

## **1. INTRODUCTION**

### **1.1 Background**

Cross-border transport infrastructure (CBTI), along with recent globalization and regionalization, has had a significant role in the expansion of the global marketplace and the industrial specialization among countries. It has promoted free trade and investment as well as enhanced the effective and efficient use of the economic resources of individual countries, that is to the extent appropriate measures have been in place to avoid the negative impacts of CBTI. Cross-border transport infrastructure therefore promotes economic development and improves the people's living conditions. It is also expected to effectively contribute to reducing poverty and promoting stability in border regions.

A number of projects and programs on CBTI development by donor agencies, such as the Asian Development Bank (ADB) and the World Bank (WB), have been carried out all over the world. On the other hand, due to the nature of its policy on bilateral assistance and regional approach, which is request-based, the Japan International Corporation Agency (JICA) has not been deeply involved in CBTI development.

Due, however, to the undeniably important contribution of cross-border transport infrastructure in recent global economic growth and the possibilities that it offers, JICA executed "The Research on the Cross-Border Transport Infrastructure: Phase 1" from October 2005 to July 2006, examining the progress of regionalization from a global perspective and summarizing the major characteristics of cross-border transport infrastructure. Phase 2, which was implemented on November 2006 to December 2007, further analyzed cross-border transport infrastructure based on the results of Phase 1 and focused on the Greater Mekong Subregion (GMS), with the aim of formulating more practical recommendations for future JICA programs.

In addition, the Study supports former Prime Minister Shinzo Abe's policy of an Asia Gateway Vision for Japan which aims to incorporate Asian growth and energy with Japan's vision of a new era, wherein the country will serve as the core of Asian development, and itself as an attractive country. The Asia Gateway Vision consists of seven primary policies, one of which is a passenger and freight transport big bang or reform of aviation, shipping, and logistics from the users' point of view.

A further impetus for carrying out the Study is the economic growth strategy formulated by the Cabinet in 2006 which aims to establish an Asia-wide seamless logistics structure and to strengthen Japan's international logistics competitiveness. Following such government policy direction, partnerships on international logistics competitiveness have been established, and action plans have been formulated. One such plan is the development of new land transport and logistics routes, particularly the construction of the Second Mekong Bridge.

### **1.2 Objective**

The overarching objectives of this Study are to identify the future directions for JICA assistance on cross-border transport infrastructure and to promote actual CBTI projects and program. More particularly, this Study intends to:

- (1) Analyze regionalization and review the current conditions of CBTI development, including the existing and ongoing projects/programs, and identify current related

problems and issues in the GMS.

- (2) Examine the vision for CBTI development for the GMS and the direction of future JICA assistance on CBTI-related programs.
- (3) Examine the applicability of the study results to other regions, formulate the training module for CBTI development in the GMS, and examine the actual implementation mechanism for JICA assistance on CBTI-related programs.

### 1.3 Study Area

The study area is the entire Greater Mekong Subregion, which covers Cambodia, Lao PDR, Myanmar, Thailand, Vietnam, as well as the People's Republic of China's (PRC) Yunnan Province and Guangxi Zhuang Autonomous Region (see Table 1.3.1). It should be noted that due to the short study period and data unavailability, field surveys and detailed analyses covered only the CLVT countries (Cambodia, Lao PDR, Vietnam, and Thailand). An analysis of the applicability of the study results to other regions in the world was conducted, when needed. This Study covered all transport modes for land, air, and sea.

**Figure 1.3.1 Study Area**

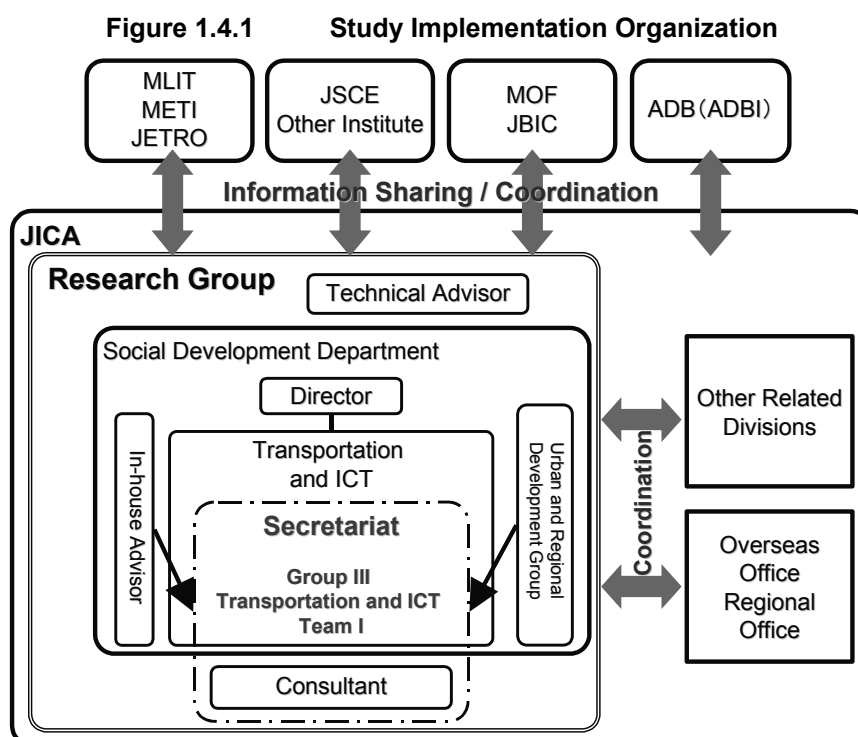


Source: Plan of the Greater Mekong Subregion Beyond Borders (ADB, 2006)

## 1.4 Study Implementation

### 1) Study Organization

During the course of the Study, discussions were frequently done on the results of analyses and the proposals of the Study within the research group, which is composed of JICA officials and external technical advisors as well as the Social Department of JICA as secretariat. There was also close coordination and information sharing with Ministry of Land, Infrastructure, and Transport (MLIT) of Japan, other Japanese agencies, such as the Japan External Trade Organization (JETRO), and international aid organizations such as the ADB. The Study's implementation organization and the list of major meetings are shown in Figure 1.4.1 and Table 1.4.1, respectively.



**Table 1.4.1 List of Major Meetings**

Meeting Type	Date	Participant	Agenda
Research Group Meeting	1 <sup>st</sup> 27 Nov (2006)	Technical Advisor JICA: 13 persons Study Team: 5 persons Observer: 1 person	Overall framework and schedule of the Study
Internal Research Group Meeting	20 Nov (2006)	JICA: 3 persons Study Team: 6 persons	Overall framework and schedule of the Study
2 <sup>nd</sup>	9 Jan	Technical Advisor JICA: 14 persons Study Team: 4 persons	Outline of field survey Database
3 <sup>rd</sup>	15 Feb	Technical Advisor JICA: 14 persons Study Team: 4 persons Observer: 1 person	Result of field survey Result of ADB discussion
4 <sup>th</sup>	13 March	JICA: 9 persons Study Team: 4 persons Observer: 3 persons	Summary of Interim Report
5 <sup>th</sup> (TV conference)	30 March	Technical Advisor JICA: 7 persons JICA (local): 9 persons Study Team: 4 persons	Summary of Interim Report (Country office participation Cambodia, Lao PDR, Thailand, Vietnam)

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Meeting Type	Date	Participant	Agenda	
6 <sup>th</sup>	24 April	Technical Advisor JICA: 9 persons Study Team: 4 persons Observer: 1	Regional Workshop on CBIT The regional and economic development program Result of demand forecast (trial)	
7 <sup>th</sup>	13 June	Technical Advisor JICA: 9 persons Study Team: 4 persons observer: 1 person	CBIT in the entire Asia Assessment of Impact of FDI Applicability to other regions	
DFR Study Committee	4 July	JICA: 9 persons Study Team: 3 persons	DFR	
8 <sup>th</sup>	12 July	Technical Advisor JICA: 13 persons Study Team: 4 persons Observer: 1 person	DFR Future Directions for JICA Assistance Applicability to other regions	
9 <sup>th</sup>	12 Sept.	Technical Advisor JICA: 11 persons Study Team: 5 persons Observer: 1 person	DFR Applicability to other regions Further research issues and recommendations	
Final Seminar	26 Sept.	Technical Advisor JICA: 21 persons Study Team: 5 persons Total: 176 persons	Result of the Study Future direction for JICA assistance Panel Discussion	
Meeting with external organization	Ministry of Land, Infrastructure, and Transport	6 Dec (2006)	MLIT: 5 persons JICA: 2 persons Study Team: 2 persons	Human Resources Development in ASEAN Logistics
	ADB South East Asian Department	26 Jan	Technical Advisor JICA: 2 persons Study Team: 2 persons	Possibility of future cooperation Data gathering concerning CBTA/TSS <sup>1)</sup>
	ADB South East Asian Department	7 Sept	Technical Advisor JICA: 2 persons Study Team: 2 persons	DFR Possibility of JICA cooperation and future coordination with ADB
	ADBI	4 Oct	JICA: 2 persons Study Team: 1 persons	Model building for traffic demand analysis and economic evaluation
Participation in Seminars	ADBI Annual Conference	8 Dec (2006)	Study Team: 3 persons ADBI Other people from academic background, many related people to help	Approach on infrastructure development under regionalization
	JETRO Logistics Network Map Seminar (Bangkok)	13-15 Dec (2006)	Study Team: 1 person JETRO: around 10 persons Academic Expert: 2 persons ASEAN CP: 14 persons Other Consultant: several people	Explanation of Logistics Network Map of JETRO
	ASEAN Logistics Pilot Seminar (Bangkok)	24 Jan	Study Team: 2 persons Japanese Side (MLITS, JTCA): around 20 persons ASEAN CP: around 20 persons Other Private Organization: several people	Logistics Administration of Japan Cross-border Logistics Business of Thailand-Malaysia
	ADB GMS Second Joint Meeting	20 March	JICA: 1 person Study Team: 1 person ADB, Donor Agencies, Each Country GMS	GMS-CBTA Progress Signature of 3 remaining Annexes
	ADBI Workshop	13 Nov	JICA: 2 persons Study Team : 2 persons ADBI, Other donors Government officers of Asian countries	Cross-border Infrastructure / Regional Public Goods Management Presentation on the Study

1) Transport Sector Strategy Study: Survey which ADB implement in 2004

2) Outline of the Field Survey

The field survey was conducted in Vietnam, Lao PDR, Cambodia, and Thailand in January 2007. Current situations of CBTI development, the respective countries' policy on cross-border transport infrastructure, the status of cross-border transport agreements (CBTAs), and constraints for their implementation were examined based on the discussions with government officers, logistics service providers, and shippers, as well as on border visits. The list of visited agencies is shown in Table 1.4.2.

**Table 1.4.2 List of Interviews and Site Visits**

Study Team	Maruoka	Kaneko	Kim
17 January 2007	Vietnam Railway	DENSO	Ministry of Commerce
	<ul style="list-style-type: none"> <li>• SAGAWA Vietnam</li> <li>• Ministry of Transport, Railway</li> <li>• JICA Vietnam</li> </ul>		
18 January 2007	<ul style="list-style-type: none"> <li>• Department of Immigration</li> <li>• TRANSINDO<sup>1)</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Customs Department</li> <li>• Logitem<sup>1)</sup></li> <li>• Ministry of Transport: International Dept. (NTFC)</li> </ul>	<ul style="list-style-type: none"> <li>• JICA Lao PDR</li> <li>• National Statistics Center</li> <li>• Mekong River Commission (MRC)</li> </ul>
19 January 2007	<ul style="list-style-type: none"> <li>• Customs Department</li> <li>• Ministry of Commerce</li> <li>• NISSEI<sup>1)</sup></li> <li>• CAMFFA</li> <li>• JICA Cambodia</li> </ul>	<ul style="list-style-type: none"> <li>• CANON</li> <li>• Dragon Logistics</li> <li>• Ministry of Defense</li> </ul>	<ul style="list-style-type: none"> <li>• Social Mixte De Transport<sup>1)</sup></li> <li>• Asia Paper Mill Factory</li> </ul>
20 January 2007	Site Visit: Trapeang Plong	Site Visit: Lao Bao	Site Visit : Thakhek/ Nakhon Phanom
21 January 2007	Site Visit: Bavet	Site Visit: Moc Bai/ Bavet	<ul style="list-style-type: none"> <li>• Lao National University, Dept of Economics</li> <li>• National Statistics Center</li> </ul>
22 January 2007	Site Visit: Bavet	Site Visit: Bavet	<ul style="list-style-type: none"> <li>• Mekong River Commission (MRC)</li> </ul>
23 January 2007	Nava Nakorn Distribution Centre (NNDC) JICA Thailand		
24 January 2007	ASEAN-Japan Partnership Logistics Pilot Seminar		<ul style="list-style-type: none"> <li>• JICA Expert: Mr. Furukawa</li> </ul>

Note: 1) Logistics company.

### 1.5 Structure of the Report

The structure of the report (chapters 2~6) is illustrated in Figure 1.5.1. Each chapter is summarized below.

**Chapter 2 Regionalization and CBTI Development in the Greater Mekong Subregion:**

**Present Conditions and Problems:** This chapter presents an analysis of the existing conditions in the Greater Mekong Subregion, covering socio-economic conditions, regional trading structure, CBTI development, cross-border traffic, cross-border barriers along major regional corridors, and outline of institutional arrangement for cross-border transport, such as CBTA. The current progress and constraints for the implementation of CBTAs are also examined. Regional development policies and development status are summarized based on the development activities and major infrastructure projects in the subregion.

**Chapter 3 CBTI Development Issues in the Greater Mekong Subregion:** Based on the present conditions and problems summarized in Chapter 2, the issues for CBTI

development are identified, which include country and regional disparities, potentials of land transportation, alleviation of cross-border barriers, and formulation of a seamless Asia, as well as a logistics improvement program. Possible negative impacts related with CBTI development are also reviewed together with the countermeasures.

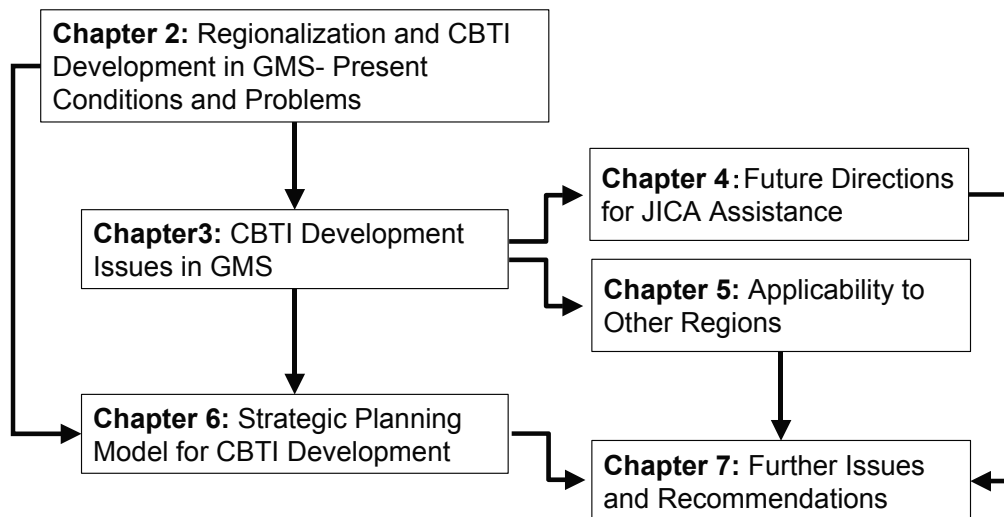
**Chapter 4 Future Directions for JICA Assistance:** Building on the issues identified in Chapter 3, future directions for JICA assistance are laid out, in consideration of ongoing and past projects of Japan and other donor agencies as well as the advantages, schemes, and resources of JICA. The outlines of the programs, such as the contents of proposed training courses, are proposed.

**Chapter 5 Applicability to Other Regions:** This chapter examines the applicability of CBTI development issues in the Greater Mekong Subregion, identified in Chapter 3, to other regions. Based on country typology, key factors for CBTI development are listed for each type of country.

**Chapter 6 Strategic Planning Model for CBTI Development:** Quantitative simulation models, which are essential in formulating CBTI development plans, are examined, including existing models, available database, and required data for model development. The results of a trial analysis of the traffic demand forecast and the economic impact of regional development are provided here as well as recommendations to further improve the simulation models.

**Chapter 7 Further Issues and Recommendations:** Additional issues in CBTI development and the corresponding recommendations are offered here.

**Figure 1.5.1 Structure of The Report**



## 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.

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<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.

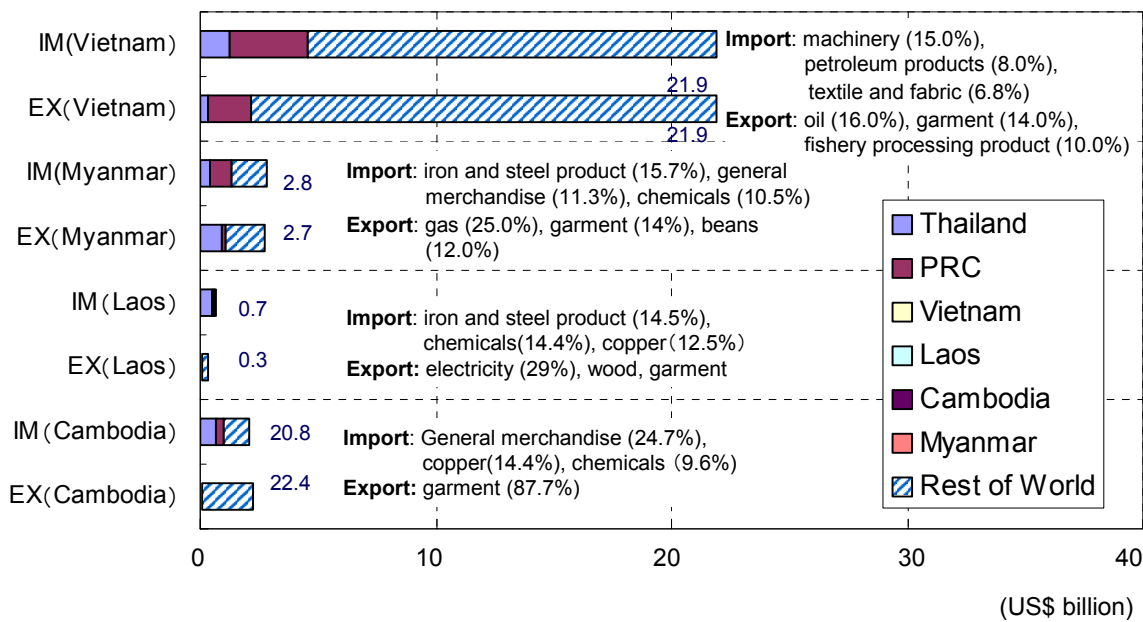
- Traded items are mostly manufacturing products, wherein Vietnam imports interim products from China and Thailand, and exports the final products to the world.
- B. Intra-GMS trading of Myanmar is limited to China and Thailand. The share of these two countries in Myanmar trade is about 50%, with China 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).

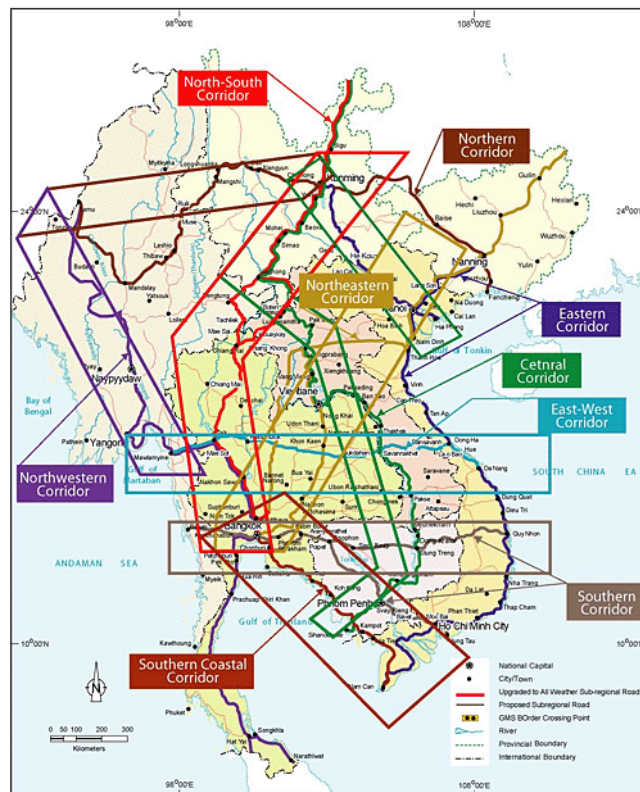
CBTI development projects forming these corridors were identified, prioritized, and implemented in order to promote regional development along them. While the institutional framework to facilitate cross-border transport -which are explained later- were formulated as cross-border transport agreements (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.

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<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*

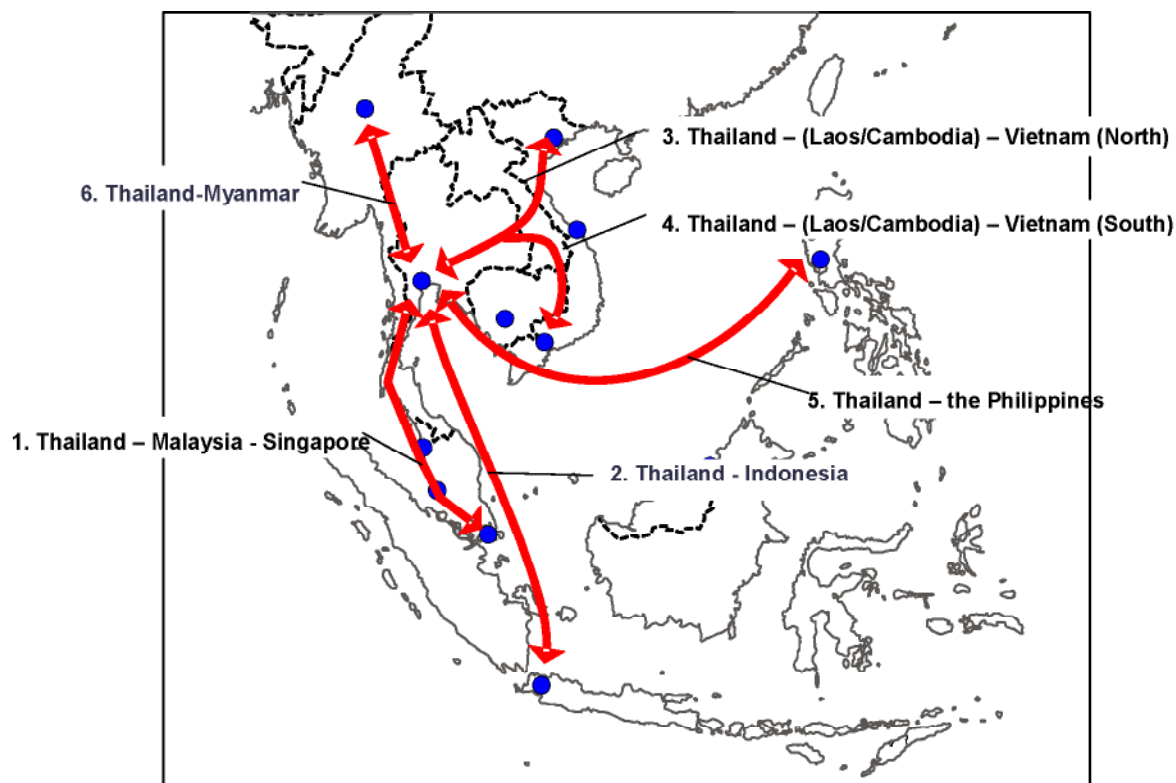
**Partnership on International Logistics Competitiveness:** In the ASEAN-Japan transport cooperation framework, logistics is identified as one of the priority areas. Along with the economic integration with ASEAN and the increasing need for efficient logistics, logistics improvement was also included 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**



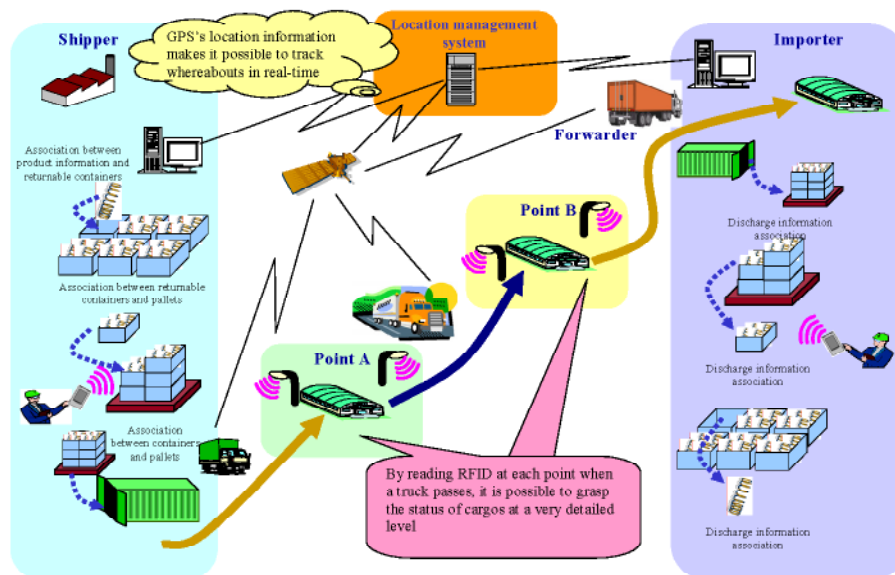
Source: Partnership for Competitive International Logistics, *Action Plans for Competitive International Logistics*, 2006

- (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.