

## **A Baseline Survey on Cattle Imports through Different Peripheral Areas of Bangladesh**

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### **Authors' contributions**

*This work was carried out in collaboration between all authors. Authors RK and MAH designed the study, wrote the protocol and wrote the first draft of the manuscript. Authors MNI and MSM reviewed the experimental design and all drafts of the manuscript. Authors SA and ASMAU managed the analyses of the study. All authors read and approved the final manuscript.*

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### **ABSTRACT**

This research program was undertaken to find out the existing cattle marketing scenario, problem and prospects in 11 (eleven) different busiest land ports areas (Hilli, Benapole, Banglabandha, Bhurimari, Sonamasjid, Bibir Bazar, Birol, Meherpur, Bhomra, Bilonia and Baliadungia of Bangladesh). The land port were randomly selected where most of exported and imported goods were marketed. Data collection was made during October, 2013 to May 2014. Different stakeholders from each land port were considered as respondents (Direct importer, local market trader, ULO officials, customs and BGB officials, local people and authority) where 37 responded for each port, those who were involved directly or indirectly in livestock marketing. A total of 407 responded covering 11 ports were firstly interviewed through face to face interviewed following pre-designed structure questionnaire, cross checked and finally analyzed using simple descriptive statistical tools. The data so far obtained that around 30-40% imported cattle were legal and the rest illegal. When source of origin considered for imported cattle found 98% Indian and 2% Nepalese. Out of 98% Indian cattle, 88.90% were local type, 8.73% were Harijana and 2.1% were Shindi and type of

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species cases 88.64% found cattle 11.36% found buffaloes and rest of horse, camel, sheep. For disease perspective the rate of disease prevalence in surveyed area found 88.18% FMD; 5.0% Diarrhoea; 4.33% parasite infestation and 2.29% BQ. During illegal transportation, traders were paid @ Tk 500, 200 and 6000 as revenue charge for each cattle/buffalo, sheep/goat and horse, respectively. So for saving our own cattle resource from trans-boundary disease like FMD, Anthrax, need to be measured immediate livestock movement control, effective ring vaccination, proper quarantine procedures at each entry points and establishment of a buffer zone. Finding of this research helps to generate a meaningful data base, making as guideline for policy maker, researchers addressing sustainable cattle marketing system with a view to benefit of total cattle production.

*Keywords: Livestock marketing; peripheral areas; baseline survey; Bangladesh.*

## 1. INTRODUCTION

Livestock is considered as a key source of supplementary family incomes and generating a gainful employment for livelihood and provides balanced cheap animal food and also remains some comparative advantages over crop, fishery and forestry as they require less land, small capital and is least influenced by seasonal changes. Major potentials of livestock sub-sector is a tools for poor and pro poor, employment and income generation and poverty reduction, nutrition, food security and safety, social safeguards, export earnings, renewable energy and soil health.

The share of agriculture sector in national GDP is 18.70% and livestock sub-sector is 2.45%. and its annual rate of growth is 5.5%. About 20% of the populations of Bangladesh earn their livelihood through work associated with raising livestock [1]. Livestock is also considered an important asset for the farm family because about 25% of total population directly and 50% depend on livestock in part-time or indirectly related with livestock rearing for cash income and survival [2]. Bangladesh has very large population of livestock about 23.12 million cattle, 1.39 million buffalo, 24.15 million goat and 3.00 million sheep [3]. The production of milk, meat and other livestock products per animal is very low compared to many other countries in the world due to malnutrition or under-nutrition and low genetic potential.

It is reported that about three million cattle needed per year in Bangladesh where majority of Muslim population enjoy taking beef but supply can only about one million from local market resulting two million cattle shortfall of per year as per requirement. This huge demands met by illegal trade primarily from West-Bengal and 17 routes north and south part border side of

Bangladesh. About 68 corridors and 149 sensitive villages of West Bengal border, the river side borders, the char areas; vast patches of dry land treated as convenient for smuggling [4,5]. India has the largest livestock population in the world estimated around 20 percent of world's livestock whereas covering only 2.3 percent of world's geographical area. India stands the leader in buffaloes (57%) and world's second largest cattle (12%) population [6]. The country had 529 million livestock population and livestock population is showing continuous uptrend [7] whereas in Bangladesh has declined by 50 percent due to agriculture mechanization and modernization. Dependence on beef has increased related with increase of urban population, and purchasing power of the common people towards Indian cattle entered in Bangladesh cattle market, taking advantage of short supply of local cattle. India is now liberally exporting cattle to Bangladesh and importing hides and skins unofficially. It exports about 10 million cattle to Bangladesh annually out of which around 4 million are dispatched during the Eidul Azha. During the whole year India sells cattle worth Tk. 310 billion. About Tk. 160 billion is earned during the Eid [8]. During Eid, each night the Indians are dispatching thousands of cattle through Lalmonirhat, Kurigram, Chapai Nawabganj, Panchagarh, Kushtia, Meherpur and other areas by deceiving the BSF and BGB in collusion with other businessmen. It is reported that the price of each cattle is near about 50 percent lower in Indian side than in Bangladesh side. The exchange Money under this business is returned to India via hundi, hand cash, mobile banking system or other exchangeable smuggled goods. About 40-50 lakhs of aged cattle ranges 2.5 to 8 years and 150 kg to 500 kg sacrificed during Eid-ul-azha, regarded the biggest religious festival of Muslim. Bangladesh is considered as a big market for Indian cattle for geographical and religious point of view. Thousands of traders are

involved in cattle marketing using various land port, situated in most peripheral areas. Illegal imported cattle sold in various markets indiscriminately. Gabtoli cattle market periphei of capital known as a big market in Bangladesh. This huge flow of Indian entered cattle making looser of local farmers irrespective of economic loss. It is regarded as threats to flourish of our local cattle farmers. It would be cleared if we look back the past Eid- ul-azha it seems that Bangladesh is benefited in-terms of low price of Indian cattle rather than local cattle at market place but in the long run it creates havoc on our livestock resources as well as our total economy. In this connection such type of research has been done very scantily. Keeping this mind this research program was taken to find out the problem and prospect of cattle marketing in most peripheral areas as well as to identify the remedies of our local livestock resources avoiding unauthorized and unwanted livestock species from India to Bangladesh. Finding of this research helps to generate a data base, act as guideline of our policy maker, researchers for formulating an effective national livestock policy towards the benefit of our own cattle production as a whole for sustainable livestock marketing in Bangladesh.

## 2. MATERIALS AND METHODS

### 2.1 Sampling Technique

The study was covered 11 (eleven) land ports areas having significant contribution of our total economy irrespective of export and import between India and Bangladesh. Hypothesis was set that most of the imported cattle entered neighbouring the said port. Keeping this mind each land port was selected randomly as respondent. The list of land ports are given in Table 1. Simple random sampling technique was followed for selecting a total of 407 respondents (37 respondents for each land port) those who are involved directly or indirectly to cattle marketing. A total 37 respondent covering from each land port considered as stakeholders that was 15 traders, 2 custom and corridor officer, 1 local livestock authority (ULO/VS), 3 local leader (local elite person) from 3 entering points surrounding land ports, 9 local peoples, 1 local authority (member or chairman) and 6 local marketer. The total collected samples from different stakeholders are given in Table 2. The market intermediaries and their role described here with consulting of concerns officials. During importation a number of intermediaries involved

in cattle marketing found as importer, carrier, Bepari, Dalal, Border side cattle holders owner (Khatal). Bepari those sold cattle to the butchers and general customers. They were classified in two types based on dealing, one who bought cattle from India and sold to Border areas local market and another who bought and sold cattle within country. Dalal (Middle man) who helped in bargaining for cattle marketing between buyers and sellers with business interest. Local marketer who bought cattle from farmer's house or from local market and sold local butcher in different cities or piker directly with minimum profit. Local leader/Authority those who are the elite person or Local Govt. Member or chairman, or community head to the respective border area having financial and political solvency. All sorts of people are involved directly or indirectly related to cattle marketing. As cattle trade in border is totally illegal and risky, so to get ins and outs information of this trade need to collection data from different sources those who are treated as active stakeholder, or controlling this business. The questionnaire that was prepared based on respondent criteria and data was also collected accordingly.

**Table 1. Locations and sample size pattern of selected lands port in Bangladesh**

SL no.	Land port	District	Sample size
1.	Hilli	Dinajpur	37
2.	Benapole	Jessore	37
3.	Banglabandha	Panchaghar	37
4.	Bhurimari	Lalmonirhat	37
5.	Sonamasjid	Chapai	37
		Nawabgan	
6.	Bibir Bazar	Comilla	37
7.	Birjol	Dinajpur	37
8.	Meherpur	Meherpur	37
9.	Bhomra	Satkhira	37
10.	Bilonia	Feni	37
11.	Baliadungi	Thakurgaon	37
Total sample size			407

### 2.2 Preparation of the Survey Schedule

Questionnaire or survey schedule was designed following the objectives of the study. it was pre-tested before collection of data.

### 2.3 Period of Data Collection

Data was collected from different stakeholders of 11 (eleven) land ports during the months of

September 2013 to June 2014. Cross check was also performed by the researchers to get reliable data during survey.

## 2.4 Methods of Data Collection

Data was collected from respective respondents according to questionnaire, following face to face interview. Before data collection from each respondent, the objective of the study was clearly explained to respondent and interviewers. The questionnaire covered the trader age, education, and social status, supply in market, cattle type, age, season and reason, disease information, expenditure and so on. Secondary data was also collected from recorded file from port areas of local authority; consumers; local businessman; custom corridor office; Boarder Guard Bangladesh (BGB)); Directorate of Livestock Services (DLS) officials personnel and related reports of Journal or web based.

## 2.5 Parameters Study

The cost and return of the traders and their marketing chain, identify selected regions constraints and prospects factors of livestock marketing; disease pattern; hygienic & quarantine issues; type and population of livestock species prevails in respective area; nature of involvement of trader's; transportation facilities and other related parameters that were considered to be studied under this study.

## 2.6 Analytical Techniques

For analyzing the collected data, simple statistical tools like total, averages and percentages were used to achieve the objectives.

**Table 2. Sample distribution among different stakeholders**

Type of stakeholders	Number/ Land ports
Traders	15
Custom & corridor officer	1
Local livestock authority (ULO/VS)	1
Local leader/Entrees	3
Local peoples	9
Local authority	1
Local marketer	6
Total	37

## 3. RESULTS AND DISCUSSION

### 3.1 Overall Information about Cattle Importer and their Business in Studied Area

During cattle marketing, information of businessman those who were involved to cattle importation over 11 peripheral selected areas shown in (Fig. 1). Where average age of cattle importer cases found 28-45 years, family size about 5-6 members, education level 98-99% for illiterate, and 1-2% for primary level. Besides this in landholding cases were found average 235 decimal per traders. The total surveyed trader found 90% involved in cattle business and 10% were in agriculture and fisheries as secondary business. The data so far obtained clearly indicate that only 30-40% cattle were brought through legal (paid revenue by trader) ways and the rest were illegally.

### 3.2 Marketing Cost and net Margin

The prices of livestock and livestock products fluctuate by seasons and regions mainly due to the variation in demand and supply [9]. The data so far obtained that price of cattle was 20 to 40% higher during the month of Eid-ul-azha (Muslim festival). And in the month of May to July and lowest in the month of January to February. Marketing cost incurs different types of seen and unseen cost like market tolls; labor cost; transport cost; cattle carrier expenses; Middle man commission; shop rent; tips & donations; feed cost paying illegal fees in different entry points; electricity charge; packaging; customs corridor commissions and others. During survey the importer and Piker (Who sold a numbers of cattle to small trader) claimed the average net profit margin per cattle only 1000-1500 taka excluding all market cost at the time of selling to their client (third party). In case of importation from India to Bangladesh border a cow minimum cost involvement near about 6000-7000 taka and Bangladesh side requires extra 1500-2000 taka. So called this total cost involvement help to make a strategic plan or to determine the selling price of a cattle trader.

### 3.3 Cattle Imported Scenario Prevails in Surveyed Areas

Scenario of overall imported cattle in selected areas of Bangladesh were shown in Table 3. Considering the origin of total number of cattle,

about 98% Indian and only 2% Nepalese/ Burmese. Out of 98% imported Indian cattle, 88.90% were local indigenous type, 8.73% Haryana and 2.1% Shindi respectively (Fig. 2). For age cases 5 years old cattle were observed in most cases in each entry points except 2.5 years old cases were found in Meherpur border area where 2-2.5 year's age of cattle were considered to be more profitable for fattening program noticed by the cattle importer as well as cattle raiser. When consider overall imported cattle were species wise categorized found 88.64% cattle and 11.36% buffaloes (Fig. 3).

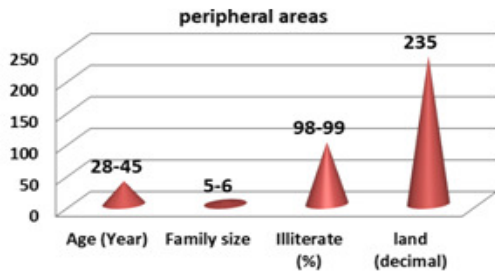


Fig. 1. Livestock traders information in most peripheral areas

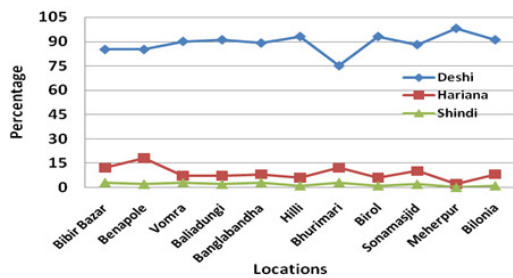


Fig. 2. Type of imported cattle in study areas

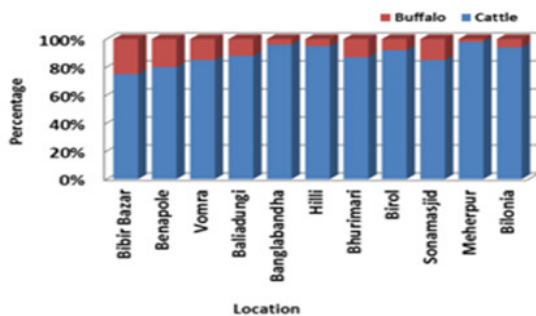


Fig. 3. Type of imported livestock species in study areas

Cattle import business basically two way mutual benefit of Indian and Bangladeshi cattle importers. Based on number of imported cattle

by the cattle traders were categorized as small, medium and large where 44.72% found medium cases (20-40 no. cattle/importer) 39.45% small (10-20 no. cattle/importer) and 15.81% large trader (40 and above no. cattle/importer). During survey period it was observed that cattle is imported either legally or illegally throughout the year but maximum number of cattle imported as season and reason wise basis. It was also found that suitable time and season for cattle importation at 3-5 a.m. represents 71.64% cases and at 10-12 a.m. represents 28.36% cases in a day and for winter cases 63.45% and for summer cases 37.45%. Irrespective for middleman (MM) involvement during legal or illegal importation average 3 numbers intermediaries were found in Indian side and average 5 numbers found in Bangladesh side shown in Fig. 4 and average number of route/entry points used for cattle transferred from India to Bangladesh found seven/nine numbers avoiding legal areas where most of export or import is occurred. All this data was collected consulting with border corridor officer, BGB officers and also from the importer. This data shown in Fig. 5.

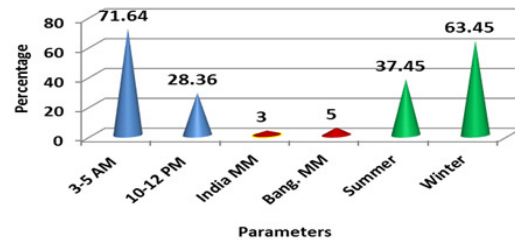


Fig. 4. Time, season and middle man involvement in cattle marketing

The cattle import business network established an entire chain of command on both sides of the borders cattle traders. To run this business smoothly and profitably both side maintain a group of intermediaries such as financiers, importer middlemen and the carrier to accept and receive of imported cattle to border adjacent areas. Thousands of importers involved in cattle border marketing in the most peripheral areas contributing a source of family incomes, employment generating and enhancing for livelihood. Active participation of cattle trading case higher number of cattle traders (245-270 persons) was found in Benapole, Bhurimari, Sonamasjid, Vomra and Baliadungi land port adjacent areas (Fig. 6).

During marketing from India to Bangladesh most of imported cattle were accumulated from Indian

different province to West Bengal areas. The cattle bring all the way across from States including Rajasthan, Harayana, Punjab and Bihar to West Bengal's Malda, Murshidabad and North 24 Parganas district *haats* (village markets) in the border villages. When the cattle is taken across the border tripling the price in the market that the trade becomes illegal, BSF explained. Before entry to Bangladesh border areas most of imported cattle were entered in north and south part. During study period 1405.56 thousands animal were imported from north part and 1307.19 thousand animal were imported from south part of Bangladesh (Fig. 7).

### 3.4 Disease Pattern

The cattle which was imported from India to Bangladesh across the border their rate of disease prevalence observed and recorded where Foot and Mouth Disease (FMD) cases 88.18% for Diarrhoea 5.0%; for parasite 4.33% for Black Quarter (BQ) 2.29% and rest of under nourished condition. FMD was observed more prevalent each and every port area noticed by respective port areas ULO office where maintained their registered data sheet regarding disease (Fig. 8) incidence, prevalence or outbreak issues. When conversation was performed among different stakeholders those who are directly or in directly involved to cattle marketing business claimed that most cases aged and FMD diseased cattle were transferred from India to Bangladesh through each entry point without checking of FMD or other trans-boundary disease. FMD is a major obstacle to productivity and market resulting severely limits market opportunities for poor farmers and nations to access making more lucrative markets both regionally and internationally [10]. The importance of these diseases as a public health hazard, particularly in rural areas where a close association exists between man and domestic animal is well established [11]. In Lalmonirhat port premises a large portion of cattle importer stated that Indian cattle infected with different diseases, especially anthrax but traders in this areas are not bother for checking disease prevalence and at the same time DLS has no manpower to check the imported cattle. For this many people are purchasing diseased Indian cattle ignoring the risk of serious health hazard. During survey a trader at Durakuti Haat at Lalmonirhat Sadar said they brought Indian cattle illegally at night and sold these cattle at different

hats (markets) without check- up by local livestock office and Livestock officials. Globalization and the rapid modernization of trade and transport as well as the piousness of borders have contributed to the rapid spread of communicable diseases. An individual livestock keeper cannot adequately control FMD by his actions alone, but also depends upon a collective effort from their neighbors and trading partners for effective FMD control requires global cooperation [12].

### 3.5 Revenue from Cattle Marketing

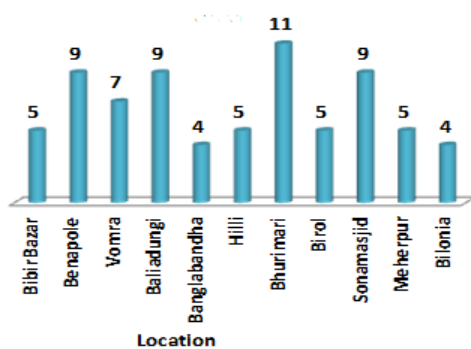
To be a legal importer in most cases was found to pay revenue as per government prescribed rate, when caught by BGB. Every year about \$1 billion earned and considered legal cattle importation [13] total number of cattle importation and revenue earn in selected peripheral areas shown in Table-4. Basically most of the cattle were imported from border areas found illegally when paid as revenue by the trader @Tk. 500, 200 and 6000 for each cattle/buffalo, sheep/goat and horse regarded as legal (Table-4). During survey period an importer at Patgram in Lalmonirhat District, stated that every week only 10% of the total imported cattle were paid, while rest were not paid through different border points. During 2013 total amount of revenues was collected about 200 lac taka from selected 11 surveyed areas shown in (Table 4) and last three years was found numerically higher compare to 2013. These findings agreed with the statement of Border Guard Bangladesh (BGB) that local cattle importer were discouraged because of the non-stop killing of Bangladeshis by the BSF. The data so far obtained strongly in agreement with Corridor Officer statement that about 14,000 cattle had brought through the legal channel to Chapai Nawabganj, from October 2011 to September 2012. Before that this number was 80,000. A commanding officer of Joypurhat BGB, told newsmen that the designated point for Indian cattle is open but the informal cattle trading remains suspended. Now-a-days due to smuggling of drug, gold, oil and fuel becoming more profitable and convenient rather than cattle importation, resulting low transaction of money was found this sector. As a result yearly average number of cattle importer was found shifted their business to other business avoiding risk incidence in terms of lives as well as capital lost risk.

**Table 3. Imported livestock information in peripheral areas of Bangladesh**

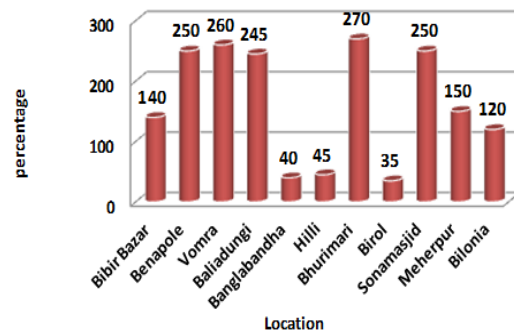
Location	Species (%)		Type (%)			Disease (%)				
	Cattle	Buffalo	Deshi	Hariana	Shindi	FMD	Parasite	BQ	Diarrhea	Other /Facile
Bibir Bazar	75	25	85	12	3	90	6	-	-	4
Benapole	80	20	85	18	2	90	5	-	3	3
Vomra	85	15	90	7	3	95	-	-	-	5
Baliadungi	88	12	91	7	2	95	-	3	-	2
Banglabandha	96	4	89	8	3	90	8	-	-	2
Hilli	95	5	93	6	1	88	2	2	5	3
Bhurimari	87	13	75	12	3	80	4	3	6	7
Birol	92	8	93	6	1	85	2	2	7	4
Sonamasjid	85	15	88	10	2	90	3	1	3	3
Meherpur	98	2	98	2	-	82	5	2	6	5
Bilonia	94	6	91	8	1	85	4	3	5	3
Average	88.64	11.36	88.91	8.73	2.10	88.18	4.33	2.29	5.00	3.73

**Table 4. Revenue from cattle marketing in most peripheral areas of Bangladesh**

Location	Parameters											
	Imported time		Middle man		Number of imported route/land port importer/port	Animal/Year (Thousands)					2013 revenue earn (lac. Tk)	
	3-5 AM	10-12 PM	India	Bangladesh		2009	2010	2011	2012	2013		
Bibir Bazar	76	24	4	4	5	140	21.20	17.25	13.12	9.45	7.89	39.45
Benapole	21	79	4	5	9	250	78.25	85.02	90.21	80.32	75.13	375.65
Vomra	65	35	4	5	7	260	82.04	80.65	85.65	95.48	90.00	450.00
Baliadungi	76	24	4	5	9	245	68.00	52.12	47.03	45.92	40.56	202.80
Banglabandha	82	18	4	5	4	40	18.50	16.20	14.02	12.42	10.23	51.15
Hilli	80	20	3	4	5	45	45.00	40.72	37.77	32.38	25.90	129.50
Bhurimari	78	22	4	4	11	270	10.20	87.34	82.30	72.35	56.23	281.15
Birol	76	24	3	5	5	35	17.23	15.78	13.24	12.34	11.02	55.10
Sonamasjid	79	21	4	5	9	250	89.63	86.45	83.45	77.65	55.09	275.45
Meherpur	74	26	4	5	5	150	70.12	62.45	53.10	87.00	16.50	82.50
Bilonia	81	19	3	4	4	120	15.99	13.46	11.23	10.43	11.23	56.15
Average	71.64	28.36	3	5	6.64	164	516.16	557.44	531.12	535.74	399.78	199.89



**Fig. 5. Entry point port in selected area**



**Fig. 6. Traders/port in selected area**



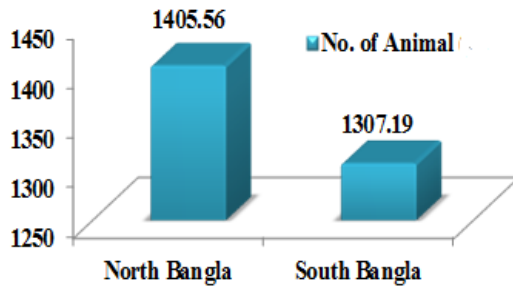


Fig. 7. Number of cattle are imported from selected areas of Bangladesh

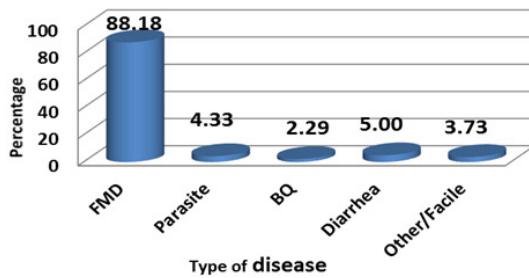


Fig. 8. Disease pattern of imported cattle in study areas

#### 4. CONCLUSION

The results so far obtained through this research clearly indicate that if there is provision on restriction of import cow from India, local cattle production will be increased simultaneously farmers will be more benefited avoiding over flow of Indian diseased cattle at market area. This approaches helps for making a good environment, getting actual price for local producers and consumers. For saving our own cattle resources from trans-boundary diseases like FMD, Anthrax, skin diseases and to get consistent reasonable market price, Government should come forward to control of livestock movement from India to Bangladesh with effective exposure of ring vaccination, strengthening Directorate of Livestock Services (DLS) infrastructure, establishment of modern quarantine Hub along with laboratory following proper quarantine procedures in each border entry point, manpower development and establishment of a buffer zone.

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#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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