



CPD

Working Paper

114

**Bangladesh's Formal and Informal
Agricultural Trade with SAARC Countries**
Emerging Trends and Policy Challenges

Mustafizur Rahman
Estiaque Bari



**BANGLADESH'S FORMAL AND INFORMAL AGRICULTURAL TRADE WITH
SAARC COUNTRIES**

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CPD also conducts periodic public perception surveys on policy issues and issues of developmental concerns. With a view to promote vision and policy awareness amongst the young people of the country, CPD is also implementing a *Youth Leadership Programme*. CPD serves as the Secretariat of two global initiatives. *LDC IV Monitor* is an independent global partnership for monitoring the outcome of the Fourth UN Conference on the LDCs. *Southern Voice on Post-MDGs* is a network of 49 think tanks, which seeks to contribute to the ongoing global discourse on the SDGs. At the national level, CPD hosts the Secretariat of the *Citizen's Platform for SDGs, Bangladesh*—a civil society initiative that include 86 Partner organisations, founded with an objective to contribute to the delivery of the SDGs and enhance accountability in its implementation process. In recognition of its track record in research, dialogue and policy influencing, CPD has been selected as one of the awardees of the Think Tank Initiative (TTI) through a globally competitive selection process for two consecutive times.

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The present paper titled **Bangladesh's Formal and Informal Agricultural Trade with SAARC Countries: Emerging Trends and Policy Challenges** has been prepared by *Professor Mustafizur Rahman*, Distinguished Fellow, CPD <mustafiz@cpd.org.bd> and *Mr Estiaque Bari*, former Senior Research Associate, CPD <estiaque.07@gmail.com>

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Bangladesh's agricultural trade with SAARC countries, through formal channels, accounts for only about 2.4 per cent of its global trade. However, formal trade movements do not reveal the actual picture concerning bilateral trade since a significant part of the agricultural trade takes place through informal channels. The nature and scale of trade through informal channels are driven by several factors including the cross border nature of production and supply chains, expectation of higher profit margin, social networks among local people, existing networks among informal traders across the border, and government's border and trade-policy measures. This paper has attempted to (a) analyse Bangladesh's agricultural trade pattern, trends and scale with SAARC countries, (b) highlight the related trade and non-trade barriers, (c) identify the concerns of transboundary plant and animal diseases originating from the high informal agricultural trade and, (d) come up with suggestions towards deepening Bangladesh agricultural trade with the SAARC countries. Analysis reveals that, amount of Bangladesh's trade misinvoicing, on average, was about 32.6 per cent of its recorded formal trade with SAARC countries, for the period 2013 to 2015. However, share of the amount due to trade misinvoicing varied across different time periods. The paper finds that, Bangladesh's import duties on agricultural items are still significantly high. Also various non-trade barriers such as lengthy procedure, lack of harmonisation, absence of testing facilities and lack of mutual recognition arrangements as regards quality assurance, etc. encourage a part of the trade to take place through informal channels. A significant share of the informal trade was on account of informal cattle trade between Bangladesh and India. This was roughly estimated to be between USD 620 to 660 million per year with considerable volatility depending on border measures. The paper recommends that strengthening port capacity and customs facilities, harmonising customs rules and regulations, cross-border data sharing, pursuing strategic trade liberalisation policies for agricultural trade items and undertaking innovative border initiatives such as border *haats* could help reduce informal trade in agricultural goods.

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Acronyms

| | |
|----------|---|
| ASEAN | Association of Southeast Asian Nations |
| AI | Avian Influenza |
| BBIN-MVA | Bangladesh-Bhutan-India-Nepal Motor Vehicle Agreement |
| BH | Border <i>Haat</i> |
| BQ | Black Quarter |
| BSF | Border Security Force |
| BSTI | Bangladesh Standards and Testing Institution |
| CD | Customs Duty |
| CMQS | Common Minimum Seed Quality Standard |
| COMESA | Common Market for Eastern and Southern Africa |
| DAE | Department of Agricultural Extension |
| DAM | Department of Agricultural Marketing |
| DLS | Department of Livestock Services |
| DoF | Department of Fisheries |
| DSM | Dispute Settlement Mechanism |
| DUS | Distinctness, Uniformity and Stability |
| EPB | Export Promotion Bureau |
| EU | European Union |
| FMD | Foot and Mouth Disease |
| FSSAI | Food Safety and Standards Authority of India |
| GDP | Gross Domestic Product |
| HACCP | Hazard Analysis and Critical Control |
| HS | Harmonised System |
| IP | Import Permit |
| ISTA | International Seed Testing Association |
| ITC | International Trade Centre |
| KII | Key Informant Interview |
| LAC | Latin America and the Caribbean |
| L/C | Letter of Credit |
| LoC | Line of Credit |
| MoA | Ministry of Agriculture |
| MDG | Millennium Development Goal |
| NAFTA | North American Free Trade Agreement |
| NBR | National Board of Revenue |
| NSB | National Seed Board |
| NTB | Non-tariff Barrier |
| PPR | Peste des Petits Ruminant |
| SAARC | South Asian Association for Regional Cooperation |

| | |
|-------|---|
| SAFTA | South Asian Free Trade Area |
| SARSO | South Asian Regional Standards Organization |
| SD | Supplementary Duty |
| SDG | Sustainable Development Goal |
| SPS | Sanitary and Phytosanitary |
| SSB | SAARC Seed Bank |
| TAD | Transboundary Animal Disease |
| TBT | Technical Barriers to Trade |
| TTI | Total Tax Incidence |
| USD | United States dollar |
| VCU | Value for Cultivation and Use |
| WAC | Weight Analysis Certification |
| WAHO | World Animal Health Organization |
| WSSV | White Spot Syndrome Virus |
| WTO | World Trade Organization |

1. INTRODUCTION

South Asia has made impressive progress in meeting the targets of the Millennium Development Goals (MDGs) (United Nations, 2015). The region has achieved notable success in terms of many of the food security indicators which has contributed to significant reduction in the poverty levels and hunger (UN DESA, 2015). In spite of the attained success, South Asia is regarded as the most food insecure region in the world where about an estimated 323 million people live on less than USD 1.90 a day and 280 million people remain undernourished (Rahman *et al.*, 2017). No doubt, regional efforts will be needed to support and complement national efforts and global supports towards meeting the Sustainable Development Goals (SDGs) where Goal 1 and Goal 2 commit to achieving the ambition of no poverty and zero hunger respectively. There is a need for rethinking as regards cooperation among member countries of the South Asian Association for Regional Cooperation (SAARC) if the relevant SDGs are to be achieved. The intra-regional trade could play an important role in this regard. However, South Asia has continued to remain one of the least integrated regions of the world. Intra-regional trade among the SAARC countries is hovering between five to six per cent of the region's global trade, while it is about 26 per cent for the Association of Southeast Asian Nations (ASEAN) countries, 67 per cent for European Union (EU), 62 per cent for North American Free Trade Agreement (NAFTA), and 22 per cent for Latin America and the Caribbean (LAC) and Common Market for Eastern and Southern Africa (COMESA) (CUTS International, 2014). Whilst the intra-regional agricultural trade was higher, the trends are discouraging. The share of SAARC's intra-regional agricultural export value has dropped sharply from 21.7 per cent in 2014 to 15.6 per cent in 2016, whilst share of imports has come down from 24.2 per cent to 16.2 per cent (ITC, 2017).

Notwithstanding the above trends, it is reckoned that the level and trends in formal trade movements do not reveal the actual picture, because significant trades, both of agricultural and non-agricultural goods, take place through informal channels. Bangladesh-India bilateral trade, at 6,820 million in FY2016-17, was the highest within the region (Bangladesh Bank, 2017; EPB 2017). This was driven by several factors including the cross-border nature of production and supply chains, expectation of higher profit margin, social networks among local people, existing networks among informal traders across the border, and government's border and trade-policy measures. However, with 4,096 km of land borders, fifth longest in the world, the extent of informal border trade also remains to be significant. The reliable estimates of informal trade are scarce. Chaudhari (1995) argued that the magnitude of formal and informal trade between Bangladesh and India was roughly the same during FY1992-93. A relatively latest World Bank study found that over time, the portion of informal trade between Bangladesh and India has come down but still accounted for a significantly high – 41 per cent through various land routes (World Bank, 2006).

Over the past decade, Bangladesh economy has progressed significantly by sustaining over 6 per cent gross domestic product (GDP) growth rate. The country has experienced significant trade openness and benefitted from it, making an important transition from a predominantly aid-receiving economy to a trading nation¹ (Rahman and Bari, 2016). Impressive performance in agricultural production has contributed to this success. Self-sufficiency in rice production (Timsina *et al.*, 2016) has helped Bangladesh to reduce the import burden of purchasing food grains from global market. The contribution of agriculture (including fisheries) sector has remained high despite a fall in share of GDP – 14.7 per cent in FY2016-17 as compared to 18.9 per cent in FY2006-07 (Bangladesh Economic Review, 2017). The sector accounts for 46 per cent of total employment. This also shows relatively low levels of labour productivity in agriculture. There are some indications of diversification as displayed by the performance of crop and horticulture sector (Timsina *et al.*, 2016; Bangladesh Economic Review, 2017). The growth of animal farming, whilst not as robust, is showing early signs of catching up in

¹Bangladesh's degree of trade openness has significantly increased since the 1990s and is now 34.9 per cent of the GDP. Bangladesh's aid to trade ratio was 1:22 in 2016, compared to 1:1 in the 1980s.

recent years indicating rising productivity in meat and milk production (Bangladesh Economic Review, 2017; BBS, 2017).

According to authors' calculation, Bangladesh's trade in agricultural products was about 11.4 per cent of its global trade in FY2015-16 (ITC, 2017). Despite significant potential, opportunities of raising productivity have remained untapped and agro-processing industry is yet to take a firm foothold in Bangladesh. Forward linkage of agriculture is strong in jute (jute industries) and to some extent shrimp (export-oriented shrimp industry). The major part of the agricultural trade was with India, both formal and informal. Weak linkage between agriculture and industry is mainly on account of low levels of technology, low productivity, weakness in maintaining the needed sanitary and phytosanitary (SPS) and technical barriers to trade (TBT) standards and the resultant weak competitiveness. Consequently, there is also a high degree of import dependence in agriculture. It is reckoned that there are significant scopes to harness the untapped opportunities to further develop Bangladesh's agriculture sector and also raise intra-regional trade in agricultural commodities. Initiatives to deepen intra-SAARC cooperation in developing agriculture sector will also help Bangladesh to address volatility and vulnerability in agricultural production. SAARC region is extremely vulnerable to climate change and natural disasters. The region is also susceptible to volatility in global foodgrains prices as was experienced during FY2007-08 (Rahman *et al.*, 2017). The region is also affected by common and communicable transboundary plant and animal diseases.

Whilst SAARC cooperation can lead to production and productivity gains, intra-regional trade may reduce vulnerability and smoothen price movements and help in terms of food security. Thus, a good understanding of the trade patterns, both formal and informal, can help policymakers to identify appropriate policies towards a higher growth of agriculture, more robust intra-regional trade in agricultural products and greater food and nutritional security for people of the region in line with the ambition of the SDGs.

1.1 Objectives of the Research

The overarching objective of this study is to analyse the agricultural trade of Bangladesh, both formal and informal, with SAARC countries and to come up with the recommendations that may help stimulate the intra-regional agricultural trade. Specific objectives of the study are to:

- i. review formal agricultural trade patterns (including livestock and fishery) with SAARC countries and beyond.
- ii. analyse existing customs duty (CD) structure, trade policies and regulations for import and highlight the issues of SPS measures and other non-trade barriers as regards agricultural products.
- iii. understand the patterns, trends and changes concerning Bangladesh's informal trade with rest of the SAARC countries (mainly with India and Nepal) and beyond (mainly with Myanmar).
- iv. identify major concerns of transboundary plant and animal diseases for Bangladesh.
- v. come up with a set of recommendations based on the findings of the study towards development of agricultural trade from the country perspective.

1.2 Methodology and Data

In this study, the term 'agricultural commodities/products' refers to the primary commodities [Harmonised System (HS) code: 1 to 24] and jute (HS code: 53). It is important to note that primary commodities include crops, livestock, fishery and forest items. Jute has also been included as an agricultural commodity. In addition, the term 'formal trade' refers to the value of trade through formal

channels as reported by the official sources of statistics. On the contrary, the term 'informal trade' refers to trade in commodities which does not satisfy customs procedures of countries or smuggled illegally across borders (these could include both legal and illegal/banned items). Trade taking place through the border *haats* (BHs) are in the grey area between formal and informal trade.

The present paper draws on both published and unpublished sources of information. Information on informal trade is primarily collected through Key Informant Interviews (KIIs) with relevant government officials, independent researchers, and people directly or indirectly engaged in cattle and other transboundary agricultural trade. The research team has undertaken seven KIIs including three field visits to collect relevant information (see Annex Table 1). During these KIIs (including field visits) a total of 56 people were consulted either individually or in groups. Besides secondary literature, the study has also reviewed newspaper articles, online documentaries, anecdotal information and personal blogs (to get a better understanding of nature and dynamics of undocumented trade). A diverse range of datasets was accessed to analyse trade patterns. To analyse the trends and patterns of the formal agricultural trade between Bangladesh and other SAARC countries, disaggregated export data (2-digit HS code-wise) were taken from Export Promotion Bureau (EPB); import data were taken from the Bangladesh Bank. Information on BH was collected from Ministry of Commerce (MoC), Government of Bangladesh (GoB) and field visit to Tarapur-Kamalasagar BH; information on cattle and other informal agricultural trade were collected during KIIs including field visits to Gabtoli and Chuadanga (Darshana, Jibannagar border, etc.) and from various government documents and secondary literature. Information-related to transboundary disease was collected from consultations with government officials from the Department of Livestock Services (DLS). Product-level retail price data (weekly average) were analysed from the database of Department of Agricultural Marketing (DAM). Descriptive analysis, meta-analysis and trend analysis were carried out to examine the formal and informal trade patterns of Bangladesh with other SAARC countries and beyond.

The paper includes six broad sections. Following the present introductory section, the second section documents Bangladesh's formal agricultural trade with SAARC countries and beyond. The section highlights Bangladesh's export and import to and from SAARC and non-SAARC countries. The following section lays out an analysis of Bangladesh's CD structure for agricultural trade, procedures for imports of agricultural products to Bangladesh and Bangladesh's concerns regarding non-tariff barriers (NTBs). The next section provides an idea about the informal trade taking place between Bangladesh and other SAARC countries with the primary focus being on cattle trade with India. An attempt has been made to capture the nature of trade in agricultural items in BHs. Fifth section highlights some of the major and frequent transboundary diseases which have implications for Bangladesh's trade. Finally, the sixth section presents a set of recommendations towards deepening Bangladesh's agricultural trade with the SAARC countries.

2. BANGLADESH'S FORMAL AGRICULTURAL TRADE WITH SAARC COUNTRIES AND BEYOND

Bangladesh's agricultural trade with SAARC countries [United States dollar (USD) 1.7 billion] accounts for only about 2.4 per cent of its global trade (USD 72.6 billion).² In this trade of agricultural commodities, it is import which is the dominant component (about 83.0 per cent). India is the major partner in Bangladesh's agricultural trade within the SAARC region with about 93.9 per cent share. Indeed, India accounts for about 12.4 per cent of Bangladesh's global agricultural export and 22.2 per cent of Bangladesh's global agricultural import (two years average values were taken for smoothening the variability). This section will cover Bangladesh's formal agricultural trade with SAARC countries and beyond.

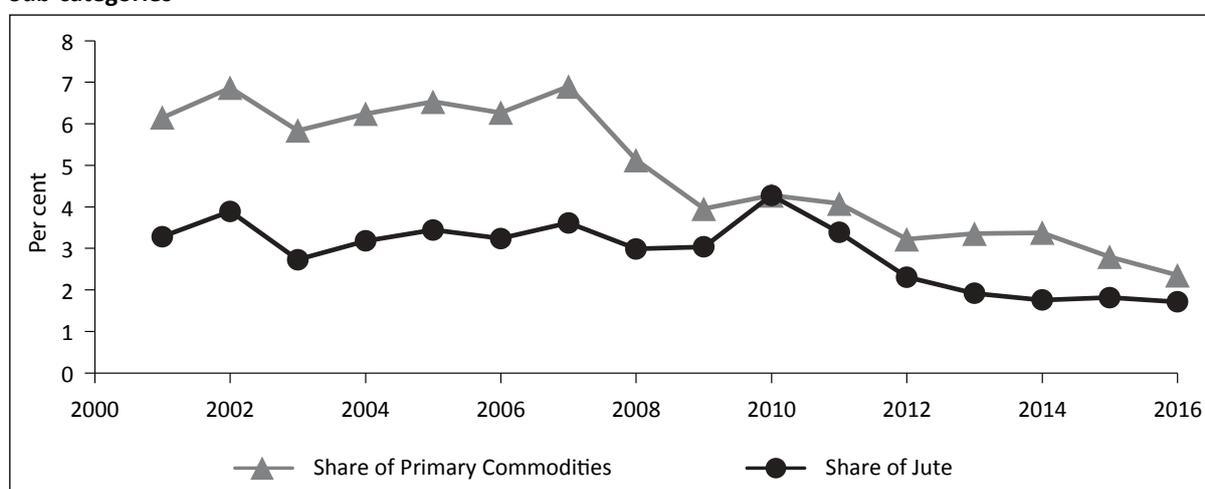
²Two years average values were taken for smoothening the variability.

2.1 Bangladesh's Formal Agricultural Exports to SAARC and Beyond

As can be seen from Annex Table 2, Bangladesh's two years (FY2014-15 and FY2015-16) average agricultural export was about USD 1.9 billion, of which 15.7 per cent was destined to SAARC countries. A time-series analysis for the period 2001-2011 by using the data from International Trade Centre (ITC) also indicates that the share of agricultural trade was more or less similar to the current share. On average, more than 40 per cent of Bangladesh's total export to SAARC was agricultural commodities.

Among the sub-categories of the agricultural commodities, Bangladesh exports mainly jute items to the region. Bangladesh's export of primary (non-jute) commodities is significantly low among SAARC countries (37.4 per cent of Bangladesh's agricultural export to SAARC countries). However, regardless of export destination, Bangladesh's agricultural export (jute and primary commodities) is gradually declining as a share of its global export (Figure 1).

Figure 1: Bangladesh's Agricultural Export as Share of Bangladesh's Global Export by Agricultural Sub-categories



Source: Authors' calculation using ITC database (2017).

Within the SAARC region, Bangladesh's major export partner for agricultural commodities is India followed by Pakistan, Nepal and Sri Lanka. Within the SAARC region, Bangladesh's export of agricultural commodities to India accounts for about 79.1 per cent. Disaggregated level (8 digit HS code level) export data analysis for primary commodities reveals that demand for Bangladeshi fish and dairy products is relatively high in India; similar is the case for processed foods, beverages and spirits in Maldives, Bhutan and Sri Lanka.

2.2 Bangladesh's Formal Agricultural Imports from SAARC and Beyond

Bangladesh's import dependency on cereals has reduced significantly over the past few decades. Particularly, in the last decade, share of Bangladesh's import in total production of rice was only in the range of 0.1 to 0.5 during normal years, although poor monsoon season (aman) rice crops or flash floods in some years have caused substantial production shortfalls in particular years (Dorosh, 2012). Since 1990's, Bangladesh had reached near self-sufficiency in rice production in normal years, thanks to higher cropping intensity and productivity gains (Dorosh, 2001). At present, about 7.4 million hectares of land are under irrigation which is about six times higher when compared to FY1989-90. Cultivated land under modern variety has increased to 84.4 per cent in FY2015-16 which was only 18.4 per cent during FY1980-81. Cropping intensity has reached to 192 in FY2015-16 from 179.1 in FY1992-93. Rice productivity [metric ton (MT) per hectare] rose to 3.1 per cent in FY2015-16 from

1.1 per cent in FY1972-73 (BBS, 2017). All these have helped Bangladesh to triple its rice production over the past three and half decades, from 11.3 million MT in FY1972-73 to over 34.7 million MT in FY2015-16. This has also enabled the country to reduce the overall agricultural import dependency. However, Bangladesh's global agricultural import which includes crops and vegetables, seed, livestock, poultry, fishery and forest products, processed foods, jute is over one-sixth of the global import with a moderate oscillation in the trend (Annex Table 3).

Bangladesh's two years (FY2014-15 and FY2015-16) average agricultural import was about USD 6.3 billion, which is 15.7 per cent of Bangladesh's total import from the world (Annex Table 3). SAARC region accounts for about 22.8 per cent of Bangladesh's agricultural import. A time-series analysis for the period of 2001-2011 by using the data from ITC also depicts this trend. This share did not significantly change overtime but remained highly responsive to the production loss or price fluctuations in the international market.³ Within the SAARC region, India has traditionally been Bangladesh's major importing source for agricultural commodities (about 96.9 per cent). Among the sub-categories of the agricultural commodities, Bangladesh's import demand was primarily for vegetables followed by processed agricultural products, and live animal and animal products (Annex Table 3).

2.3 Misinvoicing in Agricultural trade

It is to be noted that, trade values are subject to mispricing (over and underinvoicing) which undermines reliability of trade data. As an example, an attempt has been made to estimate the magnitude of possible range of agricultural trade misinvoicing. Table 1 presents the data in a relative context.

Table 1: Misinvoicing of Bangladesh's Agricultural Trade (import) with SAARC Countries

(in Million USD)

| Year | India | Pakistan | All SAARC countries |
|---|--------|----------|---------------------|
| 2010 | -516.1 | -0.4 | -563.0 |
| 2011 | -494.0 | -11.6 | -563.5 |
| 2012 | -530.0 | -11.6 | -594.8 |
| 2013 | -686.4 | -12.0 | -734.1 |
| 2015 | -365.1 | -3.5 | -470.8 |
| Underinvoicing as share of formal agricultural import with respective SAARC countries in 2015 (in per cent) | 26.0 | 28.7 | 32.6 |

Source: Authors' estimation by using International Trade Centre (ITC) database.

Note: A large set of data was missing for 2014, therefore, authors did not present that in the table.

According to the authors' estimation, the three years moving average of trade misinvoicing (trade inflows) for 2015 was around USD 470.8 million (see Annex B for detailed methodology)⁴, which is 32.6 per cent of Bangladesh's recorded formal agricultural trade with SAARC countries. However, the magnitude of agricultural trade misinvoicing widely varies from one year to another year. For instance, in 2013, three years moving average trade misinvoicing (illicit inflows) was found USD 734 million (Table 1). One of the reasons of trade misinvoicing (illicit inflows) may be that the importers quote lower value to avoid the relatively high CDs levied on agricultural commodities.

3. TRADE-RELATED POLICY ISSUES

SAARC countries impose CDs, as also supplementary duties (SDs), on agricultural items traded within the region. Many such items are duty-free or enjoy preferential duties, thanks to bilateral (offered

³The average share was about 16.6 per cent.

⁴The actual amount of underinvoicing will perhaps be higher, given that the import-weighted tariff rate for agricultural items in Bangladesh is about 19.8 per cent.

by Indian) initiative or under South Asian Free Trade Area (SAFTA). Consumer's interest, producers' interest, smoothening of market price volatility, obligations under World Trade Organization (WTO), SAFTA and bilateral commitments determine the levels and changes of the duty structure. Trade in agricultural commodities calls for maintaining minimum thresholds of standards bearing in mind public health related concerns. Agricultural commodities are highly sensitive to viral, fungus and bacterial attacks. In this connection, SPS measures and quarantine requirements gain significance prominence. A number of agricultural goods are perishable in nature and need speedy customs clearance. In absence of this, the cost of doing business goes up significantly because of increased likelihood of wastage. Thus, the operational procedures concerning agricultural trade are very crucial. In a broader sense, trade facilitation related difficulties such as delays in customs clearance, onerous documentation requirements, transshipment, lack of green channels etc. can also be considered as NTBs. This section analyses existing duty structure for Bangladesh's traded agricultural products, highlights procedures for agricultural imports to Bangladesh, and discusses the concerns relating to SPS measures and NTBs as well as about anti-dumping and countervailing duties.

3.1 Duty Structure in Bangladesh

In recent years, Bangladesh's agricultural duty structure bears out that import duties on agricultural items are significantly high (Table 2). Chapter-wise analysis for agricultural commodities (HS code: 1-24) suggests that 25 per cent CD was levied on 89 per cent of live animal and animal products; 56 per cent of vegetable products; 30 per cent of animal/vegetable fats and oil and their cleavage products; 86 per cent of prepared foodstuffs, beverages, spirits and vinegars; and 63 per cent of jute.

Table 2: Customs Duty Structure at Import Stage in FY2017-18

| Customs Duty (Rate, %) | Live Animal and Animal Product | Vegetable Product | Animal or Vegetable Fat and Oil and their Cleavage Product; Prepared Edible Fat; Animal or Vegetable | Prepared Foodstuff; Beverage, Spirit and Vinegar; Tobacco and Manufactured Tobacco Substitute | Jute | Total Agricultural Commodity |
|------------------------|--------------------------------|-------------------|--|---|-----------|------------------------------|
| 0 | 32 | 75 | 3 | 13 | 1 | 124 |
| 5 | 25 | 53 | 2 | 17 | 4 | 101 |
| 10 | 17 | 112 | 32 | 10 | 4 | 175 |
| 15 | 0 | 5 | 0 | 0 | 0 | 5 |
| 25 | 601 | 313 | 16 | 194 | 15 | 1,139 |
| Total | 675 | 558 | 53 | 239* | 24 | 1,549* |

Source: Authors' calculation from NBR (2017).

Note: *Specific duties are applied on five products.

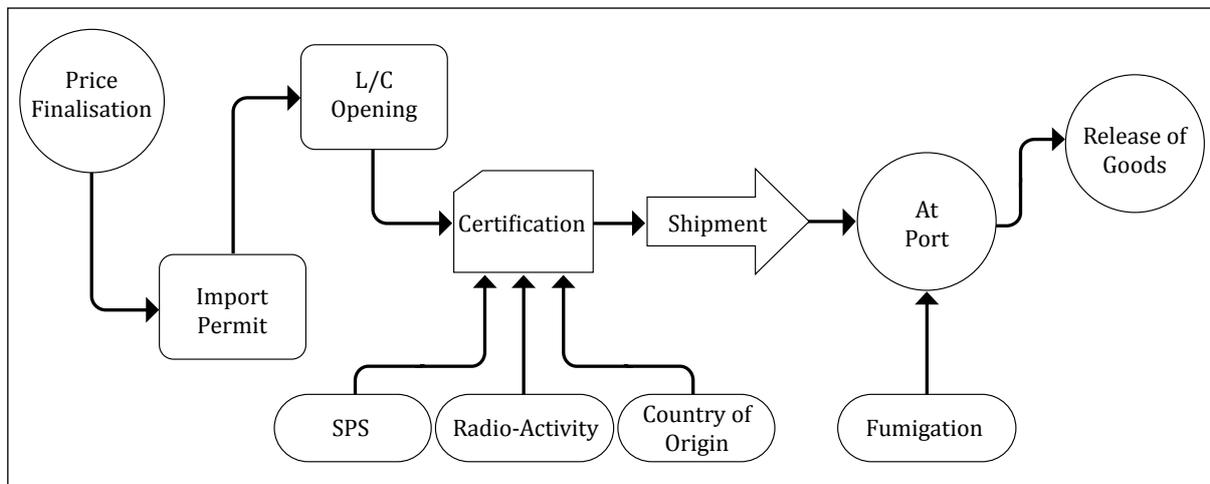
Among the live animals and animal products fish and crustaceans, dairy products, birds' eggs, natural honey, edible products of animal origin have received significantly high protections. Similarly, among vegetable products, edible fruits and nuts, peel of citrus fruits or melons, and among primary commodities, coffee, tea, mate and spices have enjoyed higher total tax incidences (TTI). As regards prepared foodstuffs, beverages, spirits and vinegars, all products such as preparation of meat, fish, cereals, flour, starch or milk, vegetables, fruits, nuts or other parts of plants, cocoa and other edible preparations; sugar and sugar confectionery, residues and waste from the food industries, prepared animal fodder, tobacco and manufactured tobacco substitutes have enjoyed significantly higher TTIs when compared to the average import tariff rates. Besides, TTI on jute were somewhat higher than average rate of TTI. However, some of the protections in the form of SDs will be removed as GoB is planning to implement the New VAT and SD Act-2012 from the FY2019-20. It is to be noted that, one of the major changes consequent to the Act is that SDs at the import stage will be reduced from the existing 400 products to 170 products. Only a few agricultural products are listed in the new Act which

includes ingredients to make soft drinks, beverages, spirits and vinegar, and tobacco and manufactured tobacco substitutes where SD ranges between 60 to 350 per cent.

3.2 Procedures for Agricultural Import in Bangladesh

An importer in Bangladesh generally determines the price of the agro-based commodity based on a short-term contract with the exporter from the partner country. Once the price is finalised, the importer applies for an 'import permit' (IP) to the Department of Agricultural Extension (DAE)/DLS, GoB (depending on the plant or animal nature of the imported item). Upon submission of all the required documents, the importer gets the IP and the letter of credit (L/C) after inclusion of the IP number in the L/C clause. For completion of the process few more certificates are required based on the specification of the products. These are — (i) SPS Certificate, which should include the IP number. According to the rules decreed of the GoB, all agricultural and food products that enter Bangladesh must be certified by DAE as regards its fitness as per the SPS requirements under the WTO rules, (ii) Certification of Country of Origin issued by the EPB of the product being imported, (iii) Radio-Activity Certificate issued by DAE, which certifies that the agricultural products being imported to Bangladesh are fit for human consumption and do not contain radio-activity above 50 bq/kg (Becquerel/Kilogram). In addition to these, importers of agricultural products also use an additional certification called the Weight Analysis Certification (WAC), related to weight analysis of the product before making a final decision on imports⁵. Once the products are shipped to Bangladesh these are released with a Fumigation Certificate by port quarantine unit stating that the agricultural and food products are fit for human consumption (Figure 2).

Figure 2: Flowchart of Procedures for Agricultural Imports



Source: Developed by authors' based on Key Informant Interviews (KIIs).

3.3 NTBs and Anti-dumping and Countervailing Duties: Concerns for Bangladesh

Agreement on SPS measures, negotiated during the Uruguay Round, is intended to enable member countries to protect and safeguard their human, animal and plant life/health and hygiene. The spirit of the agreement is to ensure this without making any discriminatory trade-restrictions (Rahman and Akhter, 2014). However, the misuse of SPS provision often hinders trade process and inappropriate use of SPS measures turned this into a formidable NTB (Deb, 2007). It was found that for Bangladesh, the time taken for export of food item to India ranged widely between 3 to 35 days (in some cases) (Rahman *et al.*, 2015). The study mentioned respondents identified several negative impacts originating from SPS measures: (a) fall in product quality; (b) reduced shelf-life of the products; (c) high cost of

⁵This is not a requirement of the regulatory authority in Bangladesh but it is a quality assurance requirement for the importer.

doing business due to high testing, licensing and registration fees; (d) complex and expensive license renewal procedures; (e) damage of products at the port; (f) higher clearance time; and (g) disruption in the supply chain (Rahman *et al.*, 2015). The paper also recommended that issuance of common certification, standardisation and harmonisation of customs procedures and cross-border information sharing would help to stimulate the trade process.

One may note that some of the recommendations made in earlier research works have been incorporated in relevant policies and practices. In April 2017, Food Safety and Standards Authority of India (FSSAI) has issued notification (File No 1-1371/FSSAI/Imports/2015-Part 5) authorising the Bangladesh Standards and Testing Institution (BSTI) to issue certificates of test analysis in case of imports of 21 products from India. These include fruit juice, jam, jelly, marmalade, pickles, chutney, fruit drinks, sauce, tomato ketchup, fruit syrup, squash and cordial, edible gel, tomato paste, biscuits, chanachur, noodles, instant noodles, water, soft drink powder, and carbonated beverages.

However, many of the challenges concerning non-tariff measures/barriers, relating to trade between Bangladesh and India persist. These are excessive bureaucracy, weak trade facilitation, customs inefficiencies and lack of willingness of data sharing. On a welcome note, some progress has been made as regards harmonisation of standards of a number of products under South Asian Regional Standards Organization (SARSO). SAFTA mechanism and bilateral discussions should be geared towards resolving the NTBs disputes which impede the growth of trade in agricultural products in South Asia.⁶

4. BANGLADESH'S INFORMAL TRADE WITH SAARC COUNTRIES

Bangladesh shares 4,096 Km long international border with India, the fifth-longest land border in the world. Besides, Bangladesh shares another 271 Km border with Myanmar, of which the Naaf River boundary is about 64 km. Given the challenge of managing the border, only deploying armed troops is neither possible nor cost-effective. This section will cover cross-border informal trade, mostly with India, in agricultural products which is highly dominated by cattle trade.

4.1 Informal Trade in Agricultural Inputs, Products, Fruits and Spices

Agricultural items that are generally traded through informal channels between Bangladesh and India include seed varieties of rice, jute, pulses, other vegetables and spices like tomato and onion. Other items are fresh vegetables, betel nuts, seasonal fruits such as mango, banana, apple, guava etc.⁷ Informal trade also includes spices like fresh onion, turmeric, ginger, etc. Some of the other food items are sugar, salt, etc. (information collected from KIIs; Pohit and Taneja, 2001; Taneja, 2001). The key drivers of the informal seed trade vary across products. Some of the reasons of informal seed trade between Bangladesh and India are longevity of seeds, higher yield rate and productivity, seeds being less affected by pesticide, price differences, grain weights, proximity to the local market, easy access and availability, cultural, social and ethnic relations, etc. (CUTS International, n.d). It may be noted that, informal trade in seeds takes place both through informal import (e.g. Swarna, JR 520) and export (e.g. BRRI 28, 29).

Among the abovementioned products, trade in crop seeds has come under close scrutiny because of low quality, likelihood of adulteration, crop damage and administrative issues. As is known, rice is a

⁶Recently, India has also imposed anti-dumping duty ranging from USD 19.0 to USD 351.7 per ton on jute goods and from USD 27.8 to USD 91.5 a ton on hydrogen peroxide from Bangladesh. Anecdotal information suggests that India may impose anti-dumping duty also on fishing nets export from Bangladesh.

⁷Among the seed varieties paddy seeds, onion seeds, jute seeds, vegetable seeds are commonly traded through different border points of Jessore, Benapole, Rajshahi, Chapai Nawabganj, Chuadanga, etc.

notified crop which means that, without government release, rice seed is not allowed to be traded formally. The process involves the followings: (a) traders who are willing to engage in trading of a notified crop must apply for a registration to the National Seed Board (NSB) of Ministry of Agriculture (MoA); (b) the new variety can be approved by the NSB after it has passed the Distinctness, Uniformity and Stability (DUS) test (carried out by the Seed Certification Agency) and (c) following endorsement by the Technical Committee of NSB of the results of the multi-location trials for performance testing [Value for Cultivation and Use (VCU) tests]. Only if NSB has released an approval order – a notified crop seed variety can be traded formally (Haque *et al.*, 2014). However, as was informed at KIIs, at the micro-level farmers are less concerned about the nature of trade (whether formal or informal). They are rather more concerned to have the seed variety that match their cropping pattern. Bangladesh also lacks wheat and jute seeds to meet its domestic demand for which the country is dependent on India. Anecdotal information suggests that, though wheat and jute seeds import have increased through formal channels, a good share of this takes place through the informal mode.

In most cases, traders who use informal channel cannot bring seeds in appropriate packing and labelling, with required standards of humidity and other weather parameters, due to the risk of being caught by the law enforcing agencies. Therefore, the likelihood of adulteration rises in case of informal trade. Threats of pest attack and germination of seeds increase with informal trade and there is always a possibility of this leading to adulteration of indigenous seed varieties. The cause of food security and safety, thus, could be undermined. This is also risky for farmers as they don't have the opportunity to claim damage originating from contaminated/adulterated seed.

To limit informal trade in seed between Bangladesh and India, harmonisation of seed standards and certification are important. This particularly will benefit small and medium scale farmers who often take recourse to such seeds. Both the governments of Bangladesh and India have taken some initial steps towards mutual recognition of standards. There are only marginal differences as regards seed standards set by the two countries (Annex Table 4). Indian requirements are relatively more stringent although the scope and room for more harmonisation is quite evident.

Operationalisation of the SAARC Seed Bank (SSB) will enable SAARC member countries to collaborate with each other in the development of a list of common variety (ies) of crops, at the same time recognising the need to preserve local/indigenous varieties as may be appropriate. Common regional effort should also help the establishment of a 'Common Minimum Seed Quality Standard' (CMSQS) and 'Seed Testing Procedures' for different quality attributes by following the procedures of the International Seed Testing Association (ISTA). In addition, discussion on longstanding issues such as common seed certification system and standards, designated laboratories to improve seed testing, harmonisation and standardisation of acts, rules and regulations may be pursued with the objective of ensuring safe and higher food production in the region. Such steps will also help reduce the informal nature of cross-border trade in seeds.

4.2 Informal Cattle Trade

Cross-border informal cattle trade between Bangladesh and India is a formidable business, both in terms of number and value. Some argue that it is worth USD 500 million per year (Bhattacharjee, 2013). India is by far the major partner, but Bangladesh also has some informal cattle trade with Nepal and Myanmar. According to one estimate, 98 per cent of cattle traded through the informal channel were sourced from India (Khatun *et al.*, 2016). However, arguments concerning cattle trade are informed by both economic and non-economic factors (religious, political and humanitarian issues). From the Indian side, cattle export is banned. From the Bangladesh side, import takes place under quasi-legal provision. Smuggled cattle become legal in Bangladesh if it is shown that the animal was found

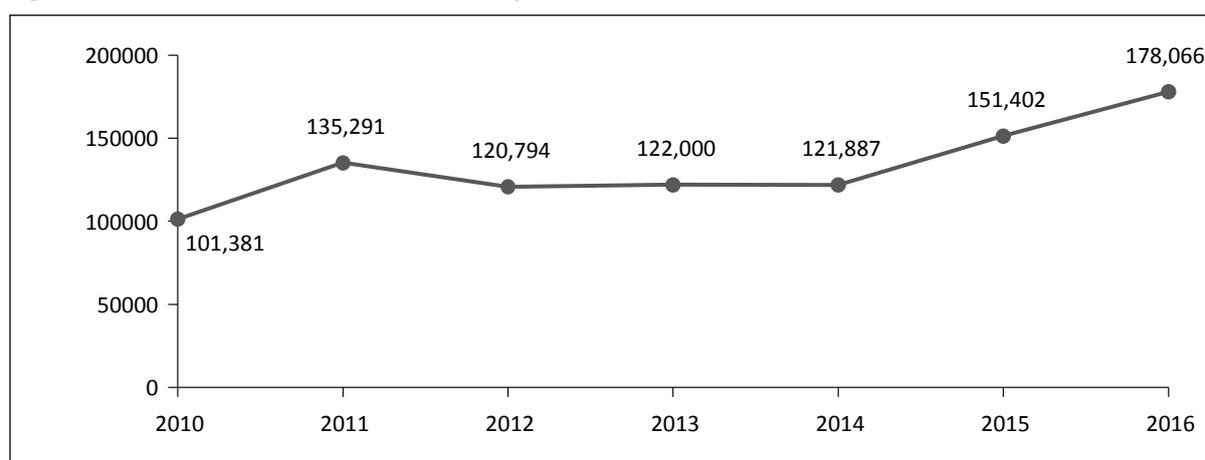
unclaimed and roaming near the border. Under this agreement, each year, around 15 million cattle come to Bangladesh from India through informal channels (Bhattacharjee, 2013). Taking recourse to this legal provision, a person (cattle trader) can claim ownership of the animal by paying a Tk. 500 as customs charge.⁸

This arrangement has allowed the Bangladesh customs to collect revenue, the smugglers/cattle traders to make extra gain, the consumers to get meat at relatively lower prices and the leather industry to access leather at low prices. Of the total production of hides and skins in Bangladesh, 50 per cent is consumed locally and rest 50 per cent is exported to 53 countries in the form of semi-finished leather (75 per cent) and finished leather (20 per cent) (Moazzem and Sehrin, 2015). This means that the export-oriented leather and footwear sector is also receiving an indirect benefit of such informal cattle trade. It is also argued that the multiplier impact of this informal trade help Bangladesh economy through access to protein and availability of cheap leather was significant (Bhattacharjee, 2013).

In recent past years, particularly with the change in Government in India in 2014, the issue of cattle smuggling has gained renewed attention. In 2015, Border Security Force (BSF) seized over 0.15 million cattle in border areas – this was about 24 per cent higher than the previous year. In 2016, the number rose to about 0.18 million (Figure 3). However, anecdotal information from border guards' (Bangladesh) suggested that, this may be only about five to ten per cent of the total cattle traded informally through the border points.

Information collected through KIIs also suggests that due to high patrolling of BSF at border points, the incidences of cattle trade has dropped significantly in FY2016-17. Although perception tends to vary as regards the number, opinions converge about falling numbers in recent years. The number is estimated to be significantly lower in FY2016-17 compared to those of the previous years, in FY2012-13 and FY2013-14, when the National Board of Revenue (NBR) collected revenue against 2.1 and 1.9 million cattle-heads respectively. On the other hand, it is reckoned that the number of recorded animal at Bangladeshi border points accounts only for 30-40 per cent of total number of cattle traded through informal channels (khatun *et al.*, 2016). An upward trend in the retail (weekly) price of beef in Bangladesh (by using DAM data) also indicates towards – shifting supply-demand dynamics due to the high vigilance of BSF along the various corridors concerning cattle movement.⁹ During the KIIs

Figure 3: Year-wise Number of Cattle Seized by BSF

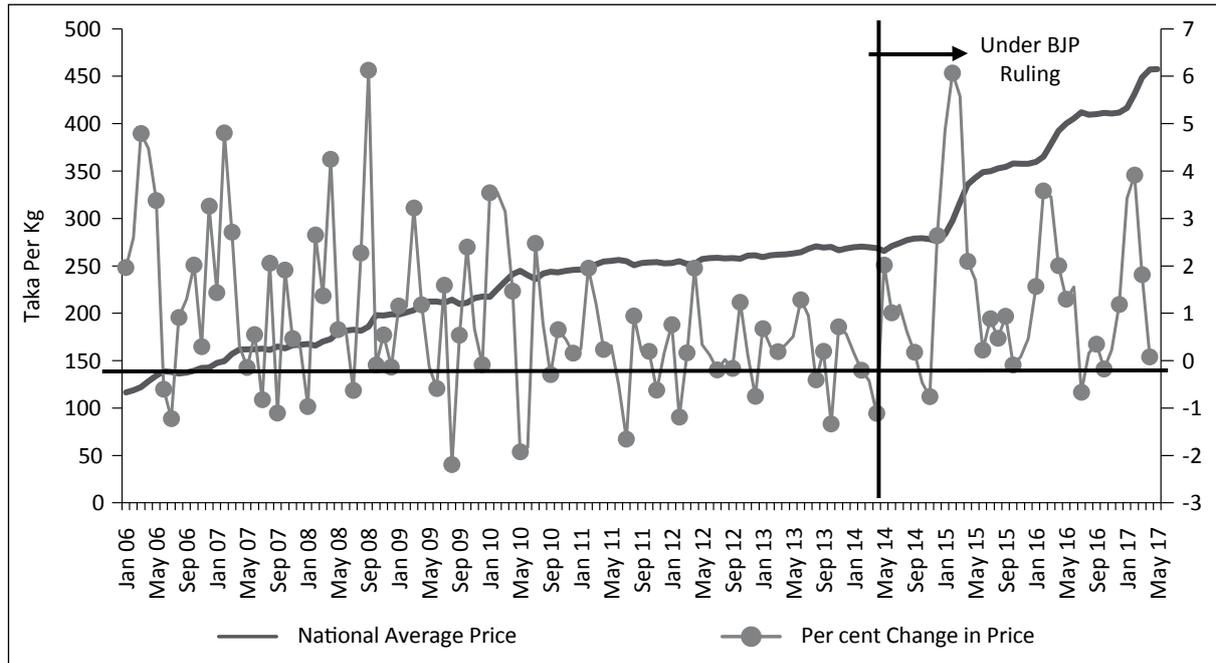


Sources: Authors' compilation based on the special issue of ORF (2013), The Economic Times (2015), and Mail Today (2016).

⁸For small ruminant the rate is Tk. 200 and for horse it is Tk. 6000.

⁹There were 68 smuggling corridors and 149 sensitive villages on the West Bengal border alone. Besides, the riverine borders, the char areas, were ideal transit points for the smugglers. Cattle are mostly brought from far-off places like Rajasthan, Punjab, Himachal Pradesh, Haryana, Uttarakhand, Madhya Pradesh, Uttar Pradesh and Bihar (Bhattacharjee, 2013).

Figure 4: Analysis of Retail (weekly) Price of Per Kg 'Beef' in Bangladeshi Markets



Source: Authors' calculation by using DAM data (2017).

Note: Per cent change is shown in the right vertical axis.

some have argued that this had a positive impact better domestic supply-side response. As (Figure 4) indicates, the price of beef has significantly increased to over Tk. 450 per kg in early 2017 from Tk. 270 per kg in July 2014 (a 66.6 per cent rise over a span of about three years). Indeed, in some places in Bangladesh, the price has risen even to Tk. 500 per kg in recent times.

Information collected from KIIs suggests that despite strong vigilance by BSF along the involved corridors, cattle trade remains an ongoing reality in many of the corridors through the organised informal chain of supply. In FY2016-17, about 1,54,251 animals were traded through only three corridors of Rajshahi, of which 82.3 per cent were cow, 17.2 per cent were buffalo and others were small ruminants¹⁰. It is well-accepted that, usually, the cattle smuggler who is well-informed of the lucrative profit margin following a successful trade regains the ownership of the seized cattle by bidding the highest price in the auction (following seizure and auction on the Indian side). One estimate indicates that a cattle head which is sold at USD 10 to 50 in India is sold at as much as USD 300 to USD 600 in Bangladesh. Anecdotal information received from cattle traders in Bangladesh during one of the KIIs revealed that, at present, a cattle fetches about USD 110 for a maund (37.3 Kgs.) equivalent meat. It was also mentioned that although the price margin between two countries was quite high, each actor in the process gets only a part of the overall profit. Most of the transshipment of the cattle across the border is carried out by low key handlers, mostly living in border areas. Cattle traders during the KIIs revealed that when customs corridors remain open, through informal arrangements, the average transshipment charge of a pair of cattle movement is about USD 100; when closed, this could rise even by 10 times.

After analysing the abovementioned information and data, this study has attempted to come up with a rough estimate of cross-border informal cattle trade. Following the assumption and methodology described (in Annex B), the informal cattle trade is roughly estimated to be USD 620 million to USD 660 million per year (Table 3). The estimated value is equivalent to 38 per cent to 40 per cent when

¹⁰Similar information has also been published in newspaper article of the recent past. In FY2014-15, through the Rajshahi corridor alone 90,087 cows and 47,809 buffaloes were traded while in FY2015-16 in the first eight months the number of recorded animals traded were 404,883 cows, 50,226 buffaloes and 10 goats. (Source: Dhaka Tribune, Report on 14 August 2016)

compared with Bangladesh's formal agricultural trade with India in FY2015-16. In addition, when compared with SAARC countries, it is equivalent to 36 per cent to 37.8 per cent of Bangladesh's formal agricultural trade in FY2015-16.

Table 3: Estimated Value of Informal Cattle Trade

(in Million USD)

| Animal Type | Assumed Price (Tk.) | Average Quantity | Total Trade (in Million Tk.) | Total Trade (in Million USD) | Non-reported Cattle-heads | |
|---|---------------------|------------------|------------------------------|------------------------------|---------------------------|------------|
| | | | | | Low (70%) | High (60%) |
| A | B | C | D | E | F | G |
| Cow | 20,000 | 138,985 | 27,797 | 347.5 | - | - |
| Buffalo | 20,000 | 163,939 | 3,279 | 41.0 | - | - |
| Small Ruminant | 3,000 | 3,005 | 9 | 0.5 | - | - |
| Total value of informal cattle trade | | | 31,085 | 390 | 620 | 660 |

Source: Authors' estimation.

4.3 BHs as Opportunities to Reduce Informal Agricultural Trade

The BHs allow a number of agricultural commodities to be traded. These include locally produced vegetables, food items, spices, processed food items, fruit juice; minor forest commodities e.g. bamboo, bamboo grass, and broomstick but excluding timber; small household and agricultural tools e.g. *dao*, plough, axe, spade, chisel, etc. (Table 4). Information collected from the field visit and KIIs suggest that the share of agricultural commodities traded in the BH are about 15 to 20 per cent of the total traded value. However, the share tends to vary from one BH to another. Official data collected from the Tarapur-Kamalasagar BH indicates that on average a Bangladeshi vendor sells about USD 106.3 worth of goods on a typical *Haat* (market) day; the amount is reported to be eight times higher for Indian vendors. Among the agricultural commodities dry fish, seasonal fruits and banana are commonly traded items in Tarapur-Kamalasagar BH; some live fishes, vegetables, fruits (mainly orange) were reported to be traded regularly in Chhagalnaiya (Feni)-Srinagar (Agartala) BH; ginger, turmeric, banana and a notable amount of betel nuts are observed to be traded in the Baliamari (Kurigram)-Kalaichar (West Garo Hills) BH; and local vegetables, some spices are traded through the Lauwaghar (Sunamganj)-Balat (East Khasi Hills) BH. In FY2015-16 the annual sale by Bangladeshi vendors in the Tarapur-Kamalasagar BH was about USD 0.14 million (as was informed by UNO office, Kasba). Assuming an eight times higher sales revenue, the annual trade value by Indian counterpart would be around USD 1.1 million per year. By assuming that trade in each of the rest of three BHs are equivalent to Tarapur-Kamalasagar BH, the total value of trade in BHs would be USD 5.1 million per year. Of this, value of agricultural trade would be only between USD 0.75 to USD 1 million. However, the amount may be overestimated by a good margin as the purchasing power of the people of other BHs are relatively lower when compared with Tarapur-Kamalasagar BH.

It has been observed that there are high demands of live fish, eggs and other poultry items, fresh vegetables and spices, sugar and crop seeds and fertiliser from both Bangladeshi and Indian population living along the borders. Though there are provisions of inclusion of new items with mutual consent – trade in these products will require approval from respective national quarantine authorities. Infrastructure facilities at BHs are rather rudimentary; these will need to be upgraded if scaling up is to be allowed. In addition, there are issues of revenue earning loss as these markets are exempted from CDs. However, regular record keeping of the trade volume, reporting to the respective Commerce Ministry on weekly basis and a comprehensive assessment of the economic and welfare benefits should be undertaken to assess the overall impact of BHs. This will then help policymakers to take the decision as regards broadening BH net.

Table 4: Updates on Major Operational Attributes of Bangladesh-India Border Haats

| Title | As Regards 2010 Mode of Operation | As Regards 2013 Mode of Operation |
|--|---|---|
| Product coverage of agricultural commodities have remained unchanged | Agricultural products (locally produced vegetables, food items, spices, processed food items, fruit juice; minor forest commodities e.g. bamboo, bamboo grass, and broomstick but excluding timber; small household and agricultural tools e.g. <i>dao</i> , plough, axe, spade, chisel, etc.). | Unchanged |
| Product coverage of non-agricultural commodities have increased | a. Products of cottage industries like gamcha, lungi etc. b. Among others locally produced garments, melamine products etc. | a. Newly added cottage industry products are saree and any other handloom products. Others are toiletries, cosmetics, plastic products, aluminium products, cookies, stationery. b. New mode of operation omits the word locally produced from garments. |
| Vendor limit for each side has increased | Twenty-five | Fifty |
| Medium of exchange remains unchanged; exemption of CDs retained | a. Local currencies/barter trade b. Exempted from the payment of CD. | Unchanged |
| Maximum purchasing limit has increased | Equivalent to USD 50. Later, it was re-fixed to USD 100. | Equivalent to USD 200 |

Source: Authors' compilation from Ministry of Commerce (MoC) documents (2010, 2017).

5. MAJOR AND FREQUENT TRANSBOUNDARY DISEASES

It is well-recognised that plant (e.g. crop), animal (e.g. livestock, poultry) and fish diseases are frequent and diverse in nature. This study has explored the presence of transboundary diseases for those agricultural commodities of Bangladesh which are regularly traded, formally and informally. Among all the primary commodities exported from and imported to Bangladesh e.g. crop, crop seeds, fresh vegetables, spices and few forest-related products are prone to transboundary plant pests and diseases. These could result in significant losses for the farmers, and may also threaten food security. A lot needs to be done to develop a modern quality control system to identify and take measures against transboundary plant pests and diseases at border points. However, it is to be recognised that gradually Bangladesh has made decent progress in this respect by introducing quarantine requirements as a preventive measure. Bangladesh in 2011 has adopted new Plant Quarantine Act, which replaces a statute previously in place – the Destructive Insect and Pest Act, 1914. The new law provides for controlled export and import of plants, microbes, and soil. It strengthens the authority of the government to take steps to prevent the introduction of alien insects and diseases into the country. In contrast, although there exists Animal Disease Act, 2005; Bangladesh Animal and Animal Product Quarantine Act, 2005 and an approved draft of Fisheries Quarantine Act, 2017, actions to combat transboundary animal diseases have remained largely unattended. This is pertinent for Bangladesh considering the high magnitude of informal trade of cattle and the export significance of live fish (e.g. shrimp). In view of this, the section has highlighted the issues of transboundary animal and aquaculture diseases (especially for shrimp).

In FY2016-17, according to EPB, Bangladesh exported USD 526.5 equivalent of frozen and live fish, of which shrimp export was 84.7 per cent. Over the past two decades, shrimp has remained one of the major export items for Bangladesh. However, the industry has faced difficulties on account of environmental hazards, disease prevalence and compliance deficits. The European Union (EU) ban on import of shrimp from Bangladesh, in 1997, because of lack of compliance with EU's hazard

analysis and critical control points (HACCP) requirements, hurt Bangladesh shrimp exports by USD 25 million in the short-run. The long-run cost estimated to be about about USD 5 billion (Yunus, 2009). However, the paper also argued that through HACCP compliance, Bangladesh succeeded in exporting an additional USD 18 million worth of shrimp in the short-run; in the long-run this helped Bangladesh export an additional USD 35 million per year (Yunus, 2009). The analysis reveals that Bangladesh needs to continue quality assurance system based on the HACCP to comply with SPS measures in order to boost its shrimp export. This will help to address compliance issues in exporting to the region as well.

In addition to the compliance issues, controlling the prevalence of diseases would be a big challenge for Bangladesh. Throughout the globe, one of the major constraints faced by shrimp aquaculture (which holds a significant share in global trade of aquaculture) is the loss due to viral diseases like white spot syndrome, yellow head disease, and Taura syndrome (Karunasagar and Ababouch, 2012). The prevalence of white spot syndrome is also found in Bangladesh. Hossain *et al.* (2015) has detected the prevalence of White Spot Syndrome Virus (WSSV) in cultured shrimp of coastal regions in Bangladesh. The paper argued that the rapid growth and expansion of shrimp culture worldwide as well as in Bangladesh has been greatly affected by the occurrence of different types of diseases, especially viral disease which threatens the development of this industry. If exports of this and other similar agricultural items are to be increased, both within and outside of the SAARC region, the Bangladesh government will need to take appropriate measures to control the prevalence of WSSV by following the guidelines developed by the World Animal Health Organisation (WAHO) for movement of live animals for aquaculture and frozen crustaceans for human consumption.

Transboundary animal diseases (TADs) are highly contagious and transmissible diseases. These diseases have the potential for rapid spread, irrespective of national borders and can cause serious socio-economic and possibly public health consequences (Otte *et al.*, 2004). Some of the TADs are zoonotic which means that the virus transmits from the animal to human body and cause threat to public health. Others are non-zoonotic but cause severe losses in reproduction, lactation, growth, and draught power. SAARC member states share common borders and have formal and informal animal trades, which are prone to TADs (Khatun *et al.*, 2016). Some of the common endemic transboundary diseases in SAARC member countries are Foot and Mouth Disease (FMD), Peste des Petits Ruminant (PPR), Anthrax, Black Quarter (BQ), and Avian Influenza (AI). While FMD, PPR and BQ cause little or no harm to public health, Anthrax and AI have significant zoonotic importance. Cattle, water buffalo, sheep, goats, pigs, antelope, deer, and bison are mostly susceptible to FMD while small ruminants such as goat and sheep, and birds, chicken and duck are prone to PPR and AI respectively.

As it is, the SAARC region is susceptible to FMDs mainly because of the high number of cattle heads that are traded across borders, particularly between India and Bangladesh (Khatun *et al.*, 2016). During the KIIs, it was frequently mentioned that there was a high incidence of cattle disease especially during Eid-ul-Azha. This was mainly due to transboundary movement of animals in this particular season. The estimated cost will vary across countries of South Asia but nonetheless are substantial in amount. The direct losses alone due to FMD in India was estimated to be more than USD 4.5 billion per year and indirect production losses could be much more (Venkataramanan *et al.*, 2006). According to the DLS, Bangladesh loses as much as USD 125 million annually due to FMD.¹¹ However, the actual cost of disease prevention and control depends on the control strategy in view of the specific disease, which include the cost of treatment, surveillance and detection including quarantine at the port of entries, public communication, stamping out operation including decontamination, vaccines and vaccination campaign, improved bio-security and management, compensation and overhead cost of state veterinary services. In addition, appropriate estimation of the economic loss must factor in

¹¹This information is retrieved from the following source: <http://www.fao.org/docs/eims/upload/299827/an356e00.pdf>

the loss of milk, abortion, mortality, loss of drought hours, and loss of manpower. In the absence of comprehensive statistics, a reliable estimation of the potential losses is hardly possible. The reported cases of FMD, BQ and PPR appear to be highly underestimated.

During 2009 to 2012, in Bangladesh, Anthrax caused the death of hundreds of cattle (Samad, 2013). The major reported viral zoonotic diseases in Bangladesh include AI, Rabies, Nipah virus infection, Japanese encephalitis, Rotavirus and Dengue fever. AI caused by highly pathogenic H5N1 in humans and poultry was experienced in Bangladesh. In 2007, AI virus spread in 51 out of 64 districts of Bangladesh (Samad, 2013). More than 480 outbreaks were reported. This led to the culling of more than two million poultry birds. The cost of losses was estimated as to be Tk. 55 billion (USD 757.9 million) (Samad, 2013).

Livestock movements and trade play a key role in the spread of FMD. Hence, in spite of significant potential, economic losses arise from trade restrictive practices (Knight-Jones and Rushton, 2013), movement and trade restrictions at domestic and international levels are key to controlling the spread of diseases across borders (Sutmoller *et al.*, 2003). From this perspective, cross-border informal cattle trade is highly susceptible to increase the prevalence of FMD. Due to informality of the overwhelming part of cattle trade and absence of any clinical or physical inspection at the border points, breakout of FMDs and Anthrax remains a high possibility. As mentioned earlier unlike FMD, Anthrax causes direct damage to human health. Hence to take steps to address the issue of transboundary diseases through informal trade is very much needed.

6. RECOMMENDATIONS

- Strengthen customs capacity to identify misinvoicing in case of trade in agricultural products and promote cross-border customs cooperation in addressing this challenge.
- Bilateral and region-wide SPS Agreement should be signed with Mutual Recognition Agreement as an integral part of the Agreement.
- SAARC should develop an institutional Dispute Settlement Mechanism (DSM) to deal with non-tariff related complaints and disputes relating particularly to tradable agricultural products.
- Strengthen tracing mechanisms for agricultural items to boost export and develop cold chains for transportation of perishable agricultural products.
- The standard operations protocols in view of the Bangladesh-Bhutan-India-Nepal Motor Vehicle Agreement (BBIN MVA) should include provisions for speedy clearance of cargo containing perishable agricultural items.
- Develop agro-based value and production chains by attracting investment in order to realise the preferential market access in agricultural items offered under bilateral initiatives and SAFTA.
- Develop coherent SAARC-wide strategy to project a common stance in the WTO taking into account the WTO negotiation in the context of Agreement on Agriculture.
- In view of the popularity of BHs, there is a need for joint assessment of the demand-supply, product coverage and pricing patterns bearing in mind further expansion of BHs in future.
- Bangladesh and India should start the discussion on issues of informal cattle trade with an aim to find a mutually acceptable solution to resolve the long-standing ambiguity that regulates this informal trade.
- Bangladesh should install facilities for health check-ups of animals at major trade corridors in order to control transboundary transmission of FMD, Anthrax, PPR and other zoonotic and non-zoological animal diseases.
- A regional project should be designed to conduct a comprehensive livestock census by respective national statistical organisations, in coordination with DLS and Department of Fisheries (DoF)

(and other relevant authorities). It will help to develop a national as well as a regional dataset for livestock management by following the same methodological framework. This information should guide to have a better understanding about livestock and fish disease prevalence and its impact on the economy, and to develop joint actions to mitigate common regional diseases. This will also help to regulate cross-border trade in animals.

- An agricultural information sharing interface may be developed by the SAARC member countries. Plant, animal and fishery quarantine department from each country will be designated as focal points to share information about scientific findings, allow real time sharing of information as regards disease prevalence and results of control measures
- Measures should be taken towards operationalisation of the SSB. It should lead to cooperation among SAARC countries in developing common SPS standards for seeds. This cooperation will help the involved member countries to make quality seed easily available to small and marginal farmers. As a consequence, informal trade in crop seeds should come down and risk of crop damage and adulteration will be reduced.
- Modernisation of quarantine procedures and inspections should be undertaken on an urgent basis. Designated channel (green channel) should be introduced for trade in (perishable) agricultural commodities. Speedy implementation of ongoing projects to strengthen capacity at various Land Customs Station to deal with plant and animal quarantine should be ensured.
- SARSO should be further strengthened to enable it to develop regional harmonised standards and certification. Bangladesh can make use of the Indian line of credits (LoCs) in this respect (in addition to the projects under the first LoC to strengthen the BSTI).
- A regional project should be put in place to strengthen the capacity of quarantine departments in each country and standardise SAARC-wide procedures.
- Bangladesh needs to continue quality assurance system based on the HACCP to comply with SPS measures to boost its shrimp export.
- Joint exploration of marine fisheries particularly by in view of realising the potentials of the blue economy.
- SAARC countries may arrive at a consensus with regard to not undertaking protectionist measures in times of agricultural price volatility and natural shocks.

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ANNEX A: STATISTICAL TABLES

Annex Table 1: List and Summary Description of KIIs and Field Visits

| Location of KII/Field Visit | Person Consulted | Major Discussion Point |
|--|------------------|---|
| Ministry of Commerce | 3 | Issues of Bangladesh's agricultural trade, issues of trade facilitation, BHs. |
| Department of Livestock Services | 2 | Domestic demand, supply and production of livestock, implication of informal cattle trade on domestic industry and employment and issues of transboundary diseases. |
| Department of Livestock Services | 2 | Procedures for existing quarantine inspection, transboundary diseases and their impact on plant and animal health, etc. and future plans to improve quarantine stations in order to ensure better livestock disease prevention and control. |
| Unnayan Sammanay | 3 | Patterns and products of agricultural trade (both formal and informal), issues and implications of BHs. |
| Field Visit to Gabtoli | 14 | Informal channels for cattle trade, related supply chain issues and impact on domestic production of meat. |
| Field visit to Chuadanga (Darshana, Jibannagar etc.) | 11 | Overall cross-border agricultural trade pattern, informal cattle trade situation and recent trends. |
| Field visit to Tarapur – Kamalagar Border Haat | 21 | Business environment, agricultural trade share in BHs and implications for informal trade between Bangladesh and India. |

Source: Authors' compilations.

Annex Table 2: Bangladesh's Agricultural Export to SAARC Countries and Beyond

(Two years average)

| Country/Region | Live Animal and Animal Product | Vegetable Product | Animal or Vegetable Fat and Oil and their Cleavage Product; Prepared Edible Fat; Animal or Vegetable | Prepared Foodstuff; Beverage, Spirit and Vinegar; Tobacco and Manufactured Tobacco Substitute | Jute | Total Agricultural Commodity |
|--|--------------------------------|-------------------|--|---|-------|------------------------------|
| Country-wise agricultural export share | | | | | | |
| Afghanistan | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Bhutan | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 | 0.1 |
| India | 1.3 | 12.4 | 57.6 | 12.4 | 19.2 | 12.4 |
| Maldives | 0.0 | 0.1 | 0.2 | 0.5 | 0.0 | 0.1 |
| Nepal | 0.0 | 2.3 | 0.1 | 1.6 | 0.2 | 0.7 |
| Pakistan | 0.0 | 0.7 | 0.0 | 1.0 | 4.8 | 2.2 |
| Sri Lanka | 0.1 | 0.7 | 0.0 | 0.0 | 0.2 | 0.2 |
| Bangladesh's export of agricultural commodities to SAARC | | | | | | |
| Bangladesh's agricultural export to the SAARC (in million USD) | 8.2 | 38.8 | 14.5 | 50.2 | 186.7 | 298.4 |
| Bangladesh's agricultural export to the world (in million USD) | 572.1 | 239.4 | 25.1 | 306.4 | 763.1 | 1,906.1 |
| Bangladesh's agricultural export to SAARC as share of its global agricultural export (in per cent) | 1.4 | 16.2 | 58.0 | 16.4 | 24.5 | 15.7 |
| As share of Bangladesh's total global export | | | | | | |
| Bangladesh's agricultural export to SAARC as share of its total global export (in per cent) | 0.0 | 0.1 | 0.0 | 0.2 | 0.6 | 0.9 |

(Annex Table 2 contd.)

(Annex Table 2 contd.)

| Country/Region | Live Animal and Animal Product | Vegetable Product | Animal or Vegetable Fat and Oil and their Cleavage Product; Prepared Edible Fat; Animal or Vegetable | Prepared Foodstuff; Beverage, Spirit and Vinegar; Tobacco and Manufactured Tobacco Substitute | Jute | Total Agricultural Commodity |
|---|--------------------------------|-------------------|--|---|------|------------------------------|
| Bangladesh's global agricultural export as share of its total global export (in per cent) | 1.8 | 0.7 | 0.1 | 1.0 | 2.4 | 5.9 |

Sources: Authors' calculation from EPB database (2015, 2016).

Annex Table 3: Bangladesh's Agricultural Import from SAARC Countries and Beyond

(Two years average)

| Country/Region | Live Animal and Animal Product | Vegetable Product | Animal or Vegetable Fat and Oil and their Cleavage Product; Prepared Edible Fat; Animal or Vegetable | Prepared Foodstuff; Beverage, Spirit and Vinegar; Tobacco and Manufactured Tobacco Substitute | Jute | Total Agricultural Commodity |
|--|--------------------------------|-------------------|--|---|------|------------------------------|
| Country-wise agricultural import share | | | | | | |
| Afghanistan | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Bhutan | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.2 |
| India | 14.5 | 34.3 | 0.2 | 19.7 | 2.5 | 22.2 |
| Maldives | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Nepal | 0.0 | 0.3 | 0.0 | 0.1 | 0.0 | 0.2 |
| Pakistan | 0.3 | 0.3 | 0.0 | 0.1 | 0.0 | 0.2 |
| Sri Lanka | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 |
| Bangladesh's import of agricultural commodities to SAARC | | | | | | |
| Bangladesh's agricultural import from SAARC countries (in million USD) | 50.1 | 1119.9 | 2.4 | 271.2 | 1.5 | 1,445.1 |
| Bangladesh global agricultural import (in million USD) | 336.1 | 3,163.6 | 1,474.8 | 1,361.8 | 61.2 | 6,337.9 |
| Bangladesh's agricultural import from SAARC as share of its global agricultural import (in per cent) | 14.9 | 35.4 | 0.2 | 19.9 | 2.5 | 22.8 |
| As share of Bangladesh's total global import | | | | | | |
| Bangladesh's agricultural import from SAARC as share of its total global import (in per cent) | 0.1 | 2.8 | 0.0 | 0.7 | 0.0 | 3.6 |
| Bangladesh's global agricultural import as share of its total global import (in per cent) | 0.8 | 7.8 | 3.7 | 3.4 | 0.2 | 15.7 |
| Bangladesh's agricultural import from SAARC as Share of its global import (in per cent) | 14.8 | 35.4 | 0.2 | 20.1 | 2.5 | 22.9 |

Source: Authors' calculation based on Bangladesh Bank (2015, 2016).

Annex Table 4: Minimum Seed Standard Requirements for Paddy, Jute and Wheat Seeds in India and Bangladesh

| Minimum Seed Standard | India | | Bangladesh | |
|--|------------|-----------|------------|-----------|
| <i>Paddy/Rice Seed</i> | | | | |
| Factor | Foundation | Certified | Foundation | Certified |
| Pure seeds (minimum) | 98.0% | 98.0% | 97.0% | 96.0% |
| Inert matter (maximum) | 2.0% | 2.0% | 2.0% | 3.0% |
| Huskless seeds (maximum) | 2.0% | 2.0% | - | - |
| Other crop seeds (maximum) | 10/kg | 20/kg | 5/kg | 10/kg |
| Other distinguishable varieties (maximum) | 10/kg | 20/kg | - | - |
| Total weed seeds (maximum) | 10/kg | 20/kg | 8/kg | 10/kg |
| Objectionable weed seeds (maximum) | 2/kg | 5/kg | - | - |
| Seeds infected by paddy bunt (maximum by number) | 0.10% | 0.50% | - | - |
| Germination (minimum) | 80.0% | 80.0% | 80.0% | 80.0% |
| Moisture (maximum) | 13.0% | 13.0% | 12.0% | 12.0% |
| For vapour-proof containers (maximum) | 8.0% | 8.0% | - | - |
| <i>Jute Seed</i> | | | | |
| Pure seeds (minimum) | 97.0% | 97.0% | 98.0% | 96.0% |
| Inert matter (maximum) | 3.0% | 3.0% | 1.0% | 3.0% |
| Other crop seeds (maximum) | 10/kg | 20/kg | 5/kg | 10/kg |
| Other distinguishable varieties (maximum) | 10/kg | 20/kg | | |
| Weed seeds (maximum) | 10/kg | 20/kg | 5/kg | 10/kg |
| Germination (minimum) | 80% | 80% | 80% | 80% |
| Moisture (maximum) | 9.0% | 9.0% | 10.0% | 10.0% |
| For vapour-proof containers (maximum) | 7.0% | 7.0% | 7.0% | 7.0% |
| <i>Wheat Seed</i> | | | | |
| Pure seeds (minimum) | 98.0% | 98.0% | 97.0% | 96.0% |
| Inert matter (maximum) | 2.0% | 2.0% | 2.0% | 3.0% |
| Other crop seeds (maximum) | 10/kg | 20/kg | 5/kg | 10/kg |
| Total weed seeds (maximum) | 10/kg | 20/kg | 8/kg | 10/kg |
| Objectionable weed seeds (maximum) | 2/kg | 5/kg | - | - |
| Seeds infected with Nematode galls of Ear-cockle and Tundu (maximum) | None | None | - | - |
| Seeds infected by karnal bunt (maximum by number) | 0.50% | 0.25% | - | - |
| Germination (minimum) | 85.0% | 85.0% | 80.0% | 80.0% |
| Moisture (maximum) | 12.0% | 12.0% | 12.0% | 12.0% |
| For vapour-proof containers (maximum) | 8.0% | 8.0% | - | - |

Source: Authors' compilation from Seed Standard and Field Standard of Notified and Non-Notified Crops, National Seed Board (NSB), Bangladesh.

Available from: http://dae.portal.gov.bd/sites/default/files/files/dae.portal.gov.bd/legislative_information/1a93df73_35eb_49b6_8d08_15547e2f0c89/Seed%20and%20Field%20Standard%20_English.pdf

Indian Minimum Seed Certification Standards, the Central Seed Certification Board, India. Available from: http://agricoop.nic.in/sites/default/files/INDIAN_MINIMUM_SEED_CERTIFICATION_STANDARDS.pdf

ANNEX B: DETAILED METHODOLOGY OF ESTIMATING INFORMAL AGRICULTURAL TRADE

Methodology: Estimation of Agricultural Trade Misinvoicing

To estimate the value of trade misinvoicing, method of estimating the illicit financial flow developed by the Global Financial Integrity (GFI) has been followed. Data used for the estimation were taken from the Trade Map for the period 2001 to 2016. By using equation (i) import trade misinvoicing between Bangladesh and SAARC countries at time *t* was calculated. To smoothen the variability in trade misinvoicing 3-year moving average was taken as the actual misinvoice value as regards Bangladesh's import of agricultural items from the SAARC countries.

$$ID_{BD,SAARC,t} = I_{BD,SAARC,t} / r - X_{SAARC,BD,t} \dots\dots\dots (i)$$

$$ID_{BD,SAARC,t} = (ID_{BD,SAARC,t-2} + ID_{BD,SAARC,t-1} + ID_{BD,SAARC,t}) / 3 \dots\dots\dots (ii)$$

Here, $ID_{BD,SAARC,t}$ means import trade misinvoicing between Bangladesh and SAARC countries' at time *t*

$I_{BD,SAARC,t}$ means imports by the Bangladesh from SAARC countries' at time *t*

$X_{SAARC,BD,t}$ means SAARC countries' exports to Bangladesh at time *t*

r is the factor margin assumed by GFI at 10 per cent

Methodology and Assumption: Estimation of the Informal Cattle Trade

In order to estimate the value for cross-border informal cattle trade between Bangladesh and India following steps were pursued: official data for cattle heads were collected from NBR for the period of FY2010-11 to FY 2013-14. For smoothening of the variability in the year to year data, 4-year average number of cattle heads by animal type has been taken (column A). Column B shows the cattle price which was taken as *a priori* value (minimum) from the following study (Bhattacharjee, 2013). Taka to USD conversion was done using the exchange rate of BDT 80 per USD (column E). Number of non-reported cattle heads (columns F and G) were taken as *a priori* condition reported in the primary survey based study by Khatun *et al.* (2016). However, the estimates are subject to the following caveats: (a) estimated results are linear in nature; (b) assumptions are critically important as any change in one of the assumptions will change the results; (c) one may also argue that the estimated values are either underestimated, or overestimated – depending on the omission or exclusion of necessary or unnecessary variable.

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