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Trade Liberalisation and the Crop Sector in Bangladesh

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The present paper, **Trade Liberalisation and the Crop Sector in Bangladesh**, has been prepared as part of CPD's on-going agricultural policy research and advocacy activities with the International Rice Research Institute (IRRI) under the Poverty Elimination Through Rice Research Assistance (PETRRA) project.

The present paper *titled* ***Trade Liberalisation and the Crop Sector in Bangladesh*** has been jointly prepared by *Dr Mahabub Hossain*, Head, Social Sciences Division, International Rice Research Institute, Los Banos, Laguna, Philippines and Dr Uttam Kumar Deb, Research Fellow, Centre for Policy Dialogue (CPD). The paper was presented at the dialogue on ***Liberalisation of Crop Sector: Can Bangladesh Withstand Regional Competition?*** held on January 8, 2003 at BRAC centre INN Conference Room, Dhaka.

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TRADE LIBERALISATION AND THE CROP SECTOR IN BANGLADESH[1]

I. INTRODUCTION

Agriculture was brought under the purview of GATT, 1994 with a view to minimise distortions in global trade in agricultural and food products. Negotiations on agricultural sector trade had earlier been excluded from GATT on the ground of food security and socio-political stability, which makes agriculture different from other sectors of the economy. By the time the Uruguay Round of negotiations began, many countries had started voicing the need to liberalise agriculture, particularly for opening this highly protected sector in the developed countries to more efficient producers from developing countries. For implementation of the rules agreed during the Uruguay Round of multilateral trade negotiations, the GATT Secretariat has been transformed into the World Trade Organisation (WTO) on January 1, 1995.

The commitments under the Agreement on Agriculture (AoA) in GATT-UR may be broadly categorised into thee groups, a) market access, b) domestic support, and c) export competition.

The provisions under the market access call for conversion of non-tariff trade barriers to bound tariff equivalents, reduction of bound tariffs over time, and setting of "low" import tariffs for a fixed quota of imports. In case of commodities for which the import level was negligible, a minimum level of access of three percent of domestic consumption during the base year was required to be made for the developing countries and five percent for the developed countries. Being an LDC, Bangladesh is not required to undertake any such commitment. However, Bangladesh will not be allowed to increase its bound tariff. Tariff bound for Bangladesh has been set at a uniform ceiling rate of 200% for all agricultural goods except 13 items for which bound rate is 50%. Bound tariff rates for two agricultural products (green and black tea) were lower than actual operative tariff.

[1] This paper is based on data collected under the IRRI Project "Poverty Elimination Through Rice Research Assistance (PETRRA)" in Bangladesh. Financial assistance received from Department for International Development (DFID), UK is gratefully acknowledged.

Under the provision of domestic support the countries were asked to quantify all trade distorting domestic policies, translate them into an aggregate measure of support (AMS) and progressively reduce them. The value of AMS should not exceed five percent of the value of output for the developed countries and 10% for the developing countries. Policies that are not trade distorting in nature are excluded from AMS calculations. These include investments in R&D, development of infrastructure and marketing information, programs for environmental protection and direct payments scheme based on fixed area and production that subsidises farmers' incomes.

Under the provision of export subsidies countries were committed to reduce subsidies on 22 different agricultural commodities, and the developed countries were required to reduce the value of export subsidies by 36% and reduce the quantities of subsidised exports by 21% during 1995 to 2000. The least developed countries (which include Bangladesh) are exempted from commitments to reduce domestic support and export subsidy, while the developing countries have been allowed delayed implementation in these respects.

Developments since the signing of AOA have raised concerns among the developing and the least developed countries regarding market access to developed countries for their exports. Instead of reducing agricultural subsidies the developed countries had in fact raised them in many cases. The OECD producer subsidy equivalent had been increased from 31% in 1997 to 40% in 1999. The United States (US) farm bill signed in May 2002 includes over US$135 billion in new subsidies over the next 10 years. It is estimated that the rice farmers in USA receive US$75,000 per household from the government in the form of direct payments.

In view of these developments many countries in the Asian region are reconsidering their policies on trade in agriculture and positioning themselves within the umbrella of AoA to protect the agricultural sector. Within this context it is important and timely for Bangladesh to assess its comparative position vis-à-vis other countries in the region, particularly with regard to India with whom Bangladesh has already had a huge imbalance in trade.

The objective of this paper is to present a comparative picture of the cost of production and prices of major crop sector outputs, and to assess the trade policies presently practiced by India. Hopefully the information will be useful to the government for devising appropriate policies for protecting the interest of the vast majority of low-income consumers and farm producers in the country.

II. CROP SECTOR: IMPORTANCE AND CONCERNS

The crop sector is of strategic importance to Bangladesh, as in most other low-income countries. It is the source of staple food for 130 million people and the major means of livelihood of 13 million farm households in the country. In 2000-01 the crop and horticulture sector contributed US $8,450 million to the economy, accounting for 18% of the gross domestic product (GDP) at current market prices. According to the report of the Household Income and Expenditure Survey-2000 conducted by the Bangladesh Bureau of Statistics, the consumers spent nearly US $9.8 billion on the crop sector output (Table 1), which comprises 25% of the private sector consumption expenditure in Bangladesh. Crop production activities generated 2,065 million person days, equivalent to full-time yearly employment of 7.9 million people in labor force. The average import of the crop sector output for the 1998-2000 period is estimated at US $1.2 billion, about 24% of the export earnings of the country. So any change in the domestic production and import for the sector following the liberalisation of trade would make a large impact on producers' and consumers' welfare, government's revenue earnings, the balance of trade and the rural sector employment situations.

TABLE 1: IMPORTANCE OF THE CROP SECTOR OUTPUT IN NATIONAL EXPENDITURE AND EMPLOYMENT, 2000

Crop sector output	National expenditure (US$ million)	Employment (million person days)	Imports	
			(US$ million, 1998-2000)	Percent of expenditure
Cereals	6,030	1,476	547	9.1
Pulses	430	49	85	19.8
Oils	575	52	473	82.3
Vegetables	1,398	266	0	-
Spices	1,092	145	30	2.7
Sugar & Gur	279	77	51	18.3
Total	9,804	2,065	1,186	12.1

Source: BBS, Report of the Household Income and the Expenditure Survey, 2000 and IRRI survey on cost and return in crop cultivation, 2000-2001.

A major issue concerned with the crop sector is the inflexibility of resources tied in production activities. Land is the dominant factor of production. Because of specific

agro-ecological situation that determine the suitability of land for the production of different crops, land cannot be easily shifted from one crop to another without some loss in yield. For example rice is the only crop that can be grown in low-lying land that remains submerged with water during the monsoon season. So whatever be the price of rice the farmer has no alternative but to grow aman rice during the wet season, while they can choose among alternative crops during the dry season depending on the relative productivity and profitability. The crop sector is also 'employer of last resort' and the main source of livelihood for the illiterate and low-educated people who do not have alternative employment opportunities. A reduction in price and the profitability for the crop sector activities may not necessarily lead to reallocation of labor to more productive activities outside the sector, an argument made by proponents of free trade. Under Bangladesh conditions it may lead to lower earnings for the farmers and lower wage rate for the agricultural laborers, thereby worsening the poverty situation in the country.

Another important issue regarding the trade and price policy in the crop sector is the balancing of interests for the producers and consumers. The crop sector is the source of production of staple food. Too much protection of the sector will raise food prices out of line in the international market that will benefit farmers at the cost of consumers, and vice-versa. A major concern for the government is maintaining stability in food prices, since price instability affects the food security of the poor. The bottom 40% of the rural households in the per capita income scale spends nearly 52% of their budget on the crop sector output, 35% on rice and wheat alone (Table 2). The corresponding numbers for the urban areas are 42% and 25% respectively. While the top 10% of the households in the income scale allocate 18% and 13% of their budget on crop sector output. Thus maintaining the price of the crop sector products at an affordable level is a major element in the strategy for poverty alleviation. Trade policies that allow consumers to access food

TABLE 2: AVERAGE BUDGET SHARE (%) OF THE CROP SECTOR OUTPUT FOR THE BOTTOM 40% AND THE TOP 10% OF HOUSEHOLDS IN RURAL AND URBAN AREAS

Crop sector output	Rural Area		Urban Area	
	Bottom 40%	Top 10%	Bottom 40%	Top 10%
Cereals	34.6	9.7	25.0	5.9
Pulses	1.8	1.0	2.1	0.9
Oils	2.4	1.2	2.4	1.1
Vegetables	6.9	2.8	6.4	2.0
Spices	4.9	2.3	4.5	1.8
Sugar & Gur	1.0	0.8	1.1	0.9
Total	51.6	17.8	41.5	12.6

Source: BBS, Household Income and Expenditure Survey-2000.

from the lowest cost source in the international market is thus important for the welfare of the low-income consumers, but it is equally important to protect them from large fluctuations in the prices of staple food in the world market. It is also important to maintain an incentive price for farmers to sustain the long-term growth in production of staple food, and the balance between the demand and supply for maintaining the stability in prices in the domestic market. A fair price for farm products is also important for poverty alleviation, since two-thirds of the farmers operate a size of holding of less than one hectare, which is incapable of generating the poverty level income.

III. UNIT COST OF PRODUCTION AND PRICES

This section provides a comparative picture of the cost of production of Bangladesh with the major exporting countries in the region for rice, and with India for non-rice crops. The data will reveal the position of Bangladesh with regards to unit cost of production and returns to land at current market prices for inputs and output.

The costs and returns data for Bangladesh was collected for 2000 crop seasons from a nationally representative sample of 1880 farm households from 62 villages belonging to 57 of the 64 districts. The original sample was drawn by the Bangladesh Institute of Development Studies (BIDS) in collaboration with the international Rice Research Institute (IRRI) in 1987 by using a multistage random sampling framework, taking random samples at the union, village and household levels. The 2000 survey was conducted by Socio-Consult Ltd for an IRRI sponsored study on determinants of rural livelihoods in Bangladesh. The data for India are obtained from Reports of the Commission for Agricultural Costs and Prices (CACP) and refers to the crop seasons

1998-99 and 1999-2000. The data for Thailand and Vietnam are obtained from the large-scale village studies conducted by IRRI and refer to the 2000 crop year.

The cost includes variables costs of production (all material inputs, irrigation charges and machine rental) and imputed value of family labor and family supplied animal power. The rental value of land and the depreciation of other fixed assets are not included because of the problem of comparing these values across countries. The Indian data shows that the costs on land and other fixed assets may account for an additional 60% of the costs. The net returns to land and other fixed factors per ha are estimated by multiplying the difference of the unit variable cost from the farm-gate price with the yield per ha, for comparison of returns from crop cultivation per unit of land across countries. For international comparison the values have been converted in US dollars using the exchange rate for the reference year. The details of the cost structure and the farm-gate prices can be seen from appendix tables. Key information as revealed from the data is reported below.

For rice, the variable cost of production per unit of output is the lowest for Punjab in India followed by Vietnam and Thailand (Table 3). For Bangladesh the cost of production is higher in the cultivation of boro rice than in aman rice. However, the cost for Bangladesh is lower than that in the neighboring Indian state of West Bengal. Comparison with Punjab and Andhra Pradesh is however more appropriate since most of the marketable surplus of rice in India is generated in those two States. Compared to Thailand, which is the largest rice exporter in the world market, the cost of production in Bangladesh is 62% higher for the dry season crop (boro) and 18% higher for the wet season (aman).

The farm-gate price as well as the margin for the farmer (price over variable cost) is however substantially higher in Bangladesh and India compared to Thailand and Vietnam (Table 3). Thai farmers can offer rice at a lower margin to consumers because of the substantially larger size of farm compared to other rice growing countries in Asia. The average farm size in Thailand is over 5 ha, compared to 0.68 ha in Bangladesh. Thus, even with lower margin per unit of output Thai farms could have substantially higher household incomes than Bangladeshi farmers. The farm-gate

price is 50% higher in Bangladesh compared to Vietnam and Thailand, and 15 to 20% higher than the Indian States of Punjab and Andhra Pradesh.

TABLE 3: UNIT COST PRODUCTION, FARM GATE PRICE AND FARM OPERATING SURPLUS IN PADDY CULTIVATION

Region, Year and season	Unit Cost (US $/ton)	Farm Gate Price (US $/ton)	Return to land & organisation (US $/ha)
India (1998-99)			
Punjab	47.95	113.25	345
Andhra Pradesh	69.00	119.28	244
West Bengal	93.28	135.28	151
Thailand (2000)			
Wet Season	65.74	100.23	79
Dry Season	53.62	91.52	158
Vietnam (2000)			
Wet Season	69.28	100.95	116
Dry Season	57.16	91.61	181
Bangladesh (2000-01)			
Wet Season	77.48	137.13	198
Dry Season	86.81	136.65	240

Source: For India, GOI (2002); for Thailand and Vietnam, IRRI survey on cost and return in crop cultivation, 2000; and for Bangladesh, IRRI survey on cost and return in crop cultivation, 2000-2001.

The above information indicates that Bangladesh will not be able to compete in the world market for rice at the prevailing costs and market prices. Considering the transport cost and trade margin, Bangladesh may be able to withstand competition from imports from India, but may not be able to do so from imports from Thailand and Vietnam.

For wheat, India (Punjab) is in a much superior position compared to Bangladesh (Table 4). The variable unit cost of production is about 129% higher in Bangladesh compared to Indian State of Punjab, and the domestic market price is higher by about 14%. The The Commission of Agricultural Costs and Prices (CACP) in India however reports that the economic cost of the procurement of wheat by the Food Corporation of India (FCI) is higher than the world market price. Thus, at current prices, Bangladesh cannot withstand competition from imported wheat from the world market.

TABLE 4: UNIT COST, FARM GATE PICE AND RETURNS TO LAND IN NON-RICE CROPS

Crop	Unit cost (US $/ton)		Farm Gate price (US $/ton)		Returns to land (US $/ha)	
	India	Bangladesh	India	Bangladesh	India	Bangladesh
Wheat	46.47	106.49	135	154	428	104
Pulses	106.23	118.64	308	311	180	148
Rape seed & Mustard	110.10	141.96	263	303	213	122
Jute	136.21	129.05	190	185	114	101
Sugarcane	8.26	16.06	15.47	30.19	571	573

Source: For India, GOI (2002); and for Bangladesh, IRRI survey on cost and return in crop cultivation, 2000-2001.

For sugarcane, Bangladesh's position is almost similar to the wheat. The unit cost of production is almost double in Bangladesh compared to India (Maharastra).

For rapeseed and mustard also India's (Rajasthan) position is better compared to Bangladesh. India's unit cost of production and farm-gate price is about 23% and 13% respectively lower than those for Bangladesh. India is a major importer of edible oil, as is Bangladesh. The domestic price of oil is determined more by the world market price and the rate of import duty, than by the domestic cost of production.

Only for pulses (lentil), Indian unit cost and prices are comparable with Bangladesh. So is the case with jute.

IV. FACTORS BEHIND THE DIFFERENCE IN UNIT COSTS

What are the reasons for the relatively high unit cost of production in Bangladesh for most of the crops? The most important factor is obviously the agro-ecological conditions and the development of irrigation infrastructure that determine the suitability of land for growing a particular crop. The other is the extent of adoption of improved production technologies. These two factors determine the level of crop yield. For HYV rice, the yield in Bangladesh is comparable to other countries in the region (Table 5). But there is potential for increasing the yield in the aman season and thereby further reducing the unit cost. For all other crops, Bangladesh has lower yield compared to that for the highest yielding state in India (Table 6). The difference is large for Wheat and Sugarcane.

TABLE 5: THE YIELD (T/HA) OF HYV RICE IN BANGLADESH COMPARED TO THE EXPORTING COUNTRIES IN THE REGION

Region	Yield (t/ha)
India	
Punjab	5.28
Andhra Pradesh	4.86
Thailand	4.17
Vietnam	4.71
Bangladesh	
Aman Season	3.33
Boro Season	4.83

Source: For India, GOI (2002); for Thailand and Vietnam, IRRI survey on cost and return in crop cultivation, 2000; and for Bangladesh, IRRI survey on cost and return in crop cultivation, 2000-2001.

TABLE 6: THE YIELD RATE (T/HA) OF NON-RICE CROPS IN BANGLADESH COMPARED TO INDIA

Crop	Bangladesh	India
Wheat	2.20	4.83
Lentil	0.77	0.89
Rape Seed & Mustard	0.76	1.39
Sugarcane	40.54	79.21
Jute	1.83	2.12

Source: For India, GOI (2002); and for Bangladesh, IRRI survey on cost and return in crop cultivation, 2000-2001.

The other source of the difference in cost is the prices of inputs. The prices of three major agricultural inputs -- urea fertilizer, irrigation and labor, can be seen from Table 7. The price of urea is about one-third lower in India, but are comparable in Thailand and Vietnam compared to Bangladesh. The difference in the price of fertilizer would not however make a large difference in unit cost of production, since chemical fertilizers account for only 15% of the total variable costs.

TABLE 7: PRICES OF AGRICULTURAL INPUTS

Region	Urea (US $/ton)	Wage rate (US $/day)	Irrigation (US $/ha)
India			
Punjab	107	1.60	32.34
Andhra Pradesh	126	1.41	18.35
Bangladesh	176	1.20	50.98
Thailand	165	5.21	17.93
Vietnam	170	1.64	26.38

Source: For India, GOI (2002); for Thailand and Vietnam, IRRI survey on cost and return in crop cultivation, 2000; and for Bangladesh, IRRI survey on cost and return in crop cultivation, 2000-2001.

There is a large difference in the cost of labor across countries. The wage rate varies from US $5.2 in Thailand to about US $1.2 in Bangladesh. The higher wage rate however does not necessarily lead to higher cost of production since the farmer adopts

mechanisation in response to the scarcity of labor. The Thai farmers now utilise only 6 to 8 days of labor per ha in rice cultivation, compared to about 140 days in Bangladesh, and 80 days in Vietnam. Indeed, the substitution of agricultural machinery for human labor and animal draft power contributes to a reduction in unit cost of production. In Thailand and Indian Punjab where the extent of mechanisation is high the cost of production on account of power is the lowest (Table 8).

TABLE 8: COST OF PADDY PRODUCTION ON ACCOUNT OF POWER

Region	Machine Rented (US $/ha)	Human & Animal Labor (US $/ha)	Total Cost on Power (US $/ha)	Wage Rate (US $/day)
Thailand	65.71	33.67	99.38	5.21
Punjab	52.45	90.65	143.10	1.60
Andhra Pradesh	28.56	197.29	225.85	1.41
West Bengal	15.24	231.08	246.32	1.23
Bangladesh	22.58	180.67	203.25	1.20
Vietnam	44.40	104.42	148.82	1.64

Source: For India, GOI (2002); for Thailand and Vietnam, IRRI survey on cost and return in crop cultivation, 2000; and for Bangladesh, IRRI survey on cost and return in crop cultivation, 2000-2001.

The cost of irrigation is the major contributing factor behind the high-cost of rice cultivation in Bangladesh, particularly for boro rice. Irrigation accounts for 28% of the variable costs of rice cultivation, compared to 13% in Punjab, eight per cent in Thailand, and six per cent in Vietnam. The low cost of irrigation in other countries is mostly due to the subsidised supply of electricity (India) and the subsidised public sector investment in the construction and the operation and maintenance of large-scale irrigation projects. In Indian Punjab electricity is provided free for tube well irrigation and the farmer is also provided free water from irrigation canals. In Bangladesh the major source of irrigation is the privately owned shallow tube wells and power pumps, mostly run by diesel. The diesel has now become a major agricultural input in the cultivation of boro rice, and the cost of boro cultivation is very sensitive to the price of diesel.

V. COMPARATIVE ADVANTAGE IN CROP PRODUCTION

Whether a country can take advantage of new trading opportunities under the World Trade Organisation (WTO) would depend on its comparative advantage. In most developing countries, social or economic profitability deviates from private profitability because of distortions in the input and output markets, the import and export duties, and the valuation of the domestic currency. Comparative advantage in the production of a given crop is measured by imputing the value of production at the

border price (world market price adjusted for transport cost and trade margins) and comparing it with the social and opportunity cost of producing, processing, transporting, handling and marketing an incremental unit of the commodity. If the opportunity cost is less than the border price, then the country has a comparative advantage in producing that crop.

Several studies (Mahmud et al. 1994; Morris et al. 1997; Roy, 1999; Shahabuddin 2000; Shahabuddin 2002; Shahabuddin and Dorosh 2001; Shahabuddin et al. 2002; Shilpi 1998) estimated the comparative advantage of various crops in Bangladesh for different ecologies and irrigation systems. The most recent studies (Shahabuddin et al. 2002; Shahabuddin 2002) using recent input-output prices, market distortions and production coefficients show that:

- At export parity price Bangladesh has comparative advantage in the production aman rice, jute and vegetables. Bangladesh can gain from the increase in production of these crops provided that the surplus production could be exported in the world market.
- At import parity price Bangladesh has comparative advantage in the production of boro rice, potato, lentil and onion. Bangladesh will not be able to compete in the export market for these commodities. But because of the transport cost and trading margin, the cost of importing these commodities into Bangladesh would be higher than the opportunity cost of producing them within the country.
- Bangladesh does not have comparative advantage in the production of wheat, oil seeds, sugarcane and spices. The country will gain by importing these commodities, if the resources tied in the production of these commodities can be diverted to the production of other crops.

VI. TRADE POLICY IN INDIA

The estimation of comparative advantage assumes complete liberalisation of markets so that the prices of inputs reflect their true opportunity cost and the prices of output reflect the opportunity cost of production, processing, transport and trade. But the countries do not necessarily follow such policies. The countries can raise many barriers to trade and push subsidised exports without violating the provisions of the WTO. In Asia, the bindings of tariff permitted by WTO are still higher than the

prevailing tariff rate. For example, for India the bound rate is 114% while the applied rate is 13%. Since India is the closest neighbor with competitive economic structure, Indian trade policy must be considered in any design of the trade liberalisation policy in Bangladesh.

It is well-known that the preferred policy in India has been to provide a minimum price support within a restrictive trade regime. The Commission of Agricultural Costs and Prices (CACP) recommend the minimum support prices keeping in view the cost of production, the gross revenue in competing crops, farmers' terms of trade, and three to five yearly average price of the crop in the world market.

The CACP notes, "At current prices US farmers just covers the variable costs and family wages, and is able to remain in cultivation because of large subsidies unrelated to prices and production (permitted under WTO) that covers fixed costs. Free imports would subject Indian farmers to unfair competition since large subsidies cannot be afforded by a low-income country like India". In its 1998 report the Commission noted that if India were required to phase out quotas in international trade in agricultural commodities domestic prices might become subject to the much more volatile price movements in the international commodity markets (Table 9). So, there is a need for greater coordination of trade policy with domestic agricultural price policy, and establishing a trade regime based on variable tariffs for both imports and exports.

TABLE 9. WORLD MARKET PRICE (F.O.B.) FOR SELECTED PRODUCTS

(US $/ton)

Year	Rice	Wheat	Palm oil	Gram
1993-94	191	132	445	475
1994-95	219	145	651	463
1995-96	290	198	523	508
1996-97	276	158	526	315
1997-98	247	129	601	344
1998-99	250	100	486	343
1999-00	211	97	309	288
2000-01	167	101	214	325

In India rice is now freely exportable subject to registration of contracts with Agriculture and Processed Food Products Export Development Authority (APEDA). India has accumulated a huge stock of rice and wheat due to the policy of compulsory procurement of food grain under the minimum support prices. India's economic cost

of procurement of rice is higher than the price of rice of similar quality in the export market. In order to push rice exports the government of India has taken a decision to release stocks from the FCI to private exporters at a subsidised rate of US $127 per ton (milled rice) while the economic cost is US $253. This policy will expose the Bangladeshi rice market to dumping by Indian exporters.

Previously, imports of rice were canalised through FCI. The Export Import Policy (EXIM) of 2001-02 has scrapped the policy of canalisation of rice and other cereals and reserved their imports only for state trading agencies, and has increased the import duty of 80% on husked rice and 70% on milled rice. Given the high duty levels, there is little or no possibility of commercial import of rice even at a very low level of international prices.

Since 1998-99 Indian wheat has remained uncompetitive in the world market. In 2000 the economic cost of wheat to FCI was US $183 compared to the world market price of US $114 per ton. The export of wheat continues to be subjected to quantitative restrictions and is permitted only against a license. The FCI is permitted to export wheat at the highly subsidised rate of US $90 per ton, which was half the economic cost of wheat to FCI. This was done in order to relieve the pressure of mounting stocks in the face of low domestic demand and very low international prices.

To prevent a surge in imports and destabilisation of the domestic market, the government imposed for wheat an import duty of 50% in November 1999. Like rice, the import of wheat has also been placed under the state-trading list. As a consequence of a high level of duty, imports virtually dried up during the 2000-02 period.

Imports of coarse cereals used to be canalised at zero duty. Since April 2000, a basic duty of 50% plus a supplementary additional duty of four per cent was imposed on the imports of maize seed, sorghum and millet. With effect from June 2000, the government fixed a tariff quota of 0.35 tons of maize at a basic duty of 15%, subjecting such imports to registration cum allocation procedures of APEDA. Under the policy of 2001-02 coarse cereals are importable only by state trading agencies.

India is an exporter of lentils but a net importer of pulses (Table 10). The import duty was reduced from 10 to 5% in 1995. During 1998-2000 imports of pulses was allowed freely at zero duty. In the Union Budget of 2001-02, a duty of five per cent was imposed on imported pulses.

TABLE 10: IMPORT OF PULSES AND EDIBLE OIL BY INDIA

('000 Tons)

Year	Pulses		Edible oil (Import)
	Export	Import	
1991-92	26	313	226
1992-93	34	383	103
1993-94	44	628	114
1994-95	51	554	347
1995-96	61	486	1,062
1996-97	55	655	1,417
1997-98	171	1,008	1,266
1998-99	104	563	2,621
1999-00	182	253	4,196

Source: GOI (2002), pages 255 and 258.

The Indian government followed a liberal import policy of edible oils in the 1990s. As a result the import of edible oils has increased substantially (Table 10). But the policy has been reversed since 1999 when a 15% duty was imposed. In the budget of 2001-02, the rate of duty on crude oils was raised from the range of 35 – 50% to a uniform 75%, and on refined oils from the range of 45-65% to 75-85%. The lower rate of 45% applies to soybean oil on account of WTO binding.

The above review of India's trade policy suggests three main points:

- India has turned backwards from the policy of liberalisation initiated in the early 1990s. External trade has been brought back under the state trading agencies from private traders.
- For staple grains India follows a policy of subsidised exports and highly restrictive import policy.
- For pulse and oilseeds for which the demand exceeds supply India has followed a liberal import policy, although in recent years the import duty has been raised substantially.

VII. IMPLICATIONS FOR BANGLADESH'S TRADE POLICY

Findings of this study have important implications for trade policy of Bangladesh. Studies on comparative advantage for the crop sector activities in Bangladesh show that Bangladesh does not have comparative advantage in the production of wheat, sugarcane, rapeseed and mustard, chilies and certain pulses. Bangladesh may allow unrestricted import of those commodities for the benefit of the consumers.

Although Bangladesh has comparative advantage in the production of HYV rice, the unit cost of production is relatively higher that the rice exporting countries in the region. India now promotes export of rice and wheat under special incentives given to the exporters that subsidises almost half of the economic cost. Government should take appropriate measures to protect the Bangladeshi farmers from dumping of Indian rice in the domestic market. These may include increase in tariff rate with in the bound rate. However, increase in tariff rate should not be very high since it protects the farmers at the cost of consumers and consumption of poor household decreases when rice price is increased. Bangladesh may also increase regulatory duty and may even consider imposition of anti-dumping duty.

A major factor behind the high unit cost of production of the HYV rice in Bangladesh is the cost of irrigation compared to the other countries in the region. As mentioned earlier, Bangladeshi farmers have to spend about 51 US dollars in irrigating one hectare land whereas the irrigation cost are about 32 dollars in Punjab, India and 18 dollars in Thailand and 26 dollars in Vietnam. India provides heavy subsidy on electricity that lowers the cost of irrigation. In other countries, the government subsidies the large scale public sector irrigation project. Recent (January 2003) price hike of diesel will surely increase the cost of irrigation. Considering these realities, Bangladesh should provide subsidy on diesel to reduce the cost of ground water irrigation and pursue a stable price of diesel. If the international price is up, the price should remain as it is and the government should take back the bucks during a slump in the international market. Bangladesh should also pursue a policy of rapid expansion of rural electrification to facilitate electricity connection to irrigation and thereby reduce the cost of irrigation.

Rice production drastically falls in Bangladesh during periods of natural disasters and the supply of rice becomes scarce leading to abnormal rise in prices, which affects the livelihood of the rural landless and the marginal farmers. The government allows import by the private sector to cope with the situation. Government should follow a policy of variable tariff rate in the annual budget on the basis of the assessment of the previous aman and boro harvest, and the prevailing world market prices.

India is now importing foodgrain through state trading agency Food Corporation of India (FCI). Considering the past experience of state trading agencies, Bangladesh should not follow the path of India for food grain imports rather government should regularly monitor the export import situation and should regulate trade through flexible tariff rate and L/C margin.

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Appendix Tables:

TABLE A.1: COST OF PRODUCTION IN THE CULTIVATION OF PADDY IN INDIA & BANGLADESH

(US $/ha)

Cost Items	India			Bangladesh	
	Punjab	Andhara Pradesh	West Bengal	Aman HYV	Boro HYV
	1998-99	1998-99	1998-99		
Seed	11.31	15.38	15.24	15.33	17.78
Fertilizer	40.60	50.74	27.94	38.52	62.00
Manure	4.97	14.56	15.21	2.45	5.22
Pesticides	20.85	10.12	5.52	7.42	13.02
Irrigation	32.34	18.35	26.05	24.90	117.60
Machine rental	52.45	28.56	15.24	17.07	22.58
Animal labor	0.57	16.56	39.35	16.07	14.57
Human labor	90.08	180.73	191.73	135.83	166.10
Total cost	253.17	335.00	336.28	257.59	418.87
Yield (t/ha)	5.279	4.855	3.605	3.325	4.825
Unit Cost ($/ton)	47.95	69.00	93.28	77.48	86.81
Price ($/ton)	113.25	119.28	135.28	137.13	136.65

Source: For India, GOI (2002); for Bangladesh, IRRI survey on cost and return in crop cultivation, 2000-2001.

TABLE A 2: COSTS OF CULTIVATION OF PADDY IN THAILAND, & VIETNAM

(US $/ha)

Cost Items	Thailand		Vietnam	
	Wet Season	Dry Season	Wet Season	Dry Season
Seed	18.46	25.79	20.03	21.35
Fertilizer	25.17	56.43	56.08	58.27
Manure	0.54	0.63	0.83	0.81
Pesticides	5.34	24.28	26.52	27.22
Irrigation	1.45	17.94	6.98	17.98
Machine rental	65.71	67.15	42.36	44.40
Human labor	30.44	27.33	102.02	104.42
Other costs	3.23	4.10	-	-
Total cost ($/ha)	150.34	223.65	254.82	274.45
Yield (t/ha)	2.287	4.171	3.678	4.713
Unit Cost ($/ton)	65.74	53.62	69.28	58.22
Price ($/ton)	100.23	91.52	103.42	100.95

Source: IRRI survey on cost and return in crop cultivation, 2000.

TABLE A 3: COST OF PRODUCTION IN THE CULTIVATION OF WHEAT IN INDIA AND BANGLADESH

(US $/ha)

Cost Items	Punjab	Haryana	Uttar Pradesh	Madhya Pradesh	Bangladesh
Seed	17.19	22.25	26.83	22.85	34.74
Fertilizer	53.81	44.79	37.39	23.15	55.98
Manure	0.68	-	1.24	0.30	7.71
Pesticides	15.53	10.31	0.21	0.00	0.63
Irrigation	6.19	24.60	28.34	22.22	32.89
Machine rental	60.87	56.12	44.38	25.77	21.81
Animal labor	0.55	3.43	8.73	12.32	16.17
Human labor	69.82	78.18	76.35	50.78	64.14
Total cost	224.64	239.68	223.47	157.39	234.07
Yield (t/ha)	4.834	4.479	3.352	1.985	2.198
Unit Cost ($/ton)	46.47	53.51	66.67	79.29	106.49
Price ($/ton)	134.92	135.06	133.07	156.26	153.86

Source: For India, GOI (2002); for Bangladesh, IRRI survey on cost and return in crop cultivation, 2000-2001.

TABLE A 4: COST OF PRODUCTION OF PULSES IN INDIA & BANGLADESH

(US $/ha)

Cost Items	India				Bangladesh (All pulses)
	Mung Maharastra	Black gram Madhya Pradesh	Gram Madhya Pradesh	Lentil Madhya Pradesh	
Seed	9.83	8.18	28.06	20.72	16.61
Fertilizer	8.94	3.36	9.41	8.93	2.27
Manure	3.90	1.62	-	-	-
Pesticides	0.51	-	4.37	0.27	-
Machine rental	5.19	5.93	18.34	20.48	8.65
Animal labor	25.78	18.78	12.65	6.97	28.67
Human labor	56.25	46.49	39.25	37.60	35.27
Total cost	110.40	84.40	112.08	94.97	91.47
Yield (t/ha)	0.562	0.507	0.985	0.894	0.771
Unit Cost ($/ton)	196.44	166.46	113.78	106.23	118.64
Price ($/ton)	364.50	259.26	230.10	307.92	311.14

Source: For India, GOI (2002); for Bangladesh, IRRI survey on cost and return in crop cultivation, 2000-2001.

TABLE A 5. COSTS OF PRODUCTION OF RAPE SEED AND MUSTARD IN INDIA & BANGLADESH

(US $/ha)

Cost Items	Gujarat	Uttar Pradesh	Rajasthan	Bangladesh
Seed	2.81	4.08	2.95	3.40
Fertilizer	30.25	21.41	20.60	12.64
Manure	1.65	7.76	0.38	2.17
Pesticides	4.02	0.18	0.35	1.07
Irrigation	62.28	15.81	17.76	0.15
Machine rental	28.94	25.94	35.80	20.84
Animal labor	4.94	7.90	2.91	17.43
Human labor	58.91	69.96	57.48	49.86
Total cost	193.80	153.04	138.23	107.56
Yield (t/ha)	1.204	1.390	1.172	0.757
Unit Cost ($/ton)	160.96	110.10	117.94	141.96
Price ($/ton)	254.58	263.15	259.00	303.20

Source: For India, GOI (2002); for Bangladesh, IRRI survey on cost and return in crop cultivation, 2000-2001.

TABLE A 6: COST OF PRODUCTION OF SUGARCANE AND JUTE IN INDIA & BANGLADESH

(US $/ha)

Cost Items	Sugarcane			Jute	
	Uttar Pradesh	Maharastra	Bangladesh	West Bengal	Bangladesh
Seed	44.08	87.18	193.26	8.53	12.91
Fertilizer	40.63	113.96	114.63	13.86	22.07
Manure	12.97	12.82	5.11	5.31	2.00
Pesticides	0.83	-	27.69	3.85	6.17
Irrigation	28.93	91.50	24.02	2.38	1.54
Machine rental	14.40	67.71	75.28	6.69	23.09
Animal labor	8.92	28.20	25.57	29.50	18.94
Human labor	178.46	252.81	185.67	218.64	149.18
Total cost	329.30	654.18	651.23	288.76	235.90
Yield (t/ha)	49.08	79.12	40.54	2.120	1.828
Unit Cost ($/ton)	6.70	8.26	16.06	136.21	129.05
Price ($/ton)	18.90	15.47	30.19	190.05	184.53

Source: For India, GOI (2002); for Bangladesh, IRRI survey on cost and return in crop cultivation, 2000-2001.