



Routes of Seeds Trade between India and Bangladesh: Existing Scenario and the Way Forward

Suvayan Neogi*

*Research Associate, CUTS International

CUTS Centre for International Trade, Economics & Environment (CUTS CITEE),
Consumer Unity and Trust Society (CUTS) International
D-217, BhaskarMarg, Bani Park, Jaipur 302016, India

Abstract

Bangladesh and India derive their sustainability in economic growth and development from agriculture to a large extent but the contribution of this sector in the gross domestic product (GDP) of these countries in the last decade has declined. After the reform on trade liberalization, they have not experienced significant growth in agricultural sector. Both Bangladesh and India suffer from uneven food production caused by low yields and faulty marketing and distribution system. It is observed that there exists a significant gap between demand and supply of High Yielding Varieties (HYV) seeds in both the countries. To merge this gap, people residing in the border areas of India and Bangladesh have automatically developed informal markets. The reasons for the growth of these informal markets are proximity, quicker delivery, social and ethnic language, similar agro-climatic conditions and food habits. Further, it has also happened due to non-tariff barriers, policy related issues, domestic policy distortion and political aspects. Appropriate policy regime for ensuring adequate supply of HYV rice seed through domestic production and also trade are the key solutions. Increased trade and cooperation in agricultural inputs, especially in HYV rice seeds between Bangladesh and India can also be the possible and effective way to ensure the accessibility and availability. In addition, creation of adequate infrastructure, ensuring timely availability and accessibility to quality inputs, could lead to better scenario in both the countries.

Key words: HYV seeds, Informal trade, trade policies

Background and Context

The two neighbouring countries, Bangladesh and India, derive their sustainability in economic growth and development from agriculture to a large extent. The contribution of the agricultural sector in the gross domestic product (GDP) in these countries in the last decade has declined. However, this does not negate the importance of agriculture. After the reforms on macroeconomic policy and trade liberalisation, the agricultural sector in India neither experienced any significant growth (subsequent to the initiation of economic reforms in 1991) nor did it derive the expected benefits from trade liberalisation.¹ In the early 90's, Bangladesh also experienced agricultural trade liberalisation, with a view of increasing productivity in agriculture and achieving self-sufficiency in food-grain production;² but its agricultural sector has also not experienced significant growth.

Rice is the main staple crop in these two countries. However, the increase in rice production in India has been uneven, over the last decade. Average yield of rice in Bangladesh in 2014 was 4.42 tonne/hectare;³ average yield of rice in India was 2.3 tonne/hectare;⁴ while the global average yield on rice was 4.5 tonne/hectare.⁵ The increase in rice production depends upon various parameters, such as accessibility and affordability, the quality of inputs and presence of small and marginal farmers, etc.

India has started the use of high yielding variety (HYV) seeds after the green revolution, which has helped achieve much higher yield levels on agricultural production in India. For Bangladesh, HYV seeds have spread widely in the late 80's and early 90's, after the liberalisation of agricultural trade. But both countries have been facing the problem of low productivity for the last decade. Accessibility and affordability of quality rice seeds are the biggest challenges for farmers in these two countries. Due to supply lag, failure of seed delivery mechanism and higher price, the border region's people are driven towards informal trade in rice seeds for better inputs.

Seed Policies and Regulations in India and Bangladesh

India

There are several seed policies and acts that have been implemented by the Government of India to control the quality of seeds and other factors, which are given below. Besides, seeds legislation in India has passed through different phases.

The Seeds Act 1966

The first Seed Legislation or Act – the Seed Act – was passed in December 1966, and the Act has been in effect since October 1969. The Seed Act that was implemented in 1966 had several provisions to regulate the Indian seeds market. Some of the provisions are: 1) Seed certification as a voluntary requirement, implying that seed producing agencies may or may not get their seeds certified; 2) The work of the seed certification could be done only by the officially sanctioned agency notified for a particular area; and 3) The certified seed producers were required to comply with all the requirements set forth for seed certification by the certification agency among others.

Seeds (Control) Order 1983

To deal with issues, such as compulsory licencing of seed dealers, price control and submission of information about the procurement and sale of the seed, which were conspicuous by their absence Seeds Act 1966, the Government of India issued Seed (Control) Order 1983 under Essential Commodities Act, 1955 to licence seed dealers (engaged in selling, exporting and importing seeds along with their agents) throughout the nation.

New Policy on Seed Development 1988

After careful consideration of emerging dynamics of Seed (Control) Order 1983, a New Policy on Seed Development 1988 evolved to provide Indian farmers with access to the best available seeds and planting materials, domestic as well as imported. This policy emphasised on some major areas such as: 1) Import of high quality seeds; 2) Time bound programme to strengthen the plant quarantine facilities; 3) Effective observance of procedures for quarantine or post entry quarantine (PEC); and 4) Incentives to encourage the domestic seed industry.

Protection of Plant Varieties and Farmers' Right Act, 2001

One of the major developments was the Government of India bringing into effect – the Protection of Plant Varieties and Farmers Right Act, 2001 which has two objectives: 1) to stimulate investment for research and development (R&D) both in public and private sectors for the development of new plant varieties by ensuring appropriate returns on such investment; and 2) to facilitate growth of Indian seed industry by attracting the domestic and foreign investment, which should ensure the availability of high quality seeds and planting material to Indian farmers.

National Seed Policy, 2002

The formulation and implementation of National Seed Policy (NSP) 2002 was not only a significant reform but also a milestone in the Indian seed industry, especially for global seed trade for India. A major postulation of the NSP 2002 was to boost India's share in global seed trade by providing financial and advanced scientific assistance to farmers so that they could increase production and yield for export purpose. The policy encourages also the private sector participation in R&D of new plant varieties.

The policy has clear provisions for trade (import and export) in seeds. The major objective of the policy relating to import of seeds is to provide the best planting material available anywhere in the world to Indian farmers; and to increase productivity, farm income and export. In addition, it also seeks to ensure that there is no deleterious effect on environment, health and bio-safety.

However, the focus of NSP 2002, such as development of infrastructure, ensuring supply of good quality seeds and facilitation of the seed trade are required to be addressed.

Seeds Bill, 2004

The Seeds Bill, 2004 seeks to regulate the production, distribution and sale of seeds. However, the Parliamentary Standing Committee is not in favour of requiring farmers to meet certain criteria in order to sell or exchange seeds. It has recommended that farmers should be allowed to sell or exchange seeds from the other farmers to be exempted from this requirement.

The new Bill with proposed amendments aims to regulate the quality of seeds sold, and replaces the Seeds Act, 1966. All varieties of seeds for sale have to be registered. Most importantly, the proposed Bill requires that if a registered seed variety fails to perform up to the expected standards, the farmer can claim compensation from the producer or the dealer.

Summarising the overall development since the 80s, one can argue that the present seed regime in India marks a new phase of commercialisation of Indian agriculture, with adequate protection to farmers, especially small and marginal ones. Several studies have also argued that due to failure of the role of public sector, private sector will play an important role in the near future.

Bangladesh

There are at least three important seed-related laws in Bangladesh which include:

- The National Seed Policy (1993)
- The Seed Ordinance, 1977 (Amendments in 1997 and 2005)
- The Seed Rules, 1998

The National Seed policy, 1993

Bangladesh National Seed Policy (NSP) was introduced in 1993. The main purpose of this policy is to make the best quality seeds of improved varieties of crops conveniently and efficiently available to farmers with a view to increasing crop production, farmer's productivity, and per-capita farm income and export earnings.

The Seed Ordinance 1977 (The Seed Act Amendments in 1997 and 2005)

The Seed Ordinance 1977 stipulates the role and function of the National Seed Board and the Seed Certificate Agency (SCA), which also provides clauses for the import and export of seeds, the representation of board members, regulations of standards for quality of seed, approval and registration of new varieties, labelling of seeds and the functions of SCA and penalties for violating the ordinance or rules.

Seed Rules 1998

The Seed Rules also play a crucial role in regulation of seed industry. It elaborates on the function of the National Seed Board (NSB) and on the procedures for registration of seed dealers, registration of varieties and labelling of the seed offers for sale in sealed containers or packets.

We have mentioned several seed legislations that have been implemented by India and Bangladesh. These acts tried to control the quality and also distribution of seeds properly to end users, i.e. farmers. But farmers are always facing the problem to get quality seeds in the proper price. This is because farmers in this region are mainly small and marginalised. Moreover, most of them are poor.

Seed Delivery Mechanism in Bangladesh and India

Bangladesh

India-Bangladesh border is marked by a high degree of porosity, and consequently estimating the extent of informal trade and illegal cross-border activities is a major challenge. Consumer Unity and Trust Society (CUTS) has done an extensive study with the help of partner organisation from Bangladesh, i.e. Unnayan Sammanay – on informal rice seed trade between India and Bangladesh.

Presently, there are several numbers of stakeholders involved in the rice seed delivery system, both in India and Bangladesh. In the borders areas of Bangladesh, farmers are using Indian origin rice seed, i.e. Swarna variety. CUTS conducted the study in Rangpur (Bangladesh), where Guti Swarna is primarily used by local farmers.

Formal Route of Seed Delivery System in Bangladesh

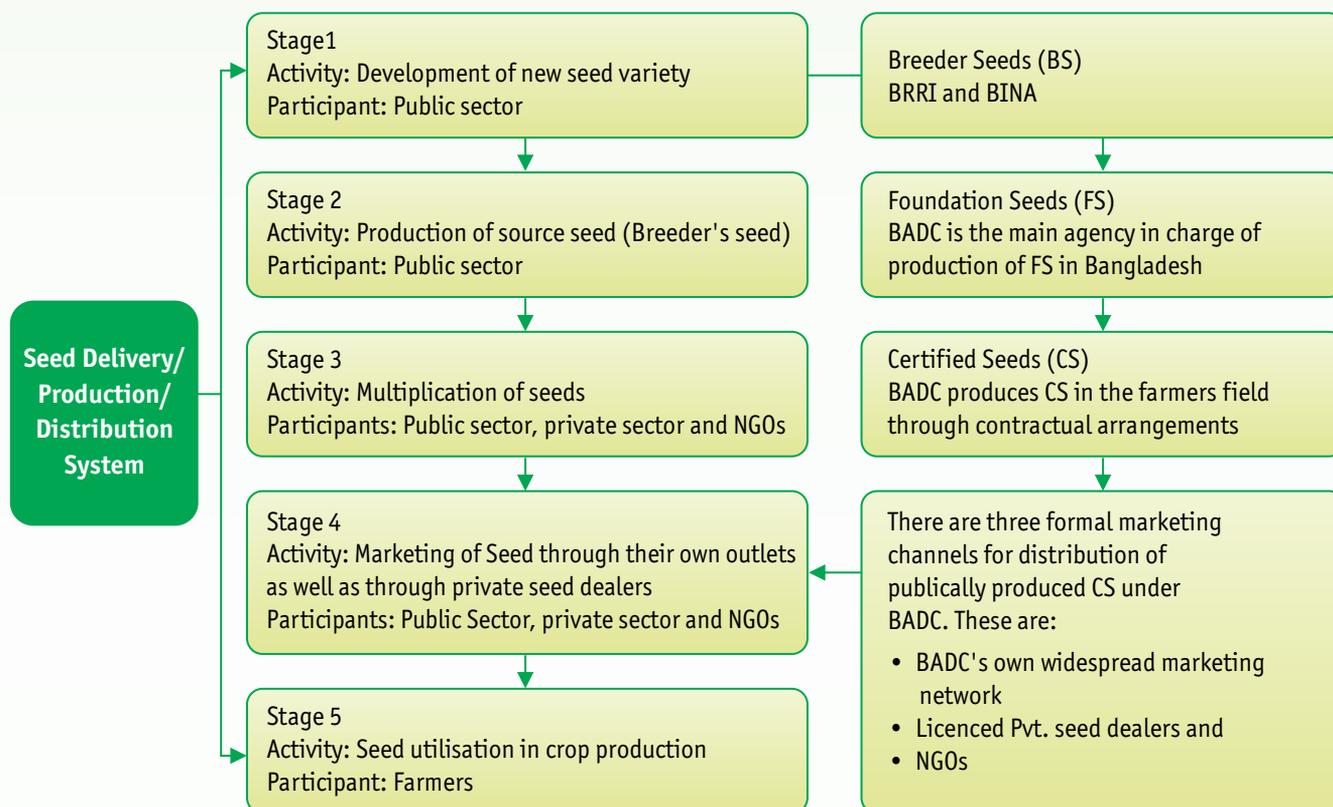
Seed delivery system in Bangladesh has five stages, which include:

- 1) The development of new variety which until now mostly has been done by the public system;
- 2) The stage of seed delivery system, which was also done by the public system;
- 3) Multiplication of seed currently carried out by public and private sector and NGOs;
- 4) The marketing of seeds, being carried out by public and private sector and NGOs through their own outlets as well as through private seed dealers; and
- 5) The stage of end users, i.e. farmers.



The basic structure of seed production, marketing and distribution is reflected in Figure 1:

Figure 1: Seed Delivery/Production/Distribution System in Bangladesh



Source: Seed flow map of Bangladesh: Dynamics of Rice Seeds Trade, Need for cooperation between India and Bangladesh, CUTS Study, 2013

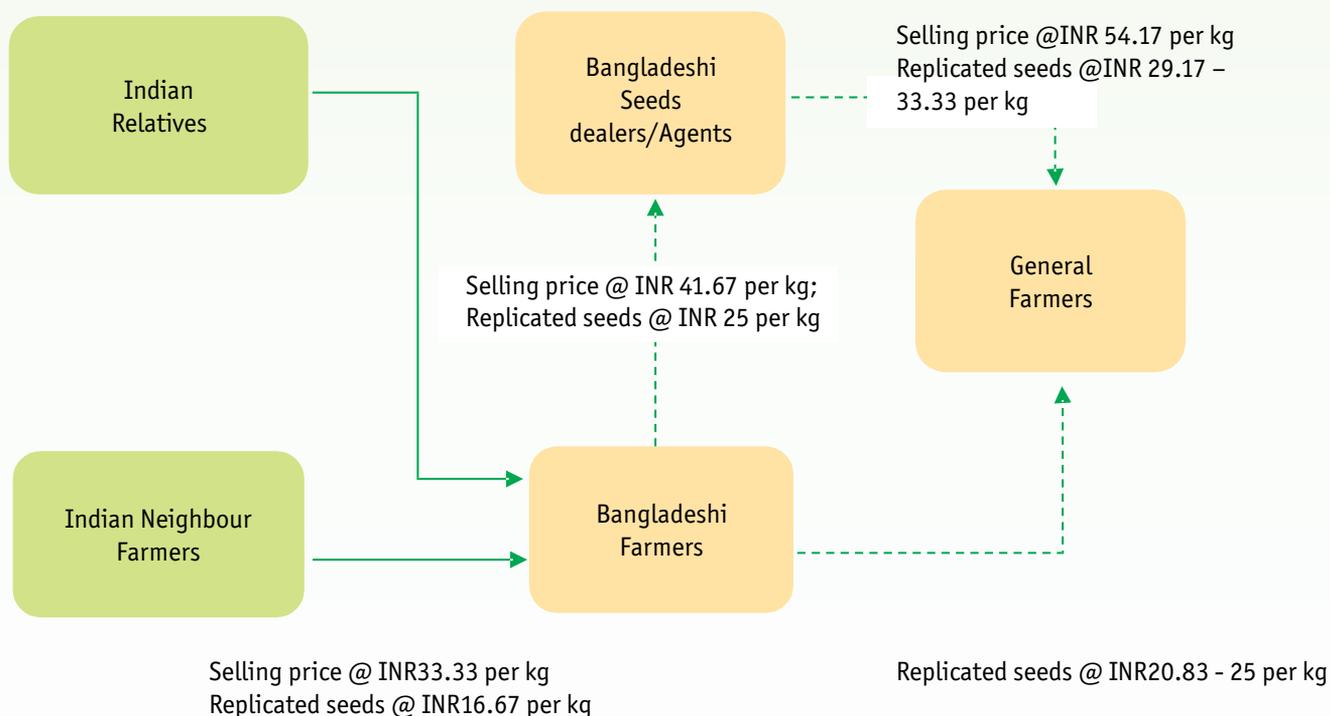
Informal Route of Seed Delivery System

Bangladeshi farmers are not happy with their informal route of seed delivery system, specifically in the border region. After several seed acts or rules, they are not getting quality seeds and this factor is also affecting their livelihood. Sometimes they are getting good quality rice seeds, but due to higher cost, they are not able to afford them.

Hence, they are also dependant on Indian origin seeds, which are coming through informal routes. Emphasis is laid on the informal route of distribution of seeds. Swarna rice seeds are informally traded between Coochbehar, West Bengal in India and Rangpur in Bangladesh. This is because the farmers in Bangladesh feel that the Indian variety of rice seeds are available at lower price, easily accessible and available, with proximate markets, better productivity, longevity, etc.

On the Indian front, India farmers procure the Swarna rice seed at Rs29.17 per kg and the same are sold at Rs 33.33 per kg to Bangladeshi farmers living in border areas. These seeds are then sold to Bangladeshi seed dealers at Rs 41.67 per kg, which are then sold to the general farmers at Rs54.17 per kg. The prices differ in the case of second generation seeds.

Figure 2: Informal Flow of Swarna Rice Seeds



Source: *Linkages and Impacts of Cross-Border Informal Trade in Agricultural Inputs in Eastern South Asia (LITA)*, CUTS study, 2016-17 (Unpublished)

Informal Trade Drivers of Rice Seeds Affecting Bangladeshi Farmers

These farmers are not in confrontation with global competitiveness and also are not so concerned about the quality of agricultural produce. They always give importance to the cost-effectiveness in production. It is natural that illegal or informally traded agriculture inputs have lower price, and sometimes these products have a quality advantage in comparison to the products available locally. Better quality is indicated by higher productivity and post-harvest longevity. Some of the internal problems being faced by the Bangladeshi farmers are:

- Lack of infrastructure investment in seed development due to high influence of government control and regulation given that the private sector could not enter the seed market.
- Lack of coordination between different organisations involved in the seed delivery process: inadequate linkages between research institutes: Bangladesh Agricultural Development Corporation (BADC) and Non-government Organisations (NGOs) during variety testing and delivery of improved varieties of seeds. This is also affecting the quality of seeds and causing problems for end users.
- Subsidised seeds are always provided by BADC to marginal farmers; but demand always exceeds the supply of seeds. This is rapidly becoming a very critical situation for people in border regions; they cannot afford the private companies' seeds due to cost. Therefore, they use informally traded seeds, which are coming from India.

Apart from these internal problems, some other external factors are also enhancing the informal trade of seeds in the border region, i.e. transportation cost, easier post-harvest management, cultural, social and ethnic relation, lack of knowledge and lack of formal border points.

Informal Route of Seed Delivery System

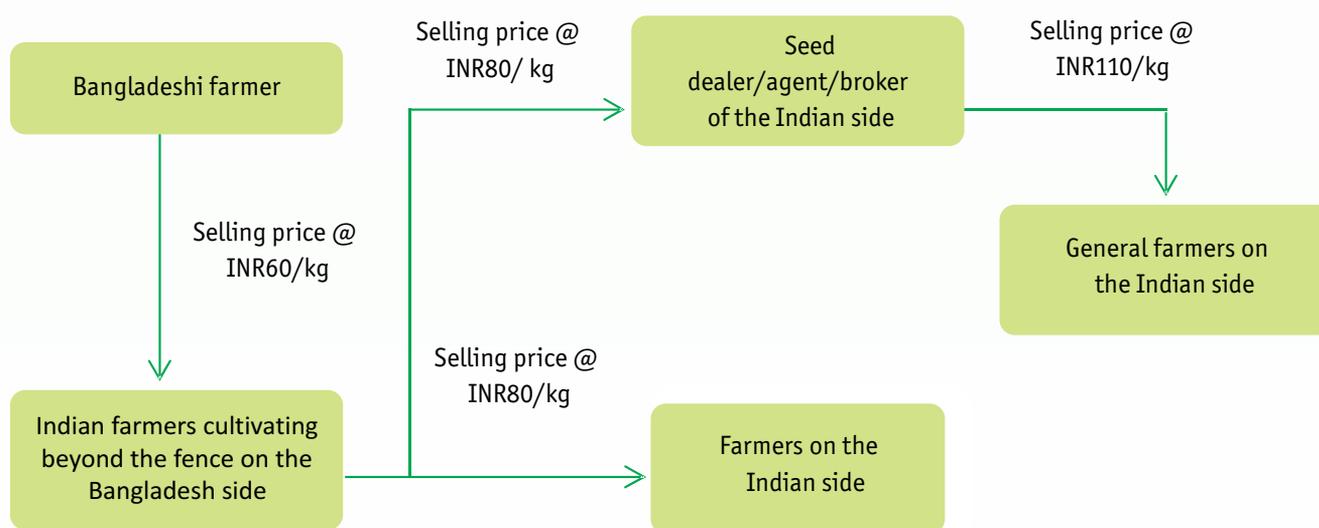
To understand the impact of informal trade in rice seeds along the India-Bangladesh border across specific locations of West Bengal, CUTS has conducted a survey across three locations: viz. Cooch Behar, Malda and South Dinajpur.

Attempts were made to record the responses of other stakeholders, viz. traders and seed/fertiliser dealers involved in informal trade and farmers. For Malda, farmers are using Bangladeshi rice variety - BB11 as a khariff crop. And, for the boro (summer) season, farmers of South Dinajpur practice cultivation with Bangladeshi rice varieties like Hira.

Beyond the fence, both Indian and Bangladeshi farmers not only interact among themselves but also exchange agricultural seeds, which are partly used by the Indian farmer and partly sold either to local shops or to other farmers in their circle only. It is important to note that while bringing seeds on the Indian side, the farmers unpack those seeds and carry them in ordinary plastic bags or ordinary sacks.

In some cases, unscrupulous practices are done by some where they mix Bangladeshi seeds with other cheaper varieties thereby affecting the rice production. The supply chain along with cost breakup for BR 28 and BR 29 variety has been graphically depicted in Figure 4. However, price of the product increases along with the distance from the market where it will be sold, since additional stakeholder engagement would be required. Table 1 represents such price differentials based on the distance of the selling point (market/household).

Figure 4: Seeds Supply Chain with Cost Breakup & Channels of Informal Trade in BR28/29



Source: *Linkages and Impacts of Cross-Border Informal Trade in Agricultural Inputs in Eastern South Asia (LITA), CUTS Study, 2016-17 (Unpublished)*

Table 1: Variation in Prices of Informally Traded Rice Varieties Based on Distance of the Nearest Market

Distance	Name of Rice Variety	Price per Kg (in Rs)
1 km–5 Km	BIRI-28/29	60
	Hira-2	250
5 km–more than 10 km	BIRI-28/29	90
	Hira-2	300

Source: *Linkages and Impacts of Cross-Border Informal Trade in Agricultural Inputs in Eastern South Asia (LITA), CUTS study, 2016-17 (Unpublished)*

BR-11 is a variety that came from Bangladesh via South Dinajpur about 10 years back. In Malda, it first came to Gazole and then started spreading to the nearby districts. Since the variety provides greater yield and is less prone to pest attacks, compared to Swarna (the competing Indian variety), it became very popular among farmers in the district.

In addition to the above mentioned factors, some other factors are also influencing the informal trade, which are given as follows:

- Social and ethnic relations between India and Bangladesh,
- Lower price of certified seeds, which are coming from Bangladesh
- Transport and transaction costs, easy access and availability due to proximity to local markets
- Lack of awareness of farmers

Macroeconomic Factors Affecting the Formal Trade

Barriers of Trade

Trade Policy

The import policy of India for rice seed is restrictive and imports of such seeds are allowed. However, there is no restriction on imports of other agricultural inputs. The export policy of India is liberal, which permits the exports of most of the selected agricultural inputs except fertilisers.

The import and export policies of Bangladesh are open for all agricultural inputs except for rice and maize seed. The restrictions are used to protect its domestic agriculture sector and to address supply side constraints.

Non-Tariff Barriers

There exist a large number of non-tariff barriers (NTBs) for seed export-import, mainly in the form of technical barriers to trade (TBT) and sanitary and phyto-sanitary (SPS) measures. The first is related to regulations to ensure food security and prevent spreading of diseases. For instance, in India, there exists bio-security and SPS related regulations. To get the SPS certificates and import permit for importing livestock and food products is cumbersome and time consuming. There exists huge inequality with regard to the development of standards and testing procedures and cooperation, which affects the cross-border formal trade.

Policy Related Issues

India and Bangladesh are faced with poor quality soft and hard infrastructure in South Asia affecting cost-border trade, thereby affecting the growth of regional trade in the region (De, 2014). One of the major hurdles is the absence of effective transit agreement and the movement of vehicles across border. Due to excessive paperwork, undue formalities and administrative burden traders face major hindrances in cross-border trade flows, specifically in seeds. Further, the absence of testing agencies at land ports creates massive challenges for traders.

Domestic Policy Distortion

The two important factors playing a catalyst role for cross-border informal trade in Indo-Bangladesh border region, i.e. lack of employment opportunities in the border region; and the social relationships between communities across border. Informal trade creates employment opportunities for marginalised households and is an important source of income for local people living in border areas. Moreover, social and cultural relations between the people of two sides of borders become a natural facilitator of cross-border informal trade.

Political Aspects

Restrictions on trade of essential items through normal channels compel local people and traders to use the informal route to buy those particular products. The governments of India and Bangladesh have made inadequate progress in terms of promoting developments in the border areas and as well as to build up efficient institutions and regulatory framework, which is a major concern in promoting cross-border informal trader.

Moreover, apart from the above mentioned reasons, many political factors also affect the cross-border informal trade in the border region, which include inefficient bureaucratic system, political protection to informal traders and lack of political will for economic reforms.

Quality related issues

Modern farming practices can also improve rice yields but these have not spread much in the eastern part of the country or in Bangladesh where a major proportion of farmers are small and marginal. A persistent yield gap has been a challenging issue in productivity improvement in rice. Some of the major factors influencing the productivity of the rice production of these countries, which are then driving border region people into formal trade.

Sub-standard quality: Maximum seeds have quality constraints in these regions due to many reasons. Lack of infrastructure in R&D is one of the reasons for sub-standard quality.

Lack of efforts in developing sustainable solutions for the quality rice seeds development: Both the countries are not trying to significantly develop quality of the seeds. Thus, productivity is also going down. Farmers are trying to use different seeds, which are coming by informal route. Their perceptions it might be better productive for their climate.

Low seed replacement rate: Low seed replacement rate in both the countries also hampers the productivity. Farmers are not such technical things of farming. Therefore, helping them at times use informal traded seeds, which are productive with cost effectiveness.

High cost: Trade is mainly dominated by private seed companies or multi-national corporations (MNCs); their motive is primarily profit-based. This created ideological barriers in on the grounds of different agro-ecological requirements of countries. Due to underdeveloped seed market, sometimes, farmers often keep the seeds from their own previous harvest, because underdeveloped seed market cannot meet the growing demand of high-quality seed. There are other constraints for accessibility or affordability to use the improved seeds, i.e. price factor.

Conclusion and the Way Forward

Based on the secondary analysis and the primary survey, it can be argued that both India and Bangladesh have put in place basic infrastructure and mechanism to facilitate development and usage of improved varieties of rice seeds in their respective countries.

The rice seed-related issues and challenges are mostly faced by the farmers in eastern part of India and western part of Bangladesh. These issues should be resolved through the cooperative approach of both of the countries. Following are the recommendations and solutions to some of the issues on the basis of the study:

- The delivery of improved varieties of quality seeds is an important strategy for the increasing the productivity and promoting the agricultural growth.⁶
- South Asian countries should come forward with an initiative, such as identifying major varieties that could be adapted to other countries in the region.

- Research institutions in India should design a plan of action for engagements with similar institutions in Bangladesh. Such engagement will ensure seed production for the local market and meet regional demand also.
- The existing seed bank is not enough to address the seed related challenges like supply of seeds. Thus, seed bank should be developed.
- Governments should encourage private participation in the seeds market and thus ensure that the rules and regulation for the business are homogenous throughout the country.
- The governments of India and Bangladesh should work closely to promote greater coherence in institutional and regulatory framework, so that the prevailing policy induced distortions can be addressed. This is particularly important in subsidised items (fertilisers and machinery) in which governments are directly involved in distribution.
- Countries should also make efforts to create more awareness to promote trading through formal channels.

References:

Bangladesh Seed Grower dealers and Merchant association (2007), "Bangladesh Seed Industry at a glance", online web access on March 4th, 2013

BE (2009) "Bangladeshi rice seeds go abroad"

Bhalla, G.S. (2004), "State of the Indian farmers: A millennium study", 19th Volume

Dynamics of Rice Seed Trade: Need for Cooperation between India and Bangladesh, CUTS Study, 2013

Pandey, S. and S Pal. (2007), "Are less-favoured environments over invested? The case of rice research in India", Food Policy, 32: 606-23.

Pandey, Sushil and Humnath Bhandari (2008), "Economics of hybrid rice in tropical Asia: major issues and opportunities", in F. Xie and B. Hardy, "Accelerating hybrid rice development", IRRI: Manila.

Potential for Trade in Seeds between India and other SAARC Countries, CUTS Study, 2013

Pray, C. E., and L. Nagarajan (2009), "Improving crops for arid lands: pearl millet and sorghum in India", in D. J. Spielman and R. Pandya-Lorch, Millions fed: proven successes in agricultural development, IFPRI: Washington DC.

Rabobank (2006), "Indian seed industry: market overview and outlook", Industry note 184-2006, Global Department of Food and Agribusiness Research and Advisory, Rabobank International: Utrecht, Netherlands

Singh, Harbir, Prasoon Mathur and Suresh pal (2008), "Indian seed system development: policy and institutional options", Agricultural Economics Research Review, Vo. 21, January-June 2008, pp. 20-29.

The Economic Times (2012), "India's seed industry to grow by 53% by 2015: ASSOCHAM", 9 December 2012.

The article has been published with permission of author

Endnotes

¹ Bhalla G S & Gurmail Singh. *Economic Liberalisation and Indian Agriculture: A Statewise Analysis*. Vol XLIV No 52, December 26, 2009

² Dayal Talukder, Dayal and Love Chile; *Love Agricultural Trade Liberalisation and Growth in Income of Rural Household in Bangladesh: A Quintile-Growth Approach to the Analysis of Distributional Consequences*

³ Bangladesh: Ministry of Agriculture, Government of Bangladesh

⁴ *Agricultural Statistics, 2016; Ministry of Agriculture, Government of India*

⁵ *Ibid*

⁶ Pal et al. (2000); TRIPs (2001); Sattar and Hossain (1986)