

ACKNOWLEDGEMENT

All praises are due to the Almighty Creator and supreme authority of the universe, who has blessed me with the strength and opportunity to complete the report successfully.

In my journey towards this achievement, I have found a teacher, an inspiration, a role model, and a pillar of support in my supervisor, Professor. Dr. A. K. M. Humayun Kober, Department of Dairy and Poultry Science.

I would like to thank & take pride in acknowledging the insightful guidance of Vice-Chancellor, Professor **Dr. Goutam Buddha Das**, Chattogram Veterinary and Animal Sciences University.

I would like to express my deep sense of gratitude and thanks to Professor **Dr. AbdulAhad**, Dean, Faculty of Veterinary Medicine, CVASU.

I express my sincere gratitude and thanks to Professor **Dr. A. K. M. Saifuddin**, Director of External Affairs, and for his supervision and kind co-operation during the period of internship.

Very Special thanks to all my friends without whom this work can't be done at all.

Last but not least, I am profoundly grateful to my family members for their endless sympathies, kind co-operation, sacrifices and prayers.

Abstract

The broad objective of the study is to conduct the analysis of dairy value chain for dairy development in Bangladesh. The milk production volume fluctuates a little bit over the months due to weather change, rainfall pattern, natural pasture amount, amount of feed and management. Every firm is a synthesis of activities that perform to design, product, and market, deliver, and support its products. A number of market intermediaries are involving Bangladesh, generally two different types of supply chain for the dairy industry are noticed. One is the informal sector and the other is formal. In the informal sector, milk is transferred from one end to another as either raw status or as dairy product. For dairy product development, sweet makers are the major market players. In the formal sector, milk is being processed and processed milk is marketed in the supply chain of commercial dairy farming which has made the marketing channel.

Key Words: Value chain, informal sector, formal sector, supply chain.

CHAPTER-1

Introduction

Livestock sector particularly the dairy sub-sector provides significant opportunity for income generation and livelihood improvement of the rural mass. There have been wonderful scopes for dairy rearing, dairy product development where large number of people may find employment (Akbar *et al.* 2009). Bangladesh produces 2.95 million metric ton (MMT) milk against the annual requirement of 13.32 MMT and the deficiency is about 78% (DLS. 2005) Consumption of milk in Bangladesh among the SAARC countries is the least (55 ml/h/day) as stated by Joshi (2007). Under these circumstances, there is scope to initiate intervention on dairy and Heifer International may come forward to facilitate dairy intervention in Bangladesh.

Value chain generally starts with the raw materials supply at the farm level and ends with consumers who make the choice to buy, or not to buy, the finished product. Any value chain has several links between the farm and the consumer such as procurement, transportation, processing, commodity storage, conversion packaging, distribution, retailing, and other services. A supply chain and value chain analysis is precondition to identify the constraints and opportunities of the selected commodity (Fakhar *et al.*, 2006). A value chain analysis is done to identify the actors involved in the supply chain of dairy farming to improve access of inputs, markets and services by mobilizing the poor farmers and policy environment towards facilitation of the chain. A number of market intermediaries are involved in the supply chain of commercial dairy farming which has made the marketing channel much more complex. Involvement of so many middlemen in the marketing channel increases cost of products (Miyani *et al.* 1996). It has been observed that farmers lack bargaining power of their produce and sometimes incur loss whereas middlemen are always gaining profit. In Bangladesh, generally two different types of supply chain for the dairy industry are noticed. One is the informal sector and the other is formal. In the informal sector, milk is transferred from one end to another as either raw status or as dairy product (Shantana *et al.* 2003). For dairy product development, sweet makers are the major market players. In the formal sector, milk is being processed and processed milk is marketed. Several dairy processing entrepreneurs are associated with milk processing.

This study describes the overall situation of milk production, consumption and marketing in Bangladesh. Special emphasis has been given to the processing and marketing of fresh milk which is an emerging area in urban agribusiness. The main objectives of this study were to

review the existing milk production, consumption and marketing situation in Bangladesh and to develop policy issues/implications on the improvement in the market. Specific objectives of the task are as follows:

1. To review and document existing milk production and marketing systems (informal and formal) of milk and milk products in rural Bangladesh;
2. To illustrate current consumption patterns of milk amongst different groups, sources of milk consumed and their extent of processing;
3. To identify the constraints and opportunities associated with dairy industry in Bangladesh;
4. To identify key interventions across the different layers of the DVCs to improve dairy value chain efficiency and governance to meet the gap in demand and supply of milk and milk products;
5. Recommend key actions to be taken to strengthen dairy sub-sector in Bangladesh.

CHAPTER-2

Discussion

❖ Value chains

Smallholder dairy producers are the starting point of the value chain. They are the person or household, often landless or without assets, involved in milk production for economic return on surplus milk, and usually owning up to two cows (Khan *et al.* 2006). Family labor is the only source of labor for this group. In most cases, women are responsible for cleaning the cowshed, feeding, and milking. Women are more involved in income-generating activities. Thus, their contribution is at the production level, and they also make a significant contribution in sales and distribution, and decision-making in the dairy value chain.

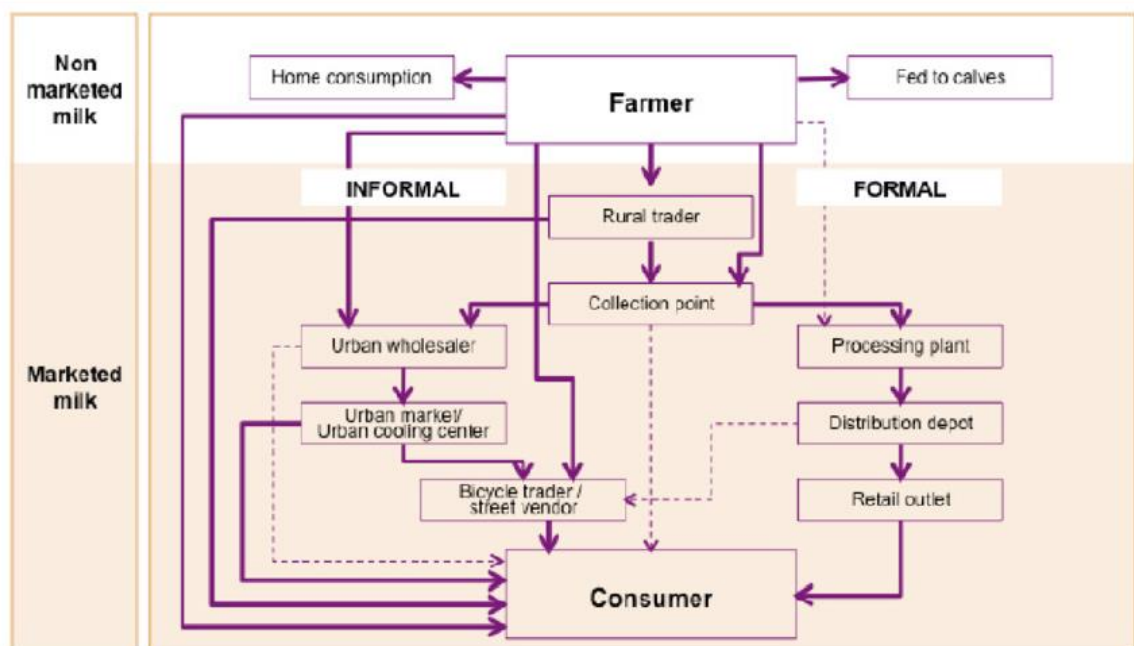


Figure: Value Chain Map in Bangladesh

❖ Milk Marketing Channel

1. The traditional channel: Petty milk marketing practice is very common in Bangladesh and milk marketing channels are not regular and organized. Producers may sell their milk directly to local market, neighbors and tea stalls. But most of the times, they sell their surplus milk to the Gowala. In the traditional milk marketing channel, Gowalas collect milk

from the producers, sometimes mix water or milk powder for more profit, and sell this in the urban market. In the rural area Gowala perform the door-to-door milk collection from milk producers and deliver the milk to consumers. Some of the Gowalas are milk producers themselves, selling rurally collected milk in addition to their own produce. They sell this milk to different types of consumers in urban area, such as, individual consumers at market contact households, tea stalls and hotels or restaurants. Price is always uncertain both for primary producers as well as for Gowala in this type of marketing channel. At times, there are few other middlemen such as Aratdar and retailers in this marketing channel. Aratdar is a commission agent and mediates between producers and Gowalas, consumers as well as hotels and restaurants. Aratdars charge a fixed amount of commission form 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 this milk to the city consumers, hotels and restaurants.

2. Pala Milk Marketing Channel :

Pala is an informal group made by the villagers having milk cows in the Char area, difficult to be reached by normal transportation means. The small dairy farmers in the area producing 1-5 liters of milk which cannot be profitable for individual farmer to sell in city with high transportation cost, make informal marketing group (Pala) with 20-50 members to sell the milk jointly. All the Pala members participate rotationally, each for one day, marketing their milk. The Pala representative brings the group's milk to the market and sells to retailer through Aratdar. Aratdar is paid certain amount of milk/cash by Pala representative as commission for mediating the job. Retailer finally sells this milk to the urban consumers, restaurants and tea stalls at a higher price and earn his own margins. The Pala system seems to be efficient in collective marketing of the milk by dairy farmers in the Char area. However, the Pala farmers again depend on middlemen for marketing their milk. The mechanism of milk marketing beyond this stage is same as traditional milk marketing system prone with unstable price.

3. Cooperative Milk Marketing Channel:

To reverse the situation of primary milk producers in milk market and the quality of milk, the cooperatives were made as to raise the subsidiary agricultural income for poor landless and marginal dairy farmers by introducing them in organized milk marketing channels development of infrastructure for milk collection at fixed and fair prices through organized

village milk producers cooperative and relieve them from exploitation by the middlemen, and to ensure the supply of pure and hygienic milk and milk products to the consumer

❖ **Market of dairy products**

Retail market size for industrial dairy products, in 2011 (DLS 2011)

	Percent market quantity (%)	Market Size by quantity (MT)	Average retail price (BDT/Kg)	Market Size by value (BDT '000)	Market Size by value (USD '000)
Packaged milk sales (pasteurized and UHT)	88.1%	831,200	70.3	58,391,800	693,901
Non-milk dairy output (less powdered milk)	10.2%	96,200	322.8	31,056,600	369,062
Dairy ice cream (bulk and single portion)	1.7%	16,096	618.2	9,951,000	118,253

Source: Market reports, primary market research, expert interviews, consultant calculations

Local fresh milk and imported powdered milk used in industrial sector processing, in 2011

	Percentage (%)	Quantity (MT)
Local fresh milk used	20.3%	207,873
Imported powdered milk used (LME)	79.7%	815,727

Source: DLS statistics, market reports, primary market research, expert interviews, consultant calculations

Retail market size for traditional dairy products, in 2011

	Percent market quantity (%)	Market size quantity (MT)	Retail price (BDT/Kg)	Market size By value (BDT '000)	Market size by value (USD '000)
Traditional sweetmeats	100.0%	1,636,997	180.0	294,659,411	3,501,597

CHAPTER-3

Conclusion

Dairy is a major component of animal agriculture and contributing a significantly in the national economy. Milk, the nature's most perfect food for building intelligent nation is coming from this sector. Annual milk production of the country is far below the normal requirement. At present we are producing only 2.95 MMT of milk annually but our requirement is 13.32 MMT (DLS.2008). Bangladesh has to increase milk production up to six times to meet the national demand. The major constraints to milk production are the shortage of feeds and fodder, both in terms of quality and quantity, lack of genetically improved dairy cows, poor management and health care, as well as unorganized marketing system for most dairy farmers. The role of women in farm activities, especially dairying and investment in the homestead and cultivated lands needs to be assessed. Development of small-scale farming operations remains at a very early stage, although these farms are producing a reliable and steady source of each income for their owner's subsistence. Establishment of small scale dairy enterprises and processing units should be encouraged through appropriate policy and institutional support. Production of value added milk products and quality control of them should also be encouraged. Development of mobile milk collection system by using cold infrastructure vehicle will reduce post-harvest loss and will also help to improve the shelf life of milk. Hortex Foundation concept of Commodity Collection Marketing Centre (CCMC) could help to improve the marketing system of poor village dairy farmers. Capacity building of different stakeholders along the chain including farmers needs to be strengthened. Establishment of National Dairy Development Board and National Dairy Research Institute will strengthen the overall dairy development activities of the country.

Reference

1. Akbar, M. A.; Faruque, M. O. and Islam, M. N. 2009. Current Dairy Feeding and Management Systems of Dairy Buffaloes. Handbook of Dairy Nutrition, Bangladesh. PP. 50-64. Published by American Soybean Association (ASA) - International Marketing, Printed in New Delhi India.
2. BER. 2012. Bangladesh Economic Review. Ministry of Finance. Government of the People's Republic of Bangladesh.
3. DLS. 2005. Department of Livestock Services. Ministry of Fisheries and Livestock, Government of Bangladesh.
4. DLS, 2008. Department of Livestock Services. Ministry of Fisheries and Livestock, Government of Bangladesh.
5. DLS. 2011. Department of Livestock Services. Ministry of Fisheries and Livestock, Government of Bangladesh.
6. Fakhar, H., Fakhar Law & Geoff Walker. 2006. The White Revolution "Dhoodh Darya" White Paper on Pakistan's Dairy Sector. A Publication of Pakistan Dairy Development Company.
7. Food and Agricultural Organization (FAO) 2004. FAO corporate document repository on, "Poverty alleviation and food security in Asia: role of livestock". Originated by: Regional Office for Asia and the Pacific.
8. Khan, M.A.S. and Siddiki, M. S. R. 2006. A review on present scenario of dairy industries in Bangladesh. Bangladesh Journal of Animal Science.34 (1&2):121-130.
9. Miyan. H. A. 1996. Towards sustainable development: The national conservation strategy of Bangladesh. Consultancy reports on livestock sector, Ministry of Environment and Forest, Government of the People's Republic of Bangladesh, Bangladesh, 1996.
10. Shantana R. Halder and Proloy Barua 2003. Dairy production, consumption and marketing in Bangladesh. Report of Research and Evaluation Division, BRAC, Dhaka.

BIOGRAPHY

This is Tanvir Islam, son of Abu Sayed Chowdhury and Jusna Begum. I am from Brahmanbaria District. I completed S.S.C in 2011 from Nabinagar Pilot High School and H.S.C in 2013 from Cumilla Shikkha Board Model College. I got admitted into the Doctor of Veterinary Medicine (DVM) degree under Chattogram Veterinary and Animal Sciences University in the 2014-2015 sessions. As an upcoming Veterinarian, I would like to dedicate the rest of my life for the welfare of animals. I am keen to be a field veterinarian as well as a skilled practitioner.