

Original Research Article

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

Abstract

The existing cattle marketing system in most peripheral areas as well as the problem and prospect were identified following this research program during October, 2013 to May 2014. 11 (eleven) busiest land ports (Hilli, Benapole, Banglabandha, Bhurimari, Sonamasjid, Bibir Bazar, Birol, Meherpur, Bhomra, Bilonia, Baliadungi) was taken as surveyed areas from where most of export and imported goods are passed away. Different stakeholders from each land port were considered as respondents. Each port 37 responded (Direct importer, local market trader, ULO officials, Customs and BGB officials, local people and authority) were randomly selected those are involved in livestock marketing directly or indirectly acts as intermediaries or mediators. Survey was accomplished through face to face interviewed using pre-designed structure questionnaire. A total of 407 responded collected data from different sources (primary and secondary) were firstly cross checked than go for analyzed using simple descriptive statistical tools. The data so far obtained revealed that around 30-40% imported cattle through legal ways and the rest were as illegal by active participation of different market intermediaries indifferent border entry points. During importation rate of disease prevalence for cattle was observed especially 88.18% FMD; 5.0% Diarrhoea; 4.33% parasite infestation and 2.29% BQ. Overall imported cattle accounts about 98% from Indian and 2% from Nepalese. Out of 98% Indian imported cattle 88.90% were found local type, 8.73% Haryana and 2.1% Shindi cattle. In case of cattle age part most of them were 4-5 year old except in Meherpur border areas 2-2.5 years old found. Species wise imported livestock average 88.64% for cattle and 11.36% for buffaloes and other types represents a very little number. To become illegal to legal most of the imported cattle were paid @ Tk 500, 200 and 6000 as revenue charge for each cattle/buffalo, sheep/goat and horse during importation. For saving our own cattle resource from trans-boundary disease like FMD, Anthrax needs to be measured immediate controlling of livestock movement from India to Bangladesh and also needed effective ring vaccination, proper quarantine procedures at each entry points and establishment of a buffer zone. Finding of this research so far helps to generate a data base, act as guideline of our policy maker, researchers for formulating an effective national livestock policy addressing sustainable cattle marketing system for the benefit of our overall cattle production to some extend

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

1. Introduction

The share of agriculture sector in national GDP is 18.70 and the share of livestock sub-sector is 2.45. Statistics show that about 2.9% of national GDP is covered by the livestock sector, 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 [2]. Livestock is also an important asset for the farm family. About 25% of total population directly depend on livestock rearing and its associated ventures and about 50% of the total population in part-time or indirectly related with livestock rearing/industries that not only provide means of security and survival, but also cash income [11]. Although Bangladesh has very large population of

48 livestock about 23.12 million cattle, 1.39 million buffalo, 24.15 million goat and 3.00 million sheep [3] the
 49 production of milk, meat and other livestock products per animal is very low compared to other many
 50 countries in the world. One of the main reasons for the low productivity of our livestock is malnutrition or
 51 under-nutrition besides; the low genetic potential of the animals. Livestock sector plays an important and
 52 pivotal role in the rural economy of the country. Livestock is considered as a key source of supplementary
 53 family incomes and generating a gainful employment for livelihood and provides balanced cheap animal
 54 food and also remains some comparative advantages over crop, fishery and forestry as they require less
 55 land, small capital and is least influenced by seasonal changes. Major potentials of livestock sub-sector is a
 56 tools for poor and pro poor, employment and income generation and poverty reduction, nutrition, food
 57 security and safety, social safeguards, export earnings, renewable energy and soil health.

58
 59 It is reported that about three million cattle per year is needed in Bangladesh where majority of Muslim
 60 population enjoy taking beef. Reported from local market that supply can only about one million cattle, for
 61 this shortfall of two million cattle per year is met by illegal trade primarily at the West-Bengal and
 62 Bangladesh border especially north and south part through 17 routes. There are 68 corridors and 149
 63 sensitive villages on the West Bengal border besides, the river side borders, the char areas; vast patches
 64 of dry land also become convenient for smuggling. Neighboring country India has the largest livestock
 65 population in the world. India has around 20 percent of world's livestock with only 2.3 percent of the
 66 world's geographical area. India is the leader in buffaloes (57%) population and world's second largest
 67 cattle (12%) [5]. According to all India livestock census-2007, the country had 529 million livestock
 68 population and livestock population is showing continuous uptrend. In Bangladesh, Cattle production has
 69 declined by 50 percent because of mechanization and modernization of agriculture. However, with the
 70 increase of urban population, and purchasing power of the common people, dependence on beef has
 71 increased. Indian cattle have entered the market taking advantage of short supply of local cattle. India is
 72 now liberally exporting cattle to Bangladesh and importing hides and skins unofficially [6]. It exports about
 73 10 million cattle to Bangladesh annually out of which around 4 million are dispatched during the Eidul Azha
 74 [6]. During the whole year India sells cattle worth Tk. 310 billion. About Tk. 160 billion is earned during the
 75 Eid [6]. During Eid, each night the Indians are dispatching thousands of cattle through Lalmonirhat,
 76 Kurigram, ChapaiNawabganj, Panchagarh, Kushtia, Meherpur and other areas by deceiving the BSF and
 77 BGB in collusion with our businessmen. It is learnt that the price of each cattle is 50 percent lower in Indian
 78 side than in Bangladesh side. Money under this business is returned to India through hundi, hand cash,
 79 mobile, banking system or other some smuggled goods. About 40-50 lakhs of aged cattle between 2.5 to 8
 80 years and weighing between 150 kg to 500 kg are sacrificed during Eid-ul-azha, the biggest religious
 81 festival of Muslim. Bangladesh is a big market for Indian cattle. Thousands of traders are involved in cattle
 82 marketing and they used various land port which are situated in the most peripheral areas of Bangladesh.
 83 Indiscriminately, they are importing Indian cattle and selling those cattle in various markets in Bangladesh
 84 including Gabtoli market at Savar, is a big cattle market in Bangladesh. It is needed to state that in one
 85 hand, Indian cattle keep beef price in a bearable level for our general people. But on the other hand, the
 86 local cattle farmers are becoming looser because of incurring huge loss to run their business. It is
 87 regarded as threats to flourish of our local cattle farmers. It would be cleared if we look back the past Eid-
 88 ul-azha it seems that Bangladesh is benefited in-terms of low price of Indian cattle rather than local cattle
 89 at market place through overflow of Indian imported cattle but in the long run it creates a havoc on our
 90 livestock resources as well as our total economy. In this connection research has been done very scantily.
 91 Keeping this mind this research program was taken to find out the problem and prospect of cattle
 92 marketing in most peripheral areas as well as to identify the remedies of our local livestock resources
 93 avoiding unauthorized and unwanted livestock species from India to Bangladesh. Finding of this research
 94 helps to generate a data base, act as guideline of our policy maker, researchers for formulating an
 95 effective national livestock policy targeting for the benefit of our own cattle production in this regard. The
 96 aim of the present study was to identify the existing entry points of cattle marketing scenario, the

constraints and prospects of livestock marketing in the selected peripheral regions and formulate policy guideline for sustainable livestock marketing in Bangladesh.

2. Materials and Methods

2.1 Sampling technique: The study was covered 11 selected land ports in most peripheral areas having significant contribution of our total economy irrespective of export and import between India and Bangladesh. Hypothesis was set that cattle are imported over 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) who are involved to cattle marketing directly or indirectly. Each port considered 37 respondent covering from each land port of 15 traders, 2 custom and corridor officer, 1 local livestock authority (ULO/VS), 3 local leader (local elite person) from 3 entering points, 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 are described here with consulting of concerns officials. During importation a number of intermediaries involved in cattle marketing in the study areas were found as importer, carrier, Bepari, Dalal, Border side cattle holders owner (Khatal). Bepari are those sold cattle to the butchers and general customers. They were found in two types, one was who bought cattle from India and sold them to Border areas local market and another was who bought and sold cattle within country. Dalal (Middle man) whose job is to bring the buyers and sellers together and help in bargaining. Local marketer who were bought cattle from farmer's house or from local market and sold local butcher or different cities or piker directly with minimum profit Local leader/Authority that person who are the elite person or Local Govt. member or chairman, or community head to the respective border area having financial and political solvency or identity. These groups of people are involved directly or indirectly in different activities are being performed either GO, NGO or private level stakeholders. Considering to that point of view they were taken as respondent. These people are mainly come from border adjacent areas for earning purposes.

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 regarded as active stakeholder, or controlling this business

2.2 Preparation of the survey schedule: Questionnaire or survey schedule was designed following the objectives of the study. Before collection of data it was pre-tested.

2.3 Period of data collection: Data was collected from different stakeholders of said land ports during the months of September 2013 to June 2014. To get reliable data during survey cross check was also performed by the researchers.

2.4 Methods of data collection: A structured questionnaire was prepared for required data collection. Information was collected from respondents through face to face interview. Just prior to data collection the objective of the study was clearly explained to the respondents. The prepared questionnaire covered the trader age, education, and social status, supply in market (cattle type, age, season and reason, disease information, expenditure and so on. Also secondary data was collected from recorded file from port areas of custom corridor office BDR(Boarder Guard Regiments) and DLS (Directorate of Livestock Services) officials personnel

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

2.6 Analytical techniques: For analyzing the collected data following technique was used to achieve the objectives. Simple statistical tools like total, averages and percentages were used to data analysis.

3. RESULTS AND DISCUSSION

3.1 Overall information about cattle importer and their business in studied area

During cattle marketing information about business man those, who were involved to cattle importation over 11 peripheral selected areas shown in (Fig. 1). Where average age of cattle importer cases among 11 borders were found 28-45 years, family size about 5-6 members, education level were 98-99% for illiterate, and 1-2% for primary level education. Besides this in land holding cases per traders were found average 235 decimal. Out of total trader 90% were involved in cattle business among them and 10% were in agriculture and fisheries regarded 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 regarded as 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 of those products [1]. The data so far obtained covering this research that price of cattle was found 20 to 40% higher during the month of Eid-ul-azha (a Muslim festival). And also found its highest level during May to July and lowest during January to February. Marketing cost incurs market tolls, labor cost, transport cost, cattle carrier expenses, Middle man commission, shop rent, tips & donations, feeding cost, paying illegal fees in different entry points, electricity charge, packaging, BGB (Border Guard Bangladesh), BSF (Boarder Security Forces) commission, police commission, customs corridor commissions and others unseen costs. During survey the importer and Piker (Who sold a numbers of cattle to small trader) claimed the average net profit margin of this business per cattle 1000-1500 taka excluding 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 6000-7000 taka and Bangladesh side requires extra 1500-2000 taka. Based on total cost involvement help to make a strategic plan or to determine the selling price.

3.3 Cattle imported scenario prevails in surveyed areas

Scenario of overall imported cattle in selected peripheral areas of Bangladesh were shown in Table 3. Considering the origin of total imported cattle, about 98% from Indian and only 2% from Nepalese/Burmese. Out of 98% Indian cattle 88.90% were found local indigenous type, 8.73% Haryana and 2.1% Shindi respectively (Fig. 2). For age cases of imported cattle 5 year 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 found to be more profitable for fattening program noticed by the cattle importer as well as cattle raiser. When consider overall imported cattle were categorized as species around 88.64% cattle and 11.36% buffaloes was observed (Fig. 3).

Cattle import business based on two way mutual benefit of Indian and Bangladeshi cattle importers. Based on number of cattle imported 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 noticed that cattle is imported either legally or illegally throughout the year but maximum number of cattle is imported season and reason wise basis. It was found that suitable time and season for cattle importation by the trader at 3-5 a.m. represent 71.63% cases and at 10-12 a.m. represent 28.36% cases in a day and for winter 63.45% and for summer 37.45%. Irrespective for middleman (MM) involvement during legal or illegal importation 4/5 numbers intermediaries were found in Indian side and 3/4 numbers in Bangladesh side shown in (Fig. 4) and number of route/entry points used for cattle transferred from India to Bangladesh found average 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 shown in (Fig. 5).

This 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 making 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 [20]. 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. The data from selected different land port corridor office recorded/ maintained in registered sheet were considered as (Fig. 7) secondary data.

3.4 Disease pattern

The cattle which was imported from India to Bangladesh across the border their rate of disease prevalence observed and recorded under this survey work and found numbers of diseased cattle especially for Foot and Mouth Disease (FMD) cases 88.18% for Diarrhoea 5.0%; for parasite 4.33% and under nourished infestation and 2.29% for Black Quarter (BQ). FMD was noticed more prevalent each and every port area noticed by respective adjacent port areas ULO office personnel who kept and 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 was 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 [5]. The importance of these diseases as a public health hazard, particularly in rural

239 areas where a close association exists between man and domestic animal is well established [7].
 240 In Lalmonirhat port premises a large portion of cattle importer stated that Indian cattle infected
 241 with different diseases, especially anthrax, traders in this areas are not bother for checking
 242 disease prevalence and at the same time DLS has no manpower to check the imported cattle. For
 243 this many people are purchasing diseased Indian cattle ignoring the risk of serious health hazard.
 244 During survey a trader at Durakuti Haat at Lalmonirhat Sadar said they brought Indian cattle
 245 illegally at night and sold these cattle at different hats (markets)t without check- up by local
 246 livestock office and Livestock officials. Globalization and the rapid modernization of trade and
 247 transport as well as the piousness of borders have contributed to the rapid spread of
 248 communicable diseases [14]. An individual livestock keeper cannot adequately control FMD by his
 249 actions alone, but also depends upon a collective effort from their neighbors and trading partners
 250 for effective FMD control requires global cooperation stated [4]

251

252 **3.5 Revenue from Cattle marketing**

253

254 To be a legal importer most cases importer was found not to pay revenue, when they caught by
 255 BGB, and paid as per government prescribed rate. It is estimated that every year about \$1 billion
 256 earned and considered legal cattle importation [15] Total number of cattle importation and
 257 revenue earn in selected peripheral areas shown in Table-4. Basically most of the cattle were
 258 imported from border areas found illegally when paid as revenue by the trader @Tk. 500, 200
 259 and 6000 for each cattle/buffalo, sheep/goat and horse regarded as legal (table-4). During survey
 260 period an importer at Patgram in Lalmonirhat District, stated that every week only 10% of the
 261 total imported cattle were paid, while rest were not paid through different border points. During
 262 2013 total amount of revenues was collected about 200 lac taka from selected 11 surveyed areas
 263 are shown in (Table 4) and last three years was found numerically higher compare to 2013.
 264 These findings agreed with the statement of Border Guard Bangladesh (BGB) that local cattle
 265 importer were discouraged because of the non-stop killing of Bangladeshis by the BSF. The data
 266 so far obtained strongly in agreement with Alam statement (Corridor Officer), that about 14,000
 267 cattle had brought through the legal channel to Chapai Nawabganj, from October 2011 to
 268 September 2012. Before that this number was 80,000. A commanding officer of Joypurhat BGB,
 269 told newsmen that the designated point for Indian cattle is open but the informal cattle trading
 270 remains suspended [18]. Now-a-days due to smuggling of drug, gold, oil and fuel becoming more
 271 profitable and convenient rather than cattle importation, resulting low transaction of money was
 272 found this sector. As a result yearly average number of cattle importer was found shifted their
 273 business to other business avoiding risk incidence in terms of lives as well as capital lost risk.

274

275 **4. CONCLUSION**

276

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

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REFERENCES

- [1] Alam J. Akteruzzaman M.. Current and Potential Market Supply and Demand, Marketing Opportunities and Consumer Preferences for Indigenous Breed Animals/Products. 2004. Report is submitted to FAnGR Asia
- [2] BER. Bangladesh Economic Review, Ministry of Finance, Government of the Peoples' Republic of Bangladesh, Dhaka. 2013.
- [3] BBS. Bangladesh Bureau of Statistics, Statistics Division, Ministry of Planning, Government of the Peoples' Republic of Bangladesh, Dhaka. 2011.
- [4] Forman S, Le Gall F, Belton D, Evans B, François JL, Murray G, Sheesley D. Moving towards the global control of foot and mouth disease: an opportunity for donors. *Rev. science and tech. off. int. Epiz.*, 2009;28(3):883-896.
- [5] Grover DK. Economics of production, processing and marketing of fodder crops in India. *Indian Livestock Census (2007)*. Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture, Government of India. 2012.
- [6] Jamaluddin S. Import of Cattle from India, *Financial Express*, Financial Newspaper of Bangladesh, 24 October, 2012.
- [7] Kabir HB, Eliyas M, Hashem AM, Mohiuddin, Miazi OF. Prevalence of zoonotic parasitic diseases of domestic animals in different abattoir of Comilla and Brahman Baria region in Bangladesh. *Univ. J. Zool. Rajshahi. Univ.* 2009;28:21-25.
- [8] Nishi A, Kamwi JA. Veterinary science, Transboundary Animal Disease and markets: Pathway for policy in Namibia; future options for the beef industry in southern Africa, Working Paper 4, Brighton: Institute of Development Studies. 2008.
- [9] Pavanello S. Livestock marketing in Kenya- Ethiopia border areas: A baseline study, Working Paper, Humanitarian Policy Group, United Kingdom. 2010.
- [10] Razzaque MA. National Livestock Extension Policy Bangladesh, Submitted to Director, PIU-NATP- Department of Livestock services, Bangladesh. 2013.
- [11] Razzaque A. Poverty Alleviation through Goat Production. *Proceedings of the Workshop on Poverty Alleviation through Goat Production: National Program (27 April - 3 May 2002)*. Bangladesh Livestock Research Institute, Savar, Dhaka- 1341. 2002.
- [12] Scoones Ian Alec, Bishi Neo M, Moerane R, Louise MP, Sibanda R, Thomson G, Wolmer W. Foot-and-mouth disease and market access: challenge for the beef industry in southern Africa, *Practical Action Publishing*. 2010;10.3362/2041-7136.2010.010, ISSN: 2041-7128(print) ISSN 2041-71369 (online)
- [13] The independent newspaper. Reports on smuggled cows flood markets ahead of Eid. September 21, 2014
- [14] WHO. Cross-border Collaboration on Emerging Infectious Diseases, Report of the Bi-regional Meeting Bangkok, WHO Project: ICP CSR 001. 2007.
- [15] www.archive.thedailystar.net/newDesign/news)
- [16] www.abc.net.au/news.
- [17] www.newagebd.com
- [18] www.practicalactionpublishing.org
- [19] www.stepscentre.org.
- [20] www.thehindu.com.

Table list

Table 1. locations and sample size pattern of 11 selected lands port

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	ChapaiNawabgan	37
6.	Bibir Bazar	Comilla	37
7.	Birol	Dinajpur	37
8.	Meherpur	Meherpur	37
9.	Bhomra	Satkhira	37
10.	Bilonia	Feni	37
11.	Baliadungi	Thakurgaon	37
Total Sample size			407

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

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											2013 revenue earn (lac. Tk)
	Imported time		Middle man		Number of imported route/land port	Importer/port	Animal/ year (Thousands)					
	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

Figure list

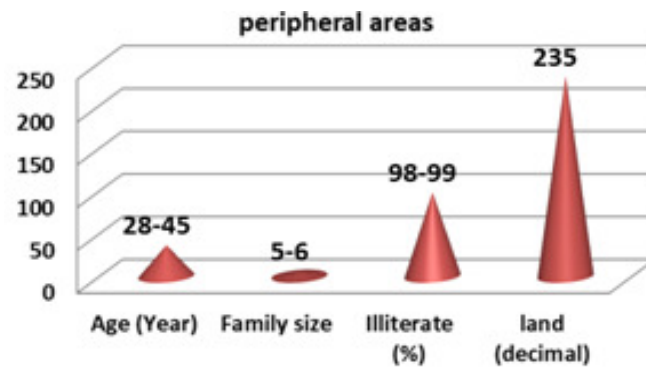


Fig. 1. Livestock traders information in most peripheral areas

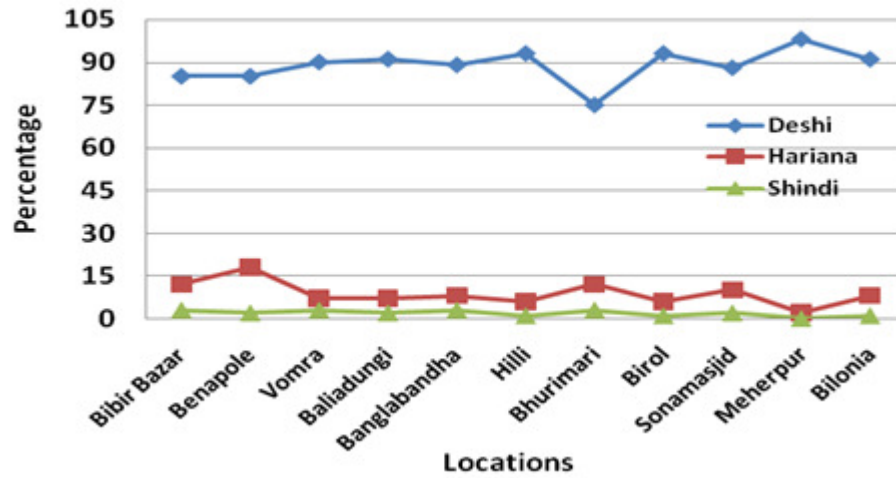


Fig. 2. Type of imported cattle in study areas

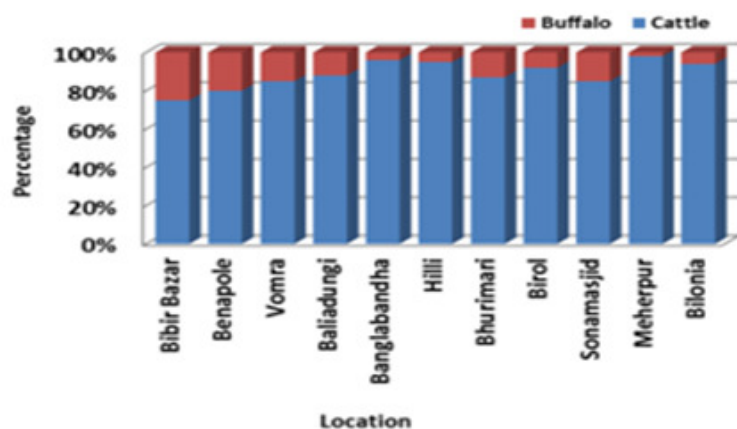


Fig. 3. Type of imported livestock species in study areas

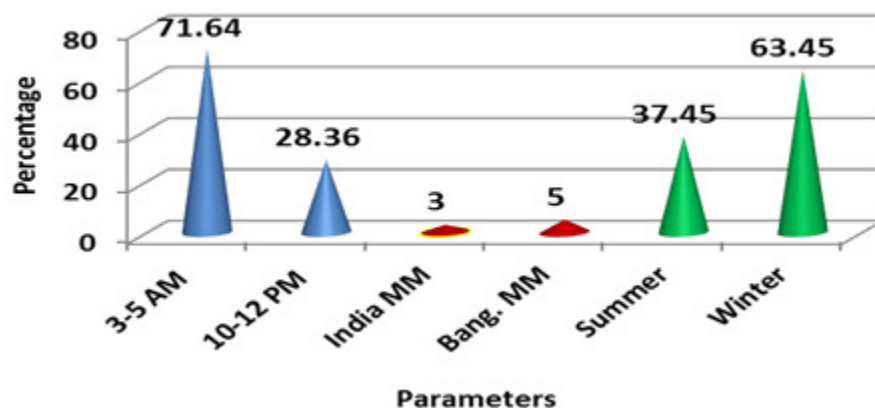


Fig. 4. Time, season and middle man involvement in cattle marketing

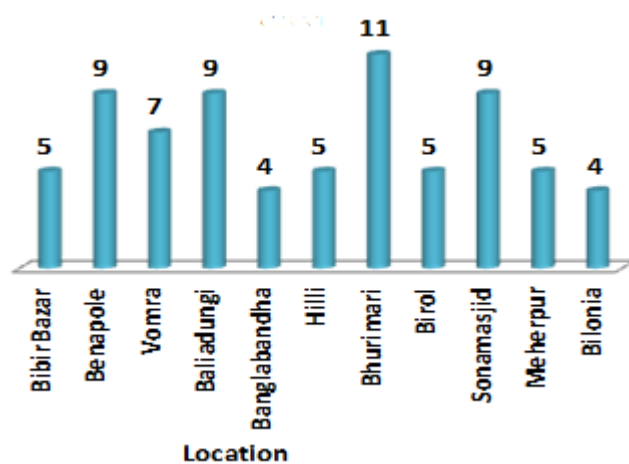


Fig. 5. Entry point (number)/port in selected area

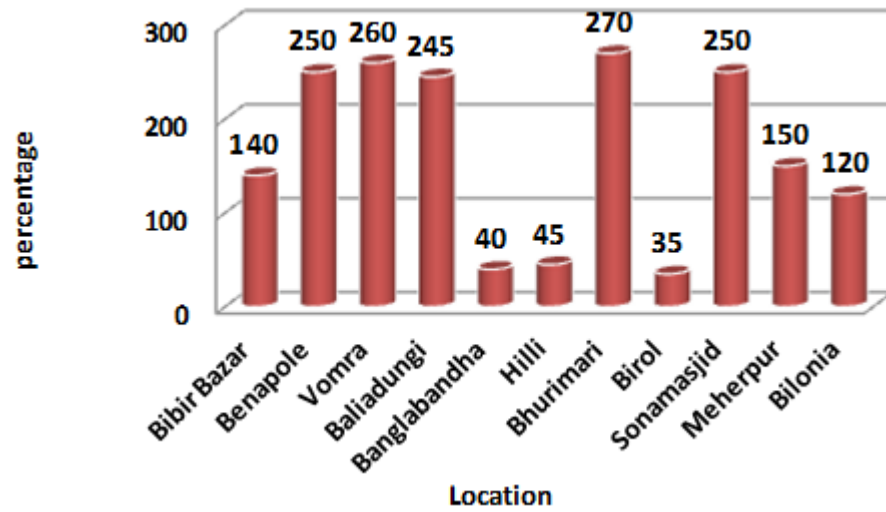


Fig. 6. Traders/port in selected area

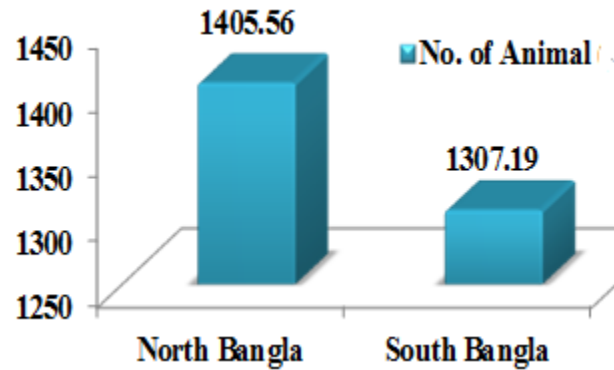


Fig. 7. Number of cattle are imported from selected areas of Bangladesh

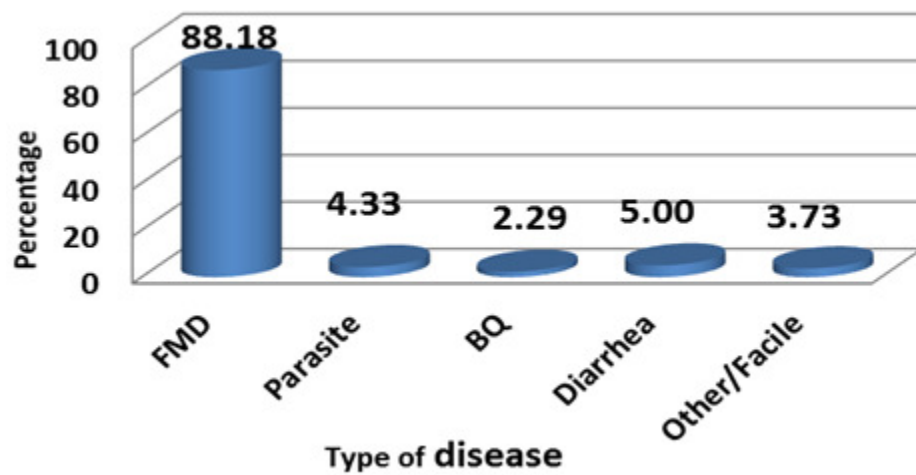


Fig. 8. Disease pattern of imported cattle in study areas