Towards Economic Integration in South Asia: The Bangladesh Perspective

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Abstract

The paper highlights the present state of economic integration in South Asia. It discusses from the perspective of Bangladesh, the potential for enhancing regional cooperation in trade, power and transport infrastructure. For promoting intra-regional trade, the paper recommends for dismantlng the prevailing non-tariff and para measures, improving the rules of origin criteria and adopting appropriate trade facilitation measures. For enhancing greater investment flows within the region, the paper highlights the need for establishing a SAARC Investment. Area. The paper lays emphasis on the need for promoting regional cooperation in the power sector, in particular to harness the immense hydro-power potential of the region. Promotion of cooperation in transport in the region receives a special emphasis in the paper, which recommends for drawing up an integrated plan to bring about better linkages through road, rail, air, waterways and coastal shipping routes. The paper considers it imperative for Bangladesh to join the Asian Highway. It also calls upon all SAARC countries to develop transit arrangements, as per the commitment of the SAARC charter, based on bilateral and/or multilateral agreements with adequate safeguards for member countries.

1. The Context of Economic Integration in South Asia

Economic integration in general is a process of removing progressively the discriminations which occur at borders. Such discrimination may affect the flow of goods and services, and the movement of factors of production. Economic integration derives from the synergies generated by various areas of interaction between countries, ranging from macroeconomic policy harmonization to

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cooperation in trade and investment, to integration of physical infrastructure. The theories of economic integration based on the work of Viner, Mende, Lipsey and others have predicted two opposite outcomes, arguing that in the short-run, trade creation effects must outweigh trade diversion effects in order to achieve beneficial result of trade liberalization. Apart from short-run benefits, there are also long-run benefits such as greater technical efficiency due to greater competition, larger markets, higher consumer surpluses, and more foreign investment. Balassa identified five main stages of regional economic integration such as free trade area, customs union, common market, economic union and total economic integration. South Asia has entered into the first stage of economic integration i.e. free trade area.

In South Asia, opportunities for regional cooperation are enormous; they have to be exploited. However, economic integration process in South Asia is often viewed with skepticism and perceived as one perpetuating asymmetries further in some member countries, including Bangladesh. These apprehensions have affected the pace of economic integration in South Asia. Therefore, there is a need for better understanding among member countries about the gains from the regional economic integration and opportunity cost of non-cooperation. It is pertinent to mention that at the 11th South Asian Association for Regional Cooperation (SAARC) Summit held at Kathmandu in January 2002, the SAARC leaders made the commitment for the creation of a South Asian Economic Union, which was reiterated in the 12th SAARC Summit held at Islamabad in January 2004. Against this background, this paper attempts to highlight the present status and potentials of economic integration in South Asia from the perspective of Bangladesh. Three areas of regional economic integration covered in this paper are (1) trade, (2) power and (3) transport infrastructure. Regional cooperation in energy and infrastructure could yield dividends in terms of cross-border investments and joint ventures (World Bank, 2006a).

2. Regional Cooperation in Trade

It is natural for neighboring countries to trade extensively among themselves. But geographical proximity does not seem to have worked in South Asia.¹ Officially recorded intra-regional trade as a ratio of South Asia's total foreign trade was only 5.3 percent in 2004 (Table 1).

¹ This situation is what Lahiri (1998) calls inverse regionalism.

Country/Region	1985	1990	1995	2000	2004
Bangladesh	4.7	6.0	12.8	7.9	10.5
India	1.7	1.6	2.7	2.5	3.0
Maldives	12.5	12.7	14.3	22.2	19.8
Nepal	34.3	11.9	14.8	22.3	47.2
Pakistan	3.1	2.7	2.3	3.6	5.0
Sri Lanka	5.5	5.6	7.8	7.4	15.1
South Asia	3.0	2.7	4.2	4.0	5.3

Table 1 : Officially Recorded Intra-Regional Trade in South Asia (% of Total Trade)

Source: Asian Development Bank 2006

For individual countries, the intra-regional trade ratio varied from a low of 3.0 percent for India and 5.0 percent for Pakistan to a high ratio of 10.5 percent for Bangladesh and 47.2 percent for Nepal. Intra-regional trade in South Asia is relatively low compared with other regions. Intra-regional trade accounted for 67 percent of the total trade for EU, 62 percent for NAFTA and 26 percent for ASEAN (Burki, 2005). The main reason for the low intra-regional trade in South Asia is the very low share of its member countries in India's trade: currently just around 1 percent of India's recorded imports and 6 percent of its exports. Most of the regional trade in South Asia is between India (which accounts for more than 80 percent of the region's GDP, population and trade) and other SAARC countries.

2.1 Major Initiatives towards Trade Integration in South Asia

The issue of regional cooperation in the field of trade has been one of the major concerns of the SAARC countries. Obviously, economic and trade policy reforms implemented by individual SAARC member countries over the last decade have contributed to creating a conducive environment for closer cooperation in trade. As a part of this regional arrangement, member countries successively took several initiatives to sponsor and develop a common market that would lead to the SAARC Economic Union. This section provides a brief overview of the two major trade related initiatives, namely, SAARC Preferential Trading Arrangement (SAPTA) and South Asian Free Trade Area (SAFTA) Agreement.

2.1.1 SAPTA

The Framework Agreement on SAPTA was signed during the Seventh SAARC Summit held in Dhaka in April 1993 (but operationalized in December 1995) and expired in December 2003. The main objectives of this intra-regional trade arrangement were to expand domestic markets, augment bilateral trade, and therefore, fuel economic development in the region. A total of 5,550 tariff line concessions were included in the arrangement. The depth of the tariff concessions ranged between 5 and 100 percent. The SAPTA was ground breaking in the sense that all negotiations were conducted on an item-by-item basis. Least developed countries (LDCs) also received preferential treatment in the form of lower tariffs and other benefits. The SAPTA also contained anti-dumping clauses which suspended concessions to the perpetrators of such dumping. Besides, SAPTA allowed member countries to withdraw from the agreement in case they faced balance of payments related difficulties. This provision aimed at minimizing intra-economy economic disruptions. Further, SAPTA deferred other bilateral or multilateral agreements that contracting countries were signatory to. In doing so, it sought to harmonize itself with other trade agreements.

In spite of the above mentioned measures, SAPTA proved to be structurally weak in addressing and resolving intra-regional trade related disputes. Limited coverage of SAPTA concessions, non-tariff and bureaucratic hindrances and political tensions in the region constrained the countries in deriving benefits from this arrangement.

2.1.2 SAFTA

The shared commitment of SAARC countries to regional trade promotion has now been institutionalized following the signing of the Framework Agreement on SAFTA at the 12th SAARC Summit held in Islamabad in January 2004. It has become operational from January 1, 2006 after completion of national ratification by all member countries. Tariff reduction under SAFTA commenced from 1 July 2006.

In contrast to SAPTA, SAFTA has a well-defined approach towards trade liberalization. Particularly, SAFTA has been designed and expected to provide member countries with improved market access, boost their exports in the region, and thereby, improve their intra-regional trade balance positions. It also specifies time-staggered tariff reductions for each member country. As a part of this, India and Pakistan are mandated to reduce their tariffs from existing levels to 20 percent within two years effective from January 2006. Subsequently, they are to come

down to 0 to 5 percent range from 2008 to 2013. For LDC members, the tariff reduction schedule is more flexible. They are to reduce their tariffs to 30 percent in the first two years of the agreement. The time period for the second stage of reductions, at the end of which tariff levels are to be reduced to 0 to 5 percent levels, is eight years, i.e., will be achieved by 2016. In the context of tariff reductions, Bangladesh will have access to (i) India in 4,461 tariff lines; (ii) Sri Lanka in 4,159 tariff lines; (iii) Pakistan in 4,041 tariff lines; (iv) Nepal in 3,925 tariff lines; (v) Bhutan in 5,067 tariff lines; and (vi) Maldives in 4,553 tariff lines.

In the context of trade-related dispute resolution, SAFTA goes a step further than SAPTA in stipulating that the anti-dumping and safeguard provisions of SAFTA cannot be invoked against a product originating in an LDC provided its share in exports to the contracting country does not exceed 5 percent of its total imports. However, as in the case of SAPTA, no institutional or legal mechanisms for dispute settlement exist and both the Committee of Experts (COE) and the SAFTA Ministerial Council (SMC) will continue to devise procedures on a caseby-case basis. Besides, SAFTA addresses a broader range of trade related issues as compared to SAPTA, particularly, the harmonization of standards and certification, reciprocal recognition of tests and accreditation of testing laboratories of contracting countries, customs clearance procedures and classification, transit and transport facilitation, rules for fair competition, and foreign exchange liberalization. Similar to the SAPTA, member countries are allowed to maintain higher tariffs for sensitive lists of commodities on industry protection grounds and pull back from the agreement due to balance of payments related difficulties.

SAFTA Agreement contains specific provisions aimed at safeguarding the interest of an LDC like Bangladesh, which are as follows:

- Period of implementation of tariff reduction program by LDCs is 10 years starting from 1 January 2006, which is much longer than the period of tariff reduction by Non-LDCs in favor of LDCs.
- LDCs have been given the opportunity to maintain the larger sensitive list than that of Non-LDCs.
- A mechanism for compensation of revenue loss to be incurred by LDCs due to tariff reduction has been established.

However, the extent of benefits under SAFTA to be accrued to Bangladesh may be assessed by analyzing the following three issues:

- 2.1.2.1 Trade liberalization
- 2.1.2.2 Trade complementarity Revealed Comparative Advantage Approach
- 2.1.2.3 Intra-industry trade

2.1.2.1 Trade Liberalization

Trade liberalization issues cover the following points:

- Coverage of the sensitive lists of other countries;
- Tariffs at the end of implementation period;
- Bangladesh's ability to comply with the rules of origin criteria; and
- Level of para-tariffs and non-tariff barriers (NTBs) in SAARC countries

Sensitive lists. A review of the sensitive lists of other countries reveals that most of the countries incorporated the items of export interest to Bangladesh in their sensitive lists (Table 2).

Commodity	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
Woven Garments	Only 3 tariff lines	Yes	Only 4 tariff lines	Yes	Yes	No
Knitwear	No	Yes	Only 4 tariff lines	Yes	Yes	No
Tea	No	Yes	Yes	Yes	Yes	Yes
Leather	No	No	No	No	No	No
Frozen food	No	Yes	Yes	Yes	No	Yes
Raw Jute	No	No	No	No	No	No
Jute products	No	No	No	Yes	Yes	No
Fertilizer	No	No	No	No	No	No

 Table 2 : Major Export Items of Bangladesh in the Sensitive Lists of Other SAFTA Members

Source: Khan, Mostafa Abid, 2007

There is an apprehension that SAFTA will not be able to enhance intra-regional trade because of the big size of the sensitive lists of all the countries in the region (Table 3).

Tariffs at the end of the implementation period. Regarding tariffs to be applied at the end of the implementation period, the declaration of the Indian Prime Minister during the Fourteenth SAARC Summit held in New Delhi in April 2007

Country	Total number of prod	Coverag % of To	otal HS Lines	
	For Non-LDCs	For LDCs	For Non-LDCs	For LDCs
Bangladesh	1,254	1,249	24.0	23.9
Bhutan	157	157	3.0	3.0
India	865	744	16.6	14.2
Maldives	671	671	12.8	12.8
Nepal	1,313	1,304	25.6	24.9
Pakistan	1,191	1,191	22.8	22.8
Sri Lanka	1,065	1,065	20.7	20.7

Table 3 : Size of Sensitive Lists under SAFTA

Source: Ministry of Commerce, Government of Bangladesh

to provide duty-free access to LDCs by the end of this year indicates that the final tariff of India for the products of LDCs is likely to be zero. However, in case of others, it is not certain. As per customs notification issued by Pakistan, Pakistan even fixed the tariff at 5 percent on the products, which are subject to 5 percent MFN tariff at present. This clearly indicates that Pakistan is unlikely to reduce its tariff below 5 percent on the rest of the products.

Rules of origin criteria. While the SAPTA required 30 percent local value addition for LDCs, the Agreement on SAFTA, which was supposed to be a forward movement from SAPTA, requires fulfilling the criterion of Change of Tariff Heading (CTH) in addition to 30 percent local value addition. As a result, rules of origin criteria under SAFTA have become more stringent than that under SAPTA. Similar is the case for rule on regional cumulation as well, which requires 50 percent regional content with minimum 15 percent local value addition. However, in order to assess the effect of rules of origin criteria, there is a need for an in-depth study for assessing local value addition in the manufacturing sector of the Bangladesh economy.

Level of para-tariffs and NTBs. The level of protection in the form of para-tariffs and NTBs within the SAARC region remains high in all countries except Sri Lanka (World Bank 2006b). Given that South Asia is the most protected region of the world, Bangladesh faces considerable risk of trade diversion effects from SAFTA Agreement. This is because such regional trading arrangement (RTA) may lead to shifting of the source of imports away from least cost/most efficient third counties to higher cost member countries. It is, therefore, important that Bangladesh and other South Asian countries should continue to reduce the high level of protection by dismantling the existing para-tariffs and non-tariff barriers.

2.1.2.2 Trade Complementarity- Revealed Comparative Advantage Approach

The success of an RTA an often considered to be positively related to the diversity in the structure of comparative advantage of member countries. Most studies suggest a similarity in the pattern of comparative advantage and export interests, and conclude that Bangladesh, India, Nepal and Pakistan have comparative advantage in similar categories of food and live animals, basic manufactures, and miscellaneous manufactures (USAID, 2005). But in comparison with other South Asian countries, the range of products over which India has a comparative advantage is wide.

According to Kemal et al. (2000), in a study of the period 1985-1995, India can export products ranging form food items to machinery and transport equipment to other countries in South Asia and has reasonable potential to meet their import needs. The degree of trade complementarity has increased for Bangladesh and India and is higher than that of other countries in the region. Batra and Khan (2005), using data for 2000, show that India has a comparative advantage in 41 of 97 sectors in the Harmonized System two-digit classification. Thus, the SAARC countries' revealed comparative advantage in similar types of products remains one of the major constraints for promoting trade integration in South Asia.

2.1.2.3 Intra-Industry Trade

Intra-industry trade models suggest that large scale trade is possible among countries with similar factor endowments provided that these countries engage in the exchange of differentiated products of the same industry or broad product group. In general, intra-industry trade arises in order to take advantage of economies of scale in production. The hypothesis is that high intra-industry trade in terms of both value of the index as well as value of bilateral trade in similar products provides opportunity to shift form trade to investment and vice versa.

Gains may accrue through intra-industry trade between India and the other SAFTA nations. According to Mukherji (2004), the twin characteristics of high bilateral trade as well as high value of index of intra-industry trade should be considered to suggest that Indian manufacturing industries could possibly move to neighboring countries either as joint ventures or as wholly owned subsidiaries. Mukherje (2004) presents India's intra-industry trade with Bangladesh, Bhutan, Maldives, Nepal, Pakistan and Sri Lanka. He has identified as many as 63

products of 8 digit HS code in which Indian entrepreneurs could set up joint ventures and wholly owned subsidiaries in Bangladesh. For example, the manufacturing of shirts, not hand printed (HS 62053002), tanned or crust hidesgrains finished (HS 41043101), sacks and bags of other plastics (HS 39232900), other finished tanned leather (HS 41061909) etc. could provide opportunities for Indian entrepreneurs to set up joint ventures and wholly owned subsidiaries in Bangladesh.

Despite the above constraints, SAFTA has opened a new possibility for trade integration within the South Asian region. However, the progress of economic cooperation is slower than expected in part reflecting the diversity of interests in the region and tensions between some member countries of SAARC. Therefore, sub-regional cooperation among a subset of the member countries became a possible modality for advancing economic cooperation in South Asia. In 1996, the South Asian Growth Quadrangle (SAGQ) was formed with Bangladesh, Bhutan, India² and Nepal to accelerate sustainable economic development among these four countries. These countries have strategic advantages namely, geographical proximity, economic complementarities, socio-cultural cohesiveness and a potential for opening up further to the ASEAN region favoring greater sub-regional economic integration. This sub-regional modality under the SAARC framework was endorsed at the Ninth SAARC Summit held in Male on 14 May 1997.

3. Regional Cooperation in Power

South Asia abounds in commercial energy resources in the form of hydropower, coal and natural gas. Hydropower potential in India, Pakistan, Nepal and Bhutan is very high. Bangladesh is rich in gas resource. India has plenty of coal resources. The present level of development and utilization of these vast resources in the region is abysmally low compared to what is required to raise the peoples' living standards to reasonable levels. This calls for taking measures to accelerate commercial energy development in the region. This can have the positive effect

The North-Eastern India has featured prominently for economic integration in SAGQ, which comprises Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura (seven sisters). These states have geographical proximity, economic complementarities and socio-cultural cohesiveness with Bangladesh. These states are rich in natural resources, may have joint venture industries with Bangladesh, and may also become potential markets for Bangladeshi products. On the other hand, India's closer economic integration with Bangladesh may be seen as an important way of reducing the economic and political isolation of the seven sisters from the rest of India.

of reducing dependence on petroleum imports, relieving stress on foreign currency and balance of payments and ensuring greater energy security for the region in general. Complementarities abound not only in the diversity of resource endowment but also in the seasonal characteristics of the supply and demand for power, geographical proximities of demand centers and technological base of the power industry. All these can be usefully integrated to benefit the participating countries of the region. Outside the immediate borders of the region are enormous reserves of oil and gas that could be piped to the region, provided there is agreement among the countries on transit energy trade. These reserves are available in the Central Asian countries and Iran. In this paper we focus on regional cooperation in power.

3.1 Cross-Border Interconnection of Power Systems

Today, while India-Nepal and India-Bhutan have interconnected their power systems at various points, the Bangladeshi grid remains isolated from its neighbors. Interconnecting the Bangladeshi and Indian power grids is an important prerequisite for regional energy trading. It would also substantially enhance the energy security for both Bangladesh and India.

It would appear that connecting sub-stations in the east, west, and north of Bangladesh with the sub-stations located in Tripura, Mizoram, West Bengal, Assam, and Meghalaya in India can reduce transmission and distribution (T&D) losses, improve the reliability of supply, and help stabilize the grids of both countries. The approximate distances and estimated capital costs of the border power grid sub-stations that could be interconnected are shown in Table 4.

In 2006, Nexant conducted a pre-feasibility study for exploring the possibility of power transmission interconnection between the power grids of Bangladesh and India. The exchange of power would take place mainly to utilize the off-peak surplus power of both the countries. After reviewing the power supply scenario of both the countries, the study suggests that in the short-term period (2009-10) Bangladesh and India can exchange power to the tune of about 250MW. The quantum of power exchange can be enhanced to about 500MW in the medium-term (2011-12), when both the countries would have reasonable experience in the exchange of power as well as a comfortable power supply scenario. It is also envisaged that the capacity of exchange of power would be enhanced to 1000MW in the long-term (2015-2016).

The findings of the study show that the proposed power transmission interconnection would benefit Bangladesh as well as India depending on the

Bangladeshi Sub- Stations	Indian Sub-Stations	Approx. Distance/ Voltage Level	Approx. Connection Cost (US\$ Million)
Ashuganj	Agartala, Tripura	(50 km) at 220kV	2.19
Ishurdi	Gokarna, West Bengal	(100 km) at 220kV	4.39
Sreemongal	Kumarghat, Tripura	(50 km) at 132 kV	1.32
Rangpur	Malda, West Bengal	(120 km) at 132kV at 220kV	3.16 5.27
Thakurgaon	Japlaiguri/ Siliguri, West Bengal	(80 km) at 132kV	2.11
Ishurdi	Krishnanagar, West Bengal	(90 km) at 220kV	3.95
Chattak	Cherrapunji, Meghalaya	(50 km) at 132kV	1.32

Table 4 : Potential Interconnection Points between Bangladeshi and Indian Power Grids

Source: USAID available at www.sari-energy.org

quantum of energy exchange between them. The exchange of power between Bangladesh and India would ensure meeting the shortage of power in both the countries under certain conditions as well as utilization of off-peak surplus power. Assuming an exchange of power to the extent of 250 MW in the short time frame between India and Bangladesh during the off-peak hours with a load factor of 0.6, the total energy to be exchanged is about 918MW/annum. If both the countries share it equally, each country can earn revenue corresponding to annual energy of 459 MW. This would enhance to 918 MW/annum for each country in the medium time frame when the exchange of power enhances to 500 MW. Bangladesh would further benefit on account of not using liquid fuel based generation corresponding to a considerable portion of energy received from India.

The proposed interconnection would improve the voltage profile at the nearby sub-stations of the interconnection point, viz. Baharampur in India and Ishurdi in Bangladesh. Bangladesh power system would mainly benefit out of it, as the existing system is already suffering from very low voltage profile. Further, the interconnection would result in reduction of transmission losses for the power grid at the receiving end as the power would be received from comparatively stronger and nearer sources (Nexant, 2006).

3.2 Hydropower Potential and Utilization in South Asia

There are attractive possibilities for the integrated development of energy resources and the creation of the Ganges-Brahmaputra-Meghna (GBM) Regional Power Grid to interconnect the power systems of Bhutan, Bangladesh, Nepal and India taking advantage of resource complementarity, demand diversity and geographic proximity (Adhikary *et al.* 2000). This would ensure quality power supply in the region. Preliminary studies in this regard have already been initiated and institutions for promoting power exchanges have also been identified.

The total economically exploitable hydropower potential of the region is 211,431 MW. India leads, with an identified potential of 148,701 MW contributing 70 percent of South Asian total hydropower potential. Nepal, with 42,130 MW, Bhutan with 16,280 MW, Sri Lanka with 2,423 MW and Bangladesh with 1,897 MW complete the tally (Table 5). Out of the region's total hydropower potential, 98 percent is in Bhutan, Nepal, and India.

Country	Techno-Economically Feasible Hydropower Potential (MW)	%
Bangladesh	1,897	0.9
Bhutan	16,280	7.7
India	148,701	70.3
Nepal	42,130	20.0
Sri Lanka	2,423	1.1
TOTAL	211, 431	100.0

Table 5 : Regional Hydropower Potential

Source: USAID available at www.sari-energy.org

Current Utilization

Despite the enormous hydropower potential, only 13.2 percent of the technoeconomically feasible potential has been developed on a regional basis. While Sri Lanka has been able to exploit 46.9 percent of its potential, India and Bangladesh have been able to exploit 17.2 percent and 12.1 percent, respectively. Nepal and Bhutan, with substantial potential, have been able to exploit a meager 1.2 percent and 2.6 percent, respectively (Table 6).

As is evident from Table 6, Bangladesh has harnessed only 12 percent of its potential. As indigenous gas is a cheaper source of fuel for its gas-fired thermal power plants, the country has not exploited its full hydropower potential.

Country	Hydropower Potential (MW)	Installed Capacity (MW)	Utilization (%)
Bangladesh	1,897	230	12.1
Bhutan	16,280	432	2.6
India	148,701	25,587	17.2
Nepal	42,130	527	1.2
Sri Lanka	2,423	1,137	46.9
TOTAL	211, 431	27,913	13.2

Table 6 : Current Hydropower Utilization in South Asia

Source: USAID available at www.sari-energy.org

Bangladesh may explore the possibility of importing hydropower from Nepal and Bhutan to meet its current power shortage.

The pre-feasibility study conducted by Nexant in 2001 aimed at exploring the possibility of transferring surplus hydropower of Nepal and Bhutan to reduce power deficit in India and Bangladesh. Interconnecting transmission systems of Bangladesh, Bhutan, India, and Nepal ("The Four Borders Project") could provide significant benefits to regional economies through closer cooperation on regional power transfer, enhanced system reliability, improved security and diversity of supply, increased economic efficiency in system operation, reduced environmental impacts, and lower costs to consumers. A conceptual configuration for the Four Borders Project is provided in Figure 1.

Three technically viable options for the interconnection that would provide for multilateral power exchange were analyzed. These would locate the



Figure 1 : Geographic Configuration of the Interconnections

Source: Nexant 2001

interconnection in India at either the Siliguri (West Bengal) or Purnea (Bihar) substations without using land in the constrained "chicken-neck" region of northeastern India. These options are:

- Option A: Limited power transfer based on a 132 kV system;
- **Option B:** Moderate power transfer with accelerated development based on developing a 220 kV system in advance of the system developments in Nepal and Bangladesh; and
- **Option C:** Moderate power transfer with phased development based on developing a 132 kV system initially, which would be upgraded to a 220 kV system in conjunction with power sector developments in Bangladesh and Nepal.

The relative advantages and disadvantages of the three options are given in Table 7.

Options	Four Border Sub-stations at	Advantages	Disadvantages
Al	Siliguri	Least cost	Low power transfer capability, up to 150 MW
A2	Purnea	Higher cost than A1	Low power transfer capability, up to 150 MW
B1	Siliguri	High power transfer capability, up to 500 MW	Higher cost
B2	Purnea	High power transfer capability, up to 500 MW	High cost but much less than B1
C1 Phase 1 Phase 2	Siliguri	Low initial cost Low incremental cost. High power transfer capability, up to 500 MW	Low initial power transfer capability, up to 150 MW
C2 Phase 1 Phase 2	Purnea	Incremental cost lower than C1. High power transfer capability, up to 500 MW	Initial cost higher than C1. Low initial power transfer capability, up to 150 MW

Table 7: Relative Advantages and Disadvantages of the Three Options

Source: Nexant 2001

The estimated investment costs of the three options are shown in Table 8.

Option	Variant 1 (Siliguri)	Variant 2 (Purnea)
Option A: Limited Transfer	Option A1: 9.45	Option A2: 14.18
Option B: Moderate Transfer	Option B1: 52.35	Option B2: 27.23
Option C: Phased Development	Option C1	Option C2
	16.65	22.00
Phase 1	16.65	23.80
Phase 2	14.95	7.80
Total Option C	31.60	31.60

Table 8 : Estimated Investment Cost (in million US\$)

Source: Nexant 2001

Table 9 gives levelized transmission costs (cents/kWh).

Power Levels	Option B2	Option C1 Phase 1 (Initial)	Option C1 Phase 1 + Phase 2 (Final)
50 MW	2.24	1.36	2.60
150 MW	0.75	0.45	0.87
350 MW	0.37	-	0.43
500 MW	0.22	-	0.26

Table 9 : Levelized Transmission Costs (Cents/kWh)

Source: Nexant 2001

The results of the analysis include:

- **Option C,** which incorporates a phased approach to developing the proposed Four Borders Project, best serves as the basis for establishing regional power transfer and trade and is the preferred option, as it provides lower levelized transmission costs and higher initial return.
- Transfer of surplus power available from hydropower plants in Nepal and Bhutan through this interconnection can help reduce power deficits in India and Bangladesh.

- The options assessed would permit the transfer of power from 50 MW up to approximately 500 MW.
- Investment requirements for these options would be minimal, ranging from approximately US\$9.45 million to US\$52.35 million.
- Estimated levelized transmission costs for the options range from 2.60 cents per kWh for power transfers of 50 MW to 0.26 cents per kWh for transfers of 500 MW.
- All of the options analyzed have positive rates of return, which increase significantly with the level of power transfer.

Power trading within SAGQ would create economic and social benefits for all the four countries.³ Recent USAID estimates (<u>www.sari-energy.org</u>) show that interconnecting the four power grids of SAGQ would reduce the transmission and distribution losses by 90 MW, resulting in a saving of US\$ 79.12 million in investment for new capacity addition. A loss reduction of an additional 50 MW by interconnecting some of the border areas of SAGQ with the grid sub-stations of the neighboring country would increase total savings to US\$ 123.08 million.

Lessons may be taken from some successful models that exist among the countries of South Asia to promote cooperation in the energy sector. Mahakali Treaty and Power Trade Agreement between Nepal and India is a case in point. If the exploitable amount of power could be harnessed, the requirements of the entire region could be met benefiting all the involved partners. What is necessary is the understanding of the immense benefits that can be available once the process of regional cooperation gets underway. Like the ASEAN and North American Grids, we may seriously consider forming a GBM Regional Power Grid connecting countries in SAGQ: Bangladesh, Bhutan, India and Nepal.

4. Improving Transportation System in South Asia

The significance of SAFTA in regard to trade facilitation is reflected in Article 3 of the accord, which states commitment by member countries to trade facilitation reform through plans to integrate transport system and harmonize standards. The treaty gives special emphasis on trade facilitation measures such as harmonization of standards, customs clearance and procedures, transit facilities, removal of

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³ This point has been discussed in Nexant (2001), "The Four Borders Project: Reliability Improvement and Power Transfer in South Asia," Pre-feasibility study report prepared for USAID-SARI/ Energy Program.

barriers to intra-SAARC investment, development of transport and communication infrastructure, rules of fair competition, simplification of procedures for business visas, and so on. This paper discusses four modes of transportation – roads, railways, sea-ports and inland waterways in the region and then identifies the potential for regional cooperation in improving the conditions in each area.

4.1 Roads

The present legal arrangement between India and Bangladesh prohibits Indian vehicles (or Bangladeshi vehicles) to cross each other's border for delivering the consignment to the ultimate user(s). The truck border crossing mainly at Petrapole/Benapole is a major source of delay for imports from India, largely because of inefficiencies in logistics service and customs. Some obstacles in terms of transit time in India-Bangladesh trade by road are presented in Table 10.

Road Routes	Transit Time (Days)	Border Crossing Delays (Days)	Transfer Time (Days)	Total Time (Days)
Kolkata- Petrapole- Benapole- Dhaka	1.5 – 2	0.5 – 2	1 – 2	4 - 6
Patna-Hili- Dhaka- Chittagong	10 15	1 – 3	0.5 – 2	11.5
Guwahati- Shillong- Dawki- Tamabil- Chittagong	6 – 10	0.5 – 2	0.5 – 2	7.5

Table 10: Transit Time in India-Bangladesh Trade by Road

Source: Subramanian (1999) quoted in RIS 2004, South Asia Development and Cooperation Report 2004

Hindrances in terms of transit costs in India-Bangladesh trade by road are presented in Table 11.

Road Routes	Border Crossing Costs (US \$/ ton)	Transit Costs (US \$ / ton)	Transfer Costs (US \$ / ton)	Loss Costs (% of value of goods)
Kolkata-Petrapole-Benapole-Dhaka	2-3	6.4	7 – 8	1
Patna-Hili-Dhaka-Chittagong	5 - 6	7.7	9 - 11	1.5
Guwahati-Shillong-Dawki-Tamabil- Chittagong	5 - 10	8 – 10	7 – 8	< 1

Table 11: Transit Costs in India-Bangladesh Trade by Road

Source: Subramanian (1999) quoted in RIS 2004, South Asia Development and Cooperation Report 2004

Cooperation in the field of road network will help Nepal, using Indian soil, to access Bangladeshi road thereby Bangladeshi ports. Likewise, India, using Bangladeshi soil, could access its North-Eastern region. The southern border of Tripura is only 75 km from the Chittagong port. But as access for Indian goods is not allowed at the Chittagong port, goods from Agartala have to travel a distance of 1,645 km to reach Kolkata. If transit were allowed through Bangladesh, and Indian goods were allowed through the Chittagong port (which was the traditional route), the journey to the port of Assam, for example, would be 60 percent shorter. Moreover, the average transport costs will significantly be reduced. Therefore, these problems may be addressed by developing transit arrangements based on bilateral and/or multilateral agreements with adequate safeguard measures among SAGQ countries.

South Asia is in need of a common road network which connects countries in the region as well as with other sub-regions of Asia. The Asian Highway network would be a great stepping stone in integrating the economies in this region. The Intergovernmental Agreement on the Asian Highway Network⁴ was signed during the 60th session of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) held in Shanghai, China on 26 April 2004 and entered into force on 4 July 2005. The main objective of the Agreement is to promote economic cooperation, trade and tourism in Asia. The Asian Highway network will extend to 32 member countries of UNESCAP including Bangladesh with 141,000 kilometers of highways across the whole of Asia with linkages to Europe. It will have 8 routes, which will cross more than one sub-region. There will be 47 routes, which would be within sub-regions, including those connecting

⁴ The Asian Highway Network consists of highway routes of international importance within Asia, including highway routes substantially crossing more than one sub-region such as East and North-East Asia, South and South-West Asia, South-East Asia and North and Central Asia, highway routes within sub-regions, including those connecting to neighboring sub-regions, and highway routes located within member States.

neighboring sub-regions, and routes located within member states. Nine such routes will be in South Asia. Two routes (AH1 and AH2) connecting Bangladesh will cross more than one sub-region, which are as follows:

- Route AH1 connecting Bangladesh from the north-eastern states of India namely, Monipur, Nagaland, Assam and Meghalaya will cross Bangladesh from Sylhet-Dhaka- Benapole to Kolkata (West Bengal); and
- Route AH2 connecting Bangladesh from the same direction as Route AH1 will pass through Sylhet-Dhaka-Banglabandha to Siliguri (West Bengal) from where it will connect Nepal and Bhutan.

One route (AH41) will be within the country. The development of the Asian Highway has already been incorporated into national plans of Cambodia, India, Iran, Lao PDR, Nepal, Pakistan, Thailand and Viet Nam. But it has not been included into the national highway plan of Bangladesh as Bangladesh has not signed the agreement. For promoting her trade, investment and tourism, Bangladesh must join the Asian Highway Network without any further delay.

4.2 Railways

Railway network in South Asia is one of the largest railway systems in the world. It has an extensive network, which is spread over 77,248 km, comprising 69 percent of broad gauge network. But only about 25 percent of Bangladesh Railway network is broad gauge, which is far below the South Asian average. In order to ensure that traffic can move smoothly by railway among various countries of South Asia, there is a need to coordinate the conversion program of Indian Railways with the dualization program of Bangladesh Railways. The coupling and braking system will also need to be standardized. This would be essential for providing smooth rail corridors up to Chittagong and Mongla Ports for traffic to and from Nepal, Bhutan and North-East India.

Under the auspices of UNESCAP, eighteen members of UNESCAP, including Nepal and Sri Lanka signed the Intergovernmental Agreement on the Trans-Asian Railway Network at Busan, Korea on 10 November 2006. This agreement is another step towards the identification of a trans-continental, integrated intermodal network to facilitate international trade and tourism. The agreement will remain open for signature at the United Nations Headquarters until 31 December 2008. The network will comprise 81,000 kilometers of railway lines of international importance serving 28 countries in the Asia-Pacific region, including Bangladesh. This network starts from the Pacific coast of Asia and ends up on the doorsteps of Europe. The network consists of: (1) Northern Corridor, (2) Southern Corridor, (3) Corridor connecting ASEAN and Indo-China sub-regions, and (4) North-South Corridor.

- Northern Corridor will comprise Korean Peninsula, Russian Federation, China, Kazakhstan and Mongolia.
- Southern Corridor will include Bangladesh, China (Yunnan Province), India, Iran, Myanmar, Pakistan and Sri Lanka.
- The third corridor will cover ASEAN and Indo-China sub-regions.
- North-South Corridor will extend from Northern Europe to the Persian Gulf through the Russian Federation, Central Asia and the Caucasus region.

It may be mentioned that Bangladesh has already joined the Trans-Asian Railway (TAR). The TAR enters Bangladesh from three directions from the Indian state of West Bengal and exits through a single gateway in the east of Gundhum, Myanmar.⁵

4.3 Sea-Ports

Because of locational advantage and better navigational aid, Colombo and Singapore sea ports are the hub ports of this region. There are regular feeder services between the ports of Colombo and Singapore on the one hand and those of South Asian countries on the other (Figure 2).

Currently, the Container Corporation of India (CONCOR) transports 5,000 to 6,000 twenty-foot equivalent units (TEUs) of yarn every year in order to feed textile and garment industries in Bangladesh. Yarn produced in Punjab and Haryana is transported by train to Mumbai port where it is loaded into container vessels. In the absence of feeder services between the ports of Bangladesh and India, yarn is shipped to Colombo or Singapore/Tan Jung Pelapas ports. At these ports, the containers are transferred into feeder vessels and carried to the Chittagong Port. The total voyage time from the point of origin in Punjab/Haryana, India to its destination at Chittagong generally takes about 35 days and the cost of transportation is US\$2500 per TEU. Both the journey time

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⁵ The first entry point is at Geda, India and the route goes through Darshana, Iswardi, Jamuna Bridge, Joydevpur, Akhaura, Chittagong, Dohazari, and Gundhum, Myanmar. The second entry point is at Singabad, India and goes through Rajshahi, Iswardi, Jamuna Bridge, Joydevpur, Akhaura, Chittagong, Dohazari, and Gundhum, Myanmar. The third entry point is at Radhikapur, India and goes through Dinajpur, Iswardi, Jamuna Bridge, Joydevpur, Akhaura, Chittagong, Dohazari, and Gundhum, Myanmar.

Bangladesh India Singapore To and from Far East & rest of the world Bangladesh India Pakistan Sri Lanka To and from Middle East & rest of the world

Figure 2 : Current Liner Shipping Networks in South Asia

and transport cost could be reduced if there were feeder services between Chittagong Port and Mumbai Port.

In the context of North-East India, Bhutan and Nepal due to congestion at Kolkata port, with associated delays and cost, Bangladesh ports (Chittagong and Mongla) could have provided a very easy access to the sea. But this is not possible because it is not covered by the current bilateral agreement. If Bangladesh would have allowed cargoes from North-East India, Bhutan and Nepal across to the sea through its ports, it could have earned considerable foreign exchange for the services it would render in terms of railway charges, port charges, transit fee etc. Therefore, the transit arrangement among these countries becomes a pertinent issue.

4.4 Inland Waterways

Currently, the regional trade between India and Bangladesh using inland water transport (IWT) is regulated by The India-Bangladesh Protocol on Inland Water Transit and Trade signed on October 28, 1999, which provides for:

- Trade between India and Bangladesh; and
- Transit trade between the Indian states of West Bengal and Assam through the territory of Bangladesh

The routes mentioned in the Protocol are as follows:

- Kolkata-Haldia-Raimongal-Chalna-Khulna-Mongla-Kaukhali-Barisal-Hizla-Chandpur-Narayanganj-Aricha-Sirajganj-Bahadurabad-Chilmari-Dhubri-Pandu and vice versa;
- Kolkata-Haldia-Raimongal-Mongla-Kaukhali-Barisal-Hizla-Chandpur-Narayanganj-Bhairab Bazar-Ajmiriganj-Markuli-Sherpur-Fenchuganj-Zakiganj-Karimganj and vice versa;
- Rajshahi-Godagari-Dhulian and vice versa; and
- Karimganj-Zakiganj-Fenchuganj-Sherpur-Markuli-Ajmiriganj-BhairabBazar Narayanganj-Chandpur-Aricha-Sirajganj-Bahadurabad-Chilmari-Dhubri-Pandu and vice versa

Of the four routes mentioned above, only the route shown in **bold letters** is in operation. Available data show a phenomenal growth in the number of vessels as well as in the quantity of cargo carried by Bangladeshi and Indian vessels during the period from 2000-01 to 2004-05. Over the period, the number of Bangladeshi vessels carrying cargo increased tremendously while that of India declined sharply. The exported cargoes to India are mainly hides and skins, jute products etc. while those imported from India include fly ash, gypsum, clinker, steel, food grains etc. The in-transit traffic through Bangladesh transports cement, jute, coal and bitumen.

IWT is a mode of transport where no transshipment at the border crossing is involved and its charges are the lowest per ton km of freight. Even then it is still at a disadvantage because of its low travel speed, in the range of 50 to 80 km per day due to limited navigation and drafts on certain routes. Lack of sufficient ports of call may also be jointly looked into by both the Governments of India and Bangladesh with a view to making water transport really competitive for low value bulk cargo, with efficient logistics linkages to provide door to door services.

Subramanian and Arnold (2001) identified key transport and logistics impediments that have left the South Asian sub-region, comprising Bangladesh, North-Eastern India, Bhutan and Nepal, lagging behind in economic growth, by obstructing the seamless flow of their goods and services to regional and global markets. Based on the findings and recommendations of the study, the governments of these countries may go ahead with transport integration. A recent study estimates substantial benefits from Indo-Bangladesh coordinated improvements in the transport, storage and administrative infrastructures at and

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adjoining the India-Bangladesh land borders as well as in harmonization and cooperation in customs administration and banking relationships (World Bank, 2006a).

5. The Way Forward

Progress in terms of expansion of intra-regional trade or investments has been rather modest: intra-regional trade still accounts for only about 5 percent of SAARC countries' total trade. In addition, South Asian countries have not begun to use the regional source of technology, expertise and capital goods in a significant manner. While some first steps may have been taken, there is an urgent need for taking specific measures such as operationalising SAFTA, and promotion of regional cooperation in investment and infrastructure. An in-depth study of all possible aspects of regional cooperation is a pre-requisite before identifying specific areas of cooperation.

In order to pave the way for economic integration of all South Asian countries, the following recommendations are made:

- Non-tariff and para-tariff measures are greater obstacles to intra-regional trade than tariffs. It is likely that Bangladesh has to reciprocate on these issues if it likes to see that other member countries remove their para-tariff and non-tariff barriers. A thorough study needs to be conducted for identifying non-tariff and para-tariff barriers faced by Bangladesh in other SAARC countries. The study may also determine the rules of origin criteria, which the manufacturing sector can comply with.
- Less efficient customs procedures, inadequate infrastructure, and inconsistent standards also inhibit trade. Thus, trade facilitation measures that address all of these challenges are needed to augment intra-regional trade flows. Assistance may be sought from the World Bank, Asian Development Bank etc., which are involved in the promotion of trade facilitation in South Asia.
- The export base of Bangladesh requires substantial product diversification and specialization (both horizontal and vertical) that complement the imports of intra-regional trading partners.
- For improving intra-regional trade, the flow of investment in the region could be facilitated by establishing a SAARC Investment Area similar to the ASEAN Investment Area. A SAARC Investment Area could help in generating intra-regional investment flows as well as attract FDI from outside the region.

- Bangladesh must consider joining the Asian Highway without any further delay for the sake of promoting her trade, investment and tourism.
- An integrated plan should be drawn up to bring about better linkages of the GBM waterways with rail, road, air and coastal shipping routes. Proper coordination between the various modes will be necessary for the adoption of a multimodal approach for the movement of goods. The GBM water system can be integrated with Kolkata/Haldia, Mongla and Chittagong ports.
- The SAARC countries may develop transit arrangements as per commitment made at the 13th SAARC Summit (Dhaka, 13 November 2005) based on bilateral and/or multilateral agreements with adequate safeguard measures among member countries.
- SAFTA should focus not only on commodity trade but also trade in services. Trade in services (e.g., health and medical care, education, information and telecommunications, micro-finance, retail and wholesale business service) may provide considerable opportunities and gains from increasing intraregional trading activities. Bangladesh will be able to integrate its trade in South Asia to a greater extent if the SAFTA is enlarged in scope to cover crossborder movement of natural persons.
- Sub-regional cooperation in the power sector has enormous potential in so far as hydropower is concerned. To make the USAID's Four Borders Project a reality, it is recommended that a Working Group be formed consisting of regional stakeholders representing Bangladesh, Bhutan, India and Nepal to review the findings and recommendations of the project, serve as a liaison with energy ministries and other sector stakeholders, and develop and oversee an implementation strategy.
- In the light of Nexant's (2006) pre-feasibility study, it is recommended that a coordination committee supported by sub-committees such as Technical Coordination Sub-Committee, Operational Coordination Sub-Committee, Commercial Coordination Sub-Committee etc. are set up with the joint participation of interconnecting countries, Bangladesh and India, to decide upon and sort out various issues regarding transmission interconnection and exchange of power between the two countries.

South Asia is in the formative stage of economic integration. Our regional economic cooperation strategy should be such as to fully realize the potential of trade and development for the benefit of South Asia's 1.3 billion people. Intraregional trade could be expanded through encouraging trade creating joint

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ventures in the region. For effective regional cooperation, the development of mutual trust and confidence among the governments of the participating countries is required. So, what we need is implementation of political commitment made by SAARC leaders at different SAARC Summits, and continued cooperation of member countries for promoting economic integration in this region. We firmly believe that economic cooperation through market enlargements holds the key to raise investment, employment and production, thus contributing to poverty reduction and attaining a high standard of living for the peoples of South Asia. For this we need to rise above petty political interests and work together for peace, progress and prosperity of the peoples of these countries.

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