

## 2. Regionalization and CBTI Development in the Greater Mekong Subregion: Present Conditions and Problems

### 2.1 Current Socio-economic Conditions and Need for Regionalization

#### 1) Current Socio-economic Conditions

Table 2.1.1 shows the basic socio-economic indicators of the GMS countries. As for the total GDP, Thailand is prominent, followed by both the Yunnan Province and the Guangxi Zhuang Autonomous Region of China, then by Vietnam. Thailand also has the highest per-capita GDP. The remaining three countries, namely Cambodia, Lao PDR, and Myanmar are far behind and are categorized as least developed countries.

The table shows large economic disparities in the Greater Mekong Subregion. The industrial structure also varies by country. Cambodia, Lao PDR, and Myanmar with lower GDPs have higher shares of the primary sector, even accounting for more than 50% in the case of Lao PDR. The characteristics of the industrial structure in each country are as shown below.

**Table 2.1.1 Socio-economic Conditions in GMS Countries (2004)**

	Area		Population		GDP		Per-capita GDP	
	000 km <sup>2</sup>	(%) <sup>1)</sup>	000	(%) <sup>1)</sup>	US\$ million	(%) <sup>1)</sup>	US\$	Rate <sup>2)</sup>
Cambodia	181	7.0	13,589	4.3	4,863.9	1.6	357.9	2.2
Lao PDR	237	9.2	5,758	1.8	2,437.3	0.8	423.1	2.6
Myanmar	677	26.4	54,745	17.4	9,081.2	3.0	165.9	1.0
Thailand	513	20.0	64,470	20.5	163,547.4	54.3	2,536.8	15.3
Vietnam	330	12.8	82,222	26.2	45,401.7	15.1	553.5	3.3
Yunnan Province	394	15.3	44,150	14.1	35,756.3	11.9	809.9	4.9
Guangxi Zhuang Autonomous Region	237	9.2	48,890	15.6	40,113.3	13.3	820.5	4.9
<b>GMS Total</b>	<b>2,569</b>	<b>100.0</b>	<b>313,824</b>	<b>100</b>	<b>301,201.2</b>	<b>100</b>	<b>960.1</b>	<b>5.8</b>

Source: Masami ISHIDA, *World Trend, IDE-JETRO, No.134*, Nov. 2006

1) Share in the GMS GDP.

2) Rate compared to GDP of Myanmar.

**Table 2.1.2 Industrial Structure of GMS Countries**

	GDP Structure (%) <sup>1)</sup>			Employment Structure (%) <sup>2)</sup>		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
Cambodia	32.8	30.7	36.5	70	10	20
Lao PDR	50.2	24.6	25.1	86	-	-
Myanmar	42.9	17.3	39.7	56	12	32
Thailand	9.3	46.7	44.0	36	24	40
Vietnam	20.2	39.4	40.4	63	13	24
Yunnan Province	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Guangxi Zhuang Autonomous Region	23.0	36.8	40.2	n.a.	n.a.	n.a.

Source: **GDP Structure:** ASEAN, *ASEAN Statistical Book*, 2006, **Employment Structure:** (Cambodia/Myanmar) ISHIDA, *Mekong Regional Development*, IDE-JETRO, 2005, (Thailand) National Statistical Office of Thailand, 2006, (Vietnam) MOF-Japan, *Study for Yen-Basis Trade Finance for Vietnamese Companies Exporting to Japan*, 2004

1) As of 2004.

2) Cambodia: 2002, Lao PDR: 1995, Myanmar: 1990 Census, Thailand: 2005, Vietnam: 2000.

**Cambodia:** Cambodia has experienced steady economic growth and achieved an annual GDP growth rate of about 10% in 2005. However, its per-capita GDP is still low at US\$ 358.

Cambodia has an agriculture-based industrial structure, with 70% of its population engaged in agriculture but with a continuously decreasing GDP share from 45% in 1997 to 33% in 2004. In recent years, the secondary sector has been a leading force in the economy supported by the growth of the textile industry due to foreign direct investments (FDIs). Its share in GDP increased to 31% in 2004 from 16% in 1997.

**Lao PDR:** Lao PDR is a small country with a population of 5.8 million and thus has the smallest GDP in the region. It achieved a high GDP growth rate of 8.2% in 2005, while that in the 2001-2004 period was about 6%, showing that Lao PDR has entered a new phase of economic growth. It has an agriculture-based industrial structure, which accounts for more than half of the GDP. While the share of the secondary and tertiary sectors have almost the same share of 25%, secondary industries have grown rapidly by 10% annually in the last few years. The secondary sector is dominated by the manufacturing and mining industries.

**Myanmar:** The economy of Myanmar has been extremely stagnant, due to investment restrictions since 1997 and the economic sanctions imposed by the United States since 2003. Its per-capita GDP is the lowest in the Greater Mekong Subregion at US\$ 166 as of 2004. It has agriculture-based industries, with the primary sector sharing 43% of the GDP. The share of the secondary sector is still low at 17%.

**Thailand:** Thailand has the largest economy in the Greater Mekong Subregion, with a GDP of US\$ 164 billion and a per-capita GDP of US\$ 2,537. Its industrial structure is 9%-47%-44% corresponding to primary, secondary, and tertiary sectors. Thailand has successfully promoted trade as an engine of economic growth with a strategic policy to attract FDIs.

**Vietnam:** Although its per-capita GDP is still low at US\$ 533 as of 2004, Vietnam has achieved rapid economic growth at 7-8% annually since 2000. As experienced in Thailand, Vietnam has evolved from being agriculture-based to being industry-led, promoting industrialization by attracting FDIs and using to its advantage the availability of cheap labor force.

**Yunnan Province:** With a government policy on developing China's western region, Yunnan Province has accelerated its economic growth. In 2004 it achieved a GDP of US\$ 36 billion, which was almost equivalent to that of Vietnam for the same year. Cross-border trade with Vietnam, Myanmar, and Lao PDR has also revitalized rapidly, further stimulated economic growth.

**Guangxi Zhuang Autonomous Region:** While its economic scale is almost the same as Yunnan Province's, its industrial structure is 23%-37%-40% for primary-secondary-tertiary sectors and its economy is still dominated by agriculture.

## 2) **Trade**

Table 2.1.3 shows the export and import data of the GMS members in the 2001-2005 period. Vietnam and China experienced rapid increases in export and import volumes, followed by Thailand and Cambodia. Export and import growth in Lao PDR was rather slow, while trade in Myanmar was stagnant. As a whole, this table shows that economic disparities among GMS members expanded. The trade-to-GDP ratio has been high in majority of the GMS countries. This has grave implications for low-income countries, because decrease in trade pose a serious threat to smaller economies. In other words,

trade is a matter of life and death for these countries, and thus CBTI/CBTA development is urgently required in these countries. The trade situation in each country is summarized below.<sup>1)</sup>

**Cambodia:** Along with the transition to a market economy, Cambodia's trade has steadily expanded, although the total volume is still low. So far, the volume of logistics is limited at approximately 200,000 TEU/year and 20,000 tons of air cargo per year. More than 80% of total exports are garment and textile, of which 70% are exported to the United States. The US share in Cambodia's export is high, at 47%. The second-biggest importer of Cambodia's products is China, followed by the European countries. Intra-ASEAN and GMS exports are very limited, only at 3%. More than 35% of Cambodia's imports are from China, followed by Taiwan and Thailand.

**Lao PDR:** The total volume of trade in Lao PDR is very small, about one to two hundredths of that of Thailand. The annual logistics volume is also limited at 10,000 TEU. About 90% of Lao exports are dominated by garments, electricity, and wooden products, which share 34%, 33%, and 24%, respectively. Exports to GMS countries account for 65%, of which 40% is to Vietnam and 20% is to Thailand. It largely relies on the GMS countries, especially from Thailand, for its import needs.

**Myanmar:** Myanmar has a very strict trade policy which is "export first" policy, where imports are only allowed within an export earnings and through an exported customs<sup>2)</sup>. Import licensing is strictly controlled, which take a long time to be issued. Due to such trading controls and the U.S. economic sanction, FDIs have turned away from Myanmar and thus its economy has remained stagnant. Its exports include natural gas, garments, and agriculture products, of which volume is quite low.

**Thailand:** With the largest trade volume in the Greater Mekong Subregion, its logistics volume is very high at 5.2 million TEU/year. Primary exports are manufactured products, including computer parts at 11.5%, automobile and parts at 7.4%, and IC with 5.4%. It has richer variety than other GMS countries. Key imports are machine part with 9%, electromechanical component (7.6%), chemicals (7.2%), IC and computer parts, showing that Thailand is involved in the international division of work.

**Vietnam:** Along with its rapid economic growth, Vietnam has increased its trade by 20%. While 80% of its major export products in 1992 were oil, rice, and other primary products, the major export products in 2002 were garments at 13.7%, fishery products at 10.0%, and footwear at 9.3%. This shows the gradual transition to manufacturing products from primary products. Since the 1990s the top importer has been Japan, although the U.S. is fast becoming a major export partner. Key imports are raw materials, oil fuels, mechanical equipment, and spare parts, which share 97% as a whole.

Intraregional export and import by GMS countries are summarized in Figure 2.1.1.

A. Vietnam relies on China for 15% of its import, and Thailand 6%. The share of these two countries in Vietnam's exports is also high, about half of their import shares.

---

<sup>1</sup> The trade situation in each country was based on the "Mekong Regional Development (Ishida, 2005) for Cambodia, Lao PDR, and Myanmar; Statistics of Thailand for Thailand; the "Study for Yen-Basis Trade Finance for Vietnamese Companies Exporting to Japan (MOF, 2004)" for Vietnam; and the ASEAN Statistical Yearbook for the subregion.

<sup>2</sup> Export record can be transferable.

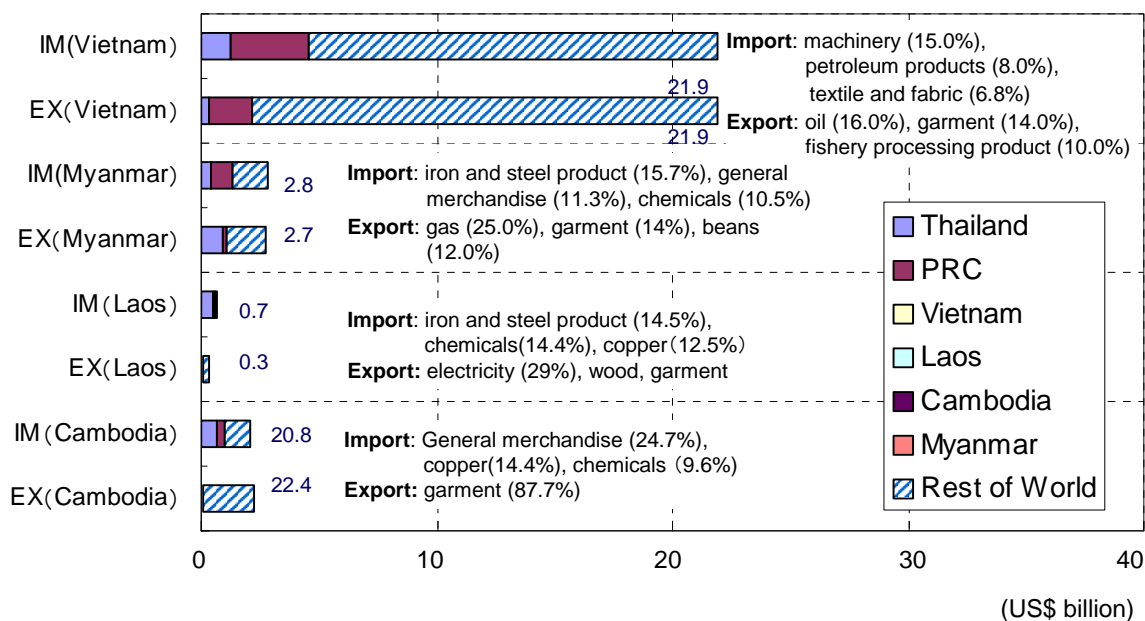
- Traded items are mostly manufacturing products, wherein Vietnam imports interim products from China and Thailand, and exports the final products to the world.
- B. Intra-GMS trading of Myanmar is limited to China and Thailand. The share of these two countries in Myanmar trade is about 50%, with China being more dominant in imports and Thailand in exports, mainly natural gas.
- C. Most Lao imports are from Thailand and some from China. A third of its exports are to Thailand, which are mostly agricultural products, although the volume is still relatively small.
- D. Cambodia relies on Thailand for 33% of its imports and China 16%. Its exports to GMS countries, mainly China and Thailand, are very tiny and largely consist of agricultural products.
- E. As a whole, while Thailand has a high share in the total trade volume of the CLMV (Cambodia, Lao, Malaysia, and Vietnam) countries, the latter's share in Thailand trade is small. Thailand's major trading partners are the US, Japan, and China. Still, the total volume of its exports to CLMV countries increased 47-fold in the period from 1990 to 2004, or at a rate about twice the export growth of Thailand, i.e. (14%/yr). On the other hand, the export of CLMV countries to Thailand has increased only tenfold, resulting in a trade surplus for Thailand.

**Table 2.1.3 Trade Statistics of GMS Countries, 2001-2005 (million US\$)**

Country	Import/ Export	2001	2002	2003	2004	2005	Annual Growth Rate (%)
Cambodia	Export	1,500	1,923	2,118	2,798	3,100	20
	Import	2,094	2,318	2,560	3,193	3,700	15
	Total	3,594	4,241	4,678	5,991	6,800	17
Lao PDR	Export	331	298	359	361	510	11
	Import	528	431	482	506	745	9
	Total	859	729	841	867	1,255	10
Thailand	Export	64,968	68,108	80,324	96,248	110,110	14
	Import	61,962	64,645	75,824	94,410	118,191	18
	Total	126,930	132,753	156,148	190,658	228,301	16
Vietnam	Export	15,209	16,530	20,176	25,625	31,625	20
	Import	16,218	19,000	24,863	31,091	36,476	22
	Total	31,427	35,530	45,039	56,716	68,101	21
Myanmar	Export	2,381	3,046	2,483	2,380	2,925	5
	Import	2,877	2,348	2,091	2,196	2,250	-6
	Total	5,258	5,394	4,574	4,576	5,175	0
China (whole country)	Export	266,098	325,596	438,228	593,326	761,964	30
	Import	243,553	295,170	412,760	561,229	660,003	28
	Total	509,651	620,766	850,988	1,154,555	1,421,967	29
GMS total	Export	350,487	415,501	543,688	720,738	910,234	27
	Import	327,232	383,912	518,580	692,625	821,365	26
	Total	677,719	799,413	1,062,268	1,413,363	1,731,599	26

Source: WTO, *World Trade Statistics*, 2006

Figure 2.1.1 Import and Export of CLMV Countries (2003)



Source: Prepared by the Study Team based on NAKAMURA. *Trade Statistics and Trade Structure of CLMV Countries*. IDE-JETRO. Jun. 2007, HIROHATA Nobuo, *Introduction of Cambodia Economy*, 2004, ISHIDA Masami. *Mekong Regional development*. IDE-JETRO. 2005, UN-ESCAP. *Transit Transport Issues of Landlocked and Transit Developing Countries*. 2003

Note: IM refers to Import and EX refers to Export

## 2.2 Regional Cooperation Initiatives in the Greater Mekong Subregion

### 1) ADB-GMS Economic Cooperation Program

**Development Framework:** The GMS Economic Cooperation Program started in 1992 aiming at facilitating efficient CBTI development to enhance regional economic development and regional cooperation as well as promote the freer flow of goods and people in the subregion. The GMS program covers 9 sectors, namely agriculture, energy, environment, telecommunication, human resource development, investment, tourism, trade, and private sector investment, while the priority is put on transport sector.

In 2002, the Strategic Framework for the Next Ten Years of the GMS Economic Cooperation Program was formulated based on an assessment of accomplishments and lessons learned in the first 10 years of the program as well as in consideration of global and regional trends. It is composed of a vision, two goals, five development strategies, and 11 flagship programs (see Table 2.2.1). Along with the strategic framework, a list of projects and programs were developed into a GMS Development Matrix, which lists about 500 programs/projects in nine sectors identified together with the concerned countries, estimated costs, financial sources, status, and schedules (see Table 2.2.2).

**Table 2.2.1 Outline of the GMS Strategic Framework for the Next Ten Years of the GMS Economic Cooperation Program**

Vision and Goal	<ul style="list-style-type: none"> <li>• GMS countries envision a Mekong subregion that is more integrated, prosperous, and equitable.</li> <li>• To realize the potential of the subregion through: (i) an enabling policy and effective infrastructure linkages that will facilitate cross-border trade, investment, tourism, and other forms of economic cooperation; and (ii) the development of human resources and skills competencies.</li> <li>• To ensure that this development process is equitable and sustainable, that environment and social interest will be fully respected in the formulation and implementation of the GMS program.</li> </ul>
Strategic Thrust	<ul style="list-style-type: none"> <li>• To strengthen infrastructure linkages through a multisectoral approach.</li> <li>• To facilitate cross-border trade and investment.</li> <li>• To enhance private sector participation and improve its competitiveness.</li> <li>• To develop human resources and skills competencies.</li> <li>• To protect the environment and promote sustainable use of shared natural resources.</li> </ul>
Flagship Program	<ul style="list-style-type: none"> <li>• North-South Economic Corridor.</li> <li>• East-West Economic Corridor.</li> <li>• Southern Economic Corridor.</li> <li>• Telecommunications Backbone.</li> <li>• Regional Power Interconnection and Trading Arrangement.</li> <li>• Facilitating Cross-Border Trade and Investment.</li> <li>• Enhancing Private Sector Participation and Competitiveness.</li> <li>• Development of Human Resources and Skills Competencies.</li> <li>• Strategic Environment Framework.</li> <li>• Flood Control and Water Resource Management.</li> <li>• GMS Tourism Development.</li> </ul>

Source: ADB, *Building on Success, A Strategic Framework for the Next Ten Years of the Greater Mekong Subregion Economic Cooperation Program*, 2002

**Table 2.2.2 Outline of GMS Development Matrix**

Sector	Number of Project/ Program
Agriculture	46
Energy	52
Environment	53
Human Resource Development	27
Investment	47
Telecommunications	19
Tourism	36
Trade Facilitation	26
Transport	198
Total	504

Source: ADB, *GMS Development Matrix*, 2007

**Regional Economic Corridor and CBTI Development:** Under the GMS development framework, major regional economic corridors were identified to connect infrastructure development with investment activities and then to effectively promote regional economic development. Two north-south corridors, one east-west corridor, and two southern corridors were identified in the initial framework (see Figure 2.2.1). In 2007, a total of nine corridors were identified in the ADB's GMS Transport Sector Strategy, including the northeastern corridor (Bangkok-Hanoi) and the northern corridor (Bangkok-Myanmar) (see Figure 2.2.2).

CBTI development projects forming these corridors were identified, prioritized, and implemented in order to promote regional development along them. While the institutional framework to facilitate cross-border transport -which are explained later- were formulated as cross-border transport agreements (CBTAs), their initial implementation was carried out along these major regional economic corridors.

**Figure 2.2.1 Initial GMS Regional Economic Corridor**



Source: ADB, *The Greater Mekong Subregion Beyond Borders*, 2006

Figure 2.2.2 GMS Regional Economic Corridors (as of 2007)



Source: ADB, *GMS Transport Sector Strategy*, 2007

## 2) UNESCAP: Formulation of Integrated Asian Transport Network

The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) was established as a regional organization of the United Nations in 1947, which reaches Kiribati to the east, Turkey to the west, the Russian Federation to the north, and New Zealand to the south. It aims for an effective regional cooperation to promote regional development, respond to globalization, and address social problems. It has exerted great effort on the Asian Land Transport Infrastructure Development (ALTID) project, which includes road, railway, inland waterway, and aviation. The ALTID project aims to provide multimodal transport services with a unified fare system. GMS sections of this transport network have been developed in coordination with ADB-initiated development framework, particularly for the Asian Highway network and Trans-Asia Railway network.

## 3) ASEAN Regional Cooperation Activity

The Association of Southeast Asian Nations (ASEAN) was formed in 1967 by the five original member countries of Indonesia, Malaysia, Philippines, Singapore, and Thailand. After Cambodia joined in 1999, ASEAN became the largest regional initiative in the world covering all southeast Asian countries with a total population of 500 million. ASEAN regional cooperation activities include hardware and software development in the transport sector, such as the ASEAN Highway network development. In 2004 the ASEAN Transport Action Plan (2005-2010) was formulated, which identified the required actions to improve maritime transport, land transport, traffic and transport facilitation, and aviation.



Several multilateral institutional agreements on cross-border transport have been formulated, some of which overlap with the ADB-formulated CBTA. Their implementation has also made little progress, with some protocols yet to be signed.

The ASEAN framework agreements related with the Greater Mekong Subregion include the following:

- **ASEAN Framework Agreement on Multimodal Transport (2005):** The agreement establishes the framework for a multimodal transport operator to effectively manage the transport of goods across the region. The agreement has not yet been implemented as of 2007, while the Thailand-formulated Action Plan for the Development of Multimodal Transport and Logistics Supply Chain Management has already initiated its Multimodal Transport Operator's (MTO) License, while Singapore has issued an MTO license through the Singapore Logistics Association.
- **ASEAN Framework Agreement on the Facilitation of Goods in Transit (1998):** The agreement prescribes the conditions in allowing goods to transit across a third party to ensure more efficient and effective connectivity of the transport network in the southeast Asia. The Agreement is attached with 9 protocols, which include the following: "Designation of Transit Transport Routes and Facilities," "Designation of Frontier Posts," "Type and Quantity of Road Vehicles," "ASEAN Scheme for Compulsory Motor Vehicle 3<sup>rd</sup>-Party Liability Insurance," and "Customs Transit System." As of 2007, only four protocols have been signed.

At the 37th ASEAN Economic Ministers Meeting in 2005, logistics was identified as its twelfth priority sector for regional integration. Since logistics is also expected to integrate the other 11 priority sectors, various studies and researches have been conducted for logistics improvement, with the assistance of Australian Agency for International Development (AusAID)<sup>3</sup>, United States Agency for International Development (USAID)<sup>4</sup>, and the Japanese government. It is intended to formulate a roadmap for logistics improvement.

#### 4) ASEAN-Japan Partnership

Trade and economic activities with Japan and ASEAN countries have steadily expanded recently. Considering global trends, such as the expansion of the free trade area (FTA), regional environmental issues, strengthening of transport security, and new technology innovation for secured society, ASEAN-Japan cooperation has covered the following areas as well as conventional cooperation through ODA assistance:

- (1) **To enhance ASEAN integration:** Includes ASEAN integration initiatives (IAI), alleviation of regional disparity, and strengthening of economic infrastructure in the Greater Mekong Subregion;
- (2) **To strengthen economic competitiveness:** Includes formulation of economic cooperation, human resources development, and institutional improvement; and
- (3) **To tackle cross-border security issues such as terrorism:** Includes human resources development and institutional improvement in law enforcement.

---

<sup>3</sup> Under the framework of the Regional Economic Policy Support Facility (REPSF), studies on logistics and maritime transport were conducted.

<sup>4</sup> The Study "Toward a Roadmap for Integration of the ASEAN Logistics Sector" was conducted in 2006.

**ASEAN-Japan Transport Partnership:** In 2002, former Prime Minister Koizumi proposed the “ASEAN-Japan Comprehensive Economic Partnership,” which focused on liberalization and cooperation. Accordingly, a basic framework to promote cooperation in the transport sector was agreed at the first Senior Transport Officials Meeting (STOM). At the first ASEAN-Japan STOM in 2003, transport cooperation projects and work plans were formulated as part of the “ASEAN-Japan Action Plan,” focusing on four priority subsectors, namely: (i) international logistics improvement, (ii) improvement of maritime transport safety, (iii) improvement of air transport safety and efficiency, and (iv) introduction of advanced technology for environment and security. In order to promote these projects, four working groups were established on transport facilitation, air transport, maritime transport, and land transport. As of 2007, a total of 21 projects are being promoted.

**Table 2.2.3 ASEAN-Japan Transport Cooperation Projects**

Sector	Project
Transport Facilitation	<ul style="list-style-type: none"> <li>• Transport Logistics Improvement Project</li> </ul>
Air Transport	<ul style="list-style-type: none"> <li>• New Air Navigation System</li> <li>• Aviation Security Project</li> <li>• Airport Survey</li> </ul>
Maritime Transport	<ul style="list-style-type: none"> <li>• Seafarers Policy Cooperation</li> <li>• Maritime Transport Security Program</li> <li>• Cruise Promotion Project</li> <li>• High-Speed Maritime Network Project</li> <li>• “Mega-float” promotion Project</li> <li>• Port Technology Research Project</li> <li>• Cooperation on Coast Guard Development</li> </ul>
Land Transport	<ul style="list-style-type: none"> <li>• Public Transport Smart Card Initiative</li> <li>• Intelligent Transport System Development</li> <li>• Automobile Technical Cooperation Project on Safety and Environment</li> <li>• Road Signage Harmonization in ASEAN</li> <li>• ASEAN Railways Revival Plan</li> <li>• Urban Transport Policy Framework</li> <li>• Global Greenhouse Gas Reduction Project</li> <li>• Traffic Safety Project</li> </ul>
Others	<ul style="list-style-type: none"> <li>• Transport Policy officials Training in Japan</li> <li>• Platform for Transport-related Information</li> </ul>

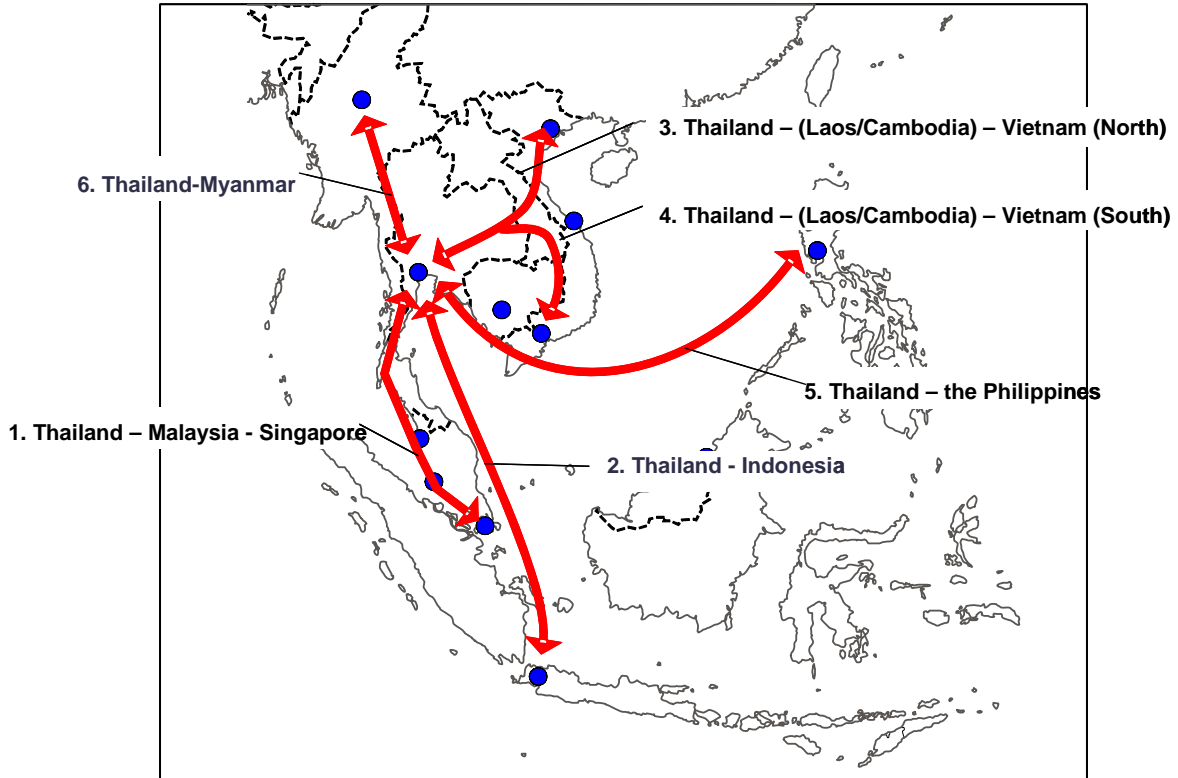
Source: MLIT-Japan, *Press Release for Fifth ASEAN-Japan Senior Transport Officials Meeting, 2007*

**Partnership on International Logistics Competitiveness:** In the ASEAN-Japan transport cooperation framework, logistics is identified as one of the priority areas. Along with the economic integration with ASEAN and the increasing need for efficient logistics, logistics improvement was also included in the “Economic Growth Strategy Outline” and the “Asia Gateway Strategy.” With such background, the Partnership on International Logistics Competitiveness was established by relevant agencies particularly Japan’s MLIT and the Ministry of Economic, Trade, and Industry (METI) in 2006. Action plans for competitive international logistics were formulated including the following 5 programs, of which 1 to 4 are directly related with GMS countries:

- (1) **Formulation of an ASEAN-wide Logistics Network:** The requirement for an ASEAN-wide network include: (i) development of hard infrastructure, (ii) formulation of transport services for land, sea, and air, (iii) harmonization of relevant institutions.

Action plans include the development of six logistics routes<sup>5)</sup> on which Japanese companies have keen interests. In FY 2007, a test-run will be conducted along the route connecting Bangkok (Thailand) and Hanoi/ Ho Chi Minh City (Vietnam) through Lao PDR.

**Figure 2.2.3 Six Priority Regional Logistics Routes**



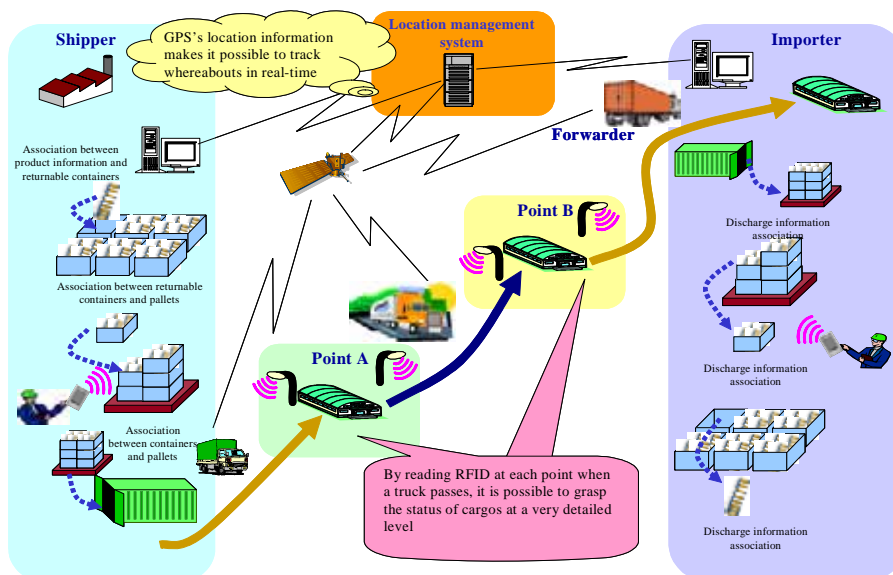
Source: Partnership for Competitive International Logistics, *Action Plans for Competitive International Logistics*, 2006

- (2) **Human Resources Development for Logistics and International Trade Formalities:** Logistics management has a shortage of qualified personnel and insufficient training program. It was also pointed out that existing training programs cannot meet actual business needs. It is proposed that a logistics certification system suited for actual conditions in ASEAN countries based on Japan's be developed. In FY 2007, baseline study is expected to be conducted in Thailand and some other countries in order to select the appropriate countries where the logistics certification system will be introduced.
- (3) **Introduction of Advanced Technology for Logistics Management:** Advanced logistics materials, such as electric tags, have not been well utilized in logistics management due to the insufficient understanding of the advantages of such advanced technologies and the lack of basic infrastructure. It is therefore necessary to show and disseminate the impact and advantages of these materials in detail for further dissemination. More particularly, efficient logistics management will be promoted through the introduction of advanced Japanese technologies such as radio

<sup>5</sup> (1)Thailand~ Malaysia~ Singapore, (2)Thailand~ Indonesia, (3) Thailand~ (Lao PDR/Cambodia)~ Vietnam (north) (4)Thailand~ (Lao PDR/Cambodia)~ Vietnam (South) , (5) Thailand~ Philippines, (6) Thailand~ Myanmar

frequency identification (RFID)<sup>6</sup>. In FY 2007, demonstrations on logistics systems, such as RFID and GPS, are expected to be conducted together with the above-mentioned test-run to determine their feasibilities and impacts.

**Figure 2.2.4 Location Management System with Electronic Tags and GPS**



Source: Partnership for Competitive International Logistics, *Action Plans for Competitive International Logistics*, 2006

- (4) **Computerization of Import/Export Formalities toward ASEAN Integration:** In some Southeast Asian countries, import/export customs procedures have not been computerized, manual documentations are still prevalent, and information sharing system among relevant authorities is not yet available. Even in the countries where electric data interchange (EDI) has already been formulated, information sharing and coordination beyond borders are still insufficient. The introduction of EDI and single window systems will support mutual coordination within a region and streamline import/export formalities, thus achieving efficient international logistics. In FY 2007, a baseline survey is expected to be conducted to examine the feasibility of introducing an EDI system and determining its detailed implementation processes in ASEAN countries where the EDI system has not been introduced yet, such as Vietnam.
- (5) **Improvement of Import/Export Formalities and Infrastructure Development in Japan:** After the September 11 attacks in the US, ensuring security and compliance of import/export formalities have become essential. It has also been necessary to improve the efficiency and the promptness of import/export formalities as well as to strengthen the functions of international logistics infrastructure. In other words, strengthening the security of international logistics should be promoted together with efficient logistics. In FY 2007, existing customs-related institutions are expected to be reviewed particularly the compliance of importers and exporters. The basic framework for the Japanese C-TPAT (Customs-Trade Partnership Against Terrorism) will be established to strengthen the functions of international logistics infrastructure and improve its accessibility.

<sup>6</sup> RFID is a system that allows the identification and management of people and goods using a small wireless radio tag and is being promoted as a goods identification and management technology to replace barcode technology.

**5) Regional Development Activities along with Regionalization**

In the GMS countries, a series of development projects to promote strategic regional development are being conducted by international donors such as ADB or by each country. Such policy-oriented and public-initiated development projects have encouraged the private sector to become actively involved in regional development, as well. In line with the GMS regional economic corridor development framework, private sector investment has been carried out, some of which have already completed and started operations. The typical investment is the development of industrial parks at border areas in Cambodia, Lao PDR, and Myanmar due to cheap labor costs. In other words, cross-border movement of labor force makes such investment more attractive and feasible and which shows an active globalization trend led by the private sector. However, it should be noted that globalization may also cause negative effects as is discussed later in this report. It requires a consideration of the possible negative impacts in advance and the conduct of necessary actions and public intervention to alleviate such impacts.

**Table 2.2.4 Proposed Regional Development at Border Areas (except in China)**

Country	Border Area Development	Note
Cambodia	Manhattan SEZ (Bavet)	- Utilize cheap labor force in Cambodia. - Some of the infrastructures are installed from Thailand and Vietnam.
	Poipet SEZ	
	Koh Kong SEZ	
	Sihanoukville SEZ	
Lao PDR	Savan-Seno SEZ	Coordinate with Mukdahan-Savannakhet Special Economic Zone in Thailand.
Myanmar	Myawadi-Mea Sot Regional Development	Many Myanmar people are working in Mae Sot, Thailand. Strong needs from Thai side.
Thailand	Chiang Rai SEZ in Border Area	Coordinate with Yunnan Province (China), Lao PDR, and Myanmar.
	Mukdahan-Savannakhet SEZ in Border Area	Coordinate with Savan-Seno SEZ in Lao PDR
	Trat-Koh Kong SEZ in Border Area	Coordinate with Koh Kong SEZ in Cambodia.
	Myanmar SEZ in Border Area	Coordinate with Myawadi-Mae Sot regional development activities/plans in Myanmar.
Vietnam	Lao Bao SEZ	First SEZ in Vietnam.
	Moc Bai SEZ	Coordinate with Manhattan SEZ in Cambodia.

## 2.3 CBTI Development

### 1) Asian Highway

#### History of Asian Highway<sup>7)</sup>

The Asian Highway project started in the 1950s with the aim of developing the international land transport network as was achieved with the development of the Pan-American Highway and the European Highway. The development of the international road network was expected to be conducive to promoting regional development and fostering regional trade and tourism in Asia. In 1959, the Asian Highway Plan was adopted in the general assembly of the Economic Commission for Asia and the Far East (ECAFE), which was the forerunner of the UNESCAP. Initially, it had 15 member countries with a central focus on southern Asia, which included 5 GMS countries, namely Cambodia, Lao PDR, Myanmar, Thailand, and the former South Vietnam.

The original plan consisted of 41 routes or a total of 65,000km of road network, which linked each capital, important cities, ports, industrial centers, and other major cities in the region. The Asian Highway Network had been developed with the assistance of the developed countries and the United Nations Development Programme (UNDP) as well as through local projects of the respective member countries. In 1968, the Secretariat for the Asian Highway Transportation Engineering was established under UNESCAP to manage its development and coordinate with donor agencies. However, the Secretariat was closed down in 1975 due to financial constraints within the United Nations. While UNESCAP's Department of Transport and Communication took over the management of the Asian Highway Plan, its implementation had slowed down.

Since the 1980s, Asian countries have built the momentum rolling again to promote the development of the Asian Highway, as a result of the political stabilization in South Asian countries, the dismantling of the Cold War structure worldwide, following the increase in international exchanges and trade. The necessity of international transport infrastructure development was strongly felt all over the region. The accession of China, Myanmar, and Mongolia in 1988, 1989, and 1990, respectively, to UNESCAP and Vietnam's strong willingness to integrate with the world economy as shown by its Doi Moi policy has enhanced the opportunities to promote the Asian Highway Plan.

In 1992, UNESCAP endorsed three (ALTID) projects, comprising the Asian Highway, the Trans-Asian Railway, and the facilitation of land transport projects. The Asian Highway network was revised to accommodate the modifications to the existing network and the identification of new routes in new member countries.

With the increase in member countries, the Asian Highway Network also expanded, reaching a total length of 141,000km and linking 32 Asian countries with Europe, after addition of 3,200km of Turkey in 1999, while it was 29 routes with 69,000 km in 1995,

#### Recent Development

In 2004-2005, of the total length of the Asian Highway, some 22,000km or 15.8% of the network do not conform to the specified minimum design standards. The sections that have already met the minimum design standards are either in poor condition or are

---

<sup>7</sup> Toward an Asian Integrated Transport Network (UNESCAP, 2005), based on the website of Japan's MLIT (<http://mlit.go.jp/sogoseisaku/inter/kokusai/AH2005/history.html>) and relevant studies.

approaching their capacities due to high traffic volume, requiring maintenance, rehabilitation, and upgrading. While development and maintenance are a responsibility of each member country, some are incapable of mobilizing financial resources and need the financial assistance of the international and bilateral donors. UNESCAP estimated the required investment for the Asian Highway priority projects, as follows:<sup>8)</sup>

- Multilateral and bilateral donors are either currently investing or have committed to invest about US\$ 26 billion in the construction, rehabilitation, and upgrading of some 37,000km of the Asian Highway network.
- Almost US\$ 18 billion in investment is additionally required to implement 121 priority road projects to upgrade some 26,000km of the Asian Highway in 25 member countries.

Based on the results of an investment needs estimation, the regional workshop on “Upgrading of the Asian Highway Priority Routes” was conducted in June 2007 with the objectives of: (i) creating awareness of the investment opportunities in member countries and promoting investment in priority projects along the Asian Highway, (ii) sharing experiences and learning the various approaches to project formulation and conducting prefeasibility/feasibility studies of road projects. Discussions were conducted on the further actions to upgrade the Asian Highway routes.

**Figure 2.3.1 Asian Highway Route Map**



Source: UNESCAP website ([http://www.unescap.org/ttdw/common/TIS/AH/maps/ah\\_map\\_2007.jpg](http://www.unescap.org/ttdw/common/TIS/AH/maps/ah_map_2007.jpg))

### **Asian Highway Network in the Greater Mekong Subregion**

The study area, the Greater Mekong Subregion, has a total of 14,511km of Asian Highway road sections (see Figure 2.3.2), of which 5,333km are still classified as Class III with two

<sup>8</sup> Priority Investment Needs for the Development of the Asian Highway Network (UN-ESCAP 2006)

lanes with DBST surface (Double Bituminous Surface Treatment).

**Figure 2.3.2 Asian Highway Network in the Greater Mekong Subregion**



Source: made up with UN-ESCAP data

## 2) ASEAN Highway

The ASEAN Highway Network Project was agreed on at the Fifth ASEAN Transport Ministers Meeting in 1999 with the following goals:

- (i) to provide the institutional mechanism to formalize the strategic route configuration and the uniform technical design standards of the ASEAN Highway network, being the major road component of the overall trans-ASEAN transportation network;
- (ii) to formulate the ASEAN Highway Infrastructure Development Plan consisting of priority highway projects of regional significance;
- (iii) to promote cooperation with other international and regional organizations; and
- (iv) to intensify cooperation in the facilitation of international road traffic throughout the Southeast Asian region.

The total network comprises 23 routes covering some 38,400km. The original development strategy intended to complete network configuration and the designation of national routes by 2000, to upgrade all designated national routes to at least Class III<sup>9</sup> standards and to construct all missing links by 2004, and to upgrade all designated national routes to at least Class I or primary road standards or low traffic volume non-arterial routes to Class II standards by 2020.

While the ASEAN Highway Network does not relate with the Asian Highway network, the former basically follows the Asian Highway network for the major routes, adding some routes of importance to the region (see Figure 2.3.3).

---

<sup>9</sup> Technical design standards and requirements are set for Primary, Class I, Class II, and Class III roads. Design speed, road width, and type of pavement are specified in accordance with terrain classification including level, mountainous, and rolling terrains.



Figure 2.3.3 ASEAN Highway Network



Source: Formulated by the Study Team based on existing data.

### 3) Other Infrastructure Development

#### (1) Railway Network

There is a regional railway network development framework, the Trans-Asian Railway (TAR) as shown in Figure 2.3.4, which aims to connect the whole Eurasia continent by railway.

Figure 2.3.4 Trans-Asian Railway Network



Source: UNESCAP Website ([http://www.unescap.org/ttdw/common/TIS/TAR/images/tarmap\\_latest.jpg](http://www.unescap.org/ttdw/common/TIS/TAR/images/tarmap_latest.jpg))

In the Greater Mekong Subregion, railway infrastructure has been developed in all countries except for Lao PDR, where its usage for passenger and freight transport is limited. Narrow-gauge tracks of 1,000mm are introduced, except in some links in Vietnam. There are three missing links to be prioritized in the formulation of the GMS railway network, as follows:

- (a) **Western part of Thailand between Namtok and Tanbyuzayat (263km):** With the development of this section, railway linkages from Thailand to the Andaman Sea will be complete.
- (b) **Railway Link within Cambodia between Poipet and Sisophon (48km):** This is a missing link in the railway network connecting Bangkok and Phnom Penh. This is a high-priority project listed in the development plan of Cambodia, wherein the Malaysian government has committed intake assistance for rails.
- (c) **Railway Link between Ho Chi Minh and Phnom Penh (255km):** This is a critical missing link in the SKRL railway network, connecting Singapore and Kunming in China. The feasibility study has been conducted both for the Vietnamese section

from HCMC to the border, and that from Phnom Penh to Loc Ninh, where the locations of the cross-border junctions are yet to be decided.

**Figure 2.3.5 Railway Network in the Greater Mekong Subregion**



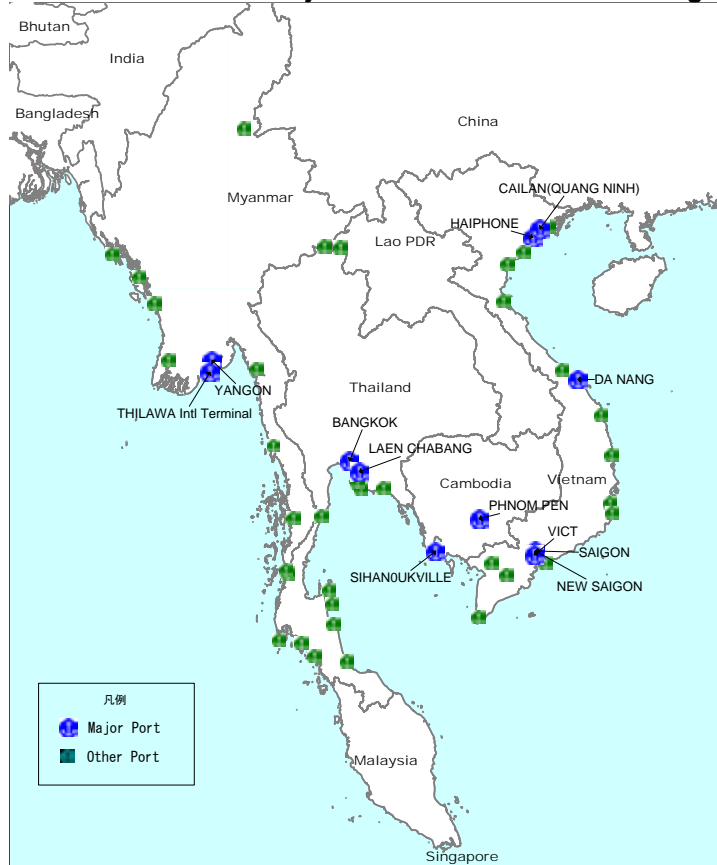
Source: JETRO, ASEAN Logistics Network Map, 2006

In Lao PDR, the only country which has no railway infrastructure, the first railway linkage is planned from the center of the 1st Mekong Bridge (Friendship Bridge) to Vientiane for a length of 13.5km and whose right of way has already been secured. For the first phase, the section up to Thanaleng (3.5km) will be financed by Thailand. For the second phase, from Thanaleng to Vientiane (9.0km), the feasibility study is planned with the assistance of France, and this has not started yet.

(2) Port and Airport

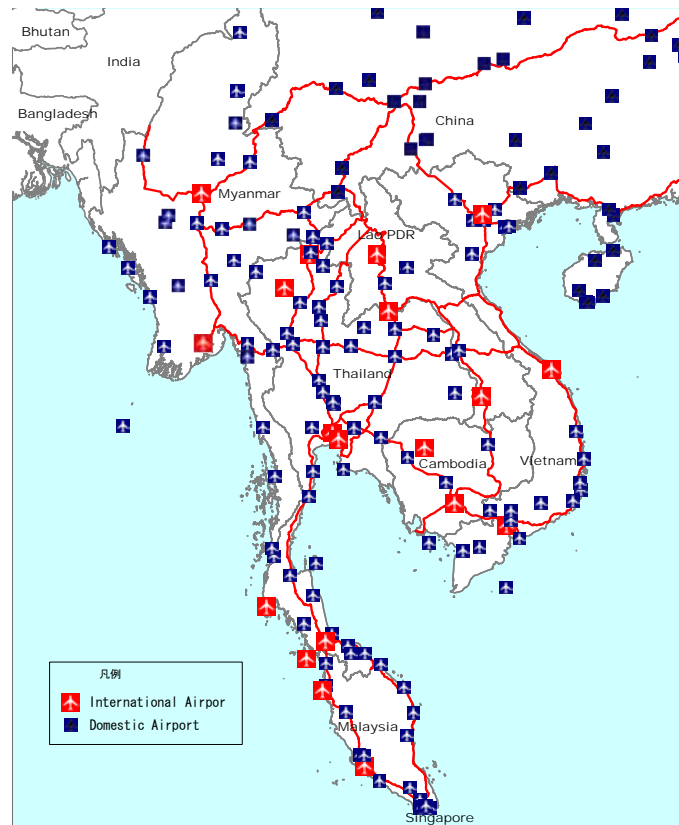
Figures 2.3.6 and 2.3.7 show the location of major ports and airports in the region. Port infrastructure plays a very important role in international trade, handling most cargo intended for GMS countries. Infrastructure facilities in major ports are shown in Table 2.3.1. On the other hand, several ports, such as Hai Phong and Cai Lan ports in Vietnam, Shihanoukville Port in Cambodia, and Yangon Port in Myanmar, only provide feeder shipping services linking with Singapore and Bangkok (Laem Chabang Port). This shows the low accessibility and flexibility of shipping lines among GMS ports (see Figure 2.3.8).

**Figure 2.3.6 Location of Major Ports in the Greater Mekong Subregion**



Source: Prepared by the Study Team based on existing sources.

**Figure 2.3.7 Location of Major Airports in the Greater Mekong Subregion**



Source: Prepared by the Study Team based on existing sources.

Figure 2.3.8 Major Shipping Lines in ASEAN



Source: JETRO, ASEAN Logistics Network Map, 2006.

**Table 2.3.1 Information on Major Ports in Cambodia, Myanmar, and Thailand**

Facility		Cambodia		Myanmar		Thailand	
		Phnom Penh	Sihanouk ville	Yangon	Thilawa international Terminal	Bangkok	Laem Chabang <sup>2)</sup>
Berths	No. of Bergh	6	16	2	5	84	18
	No. of Container Berth	3	3	2	5	0	11
	Total length of Bergh (m)	n.a.	1,693	n.a.	1,000	7,688	8,005
	Total length of Container Bergh (m)	n.a.	400	n.a.	1,000	0	5,000
	Draft Limit (m)	n.a.	8.3	n.a.	10.0-12.5	4.6-8.2	10.0-16.0
Storage Area	Terminal Facilities (m <sup>2</sup> )	n.a.	n.a.	40,000	750,000	363,168	3,329,265
	CFS (m <sup>2</sup> ) <sup>1)</sup>	n.a.	36,000	4,600	20,000	498,063	74,792
Operation Statistics	Cargo Handling Volume (1,000 ton)		1,381			16,031	35,736
	Import	n.a.	n.a.	3,307		8,852	12,717
	Export	n.a.	n.a.	910		7,179	23,019
	Domestic	n.a.	n.a.	440		n.a.	n.a.
	Container Throughput (1,000TEU)		211	n.a.		1,349	3,766
	Import	n.a.	106	n.a.		666	1,869
	Export	n.a.	105	n.a.		683	1,897
	Transshipment	n.a.	0	n.a.		n.a.	n.a.
No. of Ship calls	n.a.	1,372	1,215		2,570	6,410	

Source: JETRO, ASEAN Logistics Network Map, 2006.

1) CFS: container freight station.

2) Pamphlet of Laem Chabang Port.

**Table 2.3.2 Information on Major Ports in Vietnam**

Facility		Vietnam					
		Hai Phong	Sai Gon	New Sai Gon	Cai Lan	VICT	Da Nang
Berths	No. of Bergh		10	7	5	3	10
	No. of Container Berth	16	10	7	2	3	n.a.
	Total length of Bergh (m)	2,438	704	2,037	926	486	1,657
	Total length of Container Bergh (m)	2,438	704	2,037	450	486	n.a.
	Draft Limit (m)	8.4-10.5	8.5	11.0-12.0	5.0-13.0	10.0	7.0-11.0
Storage Area	Terminal Facilities (m <sup>2</sup> )	127,300	500,000	560,000	n.a.	200,000	267,456
	CFS (m <sup>2</sup> ) <sup>1)</sup>	50,892	8,200	22,000	n.a.	5,700	n.a.
Operation Statistics	Cargo Handling Volume (1,000 ton)	10,511	10,744	15,778	3,185	n.a.	2,256
	Import	5,370	4,965	7,538	1,059	n.a.	595
	Export	1,911	2,549	7,604	975	n.a.	778
	Domestic	3,230	3,230	636	1,151	n.a.	882
	Container Throughput (1,000TEU)	398	285	1,056	119	377	32
	Import	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Export	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Transshipment	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
No. of Ship calls	2,430	1,843	1,636	336	1,025	1,290	

Source: JETRO, ASEAN Logistics Network Map, 2006.

1) CFS: container freight station.

#### 4) Cross-border Point

There are many cross-border points across the GMS countries, including 40 Class I cross-border points (CBPs)<sup>10</sup> where people and goods from third countries as well as between two countries are allowed to pass through (see Figure 2.3.9). They also include 36 Class II CBPs<sup>11</sup> where only people and goods between two countries are allowed to pass through. Figure 2.3.9 shows the locations of these Class I CBPs. While most cross-border points are linked via road or in some cases via railway, ferry crossing is available only at some Class I CBPs.

Infrastructure conditions and traffic volume have been clarified for major Class I CBPs. However, most CBPs are utilized only for local transport, and information about their infrastructure conditions and cross-border procedures are only available from minor travel records. Such information should be integrated and disseminated to enhance cross-border transport and extend the impact of regionalization.

**Figure 2.3.9 Location of Class I Cross-border Points in the Greater Mekong Subregion**



Source: Prepared by the Study Team based on various sources.

<sup>10</sup> In principle, people and goods from any country including third countries with whom the transit country has diplomatic relationships, can pass through.

<sup>11</sup> In principle, only the people and goods of interested countries, mostly two countries, can pass through. In some cases, movement from country A to country B is allowed only for 1 day.