

The Research on the Cross-border Transportation Infrastructure: Phase 2

Final Report

December 2007

Japan International Cooperation Agency
ALMEC Corporation

PREFACE

In 2003, the Japan International Cooperation Agency (JICA) conducted the “Research on the Experience and Perspective of ODA on Infrastructure Development in the Developing Countries.” It redefined the role of infrastructure and identified the issues in infrastructure development for future JICA assistance.

Based on the study’s results, two researches were then conducted, namely the “PPP (Public-Private Partnership) Project Study” in 2004 and the “Research on Program Management: Guide for the Application of P2M to JICA Activities,” from 2003 to 2005 with the aim of reducing the infrastructure gap and taking an integrated approach in infrastructure development. Since cross-border infrastructure was identified as one of the solutions to reduce infrastructure gaps, the research on cross-border transportation infrastructure was conducted from October 2005 to July 2006 under Phase 1. It examined the progress of regionalization from a global perspective and summarized the major characteristics of cross-border transport infrastructure.

Phase 2, or this study, was implemented from November 2006 to December 2007, further analyzing cross-border transport infrastructure based on the results of Phase 1. Discussions were done in nine research group meetings, with Prof. Tsuneaki Yoshida of the Department of International Studies, Graduate School of Frontier Sciences of the University of Tokyo, as technical advisor. The research group consisted of staff from the Social Development Department of JICA. The research under Phase 2 focused on the Greater Mekong Subregion, examining the current conditions, identifying cross-border transport infrastructure issues, and discussing the future directions of JICA assistance for the area.

The Study Team, headed by Mr. Takashi Shoyama of ALMEC Corporation, conducted four field surveys, literature research in Japan, discussions between the research group and relevant agencies, as well as a public symposium based on the study’s findings. The Team also prepared a report, describing the study results.

I hope this report will contribute to the improvement and the enhancement of development assistance in cross-border transport infrastructure. To all those who cooperated and extended assistance to this study, I would like to express my sincere gratitude.

December 2007

OKAZAKI Yuji
Director, Social Development Department
Japan International Cooperation Agency

THE RESEARCH ON THE CROSS-BORDER TRANSPORTATION INFRASTRUCTURE Phase 2 Executive Summary

INTRODUCTION

Ancient routes, such as the “Silk Road,” enhanced trade and contributed to the growth of civilization, the development of culture and the strengthening of connectivity among people and communities. Cross-border traffic of people and goods has grown apace with the widening of regional markets and the growth of cross-country labor. To support the growth of cross-border mobility, the development of cross-border transport infrastructure has never been more magnified and more urgently needed than now.

Cross-border transport infrastructure not only contributes to a freer regional trade and better investment climate between countries but also opens up border areas that have long been alienated from mainstream development activities. International aid agencies have been active in the development of such infrastructure. However, the current intensification of cross-border traffic has corresponding negative implications such as widening disparities between areas and countries. There remain many bottlenecks and inadequacies that must be attended to, such as the underutilization of existing roads and ports and the prevailing institutional bottlenecks.

In 2005 and 2006, JICA conducted a study titled “Research on Cross-border Transportation Infrastructure,” which examined the global progress of regionalization and the impacts of cross-border transport. Following the findings of the study, Phase 2 study was conducted in 2007, focusing on the Greater Mekong Subregion in Asia where the development of cross-border transport infrastructure has grown in recent years. The study analyzed the progress and problems of cross-border transport in the subregion and identified directions for future JICA assistance. This booklet summarizes the result of the Phase 2 study.

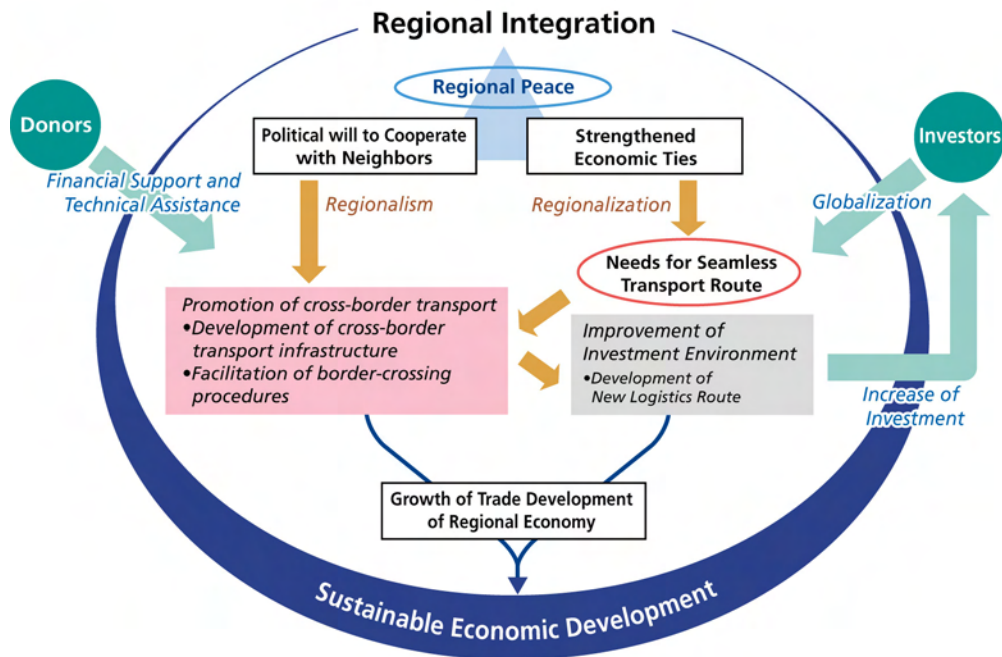
What is Cross-border Transport Infrastructure ?

1. Factors Surrounding CBTI Development

CBTI development begins when the process of globalization or regionalization takes hold in a given region under a prevailing climate of peace and development.

Regional peace and the presence of investors are indispensable factors in the process of regionalization. Likewise, the political will to strengthen regional cooperation, or the sharing of common development strategies among the countries in a given region, leads to a common commitment for CBTI development and the simplification of border-crossing procedures. The expansion of cross-border traffic encourages the opening of new logistics routes and stimulates the growth of regional economic activities, which in turn sustain the increase of investments. In addition to regional technology and investment capital, some countries might require external donors that are capable of accelerating this process. In the Greater Mekong Subregion, the Asian Development Bank has played a leading role in the provision of financial and technical assistance.

Factors Surrounding CBTI Development

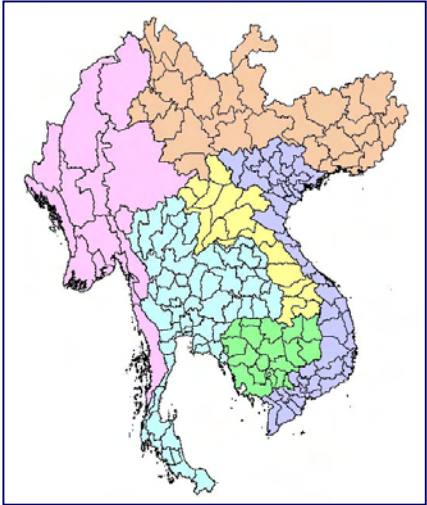
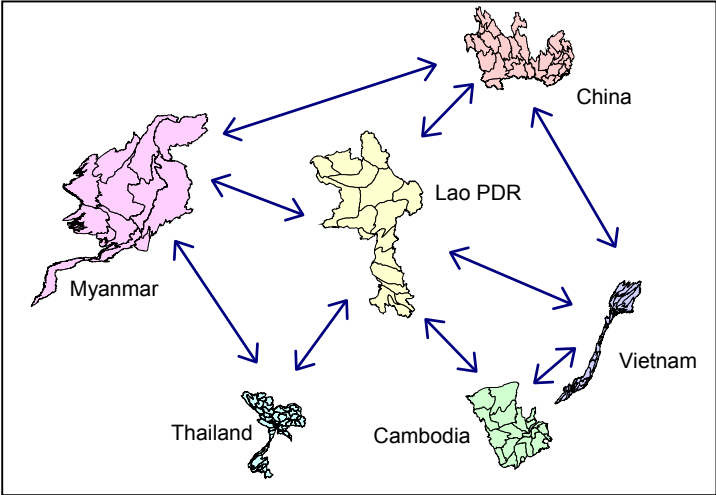


2. Primary Impact of CBTI Development

The CBTI development and the simplification of border-crossing procedures reduce the time distance between member countries in a given region, which means that they decrease transport costs. As shown in the figure below, because of the large border-crossing barriers that used to stand between them, GMS countries were once considered to be islands far from each other. The progress of CBTI development and the simplification of border-crossing procedures began to drastically reduce border crossing barriers and increased the integration of the GMS countries. The reduction of travel time and distance are the most significant benefits that come from the growth of border-crossing traffic.

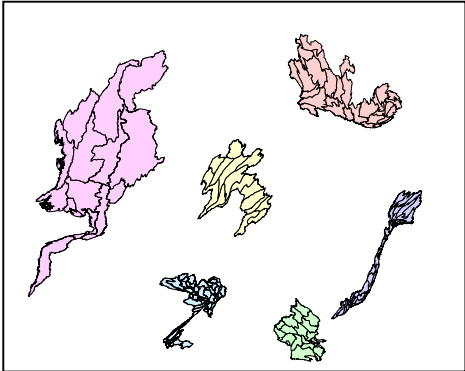
**Time-Distance Map before and after CBTI/CBTA Development
in Greater Mekong Subregion**

(A) 2000: Large Cross-border Barriers

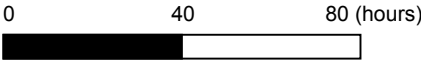
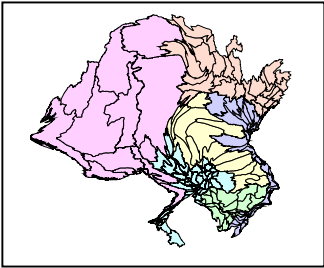


GMS Countries

(B) 2006: Present



(C) 2015:
After CBTI/CBTA Implementation



Source: Regional Planning and Information Laboratory, University of Tokyo

Profile of Greater Mekong Subregion

3. Return of Regional Peace

Since the end of World War II the Greater Mekong Subregion was constantly mired in one conflict after another. The Vietnam-Franco conflict from 1946 – 1954, the Vietnam War from 1960 – 1975. Lao PDR was mired in incessant civil wars between the government and the Pathet Lao. Cambodia had its own bloody civil wars in which Vietnam intervened at one time (1978). The Paris Peace Treaty signed in 1991 finally ended Cambodia's internal strife.

Political stability was then restored in the subregion. Although these countries had been under a socialist regime of one form or another, except for Thailand, their policy stances began to change. The Doi Moi (reform) policy of Vietnam (1986) and the Chintanakan Mai (new thinking) policy of Lao PDR (1986) were the groundbreaking economic policies that pursued development through market mechanisms.

Then Thai Prime Minister Chatchai made his public appeal to “convert Indochina from a battlefield to a market.” With the active coordination by the ADB, the meeting of the economic ministers from six GMS countries was convened in 1992. This was the beginning of the GMS economic cooperation program.

4. Socio-economic Conditions

Thailand leads other countries in GDP. The Guangxi Zhuang Autonomous Region and Yunnan Province are a distant second and third, with their GDPs about a fourth of Thailand's. Vietnam is fourth. Cambodia, Lao PDR, and Myanmar are at the tailend of the GDP ranking. The subregion embodies large economic disparities within the GMS.

Thailand also leads its GMS neighbors in international trade. However, in recent years Vietnam has recorded the highest growth, followed by Cambodia and Thailand. Trade growth has been moderate in Lao PDR, while it has been stagnant in Myanmar. The trade-to-GDP ratio has been high in majority of the GMS countries. This has grave implications for low-income countries, because decreases in trade pose a serious threat to smaller economies.

Basic Socio-economic Indicators of GMS Countries (2004)

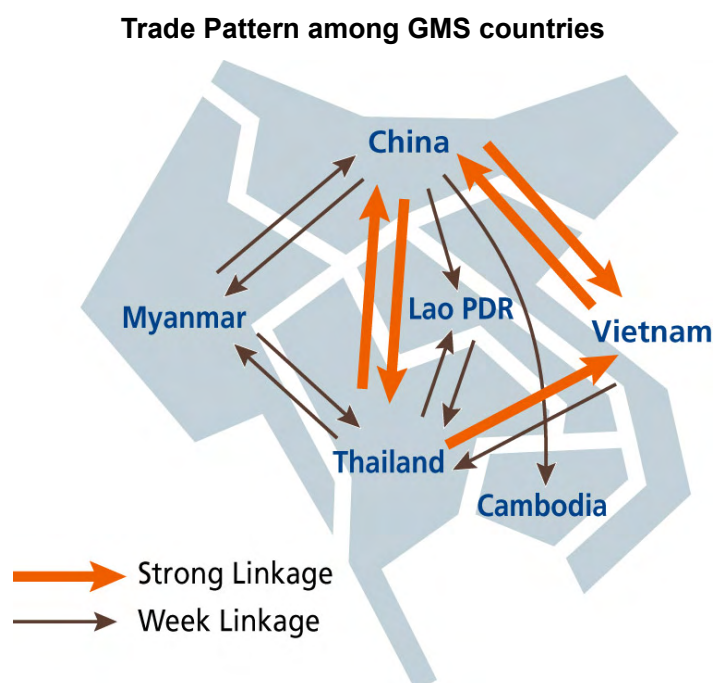
| | Area 1,000 km ² | Population 1,000 | GDP Million US\$ | GDP per capita (US\$) | Export ¹⁾ Million US\$ | Import ¹⁾ Million US\$ | Trade growth rate (%) ²⁾ |
|-------------------------------------|-------------------------------|---------------------|---------------------|--------------------------|--------------------------------------|--------------------------------------|--|
| Cambodia | 181 | 13,589 | 4,864 | 358 | 3100 | 3700 | 17 |
| Lao PDR | 237 | 5,758 | 2,437 | 423 | 510 | 745 | 10 |
| Myanmar | 677 | 54,745 | 9,081 | 166 | 2925 | 2250 | 0 |
| Thailand | 513 | 64,470 | 163,547 | 2,537 | 110,110 | 118,191 | 16 |
| Vietnam | 330 | 82,222 | 45,402 | 554 | 31,625 | 36,476 | 21 |
| Yunnan Province | 394 | 44,150 | 35,756 | 810 | n.a. | n.a. | n.a. |
| Guangxi Zhuang Autonomous Region | 237 | 48,890 | 40,113 | 821 | n.a. | n.a. | n.a. |
| GMS Total | 2,569 | 313,824 | 301,201 | 960 | 127,412 | 131,396 | 17 |

Source: Masami ISHIDA, IDE-World Trend, No. 134, Nov. 2006 and WTO, World Trade Statistics, 2006 for Trade statistics

Note: 1) as of 2005

2) Annual growth rate of total trade value (export and import) in 2001-2005.

The basic pattern of trading in the Greater Mekong Subregion is a triangle of trading activities among China, Thailand, and Vietnam, with Lao PDR, Cambodia, and Myanmar playing marginal roles. Notably, the three marginal players are becoming increasingly dependent on subregional trade. For example, Thailand's share in the whole trading spectrum has been rapidly rising in Cambodia, Lao PDR, and Myanmar.



5. Cross-border Transport Infrastructure

Asian Highway/ASEAN Highway

The Asian Highway was conceived way back as an international road transport network that would augment the development purposes in Asia through the promotion of trade and tourism within and without the region. The UN Economic Commission for Asia and the Far East (ECAFE, the precursor of the present ESCAP) began its deliberations on the project in the 1950s. By 2002, the project covered 32 Asian countries with a total road extension of 141,000km, connecting the Asian Highway with the European Highway. The Highway extends 14,511km in the Greater Mekong Subregion, and road construction and improvement have been underway in various places.

The ASEAN Highway is part of the ASEAN transport network project that aims to develop an integrated system of transportation among the 10 ASEAN countries. It consists of 23 routes with a total distance of 38,400km. The project was designed to complement the Asian Highway network.

Recent construction works on two highways have been directed to those road sections and bridges that are expected to play a key role in subregional development.

Railway Network

All GMS countries, except for Lao PDR, have railways. They commonly feature narrow gauges (1m) except for some parts of Vietnam. When viewed as a subregional whole, the existing railways are considered as an incomplete network. Missing links exist between major cities in the subregion. Railways are mostly of single track and their capacities are generally small. They service only limited freight and passenger demands.

Port/ Airport

Because the bulk of international logistics relies on them, ports are extremely important in GMS international trading. However, port accessibility in the subregion is still limited. Ports in Hai Phong and Cai Lan in Vietnam, in Shihanoukville in Cambodia, and in Yangon in Myanmar, among others, are off the trunk shipping routes. They merely serve as feeder ports to regional major ports in Singapore and Laem Chabang. The demand for air cargo transport is still very limited in the subregion. Airports mainly serve passenger traffic.

Cross-border Points

There are many cross-border points among the GMS countries. Forty of them are Class I points that pass people and goods from any country, including third countries which have diplomatic relations with the transit country. There are 36 Class II border points that allow people and goods between two neighboring countries. Most of these points have simple facilities. Along with expanding cross-border land traffic is the emerging need to simplify border formalities. The ideal is to provide border gates with adequate buildings for customs and quarantine, and equipped with scanning tools and ICT apparatus.



Major CBTI and Cross-border Points



Source: Formulated by the Study Team based on existing data

6. Soft Infrastructure for Cross-border Transport

To boost the free movement of people and goods across borders it is crucial to develop adequate institutions in addition to physical facilities. In the Greater Mekong Subregion, the multilateral agreement, namely, the Cross-border Transport Agreement (CBTA) was set up in addition to existing bilateral agreements. CBTA stipulations cover (i) facilitation of border-crossing formalities, (ii) cross-border movement of persons, (iii) transit traffic regimes, (iv) requirements for road vehicles in cross-border traffic, (v) exchange of commercial traffic rights, and (vi) infrastructure standards. The Agreement was initially signed in 1999 by Lao PDR, Thailand, and Vietnam, but soon joined by Cambodia in 2001, China in 2002, and Myanmar in 2003. By March of 2007, these countries finished signing all the minutes attached to the CBTA.

Although the signing has been done, ratification is yet incomplete among member countries. It is

anticipated that the CBTA will take some time to reach its full stage of implementation.

7. Existing Regional Cooperation Mechanism

GMS Development Program

The ADB took the initiative of facilitating the formulation of the GMS Economic Cooperation Program, which started in 1992. The program aims to attain subregional economic development and cooperation through efficient investments in cross-border transport infrastructure. Although the primary focus is on transport, the program covers nine other sectors, namely agriculture, energy, environment, human resources, investment, telecommunication, tourism, trade, and private sector investment.

Regional Economic Corridor

To stimulate the effective and efficient growth of direct investments and production, the program prioritizes its development agenda through the identification of major economic corridors for transport infrastructure development. Two north-south corridors, one east-west corridor, and two south corridors were initially identified in 2000. The corridors increased to nine in 2007 with the addition of a northeast corridor from Bangkok to Hanoi, a north corridor that reaches Myanmar as well as two others.

GMS の主要地域経済コリドー



Source: ADB. GMS Transport Sector Strategy. 2007

GMS Challenge of CBTI/CBTA Implementation

1. Development of Land Routes for Long- distance Logistics through Cross-border Transport Infrastructure Development

Long-distance freight traffic in the subregion has long depended mainly on maritime shipping. The steady development of cross-border infrastructure which reduces risks and minimizes barriers to travel has made land transport an important alternative to other transport modes. In December 2006, the Second Mekong International Bridge was completed through the assistance of Japan's Yen Credit program. The bridge connects the East-West Economic Corridor which traverses the Indochinese Peninsula from Vietnam to Myanmar. The bridge's opening added momentum to the drive to establish a subregional logistics network.

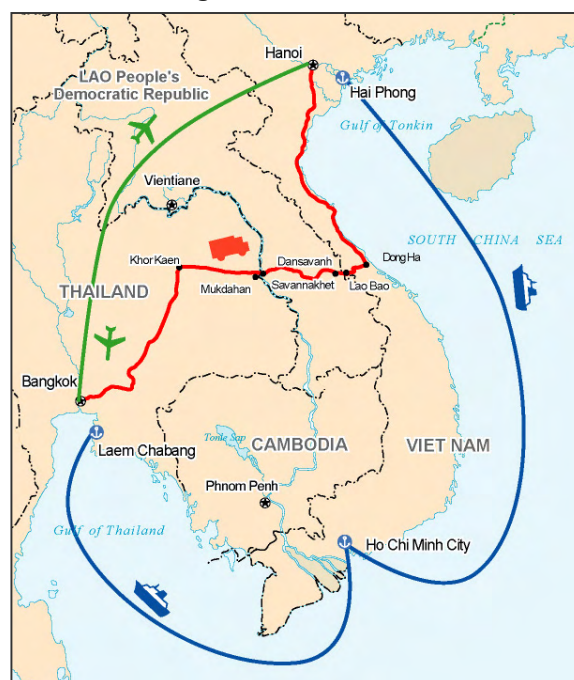
Inter-city Container Cargo Transport in Indochina

| Route | Land Transport | | | Sea Transport | | Remark |
|-----------------|----------------|-----|-------|---------------|-------|--|
| | km | day | Cost | day | Cost | |
| Guangzhou-Hanoi | 1,190 | 2 | 3,000 | 4-6 | 1,500 | 40ft container including customs |
| HCMC-Hanoi | 1,600 | 3-4 | 1,200 | 4-6 | 750 | 40ft container domestic cargo |
| Bangkok-Hanoi | 1,555 | 3-4 | 4,200 | 10-15 | 2,000 | 40ft container including customs |
| Bangkok-HCMC | 913 | 2 | 1,390 | 2-3 | 560 | 10t truck and 20 ft container, excluding customs |
| Bangkok-Yangon | 945 | 3 | 730 | 30 | 1,130 | 10t truck and 20 ft container, excluding customs |

Source: NNA, "East-West Economic Corridors developed by Japan", Feb. 2007

The multinational company including Japanese companies as well as local one is particularly interested in the Bangkok-Hanoi route. Some decisive steps, including trial runs, have been taken to establish regular transport services. The land trip between Bangkok and Hanoi takes 3 to 4 days passing through the new bridge, which is a remarkable reduction in travel time compared with coastal shipping which takes about 2 weeks. However, because land transport costs more than twice as much, maritime shipping will retain its advantage in bulk transport. Nonetheless, the speed and the convenience of land transport attract private interests. One immediate issue on this route is the simplification of border formalities for international transit in Lao PDR. Another issue is the volume of backhaul cargo, i.e. the freight back from Hanoi to Bangkok is negligible. This requires the promotion of regional development integrated with cross-border transport infrastructure and development of logistics facilities including ICD along the route.

タイ Bangkok-ベトナム Hanoi ルート



Source: JICA Study Team

2. Reduction of Institutional Cross-border Barriers

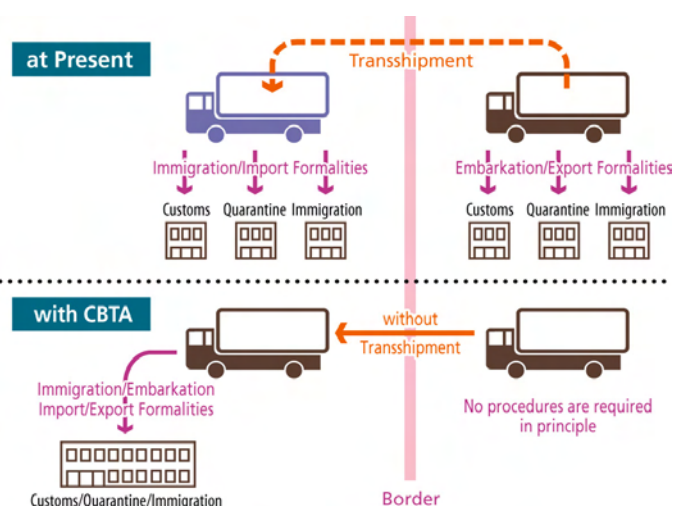
The development of CBTI-related roads and bridges has steadily progressed financed by the ADB, JBIC, and lately by Thailand and China. In contrast, institutional bottlenecks still persist in border-crossing formalities. Cross-border barriers are now largely of institutional origin.

Although the CBTA signed by GMS countries defines the institutional framework for border crossing, many problems and obstacles continue to work against its implementation. In some cases, CBTA stipulations infringe on domestic laws, while the necessary domestic legislation has been slow in other areas. Also, customs officials reportedly have vested interests in the existing system and resist the CBTA implementation.

The primary issue is the simplification of border formalities. Currently, crossings have to clear formalities at both sides of the border. Two countries can agree to a single stop where exit and entry formalities are cleared simultaneously in the country of entry. Although customs, quarantine, and immigration formalities are currently handled through separate windows, they can be unified in one window.

The simplification of formalities carries an impact as large as the development of physical border-crossing facilities, which means that it is urgently necessary to step up CBTA implementation.

Mechanism to Facilitate Border-crossing Formalities

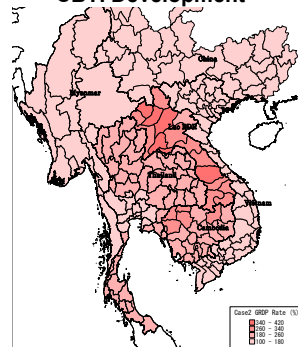


Expected GRDP Growth from CBTI /CBTA Implementation

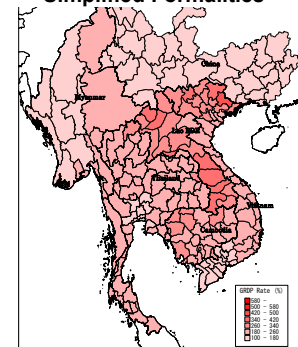
The map A on the left shows GRDP growth that is expected in various parts of the subregion from CBTI development along the three designated economic corridors. The map on the right similarly shows GRDP growth that is expected from the reduction of time spent at 16 CBTA-designated border crossing points to 30 minutes by simplifying formalities.

The estimation is based on informed judgment over salient factors and does not bear rigorous scrutiny. Nonetheless, it must be noted that the growth is higher in those areas with lower GRDP in Cambodia and Lao PDR, and that simplified border formalities could bring as many benefits as the investment in transport infrastructure.

Map A: GRDP Growth through CBTI Development¹⁾



Map B: GRDP Growth through Simplified Formalities²⁾



Source: Formulated by the JICA Study Team based on the data in ADB, *Transport Sector Strategy Study*, 2005.

Notes: 1) The CBTI development along Bangkok – Hanoi, Bangkok – Ho Chi Minh, and Bangkok – Kunming routes

2) Reduction of time spent at 16 border-crossing points to 30 minutes

3. Regional Development Activities integrated with CBTI Development

The formulation of regional development strategies is crucial to maximize the benefits of ongoing CBTI development. The usual strategy prioritizes development projects in terms of industrial structure and the inherent resources of a given country. The growing cross-border traffic, trade, and labor mobility necessitate project prioritization that takes into consideration GMS subregional industrial structure and cross-country comparative advantages.

Major Regional Development Proposed at Border Area

| Country | Border Area Development |
|----------|---|
| Cambodia | Manhattan SEZ (Bavet) Poipet SEZ KohKong SEZ Sihanoukville SEZ |
| Lao PDR | Savan-Seno SEZ |
| Myanmar | Myawadi-Mea Sot |
| Thailand | Chiang Rai SEZ Mukdahan SEZ Trat-Koh Kong SEZ Myanmar SEZ |
| Vietnam | Lao Bao SEZ Moc Bai SEZ |

CBTI-integrated regional development efforts will induce the growth of local traffic along border-crossing routes as well as demand shifts from air and maritime transport. It is crucial to implement such integrated regional development projects including natural resources development and agricultural development to tap the benefits of CBTI development, especially in Lao PDR and Cambodia where the economic corridors are expected to transit both cargoes and passengers.

4. Allaying Negative Impacts

CBTI/CBTA implementation will spur the expansion of border-crossing traffic and subregional development, including the activation of economic activities in border areas. However, impacts are not all likely to be beneficial. Appropriate countermeasures must be put in place at the present stage against disruptive impacts that could beset CBTI/CBTA-related subregional development. The negative impacts include the following:

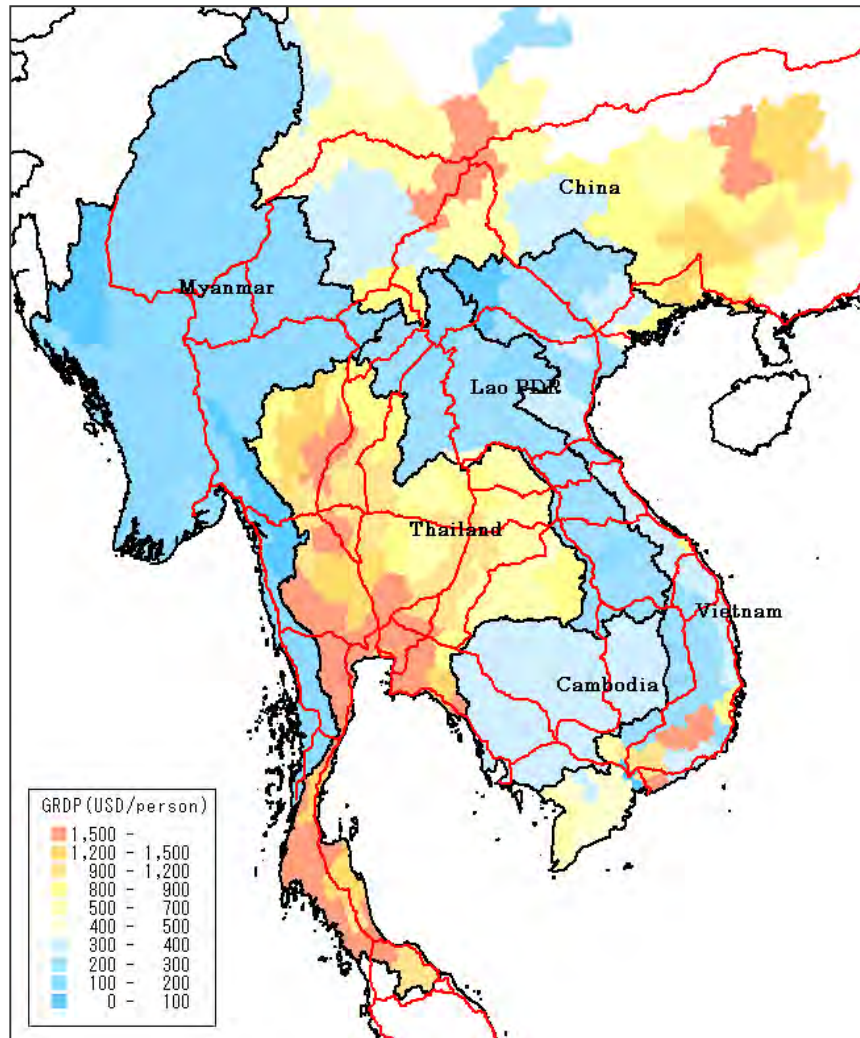
- A. Widening of disparities between countries and regions with short-term increase of unemployment
- B. Negative economic impact that drain areas or countries along border crossing routes;
- C. Spread of infectious diseases to people, livestock, animals and plants,
- D. Human trafficking, smuggling of narcotics and arms, and threat of terrorism; and
- E. Deterioration of traffic safety (increase in traffic accidents).

5. Toward the Subregional Growth and the Narrowing of Disparities Within

The challenge for GMS countries is to raise the bar of competitiveness in the subregion as a whole and by strengthening the system for international logistics, expanding subregional trade, and furthering the globalization process.

The present subregional reality is the growing economic disparities among the GMS countries as reflected in the respective per-capita GRDPs, which are widening between the advanced countries of Thailand and China and the poorer ones such as Cambodia and Lao PDR. As suggested earlier in the estimation of GRDP growth induced by CBTI/CBTA implementation, the subregional promotion of cross-border traffic is expected to bring higher economic growth to poorer countries. Thus it is important to undertake measures to complement CBTI development so that the current subregional disparities will diminish in due time.

Per-capita GRDP in GMS Countries



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

Notes: 1) Per-capita GRDPs are shown for Cambodia. GRDP for Lao PDR and Myanmar was estimated by the study team from its total GDP. GRDPs for China, Thailand, and Vietnam were estimated based on GPP (Gross Provincial Product).

2) Cambodia: 2004, Vietnam: 2004, Thailand: 2003, Yunnan: 2003, and Guangxi Zhuang Autonomous Region: 2005.

3) Per-capita GRDP for Myanmar was calculated from 2004 GDP and 2005 population and GRDP.

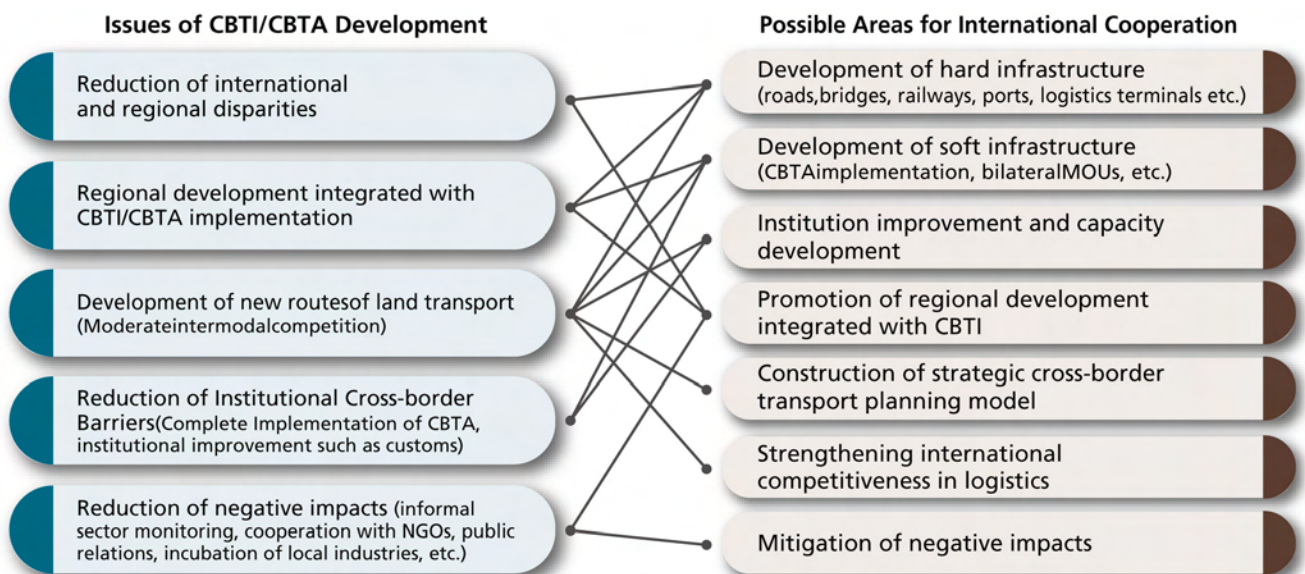
4) Per-capita GRDP for Lao PDR was calculated from 2003 GDP and 2002 population.

GMS Challenges and Direction of JICA Cooperation

As discussed in the foregoing description, the development of cross-border transport necessitates the subregional cooperation among GMS countries over a great diversity of issues. Their challenge requires a wide range of technical assistance on capacity development and institutional improvement and financial support from international donors including JICA.

JICA expects to provide active support to GMS countries regarding the promotion of cross-border traffic, especially their combined efforts to cope with subregional issues. In order to utilize available resources and assets as best as possible, JICA aims to provide focused support on priority sectors and regions by carefully weighing ongoing assistance by other external donors and the schemes of cooperation in the agenda of New JICA for 2008.

International Cooperation Required for CBTI/CBTA Issues



THE RESEARCH ON THE
CROSS-BORDER TRANSPORTATION INFRASTRUCTURE
Phase 2

Final Report

Table of Contents

1. Introduction

| | | |
|--------|-----------------------------------|-----|
| 1.1 | Background | 1-1 |
| 1.2 | Objective | 1-1 |
| 1.3 | Study Area | 1-2 |
| 1.4 | Study Implementation | 1-3 |
| 1) 1.4 | Study Organization | 1-3 |
| 2) 1.4 | Outline of the Field Survey | 1-5 |
| 1.5 | Structure of the Report | 1-5 |

2. Regionalization and CBTI Development in GMS- Present Conditions and Problems

| | | |
|--------|--|------|
| 2.1 | Current Socio-economic Conditions and Need for Regionalization | 2-1 |
| 1) 2.1 | Current Socio-economic Conditions | 2-1 |
| 2) 2.1 | Trade | 2-2 |
| 2.2 | Regional Cooperation Initiatives in the Greater Mekong Subregion | 2-6 |
| 1) 2.2 | ADB-GMS Economic Cooperation Program | 2-6 |
| 2) 2.2 | UNESCAP: Formulation of Integrated Asian Transport Network | 2-8 |
| 3) 2.2 | ASEAN Regional Cooperation Activity | 2-8 |
| 4) 2.2 | ASEAN-Japan Partnership | 2-9 |
| 5) 2.2 | Regional Development Activities along with Regionalization | 2-13 |
| 2.3 | CBTI Development | 2-14 |
| 1) 2.3 | Asian Highway | 2-14 |
| 2) 2.3 | ASEAN Highway | 2-16 |
| 3) 2.3 | Other Infrastructure Development | 2-18 |
| 4) 2.3 | Cross-border Point | 2-23 |
| 2.4 | Cross-Border Traffic Volume | 2-24 |
| 2.5 | Cross-border Barrier | 2-27 |
| 1) 2.5 | Hanoi (Vietnam)–Bangkok (Thailand) | 2-27 |
| 2) 2.5 | Bangkok (Thailand) -Ho Chi Minh City / Saigon Port (Vietnam) | 2-29 |
| 2.6 | Cross-border Transport Agreements | 2-32 |
| 1) 2.6 | CBTA Background | 2-32 |
| 2) 2.6 | CBTA Outline | 2-32 |
| 3) 2.6 | Detailed Regulations of the CBTA | 2-38 |
| 4) 2.6 | IICBTA (Initial Implementation of CBTA) | 2-40 |
| 5) 2.6 | Implementation Status of CBTA | 2-44 |
| 6) 2.6 | Human Resources Development for CBTA | 2-47 |
| 2.7 | Regional Development integrated with CBTI Development | 2-49 |
| 2.8 | Key Development Projects in the Greater Mekong Subregion | 2-52 |

3. Issues of CBTI Development for GMS Countries

| | | |
|--------|---|------|
| 3.1 | Narrowing International, Regional, and Ethnic Disparities | 3-1 |
| 1) 3.1 | International and Regional Disparities | 3-1 |
| 2) 3.1 | Ethnic Disparities | 3-2 |
| 3.2 | Changing Role of Road Transport in Long Distance Freight Traffic | 3-4 |
| 3.3 | Reduction of Institutional Cross-border Resistance | 3-7 |
| 3.4 | Mitigation of Negative Impacts Associated with Cross-border Freight Traffic | 3-10 |
| 3.5 | Toward a “Seamless Asia” | 3-13 |
| 1) 3.5 | Concept of a “Seamless Asia” | 3-13 |

| | | |
|-----------|--|------|
| 2) | Problems of Transport Networks | 3-14 |
| 3) | GMS Cross-border Transport: Its Significance and Advantages..... | 3-15 |
| 3.6 | Toward Comprehensive Improvement of Logistics: Strengthening International Competitiveness in Logistics | 3-17 |
| 1) | Present Policy Efforts on Logistics | 3-17 |
| 2) | Formulation of Comprehensive Master Plan for Logistics Improvement | 3-17 |
| 4. | Future Directions for JICA Cooperation | |
| 4. | Future Directions for JICA Cooperation..... | 4-1 |
| 4.1 | Required International Cooperation for CBTI Development | 4-1 |
| 1) | Aid Implications of the CBTI Issues..... | 4-1 |
| 2) | Development of Physical Infrastructure..... | 4-3 |
| 3) | Development of Institutional Infrastructure | 4-3 |
| 4) | Institutional Building and Capacity Development..... | 4-4 |
| 5) | Integrated Promotion of Regional Development and CBTI Development..... | 4-4 |
| 6) | Model Building for Strategic Cross-border Transport Planning..... | 4-5 |
| 7) | Strengthening of International Competitiveness in Logistics | 4-5 |
| 8) | Programs to Counteract Negative Impacts..... | 4-6 |
| 4.2 | Possible Areas for JICA Cooperation | 4-7 |
| 1) | Selection and Concentration | 4-7 |
| 2) | Guideline for JICA Cooperation..... | 4-8 |
| 4.3 | Institution Building and Capacity Development: 1st Area for JICA Cooperation | 4-10 |
| 4.4 | Regional Development Programs on Two Model Routes: 2nd Area for JICA Cooperation..... | 4-16 |
| 1) | Preparatory Consultation and Discussion on CBTI Programming on International Corridors: International Workshops | 4-16 |
| 2) | Development Studies on an Integrated Regional and CBTI Development | 4-17 |
| 3) | Institution Building and Capacity Development | 4-20 |
| 4) | Model Building for Strategic Cross-border Transport Planning..... | 4-21 |
| 5) | Strengthening of International Competitiveness in Logistics | 4-22 |
| 6) | Measures to Counteract Negative Impacts | 4-23 |
| 5. | Applicability to Other Regions | |
| 5.1 | Salient Lessons from GMS Experiences | 5-1 |
| 1) | Backgrounds of GMS Promotion of Cross-border Transport | 5-1 |
| 2) | Basic Conditions as Evinced in GMS Experiences..... | 5-2 |
| 3) | Interrelationships of Basic Conditions | 5-5 |
| 5.2 | Necessary Information for Application | 5-7 |
| 1) | General Information..... | 5-7 |
| 2) | Three Important Issues for the Analysis of Information | 5-7 |
| 5.3 | Review of CBTI/CBTA related Policies in GMS Countries..... | 5-12 |
| 1) | Objective of Review..... | 5-12 |
| 2) | Priority of CBTI Development and Related Regional Development Strategy | 5-12 |
| 3) | Thailand (Higher Income Coastal Country) | 5-13 |
| 4) | Cambodia (Lower Income Coastal Country) and Lao PDR (Lower Income Inland Country) | 5-15 |
| 5.4 | Comparative Case Study of Two Inland Countries: Lao PDR and Mongolia | 5-20 |
| 1) | Present Economic and Industrial Conditions..... | 5-20 |
| 2) | Border Crossing Points in Mongolia and CBTI Development | 5-20 |
| 3) | Present International Freight Traffic | 5-22 |
| 4) | Future Direction of Development in Mongolia | 5-23 |
| 5) | Development Issues shared by Mongolia and Lao PDR | 5-24 |
| 6) | Comparison of Mongolia and Lao PDR..... | 5-25 |
| 6. | Strategic Cross-Border Transport Planning Model | |
| 6.1 | Purpose of this Chapter..... | 6-1 |
| 6.2 | Review of Existing Models | 6-1 |

| | | |
|---|--|------|
| 1) | Development Direction of Strategic Cross-border Transport Planning Model – from Research to Practice | 6-1 |
| 2) | Existing Strategic Cross-border Transport Planning Models | 6-2 |
| 3) | Methodology of Project Evaluation | 6-4 |
| 6.3 | Future Direction of Model Construction | 6-6 |
| 1) | CBTI Development and Strategic Cross-border Transport Planning Model..... | 6-6 |
| 2) | Approach to the Development of the Strategic Cross-border Transport Planning Model | 6-6 |
| 6.4 | Database Created in the Study | 6-11 |
| 1) | Sources of Data..... | 6-11 |
| 2) | Database Prepared in the Study..... | 6-14 |
| 6.5 | Data Requirement and Possibility of Collection | 6-15 |
| 1) | Necessity of Database Establishment | 6-15 |
| 2) | Outline of Planned Database | 6-16 |
| 3) | Direction of Data Collection / Maintenance | 6-18 |
| 6.6 | Transport Demand Estimate in the Greater Mekong Subregion and Effect of CBTI on Regional Development (Trial Calculation) | 6-20 |
| 1) | Traffic Demand Growth and Regional Development Impacts due to CBTI/CBTA Development..... | 6-20 |
| 2) | Increase in Traffic Demand and Regional Development Impact driven by Foreign Direct Investment (FDI) integrated with CBTI/CBTA Development..... | 6-36 |
| 3) | Observations and Recommendations about the Current Database | 6-52 |
| 7. Further Research Issues and Recommendations | | |
| 7.1 | Further Research Issues | 7-1 |
| 1) | Building Strategic Cross-border Transport Planning Model | 7-1 |
| 2) | Detailed Analysis and Evaluation on Good Practice..... | 7-1 |
| 7.2 | Recommendations of the Study | 7-2 |
| 1) | Public Information and Coordination with International Donors..... | 7-2 |
| 2) | Focus on Human Resource Development and Institutional Building..... | 7-2 |
| 3) | Model Route Development in Lao PDR and Cambodia | 7-2 |

List of Figures

| | | |
|--------------|---|------|
| Figure 1.3.1 | Study Area | 1-2 |
| Figure 1.4.1 | Study Implementation Organization..... | 1-3 |
| Figure 1.5.1 | Structure of The Report | 1-6 |
| Figure 2.1.1 | Import and Export of CLMV Countries (2003) | 2-5 |
| Figure 2.2.1 | Initial GMS Regional Economic Corridor | 2-7 |
| Figure 2.2.2 | GMS Regional Economic Corridors (as of 2007)..... | 2-8 |
| Figure 2.2.3 | Six Priority Regional Logistics Routes | 2-11 |
| Figure 2.2.4 | Location Management System with Electronic Tags and GPS | 2-12 |
| Figure 2.3.1 | Asian Highway Route Map | 2-15 |
| Figure 2.3.2 | Asian Highway Network in the Greater Mekong Subregion..... | 2-16 |
| Figure 2.3.3 | ASEAN Highway Network | 2-17 |
| Figure 2.3.4 | Trans-Asian Railway Network..... | 2-18 |
| Figure 2.3.5 | Railway Network in the Greater Mekong Subregion..... | 2-19 |
| Figure 2.3.6 | Location of Major Ports in the Greater Mekong Subregion..... | 2-20 |
| Figure 2.3.7 | Location of Major Airports in the Greater Mekong Subregion | 2-20 |
| Figure 2.3.8 | Major Shipping Lines in ASEAN | 2-21 |
| Figure 2.3.9 | Location of Class I Cross-border Points in the GMS | 2-23 |
| Figure 2.4.1 | Traffic Distribution in and among the GMS Countries and Regions, 2004..... | 2-24 |
| Figure 2.4.2 | Passenger Traffic Distribution in GMS Countries by Mode, 2004 | 2-25 |
| Figure 2.4.3 | Freight Traffic Distribution in GMS Countries by Mode, 2004..... | 2-26 |
| Figure 2.6.1 | Cross-border Points for Initial Implementation of CBTA | 2-41 |
| Figure 2.6.2 | Implementation Methods of IICBTA at Lao Bao- Dansavanh CBP (Step I)..... | 2-42 |
| Figure 2.6.3 | Implementation Methods of IICBTA at Lao Bao- Dansavanh CBP (Step II) | 2-42 |
| Figure 2.6.4 | Implementation Methods of IICBTA at Lao Bao-Dansavanh CBP (Step III) | 2-43 |
| Figure 2.6.5 | Implementation Methods of IICBTA at Lao Bao- Dansavanh CBP (Step IV) | 2-43 |
| Figure 2.6.6 | CBTA Coordination Framework | 2-44 |
| Figure 2.8.1 | Location of Key Donor-assisted Projects in the GMS..... | 2-53 |
| Figure 3.1.1 | Per-capita GRDP in GMS Countries and Region | 3-1 |
| Figure 3.1.2 | Schematic Trade Structure among GMS Countries..... | 3-2 |
| Figure 3.3.1 | Import Procedure at Cambodia-Thailand Border..... | 3-8 |
| Figure 3.5.1 | Conceptual Axes of Land Transport in Asia | 3-13 |
| Figure 3.5.2 | Land Routes Likely to have Shorter Transport Times..... | 3-15 |
| Figure 4.1.1 | Required International Cooperation for CBTI/CBTA Issues | 4-1 |
| Figure 4.1.2 | International Cooperation Requirements of Public and Private Sectors | 4-2 |
| Figure 4.4.1 | Flow of Regional Development Program for Two Model Routes | 4-16 |
| Figure 5.1.1 | Trade of Thailand with Cambodia, Lao PDR, Myanmar, and Vietnam (1990 – 2005)..... | 5-3 |
| Figure 5.1.2 | Interplay of Four Basic Conditions for CBTI / CBTA Implementation..... | 5-5 |
| Figure 5.2.1 | Time-Distance Maps Before and After CBTI/CBTA Implementation in the Greater Mekong Subregion | 5-9 |
| Figure 5.2.2 | Modal Share by Range of Transport Distance..... | 5-10 |
| Figure 5.2.3 | Cost of Container Transport from Major Ports in Asia to Los Angeles, USA (2003)..... | 5-10 |
| Figure 5.4.1 | Border Crossing Points in Mongolia | 5-21 |
| Figure 5.4.2 | Freight and Passenger Traffic by Mode in Mongolia..... | 5-22 |
| Figure 5.4.3 | Railway Freight Transport in Mongolia | 5-22 |
| Figure 5.4.4 | Breakdown of Transit Cargo | 5-23 |
| Figure 5.4.5 | Relationship of GDP Per Capita and External Trade per capita | 5-24 |
| Figure 5.4.6 | Total Trade and Direct Investment in Mongolia and Lao PDR | 5-25 |
| Figure 6.3.1 | Desired Lines of Freight and Passenger Flows in the Greater Mekong Subregion | 6-8 |
| Figure 6.3.2 | Concept of Computable Generalized Equilibrium Model | 6-9 |

| | | |
|---------------|--|------|
| Figure 6.3.3 | Overall Structure of the Regional Economy Model (Flow of Assets/Services) | 6-10 |
| Figure 6.4.1 | Display Example by GIS | 6-14 |
| Figure 6.6.1 | Transport Demand Estimation with CBTI Development | 6-20 |
| Figure 6.6.2 | Relationship between GRDP and Its Potential in Lao PDR | 6-21 |
| Figure 6.6.3 | Relationship between Passenger Trip Generation/Attraction and GRDP for Lao PDR..... | 6-22 |
| Figure 6.6.4 | Demand Forecast Case 1..... | 6-24 |
| Figure 6.6.5 | Growth Rates of GRDP | 6-27 |
| Figure 6.6.6 | Growth in Trip Generation/Attraction by Zone | 6-30 |
| Figure 6.6.7 | Changes in Traffic Flow (Induced Traffic) | 6-33 |
| Figure 6.6.8 | Estimation Process of FDI Impact | 6-36 |
| Figure 6.6.9 | Selected Investment Area by Case | 6-39 |
| Figure 6.6.10 | Projected GRDPs under Case-3A | 6-42 |
| Figure 6.6.11 | Changes of Trip Generation/Attraction under Case-3A (as compared with present situation)..... | 6-45 |
| Figure 6.6.12 | Changes of Traffic Flows under Case-1A and Case-2A | 6-48 |
| Figure 6.6.13 | Changes of Traffic Flows under CBTI+Investment and CBTA+Investment | 6-49 |
| Figure 6.6.14 | Changes of Traffic Flow Due to Bio-Fuel Project (Case-3)..... | 6-51 |

List of Tables

| | | |
|-------------|---|------|
| Table 1.4.1 | List of Major Meetings | 1-3 |
| Table 1.4.2 | List of Interviews and Site Visits | 1-5 |
| Table 2.1.1 | Socio-economic Conditions in GMS Countries (2004) | 2-1 |
| Table 2.1.2 | Industrial Structure of GMS Countries | 2-1 |
| Table 2.1.3 | Trade Statistics of GMS Countries, 2001-2005 (million US\$) | 2-4 |
| Table 2.2.1 | Outline of the GMS Strategic Framework for the Next Ten Years of the GMS Economic Cooperation Program | 2-6 |
| Table 2.2.2 | Outline of GMS Development Matrix | 2-7 |
| Table 2.2.3 | ASEAN-Japan Transport Cooperation Projects | 2-10 |
| Table 2.2.4 | Proposed Regional Development at Border Areas (except in China) | 2-13 |
| Table 2.3.1 | Information on Major Ports in Cambodia, Myanmar, and Thailand | 2-22 |
| Table 2.5.1 | Example of Cross-border Barriers | 2-27 |
| Table 2.5.2 | Comparison of Land and Sea Transportation between Hanoi and Bangkok (as of October 2004) | 2-28 |
| Table 2.5.3 | Cross-border Barriers for Land Transportation between Da Nang and Bangkok | 2-29 |
| Table 2.5.4 | Comparison of Land and Sea Transportation between Bangkok and Ho Chi Minh (as of December 2004) | 2-30 |
| Table 2.5.5 | Cross-border Barriers for Land Transportation between Bangkok and Ho Chi Minh | 2-31 |
| Table 2.6.1 | Candidate Authorities for Guaranteeing Body for International Transit | 2-40 |
| Table 2.6.2 | Implementation Status of IICBTA First Phase (SSI/SWI) at Cross-border Points (as of August 2007) | 2-46 |
| Table 2.6.3 | Roadmap for CBTA Implementation (as of August 2007) | 2-47 |
| Table 2.8.1 | Number of Projects of Key Donor Agencies by Sector 1) | 2-52 |
| Table 2.8.2 | Project Share of of Key Donor Agencies by Sector | 2-53 |
| Table 3.1.1 | Ethnicity Distribution among Public Sector Employees along the Cross-border Corridor in Quang Tri Province, Vietnam | 3-3 |
| Table 3.2.1 | Comparison of Land and Sea Transport between Bangkok and Yangon | 3-4 |
| Table 3.2.2 | Comparison of Land and Sea Transport between Bangkok and Hanoi | 3-4 |
| Table 3.2.3 | Inter-city Container Cargo Transport in Indochina | 3-5 |
| Table 3.3.1 | Outline of Customs Procedures in Five GMS Countries | 3-9 |
| Table 3.4.1 | Traffic Accidents in GMS Countries, 2003 | 3-12 |
| Table 4.2.1 | Areas for International Cooperation and Available JICA Schemes | 4-8 |
| Table 4.3.1 | Institution Building and Capacity Development Needed for Complete Implementation of CBTA and Possible JICA Participation | 4-10 |
| Table 5.1.1 | Trend of Foreign Direct Investment in GMS Countries: Before and After Restoration of Peace (1989 – 1999) | 5-3 |
| Table 5.2.1 | Necessary Information for CBTI Development and Related Projects | 5-7 |
| Table 5.3.1 | Priorities of CBTI Development and Regional Development Strategy for Three Country Types | 5-13 |
| Table 5.4.1 | General Comparison of Mongolia and Lao PDR | 5-20 |
| Table 6.2.1 | Selected Existing Models for GMS Cross-border Transport | 6-3 |
| Table 6.2.2 | Selected Existing CGE Models | 6-4 |
| Table 6.2.3 | Basic Approach for Project Evaluation | 6-5 |
| Table 6.4.1 | Status of OD Data1) on Transport Demand in the Greater Mekong Subregion | 6-11 |
| Table 6.4.2 | Current Status of Industrial Input-Output Tables of GMS Countries | 6-13 |
| Table 6.5.1 | Database Types and Storage Methods | 6-16 |
| Table 6.5.2 | Contents of Database | 6-17 |
| Table 6.6.1 | Growth of GDP by Country (%) | 6-26 |
| Table 6.6.2 | Growth in Trip Generation/Attraction by Country (Passenger: %) | 6-29 |
| Table 6.6.3 | Growth in Trip Generation/Attraction by Country (Freight: %) | 6-30 |
| Table 6.6.4 | Investment Effect by Industry | 6-37 |
| Table 6.6.5 | Investment Effects of Bio-Fuel Plants | 6-37 |

| | | |
|--------------|---|------|
| Table 6.6.6 | Total Investment in Cambodia, 2002 | 6-38 |
| Table 6.6.7 | Total Investment in Lao PDR, 2002 | 6-38 |
| Table 6.6.8 | Investment Scenarios and CBTA/CBTI Development Cases | 6-39 |
| Table 6.6.9 | Projected GDPs by Case and by Country (%)..... | 6-41 |
| Table 6.6.10 | Comparison of GDPs under Case-3 (CBTI Improvement Only) | 6-41 |
| Table 6.6.11 | Changes in Trip Generation/Attraction by Country and by Case | 6-44 |
| Table 6.6.12 | Comparison of Trip Generation/Attraction under Case-3 (CBTI Improvement Only)..... | 6-44 |

Abbreviation

| | |
|----------|--|
| ADB | Asian Development Bank |
| ADB I | Asian Development Bank Institute |
| ASEAN | Association of Southeast Asian Nations |
| CBTA | Cross-border Transport Agreement |
| CBT I | Cross-border Transport Infrastructure |
| CGE | Computable General Equilibrium |
| CLVT | Cambodia-Lao PDR-Vietnam-Thailand |
| C-TPAT | Customs-Trade Partnership Against Terrorism |
| EDI | Electronic Data Interchange |
| FAO | Food and Agriculture Organization |
| FDI | Foreign Direct Investment |
| FTZ | Free Trade Zone |
| GDP | Gross Domestic Product |
| GIS | Geographic Information System |
| GMS | Greater Mekong Subregion |
| GRDP | Gross Regional Domestic Product |
| HCMC | Ho Chi Minh City |
| IBRD | International Bank for Reconstruction and Development |
| ICD | Inland Container Depot |
| ICP | International Checking Point |
| ICT | Information and Communication Technology |
| IICBTA | Initial Implementation of Cross-Border Transport Agreement |
| IO | Input-output (table) |
| IPPF | International Planned Parenthood Federation |
| JBIC | Japan Bank for International Cooperation |
| JETRO | Japan External Trade Organization |
| JSCE | Japan Society of Civil Engineers |
| JTCA | Japan Transport Cooperation Association |
| METI | Ministry of Economic, Trade and Industry |
| MLIT | Ministry of Land, Infrastructure and Transport, Japan |
| MOU | Minutes of Understanding |
| MRC | Mekong River Commission |
| NGO | Non-governmental Organization |
| NTFC | National Transport Facilitation Committee |
| PPAT | Planned Parenthood Association of Thailand- |
| RFID | Radio Frequency Identification |
| SCGE | Spatial Computable General Equilibrium (Model) |
| SEZ | Special Economic Zone |
| SSI | Single Stop Inspection |
| SWI | Single Window Inspection |
| TAR | Trans Asian Railway |
| TEU | Twenty-feet Equivalent Unit |
| UN-ECE | The United Nations Economic Commission for Europe |
| UN-ESCAP | The United Nations Economic and Social Commission for Asia and the Pacific |
| WB | World Bank |
| WCO | World Custom Organization |
| WTO | World Trade Organization |

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.

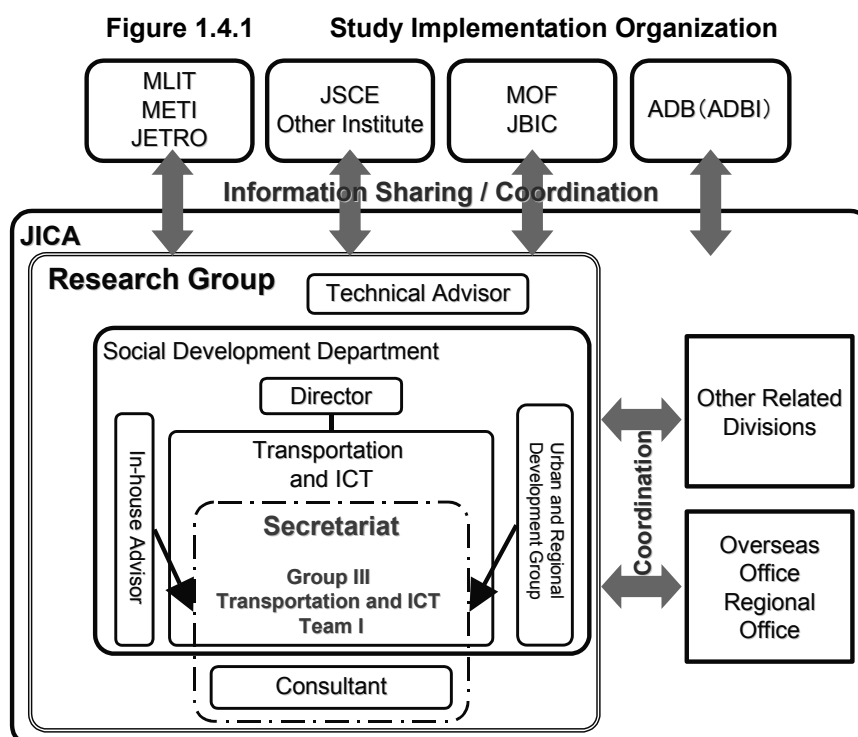


Table 1.4.1 List of Major Meetings

| Meeting Type | Date | Participant | Agenda |
|---------------------------------|----------------------------------|--|---|
| Research Group Meeting | 1 st 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 nd | 9 Jan | Technical Advisor JICA: 14 persons Study Team: 4 persons | Outline of field survey Database |
| 3 rd | 15 Feb | Technical Advisor JICA: 14 persons Study Team: 4 persons Observer: 1 person | Result of field survey Result of ADB discussion |
| 4 th | 13 March | JICA: 9 persons Study Team: 4 persons Observer: 3 persons | Summary of Interim Report |
| 5 th (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) |

THE RESEARCH ON THE CROSS-BORDER TRANSPORTATION
INFRASTRUCTURE: PHASE II
Final Report

| Meeting Type | Date | Participant | Agenda | |
|------------------------------------|---|--|--|---|
| 6 th | 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 th | 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 th | 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 th | 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 ¹⁾ |
| | 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"> • SAGAWA Vietnam • Ministry of Transport, Railway • JICA Vietnam | | |
| 18 January 2007 | <ul style="list-style-type: none"> • Department of Immigration • TRANSINDO¹⁾ | <ul style="list-style-type: none"> • Customs Department • Logitem¹⁾ • Ministry of Transport: International Dept. (NTFC) | <ul style="list-style-type: none"> • JICA Lao PDR • National Statistics Center • Mekong River Commission (MRC) |
| 19 January 2007 | <ul style="list-style-type: none"> • Customs Department • Ministry of Commerce • NISSEI¹⁾ • CAMFFA • JICA Cambodia | <ul style="list-style-type: none"> • CANON • Dragon Logistics • Ministry of Defense | <ul style="list-style-type: none"> • Social Mixte De Transport¹⁾ • Asia Paper Mill Factory |
| 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"> • Lao National University, Dept of Economics • National Statistics Center |
| 22 January 2007 | Site Visit: Bavet | Site Visit: Bavet | <ul style="list-style-type: none"> • Mekong River Commission (MRC) |
| 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"> • JICA Expert: Mr. Furukawa |

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

