

### III. INTERMODAL CONNECTIVITY AND THE ASIAN HIGHWAY NETWORK

#### A. Introduction

The Asian Highway network is an important component of an integrated international intermodal transport network. Roads are normally not the only mode of transportation used before goods reach their final market. This is particularly the case in international trade, which commonly relies on maritime transportation. In order to ensure efficient and smooth delivery of goods to the final destination, the development of other modes of transport and intermodal facilities should also be adequately addressed.

In addition, one of the criteria used in the formulation of the Asian Highway network is the provision of connectivity to major seaports, river ports as well as major container terminals and depots. Road transportation carries some 94 per cent of freight in Thailand,<sup>11</sup> 97 per cent of freight in Indonesia,<sup>12</sup> and about 92 per cent of freight and 96 per cent of passenger traffic in the Islamic Republic of Iran.<sup>13</sup> This clearly shows that by far the greatest proportion of inland transportation of goods and people is by road. Therefore, highway connectivity with major ports, inland container depots (ICD) and railways becomes even more important.

Table 15 outlines the Asian Highway connections to major ports in the Asia-Pacific region.

The land transport networks of coastal member countries are oriented towards their seaports. Inland linkages between road, rail, inland waterways and seaports together with logistics services and facilities are not as developed as in the coastal areas. In order to take full advantage of containerization, intermodal facilities such as ICDs, freight terminals and dry ports need to be developed as a more efficient way of connecting inland areas to the coastal production networks.

Improvements in both capacity and connectivity between different modes of transport, ICDs and freight terminals can result in more efficient handling of containerized cargoes, thereby reducing transportation costs and providing transport opportunities for inland areas.

Development of different transport modes and intermodal connections to major sea ports is particularly important for landlocked countries such as Afghanistan, Armenia, Azerbaijan, Bhutan, the Lao People's Democratic Republic, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Tajikistan, Turkmenistan and Uzbekistan. Regional cooperation in improving the intermodal connections of the Asian Highway network to these landlocked countries would ensure improved access to maritime transport and thus to extended global markets.

In addition, to realize fully the trade benefits that roads can provide, investment is also required in important complementarities such as improving facilities and efficiency at ports, ICDs and border crossing points. In that regard, cooperation between member countries is desirable in standardizing and harmonizing border crossing and customs clearance procedures and in overcoming bottlenecks in the transport chain that cause delays during modal changes.

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<sup>11</sup> World Bank, *Project Appraisal Document Highways Management Project Thailand*, 27 October 2003.

<sup>12</sup> Indonesian Country Report to the Economic and Social Commission for Asia and the Pacific, Bangkok, 2004.

<sup>13</sup> Country Report, the Islamic Republic of Iran, January 2005.

**Table 15. Asian Highway intermodal connections to the major ports**

Country	Port	Total TEUs, 2004	AH connection
Bangladesh	Chittagong	625 155 <sup>a</sup>	AH41
Bangladesh	Mongla	23 737 <sup>b</sup>	AH41
Cambodia	Sihanoukville		AH11
China	Dalian	2 211 200	AH31
China	Guangzhou	3 308 200	AH1
China	Shanghai	14 557 200	AH3, AH5
China	Shenzhen	13 650 000	AH1
China	Tianjin	3 814 000	AH3
Georgia	Poti	38 328	AH5
India	Jawaharlal Nehru	2 268 989	AH43
India	Mumbai	196 500 <sup>a</sup>	AH43
India	Chennai	539 265 <sup>a</sup>	AH45
India	Kolkata	233 695 <sup>a</sup>	AH1, AH45
Indonesia	Tanjung Priok (Jakarta)	3 248 149	AH2
Indonesia	Tanjung Perak (Surabaya)	1 575 000 <sup>b</sup>	AH2
Iran (Islamic Republic of)	Bandar Abbas	1 023 606 <sup>a</sup>	AH70
Iran (Islamic Republic of)	Imam Khomeini	40 256 <sup>b</sup>	AH8
Japan	Tokyo	3 580 000	AH1
Japan	Nagoya	1 684 082	AH1
Malaysia	Port Klang	5 243 593	AH2
Malaysia	Tanjung Pelepas	4 020 421	AH2
Malaysia	Pasir Gudang	805 689	AH18
Malaysia	Klang	2 520 000 <sup>a</sup>	AH2
Myanmar	Thilawa (Yangon)	65 000 <sup>b</sup>	AH1
Pakistan	Karachi	738 610 <sup>b</sup>	AH4, AH7
Philippines	Manila	2 629 342	AH26
Republic of Korea	Busan	11 430 000	AH1, AH6
Russian Federation	St. Petersburg	773 441	AH8
Russian Federation	Vostochniy	272 529	AH6
Russian Federation	Vladivostok	102 169	AH6
Singapore	Singapore	20 600 000	AH2
Sri Lanka	Colombo	2 220 573	AH43
Thailand	Laem Chabang	3 624 000	AH19
Thailand	Bangkok	1 346 121	AH1, AH2, AH19
Turkey	Izmir	590 760	AH87
Turkey	Istanbul (Haydarpasa)	239 978	AH1, AH5
Turkey	Icel (Mersin)	394 715	AH84
Viet Nam	Ho Chi Minh City	1 471 030 <sup>a</sup>	AH1
Viet Nam	Da Nang	33 020 <sup>a</sup>	AH1
Viet Nam	Hai Phong	376 644 <sup>a</sup>	AH14

Source: Containerization International, 2005.

<sup>a</sup> 2003 data.

<sup>b</sup> 2002 data.

## **B. Initiatives for improving connectivity and intermodal facilities**

Significant progress has been made in improving connectivity and intermodal facilities such as ports and ICDs in the Asia-Pacific region. The region has realized the importance of such improvements, as evidenced by the efforts being undertaken to connect the different modes to each other and to improve their capacities. Some of examples of these efforts are outlined below:

- The recent upgrading by Viet Nam of Da Nang port and ongoing upgrade of the Thi Vai and Cai Mep ports at Vung Tau;
- The improvement by Thailand of Laem Chabang deep seaport with intermodal connection with the ICD at Lat Krabang;
- The planned development of the Kalagauk and Dawei deep seaports in Myanmar;
- In Bangladesh, both the Chittagong and Mongla ports are connected to national highways. There is an ICD in Dhaka connecting Chittagong by rail. Chittagong port also has ICD facilities, and the Government is planning similar facilities at Mongla;
- India has approved plans to upgrade road connectivity to 10 of its major ports, including those in the important locations of Jawarlal Nehru Port, Haldia, Cochin and Chennai. There are 41 Exim Terminals (rail/road-linked ICDs and port side container terminals (PSCTs) operated by Container Corporation of India Ltd.;
- Pakistan is developing a deep seaport at Gwadar that will be linked to other parts of the country by motorways currently under construction or upgrading;
- The main Sri Lankan port in Colombo is connected to the country's road and rail network (although the rail services require further improvements);
- Nepal has three container terminals at Birgunj, Bhairahawa and Biratnagar that are in operation and all well connected by road. The Birgunj ICD (on the border with India) has a rail connection to the gateway port of Kolkatta in India;
- Bhutan is planning the construction of dry ports (ICDs) at the border towns of Phuentsholing, Samdrupjongkhar and Gelephu to enhance its international trade and improve access to regional markets;
- Cambodia is planning to develop and improve the Sihanoukville port facilities through the construction of a new 400-m cargo wharf, a 160-m container wharf and a 60,000-m<sup>2</sup> container yard. In addition to improving road links, rehabilitation of the railway between Phnom Penh and Sihanoukville port is planned;
- The Islamic Republic of Iran is developing second and third basins at Shahid Rajaei port in Bandar Abbas as well as Shahid Beheshti port in Chabahar. The Government is also planning to develop the transportation infrastructure of Qeshm Island; and
- The Philippines, being an archipelago, is pursuing the development and enhancement of intermodal connectivity through the development of roll on-roll off ports and highways connecting them, and the implementation of the Strong Republic Nautical Highway project.

In developing efficient intermodal transportation, member countries should continue to invest in upgrading roads, modernizing ports and constructing ICDs as well as the provision of sufficient cargo/container handling equipment and the streamlining of clearance procedures. The development of the intermodal facilities and networks outlined above requires large investments. Government resources are often not sufficient to meet such requirements. Therefore, countries need to explore different funding options including public-private partnerships, development assistance and loans from financing institutions. There are already many good examples of private sector involvement in the area of development and operation of road, ports and ICDs.