

協同および伝統的な牛乳マーケティングチャネルの構造、戦略* —バングラデシュの3つの地区を事例に—

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Structure, a strategy of cooperative and traditional milk
marketing channels: A case study in three districts of Bangladesh

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1. Background and Subject

1.1 Empirical statistical background

Dairy farming played a very important role in the village and suburban economy of Bangladesh. They hold a major share of agricultural gross income and also their households' income. Income in producers' level from milk is less due to poor marketing system as one of the obstacles of dairy farming in Bangladesh. Middlemen are performing various intermediary marketing functions like transportation and retailing of the milk and link the dairy farmers (producers) and the consumers. The foremost interest of the marketing intermediaries is to attain the highest possible profit from their particular business operation (FAO, 2002). However, the milk marketing and processing systems in Bangladesh don't seem to be developed yet. Milk is a perishable item, needing timely and special attention to reach the market, makes marketing more difficult (FAO, 1990). Generally, rural milk producers sell their surplus milk to different marketing intermediaries prevailing locally who in turn sell the milk to the individual consumers, restaurants & tea stalls in the sub-urban and urban area. Lack of an organized milk marketing system within the grass-root level could be a drawback for the farmers' position in selling milk. Earning money and improving productivity are going to be vulnerable if they're unorganized. Under these circumstances, the farmers are unable to boost

their socio-economic conditions. A cooperative marketing system could play a vital role in providing a channel that may link the farmers to the urban markets/consumers smoothly and ensure higher prices for his or her products. The concept of dairy development through smooth marketing arrangement under the cooperative umbrella is well established in India and elsewhere in the world as well.

Production of milk for Bangladesh was 3.65 million thousand tonnes in 2019. Between 1970 and 2019, the production of milk in Bangladesh grew substantially from 1.07 million to 3.65 million thousand tonnes rising at an increasing annual rate that reached a maximum of 9.92% in 1978 and then decreased to 1.49% in 2019. More than 80% of raw milk is marketed through informal and vulnerable channels such as local milk traders, local restaurants, sweet makers, etc., and less than 20% of raw milk is marketed through cooperative channels. That's why the present study concerns marketing channels existing in Bangladesh by exploring their structure and strategy. Thus, the particular objectives of the study are:

- 1) To figure out the structure of the milk marketing channels of Bangladesh,
- 2) To find out strategies are used in different marketing channels by the trader or cooperative,

1.2 Research historical background

Khan and Suraiya (1996), studied a typical village in Jessore district, where the bulk of the

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milk was sold to traditional middlemen and that they are depriving the primary milk producers of their milk profit and suggest for milk producers' organization, like milk cooperative for small scale dairy farmers, to reduce the transportation costs and better their earnings. Rahaman and Mian (1996), by studying cooperatives also in Sirajgonj district and traditional milk marketing channels in three different markets (Dhaka, Mymensingh, and Rangpur) in Bangladesh, found that the cooperative milk marketing channel can provide the best profit for primary producers. Ashrafuzzamn (1995), studying the economic efficiency of milk production under a cooperative system in Sirajganj district, Bangladesh, found farmers are enjoying an ensured milk marketplace for selling their milk under cooperative marketing channel. Roy (2000), conducting a study on milk marketing under cooperative management again in Sirajganj, has shown that cooperative dairy farmers are receiving better prices compared to non-cooperative farmers. Ghosh and Maharjan (2002), conducting a study on milk marketing channels in Bangladesh, has shown the structure, constraints and probable solutions of three different milk marketing system in Bangladesh where Pala milk marketing system is different from typical milk marketing system.

2. Analytical perspectives and Research method

The milk marketing channels in Bangladesh are informal. Sometimes, dairy farmers sell their milk directly to the residents, local markets, local tea stalls, and local restaurants. Intermediaries are being influential in those marketing channels. Intermediaries include: Gowala¹ (Local milk trader), Aratdar and retailer. The structure of various milk marketing channels differs from

place to place. The intermediaries earn more profit than the effect on the income of primary milk producers. But, milk marketing under cooperative is a little different from traditional/conventional marketing. The milk marketing channel under the cooperative and non-cooperative production systems are described below: marketing, farm management practices, income from dairy farming, farmers' perception about loyalty to dairy cooperative, services rendering by cooperative, etc.

After preparing the questionnaire, discussed with related personnel to check relevancy. Then, these were pre-tested to ensure the validity and reliability of the data collected. After getting approval of the questionnaire, face-to-face interviews were conducted by the authors to gather all required data from dairy farmers. Collected data were analyzed by Microsoft excel.

2.1. Milk Marketing channel under cooperative production system

Farmers get the secured marketplace when Bangladesh Government took initiatives a cooperative called Bangladesh Milk Producers' Cooperative Union Ltd. (BMPCUL) to unite poor dairy farmers, in which the Government gave credit to establish the dairy infrastructures such as, milk processing centres, and veterinary services, transportation and a stable market price. Since 1973, BMPCUL rendered its function with the aims of building a dairy base in Bangladesh for the development of rural areas by providing inputs to the farmers at low cost and ensuring fair price of the milk to the small rural milk producers. BMPCUL has been helping the rural dairy farmers in organizing their own Primary Milk Producers Cooperative so that they can help themselves and become responsible for marketing their milk to improve the situation. Their dependency on middlemen

¹ Gowala is a local milk trader who buys milk from the farmers and sells to tea stall, restaurants, sweet makers etc.

and a relatively unstable market has been reduced. A village milk producer cooperative consists of 1 to 3 villages covering an area of roughly 1-2 sq. km., having a marketing surplus of approximately 200 liters of milk per day. To establish a cooperative first the group of dairy farmers needs to inform the BMPCUL regional authority of their intentions. Generally, the authority considers the first year as the observation period. If the group can fulfill the required amount of milk production, then it will be formally registered as a cooperative under the BMPCUL system. (Haque, 1998, Ghosh & Maharjan, 2001). Less than 20% of milk is marketed through this marketing channel in Bangladesh.

2.2. Marketing Channel under non-cooperative production system

The dairy farmers who do not belong to any cooperative society, and sell their milk to local consumers, local tea stalls, local sweet makers, Gowalas (Local milk traders), local hotels and restaurants, and self-shops are called milk marketing channels under a non-cooperative production system. This type of milk marketing practice is very common in Bangladesh. These channels are not regular and organized. We found two different types of milk marketing channels under non-cooperative production system are described below:

2.2.1 Traditional Milk marketing channel

In this channel, milk producers sell their milk to neighbourhood residents, local tea stalls, local sweet makers, local restaurants, and local milk traders (Gowalas). Only Gowalas collect milk from the producers. Some Gowalas are milk producers as well, selling rurally collected milk in addition to their production. They sell milk to different types of consumers in the urban area (includes: individual consumers at the marketplace, contact households, tea stalls, and hotels or restaurants. Milk prices is varying both for primary producers as well as for Gowala every

day. Other than Gowalas there are few other middlemen such as Aratdar and retailers in this marketing channel. Aratdar (local broker) is a commission agent and mediates between producers and Gowalas or retailers, consumers as well as hotels and restaurants. Aratdars charge a fixed amount of commission in terms of monetary value or milk from producers. Retailer includes the milk trader who buys milk from the Aratdar, Gowala or group or individual producers in the market and supplies milk to the city consumers, hotels, and restaurants. These middlemen play an important role to market the rural milk to urban places, but the primary milk producers do not get regular payment and sometimes they get less payment. These middlemen cannot ensure fresh milk to consumers as they start collecting milk from the rural area early in the morning and sell to the urban area until the evening without any preservative measures.

2.2.2 Sales shop or moderate milk marketing channel

Producers sell milk to direct consumers, sweet makers, tea stalls, hotels and restaurants, and own grocery shops in this channel. There are no traditional middlemen like Milk traders, Aratdar, and retailers other than Gowala in this channel. But, the milk marketing share of Gowala is not significant in this channel. The farmers those have grocery shop, they collect milk from other producers and pack raw milk including own production and preserve in the refrigerator and sell within 2-3 days to consumers. On the other hand, some producers sell their milk directly to sweet makers who play a role in the huge consumption of raw milk in this channel. Sweet makers and shop owners paid regularly to primary milk producers as both are milk producers as well.

2.3 Data collection and area selection

Considering different types of marketing systems in different places, a field study was conducted in three different districts to

understand the different milk marketing channels in detail, study areas are such as Brahmanbaria, Maulavibazar, and Pabna. In the first phase of the fieldwork, several districts were visited to collect preliminary information about milk production and milk marketing system. Among these districts, three districts e.g., Brahmanbaria, Maulavibazar, and Pabna were taken purposively considering the various prevailing marketing structure, strategies, and constraints faced by farmers.

Brahmanbaria district, Northeast from Dhaka, was chosen to study the typical milk marketing channels that are widely practiced in Bangladesh. Depending on the primary information collected directly from producers and related stakeholders in milk marketing. A fairly large number of Gowala (about 30) from the neighbouring area of town, collect milk from different households in the villages and sell their milk to the consumers in Brahmanbaria town milk market. This is the most widely practiced marketing channel in Bangladesh. Out of them, 10 Gowala were taken for a sample study. Information regarding the dairy farmers and the villages from where they collect milk was collected. Based on this information a village named Natai was taken purposively for a detailed study. This village was taken for the study considering the number of dairy households, number of Gowala, and their milk production. Natai village is 6 km far from the main town of Brahmanbaria. There were 75 dairy households engaged in selling their surplus milk in the village. Out of them, 50% (38) households were selected randomly for intensive interviews.

Maulavibazar District, Southeast from Dhaka, was chosen to study different conventional milk marketing channels that are not widely practiced in Bangladesh. There are eight thanas (administrative units/ sub-district). Sreemongal thana was selected for the study, as this marketing channel has been widely practiced in this Thana. There are 'R' and 'S' are two areas that are developed dairy farming remarkably among other areas of

Sreemongal Upazila. There are 38 dairy farms in these areas recorded in the Upazila animal husbandry office. We have tried to cover all these farms but some farmers didn't want to participate in the survey. Finally, we have found 25 farms to select as data and also interviewed 15 shops managed by dairy farmers and covered the town's raw milk supply.

Pabna district, Northwest from Dhaka, where primary milk producers' cooperative established for integrated and secured milk marketing for rural farmers. This area is under the Baghabarighat milk shed of the BMPCUL cooperative. Among 656 primary cooperative societies, Digulia Primary milk producers' Cooperative Society was selected for the study. There were 125 dairy farmers in this cooperative society, among them, 40 percent were sampled randomly for the survey. The market information specially the prices pattern of the milk was collected from the BMPCUL office. All primary information used in this analysis is collected in a participatory way, making door-to-door visits, interviews, and observation. Precaution has been taken to maintain objectivity and to keep the study free from various biases and utmost care was given to maintain the private secrecy. But the limitations, of relying on verbal interviews of the farmers who were not only illiterate but also have never had such experience of giving interviews, talking logically for a fairly long time was unavoidable. However, these limitations were checked cautiously with review work, participatory observation, and re-interviews. Secondary information was collected from the official records; printed reports, brochures, and pamphlets, as per need for the analysis.

3. Analysis and Results

3.1 Structure and Strategy of Milk Marketing Channel under Cooperative Production System

Milk marketing channel under cooperative production system is integrated and structured

channel in the country. Figure 1 shows that individual farmers are bringing their milk to the collection centre of the primary cooperative society within the village. Then, collected milk brings to the Baghabarighat Milk processing centre of BMPCUL for chilling and pasteurizing. BMPCUL provides transport for carrying the milk to the Processing centre. More than 97% of milk is supplied to the processing centre and the rest of milk is consumed by primary milk producers or farmers. After chilling and pasteurizing, milk is carried to the factory of BMPCUL, Dhaka where it's processed into cheese, ice cream, butter, and homogenized fresh milk into small plastic bags. These milk and milk products are sold to the consumers in the urban market through the distributors, shopkeepers/retailers

from the milk sales depot at a set price. There aren't other intermediaries involved within the marketing channel, that's why milk price is fixed for the primary producers according to their fat content.

BMPCUL provides different services through Primary Milk producers' Cooperative society (Digulia Primary Milk Producers' Cooperative Society) such as free veterinary extension services, cow loan with low (5%) rate of interest (where the bank interest rate is 11%), concentrated feed at break-even, lend land for green grass production called "Bhatan". They test milk quality through SNF and TSL and fixed prices based on fat content fairly. Prices at all levels are fixed under this cooperative system. Farmers are paid regularly weekly.

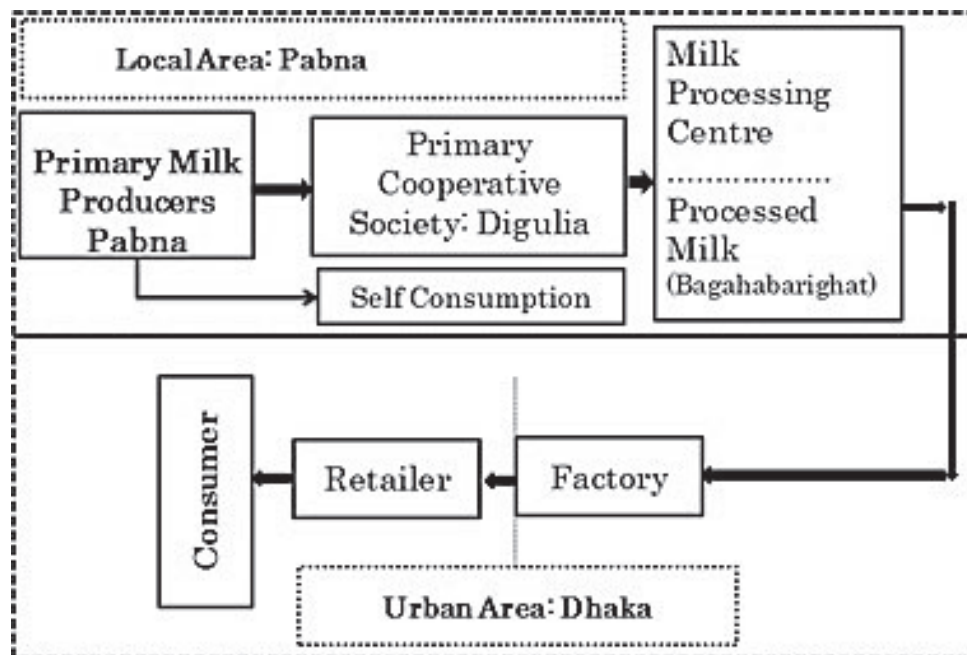


Figure 1: Milk Marketing Channel under Cooperative Production
Source: Own illustration based on Ghosh, 2000

3.2 Structure and Strategy of Milk Marketing Channel under Non-Cooperative Production System

3.2.1 Traditional Milk marketing channel

This is a very common and typical milk marketing channel in Bangladesh. It is not formal, and not structured, as shown in Figure 2. Producers sell some of (9%) their milk directly to the local contact households and local sweet industry (9.4%). In most of the cases (25.6%), producers sell their milk to the Gowala. Gowalas collect milk from primary producers and sells to urban markets such as tea stall, restaurant, sweet industries, and contact households, etc. They mixed water and milk powder with fresh milk and sold this to the market for more profit. It is observed that Gowalas and retailers are earning a handsome

amount of profit as a middleman. Producers also sell milk to milk traders (53.5%) who gave advance payment to milk producers at no interest rate but they took collateral. The different types of middlemen earn a major share of profit from the unorganized milk marketing system, which could have been earned by farmers if they could do collective marketing.

The traditional milk marketing channel in Brahmanbaria is dominated by milk traders. Farmers are paid weekly by milk traders. The low price of milk hits the profitability of dairy farmers. These middlemen didn't take any preservative measures during milk transportation from collection time (morning) to delivery time till evening.

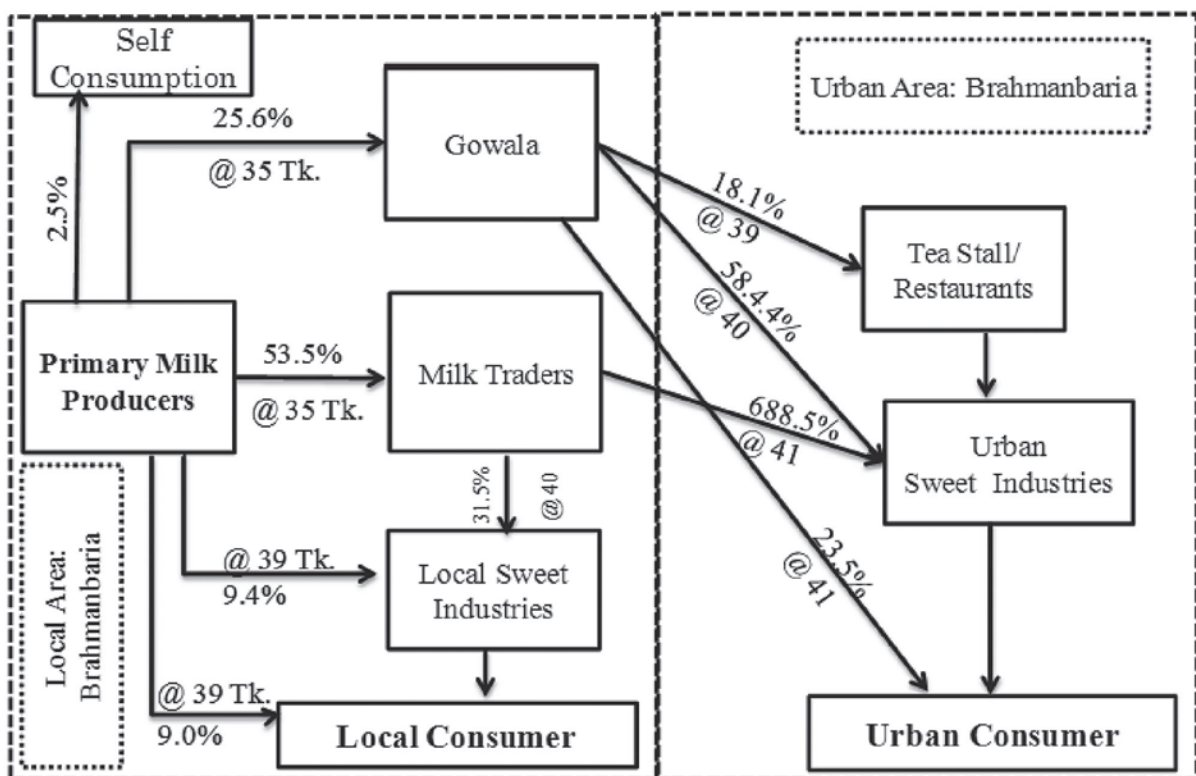


Figure 2: Traditional Milk Marketing Channel under Non-Cooperative Production
Source: Own illustration based on Ghosh, 2000

3.2.2 Sales Shop / Moderate Milk Marketing Channel

Local sweet makers are the key player in this channel. About 60.2% of milk flows through this channel. This is the local supply chain system. About 9.5% of milk was collected by Gowala in this channel. Gowala paid more than the other party. Producers sell milk to direct consumers, sweet makers, tea stalls, hotels and restaurants, and own grocery shops in this channel. There are no traditional middlemen like Milk traders, Aratdar, and retailers other than Gowala in this channel. But milk

marketing share is not significant in this channel. The farmers those have grocery shop, they collect milk from other producers and pack raw milk including own production and preserve in the refrigerator and sell within 2-3 days to consumers. On the other hand, some producers sell their milk directly to sweet makers who play a role in the huge consumption of raw milk in this channel. Sweet makers and shop owners paid regularly to primary milk producers as both are milk producers as well.

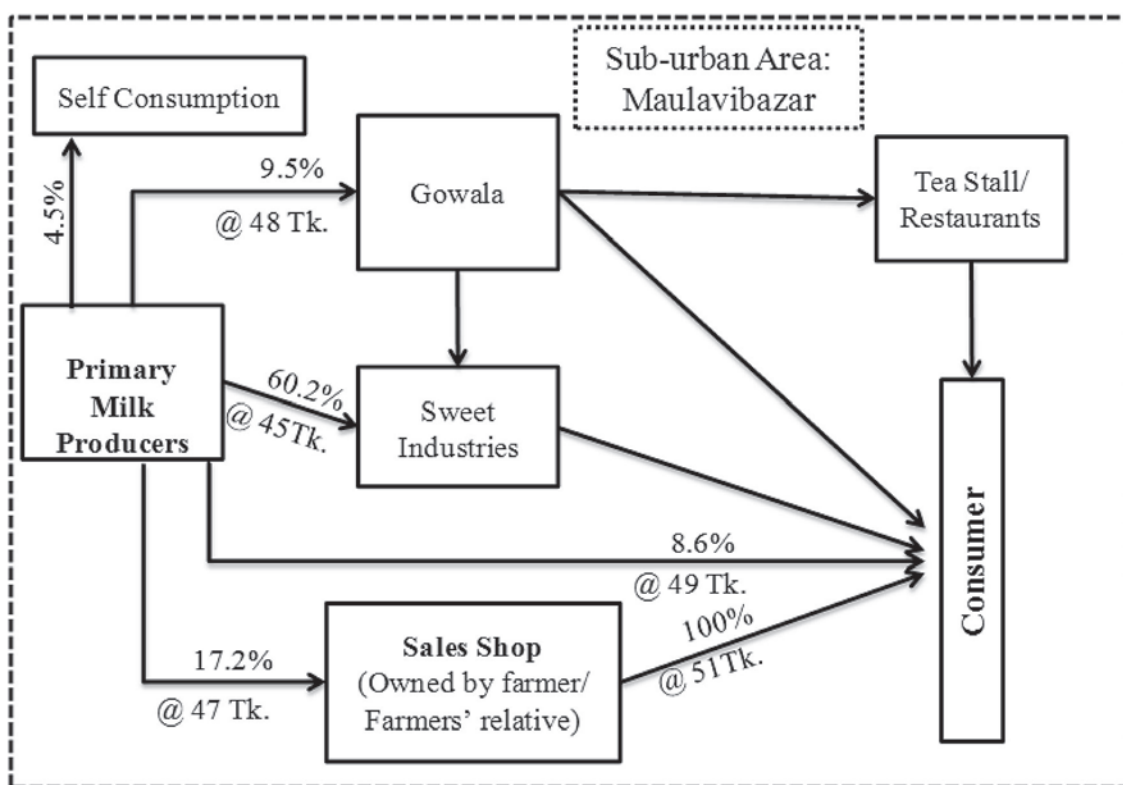


Figure 3: Self Shop/ Moderate Milk Marketing Channel under Non-Cooperative Production
Source: Own illustration based on Ghosh, 2000

Table 1: Strategy in different milk marketing channels

Particulars	Milk Marketing Channel	
	Cooperative	Non-cooperative
		Traditional Self-shop/ Moderate
Services Strategy	• Free veterinary extension services include cattle treatment, Vaccination, Artificial insemination.	• Gowalas milking the cows for primary milk producers • Regular payment with fair milk price

	<ul style="list-style-type: none"> • Cow loan with 5% interest • Concentrated feed supply at a break-even point • Land lent for green grass production named as 'Bhatan' 	<ul style="list-style-type: none"> • Advance payment at no interest, but with collateral by Aratdar or retailer • Free veterinary advice 	<ul style="list-style-type: none"> • Group discussion about development activities of dairying • Market security during political unrest
Testing Strategy	SNF, TSL	Water contained ratios	No test
Pricing Strategy	It depends on SNF but fair	Mutual negotiation, but 1-2 Tk. less from market price	Bargain, high
Milk Collection Strategy	Through 1705 primary society collection points by organizational transport	Door to door of primary milk producers, Bazar (Farmers' market), Milk Traders by self-transport of collectors	Primary producers delivered to the designated shop or sweet makers

Source: Survey data

4. Considerations

The study found some important findings in keeping with the underlying hypotheses of this study. First, primary milk producers' milk prices in all markets in both cooperative and non-cooperative marketing channels are not in a position that farmers can cover the households' expenses. This implies that the economic position of producers in all markets, under both cooperative and non-cooperative marketing channels, does not differ much. But farmers get a secured marketplace in the cooperative marketing channel. Second, all types of market middlemen in the non-cooperative marketing channel receive much higher abnormal profits from milk. It indicates that price variation for liquid milk is high in the non-cooperative marketing channel. Third, the transportation cost of milk is higher within the non-cooperative marketing channel than within the cooperative channel. Fourth, free veterinary services are rendered in cooperative market channels, group consultation has been carried for the development of dairy.

The study also reveals that the primary milk producer's milk price is lower in non-cooperative marketing channels. If the

government introduced a cooperative system that covered the whole rural area of the country then the milk producer need not receive a lower price for their product. This could increase the producer's profit in milk marketing. So, a strong market structure is necessary for the efficient marketing of milk, which would result in a higher share of producer profit, and thereby influence the producers' decision concerning the investment of their resources in liquid milk production throughout the year. The result also observed that almost all of the dairy farmers in the study area were small in size, their milk productivity is low in the non-cooperative milk marketing channel. However, farmers had more cows and producing more milk per cow in a cooperative channel. Price fluctuation is one of the important constraints for a non-cooperative dairy farmer.

However, the cooperative price was fixed and it varied according to the fat content of the milk. It implies that marketing channels of cooperative are more efficient than the other channels. The higher and fixed price of milk would help farmers to better dairy farm planning.

Hence, further development of dairy

farming depends on the organized marketing channels during which farmers can get a price that will exceed the management cost of the farms. Integrated marketing channels like a cooperative system will be a better solution for dairy farmers.

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