



UDC 332

ANALYSIS OF LIVESTOCK SUPPLY CHAIN AND PRICE DISCRIMINATION BETWEEN PRODUCERS AND CONSUMERS IN BANGLADESH

Sarder Safiqul Islam*, Professor

Nafia Farzana Oishy, Student

Md. Shafiqul Islam, Professor

Mustajabur Rahman, Student

Khulna University, Khulna, Bangladesh

*E-mail: sardersislam@at.ku.ac.bd

ORCID: 0000-0003-3641-2405

ABSTRACT

The aim of the study was to identify existing livestock product supply chains and price disparities between producers and consumers. The study was conducted in three different locations at the producer level, usually livestock farmers and consumer level in an urban area of southwestern Bangladesh. Data were collected using a pre-tested questionnaire from 90 livestock and poultry farmers and 40 consumers through face-to-face interview method. The results showed that livestock farmers had limited access to their desired markets and in more than half of the cases (53.33%), local consumers were the primary buyers of livestock products and almost half of the farmers (45.56%) sold livestock products from farmers to consumers. Poor transport systems and a moderate farm-to-market distance of 11-20 km indicate poor market access for livestock products. Price discrepancies between producers and consumers indicated that significant differences were observed as consumers paid 21.86%, 39.25%, 29.24% and 21.35% more prices for eggs, milk, poultry meat and beef, respectively than the price received by producers. Several challenges have been identified in the livestock supply chain in Bangladesh including limited access to credit and finance, inadequate extension services and technical support, and the presence of middlemen. It can be concluded that weak supply chain exists in southwestern Bangladesh and the high price disparity between producers and consumers can be reduced by improving market access for livestock products by creating an enabling environment. Therefore, small farmers can contribute to the overall development of the livestock industry in a suitable market atmosphere.

KEY WORDS

Consumers, marketing channel, market distance, livestock products, middlemen.

Livestock industry plays a crucial role in the economy of Bangladesh and here beef, chevon, mutton, poultry meat, milk, and eggs are essential food products for the population (DLS, 2023). Livestock sector contributes 1.85% to the Gross Domestic Product (GDP) of national economy of Bangladesh with a growth rate of 3.23%. Within agricultural sector livestock hold a significant share in the country and constitutes 16.52% of the agricultural GDP (DLS, 2023). Household engaged in livestock and poultry rearing constitutes 43.64% in rural areas of Bangladesh. About 51.88% of the employed population is engaged in agriculture in Bangladesh (Bangladesh Bureau of Statistics, 2019). Agriculture serves as the primary source of employment, sustenance, and food security for the majority of rural people. It supplies essential raw materials and exports to support the industries of the country. Industrialization dominates the contemporary economic landscape but agriculture remains the cornerstone of food security particularly in predominantly agrarian economies such as Bangladesh (Bishwajit et al., 2014). Livestock contribute to food security as it increases production and at the same time it ensures food security by creating employment and income generation which ensures access to food (Samanta et al., 2022). Managing the flow of goods and services constitutes supply chain management, encompassing all processes involved in converting raw materials into finished products (Bagaria, 2019).



Supply chain management involves coordinated management of the materials, finances, personnel, and information within and across the supply chain to optimize customer satisfaction while also gaining competitive advantage (Sarker & Singh, 2022). Livestock systems offer optimistic ways to alleviate poverty for many smallholders in developing countries. A significant amount of the global rural poor population, along with a many urban poor populations, engage in livestock rearing for employing them in diverse roles that extend beyond mere income generation (Randolph et al., 2007). In numerous instances, livestock serve as a central element within risk mitigation strategies used by smallholder farmers (Bailey et al., 1999). There is an asymmetric transmission of prices between farm and retail levels across all products (Reziti, 2005). Food markets frequently exhibit imperfections, characterized by irregularities or imbalances in price transmission and distortions in distribution of market advantages (Aragrande & Canali, 2017). The study aims to investigate smallholder farmers and livestock supply chains in the southwest region of Bangladesh to evaluate livestock inventory, logistics, price discrepancies and challenges.

METHODS OF RESEARCH

The study was conducted on the basis of collection of data through survey by interviewing rural farmers. Data were collected through interviewing respondents of the selected area using questionnaire. Interview was taken according to organized questionnaire. It was designed to assess the current status of smallholder farmers and discrepancies in livestock supply chains between producer and consumer at four different locations in southwestern coastal region of Bangladesh.

To conduct livestock farmers' level study, three locations were selected from rural areas of southwest Bangladesh. To compare the prices of different livestock products, consumers level study was also conducted at urban area named Khulna city, Bangladesh.

The population sample for the study comprised rural farmers selected at random from specific villages across three locations and one urban area for consumers' level study. Multistage stratified random sampling techniques were used in the total population of the village for determining and collecting data from the respondent. The respondent number was selected purposively however unbiased randomization was done when selecting each of the respondents. Number of respondents from four locations is shown in Table 1.

Table 1 – Distribution of the respondent in the study area

Locations	Number of Respondents	Respondent Category
Location-1 (rural area)	30	Farmer level
Location-2 (rural area)	30	Farmer level
Location-3 (rural area)	30	Farmer level
Khulna City (urban area)	40	Consumer level

Data were collected by face-to-face interview with the farmers using the questionnaire. Respondents were approached in a pleasant rapport to create an environment conducive to open and accurate responses. Several visits were made to each respondent to collect valid and reliable data.

The extent of the constraint issues faced by farmers in accessing markets for their livestock and poultry products were rated as highly severe (3), moderately severe (2), less severe (1) and not severe at all (0) and their rating scale were 4, 3, 2, 1, respectively. The constraint issues score of a respondent was determined by summing all the scores.

Prices of eggs, milk, poultry meat and beef were surveyed according to questionnaire. The prices of the same items at various retailers in Khulna city were surveyed. Information on the basis of category and score was arraigned and the number and percentage were calculated.

In line with the study's goals, data were gathered, coded, and tabulated for processing and analysis. To get useful results, a tabular format of the data was utilized. The data analysis program utilized was SPSS version 25.0. Number, percentage, mean, and standard



deviation are examples of descriptive statistics that were used to characterize the study's chosen variables.

RESULTS AND DISCUSSION

Table 2 provides an assessment of feed sources for livestock and poultry as well as vaccination practices to livestock and poultry. The data revealed that the farmers supplied feeds and fodders to their cattle from various sources. The results stated that for 10% of the farmers the feed source was a combination of local supplier's feed and pasture, 13.33% were sourced from local suppliers with cut & carried natural grass. Other 15.56% of the respondents had own farm agricultural by-products and grazing pasture as their source of animal feed, and 17.78% had own farm agricultural by-products and cut and carried natural grass. Minor portion of farmer's (6.67%) sources of fodder were only cut and carried natural grass and 8.89% sourced from pastures grazing. Among rest of the farmers, 15.56% sourced feed from local market along with cut and carried grasses and 12.22% from local market plus grazing pasture. In case of poultry feed, more than half of the farmers (51.11%) sourced it from local suppliers along with own farm's agricultural byproducts followed by 34.44% from local suppliers and 14.44% from own farm's agricultural byproducts plus scavenging. A majority, 61.11%, vaccinated animals and poultry at an irregular interval, while 13.33% maintained a regular vaccination schedule and the remaining 25.56% respondents did not vaccinate their animals or poultry at all.

Table 2 – Livestock feed and vaccination assessment

Parameters	Categories	Frequency	Percent
Animal feed source	Local suppliers + grazing pasture	9	10.00
	Local suppliers + cut & carried natural grasses	12	13.33
	Own farm's agricultural byproducts + grazing pasture	14	15.56
	Own farm's agricultural byproducts + cut & carried natural grasses	16	17.78
	Cut & carried natural grasses	6	6.67
	Grazing pasture	8	8.89
	Local market + cut & carried grasses	14	15.56
	Local market + grazing pasture	11	12.22
Poultry feed source	Local suppliers	31	34.44
	Local suppliers + own farm's agricultural byproducts	46	51.11
	Own farm's agricultural byproducts + scavenging	13	14.44
Vaccination status of animals and poultry	Irregular interval	55	61.11
	Regular interval	12	13.33
	Never	23	25.56

Table 3 represents an analysis of household expenditures for livestock feed and veterinary services. Majority of households (78.9%) spent less than 5,000 BD Taka in livestock feed. Another 17.8% spent between 5,000 and 10,000 BD Taka and 2.2% spend between 10,001 and 20,000 BD Taka while only 1.1% spent more than 20,000 BD Taka. Average expenditure was 2,461.11 ± 183.78 BD Taka. The expenditure for veterinary services showed that 58.89% of households spent less than 1,000 BD Taka which is found be the highest category and 35.56% of the household spent between 1,001 and 5,000 BD Taka. Rest 4.4% and 1.11% of the households spent between 5,001-10,000 BD Taka and more than 10,000 BD Taka, respectively. Average cost on veterinary services was 1,627±218.72 BD Taka (1 Russian Rubel (RUB) is equivalent to 1.37 BD Taka).

Table 3 – Household expenditure for livestock feed and veterinary services (BD Taka#)

Parameters	Categories	Frequency	Percent	Mean ± SD
Expenditure for livestock feed per household	Low (<5,000 BD taka)	71	78.9	2,461.11±183.78
	Medium (5,000-10,000 BD taka)	16	17.8	
	Moderate (10001-20,000 BD taka)	2	2.2	
	High (>20,000 Bd taka)	1	1.1	
Expenditure for veterinary services per household	Low (<1,000 BD taka)	53	58.89	1,627±218.72
	Medium (1,001-5,000 BD taka)	32	35.56	
	Moderate (5,001-10,000 BD taka)	4	4.44	
	High (>10,000 Bd taka)	1	1.11	

#1 Russian Rubel (RUB) is equivalent to 1.37 BD Taka.



Table 4 – Market participation and logistics for livestock and poultry products

Parameters	Categories	Frequency	Percent
Primary buyers of livestock and poultry products	Local consumers	48	53.33
	Middlemen	21	23.33
	Retailers	11	12.22
	Super market owners	2.00	2.22
	Wholesaler	5.00	5.56
	Restaurants	3.00	3.33
Pricing mechanism	Fixed price	7	7.78
	Negotiated price	79	87.78
	Auction	4	4.44
Transportation mechanism	Local transport (engine van)	39	43.33
	Local transport (pulling van)	23	25.56
	Local transport (three wheelers)	14	15.56
	Truck	2	2.22
	Boat	3	3.33
	Train	2	2.22
	Bicycle	7	7.78
Marketing channel	Farmer to consumers	41	45.56
	Farmer to local traders	19	21.11
	Farmer to corporate wholesaler	5	5.56
	Farmer to local wholesaler	9	10.00
	Farmer to retail shop	11	12.22
	Farmer to restaurant	3	3.33
	Farmer to supermarkets	2	2.22

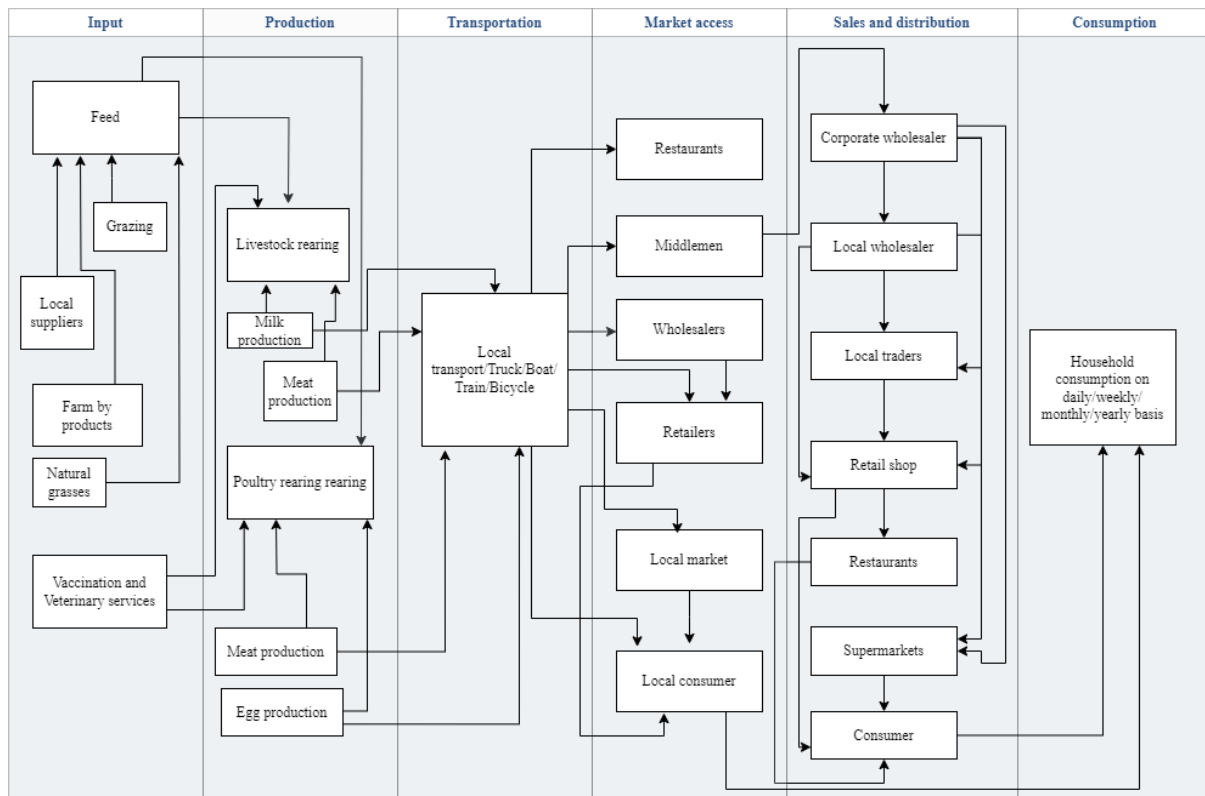


Figure 1 – Supply chain diagram for livestock products

Table 4 provides the market participation and logistics practices among farmers based on their primary buyers, pricing mechanisms, transportation methods and marketing channels. The data indicated that the more than half of farmers (53.33%) primarily sold their products to local consumers, followed by 23.33% to middlemen, and 12.22%, 2.22%, 5.56%, 3.33% primarily sold their products to retailers, supermarket owners, wholesaler, and restaurant owners, respectively. Pricing mechanism mostly relied on negotiated price (87.78%). Some occurrence was seen where it was based on fixed price (7.78%) and auction (4.44%). Transportation of goods was predominantly handled using local transport options where 43.33% used engine vans, 25.56% used pulling vans, and 15.56% relied on



three-wheelers. Some of the transport methods included trucks (2.22%), boats (3.33%), trains (2.22%), and bicycles (7.78%). Marketing channels mostly involved direct farmer to consumer interaction (45.56%). Farmer to local traders is the second highest used channel at 21.11%. Others included farmers to retail shops (12.22%), local wholesalers (10%), corporate wholesalers (5.56%), restaurants (3.33%) and supermarkets (2.22%).

Figure 1 depicts the supply chain diagram for livestock products. The figure illustrates that various actors are involved in the supply chain of livestock products. The diagram explained that six major sectors exist from production to consumption. The six sectors are inputs, production, transportation, market access, sales and distribution, and consumption. The various components and actors present in the supply chain are mentioned in the figure.

Table 5 shows analysis of livestock inventory and market proximity among households. The majority of households (56.7%) maintained very small livestock inventories, owning fewer than five animals. A smaller proportion of households (22.2%) had small inventories, ranging from five to twenty animals, while 14.4% had medium-sized animal population of 21 to 50 animals. Average number of animals per household was 4.25 ± 5.63 . Half of the respondents (50%) had medium poultry flock consisting of 101-200 birds and 27.8% of households had fewer than 100 birds. Another 16.7% was not involved in poultry farming and 5.6% had large flocks having more than 200 birds. Average number of poultry birds per household was 53.93 ± 7.71 . Distance from farm to market data indicated that nearly half of the cases (47.78%) markets were located at moderate distances between 11 and 20 km, 31.11% cases medium distance (5-10 km) and 21.11% cases the markets were situated at short distance (< 5 km). Average market distance from farms to markets was $10.34 \text{ km} \pm 4.81$.

Table 5 – Livestock inventory and market proximity

Parameters	Categories	Frequency	Percent	Mean \pm SD
Number of animals per household	None	6	6.7	4.25 \pm 5.63
	Very small (<5 animals)	51	56.7	
	Small (5 to 20 animals)	20	22.2	
	Medium (21-50 animals)	13	14.4	
	Large (>50 animals)	0	0	
Number of poultry birds per household	None	15	16.7	53.93 \pm 7.71
	Small (<100)	25	27.8	
	Medium (101-200)	45	50	
	Large (>200)	5	5.6	
Distance from farm to market	Short-distance (<5 km)	19	21.11	10.34 \pm 4.81
	Medium-distance (5-10 km)	28	31.11	
	Moderate distance (11-20 km)	43	47.78	
	Long distance (>20 km)	00	00	

The consumption frequencies of several livestock products, such as milk, beef, mutton, poultry meat, and eggs, are presented in Table 6. The data indicated that milk and eggs were the most frequently consumed products. Highest percentages of the respondents (40%) consumed milk once a week, 27.8% consumed 2 to 5 times a week, 17.8% of consumed milk once daily, 5.6% consumed it once every two weeks while another 5.6% once a month with 3.3% once a year. Eggs were consumed daily by 14.4% of respondents, 37.8% consumed 2 to 5 times a week, 32.2% of the consumed eggs once a week, 7.8% consumed once every two weeks, 4.4% consumed once a month and 3.3% of the respondent consumed eggs once a year. Beef and mutton were less frequently consumed. Majority of the beef consumption (37.8%) occurred once a year, 20% consumed beef once a month, 14.4% consumed once every two weeks, 7.8% consumed 2 to 5 times a week, and 3.3% of the respondents did not consume beef. Mutton had the lowest daily consumption, with no respondents consuming it daily. Majority of the respondents (32.2%) consumed mutton once a year, 21.1% consumed it once every two weeks, 20% once a month and 13.3% did not consumed mutton at all. Poultry meat consumption revealed that 32.2% of the respondents consumed poultry meat once a week, 20% consumed 2 to 5 times a week, 14.4% once daily, 7.8% once every two weeks, 4.4% once a month and 3.3% once a year.



Table 6 – Consumption frequencies (%) of various animal products

Frequency	Livestock products				
	Milk	Beef	Mutton	Poultry meat	Eggs
Once daily	17.8	4.4	00	7.8	14.4
2 to 5 times a week	27.8	7.8	5.6	20.0	37.8
Once a week	40.0	12.2	7.8	37.8	32.2
Once every two weeks	5.6	14.4	21.1	25.6	7.8
Once a month	5.6	20.0	20.0	6.7	4.4
Once a year	3.3	37.8	32.2	2.2	3.3
No consumption	00	3.3	13.3	00	00
Total	100.0	100.0	100.0	100.0	100.0

Table 7 represents the discrepancies in egg prices between producers and consumers, measured in BD Taka per 12 pieces (1 Russian Rubel (RUB) is equivalent to 1.37 BD Taka). The data revealed that producers predominantly sold eggs at low prices (73.3%) and selling price was ≤ 120 BD Taka for 12 eggs. Another 26.7% sold eggs at medium prices (121-130 BD Taka per 12 eggs). None of the producer sold eggs at moderate prices (131-140 BD Taka for 12 eggs) and high (>140 BD Taka for 12 eggs). Mean selling price was 118.37 BD Taka ± 6.49 for 12 eggs. Consumers primarily paid high prices for eggs, 80% of respondents purchased 12 eggs at prices more than 140 BD Taka and rest 20% paid moderate price (131-140 BD Taka for 12 eggs). None of the consumers paid low (≤ 120 BD Taka for 12 eggs) or medium prices (121-130 BD Taka per 12 eggs) for buying eggs. Mean consumer's buying price was 144.25 BD Taka ± 4.96 for 12 eggs.

Table 7 – Discrepancies in egg prices (BD Taka# per 12 pieces) between producers and consumers

Categories	Score (BD Taka#)	Producers' price			Consumers' price			Increased prices from producer to consumer (%)
		Number	%	Mean \pm SD	Number	%	Mean \pm SD	
Low	<120	22	73.3	118.37 \pm 6.49	0	0	144.25 \pm 4.96	21.86
Medium	121-130	8	26.7		0	0		
Moderate	131-140	0	0		8	20.0		
High	>140	0	0		32	80.0		
Total		30	100.0		40	100.0		

#1 Russian Rubel (RUB) is equivalent to 1.37 BD Taka.

Table 8 shows the discrepancies in milk prices between producers and consumers, measured in BD Taka per kg. It was found that a significant portion of producers (43.3%) sold milk at low prices, below 50 BD Taka per kg, 33.3% of the producers sold milk at moderate prices (61-70 BD Taka per kg), 23.3% of producers sold milk at medium prices (51-60 BD Taka per kg). No producers sold milk at high prices (> 70 BD Taka per kg). Mean selling price of milk per kg was 51.61 ± 9.1 BD Taka per kg. In contrast, consumers paid markedly higher. The majority of consumers (65.0%) paid high price of more than 70 BD Taka per kg, 22.5% of the consumer paid moderate price of between 61-10 BD Taka per kg, while 12.5% of the consumer paid medium price of between 51-60 BD Taka per kg. Mean buying price of consumer was 71.92 BD Taka ± 3.44 per kg. Comparison between the prices of milk at producers and consumers level indicates that consumers purchased milk at around 40% higher prices than the producer's prices. These discrepancies are due to poor marketing facilities of milk, perishable nature of milk and poor transport system of milk from farms to markets.

Table 8 – Discrepancies in milk prices (BD Taka# kg-1) between producers and consumers

Categories	Score (BD Taka#)	Producers' price			Consumers' price			Increased prices from producer to consumer (%)
		Number	%	Mean \pm SD	Number	%	Mean \pm SD	
Low	<50	13	43.3	51.61 \pm 9.1	0	0	71.92 \pm 3.44	39.25%
Medium	51-60	7	23.3		5	12.5		
Moderate	61-70	10	33.3		9	22.5		
High	>70	0	0		26	65.0		
Total		30	100.0		40	100.0		

#1 Russian Rubel (RUB) is equivalent to 1.37 BD Taka.



Table 9 shows discrepancies in poultry meat prices between producers and consumers, measured in BD Taka per kg. The data indicated that a significant portion of producers (50.0%) sold poultry meat at low prices, below 300 BD Taka per kg, 30.0% of the producer sold it at moderate prices (351-400 BD Taka per kg). Smaller portion of the producers (20%) sold poultry meat at medium price (301-350 BD Taka per kg). Mean selling price was 342.18 BD Taka \pm 55.22 per kg. In contrast, the prices paid by consumers were higher. The majority of consumers (70.0%) paid high prices (> 400 BD Taka per kg), 15% of the consumer paid medium price of between 301-350 BD Taka per kg while another 15% of the consumer paid moderate price of between 351-400 BD Taka per kg. None paid low prices (< 300 BD Taka per kg). Mean buying price of poultry meat by the consumer was 442.22 BD Taka \pm 65.64 per kg. The price discrepancies of poultry meats between producers and consumers stated that consumers paid around 30% more prices than the price received by the farmers which indicate that there is an urgent need to improve the market value chain of this product.

Table 9 – Discrepancies in poultry meat prices (BD Taka# kg-1) between producers and consumers

Categories	Score (BD Taka#)	Producers' price			Consumers' price			Increased prices from producer to consumer (%)
		Number	%	Mean \pm SD	Number	%	Mean \pm SD	
Low	<300	15	50.0		0	0		
Medium	301-350	6	20.0	342.18 \pm 55.22	6	15.0		
Moderate	351-400	9	30.0		6	15.0	442.22 \pm 65.64	29.24
High	>400	0	0		28	70.0		
Total	Total	30	100.0		40	100.0		

Table 10 shows the discrepancies in beef prices between producers and consumers, measured in BD Taka per kg. The data revealed that half of the producers (50%) sold beef at low prices, below 600 BD Taka, 36.7% of producers sold beef at medium prices of between 600-650 BD Taka, and 13.3% sold it at moderate prices (651-700 BD Taka). Selling price of beef at farmers level never exceeded 700 BD Taka. Mean selling prices per kg of beef was 580.48BD Taka \pm 27.10. In contrast, consumers faced significantly higher prices for beef. Majority of the consumer (45%) bought beef at moderate price of between 651-700 BD Taka per kg, 42.5% paid high prices of > 700 BD Taka per kg. Small percentage of consumers (12.5%) paid medium prices between 600-650 BD Taka. The mean buying price was 704.44 BD Taka \pm 50.63. Price discrepancies between consumers and farmers indicated that consumers paid 21.35% more prices than the farmers got.

Table 10 – Discrepancies in beef prices (BD Taka# kg-1) between producers and consumers

Categories	Score (BD Taka#)	Producers' price			Consumers' price			Increased prices from producer to consumer (%)
		Number	%	Mean \pm SD	Number	%	Mean \pm SD	
Low	<600	15	50.0		0	0		
Medium	600-650	11	36.7	580.48 \pm 27.10	5	12.5		
Moderate	651-700	4	13.3		18	45.0	704.44 \pm 50.63	21.35
High	>700	0	0		17	42.5		
Total		30	100.0		40	100.0		

#1 Russian Rubel (RUB) is equivalent to 1.37 BD Taka.

Table 11 presents the challenges encountered by smallholder farmers in accessing livestock markets, ranked based on their severity. Among these challenges, “limited access to credit and finance” emerged as the most significant barrier, with an index score of 246, representing 68.33% of the total challenges listed ranking number first. “Inadequacy of extension services and technical support” ranked second, with an index score of 196 and contributing to 54.44%. The “presence of middlemen”, ranked third, scoring 193 on the index and accounting for 53.61% of the total. Other challenges include “limited market information” (ranked fourth), “low product quality” (ranked fifth), “distance to the desired market”, and “high transport costs” (both ranked sixth), and “non-availability of vehicles” (ranked seventh).



Table 11 – Ranking of the challenges for the smallholder farmers in accessing livestock markets

Serial	Constraints	Index		Rank
		Score	Percentage	
1	Presence of middlemen	193	53.61	3
2	Non-availability of vehicle	81	22.50	7
3	Distance to the desired market	90	25.00	6
4	High transport cost	90	25.00	6
5	Limited market information	141	39.17	4
6	Low product quality	107	29.72	5
7	Limited access to credit and finance	246	68.33	1
8	Inadequate extension services and technical support	196	54.44	2
	Total	127.11	35.30	

Table 12 – SWOT analysis for livestock supply chain

<p><i>Strength</i></p> <p>Income generation through egg, meat and milk production</p> <p>Market participation and involvement of the farmers in active market</p> <p>Improved livelihood</p> <p>Poverty eradication</p>	<p><i>Opportunity</i></p> <p>Higher income generation</p> <p>Increasing profitability of farmers by reducing involvement of middleman</p> <p>Demand of livestock products inside the country</p> <p>Export livestock products</p> <p>Self-employment</p>
<p><i>Weakness</i></p> <p>Presence of middleman</p> <p>High transportation cost</p> <p>Limited access to finance at farmer's level</p>	<p><i>Threat</i></p> <p>Increased selling price to the consumer</p> <p>Presence of middleman</p> <p>Lack of capital</p> <p>Long distance from farm to market</p>

The SWOT analysis revealed that there are several strengths and opportunities exist to improve the livestock supply chain in the southwestern region of Bangladesh (Table 12). Among the observed strengths of the livestock sector were increased income, improved livelihoods and poverty reduction. Some opportunities have been identified, the demand for livestock products in the country is high and self-employment prospects are significant opportunities for this sector. On the other hand, the livestock supply chain faces a number of weaknesses and threats including the presence of middlemen, high transportation costs, limited access to finance at the farmers' levels and long distances from farm to market.

CONCLUSION

Farmers were able to produce meat, eggs and milk with influential talents and they applied various sorts of feeding strategies which include feeds from local suppliers to farm byproducts while working with mostly limited financial resources. Farmers engage with many types of buyers from local consumer to middlemen even retailers. There are substantial price discrepancies between the farmers and the consumers suggesting inefficiencies of supply chain. The market chain is exploited by intermediaries which results in more discrepancies in prices between producers and consumers. Consumption pattern indicated egg and milk are more frequently consumed suggesting its better availability. Some barriers faced by the farmers include limited access to finance and inadequate extension services. Proximity of the farms to market is generally reasonable but varied widely and further market access can also potentially attribute to price discrepancies. Logistical challenges such as high transport cost can also affect the price the livestock products circulating in market. With suitable market environment smallholder farmers can contribute to the broader development of livestock sector and price discrepancies between the producers and consumers can be reduced.

CONFLICT OF INTERESTS

The authors confirm that there are no conflicts of interest related to the publication of this article.



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