (mean score 7.38), availability of advance payment (mean score 6.87), and the ability to market milk with lower fat content (mean score 6.69). Less significant but still relevant factors were lower overall milk production (mean score 5.13), the possibility of obtaining better prices (mean score 4.28), and established personal relationships with milk vendors (mean score 3.69). These findings underscore the importance of operational convenience and payment flexibility in shaping producers' marketing choices, particularly in rural dairy systems where trust and immediacy often outweigh formal institutional benefits.

Private Dairy

Private dairies emerged as the most significant organized milk marketing channel in the study area, accounting for the sale of more than one-fourth of the total milk production by sampled households. The factors influencing producers' preference for this channel are presented in Table 7. The analysis indicates that the primary motivations for selling milk to private dairies were the opportunity to obtain better prices (mean score: 29.4) and the assurance of timely payments (mean score: 28.95). These factors reflect the producers' emphasis on financial returns and payment reliability.

Additional influential factors included the provision of inputs such as feed and veterinary services (mean score: 23.2), the availability of advance payments when needed (mean score: 21.35), and the proximity of the private dairy to the producers' residences (mean score: 17.0), which offered logistical convenience. These findings suggest that private dairies are perceived by producers as a reliable and supportive marketing option, balancing both economic incentives and service accessibility.

Table 7. Factors Affecting Sale of Milk to Milk Vendor

Category/ Particulars	Mean Score	Rank
Payment on time	28.95	2
Better Price	29.40	1
Near to home	17	5
Advance payment	21.35	4
Supply of inputs	23.2	3

Source: Primary Survey 2025

Figures in the brackets indicate the percentage to the respective

The findings of the study indicate that a substantial portion of total milk production—exceeding three-fourths—was marketed, while the remaining quantity was retained for household consumption. Among the types of milk retained, buffalo milk was preferred over cow milk due to its higher protein and fat content, which enhances its nutritional value for domestic use.

The analysis of milk marketing patterns in the study area reveals that, despite the relatively higher prices offered by cooperative societies, traditional marketing channels—particularly milk vendors—continue to dominate the sector. More than half of the marketed surplus was sold through unorganized channels, with milk vendors serving as the primary intermediaries. This reflects the persistence of informal systems in the regional dairy economy.

A closer examination of channel-wise preferences highlights that the promise of better milk prices was the most influential factor for producers choosing both direct sales to consumers and cooperative societies. In the case of milk vendors, the key determinant was the convenience of doorstep milk collection. For private dairies, producers were primarily motivated by the prospects of receiving higher prices and timely payments. These insights underscore the role of both economic incentives and service-related factors—such as payment schedules and logistical convenience—in shaping producers' marketing decisions across different channels.

Conclusion

The study concludes that a significant share of milk production in the study area is marketed, with buffalo milk being preferred for domestic consumption due to its superior nutritional content. Despite the presence of organized marketing channels, unorganized systems—especially milk vendors—remain dominant, driven by convenience and flexible payment terms. Producers' channel preferences are largely influenced by factors such as better pricing, timely payments, and doorstep collection. While private dairies and cooperatives offer competitive prices and input support, trust and accessibility continue to shape producer behavior. Strengthening organized channels with improved services may help enhance efficiency in the regional milk marketing system. From a policy perspective, efforts should focus on improving the operational transparency, payment mechanisms, and outreach of cooperative and private dairies. Additionally, promoting doorstep milk collection and ensuring timely compensation could increase producer participation in organized channels.

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