

## **EASTERN SOUTH ASIA SUBREGION (ESAS)**

### **COOPERATION IN TRANSPORT AND COMMUNICATIONS**

#### **A. INTRODUCTION**

1. An increasingly interdependent world economy where various forms of cooperation become not only important but necessary drives the development of more efficient and integrated transport systems and communications networks, which are considered crucial for sustainable economic and social development. The advent of internet and the widespread and increasing use of information technology (IT) is expected to fundamentally change our society by giving an ever-increasing number of people access to a wide range of information and services. This could potentially offer major benefits also for less advantaged groups, for example those who live in remote and poorer areas, by offering them basic but important services, such as education and health. The new emerging "information society" will in turn require construction of extensive, high-capacity communications networks, so called 'information highways'.

2. To take advantage of the new economic opportunities, various forms of regional cooperation take place around the world. In South Asia, the South Asian Association for Regional Cooperation (SAARC), which was set up in 1985, promotes economic cooperation, which also includes transport. In Southeast Asia, the Association of Southeast Asian Nations (ASEAN) has adopted a program for cooperation in transport. The Economic and Social Commission of Asia and the Pacific (ESCAP) are pursuing several initiatives, which promote cooperation in transport. This includes the Asian Land Transport Infrastructure Development (ALTID) project through development of the Asian Highway and Trans Asian Railway projects. Other examples of subregional cooperation are the Southern African Development Community (SADC), MERCOSUR (Argentina, Brazil, Paraguay, and Uruguay) in South America and the North American Free Trading Agreement (NAFTA).

3. In the European Union (EU), development of European transport networks, called Trans-European Networks (TEN), are given high priority. To improve transport efficiency and quality and maximize the benefits from the TENs, a broad range of policy issues are being addressed supported by legislative changes. These include competition policy, transport regulation, charging of infrastructure, cross-border arrangement, and harmonization of standards and customs procedures. The physical investments include improvements of road and rail networks but also airports and ports with private sector involvement. The expectation is that these efforts will lead to more efficient passenger and freight transport among the countries in the EU and with trading blocks outside the EU, thereby offering sustainable transport for the public at large as well as reliable transport and logistics systems for the private sector.

#### **B. COOPERATION IN THE GREATER MEKONG SUBREGION (GMS)**

4. Recognizing the benefits of subregional cooperation, ADB is supporting the Greater Mekong Subregion (GMS) program, which include the countries Cambodia, Laos, Thailand, Vietnam and Yunnan Province of the People's Republic of China. The ultimate objective of the GMS program is to facilitate sustainable economic growth, improve employment opportunities, and reduce poverty in the subregion by tapping the comparative advantages of the participating countries. ADB's GMS strategy is to promote, facilitate, and play a catalytic role in generating support for subregional cooperation. The emphasis is on pragmatic, activity driven and results-oriented initiatives.

5. Transport forms a core part of the GMS program. Since 1992, when the subregional program in the GMS was initiated, ADB has provided various technical assistance (TA) programs, which promote subregional cooperation. This TA has aimed at identifying, and preparing programs and projects on which the countries can collaborate. For example, to improve subregional transport, ADB has provided TA to develop a master plan for important subregional transport projects. ADB has also financed TA to develop a new framework for cross-border traffic and used for preparation of a tri-partite agreement between Thailand, Laos, and Vietnam, which was signed in late 1999. While ADB has largely played a catalytic role, it has financed some strategic transport projects for the GMS countries. ADB has also mobilized financing from international agencies and from the private sector. ADB-financed transport projects include improvements and expansion of important intraregional highways (Cambodia, Laos, Thailand, Vietnam, Yunnan Province of the People's Republic of China), expansion of one airport (Cambodia), and upgrading of one port (Vietnam). The current pipeline for the GMS program envisages ADB support for a multimodal (road, rail, and inland water transport) corridor project between northern Vietnam and Yunnan Province, and enhancement of the telecommunications networks (optical fiber network) with substantial private sector involvement.

6. When subregional cooperation in the GMS was initiated, there were doubts expressed as to whether the GMS would put aside their differences and historical rivalries and make it work. To gain general acceptance and make momentum, ADB first commenced preparatory work on infrastructure projects including transport projects, which would quickly give tangible benefits. The strategy proved to be successful and today, there is overall acceptance that the GMS is a very beneficial initiative, and that it has changed the way the GMS countries do business with each other. Apart from the individual projects, which assisted improvement of important transport links between the countries, there has been a lot of invisible progress triggered by the closer cooperation. This includes more frequent exchange and sharing of information, institutional strengthening, policy exchanges with collaboration in regulation and legislative changes, joint actions to promote and ease cross-border trade, regular cooperation at the working level, and improved enabling sector frameworks for doing business. Cooperation among the GMS countries has gathered its own momentum with aid-agencies shifting their assistance away from policy, sector and project initiatives and into specific issues that hamper cooperation.

### C. SUBREGIONAL TRADE PATTERNS

7. With a population of about 1.3 billion South Asia constitutes a huge potential market that will increase substantially in coming years, partly because of the economic liberalization, which are taking place among the countries. The trade patterns in the subregion are changing rapidly. While India plays a dominant role, intraregional export and import between Bangladesh, India, and Nepal are increasing although with relatively different patterns for export and import, as shown below.

**Table 1: Regional Export**

<b>From-To</b>	<b>1980's</b>	<b>1990's</b>
India – Bangladesh	1,300	35,000
Nepal – Bangladesh	4	500
Nepal – India	5	5,500
Bangladesh – India	2	44
Bangladesh – Nepal	Not available	900

Export value in million of India Rupees

Source: World Bank

**Table 2: Regional Imports**

<b>From-To</b>	<b>1980's</b>	<b>1990's</b>
India – Bangladesh	160	2,800
Nepal – Bangladesh	170	440
Nepal – India	375	26,000
Bangladesh – India	16,000	70,000
Bangladesh – Nepal	2	500

Import value in million of India Rupees

Source: World Bank

8. The principal exports from India to Bangladesh include cotton yarn and fabrics, consumer and manufactured goods, steel products, fertilizer, cement, and minerals (ore, coal, boulders). The proportion of India's total trade that takes place with Bangladesh is relatively small. In addition to official trade there are unofficial trade that may equal the official trade. In volume terms, India's export to Bangladesh and Nepal is expected to increase significantly in coming years because of the adoption of free market policies.

9. Nepal's major trade commodities have varied widely in the past. It has included over twenty export and over 40 import commodities in the trade with Bangladesh. While Nepal's international trade has increased markedly in recent years, imports far outweigh exports, representing 80 percent of Nepal's trade activity. Nepal and Bangladesh's share of intraregional export has been decreasing in relative terms.

#### **D. SUBREGIONAL TRANSPORT AND COMMUNICATION SYSTEM**

##### *Description of Transport System*

10. While having high population density with high incidence of poverty, the subregion can be characterized by low degree of integration of the national transport networks. Reflecting its size in economic and physical terms, India has extensive road and rail networks of which the main transport corridors are heavily utilized. Bangladesh's transport system comprises road, rail, and IWT. Road transport dominates in Nepal, which has only two shorter north-south rail connections to India, and in Bhutan. Transport demand is expected to increase in coming years as a result of expected higher economic growth.

11. In the subregion, road transport is the dominant mode and its importance is growing in all countries. The dominance of road transport is evident when comparing the modal shares (excluding air transport and coastal shipping which is negligible) for transport, as shown below:

**Table 3: Modal Shares for (being updated)**

	<b>Bangladesh</b>		<b>Bhutan</b>		<b>India</b>		<b>Nepal</b>	
	<b>F</b>	<b>P</b>	<b>F</b>	<b>P</b>	<b>F</b>	<b>P</b>	<b>F</b>	<b>P</b>
Road	43	75	100	100	60	80	100	100
Rail	8	12	-	-	40	20	Neg.	-
IWT	49	13	-	-	Neg.	Neg.	-	Neg.

Notes: F - freight transport

P - passenger transport

Neg. - negotiable

12. Generally, the subregional transport network is in poor to extremely poor condition and some existing transport links are poorly utilized. The poor condition of transport infrastructure is hampering efficient road, rail, and IWT. While IWT could potentially play an increasingly important transport role in the subregion with its vast river basins by offering shorter routes, it currently plays a relatively minor role, largely because of siltation problems and lack of terminal facilities. The road network has generally a reasonable coverage but only a small portion of the road network is paved. For example, in Bangladesh and India only about 20 percent of the road network is paved. Development of subregional rail traffic is severely hampered by the use of a meter gauge (mg) network on the eastern half of Bangladesh, which is a legacy from the Indian subcontinent before partition in 1947. In contrast, India has an extensive broad gauge network, which is being expanded including a rail link into Nepal. The mg network in Bangladesh makes subregional rail operations difficult and costly but also less attractive for shippers because of the need for transshipment. Many major subregional road and rail links are in bad physical condition and a few are missing, both along west-east and north-south axis. The ports in the subregion, notably Calcutta/Haldia in India and Mongla and Chittagong in Bangladesh are generally plagued by inefficient working practices and cumbersome administrative procedures, which are hampering port efficiency. All transport infrastructure and operations suffer from a backlog of maintenance.

13. In terms of telecommunications and IT, South Asia has extremely low penetration of telephones, computers, and internet facilities. Apart from Bangladesh, which has a nationwide optical fiber network laid on the railways' right-of-way (ROW), the other countries lack a modern nationwide communications network. In India, there are, however, ongoing initiatives to construct nationwide optical fiber networks with private sector involvement and financing, utilizing railways' ROW and power transmission masts. Available 'landline' telephone services are generally rudimentary and suffer from lack of competition in service provision. Mobile services provided by private operators are, however, increasing rapidly.

14. Both Bhutan and Nepal are landlocked countries, which depend on transport routes through India for export and import traffic. Until recent years when Mongla port has also been utilized for some traffic, this traffic has mainly used Calcutta and Haldia ports in India. Because of its location, Bangladesh could play a significant role in the subregional transport system by offering attractive alternatives in terms of more direct, shorter route choices covering different modes of transport (road, rail, and IWT) including multimodal options, such as container operations. By utilizing different modes and routes, Bangladesh could offer shorter transport routes for Indian traffic to and from its eastern states but also for Indian export traffic utilizing the Jamuna Bridge (now called 'Banghabandu Bridge') which was opened in June 1998. Thus, Bangladesh could offer transit by road, rail, or IWT or combinations thereof, which could be used for Indian traffic as well as for Nepalese and Bhutanese export and import traffic by utilizing Mongla and Chittagong ports in Bangladesh.

#### *India – Bangladesh Road Cross Border Connections*

15. The land border routes are the most utilized for trading between the countries in the subregion. The border between India and Bangladesh have five recognized road based land border routes. These are Petrapole, Dawki, Mahdipur, Hilli, and Changrabandha. The Petrapole (India) – Benapole (Bangladesh) route by road including ferry crossing to greater Dhaka has the heaviest movement in terms of value, accounting for about 70 percent of India's export to Bangladesh. Currently, there are 200 to 300 trucks moving via Petrapole – Benapole border stations. These suffer from physical constraints, such as narrow access roads, lack of parking and warehouse facilities, as well as duplicate border checking procedures at the two stations and cross-border restrictions, which prevent trucks from going through each other's territory. The latter is a major constraint, which causes long detention times (between 5 to 20 days). The

problem is further accentuated by the mismatch between trucks, which arrive from India and the lower availability of trucks in Bangladesh.

16. Bangladesh import nearly one million tonnes of coal by road from the North-Eastern sector of India. About 60 percent of this traffic transits through Dawki (India) – Tamabil border, which is located in the northeast corner of Bangladesh. While this border station is open for all traffic, it is mainly used for coal. Dawki is the oldest and the largest land custom station in the entire northeast region. Mahdipur, Hilli, and Changrabandha border crossings in the northwest part of Bangladesh are the least utilized crossing points but could increasingly play an important role for subregional transport, specifically for transport between Bangladesh and Bhutan as well as between Bangladesh and Nepal.

#### *India – Bangladesh Rail Cross Boarder Connections*

17. Presently four rail corridors (two broad gauge and two meter gauge corridors) are active for export and import traffic between India and Bangladesh. In addition, the Benapole – Jessore rail corridor in Bangladesh is being rehabilitated. The broad gauge connections are Gede (India) – Darsana (Bangladesh) and Singhabad (India) – Rohanpur (Bangladesh), while the meter gauge connections are Radhikapur (India) – Birol (Bangladesh) and Mahishashan (India) – Shahbazpur (Bangladesh). While broad gauge is the dominant gauge in India, Bangladesh Railways (BR) is currently converting some of the most important parts of the core rail network to dual gauge. This will not only enable movement of broad gauge traffic to the eastern part of Bangladesh including greater Dhaka but ultimately also across Bangladesh to India's northeastern states via Agartala and to Chittagong port.

18. The border point Gede, which is located 120 m from Calcutta, is the most utilized, carrying 80 percent of the total Indian export traffic by rail of 1.4 million tons. Due to limited line and terminal capacity on Bangladesh Railways (BR) two trains are only allowed to cross the border on daily basis despite a demand for up to five trains per day. Major commodities from India to Bangladesh include cement, food grains, and general foods. Traffic from Bangladesh to India is nominal and includes molasses, jute products and fish. The level of this traffic has doubled during the last five years from 500,000 tonnes in 1995 to 1 million tonnes in 1999. Cement traffic comprised nearly 75 percent of total traffic. The rail corridor Singhabad – Rohanpur handles most of the remaining traffic while the mg rail corridors only nominal traffic.

19. Prevailing physical constraints include infrastructure bottlenecks, such as short loops, and lack of terminals as well as outdated rolling stock, specifically in Bangladesh. There are operational shortcomings, inefficient working practices, nonphysical cross-border barriers and other inefficiencies. If many of these physical and institutional constraints are removed, the Darsana – Gede route could carry substantially more freight traffic (up to 5 million tonnes) including containers destined to greater Dhaka and onwards to the northeastern states in India and to Chittagong. This assumes the completion of the ongoing construction of a dual gauge track from Jamuna bridge to Dhaka and onward extension of dual gauge and/or broad gauge.

#### *India – Bangladesh IWT Transport Connections*

20. While IWT could potentially play an important role in the subregion with its large and extensive rivers Ganges/Padma, Jamuna/Brahmaputra and Meghna, it carries currently very low intrasubregional traffic (about 100,000 tonnes). It plays, however, a relative important role in Bangladesh for domestic transport. Siltation and lack of facilities are major impediments for realizing this potentially attractive mode.

### Major Subregional Transport Corridors

21. The subregional transport system can be divided into major transport corridors, carrying the bulk of traffic. The most important corridors are shown below (including current traffic volumes and future traffic potential):

**Table 4: Traffic Volume for Major Subregional Corridors with Border Crossings**

Route/Border Crossing	Mode	Traffic (tonnes/year)	Traffic Potential
Petrapole (India) – Benapole (Bangladesh)	Road	250,000	Very High
Dawki (India) – Tamabil (Bangladesh)	Road	650,000	Very High
Hilli (India) – Bangladesh		300,000	High
Biratnagar (Nepal) – Jogbani (India)	Road	300,000	High
	Rail	150,000	High
Birganj (Nepal) – Raxaul (India)	Road	300,000	High
	Rail	150,000	Medium
Gede (India) – Darsana (Bangladesh)	Rail	1,000,000	Very High
Singhapur (India) – Rohanpur (Bangladesh)	Rail	200,000	Medium
Dhubri (India) – Chilbari (Bangladesh)	IWT	~100,000	Very High
Raimangal (Bangladesh) – Shekbaria (India)			

Sources: Consultants Reports

### Major Transport Development Projects with Subregional Linkages

22. In the subregion, there are a number of ongoing, significant 'national' transport development projects, which have subregional impact. Among these projects is the recently completed Jamuna Multipurpose Bridge (now called 'Bangabandhu Bridge') which was equally financed by ADB, World Bank, and JBIC, and opened for road and rail traffic in June 1998. This major development project connects not only the western and eastern half of Bangladesh but provides also for an important transport link between the capitals of Bhutan and Bangladesh. When the ongoing construction of the eastern road and rail accesses (financed by ADB) to the bridge is completed during 2002, new opportunities will open up. By that time, more direct, shorter, faster, more efficient and reliable subregional road and rail transport will be offered to greater Dhaka and onwards to Chittagong including possible transit traffic through Bangladesh. In addition, the multipurpose bridge has a telecommunications cable (optical fiber cable), and power and gas transmission capability. Thus, this new bridge is not only expected to narrow the economic disparity between the eastern and the western parts of Bangladesh but also play an important role in uniting Bangladesh as well as to improve transport in the subregion.

23. To further assist in the development of Bangladesh's transport system, in late 1999 ADB approved the Southwest Transport Network Development project. While this project will expand capacity on the road corridor between Dhaka and Khulna with Mongla Port, it will also improve transport to and from Calcutta in West Bengal via the Benapole. ADB is currently processing the Road Maintenance and Improvement project, which will improve the access to Chittagong port. The Regional Rail Traffic Enhancement project, which is programmed for approval in 2001 subject to progress in railway restructuring and reforms, will improve important rail corridors, which have subregional significance.

24. In support for strengthening of the subregional road network, ADB has programmed a series of road projects for Bhutan, Nepal, and for West Bengal in India. ADB is currently preparing a large program which aims to assist in the restructuring of India Railways and much need expansion of rail capacity. An indicative list of ongoing and planned ADB-supported projects is shown below.

**Table 5: Completed/Ongoing and Potential ADB-supported Projects**

Transport Projects with Subregional Linkages	Mode	Prel. Cost (\$ million)	Major External Financiers (\$ million)	ADB Prel. Amount (\$ million)	Completion Date
<b>Public Sector:</b>					
BAN: Jamuna Bridge	Road/Rail	1,000	World Bank/ADB/JBIC	200	June 1998
BAN: Jamuna Bridge Access Roads	Road	180	ADB/JBIC	77	mid-2002
BAN: Jamuna Bridge Rail Link	Rail	340	ADB/OPEC/France/Spain	110	mid-2002
BAN: Southwest Transport Network (Dhaka-Khulna-Mongla-Calcutta)	Road	240	ADB/JBIC/NDF	120	2003
BAN: Road Maintenance and Improvement (link to Chittagong)	Road	200	ADB/NDF	75	2004
BAN: Regional Rail Traffic Enhancement I	Rail	tbd	ADB/Cofin.	120	tbd
BAN: Road Network Improvement and Maintenance I	Road	tbd	ADB/Cofin.	100	tbd
BHU: Road Improvement	Road	25	ADB	7.5	2004
NEP: Fourth Road Improvement	Road	tbd	ADB/Cofin.	tbd	tbd
NEP: Regional Roads	Road	tbd	tbd	tbd	tbd
IND: Railway Improvement (Delhi-Calcutta-Gede)	Rail	1,800	ADB and many other Cofin.	300	2005
IND: West Bengal Northsouth Transport Corridor	Road	tbd	ADB/Cofin.	250	tbd
IND: West Bengal IWT	IWT	tbd	ADB/Cofin.	200	tbd
<b>Private Sector:</b>					
Calcutta Toll Bridge	Bridge				
Barge System linking Calcutta and Haldia with the hinterland	IWT				
Freight terminals	Road/Rail/IWT				

25. Apart from physical constraints, there are institutional impediments, which adversely affects the efficient functioning of the subregional transport system. On the institutional side, state monopolies in rails, ports, and (landline) telecommunications network contribute to poor service and excessive delays and long waiting times. Generally, there is poor response to various customers' demand for efficient, timely, and reliable high quality transport solutions and specific service requirements. These problems are exacerbated by management deficiencies and extreme bureaucracy in these organizations and by the excessive administrative procedures at border crossings. There are also tariff barriers and cumbersome and arbitrary border controls, which negatively affect transport. As a result, substantial transport cost disadvantage exists which adversely affect movement of goods and people in the whole subregion.

## **E. BENEFITS FROM COOPERATION IN TRANSPORT**

26. There are many benefits that may arise in connection with closer subregional cooperation in transport. Some of these are as tangible, while others are less tangible. Experience elsewhere shows generally benefits in terms of improved transport efficiency, such as lower transport cost and shorter transport times, improved quality and reliability of transport, support of increased economic activity, and employment generation. The active promotion of major corridors generally generates increased investment, both by the public and by the private sector. Less tangible benefits are the creation of linkages to the local economy and improved access for the poorer populations, the generally improved investment climate and benefits for non-transport infrastructure. A revitalized subregional transport system will serve both the public and the people at large including the poor as well as the private sector by offering more choice of services, and substantially improved transport offerings in terms of time savings, improved quality and reliability. To this can be added the possibility of introducing new transport services, such as intermodal and container transport, and direct intercity bus and rail services, all of which could assist in linking the countries and the people closer together in the subregion.

27. In terms of concrete benefits, physical improvements with substantial shortening of transport distances and reduced detention times at border crossings would substantially reduce the cost for freight transport, both for general cargo and container traffic, particularly between India and Bangladesh. For example, instead of sending a container from Mumbai port by sea the long way to Singapore via Colombo to Chittagong and onwards to Dhaka, a much shorter route will be possible with the completion of the Jamuna Bridge Railway Link project. The new route could offer a seamless rail service from Mumbai or Delhi via Calcutta to Dhaka, which is the shortest and most direct route. Similarly, Bangladesh could use this route for export traffic to India and to Nepal utilizing the rail terminal in Raxual. Another example is that if Nepal and Bhutan would use Mongla or Chittagong ports for import and export traffic, this would instill more competition in terms of service quality and efficiency, which in turn would contribute to improved overall port performance in the subregion but also likely improve the efficiency in Calcutta and Haldia ports. A third example is that the offering of road, rail, and IWT transit routes through Bangladesh to be used for Indian traffic would benefit both India which would benefit from reduced transport cost and shorter transport times as well as Bangladesh which will gain on the 'transit fee' to be paid. The increased transport activities will also generate new employment opportunities.

## **F. APPROACH AND PRINCIPLES OF COOPERATION**

28. Based on the successful experience gained by ADB in the GMS, the following approach and broad principles may be applied. By adopting a 'project-driven' approach based on corridor

analysis desirable changes and tangible benefits may be realized faster. This would imply definition and preparation of suitable projects, which are supported by a set of concrete and doable policy changes to address the most critical institutional constraints. The latter may include simplified arrangements and controls at borders crossings for road and rail transport, specific agreement for cross border road traffic, exchange and charging system for rail wagons, exchange of motive power, harmonization of technical standards for rail rolling stock, introduction of new services, such container operations and many others.

29. In South Asia, subregional cooperation in transport could entail (i) establishing forums, working groups, tasks forces, project groups, and similar; (ii) developing priority corridors by preparing strategic and important projects with support of TA; (iii) linking capitals and other population centers in the subregion; (iv) helping develop remote and low income areas by improving access to markets and to social and economic services; and (v) reducing, if not removing non-physical barriers (regulations covering border crossings) to movement of people and goods in the subregion.

## **G. CONCLUSIONS**

30. The lessons learned from ADB's experience in the GMS indicate that a pragmatic approach that is project/corridor-driven could quickly yield tangible and concrete results. Thus, project preparatory and specific sector and/or corridor studies should commence without delay. This project preparatory work is considered crucial to actually move the process of cooperation forward, make it visible for stakeholders and center the discussions on a set of doable and concrete policy changes which are linked or form part of some important transport projects. A consultative and participatory process would be essential to increase public awareness and build consensus around certain important policy issues, such as transit rights.