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## Regional Cooperation for Regional Infrastructure Development: Challenges and Policy Options for South Asia

Prabir De

Discussion Paper # 160



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# Regional Cooperation for Regional Infrastructure Development: Challenges and Policy Options for South Asia

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Prabir De\*

**Abstract:** Regional infrastructure is one of the major determinants of economic integration process. It enhances international and regional connectivity through the free flow of goods and factors across borders, allowing countries to benefit from a better relocation of resources. Efficient transportation networks linking neighbouring countries enlarge market size and help national economies to grow further through higher trade and production. The South Asian merchandise trade due to South Asia Free Trade Agreement (SAFTA) is expected to increase by manifolds in coming years. Accompanying this growth will be an increase in demand of both national and regional infrastructure services, for both production and consumption, and international trade purposes. A failure to respond to this demand will slow down South Asia's trade and hamper the growth process. Thus, the infrastructure challenges, both hardware and software, before the South Asian countries, particularly for those are land-locked and island, require better understanding and adequate support. This paper discusses the emerging scenario in regional infrastructure development in South Asia, identifies the infrastructure challenges for the future, and provides some policy options in order to better integrate the South Asian region.

## 1. INTRODUCTION

Infrastructure has always played the key role in integrating a region. Some of its environmental effects notwithstanding, well functioning and efficient infrastructure facilities are essential for economic development and growth of a region. For example, reducing the costs of transportation, both within

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and across regions, improves a region's international market access, increases its income, and reduces the region's poverty. Infrastructure's relations with the welfare can be seen in both direct terms – through changes in distribution – and indirect through the wider growth effects and higher economic activity stimulated by infrastructure (Ali and Pernia 2003; Weiss 2003). In a dynamic concept, infrastructure is seen as regional public good moving factors of production within and across regions thus helping the regions to attain higher productivity and growth.

In general, infrastructure is a combination of two major components: national and international (or regional) infrastructure. Infrastructure that is meant exclusively for a nation can be termed as national infrastructure. However, when the infrastructure has cross-border implications we term it as international (or regional) infrastructure or cross-border infrastructure. Cross-border infrastructure has typically been seen as one of the major determinants of economic integration process (Vickerman 2002; Venables 2007). It enhances international and regional connectivity through the free flow of goods and factors across borders, allowing countries to benefit from a better relocation of resources. For example, transportation networks linking neighbouring countries enlarge market size and help national economies to grow further through higher trade and production. Availability of cross-border infrastructure thus not only increases the intraregional trade and investment but also plays a pivotal role in integrating economies across the region. It is well argued in literature that if countries in a region are not inter-linked each other through improved transportation and communication networks, regional integration process will undoubtedly slowdown. Infrastructure, whether linking major regional transport and energy corridors or simplification of documentation at border, is, therefore, a key factor to enhancing regional integration.

Recent studies on Asia show that the countries with geographical contiguity could potentially benefit substantially from higher trade, provided infrastructure and trade costs are improved (De 2005a, 2006, 2007, 2008a, 2008b). Another set of studies indicates that while the globalization process results in an increase in the number of international exchanges of products

and services in both extensive and intensive margins, the identification and establishment of Asia's transportation networks (cross-border or otherwise) have become increasingly important (Brooks 2008a, 2008b; De 2009a; Hummels 2009). Nevertheless, all unequivocally call for efficient and integrated transport and logistics networks for enhancing movement of goods and services, particularly when a region has high potential in fragmented production and economic networks across borders. The need for integrated transport and logistics networks is also quite pressing at a time when ongoing global financial turmoil is making it necessary for South Asian countries to strengthen their regional infrastructure networks in order to enhance the regional demand.

The South Asian merchandise trade due to South Asia Free Trade Agreement (SAFTA) is expected to increase by manifolds in coming years.<sup>1</sup> Accompanying this growth will be an increase in demand of both national and international infrastructure services, for both production and consumption, and international trade purposes. A failure to respond to this demand will slow down South Asia's trade and hamper the growth process. Development of cross-border infrastructure, especially transportation linkages and energy pipelines, across the region, will contribute to the regional integration by reducing transportation costs and facilitating intra-regional trade and services. Therefore, the infrastructure challenges, both hardware and software, before the South Asian countries, particularly those are land-locked and island, require better understanding and adequate support.

It is with this backdrop that this paper presents a profile of physical infrastructure in the South Asian region, and discusses the emerging scenario in infrastructure development in the region. This has been dealt in Sections 2 and 3 respectively. The paper further attempts at identifying the infrastructure challenges are for the future, and how to think of approaching them, in order to better integrate the South Asian region. Section 4 is devoted for this purpose. Thereafter, the paper identifies the contours of the potentials for regional cooperation in regional infrastructure sector and provides some policy perspectives at Section 5. Finally, conclusions have been drawn in Section 6.

## **2. DEVELOPMENT OF PHYSICAL INFRASTRUCTURE IN SOUTH ASIA**

The adequacy of infrastructure helps determine one country's success and another's failure – in diversifying production, expanding trade, coping with population growth, generating employment, reducing poverty, or improving environmental conditions.<sup>2</sup> Although the causal relationship between infrastructure and income is not straightforward, infrastructure stock does help a country (or a region) to attain higher income. South Asia is a case in point, where infrastructure stock did help the South Asian countries in achieving higher per capita income (see Box 1).

Performance of South Asian countries in physical infrastructure in last one and a half decade has been mixed and uneven. Table 1 presents the physical infrastructure profile of South Asian countries for 1991 and 2005 and the corresponding growth rates. Soft infrastructure (e.g. telecommunication) has grown much faster than the hard infrastructure (e.g. transportation) over time in South Asia. Baring Nepal and Pakistan, remaining South Asian countries have witnessed over 100 per cent annual growth in fixed and mobile telecommunication during 1991 to 2005. Telecommunication growth is more spectacular in Bangladesh, Bhutan and Sri Lanka, where it increased by over 200 per cent per annum. Starting with low base, the growth in telecommunication in Afghanistan during 2001-2005 has been spectacular. In contrast, hardware components of physical infrastructure, like rail, road, aviation and port, have witnessed little expansion, and in some cases it was rather negative. For example, Pakistan and Sri Lanka in railway and Nepal and Pakistan in aviation have faced with negative growth. In sharp contrast, smaller economies have witnessed faster growth in road and aviation, compared to relatively larger economies. Road density has grown much faster in Nepal and Bhutan, whereas the aviation density has expanded sharply in Maldives and Bhutan.

Infrastructure has expanded rapidly during the period 2001 to 2005 in South Asia. For example, Bhutan and Afghanistan in road, India in air passenger, Pakistan and Sri Lanka in maritime cargo, and Afghanistan in telecommunication have witnessed faster growth in the first half of the ongoing decade. Electric power consumption per capita has grown significantly over the years across South Asia, where the growth was higher

in countries like Bangladesh and Nepal, compared to India and Pakistan. In other words, South Asia's low per capita energy consumption implies a far lower energy use at its present level of income. In general, overall performances of hardware components of physical infrastructure are nevertheless unsatisfactory, when counted their densities in terms of country's surface area or population. For countries in South Asia, bridging the gaps in infrastructure is thus the key to achieving goals for growth and poverty reduction.

**Table 1: Physical Infrastructure Development Indicators in South Asia**

Indicators	Country	1991	2001	2005	Growth Rate (%)*	
					1991-2005	2001-2005
Road density (km. per sq. km. of surface area)	Afghanistan	0.032	0.032	0.053	5.469	16.144
	Bangladesh	0.098	0.144	0.150	4.422	0.963
	Bhutan	0.051	0.072	0.171	19.608	34.522
	India	0.715	1.018	1.109	4.592	2.233
	Maldives					
	Nepal	0.047	0.090	0.118	12.589	7.835
	Pakistan	0.223	0.324	0.325	3.812	0.102
	Sri Lanka	1.476	1.512	1.483	0.040	-0.479
Railway density (km.per 1000 sq. km. of surface area)	Afghanistan					
	Bangladesh	19.067	19.063	19.826	0.332	1.001
	Bhutan					
	India	19.000	19.092	19.264	0.116	0.226
	Maldives					
	Nepal			0.401		
	Pakistan	11.022	9.786	9.786	-0.934	0.000
	Sri Lanka	22.283	22.085	22.085	-0.074	0.000
Air passengers (per 1000 population)	Afghanistan	14.275				
	Bangladesh	9.589	11.030	11.525	1.682	1.123
	Bhutan	13.324	57.668	77.111	39.895	8.429
	India	12.368	16.332	25.149	8.612	13.496
	Maldives	42.222	188.697	248.923	40.796	7.979
	Nepal	32.351	25.671	17.701	-3.774	-7.762
	Pakistan	46.932	42.502	34.436	-2.219	-4.744
	Sri Lanka	51.700	91.732	143.578	14.809	14.130

*Table 1 continued*

*Table 1 continued*

Maritime cargo (million tonnes per seaport)	Afghanistan					
	Bangladesh	1.900	3.835	4.120	9.737	1.858
	Bhutan					
	India	14.158	29.469	48.905	20.452	16.488
	Maldives					
	Nepal					
	Pakistan	11.290	13.345	26.445	11.186	24.541
	Sri Lanka	6.254	8.247	13.143	9.179	14.842
Fixed line and mobile phone subscribers (per 1,000 people)	Afghanistan	2.378	1.222	43.532	144.218	865.706
	Bangladesh	2.081	5.975	71.004	276.001	272.076
	Bhutan	4.164	23.418	110.818	213.445	93.304
	India	6.705	35.449	127.674	150.347	65.041
	Maldives	34.276	110.507	564.065	128.805	102.609
	Nepal	3.312	11.343	25.706	56.346	31.656
	Pakistan	10.155	24.333	115.866	86.748	94.040
	Sri Lanka	7.402	61.863	234.684	255.879	69.840
Electric power consumption (kWh per capita)	Afghanistan					
	Bangladesh	50.012	103.587	139.554	14.920	8.680
	Bhutan					
	India	295.023	402.019	457.325	4.584	3.439
	Maldives					
	Nepal	36.847	57.633	68.820	7.231	4.853
	Pakistan	297.264	373.544	425.026	3.582	3.445
	Sri Lanka	160.132	276.667	344.158	9.577	6.099

*Note:* \*Average annual growth rate.

*Source:* Calculated based on WDI CD-ROM 2008, World Bank.

### **Box 1: Infrastructure Development Leads to Higher Income in South Asia**

Infrastructure provides critical support to the growth of an economy. The linkage between infrastructure and economic growth is multiple and complex. Most of the studies on infrastructure development suggest that infrastructure does contribute towards a hinterland's output, income and employment growth, and quality of life. Infrastructure of acceptable quality stimulates economic growth and is a prerequisite for economic and social development. Research generally finds that infrastructure capital has a positive effect on economic growth and output in developing countries (Kessides, 1996).

*Box 1 continued*

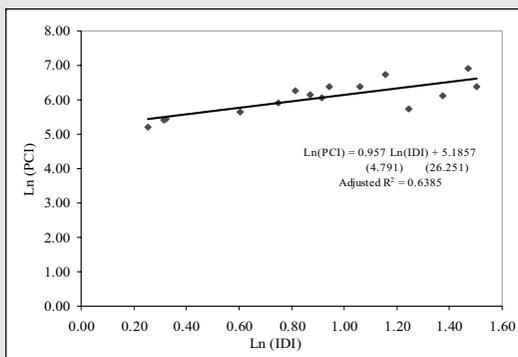
**Table 1.1: Infrastructure and Income of South Asian Countries**

Country	1991		2000		2005	
	IDI	PCI	IDI	PCI	IDI	PCI
India	3.48	313.74	3.95	452.98	4.49	588.44
Sri Lanka	2.57	595.04	3.18	843.63	4.35	1001.93
Pakistan	2.39	472.61	2.26	531.00	2.89	595.56
Bangladesh	1.83	286.10	2.12	365.33	2.50	432.63
Nepal	1.29	182.76	1.37	224.66	1.38	233.91
Correlation coefficient	0.432*		0.568*		0.825**	

**Notes:** IDI: Infrastructure Development Index, include transport, ICT, energy and banking. PCI: Per Capita Income (at constant 2000 US\$). Afghanistan, Bhutan, Maldives were ignored due to insufficient data. \*Significant at 5% level. \*\*Significant at 1% level.

**Sources:** IDI scores were taken from Kumar and De (2008), while PCI was sourced from WDI CD-ROM 2008, World Bank.

**Figure 1.1: Infrastructure – Income Relationship in South Asia**



**Notes:** 1. Data arranged in cross-section pooled framework for the years 1991, 2000 and 2005 for five South Asian countries, namely, India, Sri Lanka, Pakistan, Bangladesh, and Nepal. 2. Data in parentheses are t-values, significant at 1% level. 3. IDI means Infrastructure Development Index (scores), taken from Kumar and De (2008), and PCI means Per Capita Income (taken at constant 2000 US\$), sourced from WDI CD-ROM 2008, World Bank.

Infrastructure stock grows step for step with economic output. The causality probably runs in both directions. The relationship between infrastructure stock and per capita income is positive and direct in South Asia, which has become stronger over time (rising correlation coefficient, increased from 0.432 in 1991 to 0.825 in 2005 in Table 1.1). As a country’s amount of infrastructure grows, country’s per capita income also increases and vice versa – a 1 per cent increase in the stock of infrastructure has been associated with a 1 per cent increase in per capita income in South Asia (Figure 1.1). On the flip side, rising inequality in infrastructure stock has also been responsible for widening income gap in South Asia (De and Ghosh, 2005).

## 2.1 Infrastructure Development in South Asia in a Global Comparative Perspective

Infrastructure is a key input factor for economic growth and investments have been of pivotal importance in the strong economic performance enjoyed by most of the Asian countries, particularly China and India in recent times. In a comparative global perspective, the performance of South Asian countries in infrastructure development is unsatisfactory. Among the five South Asian countries, only Sri Lanka could improved its global rank between 1991 and 2005, whilst the same of rest four countries in South Asia decelerated (Table 2). Despite the rise in index score, their relative ranking did not change much during 1991 to 2005. South Asian countries could manage to increase their infrastructure capacity during 1991 to 2005, but in global comparative perspective, their rise is rather thin and infrastructure gap seems to have widened than narrowed in the last one and a half decade.<sup>3</sup> Except Sri Lanka, none could climb the ladder in terms of attainment of infrastructure development during 1991 and 2005. The major concern is that the infrastructure gap between South Asian and global frontier countries (read, developed world) has widened over time. Nevertheless, infrastructure in South Asian countries is largely inadequate and generally of poor quality, holding back the regional growth.

**Table 2: RIS Infrastructure Index Scores and Ranks of South Asian Countries in the World**

Country	1991		2000		2005	
	Index	Rank	Index	Rank	Index	Rank
India	3.48	50	3.95	49	4.49	51
Sri Lanka	2.57	62	3.18	56	4.35	53
Pakistan	2.39	64	2.26	68	2.89	66
Bangladesh	1.83	73	2.12	71	2.5	74
Nepal	1.29	81	1.37	81	1.38	86
Best (United States)	25.96	1	22.95	1	20.66	1
Worst (Chad)	0.27	104	0.13*	104	0.21	104

*Notes:* \*Replaced by Angola. \*\*Infrastructure index rank correlation coefficients: 0.959 (between 1991 and 2000), 0.980 (between 2000 and 2005), and 0.943 (between 1991 and 2005), all significant at 1 per cent level.

*Source:* Adapted from Kumar and De (2008).

The forgoing discussion suggests that the infrastructure gap in South Asia in terms of the index has widened than narrowed during the period 1991 and 2005. The gaps existing between the South Asian countries in terms of level of infrastructure attainment therefore need to be addressed explicitly as a part of the programme of South Asian Association for Regional Cooperation (SAARC) for promoting balanced regional development. South Asia's growth potential will be realized only if we can narrow the infrastructure gap, not only between them but also with the global best practice. In particular, enabling infrastructure has to be created in the laggard regions and countries in South Asia so that they can enjoy the opportunities created by regional trade liberalization and integration.

## ***2.2 Infrastructure Investment Needs in South Asia***

South Asia is expected to grow at an average 8 per cent per annum in next few years.<sup>4</sup> Accompanying this growth will be an increase in demand for infrastructure services. Economic and population growth prospects are expected to place additional pressure on existing infrastructure facilities. Therefore, addressing these challenges will be essential if the infrastructure sector is to continue fostering economic growth rather than becoming a constraint.

**Table 3: Annual Infrastructure Investment Needs in South Asia**

Country	Annual Investment (2008-2012)	
	Amount(US\$ billion)	Share in GDP (%)
Bangladesh	11.55	11.24
India	74.68	9.56
Nepal	3.44	12.22
Pakistan	13.28	10.78
Sri Lanka	4.90	12.07
Total	107.85	11.64

*Note:* For methodology, refer RIS (2008).

*Source:* RIS Estimation.

At present, infrastructure investment in terms of GDP in South Asia varies from less than 1 per cent (Nepal) to 4.8 per cent (India). Bangladesh, Pakistan, and Sri Lanka come in between. In order to sustain 8 percent GDP growth in South Asia, there would an increased demand for infrastructure services that in turn would require investment amounting to about 10-12 percent of GDP during the period 2008 to 2012 (Table 3).<sup>5</sup> In other words,

this results in an investment of US\$ 108 billion per annum in the next five years on roads, railways, airways, ports, and electricity across five South Asian countries.<sup>6</sup> The requirement of investments in infrastructure would be more if we include the amount to be needed for capital replacement of infrastructure and regional (cross-border) infrastructure.

It is clear that there is substantial investment needs in infrastructure sector in South Asia. The resource requirement for bridging the investment gap is substantial. However, mobilization of resources in narrowing the gap is very much feasible if we consider the region's stock of foreign exchange reserves and surplus savings. It has been argued that Asia (including South Asian countries) is having large foreign exchange reserves and surplus savings which can not be utilized in full due to lack of an appropriate regional framework for their mobilization, among others.<sup>7</sup> Hence, excess foreign exchange reserves of South Asia can be utilised in a much more effective manner by a regional framework.<sup>8</sup> Financing of infrastructure development is beyond the capacity of most LDCs in South Asia, making it necessary to seek innovative financial instruments and institutional arrangements. In that context, a regional mechanism to mobilize a very small proportion of these reserves for development of regional cross-border and national infrastructure could be highly productive. Therefore, it is suggested that South Asian countries may set-up South Asia Infrastructure Fund (SAIF), which could be utilised for financing cross-border infrastructure projects in the region.

### ***2.3 Summing up***

The foregoing discussion indicates that both software and hardware components of the region's physical infrastructure have comparatively grown slowly thus negated the region's development process. Therefore, the development of physical infrastructure have to commensurate the growth of the region. South Asia could unleash its full potentials, provided it improves the infrastructure facilities, which are at present not sufficient to meet the growing demand of the region. Failing to narrow the infrastructure gap, the region's growth and development will slow down. In other words, this also indirectly indicates high investment potentials in roadways, railways,

power and the associated components in South Asia. The renewed and shared agenda of the South Asian regional cooperation should therefore aim to reduce both intra- and inter-regional infrastructure gaps. The process of South Asian regional integration has to contribute to narrowing the infrastructure gaps by providing resources for development of infrastructure. The resource requirements for bridging these gaps are nevertheless substantial, but manageable if we take a concerted approach to utilise the region's financial resources.

### **3. REGIONAL INFRASTRUCTURE IN SOUTH ASIA**

International infrastructure enhances the international (and also regional) connectivity through higher trade and investment. For example, cross-border transportation network enlarges the market size, and helps the economies to grow further through higher trade and production. Some examples are Greater Mekong Subregion (GMS) transport corridors, India – Bhutan hydropower projects, Lao PDR – Thailand hydropower projects, among others. In general, cross-border infrastructure projects have been a popular and well accepted mode to facilitate economic integration in Latin America (ADB, 2009). In recent years, Latin America and the Caribbean countries were successful in attracting as much as US\$ 21.19 billion, out of proposed US\$ 68.27 billion, in cross-border infrastructure.<sup>9</sup> According to ADB/ADB (ADB-ADB 2009), Asia needs to invest approximately US\$ 8 trillion in overall national infrastructure between 2010 and 2020. In addition, Asia needs to spend approximately US\$ 290 billion on specific regional infrastructure projects in transport and energy that are in the pipeline. Of these regional projects, 21 high priority projects that could be implemented by 2015 at a cost of US\$ 15 billion have been identified. The successful implementation of these high-priority projects and their wider regional benefits would create a strong drive toward further strengthening regional infrastructure networks. This amounts to an overall infrastructure investment need of about US\$750 billion per year during this 11-year period. The cross-border infrastructure projects are driven by energy and transportation projects, and most of them are undertaken through Public – Private Partnership (PPP).<sup>10</sup>

**Table 4: Cross-Border Infrastructure (Overland) in Operation in South Asia**

Sector	Countries	Particular
Road transportation (passenger bus services)#	India and Pakistan	Delhi–Lahore Amritsar–Nankana Sahib Amritsar–Lahore Poonch–Rawalakot Srinagar–Muzaffarabad
	India and Bangladesh	Kolkata–Dhaka Agartala–Dhaka
	India and Bhutan	Kolkata–Phuentsholing Siliguri–Phuentsholing
Rail transportation (passenger train services)#	India and Pakistan	Delhi–Lahore Jodhpur–Karachi
	India and Bangladesh	Kolkata–Dhaka
Energy (power trading)*	India and Bhutan	Chukha hydropower Kurichhu hydropower Tala hydropower

*Notes:* #Cross-border services. \*Cross-border projects where investment made by India and the generated power has been exported by Bhutan to India.

*Source:* Compiled by author.

Table 4 presents some of the cross-border infrastructure projects in operation in South Asia. The development of international infrastructure in South Asia has been so far limited to road and rail transportation and hydropower. But, not all can be termed as cross-border investments. While there is a relative upsurge in cross-border overland infrastructure services in South Asia in recent years, the cross-border infrastructure investment is rather limited to only few hydropower projects those exist between India and Bhutan. The power trading arrangement between India and Bhutan is one of the oldest cross-border infrastructure investments in Asia which is an outcome of a successful partnership between the two countries (see Box 2).

## **Box 2: India–Bhutan Partnership in Cross-Border Power Projects**

The India–Bhutan partnership in hydro power was effectively started in 1978, when India extended US\$ 200 million for construction of 336 MW hydroelectric plant at Chukha in Bhutan. The Chukha hydel project was entirely funded by the Government of India with 60:40 ratio of grant and loan. It was successfully commissioned in 1988, and the project was handed over to Bhutanese Government in 1991. About 70 percent of power generated by this project is exported to India, which helped Bhutan to reduce the trade gap with India. Down the line, three hydropower projects were set-up in Bhutan by India (Table 2.1).

**Table 2.1: Cross-border Infrastructure Projects in South Asia**

Location	Financial Closure	Investment (US\$ million)	Investment Type
Chukha (3336 MW)	1988	200	Grant and loan
Kurichhu (60 MW)	2002	119	
Tala (1020 MW)	2003	750	

*Source:* Ministry of Power, Government of India

As on May 2008, India has implemented three hydel projects, namely, Chukha, Kurichhu and Tala, in Bhutan, of which Tala is the largest one. The Tala Hydroelectric project is the biggest cross-border power project in South Asia, and also the largest hydro project in Bhutan. This 1020 MW project is constructed with an investment of around US\$ 750 million, which is entirely funded by the Government of India by way of grants and loan (with a ratio of 60 and 40). India is also helping Bhutan not only in setting up the hydel plants but also providing the training and human resource development in power sector. Indian Prime Minister Dr. Manmohan Singh in his recent visit to Bhutan in May 2008 has laid the foundation stone of another 1095 MW hydro power project at Punatsangchhu. The benefit of cross-border energy trade encouraged Bhutan to seek Indian investments in setting up hydel power plants, which has over 30,000 MW hydroelectric potential.

Cross-border infrastructure projects like hydropower is likely to change the composition of the export-baskets of the least developed countries like Bhutan and Nepal and would help address their adverse balance of trade payment positions with India. The share of customs revenue in the total revenue of these countries continues to be significant, and additional income from

power exports and the enhanced levels of economic activity have been invested in social infrastructure. For example, in Bhutan, revenue earned from exporting 1,472 GWh of power to India from the Chukha project in 2002-03 was US\$ 52 million. Once the 1,020 MW Tala project is commissioned, Bhutan's revenue from power exports will reach US\$ 214 million annually.<sup>11</sup> With commission of West Seti hydroelectric project, Nepal is also expected to earn as much as US\$ 308 million annually by exporting additional power to India.<sup>12</sup>

### ***3.1 Summing up***

The foregoing discussion indicates that South Asia is yet to make a major breakthrough in cross-border infrastructure those enhance regional connectivity. With rise in regional trade in goods and services, South Asia has to adopt a strategy that will not only eliminate the barriers to cross-border infrastructure development but will also encourage investment flows in the region. Given that most cross-border projects are associated with several risks, governments in South Asia have to play a larger role in making an enabling environment for private sector to invest in regional infrastructure projects.

## **4. CHALLENGES AND POTENTIALS FOR REGIONAL COOPERATION**

The major challenge facing South Asia in its quest for regional integration and increasing competitiveness is the poor quality and inefficient infrastructure services, both hardware and software, which raise costs of transportation and production and constrain the capacity of the South Asian economies to gain from a liberal trading environment. South Asian region, with its geographical contiguity, has great potential for cooperation in infrastructure sector within the region.

The importance of tariffs as barriers to trade has gradually come down, however, high-tariffs still exist for certain sensitive products, and there is a strong presence of Non-Tariff Barriers (NTBs) including high border transaction costs in the region.<sup>13</sup> High transportation costs (e.g. 20 per cent on value of imports), poor institutions (e.g. lack of e-filing of trade documents), inadequate cross-border infrastructure (e.g. lack of modern warehouse or container handling facility at border), and absence of a regional transit trade (virtually in the entire region) are some major factors penalising South Asia's trade and integration.

To realize the benefits of full regional connectivity and trade liberalisation, South Asian countries have to follow policies that help them to reduce the costs of trade, in one hand, and to absorb new transportation technologies, improve productivity, and increase their labour force's knowledge and skills, on the other. Since countries in South Asia do not start with the same endowments, there will be both winners and losers. Countries those are not having adequate capacity to entangle with the integration process may loose, while winners will be those which are better endowed with higher infrastructure stocks. The shared objective of the regional cooperation should be then to eliminate this asymmetry between countries in South Asia and help the laggards to move ahead through a deeper cooperation.

#### ***4.1 High Transportation Costs Penalising Trade in South Asia***

Transport cost is a significant determinant of a region's competitiveness, wherein an integrated and efficient transport network along with a regional transit mechanism for cross-border movement of goods and services play the pivotal role in integrating a region and would significantly improve the region's trade competitiveness. One of the impediments to the full connectivity in South Asia is the absence of integrated and improved cross-border transportation network and regional transit system (De 2005b, 2008c). An uninterrupted connectivity would, therefore, not only better integrate the region but will also reduce the intra-regional trade transportation costs.

Trade has been the major contributor towards integrating South Asia. However, countries in South Asia do not have significant trade with one another in spite of their geographical proximity.<sup>14</sup> The intra-South Asia export is largely driven by India, and the distribution of merchandise trade in South Asia is very much uneven. A set of recent studies shows that the benefits of trade liberalisation have been limited so far in South Asia, since the region in large has failed to reduce the trade transportation costs, both inland and international.<sup>15</sup> Managing the costs of trade across border has become an important policy agenda in South Asia. For example, the Heads of SAARC countries had recognised the full benefits of an integrated transport system in the region.<sup>16</sup> They emphasised that higher intra-regional trade would not be realised until and unless physical infrastructure and matters relating to customs clearance and other facilitation measures, including multimodal

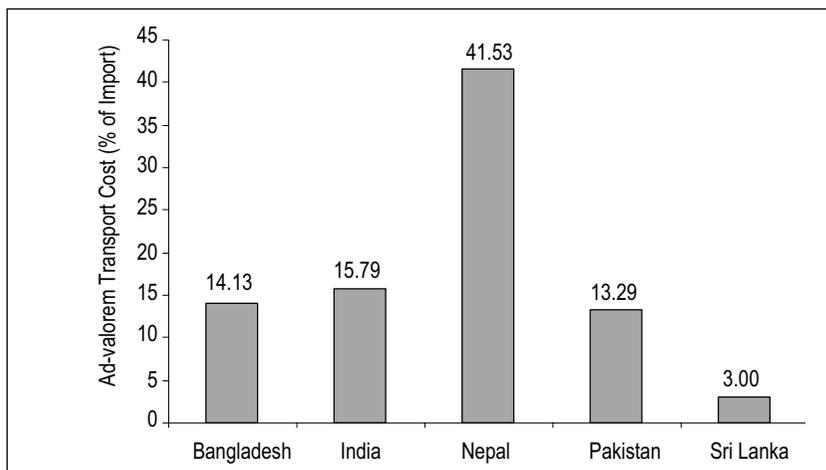
transport operations were not taken care of. They also felt that the region needs full regional connectivity in order to unleash its trade potentials.

To understand why transportation costs are so high in South Asia and what would be the transportation needs, we briefly discuss ad-valorem transport costs and weight to value ratio of trade.

### ***Ad-valorem transportation costs***

Inter-country transportation cost is often represented by ad-valorem transport cost, which is an indicator of costs of transportation, both inland and international, in terms of import value. In other words, the ad-valorem (trade-weighted) transport costs provide us US\$ transport cost per US\$ of import.<sup>17</sup> Figure 1 provides the aggregate ad-valorem rate for South Asian countries. In South Asia, the estimated trade-weighted ad-valorem transport cost for all goods is lowest in case of Sri Lanka (3 per cent in 2005) and highest in case of Nepal (41.53 per cent in 2005). Nepal being land-locked pays a high price for transportation of goods.

**Figure 1: Estimated Ad-valorem Transport Costs by Country in 2005\***

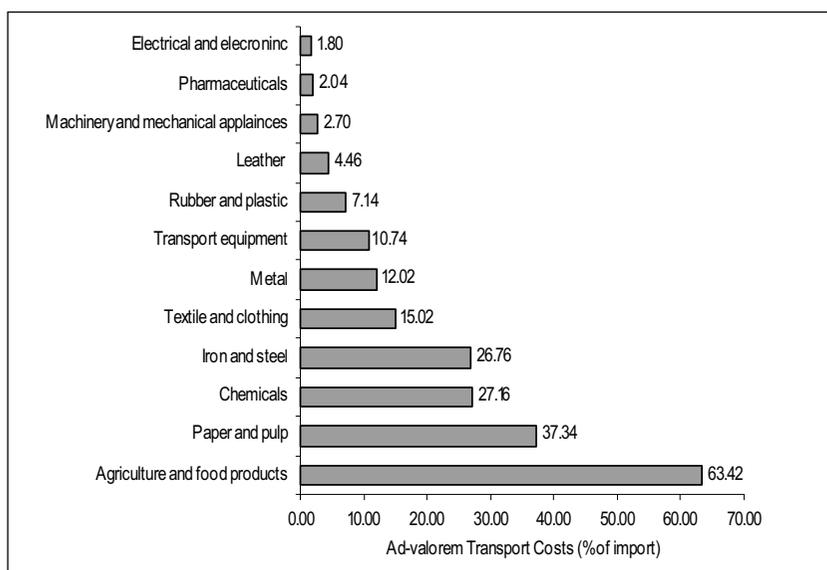


**Notes:** \*As a percentage of import. \*\*Trade weighted over all South Asian partners.

**Source:** De (2009b)

Transportation costs are lower for manufactured goods, than for traditional commodities (Figure 2). In general, South Asian countries, except Sri Lanka, stand out as having exceptionally high freight rates in case of traditional commodities such as agriculture and food products, and paper and pulp. Agriculture and food products witness highest transportation costs (63.42 percent) in South Asia, while electrical and electronics face lowest transportation costs (1.80 per cent).

**Figure 2: Estimated Ad-valorem Transportation Costs by Commodity in South Asia in 2005\***



*Notes:* \*As a percentage of import. \*\*Trade weighted over all South Asian partners  
*Source:* De (2009b)

The ad-valorem transport cost differs across commodities and countries in South Asia. For example, transport costs for imports of chemical, agriculture and food products, iron and steel, and metal are comparatively very expensive in Nepal and Bangladesh. Similarly, India witnesses relatively higher transportation costs for imports of paper and pulp (80 per cent) from South Asia. Transportation costs for imports of high-end manufactured products such as electrical and electronics appeared to be low in South Asia. Perhaps, the low volume intra-South Asia trade in these two categories could be a reason for low transport costs.

The South Asian countries comparatively have higher incidence of inland transportation costs (De 2009b), compared to international transportation costs (except Sri Lanka). The variation in ad-valorem transport costs across countries and commodities presumably lies in obstacles in inland infrastructure facilities as the composition of transport costs is very much influenced by the inland leg of the journey in South Asia. This variation is intuitively influenced by differences in inland freight, and the country's domestic transport services responsible for movement of goods. Therefore, the variations in inland transportation costs have significant influence on regional trade transportation costs in South Asia. The region can achieve substantial productivity gains and cost reductions by improving transport infrastructure.

### ***Weight to value ratio of trade***

In order to evaluate the transportation needs, one has to describe the regional trade in terms of weight. The weight-value ratio of a product is the major determinant of the transportation expenses a country faces (Hummels and Skiba, 2004).<sup>18</sup> For example, the cost of transportation of heavier goods would certainly be higher than lighter goods. If a country (or a region) is a net importer of weights, it will be showing a net deficit in transportation costs.<sup>19</sup>

**Table 5: Estimated Weight-Value Ratio (kg/US\$) in 2005 by Bilateral Partners**

Exporter	Importer					
	Bangladesh	India	Nepal	Pakistan	Sri Lanka	Total
Bangladesh		2.195	0.252	0.015	0.613	3.075
India	2.716		3.322	2.241	0.946	9.226
Nepal	7.351	8.127		0.863	0.584	16.924
Pakistan	2.613	3.850	0.517		1.351	8.330
Sri Lanka	0.884	1.550	0.654	0.828		3.917

*Source:* Adapted from De (2009b).

South Asian countries on an average are net importers of weights (De 2009b). Nepal's imports are comparatively heavier. Except Bangladesh, which is a net exporter of weights, and India, to a marginal extent, rest of the South Asian countries, including Sri Lanka are net importers for weights for their regional trade. In case of commodity groups, except agriculture and food products, the region is a net importer of weights in most of the commodity groups. Bangladesh and Nepal in agriculture and food products,

and India in fuels, minerals and forest products are net exporters, presumably because of their low imports in these commodity groups.

The trade between India, Bangladesh and Nepal is comparatively driven by heavier commodities (Table 5). At the bilateral level, Nepal, being a land-locked and small economy, imports weights from Bangladesh and India thus incurring considerably higher transportation expenses (Table 6). This also indirectly tells us that the land border dealing the overland trade between India, Nepal and Bangladesh is reasonably overcrowded, and running with incidence of cross-border delay and higher transaction costs.<sup>20</sup> Nevertheless, the estimated ad-valorem transportation costs for bilateral pairs exceed the applied customs tariff for most of the South Asian countries, except in three cases, such as (i) Bangladesh's imports from India, (ii) India's imports from Sri Lanka, and (ii) Sri Lanka's imports from India.

**Table 6: Estimated Bilateral Ad-valorem Transport Costs in 2005**

Importer	Exporter	Ad-valorem Transport Costs (%)*	Applied Tariff (%)**
Bangladesh	India	30.50	39.54
	Nepal	6.20	4.46
	Pakistan	17.40	15.64
	Sri Lanka	20.70	18.56
India	Bangladesh	29.40	15.87
	Nepal	48.20	22.66
	Pakistan	45.00	24.35
	Sri Lanka	11.90	23.29
Nepal	Bangladesh	81.90	9.05
	India	63.10	14.70
Pakistan	Pakistan	24.10	10.40
	Sri Lanka	18.80	15.43
	Bangladesh	21.10	6.58
	India	53.60	7.91
Sri Lanka	Nepal	16.60	6.83
	Sri Lanka	15.60	6.58
	Bangladesh	13.20	6.81
	India	5.00	9.20
	Nepal	12.00	11.72
	Pakistan	5.90	3.76

*Notes:* \*Represented by total transport costs as percentage of imports. \*\*Weighted average.

*Sources:* De (2009b) for Ad-valorem Transport Costs, and World Bank (2008) for Applied Tariff.

Therefore, we have three important conclusions: (i) the heavier the good larger the transport cost in South Asia. Alternatively, South Asian countries import higher weights, thereby implying frequent transport congestion and higher trade transportation costs; (ii) transport costs incidence in South Asia is higher than tariff incidence. South Asian countries are paying more towards trade transportation costs, compared to customs tariff, and (iii) costs of trade transportation increase if the country is land-locked (e.g. Nepal).

### ***Summing up***

The foregoing discussion suggests that trade transportation cost across South Asia is very expensive and varies across goods and countries in the region. Costs of trade transportation in South Asia increase if the country is land-locked. The land border in South Asia is overcrowded and needs special attention in order to reduce time delay and costs of transaction.

### ***4.2 Inefficient Border Corridors Making Trade Costly in South Asia***

The efficiency of border corridors and land customs stations (LCSs) is an important factor for South Asia's competitiveness and its trade prospects. The present trade flow in South Asia is very much uneven across the border corridors. The full regional connectivity in South Asia would likely to redistribute the regional trade and traffic among the existing corridors. An efficient corridor is thus very important in order to maximize the benefits of full regional connectivity. Thus, the objectives of the trade facilitation measures would be to (i) constantly improve the performance of border corridors and land customs stations (LCSs), and (ii) eliminate the asymmetry between the LCSs pair.

Table 7 provides a comparison of 12 surveyed LCSs (6 pairs) in eastern South Asia. As Table 7 shows, these LCSs have many things in common as well as several dissimilarities. While there is no mismatch in the timing of operations of customs and immigration among the LCSs, the days of operation differ between India and Bangladesh. Apart from immigration, customs and security, which are essential part of all LCSs, the other facilities in both the physical and non-physical categories vary across the LCSs. For example, except for Birganj none of the LCSs have an exclusive container-handling yard at or near the border. Similarly, except for Petrapole none has effectively adopted the fast track cargo

**Table 7: Status of Trade Facilitation Services at Border**

Particulars/ Country	Pair 1		Pair 2		Pair 3		Pair 4		Pair 5		Pair 6	
	Petrapole India	Benapole Bangladesh	Changrabandha India	Burimari Bangladesh	Jaigaon India	Phuentsholing Bhutan	Phulbari India	Banglabandh Bangladesh	Panitanki India	Karkabitta Nepal	Raxaul India	Birganj Nepal
Working time (per day)	09.00- 17.00	09.00- 17.00	09.00- 17.00	09.00- 17.00	09.00- 17.00	09.00- 17.00	09.00- 17.00	09.00- 17.00	09.00- 17.00	09.00- 17.00	09.00- 17.00	09.00- 17.00
Working days (per week)	7	7	7	7	7	7	7	7	7	7	7	7
for Immigration												
Working days (per week)	7	6	7	6	7	7	7	6	7	7	7	7
for Customs												
<b>Physical</b>												
Customs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Immigration	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Security	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank	Yes*	Yes*	Yes@	Yes@	Yes*	Yes*	No	No	Yes@	Yes@	Yes*	Yes*
Health	Yes	Yes	No	No	Yes	Yes	No	No	No	No	Yes	Yes
Warehouse	Yes*	Yes*	Yes	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes*
Weight bridge	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Container handling yard	No	No	No	No	No	No	No	No	No	No	No	Yes@
Currency exchange	Yes*	Yes*	Yes	No	Yes*	Yes*	No	No	No	No	Yes*	Yes*
Waiting room	Yes	Yes	No	No	No	Yes	No	No	No	No	No	No
Shops, hotels, & restaurants	Yes	Yes	Yes	Yes	Yes	Yes	Yes*	No	Yes	No	Yes	Yes
<b>Non-physical</b>												
e-commerce of Customs (ICEGATE) (ASYCUDA)	Yes	Yes	No	No	No	No	No	No	No	No	Yes	Yes
Internet	Yes	No	No	No	No	No	No	No	No	No	No	No
Telecom	Yes	Yes	Yes*	Yes+	Yes*	Yes*	Yes+	Yes+	Yes*	Yes+	Yes*	Yes*
Fast Track												
Cargo Clearance	Yes#	No	No	No	No	No	No	No	No	No	No	No

*Notes:* \* Insufficient # For selected goods +Insufficient and not for all. @ Located few kms away from the border. \$ Only for export cargo, import from Nepal handled manually. ^ Only for revenue calculation and not for Customs operation.

*Source:* De *et al* (2008)

clearance system. In the case of e-governance in customs, Petrapole and Raxaul use ICEGATE while Benapole and Birganj use ASYCUDA. Customs formalities in the remaining LCSs were mostly handled manually. The existing Electronic Data Interchange (EDI) system also suffers from certain shortcomings that add to the transaction costs. For example, although the filing of declarations has been made possible online, a hard copy of the declaration is generated by the system – albeit at a later stage – and signed for a variety of legal and other requirements, both for the importers and for customs. Other supporting documents are also submitted for verification by government authorities and their agents. Thus, many drawbacks associated with documentation continue to exist under the present EDI system.

Procedural complexities very often work as deterrents to India-Bangladesh trade.<sup>21</sup> The customs offices in eastern South Asia still require excessive documentation, especially for imports, which must be submitted in hard copy form.<sup>22</sup> According to De and Ghosh (2008), an Indian exporter to Bangladesh has to obtain 330 signatures on 17 documents at several stages. While most of these documents are standard for international trade, the two governments tend to add requirements that are purely local in nature. The bureaucratic response to problems and anomalies has been to introduce new procedures and documents to avoid their recurrence. This introduces a significant increase in the cost of doing business, but, in many cases, has little effect on the cause of the problems. Because of this complex, lethargic and primitive procedure, pilferage continues to rise. This often changes the composition and direction of trade in South Asia.

Most of the LCSs suffer from limited warehouse capacity and the lack of banking and foreign exchange facilities. In some cases, banks are located several kilometres away from the border (e.g., Burimari, Panitanki and Karkabitta). Adequate foreign exchange facilities are also unavailable at these borders. Some LCSs do not even have a foreign exchange facility, such as Burimari and Banglabandh in Bangladesh, Karkabitta in Nepal, and Phulbari and Panitanki in India.

Except for Kolkata and Haldia seaports, none of the LCSs surveyed had adequate capacity (in both software and hardware) to deal with goods in transit. In most cases, officials were unaware of their countries' commitment under GATT Article V and the obligations therein. It appears that South Asian countries have promoted bilateral transit agreements/arrangements that are not consistent with all other commitments on trade facilitation and with the objective of reducing trade barriers. Therefore, they need to cooperate and coordinate in designing and applying bilateral and regional transit agreements/arrangements. Moreover, eastern South Asian countries did not take full account of international standards and instruments when designing and applying those agreements or arrangements.

**Table 8: Relative Efficiency of Border Customs in Eastern South Asia**

Relatively Efficient	Moderately Inefficient	Highly Inefficient
Raxul, India	Birganj, Nepal	Benapole, Bangladesh
	Petrapole, India	Burimari, Bangladesh
	Jaigaon, India	Kakarvitta, Nepal
	Phuentsholing, Bhutan	Banglabandha, Bangladesh

*Note:* \* Rankings have been done based on estimated transaction costs and transaction time at selected nine border crossing points for the period 2001 to 2006 using Data Envelopment Analysis (DEA), based on Farrell Input-Saving measure of technical efficiency with constant return to scale and strong disposability of inputs. For technical details, refer De *et al.* (2008).

*Source:* De *et al.* (2008).

By using Data Envelopment Analysis (DEA), we evaluate efficiency of the border corridors in eastern South Asia (Table 8). DEA is a linear programming based technique for measuring the relative performance of organisational units where there is a presence of multiple inputs and outputs. Among the nine LCSs Raxul in India is relatively an efficient LCS, while rest eight LCSs are relatively inefficient. However, average performance of nine border points has improved over time pointing to the fact that there has been a positive development in LCSs in terms of e-governance. However, significant gaps remain in terms of access and use of information technologies in most the LCSs in South Asia. For example, LCSs in Bangladesh, except Benapole, are yet to be equipped with information technologies required

for smooth operation of Customs and trade transaction. In this context, Indian government's Integrated Check Post (ICP) project would help improve the border infrastructure serving South Asian neighbours (see Box 3). At the same time, we need to upgrade other side of the border at same pace. Smaller countries, surrounding India, may not be having adequate fund and capacity to implement ICPs in their part of the border. Helping them financially and technically would be extremely useful in achieving a compatible, harmonized and improved border, serving the trade of the region.

### **Box 3: Integrated Check Post (ICPs) in India**

To undertake measures aimed at simplifying control and accelerating procedures in the border customs points, Indian government has planned ICPs at identified entry points on land borders. In order to facilitating trade among contiguous countries, ICP is planned to serve as a single window facility covering customs, immigration and warehousing, health facilities, shopping complex and parking facilities under one roof.

The Empowered Steering Committee (ESC) has suggested for setting up of Land Ports Authority of India (LPAI) to oversee the construction, management and maintenance of ICPs, which will be developed as public funded projects. The LPAI would be empowered to notify entry points on our land/riverine borders as land ports, plan, develop, construct and maintain terminal and ancillary buildings, parking areas, lay-byes, warehouses and cargo complexes, etc. and to establish such facilities as may be required for facilitating trade and traffic.

About 13 ICPs with one on India-Pakistan border, four on India-Nepal border, one on India-Myanmar border and seven on the India-Bangladesh border are being planned. The cost of setting up 13 ICPs has been estimated at Rs 7.34 billion. Of these, four ICPs at Petrapole, Moreh, Raxual and Wagah are proposed to be set up in Phase I at a cost of Rs 3.42 billion. In Phase II the balance nine ICPs at Hili, Chandrabangha (both in West Bengal) Sutarkhandi (Assam), Dawki (Meghalaya), Akaura, (Tripura) Kawarpuchia (Mizoram), Jobgani (Bihar), Sunauli (UP) and Rupaidiha/Nepalganj (UP) would be established at a cost of Rs 3.94 billion.

The transport system of the South Asian countries has been developed only in a national context, with little consideration given to cross border issues of compatibility, uniformity of standards in infrastructure and equipment design, user friendly Customs and e-governance at border. An improved services quality of Customs at border will strengthen competitiveness of goods and services being traded across South Asia.

*Source:* Author

### ***Summing up***

South Asian countries should give utmost importance to inefficient border customs stations for making them efficient. If the objective is equitable growth of trade and traffic in South Asia, all the border corridors and LCSs have to improve their efficiency over time. In particular, LCSs in LDCs need special attention since they lack in facilities those offered by developing countries in South Asia, thereby showing a tremendous asymmetry and adding to the costs of transaction. A regional approach would be useful particularly for those who lack in adequate capacity to upgrade the LCSs. Forming a regional cooperation network among the LCSs in South Asia would thus essential in order to remove the infrastructural asymmetry between the LCSs. This will also help exchange of information, training human resources, adopting to new technology, and better utilising the resources in an effective manner. Therefore, the requisite policy agenda should help stimulating the evolution of border corridor services, promulgating new performance standards, and encouraging their implementation.

At the same time, to improve performance, border corridor management authorities (here, government) need to constantly evaluate operations or processes related to providing, marketing and selling of services to the users. Nonetheless, the performance of LCSs and border corridors would be contingent upon full regional transit in South Asia.

### ***4.3 Absence of Regional Transit Holding back South Asian Integration***

Transit is an intrinsic element of any cross-border movement of goods and vehicles, and exercises significant influence on national economies (ABD-UNESCAP 2009). Among the major causes of high trade transaction costs in South Asia are the cumbersome and complex cross-border trading process and procedures. The goods carried by road in South Asia are largely subject to transshipment at the borders, which is a serious impediment to regional and multilateral trade. The position is further compounded by lack of harmonization of technical standards. The foremost critical factor prohibiting South Asia in achieving its full regional connectivity is absence of regional transit trade (De 2005b, 2008c). Unlike European Union, South Asia does not have regional transit arrangement, although partial transit

exists for land-locked countries like Afghanistan, Bhutan and Nepal. Given the region’s emergence as a free trade area since 2006, following the SAFTA, regional transit facilities will help South Asian countries to achieve the potential benefits of moving into an effective free trade regime (De et al 2008). Therefore, transit is one of the central challenges facing the South Asian countries.

Except Bhutan, all other South Asian countries are members of the WTO. The trade in South Asia is conducted on MFN basis following regional (SAFTA) and the bilateral trade agreements. As shown in Table 9, except the trade between India and Bangladesh, or Bhutan and Nepal, bilateral trade agreements of remaining countries in South Asia offer mutual understanding on transit. The movement of goods and vehicles is controlled through national legislation and a series of bilateral transit and trade agreements – and, in certain cases, also “ad-hoc” arrangements deriving from intent between certain country pairs for mutual cooperation.<sup>23</sup> An example of this mutual cooperation is the movement of Bhutanese goods through Indian territory, which is governed by the stipulations contained in the “Agreement on Trade and Commerce” between the two countries and an attached Protocol.<sup>24</sup> Therefore, the present semi-transit arrangement in South Asia is nonetheless disappointing.

**Table 9: Trade and Transit Arrangement in South Asia**

Agreement	Type	MFN Trade	MFN Transit	GATT Signatories
India–Bangladesh	Bilateral	Yes	No	Yes
India–Nepal	Bilateral	Yes	Yes	Yes
India–Bhutan	Bilateral	Yes	Yes	India–Member; Bhutan–Observer
India–Pakistan	Bilateral	No	No	Yes
Pakistan–Afghanistan	Bilateral	Yes	Yes	Pakistan–Member Afghanistan–Observer
Bangladesh–Nepal	Bilateral	Yes	Yes	Yes
Bangladesh–Bhutan	Bilateral	Yes	Yes	Bangladesh–Member, Bhutan–Observer
Bhutan–Nepal	Bilateral	Yes	No	Nepal–Member, Bhutan–Observer

*Source:* De et al.(2008).

**Table 10: Estimated Transit Revenue of Bangladesh for India – Bangladesh Trade**

Corridor	Countries	Border Crossings	Revenue of Bangladesh from Transit (US\$ per annum)*
Shillong–Sylhet–Dhaka–Kolkata (721 kms)	India & Bangladesh	Dawki (India) / Tamabil (Bangladesh), Benapole (Bangladesh) / Petrapole (India)	US\$ 660 - 1060 million
Agartala–Akhaura–Dhaka–Kolkata (478 kms)	India & Bangladesh	Agatala (India)/ Akhaura (Bangladesh), Benapole / Petrapole	US\$ 110 - 180 million

*Note:*\* Average during the period 2007 to 2010. Several assumptions applied.

*Source:* RIS (2007a).

The econometric evidences strengthen the existing linkage of trade costs, transit and trade flows: higher the transaction costs between each pair of partners, less they trade. In a study, it was found that a 10 per cent fall in transaction costs at border in South Asia has the effect of increasing country's exports by about 3 percent.<sup>25</sup> In parallel, a regional transit would enhance the regional trade, controlling for other variables<sup>26</sup>. At the same time, implementation of e-governance at border is found to be significant determinant of trade flows thus indicating e-filling of Custom formalities has been helping the trade to grow in South Asia.

A full regional transit will not only bring a steady revenue stream of transit fees but will also help develop industry and service enterprises in the border areas. According to an RIS Study, once the transit between India and Bangladesh is allowed, Bangladesh can earn hefty revenue (over US\$ 1 billion per annum) as transit fees from Indian vehicles plying to and from India's north-eastern region (NER) to rest of India using Bangladeshi soil (Table 10). The amount may rise if other corridors between India and Bangladesh are also counted. Similarly, transit arrangement between India, Pakistan and Afghanistan will fetch a hefty royalty to Pakistan for movement of vehicles between India and Afghanistan using Pakistani soil. There are also huge gains associated with energy conservation due to transit and efficient use of resources.

Therefore, agreeing to a full regional transit would mean a “win-win” gain for all the countries in the region. Reasons are primarily as follows: First, smaller countries in South Asia (e.g. Bhutan, Bangladesh and Nepal) are having higher trade with the region. However, lack of transit trade is impeding their intra-regional trade and economic exchange to grow and integrate further. Second, bilateral transit trade (MFN type) does not exist among all the countries in South Asia on reciprocal basis due mainly to geographical asymmetry, political misunderstanding, among others. For example, India and Bangladesh do not have transit arrangement even though both the countries are adjacent and share a common border. At the same time, India has bilateral transit arrangement with Bhutan and Nepal, with which India share an international border. Third, transit would help smaller countries to earn revenue from it, which could be utilised for country’s social and infrastructure development and enterprises at border areas. Fourth, South Asian countries have accorded a regional FTA (SAFTA) and they are signatories of GATT. The greater benefits of SAFTA and multilateral free trade are clearly contingent upon full regional transit. However, there are some serious challenges like standardization of laws and regulations relating to transportation, security, maintenance of corridors, etc., which countries have to overcome through continuous dialogue and deeper cooperation.

### ***Present Status***

SAARC has Inter-Governmental Group (IGG) to advice on facilitation of transport in South Asia. A battery of proceedings of IGG shows that harmonization of standards and mutual recognition in transport sector has been the key issue in South Asia. There has been some important development in regional transportation in South Asia in recent years. As per the directives of the 14<sup>th</sup> SAARC Summit held in New Delhi in April 2007, the SAARC Ministers of Transport of SAARC countries for the first time met in New Delhi on 31 August 2007. Taking a note of the recommendations of SAARC Regional Multimodal Transport Study (SRMTS), SAARC Transport Ministers agreed to accord a Regional Transport and Transit Agreement, and a Regional Motor Vehicle’s Agreement in 2008.<sup>27</sup> Member States have been discussing on Motor Vehicles Agreement (MVA), and a final decision on MVA is yet to be taken.<sup>28</sup>

### ***Summing up***

The scope and issues of transit have become extremely important since regional trade in South Asia has expanded. South Asian countries have agreed to South Asian regional transport corridors.<sup>29</sup> However, they have not yet taken a firm decision on regional transport and transit arrangement for cross-border movement of goods and vehicles. Time is ripe that they sign both Motor Vehicles Agreement and Regional Transport and Transit Agreement together. A regional transit arrangement will help South Asia to better integrate the region and also to strengthen the globalisation process. They can achieve full regional transit either through GATT Article V or by forming its own regional arrangement in conformity with GATT Article V. Both could work well in case of South Asia.

### ***4.4 Borders Contain High Concentration of Poor in South Asia***

In South Asia, transportation costs and transit are not, however, the only problem faced by border areas and landlocked countries. Their lack of direct access to seaports and markets entails additional expense because the costs of transporting goods through a transit country result in less than competitive international trade as well as delays or even interruptions in their development and economic growth.

Growth in South Asia has, so far, been centred around the core (inner) periphery of the region. The States (or provinces) at the outer periphery in a country (or economic bloc) tend to be poorer than those at its centre.<sup>30</sup> Contrary to popular belief, despite unprecedented economic growth in South Asia, the total number of people living in poverty – particularly rural poverty – has not declined, and there has been an explicit rise in income inequality, particularly within countries.<sup>31</sup> On average, the ratio of income of the richest 20 per cent to the poorest 20 per cent increased from 4.3 per cent during 1990-1996 to 5.5 per cent in 2000-2005 (Human Development Centre, 2008). This rise in income inequality is a serious concern for South Asia.

Although there is no empirical evidence so far to show that the border areas are adversely affected by trade in South Asia, it can be said that

costlier trade at borders is negatively affecting the local economy in the border and landlocked areas, converting it into a rent-seeking informal economy. This becomes disadvantageous for the development of the border economy. Table 11 provides average per capita incomes and poverty rates (rural) of the border provinces/states of selected South Asian economies. It is amply clear that a vast majority of the South Asian population living in border and land-locked areas are comparatively poor and mostly depend on agriculture. The poverty incidence is very acute in eastern South Asia, particularly in land-locked Nepal, Bangladesh and India's north-eastern region.

**Table 11. Income Per Capita and Poverty Rate in Bordering States in South Asia**

Country	Bordering States	Bordering with	Income Per Capita (US\$), 2006 (avg.)	Rural Poverty Rate (%), 2004-05 (avg.)	Country HDI 2005
India	North-eastern states (7), West Bengal	Bangladesh	690 (860)	34 (22)	0.619
	Western and North-western states (4)	Pakistan	910 [800*] (860)	32 (22)	
Bangladesh	All states** (4)	India	450	53	0.547
Pakistan	Eastern provinces (2)	India	890 (800)	36 (32)	0.551
Nepal	Southern states (5)	India	300 (320)	48 (46)	0.534

**Notes:** \* Excluding Punjab State of India. Numbers in first parentheses are national averages. \*\*Officially termed at divisions.

**Sources:** De (2009c), based on National Sample Survey Organisation and Economic Survey 2007-2008, for India; World Development Indicators, CD-ROM 2008; World Bank and Bangladesh Economic Review, 2007-2008, for Bangladesh; Pakistan Economic Survey, 2007-2008, for Pakistan; Economic Survey, 2007-2008, for Nepal; and country HDI taken from Human Development in South Asia 2007: A Ten-year Review (Human Development Centre 2008).

Therefore, it would not be digressing much to say that people living in border areas and land-locked countries are largely left untouched in relative term by the globalization process in South Asia. The exact causes of the slow growth remain unknown and are a matter for detailed analysis. However, rising transportation costs and border delays are certainly widening the

income gap between the benefiting regions and the deprived border areas. Facilitating intraregional trade and economic integration would provide an opportunity for many of these people and provinces (states) to benefit as they would be closer to the centre of the economy (rather than remaining at the outer periphery of their own national economy). In the short term, greater development efforts have to be focused on the border areas, in order to deepen national integration and also attune their production structure to international demands.

## **5. VISION OF AN INTEGRATED SOUTH ASIA: THE ENABLING ENVIRONMENT**

Progress in transportation links in Asia so far has been made through several subregional initiatives. Although some subregions such as the Greater Mekong Subregion (GMS) have successfully implemented cross-border corridors and progressed much further in strengthening connectivity, few others (such as the SAARC) have yet to make any major breakthroughs. The subregional transport corridors like the GMS transport and trade facilitation program have created a demonstration effect in Asia and have become a role model for other subregions in Asia (such as in CAREC). The improvement of the subregional transport corridors in the GMS has resulted in significant savings in vehicle operating costs and reduced travel time (ADB 2009a; 2009b). Although several benefits are apparent from completed subregional projects, three main issues hamper the full delivery of these benefits: first, the subregional transport corridors (“hardware”) in Asia are not always supported by “software” (trade facilitation) except perhaps in the GMS; second, missing infrastructure links in many subregions have reduced the effectiveness of the completed projects in subregions; and third, lack of synergy between national and subregional transport corridors is very common. As a result of the road improvement, national traffic has increased across the corridors, indicating that national level benefits have been high. It is apparent that international traffic has been slow to grow, partly due to the absence of an agreement to facilitate cross-border movement of vehicles and absence of strong and stable pan-Asian transport networks. The pan-Asian transport corridors (AH and TAR) as well as country strategies continue to depend on national institutions for planning and national funds

for implementing the projects. The overall attitude toward AH and TAR projects apparently favours addressing national constraints rather than developing regional arrangements (Bhattacharyay and De 2009).

Unlocking South Asia's trade potential is thus a daunting task. Costs for not having uninterrupted road or railway connectivity across the region or facilitation of border trade can offset gains appearing from trade preferences as proposed under several free trade agreements and other arrangements. Therefore, the need for a better enabling environment for trade that offers lower trade costs has gained momentum in entire Asia. However, a favourable regional climate to create a seamless infrastructure to operate in its full potential is missing in South Asia. Because of this, the agenda of the South Asian Regional Cooperation has to go beyond "policy" barriers and include "non-policy" barriers like regional connectivity both in its hardware (transport corridors) and software (facilitation of movements of goods and vehicles across borders). A scrutiny of subregional programs across world clearly shows that most of them have now undertaken exclusive projects to improve subregional connectivity (ADBI 2009; Bhattacharyay 2009). To realise the potentials of these subregional networks, we may have to integrate them with the pan-Asian arteries such as the AH and TAR, or those initiated by UNESCAP and ADB. Therefore, in order to promote seamless connectivity in Asia, the primary challenging task is twofold: first, to integrate the different subregional transport corridors and modes (railways, roads, air, and maritime shipping) which will facilitate the movement of goods and services in South Asia and beyond; and second, to overcome institutional constraints and bottlenecks that are deteriorating the regional competitiveness by making trade expensive.

South Asia has entered in the second era of regional integration. The next stage is to achieve Customs Union and the Economic Union in coming years. To unleash the trade potentials of South Asian countries and to realise the benefits of full regional connectivity, the prime objective of the South Asian regional cooperation should be to improve national and international infrastructure. We need to give more focus to international infrastructure that enhances regional connectivity. The objective of the regional cooperation at the present context would be to achieve integrated South Asia. There is

high potential for cooperation in infrastructure sector in South Asia, and some of them are highlighted below.

### ***5.1 Narrowing the Infrastructure Gap and Initiatives for Infrastructure Financing***

The current state of infrastructure in South Asia is not sufficient to meet the growing demand of the region. Failing to narrow the infrastructure gap, the region's growth and development will slow down. The renewed and shared agenda of the South Asian regional cooperation process should therefore aim to reduce both intra- and inter-regional infrastructure gaps. The process of South Asian regional integration has to contribute to narrowing the infrastructure gaps by providing resources for development of infrastructure. There are four major challenges for which we need deeper regional cooperation.

First, South Asian countries are having excess foreign exchange reserves and surplus savings, which could be utilised in a much more effective manner by a regional framework. Financing of infrastructure development is beyond the capacity of most LDCs in South Asia, making it necessary to seek innovative financial instruments and institutional arrangements. In that context, a regional mechanism to mobilize a very small proportion of these reserves for development of regional cross-border and national infrastructure could be highly productive. South Asian countries may think for setting up South Asia Infrastructure Fund (SAIF), which could be utilised in financing cross-border infrastructure projects in South Asia. This Fund will serve as the umbrella financial institution for SAARC infrastructure projects and programmes, particularly in cross-border infrastructure sector.

Second, over the years governments in South Asia have underinvested in infrastructure assets and especially in maintaining them. Expand, upgrade and maintain infrastructure networks in South Asia will require large investments. These investments are to be achieved through a combination of public investment, public-private partnerships (PPPs) and exclusive private investments, wherever feasible. Three South Asian countries, namely, India, Pakistan and Bangladesh, have already established special purpose vehicles (SPVs) for development of infrastructure in PPP or in PSP (Table 12), and some of South Asian countries like Sri Lanka and Afghanistan

have been experimenting PPP in infrastructure projects on standalone basis, mainly in telecom sector. New instruments like Viability Gap Funding (VGF) by the governments of India and Pakistan to support infrastructure projects are very much relevant for other South Asian countries to follow. Therefore, cooperation among SPVs, which were setup to support infrastructure development in South Asia, would be very useful not only to exchange experiences and development of infrastructure projects, but also to implement the SAIF.

**Table 12: Infrastructure Development SPVs in South Asia**

	Governing Ministry	Year of Establishment	Function	Viability Gap Funding	PPP Policy
Infrastructure Project Development Facility (IPDF), Pakistan	Finance	2006	Facilitation and financing	Yes	Yes
Infrastructure Investment Facilitation Centre (IIFC), Bangladesh	Finance	1999	Facilitation and financing	No	Not yet*
Public-Private Partnership in India (PPPI), India	Finance	1997	Facilitation	Yes	Yes

*Note:*\*The country has Private Sector Infrastructure Guidelines (PSIG), instead of a separate PPP policy.

Third, South Asian countries, where financial markets are shallow and there are limited options for financing long-term projects through longer-term equity financing. To ease financing constraints, key priorities include developing longer-term bond markets; developing investment policies and regulatory guidelines that encourage banks, insurance companies, pension and mutual funds, and other financial institutions to participate in financing infrastructure projects; and encouraging the use of innovative financing instruments to mitigate lenders' risks. To help close the funding gap, the governments of India and Pakistan have established facilities to provide long-term finance for infrastructure projects. However, rest South Asian countries neither have any adequate capacity to support private sector participation nor they have developed financial market. A deeper and more diversified financial sector in the region could certainly help increase private

participation in infrastructure. Developing regional capital markets, as discussed above, can play a critical role in facilitating investment in infrastructure in South Asia.

Four, success of cross-border infrastructure projects relies on friendly sector specific policies and political stability of the region. An example of a PPP which has worked in the power sector is the Powerlinks Transmission Ltd. The project is a joint venture between PowerGrid, a Government of India-owned entity, and Tata Power, a private sector entity. The project has established a 1,200 km transmission line between the Indo-Bhutan border and Bhandaula near Delhi to transmit hydroelectric power from 1,020 MW Tala hydropower plant in Bhutan, a cross-border infrastructure, which was largely financed by Government of India. The state owned entity provides the guarantee for the use of the facility, on the back of which the private sector lenders and investors have participated in the financing. Therefore, setting-up a regional facilitation centre for cross-border infrastructure projects in South Asia – South Asia Regional Infrastructure Development Facility (SARDIF) – would pave the way in promoting cross-border infrastructure projects in PPP.

## ***5.2 Multimodal Transportation and Opening of South Asia Regional Transit***

By signing SAFTA, the South Asian countries are now looking towards closer economic integration in the region. Recognising its importance, the Islamabad, Dhaka and New Delhi SAARC Summits in 2004, 2005, and 2007, respectively, decided to strengthen transport, transit and communication links across the region. An integrated overland connectivity would provide substantial benefits to small landlocked countries like Bhutan and Nepal by giving access to South Asian market at lower costs. An integrated transportation network would yield much larger economic benefits, whilst minimising risks. Integration of the transport networks of South Asia is especially crucial to land-locked countries such as Afghanistan, Nepal and Bhutan, and land-locked areas within countries such as India's north-eastern region (NER) or Pakistan's north-western region (NWR) as this could serve to end their land-locked or semi-isolated status and provide

shorter transport and transit links. However, there is an urgent need of prioritisation of SAARC corridors projects in South Asia and to enhance the regional integration through regional transit in a time bound manner. In general, the task ahead is to revive, renovate, and re-establish South Asia's transportation linkages which played a pivotal role in integrating the region even till about six decades ago and establish new cross-border infrastructure in order to reduce the trade transportation costs across borders. Some of the recent road projects funded by India are worth mentioning.

One, at the request of the Government of Afghanistan, the Government of India has provided assistance of Rs 7.47 billion for upgradation/ construction of the 215 km long road from Zaranj to Delaram in Nimroz Province in Afghanistan. The project is being executed by the Border Roads Organization (BRO). The project commenced in July 2004 and completed in December 2008.

Second, India has developed a 34-km road project (Pasakha-Manitar Road) to avoid the unstable area at Sorchen on Thimphu-Phuentsholing Highway has been completed and handed over to Royal Government of Bhutan in February 2008.

Third, BRO had upgraded the Tamu-Kalewa-Kalemyo road (160 km) in Myanmar across Manipur from 1997 to 2001 at a cost of Rs. 1.20 billion. The Government of India are presently responsible for maintenance of the TTK road in Myanmar.

Four, the Kaladan multi-modal transit transport project in Myanmar envisages connectivity between Indian ports and Sittwe Port in Myanmar, and road and inland waterway links from Sittwe to India's NER. The Kaladan Multi-Modal Transit Transport Facility envisages connectivity between Indian ports on the eastern seaboard and Sittwe Port in Myanmar thereby providing an alternate route for transport of goods to NER through Myanmar. The approximate cost of the project is expected to be Rs. 5.45 billion. The time-frame for the project is 5 years from the date of actual commencement of the project, and the Agreement and the Protocols were signed between India and Myanmar in March 2008.

The initiatives for building the supply capabilities and trade liberalization in South Asian countries need to be complemented by a new approach towards connectivity and transit facilities for making the sub-continent interconnected that existed in the past. In the British India, for instance, one was able to travel all the way from Kabul to Dhaka through surface transport without much problem. These transport links have since been disrupted and need to be restored for reaping the benefits of geographical contiguity for mutual benefit while also deepening the interdependence. This requires an integrated transportation network which would yield much larger economic benefits, whilst minimizing risks. For example, costs for not having an uninterrupted road or railway connectivity across the region and facilitation of border trade can off-set gains appearing from trade preferences.

India is the only country in the region which shares land borders with its four neighbouring countries, namely, Afghanistan, Bangladesh, Pakistan, Myanmar, Nepal and Bhutan and sea routes with Sri Lanka, Maldives, Pakistan and Bangladesh. Road and rail links between the regional countries have to pass through the Indian territory. Multimodal transportation thus would be useful to landlocked countries like Nepal and Bhutan or smaller island countries like Maldives to access third country market using South Asian soil. Ideally, geographically connected countries in South Asia can play as transportation 'hub' for each other.

One of the most crucial non-physical barriers appeared to be the lack of a bilateral transport agreement to facilitate uninterrupted movement of goods and vehicles across the borders in South Asia. As a result, goods are required to be transhipped at the border between the trucks of neighbouring countries. South Asian countries have to eliminate some important non-physical barriers such as lack of parking, immigration and customs offices, baggage scanning equipment, telephone and warehousing at border posts, as well as EDI/IT and standardization of working hours and weekly holidays, as well as use of complicated customs procedures and lack of transparency in inspection. In order to eliminate all such barriers and to allow movement of vehicles, goods and passengers across the region in a door-to-door basis, South Asian countries should adopt SAARC Regional Transport and Transit Agreement (SRTTA). The Agreement will be the stepping stone to reduce

delays and costs at the borders and also to create transportation 'hub' for each other.

For larger countries like India and Pakistan, the economic benefits from SAFTA would be modest since their trade with South Asian neighbours is small in relation to their overall trade. If services and investments are included, the gains of bigger countries like India would stem from expanded exports, appearing from an integrated transport network. However, the gains of larger economies in South Asia from expanded trade in the region would be limited if they do not involve in greater way to rebuild South Asia's transportation infrastructure and associated software at the border. Bigger countries in South Asia would stand to benefit more from the continuation of its policies of unilateral liberalisation, setting in place improved infrastructure at border, extending supports towards capacity building in smaller South Asian countries, among others.

### ***5.3 APIBM Corridor: Asia's New Silk Route***

The Vision of an integrated South Asia could be achieved only by setting in place an integrated overland connectivity and associated soft infrastructure. We need to approach all the pending proposals for transit across the subcontinent with an open and positive mind.

Integration of the transport network of Southern Asia is especially crucial to land-locked countries such as Nepal and Bhutan and regions such as NER of India as this could serve to end their land-locked or semi-isolated status and provide shorter transport and transit links. A regional overland road link from Kabul to Yangon via Dhaka can be revived for regional trade with some effort. Table 13 indicates that if we reopen the cross-border linkages, a distance of about 5272 km. from Kabul to Yangon via Lahore, Delhi, Kolkata, Dhaka and India's NER, can be covered in about 12 days. A major part of Kabul–Dhaka corridor is domestically operational, dual carriageway, and an integral part of the old Sher Shah Road, or Grand Truck (GT) Road. The opening of the route will mark a revival of the old linkages existing in South Asia dating back to the British Period. Therefore, Afghanistan-Pakistan-India-Bangladesh-Myanmar

(APIBM) Transport Corridor, which is meant for making each and every country in South Asia as transport hub for trade in broader region, deserves a high priority for operationalisation.

**Table 13: The Proposed APIBM Corridor**

Starting Point	Country	Ending Point	Country	Distance (km)	Road condition	Max. Axle Load (ton)
Kabul	Afghanistan	Torkham	Afghanistan	224	Good	31
<i>Afghanistan–Pakistan Border (Torkham Border)</i>						
Torkham	Pakistan	Wahgah	Pakistan	607	Good	31
<i>Pakistan–India Border (Wahgah–Attari Border)</i>						
Attari	India	Petrapole	India	2042	Good	24
<i>India–Bangladesh Border (Petrapole–Benapole Border)</i>						
Benapole	Bangladesh	Dhaka	Bangladesh	168	Good	19
<i>Bangladesh–India (NER) Border (Tamabil–Dawki Border)</i>						
Tamabil	Bangladesh	Dawki	India	325	Good	19
<i>India–Myanmar Border (Moreh–Tamu Border)</i>						
Moreh	India	Tamu	Myanmar	606	Good	24
Tamu	Myanmar	Yangon	Myanmar	1300	Partly good	21

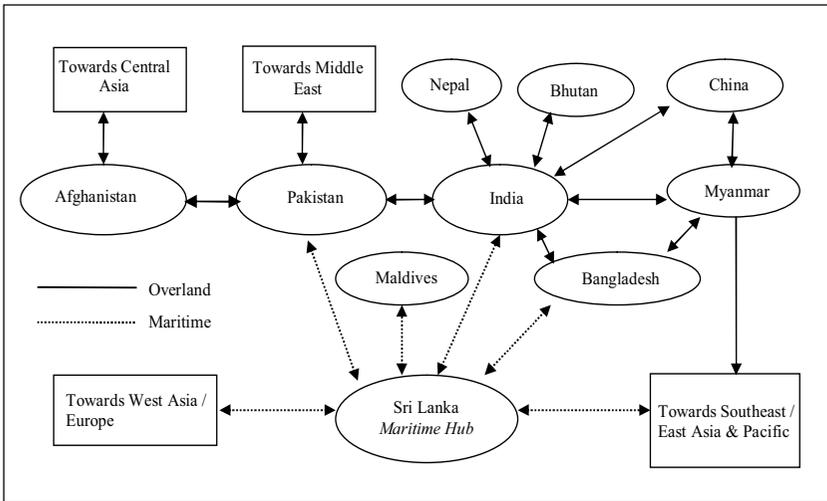
**Note:** Total distance (Kabul to Yangon): 5272 km; No of border crossings (Kabul to Yangon): 5; Transportation time (Kabul to Yangon): 12 days.

**Source:** RIS Study, based on information available from UNESCAP, Bangkok

The importance of APIBM corridor is not only for the trade it would facilitate investments in infrastructure sector in the Southern Asia. It will also bring many rich rewards for bordering regions. It can make Pakistan and Afghanistan as hubs for India’s trade with Iran, Middle East and Central Asia although that would need upgrading of infrastructure and Land Custom Stations (LCSs) at the Afghanistan’s border with the Central Asian countries (Turkmenistan, Uzbekistan and Tajikistan). Similarly, Bangladesh will become a hub for India’s trade with Myanmar and other Southeast Asian countries, besides serving as a transit for India’s NER. Myanmar itself will become a transit hub for India’s trade with other ASEAN countries (see Figure 3). Sri Lanka is already well placed to be a maritime hub in South Asia with a lot of India’s trade transhipped through port of Colombo. Apart from transit revenues, there are huge gains associated with energy conservation due to transit and efficient use of resources.

The network of linkages exists in some form or other. New projects are also being planned to fill up the missing links and strengthening the network. These include cross border developmental projects such as the upgrading of the Tamu (Manipur)-Kalewa-Kalemyo road, and the Rhi-Tiddim and Rhi-Falam roads along the border in Mizoram; the upgrading of the Jiribam (Manipur)-Imphal-Moreh road, and integration with the BIMSTEC Trilateral Highway; the Kaladan Multi-Modal Transport Project, which links Mizoram with Arakan province of Myanmar and provides, in the form of the historic port of Sittwe (Akyab), among others.

**Figure 3: Potential Transport Hubs in South Asia**



This APIBM corridor would be Asia’s new silk route, linking between Central Asia and East Asia, where South Asia is the land bridge and would play as most vital corridor for expanded trade and transportation.

**5.4 Building a Trans-South Asian Railway Network**

India has the best railway system among developing countries in the world. Railways played the important role in integrating Indian sub-continent during the British Period. Railways is the only mode which can play a positive role in integrating the South Asian region by allowing cross-border movement of bulk goods. However, compared to highways, connectivity of South Asian

railway network might require greater effort in view of gauge mismatch and multiple missing links between the countries. For example, India and Pakistan are having broad gauge all weather railway networks whereas Bangladesh Railway system is based mostly on meter gauge. However, with a definitive objective, there should be continuous effort in establishing an uninterrupted and harmonised railway network in South Asia. India's vast experiences in managing modern railway system would be very useful in re-establishing South Asia's railway link from Kabul to Dhaka. For example, India has been playing an active role in linking Bhutan with India's railway network, and also helping Nepal in extending the railway line from Birganj to inside the country.

The restoration of India–Bangladesh railway link is most important, operational of which existed prior to 6 September 1965, when armed conflict between India and Pakistan broke out. Three trains were plying between the two countries carrying goods and passengers:

- East Bengal Express between Sealdah (West Bengal, India) and Goalandu Ghat (Bangladesh) via Gede (West Bengal, India);
- East Bengal Mail between Sealdah (West Bengal, India) and Partbatipur (Bangladesh) via Gede; and
- Barisal Express between Sealdah (West Bengal, India) and Khulna (Bangladesh) via Petrapole (West Bengal, India).

The customs check for the East Bengal Express and East Bengal Mail was done at Gede whereas the Barisal Express had its Customs checking at Petrapole. Once cancelled, these trains were not restored even after the change in the regional political scenario with the liberation to Bangladesh in 1971. India and Bangladesh have restarted the old Bongaon (India) and Jessore (Bangladesh) broad gauge railway line which had been stopped since 1965 for transportation of goods. India and Bangladesh has again resumed the passenger train service between Kolkata (India) and Dhaka (Bangladesh) on 14 April 2008. This is a welcome step towards fostering closer communication linkages between the two countries which would facilitate movement of goods and people.

Another major barrier that are posing problems in intra-regional movement by railway include the lack of standardization of technologies, operation and maintenance practices including different types of gauges, braking systems, incompatibility of rolling stock, etc. South Asian countries have to eliminate some of the other major physical barriers such as inadequate loop lengths, some missing links of shorter lengths in the borders areas, lack of physical infrastructure at interchange points, load restrictions on bridges, lack of coordination for gauge conversion programmes on different railway systems and capacity constraints in certain sections of the identified corridors. A regional rail transport agreement in South Asia would pave the way in faster movement of bulk transporting goods and services.

Besides standardization of the railway tracks, the major challenges for ensuring smoother connectivity in the region are as follows: (a) to link India's Manipur with India's railway networks, (b) to re-establish and renovate railway networks in Myanmar and Bangladesh, and then extend India's railway lines to Bangladesh and Myanmar, (c) to link India's Tripura with Bangladesh through railway, (d) to extend railway network from India-Nepal border (Raxaul-Birganj) to Kathmandu in Nepal, (e) to open a subregional railway arrangement between India, Nepal, Bangladesh and Bhutan, and (f) to set-up railway lines in Afghanistan and to link it with rest part of South Asia and beyond.

Indian Railways is actively engaged in harmonization and construction of railway tracks in India's NER. Considering the projects already sanctioned and under construction, Diphu-Karong-Imphal-Moreh rail link (in Indian side) is identified for development which will link India with ASEAN. Although at present construction work is being carried out in Diphu -Karong section, linking Karong with Moreh via Imphal would link India with Thailand provided railway system on the other side (Myanmar) is also developed simultaneously. The Jiribam-Imphal rail link, which may be extended to Mandalay as part of the Delhi-Hanoi railway project. Without having a compatible and strong railway system inside Myanmar and Bangladesh, closer communication between India and her immediate eastern neighbours will not be possible. India has come forward and extended US\$ 56 million credit line to the Myanmar government for upgradation of 640 km railway system between Mandalay and Yangon. Similar initiative should be taken

up for up-gradation of railway network system in southern (Yangon to Dawei) and northern (Mandalay to Kalay) Myanmar. Apart from training the railway personnel of some of the countries in this region through BIMSTEC Transport Cooperation project, India should extend credit lines to other LDCs of this region for setting up new railway network and/or modernisation of rolling stocks in their countries.

### ***5.5 Strengthening Inland Waterways, Ports and Shipping, and Aviation***

In case of inland waterways, we only have formal understanding between India and Bangladesh which is renewed on monthly basis. It serves the interest of only Bangladesh and India, where levels of traffic both intra-country and transit had been reducing over years, although during certain periods bilateral traffic has been substantial. It was, however, recognized that inland waterways transport has great potential to provide a cost effective transport service between India and Bangladesh. Therefore, India and Bangladesh should accord Inland Waterways (IWT) Agreement for longer term, and similar understanding should also be encouraged between India and Nepal, or India and Pakistan.

With regard to maritime transport, the major barriers include likely capacity constraints at many of the maritime gateways, together with heavy siltation at navigation channels where depths fluctuate with tide, inadequate and poor maintenance of channel markings, old technology in cargo and ship handling equipment, as well as floating crafts. Some other barriers at port include impacting port performances include lack of professional management and computerisation, as well as EDI/IT to link up stakeholders. Customs procedures are found to be too complicated, cumbersome port documentation was still in use and labour unrest were also noted in some maritime gateways. The absence of a bilateral agreement for ferry service between Sri Lanka (Colombo) and India (Tuticorin/Cochin) is a major non-physical barrier.

Transshipment between India and Pakistan is the long standing unresolved bilateral issue. Due to absence of direct call between Indian and Pakistan vessels, maritime trade between India and Pakistan is routed through a third country. India-Pakistan Shipping Protocol, signed in 1975 as per Simla Agreement of 1972, restricts transshipment cargo destined for a third country

carried by the vessels of either country. As a result, capacity utilisation for a service run either by an Indian or a Pakistani flag vessel is badly impacted as an Indian vessel can not pick up cargo for third country from Pakistan and similarly a Pakistani vessel can not carry cargo from Indian ports to third country. Interestingly, a flag other than India and Pakistan stands to benefit, as it falls outside the purview of the protocol. In order to boost up bilateral trade, governments in India and Pakistan should amend this Protocol.

Supply side constraints are posing serious threat to maritime transportation infrastructure in South Asia. Except India, rest South Asian countries do not have adequate fleet of vessels and manpower. In view of rising merchandise trade in South Asia, South Asian countries have to strengthen their maritime profile for self reliance on national carriers. India can play a major role in strengthening ports and shipping sector in South Asian countries, particularly, Bangladesh, Maldives, and also Myanmar, in terms of training human resources in marine engineering and nautical science, costal management, among others. India is setting up National Maritime University in Chennai, which can be made operationalize for entire South Asian region.

South Asia has long coastline which offers good potential for short sea or costal shipping. Maritime costs are significant determinant of trade flow across the region. In one hand, goods and passenger traffic in South Asia have been growing, and on the other, ocean freight is rising day by day. Instead of relying on foreign vessels, short sea/costal shipping in this region will help the LDCs and small island countries in South Asia to effectively gain from rising trade and transportation. Added to this, complimentary policy reform, accompanied by improved procedural and operational efficiency, in the shipping sector is essential to support regional maritime connectivity. To start with, a regional agreement to allow short sea shipping in South Asia will not only enhance ferry services across the region but also strengthen maritime profile of South Asian countries.

With regard to aviation, South Asian airports suffer from tremendous capacity constraints, on-shore and off-shore, for both passengers and cargo, in terms of runways, parking areas for aircrafts, passenger handling areas, cargo processing facilities (green channel, cold storage, etc), as well as security

and baggage handling facilities. There is urgent need of pilots and ground handling staffs in South Asian countries. It would be useful if South Asian countries are jointly set up a regional aviation training institute in the region. In addition, an Open Sky Policy in South Asia for airlines originating from within the region may help in strengthening the connectivity between important cities.

### ***5.6 Accession to International Conventions of Transit Trade***

Cross-border infrastructure alone would not facilitate the movement of goods and vehicles between countries if non-physical impediments are not removed. Transport facilitation can only serve its purpose if based on harmonized legislation, institutions, and practices, at subregional, regional and international levels. Despite consistent efforts and achievements over the years, significant differences continue to exist between South Asian countries in terms of their legislation, institutional arrangements and practices. Operational standards that differ between neighbouring countries lead to lack of traffic and transit rights and barriers to the movement of goods and people, having a negative impact on countries' trade and economies. Issues relating to the facilitation of goods and services have traditionally been incorporated in bilateral agreements between countries. As goods begin to move along international transport corridors, the need for harmonization of laws and processes amongst a larger group of countries becomes clear. International conventions related to transport are essential in facilitating the movement of goods, especially at border crossings, by reducing procedures and formalities and time required.

In recognition of the fact that harmonized transport facilitation measures at the national and international levels are a prerequisite for enhancing international trade and transport along road and rail routes of international importance, the UNESCAP at its forty eighth session adopted resolution 48/11 of 23 April 1992 on road and rail transport modes in relation to facilitation measures. It recommended that the countries in the region, if they had not already done so, consider the possibility of acceding to seven international conventions in the field of land transport facilitation, which were originally developed under the auspices of the Economic Commission for Europe (ECE)<sup>32</sup>: (a) Convention on Road Traffic, 1968; (b) Convention on Road Signs and Signals, 1968; (c) Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR

Convention), 1975; (d) Customs Convention on the Temporary Importation of Commercial Road Vehicles, 1956; (e) Customs Convention on Containers, 1972; (f) International Convention on the Harmonization of Frontier Controls of Goods, 1982; and (g) Convention on the Contract for the International Carriage of Goods by Road (CMR), 1956.<sup>33</sup>

**Table 14: International Conventions and South Asian Countries\***

Convention	Afghanistan	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
Convention on Road Traffic (1968)	No	Yes	No	Yes	No	No	Yes	Yes
Convention on Road Signs and Signals (1968)	No	No	No	Yes	No	No	Yes	No
Customs Convention on Temporary Importation of Commercial Road Vehicles (1956)	Yes	No	No	No	No	No	No	No
Customs Convention on Containers (1972)	No	No	No	No	No	No	No	No
Convention on International Transport of Goods under Cover of TIR Carnets (1975)	Yes	No	No	No	No	No	No	No
Convention on the Contract for the International Carriage of Goods by Road (1956)	No	No	No	No	No	No	No	No
Convention on the Harmonisation of Frontier Controls of Goods (1982)	No	No	No	No	No	No	No	No

*Note:*\* As on November 2009.

*Source:* De *et al.* (2008).

Most of the South Asian countries are yet to ratify international conventions for cross-border movements of goods and vehicles. There are seven UN Conventions that set out a basic framework for the cross-border movements of goods and vehicles. The subregional extent of accession to these Conventions is shown in Table 14.

The disparity in accession to the international conventions can lead to a number of negative consequences. One of these is the lack of territorial continuity of conventions caused by the non-accession by one or more states located between contracting parties. Because the provision of a convention can be invoked only when the states on both sides of the border are party to the convention, the need for widespread accession cannot be overemphasized. Lack of territorial continuity caused by the non-accession of states located between contracting parties can disrupt the application of the convention.

In South Asia, Bangladesh and Sri Lanka have signed the “Convention on Road Traffic”, while India and Pakistan have signed both “Convention on Road Traffic” and “Convention on Road Signs and Signals”. Bhutan, Maldives, and Nepal have not signed any one these seven UN Conventions. Except Afghanistan, no South Asian countries have signed the “Customs Convention on the Temporary Importation of Commercial Road Vehicles” or the “Convention on the International Transport of Goods under TIR Carnets”. Accession to different versions of conventions is likely to undermine facilitation objectives. For instance, many countries are Contracting parties to the Convention on Road Traffic (1949), but have not ratified the new version of the convention (1968). The Convention on Road Traffic (1949) is still valid in relations between the Contracting Parties to it.

What follows is that in order to facilitate the cross-border movements of goods and vehicles, South Asian countries should pursue a closer regional cooperation to accede to all of these conventions.

### ***5.7 Strengthening and Harmonizing Rules, Regulations, and Standards***

In order for the infrastructure hardware of a South Asia-wide transport network to function effectively, necessary soft infrastructure, such as relevant

rules, regulations, and standards, needs to be in place. Rules, regulations, and standards must meet at least a common regional structure, but preferably an international design. Participating countries need to formulate and agree on a harmonized set of rules, regulations, and standards, similar to the Cross-Border Transport Agreement (CBTA) adopted by the GMS countries. A CBTA is a very important step towards harmonizing the software relating to cross-border infrastructure use and could provide a template for South Asia.

Furthermore, to make such an agreement effective, South Asian countries need to incorporate the agreement provisions into their respective national laws, regulations, and standards. There is a need for higher level coordination among many concerned stakeholders and agencies, such as transport, customs, immigration, and quarantine authorities. At the same time, capacity of concerned national institutions, particularly for less developed countries, needs to be enhanced for effective implementation of these agreements. There is also a need for a uniform or compatible standard (preferably an international standard) for development of cross-border transport networks to make the networks effective and beneficial for all stakeholders. Establishment of an efficient management system and associated capacity building to look after the harmonization of standards relating to cross-border transportation would pave the way to achieving regional connectivity. This would ultimately help achieve single-stop and single-window customs across the region.

### ***5.8 Simplification of Processes and Procedures in Trade Transactions***

Trade facilitation has immense role to play in diversification of exports of South Asian countries (Shepherd 2009). A recent study conducted at UNESCAP (Duval and Utoktham 2009) showed that a country could increase its intraregional and South-South trade significantly by achieving a more homogeneous performance across all trade and business facilitation areas. It suggests that focusing on coherence would be a way for countries – especially those which have already made some good progress in trade facilitation – to gain a competitive edge in an increasingly challenging global environment. A more integrated approach to trade facilitation and business (investment) facilitation may also contribute to lowering the cost of entry into new

markets and sectors of activity, leading to much needed export diversification in times of crisis. The policy suggestion is that each country has to determine its specific trade facilitation needs and priorities, but computerization and automation of trade procedures is an important and ultimately necessary step for effective participation in global trade (UNESCAP 2009).

### ***5.9 Financing Cross-border Transport Projects***

Connecting South Asia requires a large investment. It will be a difficult challenge to mobilize such a large investment particularly due to ongoing financial and economic crisis. This calls for an appropriate financing mechanism to mobilize South Asia's huge savings for infrastructure development. This financing scheme should aim to raise resources from public sectors, multilateral development banks, and private sectors on a public-private partnership (PPP) model. Bigger economies like Japan, Korea, China, and India have leading roles in filling the financing gap. They should unilaterally come forward to fill-up resources gaps in the South Asian corridors, particularly financing and managing missing links and bridges.

### ***5.10 Strengthening Coordination among Countries and Stakeholders***

Weak coordination, like high tariffs, prohibits trade among countries. The poor coordination between planning, implementing, and financing agencies causes high-level inefficiency in infrastructure development. Coordination among various concerned agencies or institutions within a country is also required because each may have different objectives. In order to have timely implementation of vast South Asian corridors, effective coordination between countries and other stakeholders is vital. Without such coordination, it is unlikely that an optimal cross-border infrastructure will come into existence. Thus, an effective coordinating institution will be necessary to generate willingness of countries to participate in the projects. It can also resolve conflicting interests, if any arise, between the governments and stakeholders.

### ***5.11 Issue of Security***

Secure trade is now as important as free trade. While formulating inter-modal transport corridors in South Asia, security concerns should not go unnoticed. Security issues must be addressed adequately before the South Asian countries adopt regional transit arrangement. Using the modern technology, governments

in South Asia could address security measures that could, if not managed properly, drive up trade costs, hamper trade of the region, and close down the corridors. Therefore, our focused attention should be on the search for greater efficiency in international transportation, the need for cooperation in adopting collective measures to promote transport security, and the imperative of improving customs regimes, port facilities, and logistics management. The good example is scanning of every loaded container at the entry point and use of modern satellite communication to track the inter-country movement of goods and vehicles. South Asian countries need to invest in port and airport security, strengthen customs authorities, and bolster border security. In this regard, South Asian countries have to learn from experiences of other regional cooperation blocs and development organisations like International Civil Aviation Organization (ICAO), International Maritime Organization (IMO), and World Customs Organisation (WCO).

South Asian countries have to commit themselves to increasing security for all transport modes and to promoting policy coherence and coordination among international organizations. New programmes to combat terrorism clearly will involve investment in new technology and infrastructure—possibly raising the costs of trade in the short to medium term. At the same time, the prospect of reducing future threats through technology-intensive security and customs inspections should be viewed as an investment in greater trade efficiency. Automated technology—such as bar codes, wire-less communications, radio frequency ID tags, tamper-proof seals for containers with global positioning technology, and other electronic measures— could accelerate global trade while improving security. Sharing information among security agencies, LCSs, shippers, and customs brokers can help expedite the movement of freight through terminals without any new physical investment.

Security-driven improvements can benefit trade. For example, despite limited finances and capacity to facilitate trade, some developing countries such as Sri Lanka have adopted cargo security measures that are on par with ports in many developed countries. The same applies to Bangladeshi facilities that boast advanced detection devices. These measures, however, are focused on imports into the country, emphasizing the need to enhance inspection of exports.<sup>34</sup>

### ***5.12 South Asia Common Transport Policy and Immediate Priorities***

In a highly competitive world economy, transport cost is a significant determinant of competitiveness, making an integrated and efficient transport network an essential element of the enabling environment. Time has come that we rebuilt the transportation linkages in South Asia. Therefore, integration of transport sector in South Asia is a long standing requirement. There is an important role for an active approach towards infrastructure development at the national levels and a ‘Common Transport Policy’ in South Asia for optimum utilisation of existing utilities as well as expansion of new facilities in the region. The possible elements of a Common Transport Policy (as pointed in Table 15) could be harmonization of technical standards such as truck size and weight regulations; railway gauge and rolling stocks across the region; simplification of documentation and clearance procedures; standardisation of cabotage rules, regulations on the movement of certain goods, and facilitation of movement of container trains and goods vehicles within the region subject to fulfilment of individual countries’ road transportation rules and regulations. South Asia should exploit the potential of inland waterways in addition to overland or surface transport infrastructure as discussed above.

**Table 15: Common Transport Policy (CTP) Priorities**

Road	<ul style="list-style-type: none"><li>• Development of transport and transit agreements in South Asia to allow through movement of freight</li><li>• Development or construction of modern border crossings between India and its neighbours (both sides) in order to facilitate transit of both passengers and freight</li><li>• Adoption of facilitation measures and simplified customs procedures for efficient clearance of goods across the border points</li></ul>
Rail	<ul style="list-style-type: none"><li>• Development and adoption of a multilateral rail transport agreement by the SAARC member states to facilitate barrier-free movement</li><li>• Construction of missing links on the rail corridors</li><li>• Standardization of technologies including track, rolling stock and signalling</li><li>• Coordination for standardization/rationalization of the gauge conversion programmes</li><li>• Provision of identified physical infrastructure at inter-change points, yards, terminals and transshipment hubs</li></ul>

*Table 15 continued*

Table 15 continued

Inland Waterways	<ul style="list-style-type: none"><li>• The existing inland waterways protocol between Bangladesh and India should be renewed, each time, for longer periods, and similar agreement may be executed between India and Pakistan and India and Nepal</li></ul>
Ports	<ul style="list-style-type: none"><li>• Agreement for Short Sea Shipping in South Asia</li><li>• Re-commissioning of Passenger Ferry Service between India and Sri Lanka</li><li>• Need to expand port capacity, especially to handle more container traffic</li><li>• Improved port and trade facilitation measures needed to reduce dwell times</li></ul>
Air	<ul style="list-style-type: none"><li>• Improve the capacity of airports and national carriers of small countries like Bhutan, Nepal and Maldives</li><li>• Development and redesign of international passenger terminals, especially at Bhutanese, Indian and Nepalese airports</li><li>• Setting up South Asian Centre for Aviation in India</li></ul>

### **5.13 Strengthening Regional Cooperation**

The experiences of Europe, Latin America, and other parts of Asia (such as GMS) where the presence of cross-border infrastructure is comparatively high, and to a lesser extent, Africa, where the development of cross-border infrastructure has taken a new shape, suggest that regional cooperation promotes greater prosperity and stability for participating countries. A major success factor is their ability to build regional initiatives that are based on shared strategic vision, as captured in the Initiative for the Integration of Regional Infrastructure in South America. South Asian cooperation programmes have to be much stronger to address the regional infrastructure needs and enabling institutions and policies.

## **6. CONCLUSIONS**

South Asia's economic performance, particularly in the first half of the ongoing decade, has been commendable. Undoubtedly, South Asia is a major economic force in the world. Accompanying this rise is the need for efficient regional infrastructures to meet the increasing demand of production and consumption, as well as that of international trade. Any slowdown or failure in responding to this demand will necessarily impact the growth and hamper trade and poverty reduction efforts in the region. South Asia's growth

potential will only be realized if it can ensure that its infrastructure does not become a severe handicap.

Nevertheless, the quality and capacity of South Asia's infrastructure, both on the national and regional levels, is certainly a matter of concern. The lack of regional connectivity is one of the major constraints hindering the full potential of regional growth and economic integration in South Asia. Strong regional cooperation among South Asian countries is essential for establishing South Asia-wide physical connectivity and economic integration.

In order to move towards a fully integrated South Asia, a comprehensive approach is needed to address the physical infrastructure issues, including roads, rail, inland waterways, maritime transport, dry ports, airports, seaports, and information and communication technology, as well as the non-physical soft infrastructure issues, including cross-border transit facilitation measures; customs clearance, simplification of processes and procedures, single window, and other facilitating policies and regulations. Addressing these issues, requires collaborative efforts among Asian countries, multilateral development banks, the United Nations agencies, intergovernmental organizations, bilateral donor agencies, private sectors and professional associations. In particular, high-level policy direction and commitments are important for providing mutually beneficial regional transport infrastructure and services in the region and beyond. In this regard, a commonly agreed strategic regional transport policy and an associated plan are needed to facilitate closer cooperation and achieving an integrated South Asia.

The ways and means to achieve the goal of South Asia-wide connectivity need to be fine tuned, taking into consideration the experience of the last decade. The core issues that need to be addressed are reaching a consensus on how the transport networks can be integrated with pan-Asian networks such as the TAR and AH (and those initiated by ADB) without compromising the regional infrastructure needs and formulating and implementing a South Asia-wide trade facilitation mechanism, either by acceding the international conventions or through a regional arrangement with full conformity to international conventions. Factors that need to be considered to address these core issues are as follows:

- further enhancing policies and regulations by providing a better balance of national, regional and international transport networks;
- encouraging financing to counter rising demands for funds for regional transport projects;
- developing intermodality in transport network development;
- focusing on non-physical barriers to trade across networks; and
- mobilizing private sector's fund and ensuring its participation in operations and maintenance.

The three key messages in this paper are: regional transport projects have enabled cooperation among the countries by improving the efficiency of transport and creating a favorable climate for dialogue and exchange of information; for the benefits of the regional projects, trade facilitation across South Asia should be expedited; and enabling policy reforms is needed to encourage private sector participation in regional projects. In view of the ongoing financial crisis, it is crucial for sustainable regional growth and prosperity that South Asian countries be better connected.

Reducing trade costs and facilitating transit is two of the key approaches to achieving a more inclusive growth through trade, i.e., one that will reduce the gap between the economic core and the outer periphery of each of the South Asian economies. Doing so will encourage economic activity at and across borders, eventually generating employment through industrialization as well as benefiting the poor of the border areas and land-locked countries; however, governments will also need to provide adequate education and capacity-building opportunities for the people living in such areas so that they can effectively engage in trade.

The rise of trade as a share of national output is inexorable in the era of globalization. Attempting to resist this process by keeping the cross-border trade costly and congested will merely escalate poverty and strengthen inefficient rent-seeking informal economies to dominate in the border areas and the land-locked countries. The ongoing global economic slowdown and its adverse effect on trade may escalate poverty and lead to the further rise of informal economies in the border areas and land-locked countries. Therefore, South Asian countries need to make coordinated efforts to integrate the border

areas and landlocked economies with the export-led growth process in order to effectively tackle the downside risks of globalization.

Finally, the trade and income gains of large economies in South Asia like India through rebuilding South Asia's transportation infrastructure and associated software will be substantial in absolute value. However, the gain of smaller economies will be proportionality large compared to their economic sizes. Now it is the time for South Asia to further enhance its economic integration process, setting in place improved South Asia infrastructure and extending supports towards capacity building in smaller and vulnerable economies in the region.

## Endnotes

- <sup>1</sup> According to the Government of India (2006), intra-South Asia trade is likely to reach US\$ 14 billion by the end of the ongoing decade, from the present volume of US\$ 8 billion. In another study, it was found that intra-South Asia trade has the potential of US\$ 40 billion, whereas the present volume of trade is about US\$ 11 billion (RIS, 2008).
- <sup>2</sup> Refer the seminal works of Munnell (1990), Kessides (1996), and World Bank (1994).
- <sup>3</sup> This also confirms from South Asian countries infrastructure index rank correlation coefficients, which have increased from 0.959 (between 1991 and 2000) to 0.980 (between 2000 and 2005), all significant at 1 per cent level.
- <sup>4</sup> The usual caveat is that this forecast refers the pre-crisis scenario. However, the growth rate would drastically change towards lower side in view of ongoing global financial crisis.
- <sup>5</sup> Based on RIS estimation.
- <sup>6</sup> This estimation does not include cross-border infrastructure.
- <sup>7</sup> Refer, for example, RIS (2007b, 2007c), UNESCAP (2006).
- <sup>8</sup> Refer, for example, Agarwala and De (2008)
- <sup>9</sup> See, for example, Initiative for the Integration of Regional Infrastructure in South America (IIRSA), available at [www.iirsa.org](http://www.iirsa.org)
- <sup>10</sup> During 1991-2006, natural gas (plant and transmission) has attracted about 78 percent (US\$ 10.88 billion) of world cumulative investments in cross-border infrastructure projects (calculated based on PPI Database, World Bank).
- <sup>11</sup> See, SARI (2006)
- <sup>12</sup> SARI, *op.cit.* p.8
- <sup>13</sup> See, for instance, Das and Pohit (2006), Taneja (2007), De and Ghosh (2008), to mention a few.
- <sup>14</sup> For example, the intra-regional merchandise trade in ASEAN at present is about 20 percent per annum, which increased from a mere five percent in early 1990s, whereas the same in South Asia today is about five percent, and this has been hovering in the same position for the last one and a half decade.
- <sup>15</sup> See, for example, De (2008a, 2008b), to mention a few.
- <sup>16</sup> Refer, the Declaration of 14<sup>th</sup> SAARC Summit, New Delhi, 3-4 April 2007.

- <sup>17</sup> We measure the ad-valorem transport costs (both international and inland) for import. Combining both inland and international transport costs, we derive the ad-valorem transportation costs by countries and commodities. To know the technical details, please refer De (2009a), and De and Rout (2008).
- <sup>18</sup> Hummels and Skiba (2004) commented that a 10 per cent increase in product weight-value leads to a 4 percent increase in ad-valorem shipping cost.
- <sup>19</sup> This is ideally true if the trade is undertaken at cost, insurance and freight (*cif*) price.
- <sup>20</sup> Recall the findings of Subramanian (2001), Subramanian and Arnold (2001), Das and Pohit (2006), Taneja (2007), De and Ghosh (2008), where we provided substantial border transaction costs and delays in South Asia.
- <sup>21</sup> Several studies have dealt with trade facilitation issues in the context of trade between India and Bangladesh. See, for example, Chaturvedi (2006).
- <sup>22</sup> Improvements in customs procedures have definitely reduced the amount of informal payments needed for clearing cargo. Even so, under-the-table transactions to clear exports at the borders remain high. The actual amount is negotiated between the shipper and the customs agent, with both agreeing on the amount per shipment that will be reimbursed without an invoice and which will therefore be available for paying customs officials to expedite cargo clearance.
- <sup>23</sup> As reported in ADB (2005), p. II-8
- <sup>24</sup> The India – Bhutan Agreement of 2003 states: “There shall be free trade and commerce between the two countries” and “free movement of goods flowing between the two countries”. There are no references, however, to road vehicles, other forms of surface transport, or of the rules governing the use of Indian road space by Bhutanese vehicles (and vice versa) in either the Agreement or the attached Protocol.
- <sup>25</sup> Refer, De *et al* (2008).
- <sup>26</sup> De *et al*, *op.cit.*, p. 14.
- <sup>27</sup> Refer, SAARC Secretariat Newsletter, January 2008.
- <sup>28</sup> Refer, the Press Release titled “India’s Chairmanship of SAARC”, issued by the SAARC Division, Ministry of External Affairs, Government of India, dated April 22, 2008, New Delhi.
- <sup>29</sup> Following SRMTS, South Asian countries have decided to launch few pilot subregional and regional projects, namely, Birgunj-Kaatihar-Singhabad-Rohanpur-Chittagong with links to Joghani, Biratnagar and Agartala; Kathmandu-Birgunj-Kolkata/Haldia; Agartala-Akhaura-Chittagong; road link from Phuntsholing to Hashimara; Rail Corridors between Colombo and Chennai; Ferry Service between Colombo and Cochin and Colombo and Tuticorin; and Air-connectivities: Malé-New Delhi and Islamabad-New Delhi; and establishment of modern border crossing facility at Phuntsholing. See, the press release titled “India’s Chairmanship of SAARC”, issued by the SAARC Division, Ministry of External Affairs, Government of India, dated April 22, 2008, New Delhi.
- <sup>30</sup> A strong literature exists on this issue (see, for example, Capello, 2007).
- <sup>31</sup> See, for example, Human Development Centre, (2008).
- <sup>32</sup> Currently, there are 56 transport related international legal instruments aimed at facilitating the movement of goods, people and vehicles across international borders, initiated by the ECE.
- <sup>33</sup> For details of selected international conventions on transport facilitation including those contained in the resolution 48/11, see UNESCAP (2007).
- <sup>34</sup> See, for example, USTDA (2006)

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