

**Data Collection Survey  
on  
Connectivity Enhancement  
in  
Republic of the Union of Myanmar**

**Final Report**

**May 2018**

**Japan International Cooperation Agency (JICA)**

**International Development Center of Japan Inc.**

**Oriental Consultants Global Co., Ltd.**

**PADECO Co., Ltd.**

**IC Net Limited**

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## Summary

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### 1 Physical Connectivity in Mekong Region and Myanmar

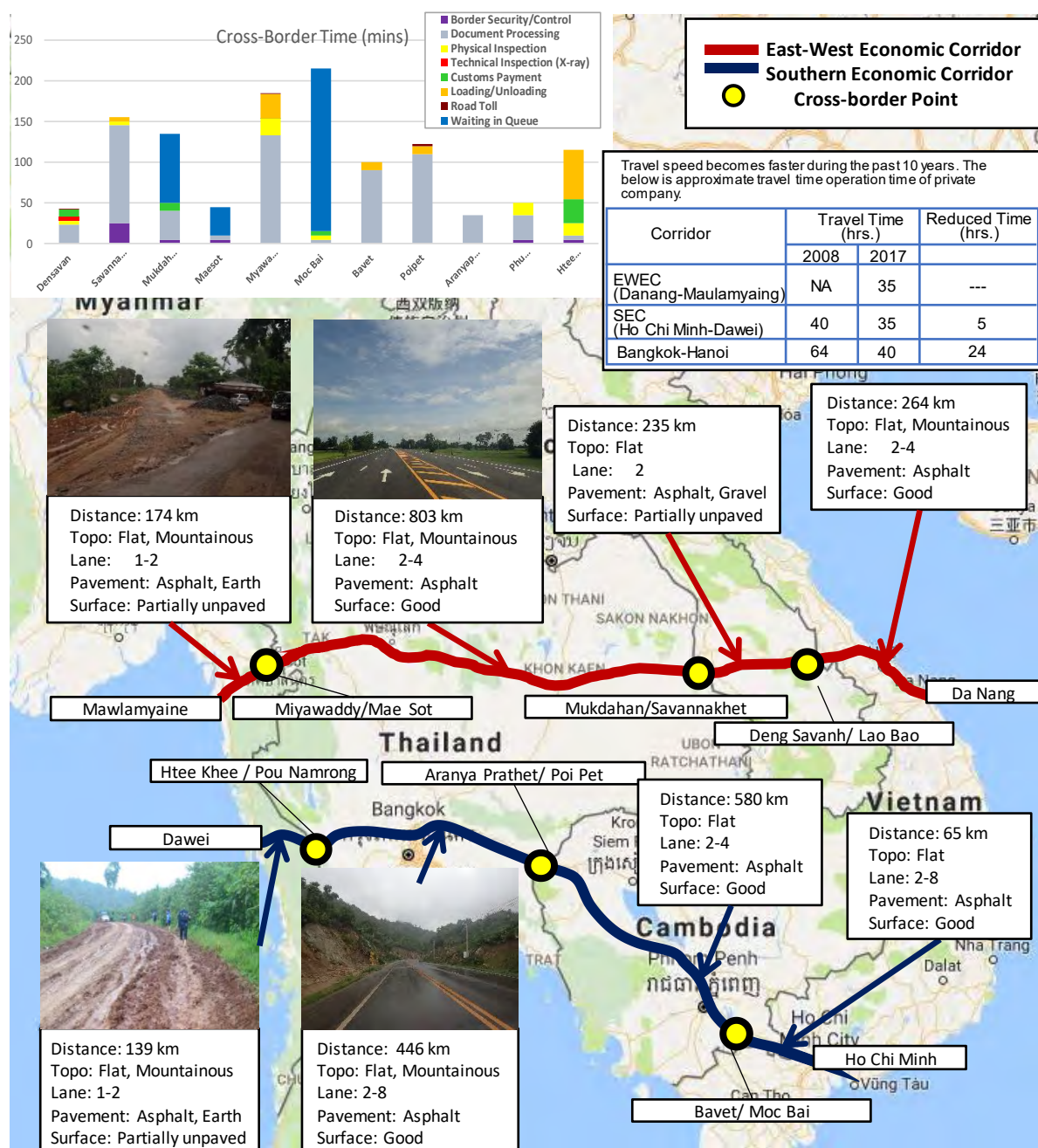
#### (1) Road

There are currently 9 GMS economic corridors designated, which is totally about 9,000 Km. In relation to the Mekong Region, the East-West Economic Corridor (EWEC) and Southern Economic Corridor (SEC) are corridors in east-west direction, while North-South Economic Corridor, Northeastern Economic Corridor and Western Economic Corridor are corridors in north-south direction. The EWEC is about 1,406 Km of routes connecting Yangon/Thilawa of Myanmar and Da Nang of Viet Nam via Thailand and Lao PDR. While, the SEC is about 1,255 Km of routes connecting Ho Chi Minh City of Viet Nam and Dawei of Myanmar via Cambodia and Thailand. Most of the sections in the EWEC and the SEC are completed rehabilitation /improvement works except for sections in Myanmar. Improvement of the EWEC and the SEC contributes to drastically reduce travel time along the corridors. Comparing the travel time between 2008 and 2017, 5 hours of travel time is reduced in the SEC, while 24 hours of the travel time is reduced in Hanoi-Bangkok route.

In Myanmar sections of the EWEC, the 2<sup>nd</sup> Friendship Bridge between Myawaddy and Mea Sot is under construction., The section between Myawaddy and Khawkaik was improved in 2015, and the section between Yangon and Thaton was improved with BOT. The remaining section to be improved is only the section between Thaton and Khawkaik. While, the SEC is the same status as the EWES. The SEC is completed except for the section between Htee Khee and Dawei.

Even though Myanmar is ratified as CBTA in 2011, there is no bilateral agreement with Thailand yet, so there is no truck entry permission. There is a plan of cross-border facility at 2<sup>nd</sup> Friendship Bridge to manage single stop inspection at common area in future.

Accordingly, remaining issues are the complete improvement of remaining sections along the EWEC and the SEC and to improve cross-border operations to reduce stress time-loss of cross-border at Thai border. It may contribute to faster, reliable and flexible transport in Myanmar.



**Figure 1 GMS East-West and Southern Corridors**

## (2) Connectivity in Maritime Transport

Learn Chabang Port, Hai Phong Port and Cai Mep/Thi Vai Port are the major regional feeder ports in Mekong Region, connected directly or indirectly to final destinations such as east Asia, the USA and Europe. Yangon/Thilawa Port in Myanmar is mainly connected to Singapore Port, while Sihanoukville Port and Phnom Penh Port in Cambodia are connected to Singapore Port and Cai Mep/Thi Vai Port respectively. Thus, regional major ports have been developed and they are effectively connected to Singapore Port.

Myanmar has the two ports handling substantial cargo of the international trade, i.e. Yangon Port including Thilawa area (Yangon/Thilawa Port) and Kawthoung Port. Yangon/Thilawa Port is the river port to accommodate up to 9m draft vessels at maximum and connected with ports of the other countries by maritime route. Containers the port is handling are mainly transhipped at Singapore, Port Kelang and Colombo. At Yangon City, the port has little room to expand handling capacity due to limited area and location. While, Thilawa area has abundant room to expand the port capacity to meet future demand. On the other hand, there are 6 domestic ports under the MPA such as Kyaukpahu, Thandwe, Patheingyi, Mawlamyine, Dawei, Myeik ports, which are mainly connected to the Yangon port.

Currently, two new ports are planned or constructed in Myanmar. One is Dawei Port where a 100m jetty as “small port” has been built and a big port as a core project of Dawei Development is planned to be built. While, at Sittoung Port at Rakhine State, new port facilities have been constructed as a gateway of the Kaladan Multi-Modal Transit Transport Corridor.

Foreign Trade may continuously increase depending upon economic growth and population increase. Yangon Port will sufficiently meet the demand on the maritime transport in the short-term and the mid-term. Dawei Port and Sittoung Port may function as a core of the regional development and corridor development, respectively. Under the rise of production cost caused by labour cost increase, the industry sector will strongly require the lower freight to reduce transport cost to secure trade competitiveness of Myanmar against her rival countries. The maritime transport sector should realize more volume of transport with a lower cost. Accordingly, large deep-sea port will be required in future.

### **(3) Airport**

Regional hub airports in the Mekong Region such as Suvarnabhumi Airport (Bangkok) and Noi Bai Airport (Hanoi) are completed in construction, which connect the Mekong Region to rest of the world by air link. All countries in the Mekong Region connects to each other as well.

Myanmar has three international airports such as Yangon, Nay Phi Taw and Mandalay airport, which connect more than 25 cities in abroad. 24 domestic airports mainly connect to Yangon. Traffic demand in both international and domestic airports will continuously increase depending upon economic growth.

## **2 Institutional Connectivity**

### **(1) Transport**

GMS countries have been very keen to proceed Cross Border Transport Agreement (CBTA). All Mekong Countries currently approve or ratify the CBTA. Additionally, most of the countries have bilateral agreement on transport to facilitate mutual entry permit and single stop inspection (SSI) except for Myanmar. There is no bilateral agreement yet between Thailand and Myanmar, but it is under negotiation.

Lao and Vietnam border, Dengsavan and Lao Bao, have successfully introduced SSI in Common Control Area (CCA). According to the freight test-run survey done by the JICA Survey Team, the average time to pass the border at Dengsavan and Lao Bao is reduced to 42 minutes from 90 minutes in 2017. Thailand and Cambodia are now under negotiation to establish SSI at Stung

Bot at Aranyaprathet-Poipet border.

On the other hand, Myanmar hasn't reached an agreement on the cross-border transport with Thailand, so that there is no truck entry permission each other. All cargo for cross-border transport to/from Thailand are subject to change trucks at the border. One Stop Service Center (OSSC) is established at the border points at Myawaddy, Tachireik and Muse. The MOCOM currently takes the leading role and other related agencies like General Department of Customs (GDC), immigration, police take a sub role to establish and manage the OSSC. The current OSSC in Myawaddy is called as "Myawaddy Trade Zone (MTZ)", which consists of the OSSC and some warehouses. However, the warehouses in the MTZ are not actively used.

The principle issue to be taken into consideration is how to develop a seamless cross-border transport under the CBTA or bilateral agreement. In this regard, entry permission of trucks, Harmonized border operation between Myanmar and Thailand and effective logistics operations are the key issues for further actions.

## **(2) Trade**

Significant progress is seen to establish national single window (NSW). Thailand has already completed NSW with E-commerce system. Viet Nam has introduced VNACCS system for customs and now tries to integrate others into the VNACCS. Myanmar introduced MACCS system for customs and trying to roll out it. Cambodia and Lao PDR introduce ASYCUDA-World for customs. On the other hand, Port EDI, which is one of the key elements of the NSW, is gradually introduced in the Mekong Region. Thailand and Vietnam have competed to introduce this, while the port EDI project is on-going at Cambodia and Myanmar.

The key issue to properly progress rollout the MACCS and Port EDI should be properly developed and rolled out to cover the whole country as core systems. At the same time, simplification of procedures, documentation on export and import are essential to keep the private companies to be favourable for Myanmar.

## **(3) Security at Ports and Airports in Myanmar**

For the airport security, the GOM developed the National Civil Aviation Security Programme (NCASP) in 2012. Based on the NCASP, National Civil Aviation Security Committee and National Aviation Security Working Committee were established in 2016. In line with the NCASP, the GOM will delegate security works at three international airports, namely Yangon, Nay Pyi Taw, and Mandalay to international security companies. The member of the Chicago Convention, including Myanmar, needs to fulfill the requirements of the Chicago Convention and the ICAO.

For the ports, the GOM established National Maritime Port Security Committee chaired by the Minister of Transport and Communication in 2006. The GOM is delegating security works at 19 seaports including international and domestic seaports to international terminal operators. Some operators have been selected and started their terminal operation. The member of the SOLAS (Safety of life at Sea) Convention, including Myanmar, needs to fulfill the requirements of the SOLAS Convention.

## **3 Regional Development along the Corridors**

There are many unique economic developments at border areas and along the economic corridors.

Development of the road network and cross-border improvement contribute to agricultural development by improving the connection between production place and markets like a case of Bolovens Plateau in the southern Laos, a case of Chiang Rai. For the industrial development, there are many SEZs and Industrial parks at border areas like Sango Poipet SEZ (Cambodia), Phnom Penh SEZ (Cambodia), Sihanoukville Port SEZ (Cambodia), Manhattan SEZ (Cambodia), Savan-Seno SEZ (Laos), Pakse SEZ (Laos) and VITA Park (Laos), etc. These industrial sites aim to receive relocated factories of labor-intensive / low-production-cost-oriented manufacturing from Thailand and Vietnam. These industrial sites fully utilize benefits of road development to generate the situation that investment and production costs are cheaper than that of Thailand/Vietnam. As logistics business development, transshipment business and customs clearance support business quickly expand at the border area, in particular Myadawb, Savannakhet along the EWEK and Poipet and Bavet along the SEC. In the service industry development, there are two unique activities observed in the Mekong Region such as expansion of commercial activities of border towns under ease of traffic of people and goods like Nong Khai, and Mae Sot, and resorts development like Myawaddy, Savannakhet, Poipet and Bavet.

In Myanmar, goods demand through Myawaddy border and Thai tourists are expected to increase depending upon economic growth of both countries. Economic growth also accelerates industrial relocation from Thailand to surrounding countries in the future. In this regard, the new 2<sup>nd</sup> Friendship Bridge at Myawaddy, which expects to improve cross-border transport in both cost and time aspects, will expand the variety of business opportunities in logistics, manufacturing, tourism and agriculture in Myawaddy.

#### **4 Initial Considerations for Future Connectivity Enhancement**

Physical connectivity has almost achieved with certain remaining sections in Myanmar. Institutional connectivity such as import/export permission and inspection and cross-border transport system has gradually progressed on the right direction with aiming at same goal. The initial stage of the connectivity in Mekong Region seems to be almost completed. In this regard, more focus should be on the quality of the connectivity from focusing on rehabilitation of the infrastructure and system. Quality includes the connectivity to generate value from the economic corridors.

Accordingly, the overall principle of future development of the connectivity can be "Improvement of Quality of Connectivity". For this purpose, there are 3 important policy directions such as: 1) speed-up, 2) sustainability, and 3) activation of economy.

Practical projects should be formulated with current progress and issues on the connectivity by country. In Myanmar, the JICA Survey Team preliminarily identified 27 of the potential projects in short, mid and long terms. As the short-term projects, 15 projects shall be taken into account.

In addition, interaction among the technical staffs regarding the connectivity in the Mekong Region will be fruitful for further harmonization and cooperation among the region. In this regard, the JICA Survey Team proposes two projects such as 1) Mekong Connectivity Forum, and 2) Project on Up-dating Data on Connectivity in Mekong Region.

Past Achievement		Current Issue	Overall Policy Direction	Potential Action (project)		
				【Short Term】	【Mid Term】	【Long Term】
Infrastructure	Road	<ul style="list-style-type: none"> <li>2nd Bridge between Myawaddy-Hee Sot is under construction. New OSSC is under consideration.</li> <li>Myawaddy-Kawthiaw section in East-west Corridor is under construction in 2015.</li> <li>Yangon-Thalon section was improved with BOT.</li> <li>Thabin-Mawmying-Dawei sections in NH3 were improved with 2 lanes in 2016.</li> <li>Phu Nam Ron (Thai border) to Hee Khee section is paved.</li> </ul>	<p><b>Improvement of Quality of Connectivity</b></p> <ul style="list-style-type: none"> <li>Speed-up</li> <li>Sustainability</li> <li>Activation of Economy</li> </ul>	<ul style="list-style-type: none"> <li>Completion of Major Network with Thailand</li> <li>Road improvement of Kawthiaw-Thalon section of East-West Corridor</li> <li>Road improvement Dawei-Hee Khee section of Southern Corridor</li> </ul>	<ul style="list-style-type: none"> <li>Completion of Alternative Network with Thailand</li> <li>Road improvement of Thabuzayath-Three Pagoda Pass section</li> <li>ASEAN Standardization</li> <li>Road improvement</li> <li>Road number and Signals (English)</li> </ul>	<ul style="list-style-type: none"> <li>Improvement of Sustainability of Road</li> <li>Road maintenance organization</li> <li>Budget and Finance</li> </ul>
	Port	<ul style="list-style-type: none"> <li>Yangon, Thilawa, and Kawthiaw ports are available as international port.</li> <li>Kyaikyau, Thandwe, Patheingyi, Mawlamyine, Dawei, Myeik ports are available as a domestic port mainly connecting with Yangon port.</li> </ul>		<ul style="list-style-type: none"> <li>Expansion and Improvement of Thilawa Port</li> <li>Port EDI System and NSW</li> <li>Security Facilities to meet SOLAS (fence, CCTV etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Improvement of Safety</li> <li>Climbing lane</li> <li>Installation of street light and cat's eye</li> <li>Slope protection</li> </ul>	<ul style="list-style-type: none"> <li>Deep Sea Port Development at Donson Bay or Ngazok Bay</li> </ul>
	Airport	<ul style="list-style-type: none"> <li>Yangon, Nay Phi Taw and Mandalay airports are international airports connecting more than 25 cities in abroad.</li> <li>There are 24 domestic airports connecting mainly with Yangon.</li> </ul>		<ul style="list-style-type: none"> <li>Actions for Security and Anti-terrorism at Yangon, Nay Phi Taw and Mandalay</li> <li>APIS (including PNR)</li> <li>CCTV (including Biometrics)</li> </ul>		<ul style="list-style-type: none"> <li>Development of New International Airport at Yangon</li> </ul>
Institution	Transport	<ul style="list-style-type: none"> <li>CBTA is ratified in 2011.</li> <li>No truck entry permission with any surrounding countries yet.</li> <li>Bilateral agreement with Thailand is under negotiation.</li> <li>Support to inspect with 2018.</li> <li>One Stop Service Center (OSSC) is established at Myawaddy, Tachriek and Muse.</li> </ul>		<ul style="list-style-type: none"> <li>Steady progress of bilateral negotiation with Thailand</li> <li>Improvement of OSSC (missing or distant from border)</li> <li>Collaborative Harmonized border management with Thailand</li> <li>Liberalization of transport and logistics related businesses in the region (enhancement of domestic related businesses in parallel)</li> </ul>	<ul style="list-style-type: none"> <li>Introduction of OSSC for 2nd Friendship Bridge at Myawaddy</li> </ul>	<ul style="list-style-type: none"> <li>Improvement of OSSC to SSICCA</li> <li>Development and introduction of Trucking System with GPS</li> </ul>
	Trade	<ul style="list-style-type: none"> <li>MACCS system is introduced to Yangon and Thilawa.</li> <li>Port EDI project (Project for Port EDI for Port Modernization) is under implementation with JICA supports. EDI starts in Oct. 2017.</li> <li>No functional and practical collaboration/coordination on import/export requirements with other Mekong countries</li> </ul>		<ul style="list-style-type: none"> <li>Expansion of MACCS</li> <li>Alleviation of non-tariff barriers of Myanmar such as import and export license, pre-application, transit trade license, etc.</li> <li>Alleviation of non official fees on cargo clearance procedures</li> <li>Ease of complicated tax calculation at border customs (transparency and accountability challenges)</li> </ul>	<ul style="list-style-type: none"> <li>MACCS Rollout Project</li> <li>Other border points</li> </ul>	<ul style="list-style-type: none"> <li>National Single Window (NSW) Development</li> <li>Trade Facilitation Information Exchange Platform Development</li> </ul>
Regional Development	Industrial Development	<ul style="list-style-type: none"> <li>Myawaddy area has no industrial zone/ SEZ. Me Sot is designated as SEZ in Thailand.</li> <li>Many young labor go to work in factories in Thailand.</li> <li>Market</li> <li>Myawaddy Complex (about 600 employees)</li> <li>Not actively with Thai market</li> </ul>		<ul style="list-style-type: none"> <li>Myawaddy Logistics Park Development</li> <li>OSSC</li> <li>FCS, CY and Warehouse</li> <li>Distribution processing</li> <li>Other services</li> </ul>	<ul style="list-style-type: none"> <li>Logistics park at Hee Khee and Tachriek</li> </ul>	
		<ul style="list-style-type: none"> <li>Myawaddy Complex (about 600 employees)</li> <li>Not actively with Thai market</li> </ul>		<ul style="list-style-type: none"> <li>Myawaddy SEZ Development</li> </ul>	<ul style="list-style-type: none"> <li>Myawaddy Regional Development</li> <li>Contract farming</li> <li>Tourism development</li> </ul>	

Figure 2 Issues and Potential Actions to Enhance Regional Connectivity of Myanmar



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## **Abbreviation**

### **Organizations**

ACCC	ASEAN Connectivity Coordinating Committee
ADB	Asian Development Bank
AEC	ASEAN Economic Community
AFAFIST	ASEAN Framework Agreement on The Facilitation of Inter-State Transport
ASEAN	Association of South-East Asian Nations
AWPT	Asia World Port Terminal
BOI	Board of Investment
DMA	Department of Maritime Administration
DOB	Department of Bridge
DOH	Department of Highways, Ministry of Construction
GDC	General Department of Customs
GOM	Government of Myanmar
IWA	Inland Waterway Authority
JETRO	Japan External Trade Organization
JICA	Japan International Cooperation Agency
KNU	Karen National Union
KOICA	Korea International Cooperation Agency
MCB	Myanmar Central Bank
MCD	Myanmar Customs Department
MIE	Myandawei Industrial Estate Company Limited
MIFFA	Myanmar International Freight Forwarders' Association
MIP	Myanmar Industrial Port
MITT	Myanmar International Terminal Thilawa
MOBA	Ministry of Border Affairs
MCom	Ministry of Commerce
MCon	Ministry of Construction
MOPF	Ministry of Planning and Finance
MOTC	Ministry of Transport and Communications
MPA	Myanma Port Authority
MPP	Myanmar Petroleum Pvt Ltd.
NEDA	Netherlands Development Assistance
RSG	Rakhain State Government
WB	The World Bank
WTO	World Trade Center

### **Framework, etc**

ACMECS	Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy
AEO	Authorized Economic Operator
AFAFGIT	ASEAN Framework Agreement on the Facilitation of Goods in Transit
AFAFIST	ASEAN Framework Agreement on the Facilitation of Inter-State Transport
AFTA	ASEAN Free Trade Area
AHTN 2017	ASEAN Harmonized Tariff Nomenclature 2017
ARND-MP	Master Plan for Arterial Road Network Development Project
ASW	ASEAN Single Window
ASYCUDA-World	Automated System for Customs Data - World
B2B	Business to Business
BCF	Border Control Facilities
BIMSTEC	Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
BOT	Build-Operate-Transfer
BTOS	Border Trade Online System
CBTA	Cross Border Transportation Agreement
CCA	Common Control Area

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CEPT	Common Effective Preferential Tariff
CIQ	Custom, Immigration, Quarantine
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CUSDEC1	Custom Declaration 1
CUSDEC2	Custom Declaration 2
CY	Container Yard
DPR	Detailed Project Report
DWT	Dead Weight Tonnage
EDI	Electronic Data Interchange
EOI	Expression of Interest
EPC	Engineering Procuring and Construction
ESB	Eastern Sea-board
EWEC	East-West Economic Corridor
G2G	Government to Government
GMS	Greater Mekong Subregion
GRDP	Gross Regional Domestic Product
GRT	Gross Register Tonnage
HS	Harmonized Commodity Description and Coding System
ICD	Inland Container Depot
ICAO	International Civil Aviation Organization
ISPS	International Ship and Port Facility Security
IWT	Inland Water Transport
KMTTP	Kaladan Multi-Modal Transit Transport Project
LPI	Logistics Performance Index
MACCS	Myanmar Automated Cargo Clearance System
MAPPS	Myanmar Advance Passenger Processing System
MCIS	Myanmar Customs Intelligence System
MOU	Memorandum of Understanding
MPAC	Master Plan on ASEAN Connectivity
MTZ	Myawaddy Trading Zone
MYT-Plan	Myanmar's National Transport Master Plan
NCASP	National Civil Aviation Security Programme
NCDP	National Comprehensive Development Plan
NSW	National Single Window
ODA	Official Development Assistance
OSSC	One Stop Service Center
PMC	Project Management Consultant
PPP	Public Private Partnership
SEC	Southern Economic Corridor
SEZ	Special Economic Zone
SOLAS	Safety of Life at Sea
SPC	Special Purpose Company
SPV	Special Purpose Vehicle
SSI	Single Stop Inspection
SWI	Single Window Inspection
TEU	Twenty-foot Equivalent Unit
VNACCS	Vietnam Automated Cargo and Port Consolidated System
Corridors	
AH	Asian Highway
GMS-EWEC	Greater Mekong Subregion - East-West Economic Corridor
GMS-SEC	Greater Mekong Subregion - Southern Economic Corridor
KMMTC	Kaladan Multi-Modal Transit Transport Corridor
MTC	Mandalay-Tamu Corridor
TKK	Tamu-Kyigone-Kalewa
TPP	Three Pagodas Pass

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# Chapter 1 Introduction

## 1.1 Background

ASEAN countries have successfully achieved the establishment of the ASEAN Economic Community (AEC). For the AEC to become fully beneficial, the ASEAN members are currently focusing on enhancing “Connectivity” in the area to realize free movement of people, goods and capital (money). For example, the 12<sup>th</sup> National Economic and Social Development Plan (2017-2022) of Thailand raises the issue of the “enhancement of regional connectivity” with surrounding countries as one of the major development policies to avoid a “middle income trap”.

Regarding connectivity, Myanmar is lagging behind in the Mekong region (consisting of 5 countries: Cambodia, Lao PDR, Myanmar, Thailand and Vietnam), and ASEAN. For example, looking at the “Logistics Performance Index” (LPI) of the World Bank for 2016, Myanmar ranked 113<sup>th</sup> in the world, which is the second lowest in the Mekong region after Lao PDR, 152<sup>th</sup> (Cambodia 73<sup>th</sup>, Viet Nam 64<sup>th</sup>, Thailand 45<sup>th</sup>). In this regard, “Connectivity” is an important development issue for Myanmar to realize sustainable economic development by properly emerging development potential of the Greater Mekong Subregion (GMS) East-West Economic Corridor (EWEC) and GMS Southern Economic Corridor (SEC) and then promoting investment and industrial development along these corridors.

**Table 1.1 World Bank Logistics Performance Index 2016 (excerpts)**

Country	LPI Rank		Customs		Infrastructure		International shipments		Logistics competence		Tracking & tracing		Timeliness	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Thailand	45	3.26	46	3.11	46	3.12	38	3.37	49	3.14	50	3.2	52	3.56
Vietnam	64	2.98	64	2.75	70	2.7	50	3.12	62	2.88	75	2.84	56	3.5
Cambodia	73	2.8	77	2.62	99	2.36	52	3.11	89	2.6	81	2.7	73	3.3
Myanmar	113	2.46	96	2.43	105	2.33	144	2.23	119	2.36	94	2.57	112	2.85
Lao PDR	152	2.07	155	1.85	155	1.76	148	2.18	144	2.1	156	1.76	133	2.68
India	35	3.42	38	3.17	36	3.34	39	3.36	32	3.39	33	3.52	42	3.74
Bangladesh	87	2.66	82	2.57	87	2.48	84	2.73	80	2.67	92	2.59	109	2.9
China	27	3.66	31	3.32	23	3.75	12	3.7	27	3.62	28	3.68	31	3.9

Note: The six core components are as follows:

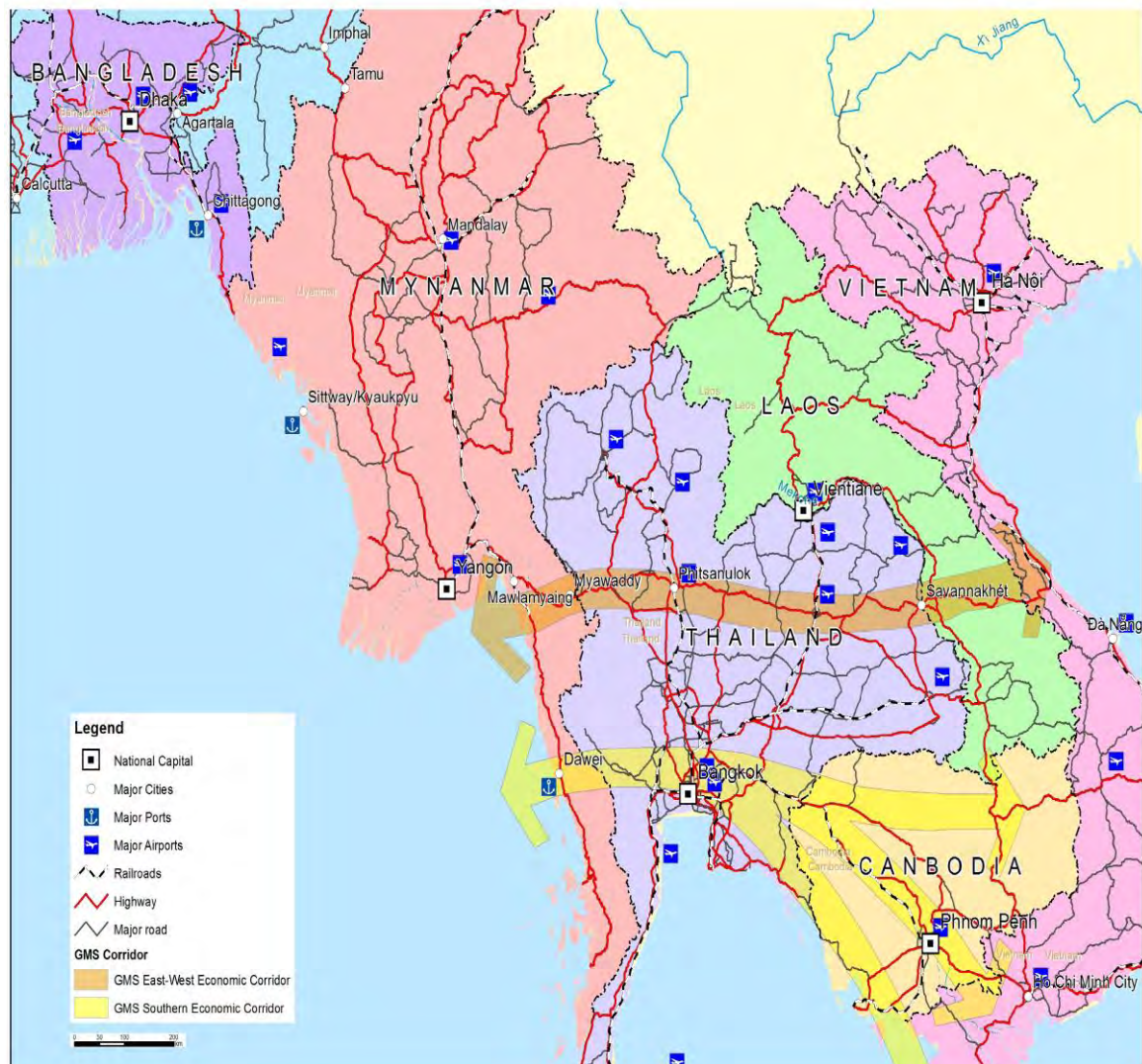
- Customs: The efficiency of customs and border clearance.
- Infrastructure: The quality of trade and transport infrastructure.
- International shipments: The ease of arranging competitively priced shipments.
- Logistic competence: The competence and quality of logistics services.
- Tracking and tracing: The ability to track and trace consignments.
- Timelines: The frequency with which shipments reach consignees within scheduled or expected delivery times.

Source: Logistics Performance Index (LPI) 2016, World Bank

Based on the facts mentioned above, the Government of Japan and the countries of the Mekong region have agreed to establish the “Japan-Mekong Connectivity Initiative” to enhance the connectivity of the Mekong region, paying special attention to the GMS-EWEC and GMS-SEC, and accelerating necessary actions regarding institutional and human connectivity in order to fully utilize the corridors. “The Data Collection Survey on Connectivity Enhancement” (hereinafter referred to as “the Survey”) has been formulated to address this issue.

## 1.2 Objectives

The Survey aims at clarifying the issues to enhance connectivity of Myanmar through the analysis of connectivity on physical and institutional aspects. The Survey will also recommend further actions to be taken and contribute to the discussions on potential Japanese assistance to enhance connectivity between Myanmar and the other countries in the Mekong region.



Source: JICA Survey Team

**Figure 1.1 GMS East-West and Southern Economic Corridors**



In this regard, the Survey is expected to show further actions for connectivity enhancement, which can contribute to the acceleration of the “Japan-Mekong Connectivity Initiatives”.

### **1.3 Target of the Survey: “Connectivity”**

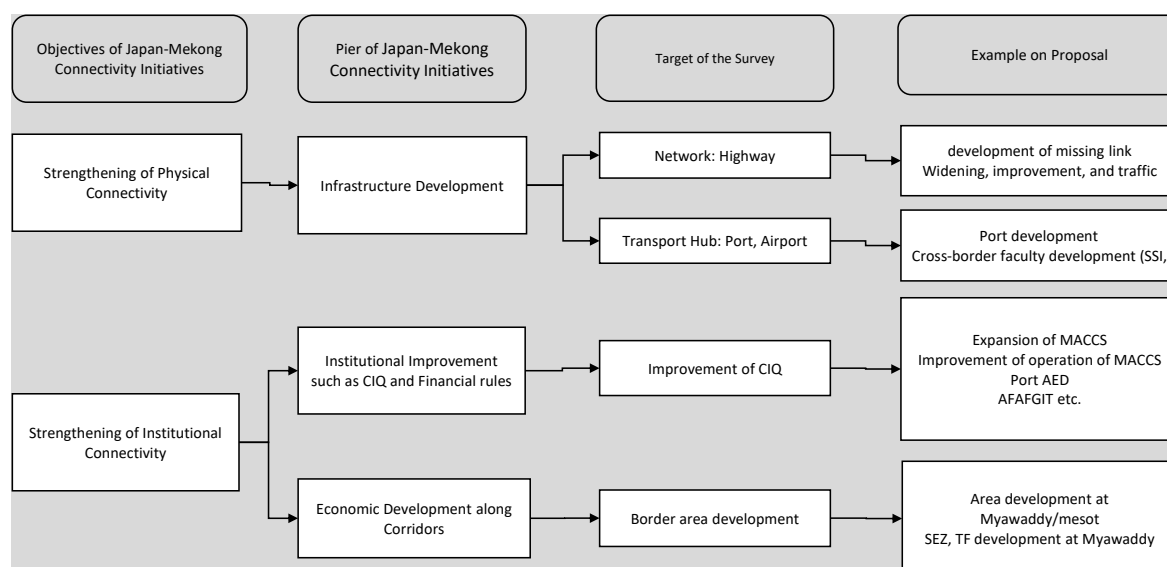
“Connectivity” in ASEAN encompasses physical (e.g., transport, ICT, and energy), institutional (e.g., trade, investment, and service liberalization), and socio-cultural (e.g., education, culture, and tourism) dimensions that are the fundamental means to achieve the objectives of the economic, political-security, and socio-cultural pillars of an integrated ASEAN Community. The vision supporting the Master Plan on ASEAN Connectivity 2025 (hereinafter MPAC 2025) is to achieve a seamlessly and comprehensively connected and integrated ASEAN that will promote competitiveness, inclusiveness, and a greater sense of community. In this regard, the MPAC 2025 highlights five strategic areas to achieve this vision:

- Sustainable infrastructures;
- Digital innovations;
- Seamless logistics;
- Regulatory excellence;
- People mobility.

This Survey focuses on one of the five strategic areas in the MPAC 2025, the connectivity in transport and logistics, which can be divided into two aspects: physical and institutional. The physical aspect of the connectivity shall be defined as infrastructures connecting Myanmar with surrounding and foreign countries such as highways, ports, airports and border crossing facilities, while the institutional aspect of the connectivity relates to, both, the implementation of common or compatible systems and the formulation of legislations to facilitate customs clearance between Myanmar and the surrounding countries. This may include customs, immigration, quarantine (CIQ) and cross-border transport systems such as Single Stop Inspection (SSI)/Common Control Area (CCA) and Myanmar Automated Cargo Clearance System (MACCS), Port Electronic Data Interchange (EDI), ASEAN Framework Agreement on the Facilitation of Goods in Transit (AFAFGIT), Cross Border Transportation Agreement (CBTA) etc.

The results of the discussions about connectivity will coordinate 1) infrastructure development, 2) institutional improvement, and 3) economic development along the corridors, in accordance with the “pillars of cooperation” of the Japan-Mekong Connectivity Initiatives:

- Regarding infrastructure development, the emphasis goes to the transport network (highways and important transport hubs, ports, airports and cross-border facilities) including the development of missing links, road improvements for safety and reliable use in all seasons;
- Regarding institutional improvement, the emphasis goes on the strengthening of CIQ and transport framework (CBTA);
- Regarding economic development along the corridors, the emphasis goes to border areas development, especially the Myawaddy area.



Source: JICA Survey Team

**Figure 1.2 Anticipated Targets of the Survey**

## 1.4 International Gateway and Strategic Corridors

Prior to investigating the regional connectivity of Myanmar in the field of logistics and transport, it may be important to understand the overall picture of international gateways by land, sea and air where connectivity takes place.

### 1.4.1 International Gateways

#### (1) Border Checkpoints

Myanmar currently has 8 border checkpoints excluding those with Bangladesh and Lao PDR<sup>1</sup>. Four out of the eight checkpoints are shared with Thailand, such as Tachileik, Myawaddy, Htee Khee and Kawthaung. Two other points, Muse and Monda, are with China, and the remaining 2 are with India, as shown in Table 1.2.

**Table 1.2 Border Checkpoints**

No.	Name	Linked City	Country	Note
1	Tachileik	Mae Sai	Thailand	
2	Myawaddy	Mae Sot	Thailand	
3	Htee Khee	Phunaron	Thailand	
4	Kawthaung	Ranong	Thailand	
5	Muse	Ruili	China	
6	Mongla	China	China	There is a facility, but operation is not confirmed at this moment.
7	Tamu	Moreh	India	
8	Pansu	India	India	There is a facility, but operation is not confirmed at this moment.

Source: JICA Survey Team

<sup>11</sup> Information on the cross-border points to Bangladesh and Lao PDR is not available at this moment.

## (2) Air

Myanmar has three international airports: in Yangon, Nay Phi Taw and Mandalay. Yangon International Airport connects Yangon with 24 cities, while, Nay Phi Taw and Mandalay international airports have respectively 1 international route, and 7 international routes, as shown in Table 1.3.

**Table 1.3 International Airports in Myanmar**

Name	International Connection	International connections (city of destination)
Yangon International Airport	24 cities	Tokyo, Soul, Beijing, Shanghai, Guangzhou, Kunming, Taipei, Nanning, Hong Kong Hanoi, Ho Chi Minh, Bangkok, Phuket, Singapore, Kuala Lumpur, Phnom Penh, Siem Reap Dakka, Kolkata, Gaya (India) Dubai, Doha, Frankfort, Milano
Nai Phi Taw International Airport	1 city	Bangkok
Mandalay International Airport	7 cities	Osaka, Inchon Kunming Bangkok, Chiang Mai, Hanoi, Singapore

Note: As of July 2017

Source: JICA Survey Team

## (3) Sea

Myanmar has 5 ports designated for international transit and managed by the Myanma Port Authority (MPA): in Yangon, Sittwe, Patheingyi, Mawlamyine and Moulmein. Yangon Port is categorized as an International port, while the other ports are categorized as International Export ports. In addition to the international ports, Myanmar has 4 domestic coastal traffic ports in Kyaukpadaung, Thandue, Dawei and Kawtharung.

Although there are many ports in Myanmar, there is currently no deep-sea port. To remedy the situation, the Myanmar government has a plan to develop deep-sea ports in Kyaukpadaung, Kalegaung, Dawei and Boukpyin.



Source: JICA Survey Team

**Figure 1.3 International Gateways in Myanmar**

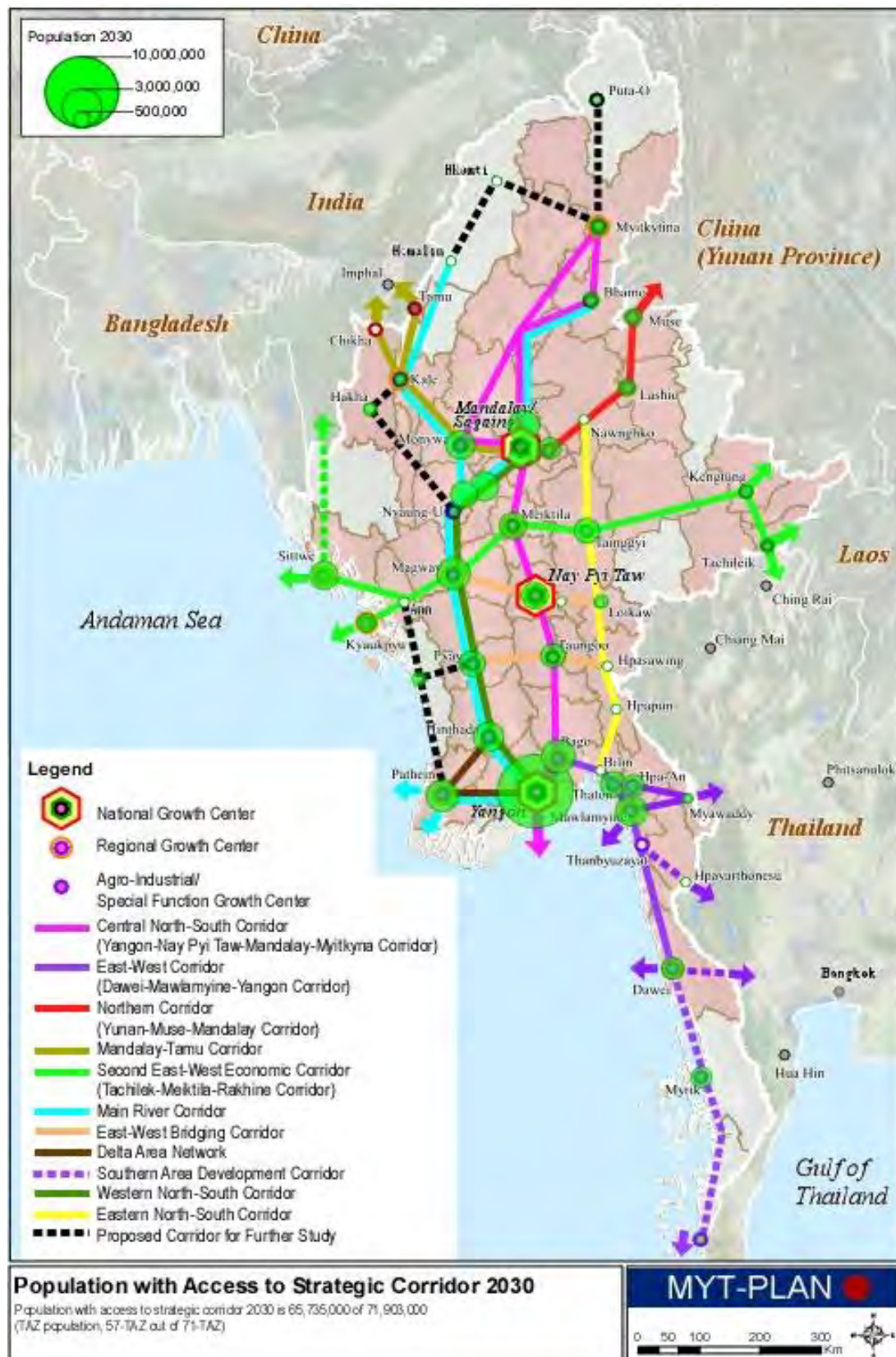
### **1.4.2 Strategic Routes of Connectivity**

JICA conducted “The Survey Program for the National Transport Development Plan in the Republic of the Union of Myanmar” in 2014 (hereinafter referred to as “MYT-Plan”). The MYT-Plan exposed a long-term vision for transport development with highest-standards policy for overall transport development in Myanmar. The MYT-Plan takes a unique approach to pay significant attention to economic corridor development and identify priority transport projects.

In the document, 10 economic corridors were identified in Myanmar based on an evaluation of the urban agglomerations with unique and important socio-economical functions in relation with their networking infrastructures. Primary urban agglomerations are defined as National Growth Centers concentrating economical and national administrative institutions with a high population density, such as Yangon, Mandalay and Nai Pyi Taw. Secondary urban agglomerations, or Regional Growth Centers, are a sort of regional core area such as Myikytina, Sittwe, Kyaukpyu, Patheingyi, Bago, Mawlamyine and Dawei. They represent the regional poles of urbanization, economy and administration in each state/union. Tertiary urban agglomerations are economic centers with special functions like SEZ, border cities etc. They are called Agro-Industrial or Special Function Growth Centers. The followings are the 10 economic corridors in Myanmar, which are shown in Figure 1.4:

- Central North-South Corridor
- East-West Corridor
- Northern Corridor
- Mandalay-Tamu Corridor
- Second East-West Economic Corridor
- East-West Bridging Corridor
- Delta Area Network
- Southern Area Development Corridor
- Western North-South Corridor, including the Main River Corridor
- Eastern North-South Corridor

The MYT-Plan ranks the economic corridors according to their investment potential. Priority is given to 1) connectivity corridors with high economic development potential, 2) anticipated contribution to the regional economy, 3) corridors with high transportation demand, and 4) cost-effectiveness. The MYT-Plan concludes that higher return on investment can be expected from those corridors since they are concentrating more economic activities, connecting together regional urban agglomerations, and connecting to surrounding countries such as Thailand, India, China and Bangladesh. At the same time, the MYT-Plan also points out the importance of investing into international gateways like Yangon Port, Dawei Port and international airports.



Note: Dotted green line indicates Kardam Multi-Transit Transport Corridor.

Source: The Survey Program for the National Transport Development Plan in the Republic of the Union of Myanmar, JICA (2014)

**Figure 1.4 Strategic Transport Development Corridor in Myanmar**

Based on the results of the MYT-Plan regarding international connectivity, in particular connectivity to the Mekong region and India, the following 3 corridor areas are considered to be the most important routes among the strategic corridors.

**Table 1.4 Strategic Corridors of International Connectivity**

Strategic Corridors of International Connectivity	Corridor name in the MYT-Plan	Corridor no. in MYT-Plan	Border-crossing Point
Yangon-Maulamyaine-Myawaddy	East-West Corridor	B1	Myawaddy
Three Pagda Pass (Thanbyuzaya-Hpayathonesu)	Southern Area Development Corridor	J1	Hpayathonesu
Dawei-Htee Khee	Southern Area Development Corridor	J2	Htee Khee

Source: JICA Survey Team

## **Chapter 2 Land Connectivity**

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### **2.1 GMS Corridors**

#### **2.1.1 Physical Connectivity**

The Greater Mekong Sub-region (hereinafter referred to as “GMS”) is a natural economic area bound together by the Mekong River, covering 2.6 million square km and with population of around 326 million. The GMS countries, Cambodia, China, Lao PDR, Myanmar, Thailand and Vietnam, have actively participated in a comprehensive program of economic cooperation, which is called the “GMS Program”, with the support of the ADB and other development partners since 1992. The GMS Program is being implemented not only to improve freight transportation and facilitate trade in the region but also for the development of the transportation network across the Mekong sub-region.

The GMS Economic Corridor consists of nine corridors, and five corridors (North-South Economic Corridor, East-West Economic Corridor, Southern Economic Corridor, Northern Economic Corridor and Western Economic Corridor) passing through Myanmar as shown in following figure. As for the GMS EWEC, road surface condition is in good condition at most of the sections due to improvement work. For example, the ADB funded GMS Highway Expansion Project 1, co-financed by the Thai Government, is upgrading a 178 km section of the EWEC in Thailand; specifically, a 105 km section of Highway No.12 running from Phitsanulok to Lom Sak was completed in Nov 2015. Also, a JICA Grant Aid project for upgrading 58 km of road in Savannakhet Province of Lao PDR was completed in March 2015. In Myanmar, the construction of a 28km length of bypass between Kawkaik and Myawaddy, funded by the Thai Government, was completed in August 2015, providing a new route to go around the Dawna mountain range. In addition, the road improvement of between Eindu and Kawkaik is planned to be completed in March 2019 with the aid by ADB and the existing bottleneck bridges are expected to be replaced to the new bridges until March 2023, with the aid by JICA. However, the remaining sections of the EWEC in Myanmar still need substantial improvement if they are to become part of a fully functioning transport corridor.

New Sittaung Bridge is planned on a bypass route of the GMS EWEC as well as Asian Highway (AH1). The GMS EWEC connects the regional hubs such as Bago and Mawlamyine, with Yangon. Also, the linkages among the major land developments, such as Hanthawaddy New International Airport in Bago, SEZ and deep-sea port plan in Dawei, industrial park development plan in Mawlamyine, etc. are expected to enhance economic activities along the corridor for which the priority is followed after the north-south corridor between Yangon - Mandalay, provided in the second highest traffic demand.





Source: ADB

**Figure 2.1 Map of GMS Economic Corridor**

With these past and ongoing developments of the GMS corridors, a significant improvement has been made in commercialization of corridors and resulting logistics operations. The table below compares actual operation time along the GMS corridors between 2008 and 2017. Transport-time reduction along Bangkok-Hanoi Corridor was mostly due to improvement of customs clearance procedures in Lao PDR and Thailand, whereas physical infrastructure development (e.g. Neak Loeung Bridge in Cambodia with JICA Grant Aid) contributed to improving transport time along the Southern Economic Corridor.

**Table 2.1 Transport-time Reduction under GMS Economic Corridors Development**

Corridor	Operation time	
	2008	2017
East-West Economic Corridor	No data	35 hours
Southern Economic Corridor	40 hours	35 hours
Bangkok – Hanoi Corridor	64 hours	40 hours

Source: JICA study team (hearings from local logistics companies)

## 2.1.2 CBTA

The CBTA provides a practical approach to streamlining regulations and reducing nonphysical barriers in GMS. It covers the following areas:

- single-stop/single-window customs inspection
- cross-border movement of persons (i.e., visas for persons engaged in transport operations)
- transit traffic regimes, including exemptions from physical customs inspection, bond deposit, escort, and agriculture and veterinary inspection
- requirements that road vehicles will have to meet to be eligible for cross-border traffic
- exchange of commercial traffic rights and
- infrastructure, including road and bridge design standards, road signs, and signals.

The CBTA is now formally known as The Agreement between and among the Governments of the Kingdom of Cambodia, the People's Republic of China (PRC), the Lao People's Democratic Republic (Lao PDR), the Union of Myanmar, the Kingdom of Thailand, and the Socialist Republic of Viet Nam for the Facilitation of Cross-Border Transport of Goods and People.

All six GMS countries have fully ratified the CBTA main agreement.

Lao PDR, Thailand and Viet Nam – 1999

Cambodia – 2001

RPC- 2002

Myanmar- 2003

Four countries except Thailand and Myanmar have fully ratified the Annexes and Protocols. The remaining countries including Myanmar are in the process of ratifying the Annexes and Protocols. The Annexes consists of 17 items and Protocol consists of three items. The Annex4 is under negotiation between Myanmar and Thai Government with the aim of urgent installation. Myanmar Government points to the traffic lane problem between Myanmar and Thailand.

Myanmar is preparing to ratify the Annexes and Protocols by 1<sup>st</sup> January 2019.

**Table 2.2 Current Status of CBAT**

	Main Agreement	Annexes and Protocols
Myanmar	Full Ratification (2002)	Reaming several items (by Jan. 2019)
Lao PDR	Full Ratification (1999)	Full Ratification
Cambodia	Full Ratification (2001)	Full Ratification
Vietnam	Full Ratification (1999)	Full Ratification
PRC	Full Ratification (2002)	Full Ratification
Thailand	Full Ratification (1999)	Reaming several items

Source: JICA Survey Team

**Table 2.3 Annexes and Protocol (as of Dec. 2014)**

	Title	Non-approved country
Annex 1	Transport of dangerous article	Thailand
Annex 4	Promotion of cross border procedure	Thailand
Annex 6	Transit and customs system	Thailand
Annex 8	Temporary import of vehicle	Thailand
Annex 10	Design of road/bridge and construction criteria/specification	Thailand
Annex 13a	Responsibility institution of multi-modal transport operator	Myanmar
Annex 13b	Approval criteria of multi-modal transport operator of cross-border transport business	Myanmar
Annex 14	Customs system of container	Thailand
Protocol 3	Service frequency/capacity and issues of allocation and permission	Myanmar

Source: JETRO

## 2.2 Current Situation of Each Corridor

### 2.2.1 East-West Economic Corridor

#### (1) Physical Connectivity

Although there are no more missing links along the EWEC, some sections such as Lao PDR and Myanmar are still in the development stage of completing the minimum ASEAN Highway standard, or 2-lane paved roads (Class II). However, with ongoing road improvement works along National Road 9, Lao PDR section will soon be upgraded from Class III to Class II. Also, large-scale road expansion works are underway in Thailand, between Phitsanulok (Tak) and Mae Sot, in response to increased traffic volumes.

Average travel speed is a useful indicator of physical connectivity, as it gives a perspective of physical road conditions. Although vehicle speeds vary greatly from one country to another, Myanmar section clearly record the lowest travel speed along the corridor, with the highest speeds recorded in Thailand. Low travel speeds indicate a gap in road infrastructures, impeding efficient operations and safe and expeditious movement of vehicles along the corridor.

**Table 2.4 Distance and Road Condition by Section**

Country		Vietnam	Vietnam / Lao PDR	Lao PDR	Lao PDR / Thailand	Thailand			Thailand / Myanmar	Myanmar
Section		Danang - Lao Bao	Lao Bao - Dansavanh	Dansavanh - Savannakhet	Savannakhet - Mukdahan	Mukdahan - Khon Kaen	Khon Kaen - Phitsanulok	Phitsanulok - Maesot	Maesot - Myawaddy	Myawaddy - Mawlamyine
Test results	Distance (km)	264	0.5	235	3.3	249	322	232	0.2	161
	Transport time (hour)	5.9	N/A	4.5	N/A	3.9	4.4	3.2	N/A	3.7
	Average speed (km/h)	44.9	N/A	52.6	N/A	65.2	74.2	72.5	N/A	43.6

Traffic data	Average daily traffic volume	2500 (AH1) 800 (AH16)	N/A	500	N/A	5000	5000	5000	N/A	1000
Road design	AH classification	Primary, Class I and Class II	Class II	Class II and below Class III	Class II	Class I and Class II	Class I and Class II	Class I and Class II	Class II	Class II and below Class III
	Terrain classification	Level, Mountainous	Level	Level	Level	Level	Level, Mountainous	Level, Mountainous	Level	Level, Mountainous
	Lane <sup>1</sup>	2-6	2 (Gate: 10-2)	2	2 (Gate: 8-8)	2-4	2-4	2-4	2 (Gate: 2-2)	1-2
	Pavement type	Asphalt	Asphalt	Asphalt, gravel	Asphalt	Asphalt	Asphalt	Asphalt	Asphalt	Asphalt, bituminous treatment
	Road signs (English)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Partly	No

The border section, 200km, in the EWEC between Thailand and Myanmar is mountainous area consisting three mountains, 700m, 800m and 900m high. In addition, there exist only two lanes in the Thailand, and sharp curve and heavy slope sections in everywhere. Therefore, the truck speed is 20km/hour in average in the section.

**Table 2.5 Current Conditions and Development Plan in GMS East- West Corridor**

Road Section	Current Condition	Development Plan
Bangkok – Mae Sot (Thailand)	It was reported in a study including a physical test run in April 2013 that the road condition between Bangkok and Mae Sot in Thailand was good and roads had no damage.	The road section between Bangkok and Mae Sot is being improved from two to four lanes to accommodate an increase of heavy truck traffic.
Mae Sot (Thailand) – Myawaddy (Myanmar)	Due to the weight restriction of 25 tons, the first friendship bridge between Thailand and Myanmar cannot be used unless containers are transshipped to cargo in front of the bridge (confirmed by a transport test run in November 2015.)	The second friendship bridge will be developed in 2018 or 2019. After the completion of the bridge, trucks with 40-foot containers will be able to run.
Myawaddy – Kawkaik – kyaikto (Myanmar)	According to the transport test run in April 2013, the distance between Myawaddy and Yangon is 424.5km, the average speed was 40.53km/h, and the transport time was 10h31min, The road section between Myawaddy and Kawkaik is mostly two lanes; the road section between Kawkaik is mostly four lanes. The road condition of the section between Myawaddy and Kawkaik was generally bad due to the mountains. The transport conditions improved after completion of a bypass between Thingaha and Kawkaik in August 2015.	The construction of three bridges in the section between Mawlamyaing and Kawkaik will be completed in March 2022 with a Yen loan scheme. The road section between Kawkaik and Eindo will be completed in March 2019, and is under construction at the moment. The road section between Kyaik Hto and Bago will be developed in a near future with an ADB loan scheme. And the Shittaung Bridge in the same section will be developed with a Yen loan scheme.

Source: Ministry of Construction (MOCon)

<sup>1</sup> Gate represents the number of lanes, both entry and exit, at the border gate.

## (2) Road Condition in Myanmar side

The following figure and table show the summary of the current road condition and ongoing/future road development of the EWEC. The Myanmar section on the EWEC connects Myawaddy, the border area with Thailand, to Yangon urban area with approximately 380km in total length.

The domestic route on the EWEC has been divided into several sections, and the financing source of each section differing, e.g., KOICA, ADB, JICA, NEDA (Thailand), own budget (including PPP), etc. This might conduce some differences, e.g., development timing, design criteria, and so on. Consequently, it might be difficult to realize a coherent transport system and lose the transport benefit for users.



Source: JICA Survey Team

**Figure 2.2 Current Road Network and Development Project along the EWEC**

**Table 2.6 Outline of Current Road Condition along the EWEC (Myanmar section)**

Road Section	Length	Lane	Pavement Type	Surface Condition	O & M
Yangon*-Payagyi	68km	2 to 4	A/C	Good	1) Yangon-Bago by BOT (Max Highway) 2) Bago-Payagyi by BOT (Shwe Than Lwin Highway)
Payagyi – Thaton	130km	2	A/C	Good	BOT (Shwe Than Lwin Highway)
Thaton – Eindu	68km	2	Penetration Macadam	N/A	1) Thaton – Hpa-an by BOT (Shwethan Lwin Highway) 2) Hpa-an-Eindu by (Aye Ko Family Construction)
Eindu – Kawkaik	70km	2	Penetration Macadam	Not Good	MOCon
Kawkaik-Myawaddy	42km	2 to 4	A/C	Good	MOCon

Source: MOCon

The EWEC is also designated as ASEAN Highway. The development criteria of the ASEAN highway are shown in following table. The class has four classes in the following criteria, and the

EWEC in Myanmar is designated as Class II based on the road condition, traffic volume, environmental condition and so on. The current condition of the EWEC in Myanmar is Class III status, and this road in Myanmar is divided into several sections. The divided sections are being developed by each development scheme, body, and financing source. Consequently, the current road might not be consistent system as an international economic corridor.

**Table 2.7 ASEAN Highway Standard**

Highway classification		P Primary (4 or more lanes) (control access)			Class I (4 or more lanes)		
		L	R	M	L	R	M
Terrain classification		L	R	M	L	R	M
Design speed (km/h)		100-120	80-100	60-80	80-110	60-80	50-70
Width(m)	Right of way	(50-70) ((40-60))			(50-70) ((40-60))		
	Lane	3.75			3.5		
	Shoulder	3			3		
Min. horizontal curve radius (m)		390	230	120	220	120	80
Type of pavement		Asphalt/cement concrete			Asphalt/cement concrete		
Max. super elevation (%)		(7) ((6))			(8) ((6))		
Max. vertical grade (%)		4	5	6	5	6	7
Min. vertical clearance (m)		4.50 [5.00]			4.50 [5.00]		
Structure loading (minimum)		HS20-44			HS20-44		
Highway classification		Class II (2 lanes)			Class III (2 lanes)		
Terrain classification		L	R	M	L	R	M
Design speed (km/h)		80-100	60-80	40-60	60-80	50-70	40-60
Width (m)	Right of way	(40-60) ((30-40))			30-40		
	Lane	3.5			3.00[3.25]		
	Shoulder	2.5			1.50[2]		1.0[1.5]
Min. horizontal curve radius (m)		200	110	50	110	75	50
Type of pavement		Asphalt/cement concrete			Double bituminous treatment		
Max. super elevation (%)		(10) ((6))			(10) ((6))		
Max. vertical grade (%)		6	7	8	6	7	8
Min. vertical clearance (m)		4.5			4.5		
Structure loading (minimum)		HS20-44			HS20-44		

Source: Association of South East ASEAN Nation H.P.

### (3) CBTA and AFAGIT

At the Myawaddy border there is no Common Control Area (CCA) and no Single Stop Inspection



(SSI) facility under the CBTA.

Due to the difference of traffic regulations between Myanmar and Thailand, trucks from Thailand cannot go into the Myanmar territory except through the designated control area. Therefore, the cargoes from Thailand must be transshipped to trucks in Myanmar. The area for transshipment is, however, small and there is no refrigerated warehouse for frozen goods transport.

#### (4) Border Development

Information on “The second Thai-Myanmar Friendship Bridge” which is Thailand Grant Aid Project is summarized in the following figure. The bridge is linking Myanmar with Vietnam, Lao PDR and Thailand lies on EWEK and it opened traffic on 30th March 2017. The new bridge will facilitate trade and investment along the border, promote tourism, and increase the flow of people from both countries. The project will also help upgrade logistics in Mae Sot, in line with the development of the Tak Special Economic Zone (SEZ). The second Thai-Myanmar Friendship Bridge is expected to reduce traffic congestion at the first Friendship Bridge, which was opened in 1997. The location of the new bridge is about 5 km north of the first bridge. The Traffic Change Over and Border Control Facilities (BCF) is also be built by Thailand.



Source: MOCon

**Figure 2.3 Outline of the 2<sup>nd</sup> Thai-Myanmar Friendship Bridge Project**

### 2.2.2 Southern Economic Corridor

#### (1) Physical Connectivity

Development of a deep-sea port and SEZ is delayed although the access road between Dawei SEZ and Thailand has been connected. Traffic demand from Thailand is estimated to be approximately five thousand s vehicles per day at the opening of the seaport.



Source: Pre F/S for Southern Economic Corridor in Myanmar (JICA)

**Figure 2.4 The route of SEC**

There are no more missing links along the SEC, except for the mountainous section in Myanmar between Htee Khee and Mita, which is often impassable for months during the rainy season. 2-lane paved roads (Class II) are provided in all sections along the corridor (excluding Myanmar), meeting the minimum ASEAN Highway standard. As explained in section 2.2.1, average travel speed fluctuates significantly between countries. In particular, the Myanmar section with poor road infrastructure recorded the lowest travel speed. Increasing travel speeds by improving road infrastructures is a key to eliminating a physical bottleneck and to achieving better connectivity between and among countries along the corridor.

**Table 2.8 Distance and Road Condition by Section**

Country		Vietnam	Vietnam / Cambodia	Cambodia		Cambodia / Thailand	Thailand		Thailand / Myanmar	Myanmar
Section		Ho Chi Minh – Moc Bai	Moc Bai - Bavet	Bavet – Phnom Penh	Phnom Penh - Poipet	Poipet - Aranyaprathet	Aranyaprathet - Bangkok	Bangkok – Phu Nam Ron	Phu Nam Ron – Htee Khee	Htee Khee - Dawei
Test results	Distance (km)	65	1.0	170	410	0.6	262	184	4	139
	Transport time (hour)	1.7	N/A	3.7	8.5	N/A	4.7	3.3	N/A	4.5
	Average speed (km/h)	42.0	N/A	56.7	61.9	N/A	55.9	59.2	N/A	30.9
Traffic data	Average daily traffic	3000	N/A	2000	3000	N/A	5000-10000	1000-9000	N/A	20
Road design	AH classification	Primary, Class I and Class II	Class I	Class II	Class I and Class II	Class II	Primary, Class I	Class I and Class II	Class II and Below Class III	Below Class III
	Terrain classification	Level	Level	Level	Level	Level	Level	Level, Rolling	Rolling, Mountainous	Mountainous
	Lane	2-6	2-4 (Gate: 10-6)	2	2-4	2 (Gate: 2-4)	4-8	2-6	2 (Gate: 2-1)	2
	Pavement type	Asphalt	Asphalt	Asphalt	Asphalt	Asphalt	Asphalt	Asphalt	Asphalt/Earth	Earth
	Road signs (English)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No

Source: JICA Survey Team



**Table 2.9 Current Conditions and Development Plans in Southern Economic Corridor**

Road Section	Current Condition	Development Plan
Bangkok – Phu Nam Ron (Thailand)	According to the study report of March 2017, the road condition is good. The transport required time is 3hrs/ 200km.	-
Phu Nam Ron (Thailand) – Htee Khee (Myanmar)	According to the study report of March 2017, the road surface after passing through the gate to Myanmar becomes unpaved but was paved in Thailand.	-
Htee Khee – Dawei – Mawlamyaing – Yangon (Myanmar)	<p>According to the study report of March 2017, the required time from Htee Khee to Yangon is 16hrs/ 700km; the road surface is unpaved and the section between Mitta and Htee Khee is a low-cost pavement.</p> <p>Most parts of the road section between Dawei and Mawlamyang are paved except for one area. The Kerong Bridge, 71km away from Dawei, was completed in April 2016. Since completion of the bridge, container trucks have circulated on a road of similar quality to that of the East-West Economic Corridor.</p>	<p>Japanese, Myanmarese and Thai governments came to an agreement on the industrial development of the Dawei SEZ and signed the memorandum of understanding on 4<sup>th</sup> July 2015.</p> <p>The JICA Survey Team conducted the road condition survey in September 2016. The survey included the investigation into the road condition between Htee Khee and Dawei.</p>

Source: MOCon

**(2) Road Conditions**

The road section between Dawei and Htee Khee is not sufficient as a part of the GMS Southern Economic Corridor. This road section has no pavement and insufficient road structure such as width, curve vertical grade.

Accordingly, this section cannot pass through in the rainy seasons.

**(3) CBTA and AFAGIT**

At the Htee Khee border there is no CCA and no SSI facility under the CBTA. We will therefore confirm the current status, and recommend the introduction of them.

Due to the difference of traffic regulations between Myanmar and Thailand, trucks from Thailand cannot go into the Myanmar territory except through the designated control area. Therefore, the cargoes from Thailand must be transshipped to trucks in Myanmar. The area for transshipment is small and does not have tarmac. There is no refrigerated warehouse for frozen goods transport.

**(4) Border Development**

There is no significant development at border area.

## 2.3 Administration relevant to Land Connectivity

### 2.3.1 Organization

Current organization chart of MOCon is shown in the following figure. There are four departments, Department of Building, Department of Highways (DOH), Department of Bridge (DOB) and Department of Urban and Housing Development under Minister's Office. DOH takes responsible for road planning, construction and maintenance, while DOB takes responsible for bridge planning, construction and maintenance.



Source: MOCon

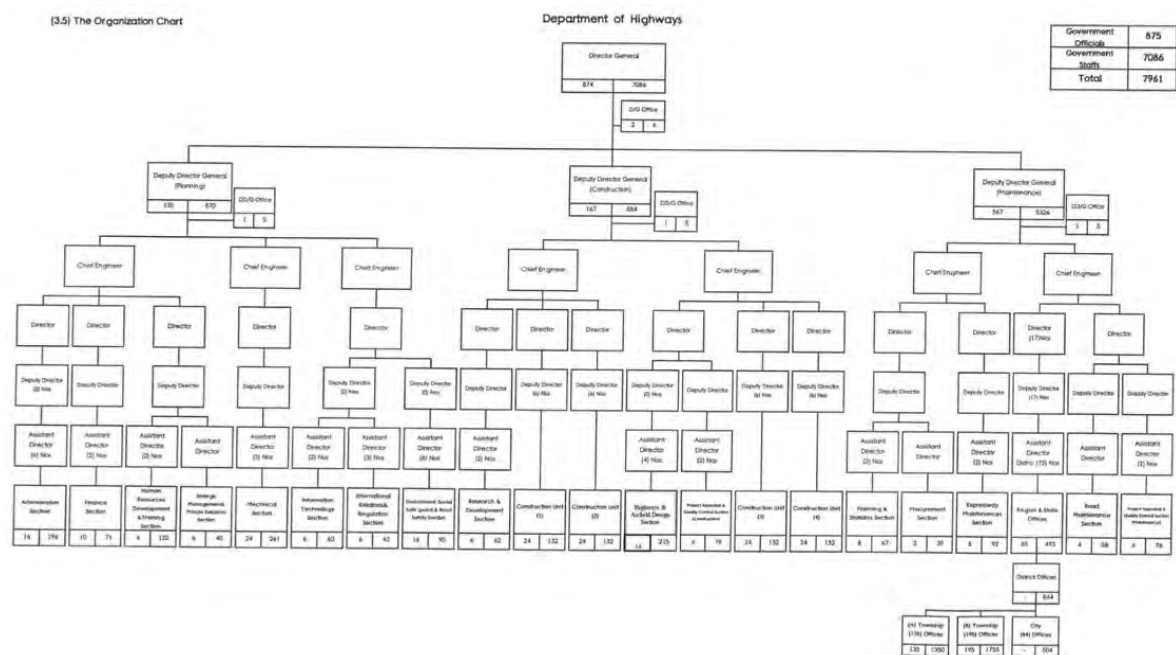
**Figure 2.5 Organization Chart of MOCon**

Current organization chart of DOB of MOCon is shown in following figure and that of DOH is shown in following figure. As for number of DOH staff, around 8,000 officers are working under the Director General. In addition to organization in the headquarters, MOCon has Special Unit for both road and bridge in all over the country, which consists of 24 units for road and 20 units (including 4 construction units) for bridge as shown in following figure. Special Unit implements actual site works for both construction and maintenance, therefore, MOCon is working closely between the headquarters and Special Units.

Fundamentally, international transport infrastructure such as EWEK and SEC should be developed consistent infrastructure. However, there exists a time lag to develop each road section in Myanmar. The development time lag might conduce the wasted maintenance cost, and the logistics infrastructure development also requires a huge development cost.

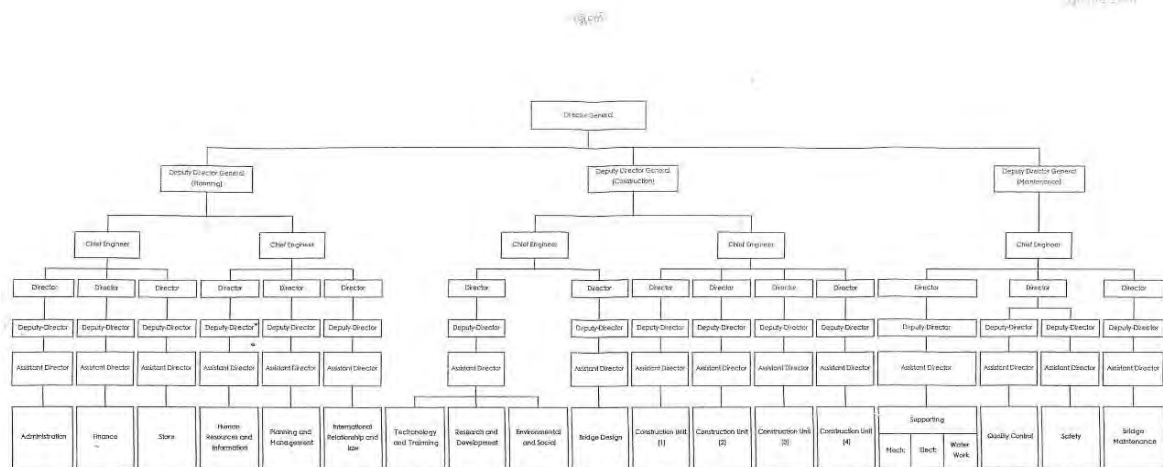
It would be better that the old-fashioned organization for domestic road development and maintenance should be changed corresponding to the international road development as coherence transport system with neighboring countries.

For instance, The Government of LaoPDR and Cambodia has established new organization, which coordinate transportation development, in 2015, 2016 respectively, with the aim of implementing of comprehensive transport development including road sector under the international political pressure according to the progress of CBTA and AEC.



Source: MOCon

Figure 2.6 Organization Chart of DOH



Source: MOCon

Figure 2.7 Organization Chart of DOB

### 2.3.2 Budget

Budget for construction and maintenance of the roads and bridges in Myanmar is allocated by the government based on the national annual budgetary plan. Budget amount of both planned and actual budget for road and bridge between 2011 till 2016 is shown in following table. Total amount of actual budget for Year 2015-2016 was about 347 billion Kyat, which was comprised of road construction (44%), bridge construction (36%), and maintenance work (20%).

**Table 2.10 Budget amount for road and bridge**

Planned budget	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Road construction	305,111.106	238,819.433	143,931.157	635,699.022	330,591.442
Bridge construction	204,482.460	181,786.829	92,395.845	N.A.	N.A.
Road Maintenance	87,154.387	103,278.070	115,242.750	100,331.392	53,600.008
Bridge Maintenance					14,821.24
Total	596,747.953	523,898.562	354,569.952	-	-
Actual budget	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Road construction	303,906.961	238,701.433	143,931.157	142,172.094	153,801.930
Bridge construction	205,109.918	168,076.554	92,395.845	90,429.700	124,913.452
Road Maintenance	87,154.387	102,649.111	68,549.469	68,417.639	53,262.488
Bridge Maintenance					14,821.24
Total	596,171.266	510,070.287	305,698.558	301,0109.433	346,799.11

Source: MOCon

DOH and DOB prepare budget proposal for next fiscal year and submit it to MOCon. MOCon organizes proposals from each department and submit the budget request to Department of Finance in Ministry of Planning and Finance usually in November. After review by Ministry of Planning and Finance, the Parliament gives approval to MOCon in February next year and amount of budget allocation is decided.

As for road and bridge maintenance budgets, site engineers in each Special Unit confirm site conditions and report to the MOCon Headquarters. Staff in Headquarters decide quantity for construction and maintenance based on the report from site offices and prepares the budget proposal. In the maintenance budget, "Routine maintenance", "Periodic Maintenance", "Special Maintenance", "Disaster Restoration" and "Maintenance for Yangon-Mandalay Expressway" are included. For the decision of maintenance budget amount for next year, actual budget amount for previous year is taken into account.

Regarding the financial resources for the arterial road network development, it is suggested for it to be secured from the transport infrastructure special account, ODA funds and private funds under PPP schemes, based on internal funds. The cost of 41,437 million USD by 2035 for arterial road network development are estimated. It's clear that the investment cost must be over the amount of the national budget in Myanmar with the existing road improvement and maintenance in parallelly, and the government need to take other options, private sector, donor, etc., for the planned road development.

The investment cost of each phase for arterial road network development is estimated as shown in following table.

**Table 2.11 Phased Investment Costs**

Road Class	Total		2016-2020		2021-2025		2026-2035		After 2035	
	Length	Cost	Length	Cost	Length	Cost	Length	Cost	Length	Cost
Expressway	9,470 (597)	50,962 (1,172)	558	2,897	1,165 (364)	5,728 (871)	2,128 (233)	9,681 (301)	3,851 (597)	18,306 (1,172)
Main Arterial Road	13,225	27,642	2,794	5,809	2,062	3,455	4,173	9,043	9,029	18,307
Sub Arterial Road	11,683	25,462	347	525	694	1,091	1,388	3,208	2,429	4,824
Total	34,378	104,066	3,699	9,231	3,921	10,274	7,689	21,932	15,309	41,437

Note: ( ) stands for expansion of existing expressways

Source: ARND-MP (KOICA)

The demands of international road development in these years, especially after the establishment of AEC in 2016. However, the national budget is restricted. And the Government decided to take BOT scheme by the private sector for the major road development.

Road improvement by private sector (Build-Operate-Transfer: BOT) is widely executed in Myanmar at the aim of fund resource procurement from the private sector. Most of the road and bridge construction has been implemented directly by MOCon, so there are few cases of BOT. After the transition to democracy in March 2011, BOT road is underway and it is necessary to pay close attention to future trends. Currently, Yangon - Mandalay Expressway is under the direct control of MOCon. BOT project in Myanmar is listed in following table.

**Table 2.12 List of BOT project in Myanmar (as of 2013)**

Company Name	Road Name, Road Section	Road Length (km)
Asia World	1. Mandalay-Lasho-Muse-NantKham road	1. 480
	2. Maiyu-Kyukot road	2. 193.12
	3. Theinni-Kwanlone-Chinshwehaw road	3. 106.21
	4. Yangon-Bago-Meikhtilar-Mandalay (Yaytarshay-Pyinmanar)	4. 63.8
	5. Yangon-Bago-Meikhtilar-Mandalay (Pyinmanar-Yameathin)	5. 73
	6. Myitnge-Htonebo-Pyinoolwin	6. 15
	7. Pathein-Ngweaung	7. 47.5
	8. Yangon-Pathein	8. 181.8
	9. From Approach road of Aungzayya bridge to Nyaungtone junction	9. 5.2
	10. From shwepyithar bridge to Nyaungtone junction	10. 7.2
	11. Maubin-Sarmalauk	11. 34.3
		Total – 1207.13
Thawtarwin Construction	1. Kyaingtone-Tachilak	1. 164.5
	2. Yangon-Bago-Meikhtilar (Meikhtilar-Mandalay)	2. 141.6
		Total – 306
Yuzana Construction	1. Yangon-Bago-Meikhtilar-Mandalay (Yemeathin-Meikhtilar)	1. 77
	2. Myitkyinar-Sadon-Kanpiketii (Winemaw-Kanpiketii)	2. 123.9
	3. Kawthaug-Bokepyin (50mile from Kawthaug)	3. 80.5
	4. Myeik-Tanintharyi	4. 80.5
	5. Tanintharyi-Thalphyu	5. 51.5
	6. Thalphyu-Maungtaw	6. 58
		Total – 471.5
Aye Ko family construction	1. Hpaan-Kawkareik-Myawady	1. 45
	2. Mawlamyine-Eindu-Zarthapyin	2. 72.5
	3. Mawlamyine-Mudon-Thanphyzayat	3. 59.5
		Total – 177
Lido Highway	Myitkyina-Pansauk-Lido (Myitkyina – Nantmatee – Tanaing)	Total – 139

PaHtama Shwenangar Construction	Pahote(Moeakaung)-KarMine-Lawa-LoneKhin-PharKant	Total – 105
Naymin Yaung	Taunggyi-Loilin-NantSam	Total – 117.5
Shwethanlwin Highway	1. Yangon-Myeik (Phayargyi – Kyaikhto =56/3) (MoKepalin approach road = 8/0) 2. Thaton-Hpaan (Thaton-Myinekalay) 3. Yangon – Myeik (Kyaikhto-Thaton-Mawlamyine) 4. Yangon-Bago-Myeikhtila-Mandalay(Bago-Nyaunglebin)	1. 103 2. 42 3. 115 4. 77.2 Total – 337
Max Myanmar	1. Yangon-Pyi-Mandalay(Yangon-Pyi-Magway) 2. No.4 road (6/0 to 12/4) 3. Yangon-Bago-Meikhtilar-Mandalay (Htaukkyant-Bago) 4. No.2 road (Thingangyun-Zayatkwinn) 5. No.3 road 6. No.7 road 7. Htaukkyant Bypass 8. Bago-Thanatpin-Khayan-Thongwa-Thanylin (Dagon bridge-Thilawa industry zone) (Thanlyin-Kyauktan) Thanlyin – Thilawa port) (Thanlyin – Thilawa-Lower Pardagyi) (Pardagyi – Thilawa)	1. 537 2. 10 3. 52 4. 23 5. 14.5 6. 19.3 7. 2.6 8. 168 Total – 826.4
NayLa Thitsar Construction	1. Pyi – Taunggok 2. Taunggok – Thandwe – Ngapali – Mazin - Lonethar	1. 164 2. 91 Total – 255
Kyaukseim Myay Construction	Mandalay – Lasho – Bamaw – Myitkyina (Bamaw – Myitkyina)	Total – 188
Suhtupan Construction	1. Mandalay – Phawtaw (45/3 to 76/4), Phawtaw – Thabaikkyin (10/7), Latpanhla – Sintku (5/4) 2. Katha – Innaw, Naba – Nantsiaung 3. Monywa – Yayoo	1. 76.4 2. 64 3. 75.6 Total – 216
Taungpawdaytha Construction	Meikhtila – Taunggyi – Kyaington – Tachilaik (Meikhtila – Taungyi)	Total – 226
Kaungmon Construction	1. Yangon – Pyi – Mandalay (Magway – Yaynanchaung – Gwaycho – Kyaukpadaung) 2. Magway – Minbu – Pwintphyu	1. 106 2. 54.7 Total – 160.7
Myatnoethu Construction	1. Meikhtila – Kyaukpadaung – Nyaungoo – Bagan 2. Bagan – Nyaungoo – Myinchan (Nyaungoo – Myinchan)	1. 150 2. 64 Total – 215
Shwetaung Development	1. Mandalay – Sagaing – Monywa – Yayoo (Sagaing – Monywa), (Myinmu bypass) 2. Mandalay – Sagaing – Shwebo (Ohntaw – Shwebo)	1. 117 2. 69 Total – 186
Monywa Group Construction	Monywa – Yargyi	Total – 40/0

Source: MOCon

### 2.3.3 Master Plan

There are some national-level plans for arterial road development in Myanmar, such as the “30-Year Road Development Plan”, established by the MOCon in 2000, and “Myanmar’s National Transport Master Plan” (MYT-Plan), supported by the JICA in 2014. The 30-Year Road Development Plan is composed of six five-year plans and indicates the purpose and priorities of road projects. The MYT-Plan is a national transport plan that covers not only roads but also railways, civil aviation, maritime vessels, inland water transport (IWT), and the arterial road system. The plan establishes major transport corridors and takes into consideration of arterial road network in Myanmar as a road sector based on the Corridor-Base Approach method. Therefore, the

networks outside the major corridors are not included in the MYT-Plan's scope.

The 30-year plan is currently being conducted as a long-term, national-level plan for road development in Myanmar and focuses on improving and upgrading existing roads. However, the country requires high-level roads, such as expressways, to drive its economic and social development. Furthermore, the plan is insufficient in terms of development targets and national spatial framework strategies, and does not have these comprehensive considerations.

For these reasons, the Master Plan for Arterial Road Network Development project (ARND-MP) has been comprehensively and systematically developed by KOICA to support and finalize the 30-year road development plan and MYT-Plan in the long-term approach.

### (1) National Comprehensive Development Plan (NCDP)

Former President Thein Sein announced in January 2013 that National Comprehensive Development Plan (NCDP) was being drawn up to describes the country's development vision and strategic goals. The 20-year plan was positioned as the second stage of reform process of Myanmar, the first stage being political reform and national reconciliation undertaken between 2011 and 2012, and will comprise four five-year programs aimed at increasing economic development in Myanmar. To achieve long-term national goals, a specific strategy and program were assigned to MOCon according to the NCDP, in order to develop and improve the current road network to meet international standards. According to ARND-MP by KOICA, the strategy and program are summarized in following table.

**Table 2.13 Strategy and program for NCDP**

Strategy	Rules, Regulations, and Acts must be developed according to the nation's spatial plan
Program	<ul style="list-style-type: none"> <li>- Developing the Highway Code</li> <li>- Assessing the current standards and specifications in Myanmar and updating them according to international standards</li> <li>- Carrying out the development of road safety and road safety audits for proposed and completed projects</li> <li>- Operating training courses aimed at improving technology</li> <li>- Developing the national road network</li> <li>- Public Private Partnership (PPP) sector</li> <li>- Upgrading private sectors with BOT system</li> </ul>

Source: Final Report of ARND-MP (KOICA)

### (2) 30-Year Road Development Plan (by MOCon)

MOCon has developed a 30-Year Road Development Plan that includes six Five-Year Plans and explains the strategy and implementation activities for the future development of the highway network in Myanmar. As for third Five Year Plan to sixth Five Year Plan (from 2011-2012 fiscal year to 2030-2031 fiscal year), general objectives are set as follows;

- To upgrade connecting roads to ASEAN countries standards, and
- To upgrade Union Highway connecting Divisions and States.

MOCon concludes that all International Highways, such as Asian Highways, and the GMS Economic Corridors, will be 48 feet-wide 4 lanes asphalt concrete roads, main Union Highways will be 24 feet-wide 2 lanes roads and other Union Highways will be 12 feet-wide bituminous roads after upgrading roads and bridges according to 30-Year Plan. And all bridges will be permanent

bridges having the width of corresponding roads.

Calculation of the value of road/bridge projects cost is made for each four-short term Five-Year Plans from 2011-2012 fiscal year to 2030-2031 fiscal year of the 30-year plan as shown in following table. The fund for the planned projects will be acquired in national budget, joining with PPP funding and loan/grant from foreign countries/donors.

**Table 2.14 Value of Road/Bridge Project Cost (from 2011-2012 fiscal year to 2030-2031 fiscal year)**

No	Fiscal Year	Value of Road projects (Kyat Million)	Value of Bridge projects (Kyat Million)	Total (Kyat Million)
1	Third five-year (from 2011-2012 to 2015-2016)	1,834,893.1920	1,345,972.8890	3,180,866.0810
2	Fourth five-year (from 2016-2017 to 2020-2021)	401,661.6240	147,024.3553	548,685.9793
3	Fifth five-year (from 2021-2022 to 2025-2026)	1,821,153.7990	577,096.9960	2,398,250.7950
4	Sixth five-year (from 2026-2027 to 2030-2031)	1,113,801.5210	71,494.2330	1,185,295.7540
	Total	5,171,510.1360	2,141,588.4733	7,313,098.6093

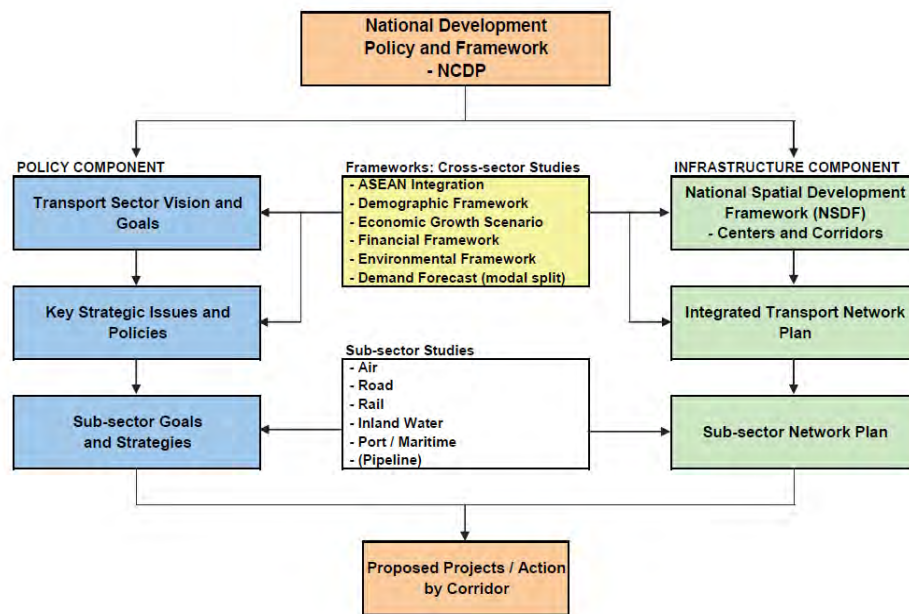
Source: MOCon

### **(3) Myanmar National Transport Master Plan (by JICA)**

“Myanmar National Transport Master Plan (MYT-Plan)” is a Master Plan for the transportation sector in Myanmar prepared by JICA. It was designed to provide guidance for a long-term investment program that would help the government achieve its economic growth targets by 2030. In addition, MYT-Plan will provide guidelines that are adaptable to other industrial sectors and to private investment, to assist with investment planning and decision making for a variety of transport sector projects.

MYT-Plan has been prepared with the NCDP in mind and will be updated in conjunction with the achievement of national development objectives guided by the NCDP. Structure of MYT-Plan is described in following figure.





Source: MOCon

**Figure 2.8 Organization Chart of DOH**

#### (4) Arterial Road Network Development Master Plan (by KOICA)

The objectives of ARND-MP are as follows:

- To establish an optimum transport system to promote interregional social and economic activities,
- To establish a mid- and long-term plan to achieve efficient and systematic development of arterial road networks for supporting national economic growth, and
- To share Korea's experience and technology related to develop arterial road networks with Myanmar.

In ARND-MP, the arterial road network development which is composed of the new 7x5 Expressway Network to support economic growth, the 12x6 main arterial road network to promote region's economic development and regional integration, and the sub-arterial road network to enhance efficiency of road networks by connecting main arterial roads is proposed. Phased arterial road network development plans are shown in following figure. It is planned that the arterial road length of 15,309km (44.5%) among the total length of 34,378km will be constructed or improved by 2035 and the remaining 19,069 km (54.5%) will be after 2035. Main arterial and sub arterial roads will be mainly improved with two lanes (or four lanes). And the expressway network will be newly developed with four lanes (or six lanes) except for the existing Yangon-Mandalay Expressway.

## 2.4 Consideration of Issues on Connectivity

Based on the existing related reports and the hearing investigation to the related persons in Myanmar and Japan, the study team identifies issues of the international road connectivity in Myanmar.

Generally speaking, the traffic demand of international corridors, e.g., EWEC, SEC, etc., will steadily increase under progressing regional economic cooperation like AEC, CBTA, etc. In this regard, sufficient capacity of the road connectivity should be properly maintained in accordance with the demand. Especially, the following actions should be taken into consideration:

- Improvement of Dawei-Htee Khee section of Southern Corridor and Kawkareik-Endu-Thaton sections of EWEC
- Development of One Stop Service Center (OSSC) and introduction SSI/CCA at Dawei, Tachirek and Myawaddy.
- Install road signs (English) in accordance with ASEAN standards
- Implement road safety measures
- Development of connectivity with Northwestern India (Mandalay-Tamu corridor, Kaladan corridor)

Besides the connectivity of road infrastructure, there is another importance to consolidate and enhance institution and organization. In general, each ministry has its own development master plan and projects. Each ministry is supposed to be coordinated to function as a whole, but it is not so well functioned or integrated. In general, ministries concerned have different responsibility each other. To achieve this, the ministry develops its own master plans and projects. However, the ministry had to implement carry the projects with foreign/international donor(s) due to a very limited budget. The project implemented tends to be selected based on the priority of assistance policy of the donor(s). Accordingly, some projects fail less in consistency/integration among the projects under different ministries. It is greatly beneficial to improve coordination systems among the ministries concerned. For this propose, there are two potential approaches such as:

- Strengthening of coordination function among projects related to each other by establishing a new coordination body or committee.
- Clarification of the hierarchy of related plans among national development plan, infrastructure development plan, logistics plan etc. to clearly show which plan to follow.

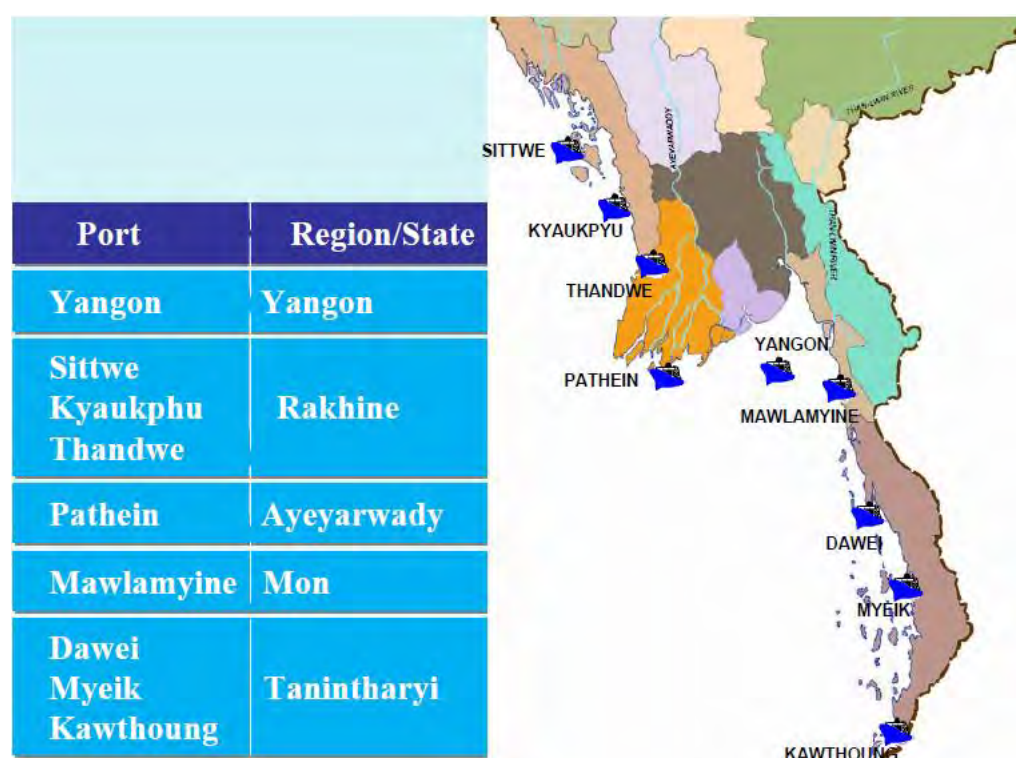
## Chapter 3 Maritime Connectivity

### 3.1 Maritime Transport Connectivity in General

#### 3.1.1 Ports under Myanmar Port Authority (MPA)

There are 9 ports managed and operated by MPA. From the north, they are Sittwe, Kyaukphu, Thandwe (these 3 ports in Rakhine State), Patheingyi (Ayarwaddy Region), Yangon (including Thilawa Area, Yangon Region), Mawlamyine (Mon State), Dawei, Myeik, Kawthoung (these 3 ports in Tanintharyi Region).

The location of the 9 ports under MPA is shown in Figure 3.1 below:



Source: MPA

**Figure 3.1 Location of MPA Ports**

Connectivity on the international maritime transport is considered as an access to the main maritime shipping routes such as Europe – East Asia maritime shipping route. All the 9 ports under MPA are directly accessible to the Europe - East Asia shipping maritime transport route, as they have CIQ facilities (some ports need assistance from a local hospital for quarantine). However, the vessel size which can enter these ports is limited and considered too small to service on the main

maritime shipping routes; even the vessels currently calling Thilawa Port, which is being developed as the major trade port of Myanmar, are limited to 200 m Loa, 9 m draft and 20,000 DWT (dead weight tonnage).

Among these 9 ports, Myanmar's international maritime connectivity is mainly secured by Yangon Port, which handles more than 90% of the export and import cargos of the country. Meanwhile, Kawthoung Port plays a role as a minor gateway port of international trade, importing construction materials from Ranong, the counterpart port of Thailand and distributing them to other MPA ports by coastal vessels.

Other than the above 9 ports, there are several ports operated by private sector, like Small Port at Dawei SEZ and private jetties at Myeik Industrial Zone. However, they do not play an important role in the connectivity of Myanmar with the countries of ASEAN and the south Asia region at present.

### 3.1.2 Sittwe Port

#### (1) Port Facilities under MPA

There are 2 jetties; Phaung Tawgyi Jetty is used for cargo handling and Mingan Jetty is used for fishing boats. The maximum draft of calling vessels is 4.5m.



Source: JICA Survey Team

**Photo 3.1 Phaung Tawgyi Jetty, Sittwe Port**



Source: JICA Survey Team

**Photo 3.2 Mingan Jetty, Sittwe Port**

In addition to the jetties, MPA owns 3 warehouses and 1 mobile crane for cargo handling. Using the mobile crane, MPA can mechanically unload construction materials at Phaung Tawgyi Jetty.

#### (2) Port Facilities provided by Indian Government

Myanmar Government and Indian government agreed in April 2008 to execute Kaladan Multi-Modal Transit Transport Project (KMTTP) using the financial investment from India. According to the agreement, Inland Waterway Authority (IWA) of India will construct 2 jetties, one at Sittwe and the other at Paletwa (originally at Sitpipyin), deepen Kaladan River waterway between Sittwe and Paletwa, and supply barges for inland water transport. At Sittwe Port, IWA has almost completed a jetty for a 6000 DWT ocean going vessels and 300 DWT self-propelled barges for inland waterway transport.

Indian Government provides the port facilities, cargo handling equipment and self-propelled barges as tabulated below:

**Table 3.1 Port Facilities at Sittwe Port provided by Indian Government**

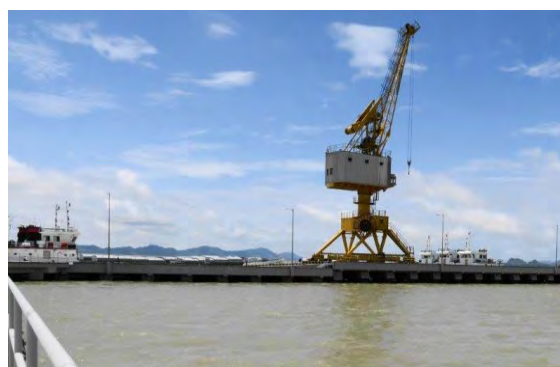
	Dimensions/Capacity
Quay length	272 m in total 218 m (ocean-going, height +5.4 m) 54 m (inland waterway, height +4.4 m)
Apron width	15.2 m
Quay depth	7.9 m (Phase 1) 10.9 m (Phase 2)
Accessible vessel	6,000 DWT (ocean-going) 300 DWT (costal)
Cargo handling equipment	1 - 10 ton wharf crane 1 - 10 ton mobile crane 6 - 48 HP tractors 24 - 5 ton trailers 8 - 3 ton forklifts
Others	3 - 36 m x 20 m warehouses (1 for MPA, 2 for IWT <sup>1</sup> ) 1 - 30 m x 20 m open storage 2 - generators (500 kVA, 320 kVA stand-by) Water supply (potable 30000 litre, service water 11,300 litre).
Barges	6 - 300 DWT self-propelled barges.

Source: ESSAR<sup>2</sup>



Source: JICA Survey Team

**Photo 3.3 Ocean-going Vessel Jetty  
provided by Indian Government,  
Sittwe Port**



Source: JICA Survey Team

**Photo 3.4 Jetty provided by Indian  
Government, Sittwe Port**

The facilities at Sittwe were scheduled to be substantially handed over to MPA in September 2017 and all the works including those of Paletwa Port were scheduled to be handed over in March 2018. However, as of April 2018, they have not been handed over to Myanmar side and the time for handover is still unknown. The barges and port facilities at Paletwa will be handed over to IWT.

### (3) Cargo at Sittwe Port

Sittwe Port is mainly handling construction materials like cement and rebars from Yangon Port and

<sup>1</sup> Inland Water Transport (IWT), one of the state owned transport enterprises under the Ministry of Transport and Communications

<sup>2</sup> Essar Projects, an Indian contractor.

Kawthoung Port. Fuel oil was previously imported from Singapore. After the road connection was improved, fuel oil import at the port has been ceased and transported by road from Yangon. Even though, a small trade with Bangladesh exists; exporting plums, seeds of tamarinds, pepper, bamboo (for building works), fish, pulses, rice, etc. and importing T-shirts, metal pots, slippers, plastic buckets, hairs, etc.

#### **(4) Estimation of Cargo Handling Capacity of “Indian Jetty”**

The port facilities currently under MPA management are handling construction materials which are transported by coastal shipping from Yangon Port and Kawthoung Port. The major cargo at Sittwe Port to be handled in future may not be changed due to construction of highways between Sittwe to Yangon, besides generation of some cargo from/to Kolkata Port.

The “Indian Jetty” is constructed as the counterpart port to Kolkata Port to transport cargo between Kolkata and North-eastern states of India at a lower transport cost. However, the details of the cargo including its volume from/to Kolkata Port are not described in the report of the Kaladan Multi-modal Transit Transport Project.<sup>3</sup>

On the other hand, the cargo handling capacity of the “Indian Jetty” can be estimated based on the quay length (218m), lifting capacity of the wharf crane (10 ton) and design vessel of 6,000 DWT in a conventional manner. In case that the one crane is available, the capacity is estimated about to be 180,000 ton/year. In case that an additional wharf crane is installed, the capacity is estimated to be about 340,000 ton/year.

To grasp the size of the port capacity as estimated above, it is compared with the container cargo volume being handled at Yangon/Thilawa Port, which can be categorized as general cargo if de-containerized. As the Yangon/Thilawa Port handled 12,056,013ton container cargo in 2016, the capacity of “Indian Jetty” is about 3.0 % of Yangon/Thilawa Port as of 2016. Meanwhile, the population of the hinterland of Sittwe Port is estimated to be 1,090,000, which is about 2.1% of the population of Myanmar (51,419,420 persons<sup>4</sup>). In addition, rapid industrial development in the hinterland is not programmed at present. Therefore, in consideration of the population, industrial development, etc at the hinterland. It is supposed that the expansion of Sittwe Port will not be required in coming 10 years or so, if one more wharf crane is installed.

### **3.1.3 Kyaukphu Port**

#### **(1) Port Facilities under MPA**

There are 3 jetties under MPA’s management, i.e. No. (1) Jetty, No. (2) Jetty, and No. (3) Jetty. No. (3) Jetty was built and operated in BOT scheme by POSCO DAEWOO Corp. and used to support the offshore Shwe Phyu gas field. No. (1) and No. (2) Jetties are operated by MPA and used for maritime transport. No. (1) Jetty and No. (2) Jetty are located along the inner estuary sheltered from the invading waves from the outer sea. Photo 3.6 shows the location of the jetties.

<sup>3</sup> Because of the installation of the 10-ton wharf crane on the “Indian Jetty,” it is reasonably supposed that the cargo will be general cargo. The result of demand forecast is not available in the study regarding Kaladan Multi-Modal Transit Transport Project, so that no study about the cargo demand forecast is available in MPA neither.

<sup>4</sup> National Census 2014, Department of Population, Ministry of Immigration and Population

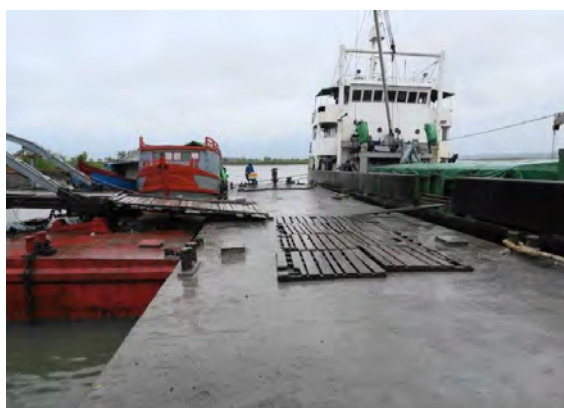




Source: JICA Survey Team

**Photo 3.5 Aerial View of Kyaukphu Jetties**

On the right bank of the creek, 2 jetties on the top are No. (1) and No. (2) jetties. There are several small jetties operated by others. They are called “Village Jetty” and shown along the shoreline.



Source: JICA Survey Team

**Photo 3.6 No. (1) Jetty, Kyaukphu Port**



Source: JICA Survey Team

**Photo 3.7 No. (2) Jetty, Kyaukphu Port**

Both the MPA jetties above are of a pontoon type. Therefore, the cargo unloading is carried out by ship gears. No. (1) Jetty is also used for passenger boats plying the ports on the coast of Combermere Bay. Boats will go up to Sittwe.

## **(2) Oil Berth and Tank Yard at Madae Island**

There is no detailed information available about the port facilities at Madae Island but the general

description is made below:

The oil berth can accommodate up to a 300,000 DWT crude oil tanker. The oil storage at Madae Island receives crude oil and light oil from tankers moored at the oil berth and natural gas from the offshore gas field via the pipeline and processing plant on Kyaukphu Island. Both oil and natural gas are transported to China by pipelines. Figure 3.9 shows Madae Island.



Source: Google Earth (The oil berth and gas pipeline alignment are visible.)

**Photo 3.8 Madae Island, Kyaukphu District**

### **(3) Cargo at Kyaukphu Port**

Kyaukphu Port is mainly handling construction materials like cement and rebars transported by 2000 DWT coastal vessels from Yangon Port or Kawthoung Port. The vessels will return empty as there is no outbound cargo from Kyaukphu. Meanwhile, the other jetties, called “Village Jetty,” unload diesel fuel and cement. They load ice onto fishing vessels.

#### **3.1.4 Thandwe Port**

##### **(1) Port Facilities under MPA**

Thandwe Port is located at Thabhyugyaing on Andrew Bay, about 27 miles distance (43 km) by road from Thandwe township. The road from the highway to Thabhyugyaing is under upgrading, which was commenced in 2016 and to be completed in 2018. The road is under very poor conditions at present. It took about 3 hours to reach there from Thandwe township.





Source: JICA Survey Team (The jetty on the right is owned and operated by MPA and the jetty on the left is privatized to EDEN Group, a conglomerate corporation in Myanmar.)

### **Photo 3.9 Aerial View of Thandwe Port**

There is only one jetty managed and operated by MPA at Thandwe<sup>5</sup>. The jetty is of a pontoon type having a 120 ft. length and 20 ft. draft which is usable by 1000 DWT cargo vessels. The jetty is not used for cargo handling any more but used for fishing boats, almost 40 vessels and mainly trawlers, at present.



Source: JICA Survey Team

**Photo 3.10 MPA Jetty, Thandwe Port**



Source: JICA Survey Team

**Photo 3.11 EDEN's Jetty, Thandwe Port**

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<sup>5</sup> Construction of the MPA jetty was commenced in 1964 and completed in January 1968. Semi-cylindrical roofed warehouses were also completed and used for cargo storage. Myanmar Five Stars Line (MFSL) provided liner services twice a month by a passenger cargo ship. The services have ceased since the road from Yangon to Thandwe was completed and cargo demand of the port consequently was diminished.

Besides, there is one private jetty of a pontoon type on the left bank of King Hnaw River north of the Thandwe township.

## (2) Cargo at Thandwe Port

Approximately once a month, a small size oil tanker calls the MPA jetty from Sittwe Port or Yangon Port carrying diesel fuel for fishing boats. There is neither export nor import cargo handled at the jetty.

Coastal vessels call the private jetty on the King Hnaw River and unload construction materials like cement and rebars imported from Ranong, Thailand via the Kawthoung anchorage.

### 3.1.5 Pathein Port

#### (1) Port Facilities under MPA

Pathein is located at the western edge of the Ayeyarwady River delta and the port facilities are aligned on the left bank of the Pathein (Bassein) River at the city proper about 70 nautical miles from the river mouth, where there is an outer bar limiting the draft and length of passing vessels to 7 m and 150 m respectively even during high tide. At Pimmawady about 42 nautical miles from the river mouth, there is an inner bar limiting the draft and length of the passing vessels to 4.5 m and 100 m respectively.

There are 10 jetties operated and managed by MPA. Among them, 9 jetties are of a pontoon type and the one which is located on the most downstream among the jetties is of a concrete deck type, called "Waedout Jetty." The 5 jetty pontoons have a 120 ft. length and 20 ft width while the other 4 jetty pontoons have a 63 ft length and 16 ft. width. All the 9 pontoon type jetties are mainly used for passenger services. Small volume of cargo is loaded into the ship hull of the passenger boats. Waedout Jetty having the concrete deck of a 360 ft. length and 36 ft. width is the largest jetty of Pathein Port and used for coastal vessels to unload cargo from Kawthoung and load cargo to Myeik and Kawthoung Ports at Thaninthayi State.



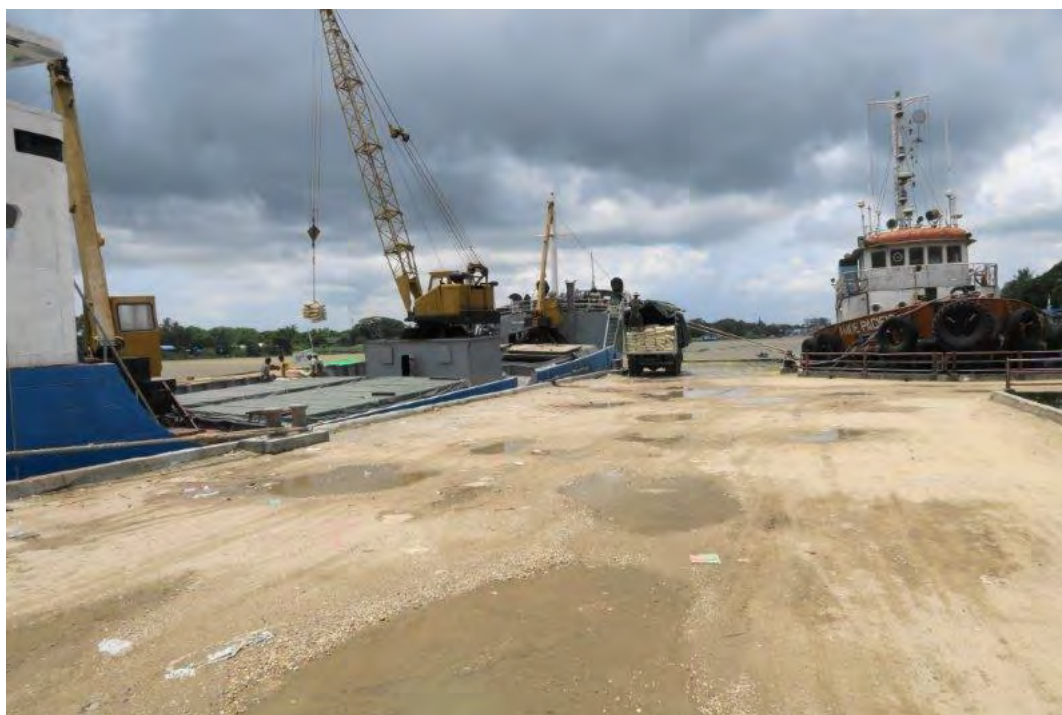
Source: JICA Survey Team (Small volume of cargo is loaded in the hull of the passenger boat.)

**Photo 3.12 MPA Most-upstream Jetty, Pathein Port**



Source: JICA Survey Team

**Photo 3.13 MPA Second Most-upstream Jetty, Pathein Port**



Source: JICA Survey Team (The crane equipped on the coastal vessel is unloading bagged cement onto the truck on the concrete deck as well as onto the small vessel moored alongside.)

**Photo 3.14 Waedout Jetty, Patheingyi Port**

## **(2) Cargo at Patheingyi Port**

Outbound cargo at Patheingyi port is mainly rice. There is a small volume of beans and logs for export. Coastal vessels are shipping rice to Myeik Port and Kawthoung Port. Inbound cargo of the port is mainly cement, which is imported at Kawthoung from Ranong in Thailand and transported to Patheingyi by coastal vessels. Other construction materials like rebars and formwork panels are transported from Yangon by truck. It should be noted that rice to export from Patheingyi is transported to Yangon by truck and unloaded onto the vessels at Yangon Port.

### **3.1.6 Yangon Port including Thilawa**

#### **(1) Yangon as the Gateway Port of Myanmar**

Yangon Port is the major gateway port of Myanmar. The port is connected by a well-paved road with Mandalay (state, population 6.17 million in 2014), Ayeyarwady (region, 6.18 million), Bago (region, 4.87 million), Mon (state, 2.05 million) and Naypyitaw (1.16 million). The population of these states and regions including Yangon (region, 7.36 million) is estimated to be 27.8 million, which is approximately 54% of the population of Myanmar (51.49 million, 2014). It is evident that Yangon Port is located at the geographic hub of these states and regions and playing the role as the gateway by handling almost all the import and export containerized cargo of Myanmar.

#### **(2) Port Facilities under MPA**

The berths of Yangon Port at Yangon area are summarized in Table 3.2 with their cargo, quay length, apron and draft accompanied with maximum vessels to be accommodated. From the table, the total quay length of GC/Container berths is computed to be 2,761m. As the apron is too narrow

for efficient container handling, they may be able to handle 30,000 to 40,000 TEU (Twenty-foot Equivalent Unit) per year per 100 m, i.e. about 0.8 to 1.1 million TEU per year in total.

Replying to the JICA Survey Team, Asia World Port Terminal (AWPT) said 500,000 TEU per year is the target throughput of their terminal and Myanmar Industrial Port (MIP) said that 480,000 TEU throughput per year is the capacity of their terminal. Other terminals than those of AWPT and MIP are too narrow for efficient container handling, the estimate that Yangon Port at Yangon will be able to handle 0.8 to 1.1 million TEU per year is considered reasonable.

Similarly, the berths at Yangon Port at Thilawa area are summarized in Table 3.3. Myanmar International Terminal Thilawa (MITT) currently uses one berth for container handling. MITT handled about 120,000 TEU in 2016, expects 200,000 TEU in 2017 and targets 250,000 TEU in 2018.

Thus, the current container handling capacity of Yangon Port including Thilawa Area is estimated to be about 1.05 to 1.35 million TEU per year. This estimate meets the actual container throughput of 1.03 million TEU in 2016.

**Table 3.2 Berths at Yangon Port at Yangon Area**

	Berth	Cargo	Quay Length (m)	Apron Width (m)	Vessel DWT	Draft (m)
1	SPW(1)	GC	137	12.2	15000	9
2	SPW(2)	GC	137	12.2	15000	9
3	SPW(3)	GC	137	12.2	15000	9
4	SPW(4)	GC	137	12.2	15000	9
5	SPW(5)	GC	126	15.2	15000	9
6	SPW(6)	GC	126	15.2	15000	9
7	SPW(7)	GC	126	15.2	15000	9
8	BSW(1)	GC/Container	137	15.2	15000	9
9	BSW(2)	GC/Container	137	15.2	15000	9
10	BSW(3)	GC/Container	137	30	15000	9
11	AWPT(1)	GC/Container	198	30.5	15000	9
12	AWPT(2)	GC/Container	156	19.5	15000	9
13	AWPT(3)	GC/Container	260	30.5	15000	9
14	MIP(1)	GC/Container	155	18	15000	9
15	MIP(2)	GC/Container	155	18	15000	9
16	MIP(3)	GC/Container	200	60	15000	9
17	MIP(4)	GC/Container	200	60	15000	9
18	HPT(2)	GC/Container	213	30	15000	9
19	HPT(3)	GC/Container	213	30	15000	9
20	Oil Berth	Edible Oil	88	15	15000	9
21	Ahlonge(1)	GC/Container	200	30	20000	9
22	Ahlonge(2)	GC/Container	200	30	20000	9
23	Ahlonge(3)	GC/Container	200	30	20000	9

SPW: Sule Pagoda Wharf  
 BSW: Boangyaw Street Wharves,  
 AWPT: Asia World Port Management Co., Ltd.  
 MIP: Myanmar Industrial Port  
 HPT: Htee Tan Port Terminal

Source: MPA





Source: JICA Survey Team

**Photo 3.15 AWPT Berth, Yangon Port**



Source: JICA Survey Team

**Photo 3.16 MIP Berth, Yangon Port**

**Table 3.3 Berths of Yangon Port at Thilawa Area**

	Berth	Cargo	Quay Length (m)	Apron Width (m)	Vessel DWT	Draft (m)
1	MITT(1)	GC/Container	200	30	20000	9
2	MITT(2)	GC/Container	200	30	20000	9
3	MITT(3)	GC/Container	200	30	20000	9
4	MITT(4)	GC/Container	200	30	20000	9
5	MITT(5)	GC/Container	200	30	20000	9
6	MIPL	GC/Liquid	200	17	20000	9
7	MMTM	Oil	131	12.95	15000	9
8	Puma Energy	Oil/Bitumen	190	25	20000	9
9	Apex	Oil	125.8	21.3	10000	9
10	Green Asia	Oil	175	19.5	20000	9

MITT: Myanmar International Terminal Thilawa

MIPL: Myanmar Integrated Port Limited

Source: MPA



Source: JICA Survey Team

**Photo 3.17 MITT Berth, Thilawa,  
Yangon Port**



Source: JICA Survey Team

**Photo 3.18 Container Berth at MITT,  
Thilawa, Yangon Port**

As the new container terminal at the Thilawa area is to be completed by the end of 2018 by use of the financial assistance from Japanese Government, there will be no serious issues to meet the container increase at Yangon Port except for the traffic congestion of the access road to the port.

### 3.1.7 Mawlamyine Port

#### (1) Port Facilities under MPA

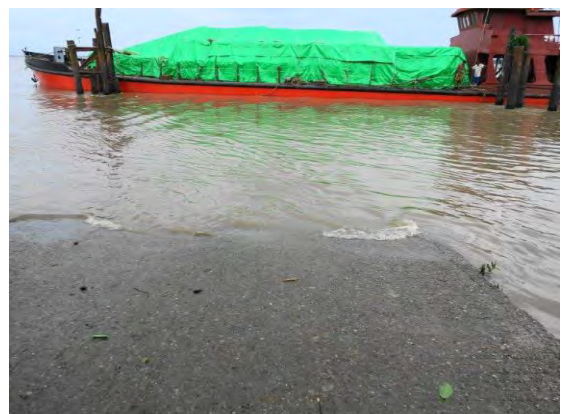
Maximum dimensions of the vessels which can call Mawlamyine Port are 75 m in Loa, 15 ft. in draft and 20 m in beam. Because of opening of General Aung Bridge over the navigation channel, the air draft is limited to 42 ft.

MPA has 8 jetties at Mawlamyine along the left bank of the Thanlwin River at the city proper. Except for Mawlamyine Car Ramp, all the other 7 jetties are of a pontoon type.



Source: JICA Survey Team (Jetty above has the largest pontoon of 240 ft. x 40 ft. in Mawlamyine Port. The other pontoon type jetties have a pontoon of 120 ft. x 20 ft.)

**Photo 3.19 Dawei Jetty, Mawlamyine Port**



Source: JICA Survey Team (The coastal vessel in the photo loaded with bagged cement is just moored at the dolphins but not for unloading the cement.)

**Photo 3.20 Mawlamyine Car Ramp,  
Mawlamyine Port**

## **(2) Cargo at Mawlamyine Port**

Coastal vessels are plying between Yangon Port and Mawlamyine Port. They are carrying construction materials from Yangon to Mawlamyine. After the road has been upgraded from Yangon to Mawlamyine, general cargo which was previously shipped by coastal vessels is transported by truck at present. Neither export nor import cargo is being handled at the port.

A cement factory imports clinker and coke for cement production. It should be noted that the vessels calling the factory navigate along the different channel.

### **3.1.8 Dawei Port**

#### **(1) Port Facilities under MPA**

Maximum dimensions of the vessel which can call Dawei Port are 160 ft. in length, 2 m in draft. Their maximum GRT (Gross Register Tonnage) is about 1500 GRT.

MPA has 4 jetties at Dawei Port. Sinphyubyn Jetty was used for the passenger vessels (speed boats) before but has not been used after the road was upgraded from Dawei to Myeik and bus services were provided. Seikkanthar Jetty is of a pontoon type, No. (1) Yeawun Jetty is of a wooden deck type supported by steel pipe piles and No. (2) Yeawn Jetty is of a concrete deck type. Besides, several jetties have been built and operated on a BOT basis by private sector. At present, MPA jetties do not play the main role of cargo handling at Dawei Port. Private jetties newly built and equipped with cargo handling equipment mainly handle cargo at Dawei Port.



Source: JICA Survey Team (Wooden deck has insufficient strength to use cargo handling equipment. A stack of bagged fertilizer is seen on the deck.)

**Photo 3.21 No. (1) Yeawun Jetty, Dawei Port**



Source: JICA Survey Team (The deck is too small for mechanical cargo handling. Beyond the jetty, it can be seen that cargo is busily unloaded with a truck crane at a private jetty.)

**Photo 3.22 No. (2) Yeawun Jetty, Dawei Port**

#### **(2) Small Port at Dawei SEZ**

At Dawei Special Economic Zone (SEZ), a 100m long jetty is completed and used for Italian-Thai Development Pvt. Ltd. – the contractor employed by the project owner Myandawei Industrial Estate Company Limited (MIE). The port facilities are referred as “Small Port.” All the phase 1 components of Small Port may be handed over to MIE on or before 2025 including the access

road from National Highway 8. As the approach channel is planned to be deepened to – 8 m, Small Port could be used to accommodate a 13000 DWT cargo vessel or a 400 TEU container vessel if cargo demand exists.



Source: JICA Survey Team

**Photo 3.23 Panoramic View of “Small Port,” Dawei SEZ**

### **(3) Cargo at Dawei Port**

Coastal vessels calling Dawei Port are from Yangon Port or Kawthoung Anchorage. At Dawei Port, coastal vessels from Kawthoung mainly unload construction materials which are imported from Ranong in Thailand and cleared at Kawthoung Anchorage by customs, Department of Maritime Administration (DMA) and other government agencies. Coastal vessels from Yangon Port unload general cargos at Dawei Port. The cargo at Dawei Port has reportedly been increasing about 20% annually.

There is no export and import cargo except for lead ore produced at the two (2) mines near Dawei.

### **3.1.9 Myeik Port**

#### **(1) Port Facilities under MPA**

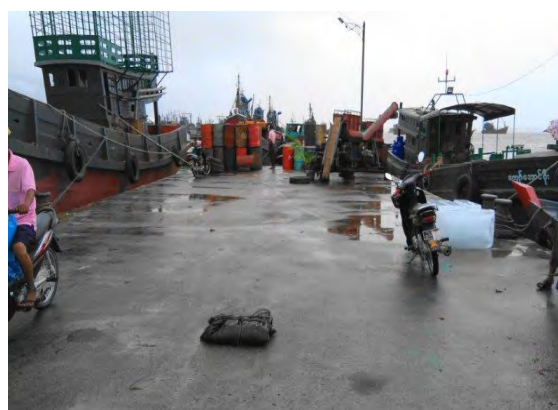
Maximum dimensions of calling vessels are 90 to 100 m in length and 4 to 5 m in draft. They enter the port during high tides. There are four jetties managed and operated by MPA; Seknge Jetty is of a pontoon type and used for passenger boats, No. (1) Naukle Jetty is also of a pontoon type and used for both passenger boats and cargo vessels, No. (2) Naukle Jetty is of a concrete gravity type and used for fishing boats, and Yawagyiwa Jetty is of a pontoon type and used round clock for passenger boats and cargo vessels. Myanmar Five Stars Line (MFSL) uses Yawagyiwa Jetty.





Source: JICA Survey Team

**Photo 3.24 Seknge Jetty, Myeik Port**



Source: JICA Survey Team

**Photo 3.25 No. (2) Naukle Jetty, Myeik Port**

## **(2) Port Facilities operated by Private Sector**

Besides, an oil berth and relatively large cargo berths are operated by private sector at Myeik Industrial Zone. A new jetty of a concrete deck type supported with concrete piles is almost completed and used for cargo handling. This jetty is the largest jetty at MPA ports except for Yangon Port at present. The fish processing factories have their own jetty to unload their products to export.



Source: JICA Survey Team (Bagged cement is unloaded from a coastal vessel directly onto a waiting truck.)

**Photo 3.26 Newly-built Cargo Jetty at Industrial Zone, Myeik**



Source: JICA Survey Team (Products of a fish processing factory are loaded onto the moored vessel by human power. There are 7 units of 40ft refrigerated containers in the hull.)

**Photo 3.27 Jetty near Fish-processing Factories at Industrial Zone, Myeik**

## **(3) Cargo at Myeik Port**

Diesel fuel oil is imported from Singapore and Malaysia – at Myeik, there are about 1000 fishing boats (trawlers) which are fuelled for about one-month offshore fishing. Ocean-going tankers are moored at the anchorage and small tankers plying between the ocean-going tankers and the oil berth of Myanmar Petroleum Pvt Ltd. (MPP) at Industrial Zone. In addition, almost once a month, a cargo vessel having several refrigerated containers in its open hull calls the jetty adjacent to the

fish-processing factories in Industrial Zone and load frozen prawns, fish meal and softshell crabs.

### 3.1.10 Kawthoung Port

#### (1) Port Facilities under MPA

There are two (2) approach channels; Northern River Route is shallow limiting the dimensions of passing vessels to 30 m in length and 2 m in draft, and Western River Route is deeper allowing the vessels up to 76 m in length and 4.5 m in draft. There are three (3) jetties managed and operated by MPA at Kawthoung Port. Tawwin Jetty accommodates coastal vessels while Myoma Jetty is used for small size passenger boats plying between Kawthoung and Ranong in Thailand and Bayintnaung Jetty is used for larger passenger boats.



Source: JICA Survey Team (Rice and soft drinks transported from Patheingyi Port is unloaded at the jetty. After unloading cargo, coastal vessels normally wait at Kawthoung for loading of construction materials imported from Ranong in Thailand and carrying them to other coastal ports in Myanmar.)

**Photo 3.28 Tawwin Jetty, Kawthoung Port**



Source: JICA Survey Team (The jetty on the right is Bayintnaung Jetty for relatively large passenger boats and the jetty on the left is Myoma Jetty for small passenger boats which are plying between Kawthoung and Ranong. Along the access to Myoma Jetty there are customs and immigration control offices.)

**Photo 3.29 View of Myoma Jetty and Bayintnaung Jetty, Kawthoung**

#### (2) Port Facilities operated by Private Sector

Private sector built and operate two (2) jetties, Ngwepinleo Jetty and Shwewetwon Jetty, and both are used for shipping boats. The former is also used to import fuel like diesel and gasoline from Thailand as well as to accommodate fishing boats.

#### (3) Cargo at Kawthoung Port and Kawthoung Anchorage

Kawthoung Port handles almost no import and export cargo but only unload the cargo shipped from other ports in Myanmar.

Coastal vessels of Myanmar Flag and registered by Department of Maritime Administration (DMA) to import cement from Ranong can call Ranong and directly load cement. After loading cement, they move to the offshore anchorage and receive customs inspection, cargo inspection, vessel inspection and immigration control. After all the inspections are completed and cargo manifest is issued, they will navigate to their destination ports. In case of other construction materials like rebars, formwork panels, etc., coastal vessels are not allowed to load them at Ranong. Instead,

small vessels at Kawthoung load them at Ranong and unload them onto the coastal vessels waiting for them at the anchorage, where all the inspections are carried out. After all inspections are completed and cargo manifest is issued, coastal vessels can depart the anchorage to their destination ports.

It is reported that construction materials from Kawthoung to Yangon has decreased probably because of cross border transport is enhanced at Myawadi. Speed boat services between Dawei and Kawthoung via Myeik has ceased since the road was upgraded and airlines increased their flights.

## **3.2 International Maritime Transport Connectivity**

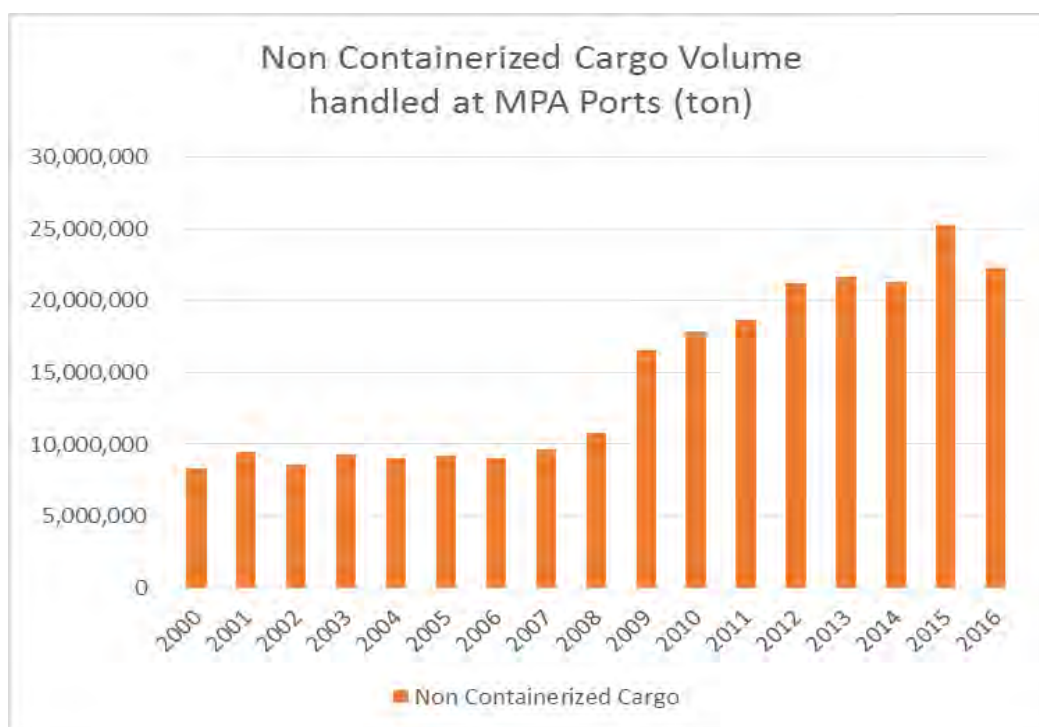
### **3.2.1 International Maritime Trade of Myanmar**

In 2016, the total export and import cargo volume handled at MPA ports is about 34.3 million ton, among which containerized cargo is about 12.1 million ton and non-containerized cargo is about 22.3 million ton. As Yangon Port handled about 90% of the total cargo volume<sup>6</sup> and almost all the containerized cargo in 2016, it is estimated that the port handled approximately 10 million tons or 46% of non-containerized cargo. Therefore, the non-containerized cargo handled at other MPA ports is estimated about 12.1 million tons. Based on the observation of each port, it is obvious that they do not import either dry bulk or liquid bulk of that volume. Therefore, this 12.1 million tons of non-containerized cargo is supposedly handled at private jetties within the premises of MPA ports, e.g. those attached to fuel storage and cement factory.

Figure 3.2 shows that non-containerized cargo volume increased from 8.3 million ton in 2000 to 25.3 million ton in 2015 at the MPA ports. Non-containerized cargo increased by approximately four times during this period. It is considered that the construction materials like cement and rebars, fuel for industrial and household use have increased during this period. It should be noted, however, that all the MPA ports except for Yangon Port and Kawthoung Port do not import construction materials but import fuel for fishing boats. Thus, the MPA ports except for Yangon Port and Kawthoung Port virtually have no international maritime connectivity with respect to non-containerized cargo.

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<sup>6</sup> MPA home page.



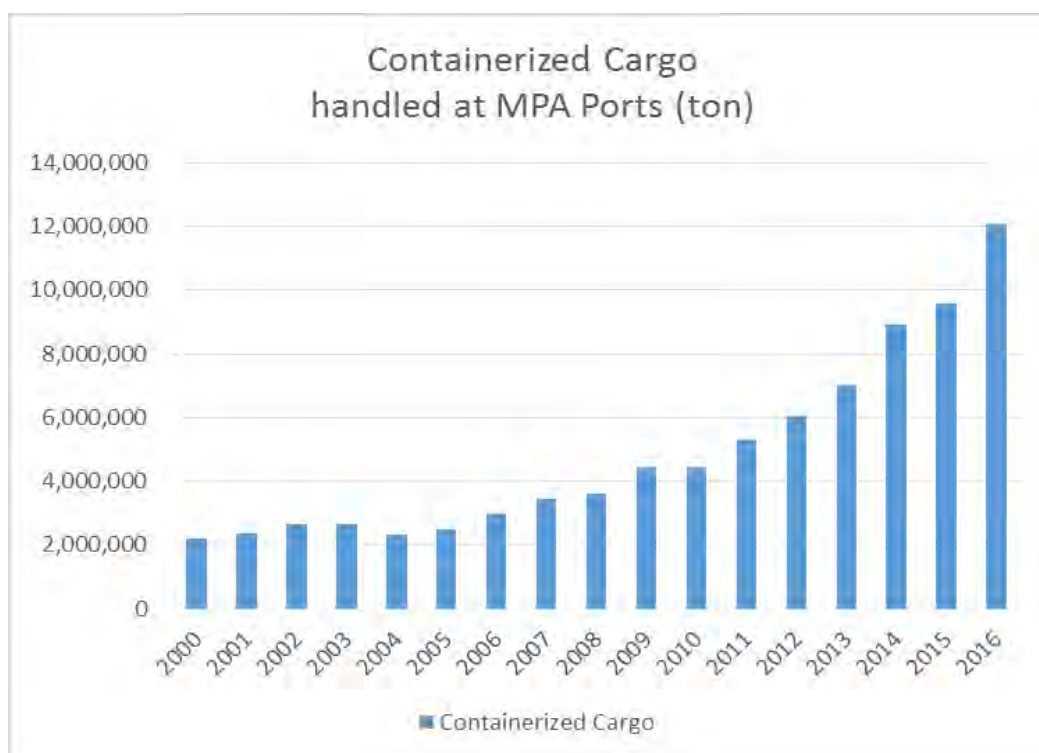
Source: MPA

**Figure 3.2 Non-Containerized Cargo handled by MPA Ports**

### 3.2.2 Yangon Port including Thilawa Area

Figure 3.3 shows that containerized cargo increased from 2.2 million tons in 2000 to 12.1 million tons in 2016 at the MPA ports - in terms of TEU, it increased from 0.156 million TEU in 2000 to 1.03 million TEU in 2016. Containerized cargo increased during the period approximately 5.5 times in volume and 6.6 times in TEU<sup>7</sup>. In consideration of the fact that all the ports under MPA except for Yangon Port including Thilawa area have no facilities to handle containers, Yangon Port plays the sole role in importing and exporting containerized cargo in Myanmar. Consequently, it is considered that Yangon Port is the only port in Myanmar that has connectivity to the international maritime transport route at present. It should be noted, however, container vessels calling Yangon Port are mostly feeders from Singapore Port or Port Kelang.

<sup>7</sup> This is due to the imbalance between import and export. In terms of volume, the import containerized cargo was 8,608,773 ton while export cargo was 3,447,240 ton – 40% of import - in 2016. Yangon Port is “exporting” empty containers to balance the number of inbound and outbound container boxes.



Source: MPA

**Figure 3.3 Containers handled by MPA Ports**

### 3.2.3 Future Cargo Demand and Development of Port Capacity

According to the expansion project of the Yangon Port at Thilawa Area<sup>8</sup>, the cargo demand and shortage of the berths are estimated as shown in Table 3.4. The development of Thilawa Area is proposed to provide the required berthing facilities.

<sup>8</sup> "The Preparatory Survey for the Project for Expansion of Yangon Port in the Thilawa Area," June 2014, JICA

**Table 3.4 Cargo Demand and Shortage of Berthing Facilities in 2025**

Type of Cargo	Cargo Volume	Shortage of Berthing Facilities	
	(ton)	Number of Berths	Total Length (m)
General Cargo	5,441,000	13	2,600
Container Cargo	41,063,000	12	2,400
(Ditto in TEU)	(4,014,000)	-	-
Auto Mobile	396,000	2	400
Coastal Cargo	2,000,000	12	1,200
Grain	1,000,000	-	-
Petroleum	7,285,000	-	-
Inland Waterway	1,000,000	-	-
Total Cargo	58,185,000	-	-

Source: The Preparatory Survey for the Project for Expansion of Yangon Port in the Thilawa Area," June 2014, JICA

By deducting coastal and inland waterway cargo from the total cargo of about 58.2million tonnes, the total import and export cargo in 2025 can be obtained as about 55.2million tonnes in 2025. Thus, the total volume is estimated to increase by approximately 20.9 million tonnes in 2025 from 34.3million tonnes in 2016. In case of container cargo, the volume will increase to approximately 4.01 million TEU from 1.03 million TEU in 2016; approximately 4 times in TEU during this period.

A deep seaport will be necessary to meet the cargo demand after 2025. The necessity of a deep seaport and preliminary examination results are shown in the study report titled "Preliminary Study on National Port Development Plan in Myanmar" prepared by Port and Harbour Bureau, Ministry of Land, Infrastructure, Transport and Tourism of Japan in February 2013.

### 3.2.4 Kawthoung Port

Kawthoung Port is playing a unique role in the international maritime connectivity in Myanmar. Import of construction materials like cement and rebars from Thailand is made between Kawthoung Port and Ranong, the counterpart port of Thailand. Imported construction materials are delivered to most of the coastal area - except near Yangon - from Kawthoung by coastal vessels. To facilitate the international trade between Kawthoung and Ranong, DMA permits coastal vessels registered in Myanmar to call Ranong and load cement, which is inspected and cleared by customs at the anchorage offshore Kawthoung.

Meanwhile, DMA does not permit coastal vessels to directly call Ranong and load cargo. Instead, small vessels of Kawthoung Port call Ranong and load cargo - mainly construction materials except for cement - and convey the cargo to coastal vessels waiting for them at the anchorage.

After receiving the cargo manifest at the anchorage regardless of cement or other construction materials, coastal vessels carry them to the destination ports, i.e. Sittwe, Kayukphu, Thandwe (cement only), Patheingyi, Dawei and Myeik.

Based on the discussion above, it is concluded that Kawthoung Port is the node of maritime connectivity with Thailand.

### **3.3 Coastal Transport Connectivity**

#### **3.3.1 General**

The road development has been changing the coastal shipping in Myanmar; general cargo used to be transported from Yangon Port to the other MPA ports, but it is transported by road at present if the destinations are not too distant from Yangon. Coastal shipping is still active to transport construction materials like cement and rebars, as they are bulky, heavy or cheap to haul for a long distance.

#### **3.3.2 Connectivity of Yangon Port with MPA Ports**

Yangon Port is the dominant gateway port and it almost monopolizes import and export containerized cargo of Myanmar. Imported general cargo is currently transported to other port cities by road. As construction materials are also imported at Yangon Port, coastal vessels are used to transport them to other MPA ports except for Patheingyi, Mawlamyine and Dawei, which are not distant for truck hauling.

In conclusion, coastal connectivity is maintained from Yangon Port to all the MPA ports except for Patheingyi, Mawlamyine and Dawei. The connectivity of Yangon Port with other MPA ports will continue as far as it is the dominant gateway port of Myanmar.

#### **3.3.3 Connectivity of Kawthoung Port with MPA Ports**

At the anchorage offshore Kawthoung, all the construction materials imported from Thailand via Ranong Port are inspected and cleared. Their manifests are issued at the anchorage. Coastal vessels transport them to all the other MPA ports. Meanwhile, as coastal vessels can load cargo on the return voyage, rice and general cargo are transported from Yangon and Patheingyi to Kawthoung. Tanintharyi State is short of rice, as its land is mountainous and the flat plain is not enough to cultivate sufficient rice.

In conclusion, the coastal connectivity is maintained from Kawthoung Port or anchorage to all the other MPA ports. The connectivity will continue so far as the imported construction materials from Thailand are inspected and cleared at the anchorage offshore Kawthoung for their economical transport along the coast of Myanmar.

### **3.4 Connectivity with Hinterland**

#### **3.4.1 General**

The road network development in Myanmar has been expanding the hinterland of Yangon Port; the port has already annexed the hinterlands which used to be of the other MPA ports at Thandwe, Patheingyi, Mawlamyine and Dawei. The other MPA ports like Sittoung Port, Kyaukpadaung Port, Myeik Port and Kawthoung Port have their own hinterlands, which are local and small.

#### **3.4.2 Hinterland of Yangon Port**

Yangon Port is the dominant gateway port of Myanmar and the road network is being developed within the territory of Myanmar. Yangon Port handles all the import containerized cargo except for those used for cross border trade and almost all the export containerized cargo except for the



cross border trade and small amount of processed fish products and soft-shell crabs from Myeik. In consideration that the hinterland of a port is the area where goods and passengers are transported by road or inland waterways but not by coastal shipping, Yangon Port' hinterland is expanded to almost all the land of Myanmar except for those of Sittwe Port, Kyaukphu Port, Myeik Port and Kawthoung Port.

### 3.4.3 Hinterlands of Other MPA Ports

Sittwe Port has its own hinterland along the Kaladan River up to Chin State. Up to Kyauktaw about 100 km upstream from Sittwe the road is used for transportation and from there to further upstream, inland waterway is used for passengers and cargo as road is not developed yet.

Kyaukphu Port has its own hinterland on the coast of Combermere Bay, where the road is still to be developed and its construction will be very costly as the area may be flooded during the rainy season. Kyaukphu Port plays an important role in terms of local transportation; e.g. passenger boats are plying the small ports situated on the bay.

From Yangon, Myeik (859 km) and Kawthoung (about 1200 km) are too distant. Therefore, the ports have their own hinterlands where the population is about 693,000 (in 2014) in total at Kawthoung, Myeik, Palaw and Taninthawryi.

## 3.5 Potential Projects

Foreign Trade may continuously increase depending upon economic growth and population increase. Yangon Port will sufficiently meet the demand on the maritime transport in short-term and mid-term. Dawei Port and Sittwe Port will function as a core of the regional development and corridor development, respectively. Under the rise of production cost caused by labour cost increase, the industry sector will strongly require the lower freight to reduce transport cost to secure trade competitiveness of Myanmar against her rival countries. The maritime transport sector should realize more volume of transport with a lower cost. Accordingly, large deep-sea port will be required in future.

Based on the considerations above, the followings projects will be proposed as potential projects

### (1) Expansion and Improvement of Thilawa Port

Objectives: Capacity expansion to meet increased cargo demand in future

Scope: 1) Capacity expansion to meet increased cargo demand in future  
2) Introduction of Port EDI and NSW  
3) Security facilities improvement to meet SOLAS (fence, CCTV) in accordance with the capacity expansion

Implementation schedule: short & medium term

Implementation agency: MPA

### (2) Dawei Port Development

Objectives: new port development for Dawei development

Scope: 1) new port development



Implementation schedule: short & medium term

Implementation agency: MPA

**(3) New Deep Sea Port Development**

Objectives: new deep-sea port at Donson Bay or Ngayok Bay to cover future freight demand

Scope: 1) new deep-sea port development

Implementation schedule: long term

Implementation agency: MPA

**(4) Study on Siltation Measurement at Sittwei Port**

Objectives: to improve sustainable use of Sittwei Port

Scope: 1) analysis of current siltation

2) proposal of countermeasures (including rough investment and O&M costs)

Implementation schedule: short term

Implementation agency: MPA

## Chapter 4 Institutional Connectivity

### 4.1 Overview of Institutional Connectivity in Myanmar

Institutional connectivity is an important aspect for the facilitation of trade. In this research, institutional connectivity defines as conformity on law and regulation to ease movement of goods, cross-border and coordination on regulation, law, rules and certain facilities to facilitate cross-border transport in the Mekong Region, which can be broadly divided into the following topics:

- import and export licenses
- customs clearance procedures
- immigration control
- quarantine inspections
- Port EDI (Electronic Data Interchange) system implementation

Connectivity issues are studied by the survey team by comparing Myanmar to other GMS countries. The following comparison table shows the current clearance system of GMS countries.

Looking at the status of Myanmar, an electronic cargo clearance system has been implemented, but it is not yet nationwide. The port EDI system is in the development stage but it will be implemented in October 2017. The advance ruling system on Harmonized Commodity Description and Coding System (HS) and customs valuation is already implemented, and the post clearance audit will be implemented by July 2017. The Authorized Economic Operator (AEO) system is in the preparation stage and expected to be implemented by October 2017. The National Single Window (NSW) preparation is not yet started and neither is the ASEAN Single Window (ASW). However, MACCS is designed to capable of connecting to NSW. The Single Stop Inspection system is in the planning stage and expected to be implemented by the end of 2018. Thus, Myanmar will catch up with the level of neighboring countries soon and is expected to move up in the World Bank (WB) LPI ranking.

**Table 4.1 Comparison table of clearance systems and procedures with GMS countries**

	Myanmar	Thailand	Vietnam	Lao PDR	Cambodia
Electronic Cargo Clearance System(CCS)	MACCS (Nov. 2016–)	E-Customs (Jan. 2007–)	VNACCS (Apr. 2014–)	ASYCUDA-World (2011–)	ASYCUDA-World (Jan. 2008–)
CCS Implemented area	Yangon port area and Yangon airport	Nationwide	Nationwide	11 clearance offices	Nationwide

Port EDI	Preparing to implement at Yangon port	Yes	Yes	N/A (the inland country with no seaports)	Planning to implement at Sihanoukville and Phnom Penh new port
Advance ruling system	Yes	Yes	Yes (but not functioning sufficiently)	Yes (but not functioning sufficiently)	Yes
Post clearance audit	Planning to implement	Yes	Yes	Yes	Yes
AEO	Planning to implement	Yes	Similar system implemented	N/A	Similar system (Best Trader: June 2014 –)
NSW	No	Yes	Yes (partially, by 2020 full)	No (partially customs and bank)	No
ASW	No	Test operation	Test operation	No	No
SSI	Planning at Myawaddy with Thailand	Preparing CCA with Lao PDR at Mukdahan border check point	Implemented at Lao Bao border with Laos	Implemented at Dansavang with Vietnam, Preparing at Thailand border Savannakhet	No

Source: Daiwa Institute of Research Ltd. Myanmar part updated by the survey team

## 4.2 Status of CIQ and Institutional Connectivity

### 4.2.1 Import, Export and Transit License

Myanmar has adopted an import/export license system. The Myanmar Ministry of Commerce (MOCOM) oversees the system, and has designated 3,988 items (by the HS code) that require an import license. As for exports, most items (except 983 items by the HS code) require an export license. Many import items require licenses, and most of the export items require a license. It is expected that the MOCOM will review the items that require licenses and reduce the number to the level of internationally agreed controlled items.

The standard procedure for import/export licenses at the MOCOM Department of Trade, Export & Import is presented below.

- Apply for a recommendation letter from a related ministry or department and receive it
- Pay the online license application fee to the bank and get a receipt (the fee is MMK 2,500).
- Pay the license fee (minimum fee is MMK 250 and maximum is MMK 50,000).
- Submit the application form to MOCOM
  - Attachments: recommendation letter, receipt of online license fee, receipt of license fee, invoice, packing list, sales contract (original)
- Receive the license

To apply for an import/export license at the MOCom, the applicant must get a recommendation letter from a related ministry or department, and attach the letter to the license application form. Several additional days are required to get the recommendation letter. According to the importer interviewed during the survey, the procedure is complex and takes too much time, and thus needs to be simplified. This is a double administrative requirement or duplication of work which can be handled at one office.

The license can be applied for at any port of import. The license is effective for three months and can be extended for another three months.

When transit goods go through the Myanmar territory, the transit operator is required to apply to the MOCom at Nay Pyi Taw for a transit license for every transit processing.

If an applicant is not sure of the HS code (to determine if a license is required or not), the applicant must go to Customs to inquire about the HS code, because the MOCom does not provide this type of consultation service.

## 4.2.2 Customs Clearance

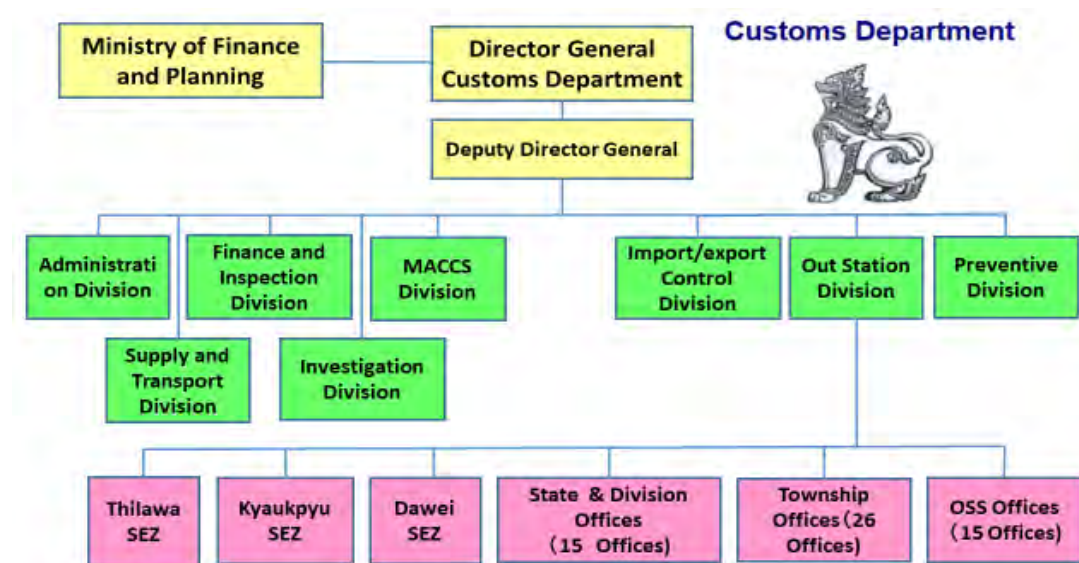
### (1) Overall Situation

The mission of the Myanmar Customs Department (MCD) is “to achieve trade facilitation through simplification of customs procedures, without adversely affecting customs control objectives, to maintain proper collection of revenue,” and its vision is “to create a customs service which generates the security and facilitation of international trade, protection of social well-being, and trade partnership with stakeholders.” The MCD’s prime concern is to achieve trade facilitation by enhancement of the connectivity of Myanmar.

The MCD has branch offices at all borders, which is a total of 59 offices.

The MCD has 275 officials and 1,410 staff members, which is a total of 1,685 personnel working at airports, land borders, and sea ports. The organizational chart of MCD is as follows.

Figure 4.1 Myanmar Customs Organizational Chart



Source: Myanmar Customs Department

The major role of customs in trade facilitation is to ensure the smooth cargo clearance of import/export goods at the border.

## (2) Cargo Clearance by the MACCS and Risk Management by MCIS

The MACCS was introduced in November 2016 at the Yangon seaport, Thilawa Special Economic Zone, and Yangon international airport by the MCD. The MACCS currently handles almost 100% of the import and export declarations of the Yangon area.

At the same time as the introduction of the MACCS, the MCD introduced the self-assessment clearance system for imported goods, together with the advance ruling system. Under the self-assessment system, the importer determines the HS code, customs duty rate, and value of the goods, and calculates the duty amount in accordance with the customs laws. The advance ruling system supports the importer when they are not sure of the technical aspects of the declaration, which are the HS Code and customs value. Customs provides its opinion ruling when requested by the importer.

Using the Myanmar Customs Intelligence System (MCIS), customs also implemented a risk management system with its clearance management system. The system selects low-risk cargo for faster clearance, but high-risk cargo is selected for document and physical examination. In this way, customs differentiate the treatment of goods that only high-risk cargo is physically examined upon importation and low risk cargo will be examined by post-clearance audit.

Implementation of the self-assessment system is the one of the measures in enhancing the connectivity of clearance, which will result in faster clearance of goods. The introduction of post clearance audit system, which allows customs to check declarations after release of the goods, supplement the self-assessment system. This is one of the trade facilitation measures required under the Trade Facilitation Agreement of the World Trade Organization (WTO). The MCD has trained customs officers and customs brokers properly handles the import and export declaration by self-assessment system. Training customs officers on the post clearance audit is ongoing. The MACCS implementation together with the self-assessment system will contribute to enhancing the connectivity of Myanmar. The MACCS and self-assessment system were introduced only at the Yangon area. Other borders and seaports are still utilizing the official assessment system, which requires more time for clearance.

### 4.2.3 Immigration Control

The Ministry of Labor, Immigration and Population of Myanmar controls immigration. The immigration office of Myanmar provides clear rules and regulations on immigration, and all of them are disclosed on the website. The types of visas in Myanmar (Excerpts) are as follows.

**Table 4.2 The Types of Visa in Myanmar (Excerpts)**

	Type of Visa	Visa Fees	Length of Stay
(a)	Gratis Diplomatic/ Official Courtesy Visa	Gratis	Duration of Assignment
(b)	Tourist Visa	USD 40	– (28) Days
(c)	Business Visa (Single)	USD 50	– (70) Days – Can apply stay extension according to the rules and regulations.

	Business Visa (Multiple)	USD 200	<ul style="list-style-type: none"> <li>– Duration of Validity: 3 Months</li> <li>– Allow multiple entry and stay.</li> <li>– Can apply stay extension according to the rules and regulations.</li> <li>– Do not need to exit after staying (70) days.</li> </ul>
		USD 400	<ul style="list-style-type: none"> <li>– Duration of Validity: 6 Months</li> <li>– Allow multiple entry and stay.</li> <li>– Can apply stay extension according to the rules and regulations.</li> <li>– Do not need to exit after staying (70) days.</li> </ul>
		USD 600	<ul style="list-style-type: none"> <li>– Duration of Validity: 1 year</li> <li>– Allow multiple entry and stay.</li> <li>– Can apply stay extension according to the rules and regulations.</li> <li>– Do not need to exit after staying (70) days.</li> </ul>

Source: Website of the immigration office <<http://www.mip.gov.mm/announcements-in-english/>>

Immigration controls the movement of people at borders. At the Yangon International airport immigration office is introducing Myanmar Advance Passenger Processing System (MAPPS) which is in advance getting the air passenger information of arriving to Myanmar and check against information that authority has. The electronic MAPPS is now under trial run and will be operationalized soon.

At the road check points and domestic airports, we observed that immigration officers were stationed and recording passport numbers and other particulars. Even Myanmar citizens are checked to verify that they are carrying their ID card. Because Myanmar has internal conflicts among some tribes, the need to enforce control over the movement of people is understandable, but this work should be done by the national police.

During the survey, we also observed at the land border of Myawaddy that there are several unofficial border crossing points not reached by immigration and customs control. Similarly, at the Myawaddy No. 1 Friendship Bridge, the survey team observed many different groups of people crossing the bridge to Mae Sot to work at factories in Thailand. At the same time, we observed many people crossing the border river under the bridge without being checked by competent authorities.

In sum, the institutional set-up of immigration control in Myanmar is somewhat established, and immigration at borders is controlled to some extent. However, the control is not sufficient at some borders, and this should be addressed in the future. The policy of immigration control needs to be reviewed to ensure better immigration control.

#### 4.2.4 Quarantine Inspections

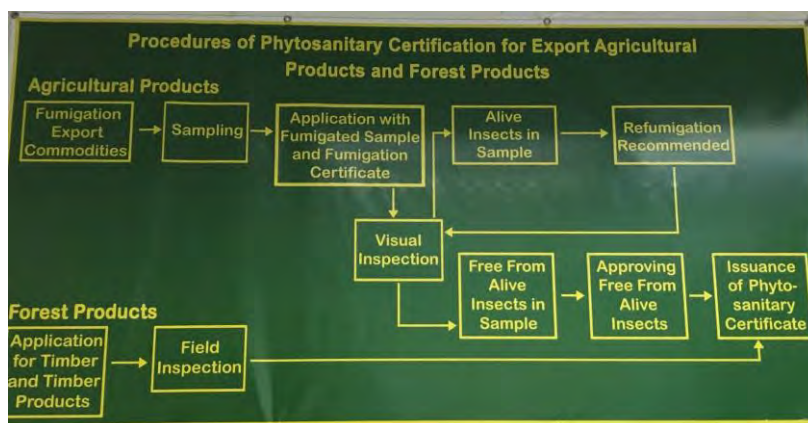
##### (1) Animal Quarantine

Animal quarantine matters are handled by the Ministry of Livestock, Fisheries, and Rural Development, Livestock Breeding, and the Veterinary Department, Veterinary Division, Disease diagnoses and Control Sub-Division. The animal quarantine offices are located at Yangon, Mandalay, Muse, Tachilek, and Myawaddy.

Animal quarantine has two functions. One is to issue a recommendation letter to get an import/export license. Another is to examine the goods upon arrival/departure of Myanmar. As an example of the importation of hatching chickens at the airport, the importer applies to the animal

quarantine office for a recommendation letter and receives it. Based on this letter, the Ministry of Commerce issues the import license. The importer submits the import declaration to customs in advance of the arrival of the goods, and pays the duties and taxes. Upon arrival of the goods, the importer can make a quick examination of the goods so that there will not be damage or stress to the hatching chickens.

## (2) Plant Quarantine



**Figure 4.2** The procedure for acquiring a phytosanitary certificate for export agricultural and forest products is posted on the wall of the office so that it can be easily understood by the applicant.

Plant quarantine matters are handled by the Ministry of Agriculture, Livestock and Irrigation, the Department of Agriculture, and the Plant Protection Department.

The clearance procedure is the same as that of animal quarantine. Plant quarantine requires a one-week advance notice to their office from the importer/exporter so that the quarantine offices can be ready for the examination and quick release of the goods.

## (3) Food and Drug Control

The Department of Food and Drug Administration (FDA) in the Ministry of Health and Sports handles matters related to the import and export of food, drugs and cosmetics. The FDA is Myanmar's food safety regulatory body, which oversees the safety and quality of food, drugs, medical devices, and cosmetics. The agency was established together with the Food and Drug Board of Authority, and, in the interest of public safety, regulates and controls the manufacture, import, export, storage, distribution, and sale of food and drugs. The importer/exporter is required to obtain a recommendation letter from the board when they apply for an import/export license.

### 4.2.5 Port EDI System

The Port EDI system is a kind of standard computerized system that handles the entry and departure procedures of vessels for various port-concerned authorities, such as the Maritime Authority and Customs and Immigration. It functions as a single window for port-related procedures.

The Myanmar Port EDI system will have the following functions:

- 1) Support for vessels' entry and departure procedures
- 2) Support to the MPA in developing the documents for the berth allocation meeting
- 3) Support to develop various kinds of invoices, such as port user fees
- 4) Develop the port trade statistics

- 5) Transparent movement of cargo at the port
- 6) Terminal operation management

In particular, the first function of “support for vessels’ entry and departure procedures” will contribute to better trade facilitation and realization of the national single window system, because it supports a wide variety of stakeholders, including the Myanmar Port Authority, Department of Maritime Authority, Myanmar Customs Department, Immigration and National Registration Department, Department of Health, and private companies such as terminal operators, shipping companies, shipping agencies, consignee/consignor, and transport operators.

The port entry and departure documents are standardized by the FAL convention (Convention on Facilitation of International Maritime Traffic, 1965) of IMO (International Maritime Organization). The FAL documents (FAL 1 to 7), which are standard documents of entry and departure of vessels, will be part of the Port EDI system, and entry and departure processing time will be shortened to 30 minutes from the current time of several days. The FAL documents are as follows.

**Table 4.3 The FAL documents**

FAL No. 1	IMO General Declaration
FAL No. 2	IMO Cargo Declaration
FAL No. 3	IMO Ship’s Stores Declaration
FAL No. 4	IMO Crew’s Effects Declaration
FAL No. 5	IMO Crew List
FAL No. 6	IMO Passenger List
FAL No. 7	IMO Dangerous Goods Manifest

The Myanmar Port Authority has been working to develop the Port EDI system with the support of JICA. The system will be implemented in Yangon Port and is planned to be expanded throughout the country. The system was developed by JICA, and the user acceptance test has been completed. It is now in the integration test stage aiming to start the operation from June 2018.

### **4.3 Actual Operation at Cross Border Areas**

The survey team has visited several cross-border points, and observed the actual operation of CIQ at the borders. This section briefly describes the observations at these borders.

#### **4.3.1 Import and Export License Procedures**

##### **(1) Licensing Procedure at the Yangon Branch Office**

The branch has 36 staff members. The license will be issued in a day; if the application is submitted early in the morning, the applicant can obtain the license in the late afternoon. As the survey team observed the document processing office, there was a document acceptance counter and office and visitor’s area was clearly separated. The staff members were working busy at their desk. The staffs are allocated and grouped based on HS commodity code. The import and export license processing at their office looks efficient and systematic. The average numbers of licenses issued in a day are 140 for import and 40 for export.

##### **(2) Licensing Procedure at the Myawaddy and Tachilek Borders**

The Ministry of Commerce developed the Border Trade Online System (BTOS) for issuing



import/export licenses at the land border. The BTOS is directly connected to Nay Pyi Taw. The cost of the license and the application procedures are the same at all MOCom offices.

At the land border of Myanmar, the MOCom set up a One Stop Service Center (OSSC), which accommodates all government agencies and handles all border clearance related procedures. These agencies include the MOCom, Customs, Immigration, the Inland Revenue Authority, the National Bank, Police, Plant Quarantine, Animal Quarantine, the Fishery department, the Forestry department, the Inland Transportation department, and the Food and Drug Administration. The MOCom is the management agency of the OSSC and functions as its leader.

#### **4.3.2 Customs Clearance Procedures**

##### **(1) Cargo Clearance Procedures in the Yangon Area**

By introducing the MACCS, the speed of cargo clearance is improved. The MACCS is an internet-based system and can be used from anywhere if there is an internet connection. If you are given a Customs Broker license and are qualified to use the MACCS, the E-Token (USB) will be provided by Customs. The E-Token automatically opens the MACCS screen on your computer, and then you can use the system.

The cost of clearance by the MACCS is 30,000 Ks for every declaration submitted to customs, plus 20,000 Ks for every single container as a container security fee (20F' or 40F' are the same cost.) The container security fee must be paid regardless of the actual examination. As for the bulk cargo, there is no security fee like container.

The overall evaluation by MACCS users is positive, and it is expected to be expanded to border crossing points such as Myawaddy.

##### **(2) Cargo Clearance in Myawaddy**

- The cargo clearance procedures in Myawaddy are as follows.
- A vehicle (truck) with cargo crosses the land border at No. 1 Friendship Bridge, and enters Myawaddy.
- When crossing the bridge, the truck driver must obtain a temporally entry permit called "Information of Conveyance" (NOT a passport), and have the permit stamped with the usual mark for entry.
- The cargo from Thailand must be transloaded a truck of Myanmar at a private warehouse.
- The transloaded cargo on the Myanmar truck goes to OSSC and starts the cargo clearance process.
- Apply for an import license if necessary; this can be done in Yangon or Myawaddy in advance.
- Submit import declaration, and pay duties and taxes; this can be done in advance in Yangon or Myawaddy, but the original duty payment receipt must be submitted in Myawaddy.
- Physical examination (100%)
- Go to the final destination of cargo.



**Figure 4.3 Truck with container is crossing the No.1 friendship bridge at Myawaddy**

No. 1 Friendship Bridge limits the weight of cargo to 25 metric tons. Therefore, a truck with a container cannot cross the bridge; it is usually heavier than 25 metric tons. (A truck with cargo loaded container is usually heavier than 25 metric tons. ; The head of the truck with container chassis already weighs 15tons. A container with cargo weighs 15 to 25 metric tons depending on the cargo and when it is loaded on the container with chassis is already 30 to 45metric tons) However, the mission team saw such trucks cross the bridge.

When driving in Thailand and Myanmar, one must stay on the opposite sides of the road: in Thailand, one must drive on the left-hand side of the road; in Myanmar, on the right-hand side. Therefore, the driver must switch the driving lane on the bridge.

About 200 to 280 trucks per day enter Myanmar from Thailand. By contrast, 10 to 30 trucks per day enter Thailand from Myanmar. The exporting cargo is one tenth of importing cargo. Therefore, the Thailand truck has to go back to Thailand without cargo. As for people, about 2,700 Burmese per day enter Thailand, and about 300 Thais per day enter Myanmar.

No.2 Friendship Bridge will open and operationalized by the end of 2018 in Myawaddy. And there is a plan to move the existing OSSC to near the No.2 Friendship Bridge. As the MACCS will be introduced together with the self-assessment system, the clearance system at Myawaddy will change drastically.

### **(3) Cargo Clearance in Tachileik**

The cargo clearance procedures in Tachileik are the same as those in Myawaddy. The major difference is that Tachileik already has two bridges: No. 1 Friendship Bridge is located on the west side of the city for people, small cars and pickup trucks; No. 2 Friendship Bridge is located on the east side of the city and used for cargo trucks. The number of import and export declarations processed per day is about 70. Most of the declarations are for import and only 5 per day are for export.

Nearly 5,000 Burmese and 2,000 Thais and other nationals cross No.1 Friendship Bridge per day. At the bridge, immigration officers outnumber customs officers by 15 to 1: 60 immigration officers against 4 customs officers. Through the bridge, Burmese carry many daily necessities into Myanmar, but the customs does not check the flow of goods. It seems that Tachileik and Mae Sai on the Thai side form a free economic zone.

The OSSC of Tachileik is located at the inland place 15Km from the city and along the Asian Highway Route 2 (AH 2). The facility is also used as a checkpoint of trucks, cars and people. An immigration officer is stationed at the checkpoint. During the daytime the AH 2 is closed and all traffic have to go through this check point.

## 4.4 International Framework for Transport Facilitation

### 4.4.1 Cross Border Transport Facilitation Agreement (CBTA)

The six GMS countries (Lao PDR, Thailand, Vietnam, Cambodia, China, and Myanmar) are signatories to the CBTA. The CBTA includes all the non-physical measures for cross-border land transport. Under the CBTA, vehicles, drivers, goods and passengers are allowed to cross national borders through the GMS road transport system.

The agreement promotes the elimination of intermediary stops and trans-shipment, as well as the reduction in the amount of time spent in crossing borders. Increasing the number of border checkpoints that implement the CBTA will help maximize the effectiveness of the GMS transport networks. All the six GMS countries have fully ratified the CBTA main agreement.

Myanmar signed the CBTA on September 2003. In 2011, the country ratified the main body of the CBTA. However, Myanmar had a different interpretation of the Annexes to the Agreement from other parties to the CBTA. From 2015 to 2016, the matter was discussed intensively at the GMS CBTA committee meetings. The amendments made include the following: the change of the word “will” to “shall” in Annex 4, 12 and 15; and simplified wording in Annex 6, 8, 14. Annex 5 was also amended. These changes, particularly the parts related to customs were discussed within the MCD and the Ministry of Finance and Planning. The amended Annexes were sent to the Office of the Attorney General for confirmation. Myanmar is preparing to implement all the Annexes on 1 January 2019. With regard to Annex 4 on “Facilitation of Frontier Crossing Formalities,” the MCD plans to implement it sooner than the target date above because the MCD wishes to implement both the Annex 4 and the MACCS in Myawaddy. As for Annex 15 on “Commodity Classification System,” Myanmar plans to implement in June 2018 ASEAN Harmonized Tariff Nomenclature 2017 (AHTN 2017) to the MACCS.

**Table 4.4 GMS Cross-Border Transport Facilitation Agreement:  
List of Annexes and Protocols**

	List of Annexes	Accession status of Myanmar
Annex 1	Carriage of Dangerous Goods	Vientiane on 16 December 2004
Annex 2	Registration of Vehicles in International Traffic	Phnom Penh on 30 April 2004
Annex 3	Carriage of Perishable Goods	Kunming on 5 July 2005
Annex 4	Facilitation of Frontier Crossing Formalities	Phnom Penh on 30 April 2004
Annex 5	Cross-Border Movement of People	Kunming on 5 July 2005
Annex 6	Transit and Inland Clearance Customs Regime	Beijing on 20 March 2007
Annex 7	Road Traffic Regulation and Signage	Phnom Penh on 30 April 2004
Annex 8	Temporary Importation of Motor Vehicles	Beijing on 20 March 2007
Annex 9	Criteria for Licensing of Transport Operators for Cross-Border Transport Operations	Vientiane on 16 December 2004
Annex 10	Conditions of Transport	Kunming on 5 July 2005
Annex 11	Road and Bridge Design and Construction Standards and Specifications	Phnom Penh on 30 April 2004
Annex 12	Border Crossing and Transit Facilities and Service	Phnom Penh on 30 April 2004
Annex 13a	Multimodal Carrier Liability Regime	Phnom Penh on 30 April 2004
Annex 13b	Criteria for Licensing of Multimodal Transport Operators for Cross Border Transport Operations	Vientiane on 16 December 2004
Annex 14	Container Customs Regime	Beijing on 20 March 2007

Annex 15	Commodity Classifications System	Phnom Penh on 30 April 2004
Annex 16	Criteria for Driving Licenses	Vientiane on 16 December 2004
Protocol 1	Designation of Corridors, Routes and Points of Entry and Exit (Border Crossings)	Phnom Penh on 30 April 2004
Protocol 2	Charges Concerning Transit Traffic	Kunming on 5 July 2005
Protocol 3	Frequency and Capacity of Services and Issuance of Quotas and Permits.	Beijing on 20 March 2007

With regard to Single Window Inspection (SWI) and Single Stop Inspection (SSI) that are required by article 4 and Annex 4, article 4 of the CBTA, Myanmar is discussing them with Thailand and hoping to implement SWI in December 2018. SSI will be discussed after SWI is implemented.

#### **4.4.2 ASEAN Framework Agreement on the Facilitation of Goods in Transit (AFAFGIT)**

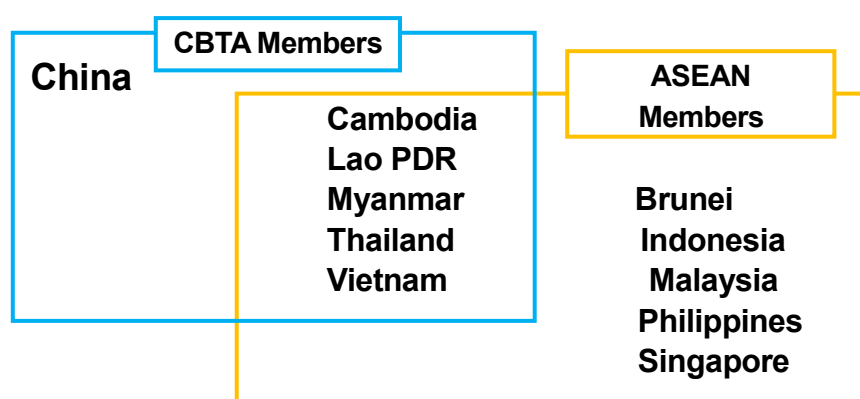
AFAFGIT was signed in December 1998 and entered into force in October 2000. Myanmar is ready for Protocol 2 on “Designation of Frontier Posts.” Protocol 2 is already prepared and waiting for signature. Regarding Protocol 7 on “Customs Transit System,” the MCD knows that a test on it is being implemented among Singapore, Malaysia, and Thailand. However, there is no communication from ASEAN to Myanmar on this matter, and nothing has been done. The MCD recognizes that no goods have transited through Myanmar.

**Table 4.5 AFAFGIT accession and implementation status**

	Title of Protocol	Signed	Ratification and implementation
Protocol 1	Designation of Transit Transport Routes and Facilities	Feb. 2007	Waiting ratification by Singapore and Malaysia
Protocol 2	Designation of Frontier Posts	Document made	Waiting for signature
Protocol 3	Types and Quantity of Road Vehicles	May 1999	All members ratified and implemented it. Entered into force on April 2010
Protocol 4	Technical Requirements of Vehicles	May 1999	All members ratified and implemented it. Entered into force on April 2010
Protocol 5	ASEAN Scheme of Compulsory Motor Vehicle Third-Party Liability Insurance	April 2001	All members ratified and implemented it. Entered into force on October 2003
Protocol 6	Railways Border and Interchange Stations	April 2001	No member has ratified it.
Protocol 7	Customs Transit System	Document made	Pilot test is implemented among Singapore, Malaysia and Thailand.
Protocol 8	Sanitary and Phytosanitary Measures	Oct. 2000	All members ratified and implemented it. Entered into force on August 2010
Protocol 9	Dangerous Goods	Sep. 2002	Malaysia and Thailand have yet to ratify it.

#### **4.4.3 Comparison of CBTA and AFAFGIT**

Both the CBTA and the AFAFGIT aim to facilitate cross-border transport for smooth movement of vehicles, goods, and people. Both agreements require the signatories to designate routes for cross-border points and border crossings. For goods in transit, both require the signatories to use HS code and harmonized documents. Both promote SSI in CCA: the CBTA does so in Article 4 and Protocol 4; in Article 7.3.a, the AFAFGIT requires the signatories to endeavor to provide joint examination.



**Figure 4.4 CBTA and AFAFGIT Members**

The main differences between the two agreements lie in their members and scope. The AFAFGIT covers the transport of vessels and railways. The CBTA covers detailed road and bridge design and construction standards and specifications. Regarding the volume of traffic, the CBTA sets the limit of 500 vehicles per contracting party while the AFAFGIT allows only 60 vehicles per contracting party. The AFAFGIT covers transit by railway, whereas the CBTA mentions multi-modal transport but does not refer explicitly to railway transport.

Regarding Annexes and Protocols, the tables below show similarities and differences between the two agreements.

**Table 4.6 Similarities between CBTA and AFAFGIT**

CBTA	AFAFGIT
Protocol 1 Designation of Corridors, Routes and Points of Entry and Exit (Border Crossings) Annex 12 Border Crossing and Transit Facilities and Service	Protocol 1 Designation of Transit Transport Routes and Facilities Protocol 2 Designation of Frontier Posts
Annex 4 Facilitation of Frontier Crossing Formalities Annex 6 Transit and Inland Clearance Customs Regime Annex 8 Temporary Importation of Motor Vehicles Annex 14 Container Customs Regime Annex 15 Commodity Classifications System	Protocol 7 Customs Transit System
Annex 1 Carriage of Dangerous Goods	Protocol 9 Dangerous Goods
Annex 3 Carriage of Perishable Goods	Protocol 8 Sanitary and Phytosanitary Measures
Protocol 3 Frequency and Capacity of Services and Issuance of Quotas and Permits	Protocol 3 Types and Quantity of Road Vehicles
Annex 10 Conditions of Transport Annex 2 Registration of Vehicles in International Traffic	Protocol 4 Technical Requirements of Vehicles Protocol 5 ASEAN Scheme of Compulsory Motor Vehicle Third-Party Liability Insurance

**Table 4.7 Differences between CBTA and AFAFGIT**

CBTA	AFAFGIT
Annex 5 Cross-Border Movement of People	Not specified
Annex 7 Road Traffic Regulation and Signage	Not specified
Annex 9 Criteria for Licensing of Transport Operators for Cross-Border Transport Operations	Not specified
Annex 11 Road and Bridge Design and Construction Standards and Specifications	Not specified
Annex 13a Multimodal Carrier Liability Regime	Not specified
Annex 13b Criteria for Licensing of Multimodal Transport Operators for Cross Border Transport Operations	Not specified
Annex 16 Criteria for Driving Licenses	Not specified in AFAGIT protocol but Article 13 states mutual recognition of driving license
Protocol 2 Charges Concerning Transit Traffic	Not specified in AFAGIT protocol but Article 15 states charges and other financial obligations
Not specified	Protocol 6 Railways Border and Interchange Stations

Souce Table4.6, 4.7: Comparative study on the transport facilitation provisions of GMS CBTA and ASEAN Agreements by Mr. Sengsavang PHANDANOUVONG at PDRUNESCAP Seminar on Legal Aspects of Inter-sub regional Connectivity, 10-11 Feb. 2014, Phuket, Thailand

## **4.5 Expansion of MACCS and MCIS beyond Myawaddy**

### **4.5.1 Status of MACCS and MCIS**

In November 2016, both the MACCS and the MCIS were introduced at the Yangon seaport, airport, and the Thilawa Special Economic Zone. JICA decided to expand the systems to Myawaddy and started preparing to implement the expansion. It is expected to be implemented.

The MCD wishes to use both the MACCS and the MCIS nationwide.

### **4.5.2 Matters Necessary to Consider**

To expand of the MACCS and the MCIS, it is necessary to consider the following matters: volume of trade; ICT human resources; ICT capacity of MACCS users; cost of expansion; infrastructure for stable electricity supply; and ICT network capacity.

#### **(1) Volume of Trade**

Regarding the volume of trade, the table below shows the export/import border trade situation of Myanmar in fiscal years (FY) between 2012/2013 and 2016/2017. The data in the table do not include the Yangon International Port trade volume.

**Table 4.8 Export/Import Volume of border trade 2012/2013 FY – 2016/2017 FY**

USD In Mill:

No	STATION	2012-2013			2013-2014			2014-2015			2015-2016			2016-2017		
	STATION	EXPORT	IMPORT	TRADE VOLUME	EXPORT	IMPORT	TRADE VOLUME	EXPORT	IMPORT	TRADE VOLUME	EXPORT	IMPORT	TRADE VOLUME	EXPORT	IMPORT	TRADE VOLUME
1	MUSE	1,815.69	1,014.17	2,829.86	2,210.71	1,306.97	3,517.68	3,614.00	1,704.16	5,318.16	3,809.52	1,568.36	5,377.88	3,703.90	1,657.79	5,361.69
2	LWEJEL	21.71	11.06	32.77	68.84	7.04	75.87	63.87	9.30	73.18	64.34	12.62	76.96	186.19	15.88	202.07
3	CHIN SHWEHAW	57.02	7.36	64.38	216.28	30.61	246.90	358.21	65.65	423.86	332.99	52.79	385.78	515.60	57.58	573.18
4	KANPITEE	2.47	8.64	11.12	6.42	23.13	29.55	8.82	50.20	59.02	28.80	67.45	96.24	64.09	42.48	106.57
5	KYAING TONG							7.39	5.07	12.46	6.48	7.35	13.83	2.09	2.40	4.49
6	TARCHILEIK	11.84	27.89	39.74	13.55	58.96	72.50	8.45	93.52	101.97	9.66	64.93	74.59	14.46	66.94	81.40
7	MYAWADDY	55.84	88.96	144.80	49.12	222.38	271.50	32.87	424.03	456.90	43.79	682.33	726.11	60.20	868.40	928.60
8	KAWTHAUNG	29.61	49.30	78.91	39.05	109.17	148.22	35.85	79.85	115.70	46.38	86.00	132.38	69.28	64.64	133.92
9	MYEIK	127.28	27.82	155.10	113.19	41.24	154.42	106.43	39.57	146.00	140.83	30.17	171.00	157.11	52.42	209.53
10	NABULAE/HTEE KHEE				0.15	1.34	1.49	0.31	3.91	4.22	2.01	11.18	13.19	11.19	0.70	11.89
11	MAWTAUNG				0.09	1.90	1.99	0.08	0.58	0.66	0.40	2.11	2.51	2.27	0.97	3.24
12	MESE													0.22	0.23	0.45
13	SITTWE	3.66	0.18	3.83	10.35	5.71	16.06	6.43	0.09	6.51	5.35	0.98	6.33	4.47	0.18	4.65
14	MAUNG DAW				5.48	1.29	6.77	7.67	0.11	7.77	5.37	0.07	5.44	5.92	0.03	5.95
15	TAMU	7.40	1.74	9.14	15.82	9.83	25.65	33.05	12.57	45.63	32.77	12.79	45.56	38.47	9.78	48.24
16	RHI	1.46	1.43	2.88	12.15	7.34	19.49	9.56	5.54	15.10	20.26	5.83	26.08	25.00	14.66	39.65
	<b>TOTAL</b>	<b>2,133.97</b>	<b>1,238.56</b>	<b>3,372.53</b>	<b>2,761.19</b>	<b>1,826.90</b>	<b>4,588.09</b>	<b>4,292.98</b>	<b>2,494.14</b>	<b>6,787.12</b>	<b>4,548.93</b>	<b>2,604.94</b>	<b>7,153.87</b>	<b>4,860.45</b>	<b>2,855.06</b>	<b>7,715.51</b>

Source: From the website of the Ministry of Commerce of Myanmar

The data on trade volume reveal that Muse is the station with the largest trade volume, followed by Myawaddy and Chin Shwehaw. Muse is located at the Chinese border, Myawaddy at the Thai border, and Chin Shwehaw at the Chinese border. The border in Myawaddy is increasing its trade value year by year; in FY 2016–2017, it accounted for 12% of the total border trade.

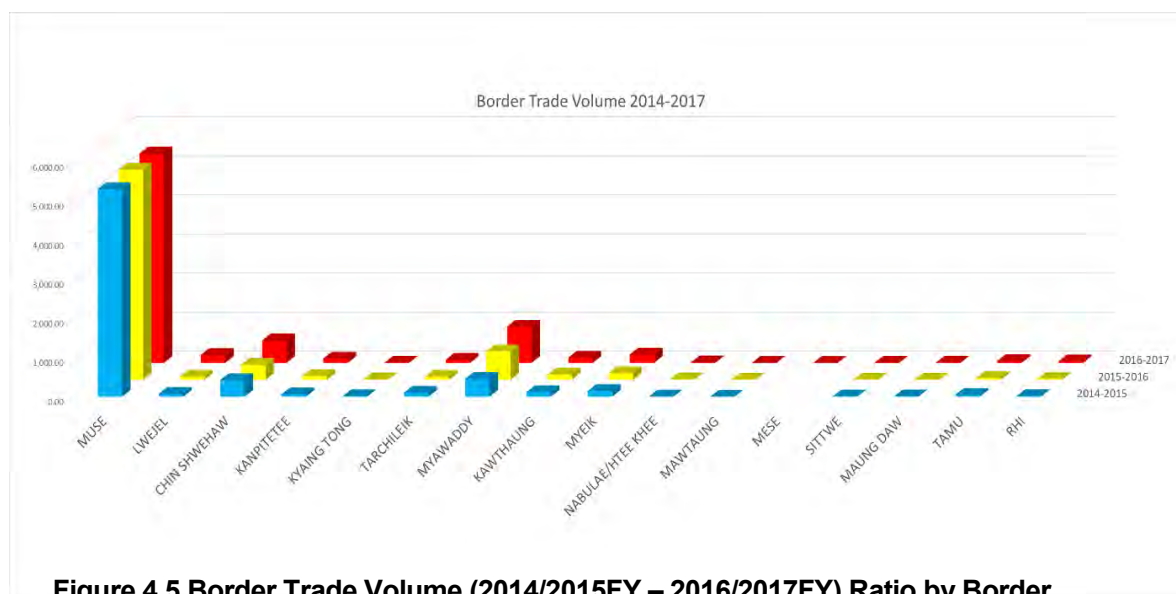
**Table 4.9 Border Trade Volume (2014/2015FY – 2016/2017FY) Ratio by Border**

USD In Mill:

No	STATION	2014-2015		2015-2016		2016-2017	
		Trade Volume	Ratio	Trade Volume	Ratio	Trade Volume	Ratio
1	MUSE	5,318.16	78.36%	5,377.88	75.17%	5,361.69	69.49%
2	LWEJEL	73.18	1.08%	76.96	1.08%	202.07	2.62%
3	CHIN SHWEHAW	423.86	6.24%	385.78	5.39%	573.18	7.43%
4	KANPITEE	59.02	0.87%	96.24	1.35%	106.57	1.38%
5	KYAING TONG	12.46	0.18%	13.83	0.19%	4.49	0.06%
6	TARCHILEIK	101.97	1.50%	74.59	1.04%	81.40	1.06%
7	MYAWADDY	456.90	6.73%	726.11	10.15%	928.60	12.04%
8	KAWTHAUNG	115.70	1.70%	132.38	1.85%	133.92	1.74%
9	MYEIK	146.00	2.15%	171.00	2.39%	209.53	2.72%
10	NABULAE/HTEE KHEE	4.22	0.06%	13.19	0.18%	11.89	0.15%
11	MAWTAUNG	0.66	0.01%	2.51	0.04%	3.24	0.04%
12	MESE		0.00%		0.00%	0.45	0.01%
13	SITTWE	6.51	0.10%	6.33	0.09%	4.65	0.06%

14	MAUNG DAW	7.77	0.11%	5.44	0.08%	5.95	0.08%
15	TAMU	45.63	0.67%	45.56	0.64%	48.24	0.63%
16	RHI	15.10	0.22%	26.08	0.36%	39.65	0.51%
	TOTAL	6,787.12		7,153.87		7,715.51	

By analyzing the growth of trade by bar chart, as you see the Figure 4.5 Muse is extremely high but it is not growing in the past three years. On the other hand, we can see the trade growth at Myawaddy, Chin Shwehaw and Myeik which is growing year by year.



**Figure 4.5 Border Trade Volume (2014/2015FY – 2016/2017FY) Ratio by Border**

## (2) MCD's ICT Human Resources

As for the MCD's ICT human resources, the MACCS Directorate has around 60 staff members who can manage the MACCS. They are customs officers who gained knowledge through the MACCS development and implementation project. The MCD could foster such experienced officers maintain and increase the number of them through MACCS implementation in Myawaddy.

## (3) ICT Capacity of MACCS Users

Regarding the ICT capacity of MACCS users, who are customs officers and customs brokers, it is important to train them so that they become familiarized themselves with the operation of the system. The MCD already have such experience at the Yangon port. Based on the MCD's experience with the Yangon port, it is reasonable to say that the MCD would be able to train MACCS users again.

## (4) Cost of Expansion of MACCS

Regarding the cost of expansion, the MCD is collecting a MACCS declaration fee, which is MMK 30,000 per declaration. If the number of declarations per year is 100,000, then the revenue is MMK 3 billion, which is equivalent to USD 2.2 million at the exchange rate of USD 1.00=MMK 1,350.

## (5) Electricity Supply and ICT Network Capacity

With regard to the infrastructure for stable electricity supply and ICT network capacity, the MCD should study in advance how such infrastructure would affect the operation of the MACCS.



### 4.5.3 Prospective Expansion Sites

Considering the issues above, the prospective expansion sites after Myawaddy. The MCD mentioned Tachileik and Muse. As Myanmar's economy grows and trends of trade will change in the future, a proactive approach such as changing the prioritized MACCS implementation site to fast growing port of border depending on the development of certain port or Special Industrial Zone.

## 4.6 Security at the Border

Government of Myanmar (GOM) needs to fulfill the requirements set by conventions of WTO because Myanmar is a member of WTO. WTO has conventions related to security at an airport and a seaport, namely the Convention on International Civil Aviation and the International Convention for the Safety of Life at Sea (SOLAS) at a seaport.

The Convention on International Civil Aviation, known as Chicago Convention provides security requirements at an airport. The International Civil Aviation Organization (ICAO) made a security manual.

The SOLAS Convention provides security requirements at a seaport.

### 4.6.1 Security at Airports

#### (1) National Civil Aviation Security

GOM developed the National Civil Aviation Security Programme (NCASP) in 2012 as its own security measure. Based on the NCASP, National Civil Aviation Security Committee and National Aviation Security Working Committee were established in 2016.

In line with the NCASP, GOM will enhance security measures at airports. GOM will delegate security works at three international airports, namely Yangon, Nay Pyi Taw, and Mandalay to international security companies. GOM recently started selection of security companies. The selected security companies will exercise security works at those airports.

#### (2) Requirement of Chicago Convention

The Chicago Convention has the Annex 17 - Security and the security manual was developed by the ICAO as the Annex 17 - Security. Safeguarding International Civil Aviation against Acts of Unlawful Interference. The member of the Chicago Convention needs to fulfill the requirements set by the Chicago Convention and the ICAO.

**Table 4.10 Situation on Security at Airports**

No.	Name	Current Security Measures
1	Yangon	<ul style="list-style-type: none"> <li>➤ Security Committee is established and periodically (monthly) operated.</li> <li>➤ Metal detectors, CCTVs, X-ray inspection machines for hand baggage are installed through flows of departure and arrival at the Terminal 1 and 2.</li> <li>➤ No canine dog, explosive detector is installed at the Terminal 1 and 2.</li> <li>➤ Myanmar Advance Passenger Processing System (MAPPS) is under development and has not been implemented yet.</li> <li>➤ Human resource development is poor.</li> </ul>

2	Nay Pyi Taw	<ul style="list-style-type: none"> <li>➤ Security Committee is established and periodically (monthly) operated.</li> <li>➤ Metal detectors, CCTVs, X-ray inspection machines for hand baggage are installed through flows of departure and arrival.</li> <li>➤ No canine dog, explosive detector is installed.</li> <li>➤ MAPPS is under development and has not been implemented yet.</li> <li>➤ Human resource development is poor.</li> </ul>
3	Mandalay	<ul style="list-style-type: none"> <li>➤ Security Committee is established and periodically (monthly) operated.</li> <li>➤ Metal detectors, CCTVs, X-ray inspection machines for hand baggage are installed through flows of departure and arrival.</li> <li>➤ No canine dog, explosive detector is installed.</li> <li>➤ MPPS is under development and has not been implemented yet.</li> <li>➤ Human resource development is poor.</li> </ul>

Source: JICA Survey Team

## 4.6.2 Security at Seaports

### (1) National Maritime Port Security

GOM established National Maritime Port Security Committee chaired by the Minister of Transport and Communication in 2006.

Under the responsibility of the committee, GOM is enhancing security measures at seaports. GOM is delegating security works at nineteen seaports including international and domestic seaports to international terminal operators. GOM recently started selection of terminal operators. Some operators have been selected and started their terminal operation.

### (2) Requirement of SOLAS Convention

GOM currently takes security measures in seaports of Myanmar according to the requirements of the SOLAS Convention as follows. The International Ship and Port Facility Security Code (ISPS code) provides the requirements. ISPS codes of some seaports have not been certified. The reasons are as follows: 1) facilities of the seaport has not fulfilled the requirements of ISPS code, or 2) facilities of the seaport has not been examined although the facilities have fulfilled the requirements of ISPS code. The needs to get certificate of ISPS code in Myanmar is low because the international trade volume in Myanmar is not much.

**Table 4.11 Situation on Security at Seaports**

No.	Name	Current Security Measures
1	Sittwe	International Ship and Port Facility Security (ISPS) code has not been certified.
2	Kyaukphyu	ISPS code was certified by Department of Maritime Administration (DMA).
3	Thandwe	ISPS code has not been certified.
4	Patheingyi	ISPS code has not been certified.
5	Yangon (Thilawa)	ISPS code was certified by DMA. Terminal areas are secured by fence and barbed wires. CCTVs were installed and movements of cargoes and persons are controlled by the CCTVs. Truck Driver Identification Systems will be installed by the end of 2017. Metal Detective Devices will be installed by the end of 2017. Explosive Detective Devices were installed. Large scale x-ray scanners were installed. Canine dogs are operated at the Asia World Port Terminal only.

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6	Mawlamyine	ISPS code has not been certified.
7	Dawei	ISPS code has not been certified.
8	Myeik	ISPS code has not been certified.
9	Kawthaung	ISPS code has not been certified.

Source: JICA Survey Team

## 4.7 Issues of CIQ and Solutions

### 4.7.1 Issues of CIQ

#### (1) Issues on Import and Export License

Regarding import and export procedures, a major issue pertains to license. MOCom designated the items that require an import or export license. Among the 10,000 items, 3,988 require an import license and 9,000 an export license. The license application procedure is complex. Before applying to the MOCom for a license, an importer or exporter must acquire a recommendation letter from the relevant government authorities. This is a double administrative requirement and a major burden on importers and exporters alike.

For an import or export license application at a border checkpoint, the MOCom developed a Border Trade Online System (BTOS) to issue such licenses. The system aims to facilitate transactions for local traders.

#### (2) Issues on Customs

As a member of the WTO and the World Customs Organization aiming to modernize customs for trade facilitation, Myanmar implemented the MACCS in November 2016 and introduced it in the Yangon area. The government of Myanmar just began rolling out the MACCS in the Myawaddy border checkpoint. The MACCS can establish the NSW system by working with other government organizations in such procedures as conducting plant and animal quarantine, and issuing a country of origin certificate as well as an import or export license.

Myanmar has yet to conceptualize the development of the NSW system fully. The country needs to make a blueprint for implementing and developing the system.

The MACCS reportedly enhanced the connectivity of Myanmar. However, interviews with trade-related associations revealed the following issues in improving clearance procedures.

- Another concern on using the MACCS is that it is not connected to the banking system. The importer cannot pay the duty directly from his or her bank account. If it is directly connected to the banking system, then the import/export declarant does not need to deposit the duty amount to the MACCS in advance of the declaration. The Director General of the MCD is trying to approach bank CEOs and asking them to connect their banks to the MACCS so that it would be possible to directly pay duty from a bank account.
- According to the private sector, and JETRO World Business News of 10 June 2016, the risk management system is expected to release 60% of cargoes as green (computerized examination). However, most declarations belong in the red category (physical examination) that requires more time for clearance. The business community is expecting more cargoes to be selected green so that goods can be released in a shorter time.
- Neighboring countries are using different clearance systems. It is difficult to exchange

information between the MCD and neighboring customs because of legal and technical constraints. Information exchange through the private sector in neighboring countries, not by customs authorities, may contribute to trade facilitation and enhancing connectivity.

- Regarding the CBTA, Myanmar signed but has yet to ratify it. Thus, it has yet to introduce Single Window Inspection or Single Stop Inspection system of cargo examination at the border.

### **(3) Issues on Port EDI**

The Port EDI introduction project by the Myanmar Port Authority, which JICA supports, is ongoing at Yangon port, and Port EDI is expected to start operating in October 2017. However, the project seems slightly delayed. Port EDI will be connected to the MACCS and form a part of the NSW. It is expected to be expanded further to other ports.

### **(4) Issues on Immigration**

The Yangon International Airport immigration office is introducing the MAPPS, which obtains information on the air passenger prior to his or her arrival in Myanmar, and checks it against the information that the authorities already have. The electronic MAPPS is now being tried and will begin operating soon. Compared to going through the immigration office at the international airport, going through a land border checkpoint tends to be easier because it may be possible to cross the border without being checked by a competent authority.

## **4.7.2 Solutions**

Considering the abovementioned situations and findings from the survey, it is necessary to consider the solutions listed below.

### **(1) Issues on Import and Export License**

	Issue	Solution to consider
1	Many items require an import or export license.	<p>Myanmar has been taking measures to reduce the number of items that required an import or export license by reviewing the license requirements. However, an import license is still required for 3,988 items. For export, almost all the items are subject to an export license.</p> <p>To consider the requirements for import and export licenses, Myanmar should refer to international agreements and conventions such as WTO Sanitary or Phytosanitary measures, CITES (Convention on International Trade in Endangered Species of Wild Flora and Fauna), and items controlled under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. These agreements are accepted internationally for requiring licenses. Also, based on these agreements, the public will understand items that are prohibited or restricted for import or export for safety and security purposes.</p> <p>It is recommended that Myanmar review the current items listed for import and export licenses, and limit the items only to those listed in the international agreements above.</p>

2	Double administrative requirement for import or export license	<p>The import or export license shall be managed and issued directly by the specialized authority in charge of the items, as it is more effective and efficient.</p> <p>As Myanmar plans to develop the NSW, the concerned authority for licenses can be connected to the NSW and issue the license and monitor the usage status more effectively.</p> <p>It is recommended to incorporate the license procedure in the NSW and have the authority in charge of the listed items manage the procedure directly.</p>
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## (2) Issues on Customs

	Issue	Solution to consider
1	The ratio of being selected green by the risk management system is limited (the target of 60% is in the public domain).	<p>The selectivity target ratio is different by season and item. The target is usually not in the public domain as it is a tool for control and enforcement. The issue here is a faster clearance of the goods. It is recommended that the MCD review the existing clearance system, identify the bottleneck of slow clearance, and take necessary measures for improvement.</p> <p>Conducting a time release survey would be a means to identify the bottleneck.</p>
2	Cargo clearance is handled manually and taking more time at the land border checkpoints and local ports other than the Yangon area which uses the MACCS.	It is recommended to implement the MACCS including all the land border cargo clearance offices. In Myawaddy, the MACCS implementation project has started.
3	CBTA Single Stop Inspection (SSI) is not yet implemented in Myanmar.	Discussion with Thai Customs is ongoing. The MCD is willing to implement SSI when the second friendship bridge is to start operating in October 2018. It will be preferable to have SSI implemented at all land border checkpoints.
4	Information exchange among competent authorities in Myanmar and neighboring countries is insufficient because of legal constraints.	<p>The issue is to exchange trade-related information between the government sector that tackles trade facilitation and the private sector that operates cross-border business. Although information exchange among governments (G2G) is needed, legal ground for information exchange has not been established among the countries concerned. Legal ground such as the so-called ASEAN Common Customs Act should be agreed for G2G information exchange. However, it may take a long time to agree on such act. Information exchange in the private sector (B2B) is more practical. For instance, it is possible to establish a cloud-based secure platform in the Internet for B2B information exchange.</p>
5	Myanmar has yet to start developing the NSW system, and should make a blueprint for preparing and implementing such system.	<p>Myanmar does not have the NSW system yet. The MACCS system is designed to connect to the Port EDI system and other government agency systems to implement the NSW system. It is recommended that Myanmar formulate a taskforce for developing the NSW system.</p> <p>The work would start with developing a blueprint for developing and implementing the NSW system. The taskforce should discuss issues such as who should manage the NSW system, which ministry and department would be involved in the system, and sources of funding the system.</p>

### (3) Issues on Port EDI

	Issue	Solution to consider
1	The Port EDI system implementation project is ongoing at the Yangon port. The system is expected to be in operation from October 2017 but it is being delayed. Connection to the MACCS must be confirmed.	There is some delay in the system's implementation at the project's final stage. It is recommended to monitor the project's progress and do the best it can to be in accordance with the original plan. The MACCS is ready to connect to Port EDI and expected to expand to receive ship cargo manifest. The stable operation of the Port EDI needs to be confirmed at first at the Yangon port. For further expansion of the Port EDI to local ports, the MPA needs to seek a budget for such purpose by demonstrating the effectiveness of the Port EDI.

### (4) Issues on Immigration

	Issue	Solution to consider
1	Obtaining information on the air passenger in advance of his or her arrival in Myanmar is a modern technique for security and risk management of the country. The Yangon International Airport immigration office is introducing the MAPPS to obtain air passenger information in advance. The information will be checked against the information that the authorities already have.	The MAPPS is a useful tool for profiling passenger information in advance of their arrival at the airport. Effective use of the system needs cooperation by the airline company that provides the passenger information to immigration in advance of their arrival, training to the immigration officers in charge of MAPPS data analysis, and allocation of proper officers to the data analysis office of immigration. It is recommended that the immigration office implement the MAPPS properly and effectively.
2	The land border area is not properly managed, as people can cross the land border or river easily without being checked by a competent authority.	Myanmar has long borders with Thailand, the Lao PDR, China, India, and Bangladesh. It has official routes for crossing the border with CIQs facilities. However, there are many unofficial routes that allow people to cross the border easily. Security and safety are major issues for Myanmar, but it takes many enforcement officers to control and monitor the movement of people. It is recommended to formulate the border patrol teams at the major border checkpoints and move the teams around. Each team shall consist of not only officials of the immigration office but also those of other border enforcement agencies such as customs, military, and border police. An effective approach would be to set a CCTV camera for monitoring each border route and area. Setting up a checkpoint for monitoring and controlling the movement of people would be another approach. Budget should be secured for implementing the measures above with many trained officers.

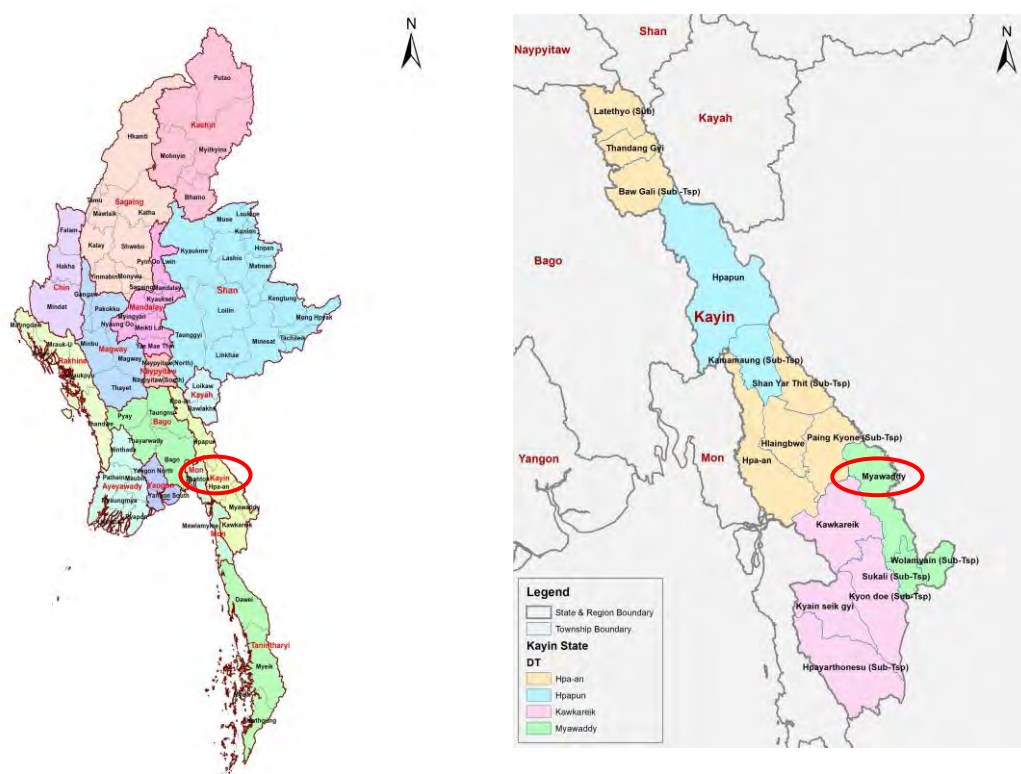
## Chapter 5 Myawaddy Area Development

### 5.1 Current Myawaddy Area

#### 5.1.1 Socio-Economic Situation

##### (1) Location and Administrative District

Myawaddy area is located in Miywaddy district, Kayin State and faces a border with Thailand (Mae Sot district, Tak Province). It is on the East-West Corridor, and almost half way between Yangon (about 450 km) and Bangkok (490 km). Kayin state has 4 districts (Myawaddy, Hpa-an, Kawkareik and Hpapun) divided in to 7 townships.



Source: Population and Housing Census, Ministry of Immigration and Population, 2014

**Figure 5.1 Location of Myawaddy and Administrative District**

##### (2) Population by State/Region and District

Table 5.1 shows area and population by state and region. Although area of Kayin is three times larger than Yangon, population in Kayin state is 20% of Yangon. Population density is 51.8 people/km. This is lower than that of the national average (76.1 people/km).

**Table 5.1 Area and population by State and Region (2016)**

State/region	Area (km <sup>2</sup> )	Population (1,000 persons)	Population Density (people/km <sup>2</sup> )	State/region	Area (km <sup>2</sup> )	Population (1,000 persons)	Population Density (people/km <sup>2</sup> )
Kayin	30,381	1,574	51.8	Magway	44,818	3,917	87.4
Yangon	10,170	7,361	723.8	Mandalay	29,954	6,166	205.8
Kachin	89,038	1,689	19.0	Mon	12,296	2,054	167.0
Kayah	11,731	287	24.5	Rakhine	36,776	3,189	86.7
Chin	36,017	479	13.3	Shan	155,795	5,824	37.4
Sagaing	94,621	5,325	56.3	Ayeyarwady	35,136	6,185	176.0
Taningtharyi	43,343	1,408	32.5				
Bago	39,402	4,867	123.5	Total	676,552	51,486	76.1

Source: Myanmar statistics 2016, Central Statistics Office, 2016

Population in Myawaddy district is about 0.2 million in 2015. While the population growth rate of Kayin state overall is growing 4.76% from 2009 to 2013, Myawaddy district is increasing 126.04% in the same period. The reason for this is that democratization after 2011 and cancellation of restrictions for foreigners to visit Myawaddy District promoted rehabilitation of the East-West Corridor and acceleration of increasing people and goods.

**Table 5.2 Population by District (in 2009 and 2015)**

District	Population (2009)	Population (2015)	Population Growth Rate (%/year)
Myawaddy	89,030 (6.4%)	201,246 (13.8%)	14.6 %
Hpa-an	772,401 (55.6%)	759,950 (52.3%)	-0.3 %
Hpapun	46,880 (3.4%)	32,719 (2.2%)	-5.8 %
Kawkarek	479,835 (34.6%)	460,749 (31.7%)	-0.7 %
Total	1,388,146 (100%)	1,454,264 (100%)	0.8 %

Source: Health Profile 2009, FAO, 2009, and Population and Housing Census, Ministry of Immigration and Population, 2014

### (3) GRDP in 2015

Table 5.3 shows Gross Regional Domestic Product (GRDP) from 2012 to 2030 which was estimated in "the Survey Program for the National Transport Development Plan in the Republic of the Union of Myanmar. In 2015, GRDP in Kayin state is fourth lowest in all states and regions, and only 10% of Yangon.

**Table 5.3 GRDP by District and State from 2012 to 2030**

(Unit : 10 billion kyat)

State/region	2012	2015	2020	2030
Kayin	829	1,033	1,503	3,583
Yangon	10,294	13,710	21,705	47,162
Kachin	1,097	1,317	1,858	3,467
Kayah	172	227	345	667
Chin	154	182	253	542



Sagaing	5,508	6,320	7,731	12,320
Taningtharyi	1,679	1,941	2,646	5,863
Bago	4,027	4,700	6,581	14,124
Magway	4,631	5,171	6,582	9,660
Mandalay	5,186	6,388	9,915	22,782
Mon	2,063	2,502	3,560	7,580
Rakhine	1,856	2,244	3,420	7,676
Shan	3,373	3,753	4,929	9,185
Ayeyarwady	5,465	6,267	7,772	12,597
Total	46,915	56,565	80,080	160,498

Source: Survey Program for the National Transport Development Plan in the Republic of the Union of Myanmar, JICA, 2014

#### (4) Industry

Structure of industry in Kayin state is almost the same as the whole country. Although the number of private food and beverage companies in Kayin are the largest, the average number of these employees is only 4.27 persons (Table 5.4). On the other hand, the number of textile and garment companies (labour intensive industries) is 13 and the average number of employees is 97.5 persons because these industries can hire a lot of employees with lower wages. Foreign companies such as Taiwanese operated garment factory. Kayin state also has some state-owned companies such as cement factories.

**Table 5.4 Industry in Kayin State (2012-13)**

	Agriculture	Manufacturing	Service
Kayin	38%	22%	40%
Myanmar*	39%	19%	42%

Note: \*Myanmar: Year 2011-12

Source : National Comprehensive Development Plan (2012)

**Table 5.5 Number of Manufacturing companies in Kayin State**

Sector	Number of companies	Number of employee (person)	Investment value (Million kyat)	Productive value (Million kyat)
Food/beverage	430	1,838	9,056	22,299
Textile/garment	13	1,268	5,325	1,485
Household utensils	168	851	482	1,267
Utensils	11	43	38	31
Raw materials for industry	1	30	161	151
Mining products	101	305	135	127
Agricultural machine	4	16	9	25
Industrial machine	7	18	2	2
Vehicle	2	29	143	528
Others	193	662	228	220
Total	930	5,060	15,758	26,134

Source : JICA study report, 2014

## (5) Border Trade

67% of imported goods (ton) and 12% of exports from Yangon to Bangkok in 2015 are currently transported by sea which takes about 21 days. It takes only 3.5 days by land transportation from Bangkok-Myawaddy-Yangon because of the rehabilitation of infrastructure, introduction of MACCS and CBTA. This time is expected to be shorter because of the rehabilitation of infrastructure from Miyawaddy to Yangon. This situation makes Myawaddy a more important area. The number of goods vehicles entering and exiting Myawaddy border is increasing year by year. The number of vehicles entering Myawaddy is much larger than that of those exiting. It makes an imbalance of import-export.

**Table 5.6 Number of Goods Vehicles Entering and Exiting  
Myawaddy Border Crossing Points, 2010-15**

	Unit: Number of trucks				
	2011	2012	2013	2014	2015
Entering Thailand	87	1,089	1,061	1,467	1,888
Exiting Thailand	300	20,098	38,892	62,383	94,855

Source: ADB(2016)

The table below shows the largest number of imported goods in Myawaddy border are motorcycles, following sugar, combine harvesters, motorcars and mix LPG (liquefied petroleum gas). The number of ground nuts are the largest export goods and foods including onion, dried chili, fish and crab occupy the top 5.

**Table 5.7 Export/Import Goods in Myawaddy Order (2015-16)**

Import				
No.	contents	Unit	Volume	Total amount (USD)
1	B/N Motorcycle	Ton	72,790	105,488,968
2	Sugar	Ton	180,570	104,564,476
3	Combine harvester	U	1,718	51,240,424
4	B/N Motorcar	U	2,457	50,770,733
5	Mix LPG	Ton	11,517	16,352,902
6	Energy Drink	Litter	14,771,067	16,298,466
7	Bird's Nest	Ton	285	11,497,965
8	Juice	Ton	14,806	9,080,147
9	Excavator	U	184	7,881,142
10	Cosmetics and accessories	Ton	2252.11	7,814,268

Export				
No.	contents	Unit	Volume	Total amount (USD)
1	Groundnut	Ton	10,155	13,564,760
2	Onion	Ton	17,611	6,528,650
3	Dried chilli	Ton	2,471	4,877,260
4	Fish	Ton	3,422	4,171,074
5	Crab	Ton	1,113	1,849,383
6	Finished garment	Ton	29	1,768,701

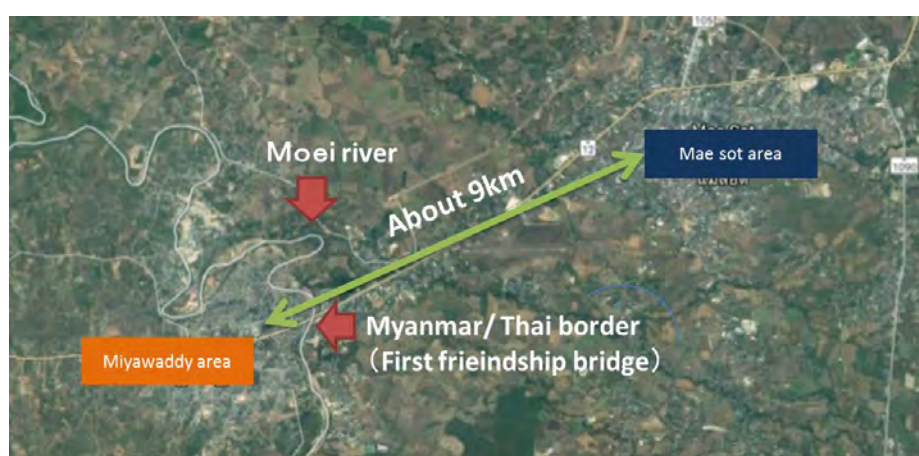
7	Maize	Ton	5,160	1,302,800
8	Antimony Core	Ton	840	951,160
9	Petisein (Green mung bean)	Ton	927	880,860
10	Prawn	Ton	111	860,304

Source: Ministry of Industry (2017)

## 5.1.2 Connectivity between Myawaddy area and Mae Sot

### (1) Geographical Connection

Myawaddy area has border with Mae sot district, Tak province along the river, Moei. The narrowest width of river is only 10m and people can walk through the river at some point during the dry season. Residents in border area have border passes which can make them enter into each country at some border points without any immigration procedure.



Source : JICA Survey Team

**Figure 5.2 Location of Myawaddy and Mae Sot**

### (2) Forming One Economic Zone

Border Trade between Miywaddy and Mae Sot has been done for a long time. According to the government stuff in Miywaddy,<sup>1</sup> normal trade volume 2016-17 is about 0.9 billion USD but illegal trade is estimated to be 1.5 billion USD. When JICA Survey Team visited Myawaddy, many products made in Thailand especially consumer products, were seen at the local retail shops. According to the Myanmar Customs at Myawaddy, there are 35 of unofficial import routes from Thailand, but Thai Customs recognizes 15 routes and all of them are official export routes. Since border of both countries is designated along the very narrow River Moei, which can be crossed by walking in the dry season, it is hard to completely manage/control border trade or immigration.

Both local peoples have border pass which gives special cross-border permission for frequent travel in Myawaddy and Mae Sot area. Using this, about 300 Thai citizens come to Myawaddy in a day, which are mostly tourists. While about 2,700 persons of Myanmar citizens go to Mae Sot a day, which are mostly shopping and working at Thai side. About 60 foreign visitors/day passes the bridge.

<sup>1</sup> Myanmar Insider (2017), Volume4-Issue43



**Photo 5.1 Border Point**



**Photo 5.2 Myanmar Workers to Thailand**

### **(3) Myawaddy Trade Zone**

Myawaddy has one stop service center for export and import procedure, which is called the “Myawaddy Trade Zone”. The Myawaddy Trade Zone is operated from September, 2008. The area of the zone is 466 acres (approx. 75ha). The zone is developed for integrated services regarding trade such as MOCOM (export/import license) customs, immigration, revenue office, bank and police. MOCOM owns land and facilities in the zone and is responsible for overall management of the zone. The zone works 7 days in a week from Monday to Sunday, while Thai side works only weekdays and half day of Saturday.

Thai trucks come into Myawaddy with import goods. These trucks go to private warehouses, parking or road-side in and around Myawaddy to transfer the import goods to Myanmar trucks there. The Myanmar trucks with the import goods will go to the Myawaddy Trade Zone for custom clearance. Regarding the number of trucks in the zone, about 200 to 300 trucks for import per day, while 10 -30 trucks for export a day. Total amount of trade at the zone is about 2.5 to 3 million USD a day.

### **(4) Myawaddy Complex**

There is a casino<sup>2</sup> near to Myanmar-Thailand border which opened in 2015. Many Thai tourist visit there because operating Casino is not allowed in Thailand. According to an interview with an employee in the casino, about 600 Myanmar citizens and 100 Thais are employed. This contributes to generate new job opportunities in service sector at Myawaddy.

## **5.2 On-going Projects at Myawaddy Area**

### **5.2.1 Myawaddy Industrial Zone**

The Ministry of Industry officially designates 26 of industrial zones (IZ) in Myanmar. Out of 26 IZs, 18 industrial zones are operating and 7 new IZs are under planning, construction and partially operating as shown in Table 5.8.

Myawaddy IZ is planned as one of new IZ plans. Local newspaper<sup>3</sup> says that it will be opened

<sup>2</sup> Myawaddy Complex

<sup>3</sup> Myanmar Times (29.9.2015)

within 2017 and local developer undertakes construction. However, JICA Survey Team visited and interviewed the related persons at Myawaddy and Yangong, and found that there was no actual IZ development project in Myawaddy area yet.

**Table 5.8 Industrial Zones in Myanmar**

Name of Industrial Zones	State/Region	Year of Opening	No. of Companies operated	Total Area (ha)	Workers per firm (2009-10)
Existing					
East Yangon Industrial Zone (10 zones)	Yangon	1992	3204	1295.1	38.6
West Yangon Industrial Zone	Yangon	Unknown	659	Unknown	38.6
South Yangon Industrial Zone (2 zones)	Yangon	1996	3	350.2	38.6
North Yangon Industrial Zone (12 zones)	Yangon	1990	1093	3634.7	38.6
Hinthada Industrial Zone	Ayeyarwaddy	1995	9	34.9	6.9
Myaungmya Industrial Zone	Ayeyarwaddy	1995	9	23.5	6.9
Patheingyi Industrial Zone	Ayeyarwaddy	1993	51	43	6.9
Pyaw Industrial Zone	Bago	1992	143	48.9	6.5
Pakokku Industrial Zone	Magway	1998	274	153.3	5
Yaengyaung Industrial Zone (Yananchaung)	Magway	1998	90	69.5	5
Mandalay Industrial Zone	Mandalay	1990	1379	501.5	9.7
Meiktila Industrial Zone	Mandalay	1997	290	156	9.7
Myingyan Industrial Zone	Mandalay	1995	265	66.2	9.7
Mawlamyine Industrial Zone	Mon	1995	83	69.2	5.2
Monywa Industrial Zone	Sagaing	1999	632	147.8	6.9
Kalay Industrial Zone	Sagaing	2004	76	67.7	6.9
Ayetharyar Industrial Zone (Taung Gyi)	Shan	1995	932	365	4.3
Myeik Industrial Zone	Tanintharyi	1999	8	128.9	131.6
Pha-an Industrial Zone	Kayin				
New					
Myawaddy	Kayin				
Pha-an	Kayin				
Tetkone	Naypyitaw				
Yatampon	Mandalay				
Pkayar Thone Su	Mon				
Nant On	Shan				
Ponnagyun	Rakhine				

Source: Ministry of Industry, 2013

## 5.2.2 Tak SEZ (in Thai Side)

Thailand currently faces drastic socio-economic changes. Decrease of birth rate is slowing down population increase, resulting in the decrease of new workers. Long and favorable economic growth raised the wage level, which resulted in losing international competitiveness in the manufacturing sector. Accordingly, Thai government focuses on promoting higher valued manufacturing under “Thailand 4.0” in Bangkok and vicinity, and the Eastern Sea-board (ESB) area on one hand, and encouraging industrial relocation especially labor-intensive manufacturing from those areas to the border area on the other hand, which can expect abundant labor source with lower cost from surrounding countries. In this sense, the Thai government currently promotes border special economic zone (SEZ) development for accelerating concrete and balanced development at border areas, improving quality of life and solving security problems. Thai Government focuses on 10 provinces including Tak Province (Mae Sot area).

Thai Government designates a total area of 1,419Km<sup>2</sup> as Tak SEZ, which covers a whole area of 3 districts along River Moei in Tak Province. The Thai government provides the budget for the border SEZ project with a total of 7,362 million baht in 2015 to 2016. Tak province gets total 2,514

million baht (infrastructure: 2,223 million, custom check points:123 million, public facility:168 million). Target activities of the Tak SEZ are:

- Agricultural, fishery and related industries
- Ceramic products
- Textile garment and leather industries
- Manufacturing of furniture
- Gems and Jewelry
- Medical equipment
- Automotive, machinery and parts
- Electrical appliances and electronics
- Plastic
- Medicine
- Logistics
- Industrial estates/zones
- Tourism related industry

Investment incentives can be available at the Board of Investment (BOI) for the economic activities belonging to the list above, which is an exemption of corporate income tax for a period of eight years, import tax exemption for machinery and raw materials, and permission to employ foreign unskilled workers in the promoted projects. In fact, JETRO surveys 10 factories in Mae Sot in 2010, of which seven companies in Saha IZ engages light industry producing garment, leather shoes, bag and toy. There factories have 1,200 employees. Out of them, 1,000 persons or 83 % of total employees are Myanmar nationalities.

### **5.3 Implications from Experience of Development along Economic Corridor**

#### **5.3.1 Typical Development Cases**

##### **(1) Border Area Development**

The purpose of border area development is to activate regional economic activities by smooth movement of people, goods and money. In Mekong countries, facilitation of logistics by setting up border trade zone, promotion of commercial activities by issuing border pass and tourism promotion by setting up tourism facilitation such as Casino have been done for border area development.

##### **1) Logistics**

Border area has a great development potential on cross-border logistics. There are large business opportunities such as customs broker services, transshipment (load and unload) of goods, warehousing (bonded warehousing) and transport etc. at border area.

There are many examples such as Nong Khai (Thailand)/ Thana Leang (Lao PDR), Savanakheth (Lao PDR)/ Mukdahan (Thailand), Aranyaprathet (Thailand)/ Poipet (Cambodia), Bavet(Cambodia)/ Mocbai (Vietnam) and Lao Bao (Vietnam)-Dansavan (Laos).

There is a unique local role between Thailand and Cambodia. Cambodia accepts free entry of Thai and Viet Nam vehicles within 20 km. It brings many business opportunities in the Cambodia side since all transshipment work is done in Cambodian side due to lower cost and free entry. It is

also beneficial for factories located in Cambodian side (within 20km) because they don't need to prepare truck in Cambodian side.

## 2) Shopping and Service

In the border area, some unique types of commerce activities have been done because of the geological and historical connectivity and each countries' recent economic development. To promote commercial activities, Mekong countries issue border-passes for local residents to allow them to stay for a few days in foreign countries. There are two types of commercial activities. One is that of retail seller and service industries such as hospital and schools in higher income countries gain customers in lower ones. Another one is that manufacturing products from lower income countries are sold with cheap price to residents in higher ones. For example, wealthy people in Vientiane, Laos visit Nong Khai and Udon Thani in Thailand for shopping and hospital. Many Lao people can be seen in border area on weekend. In Rong Kluea market at Aramyapraphet (Thailand) - Poipet(Cambodia) border area, clothes produced in Phnom Penn and Poipet are sold with cheap price to Thai and foreigners. Although this market is located in Thai side, most of shop owners and keepers are Cambodia people who commute from Cambodia everyday by using border pass. It is estimated that about 5,000 Cambodia people work there, which contributes to the job creation in this area.

## 3) Tourism

Lower income countries tend to set up casinos to attract tourists from higher income countries. Lower countries can gain benefits from income of foreign currency and job opportunity in non-agricultural sector in rural area.

**Table 5.9 Casino at Border Area in Mekong Countries**

	Region · Country	Open Year	Remarks
1	Myawaddy/Myanmar	2015	On the East-West Economic Corridor, For Thai tourist
2	Savannakhet/Laos	2009	On the East-West Economic Corridor, For Thai tourist
3	Bavet/Cambodia	2004	On the South Economic Corridor, For Vietnam tourist
4	Koh kong/Cambodia	1997	On the South Economic Corridor, For Thai tourist
5	Poipet/Cambodia	1999	On the South Economic Corridor, For Thai tourist

Source: JICA Survey Team

## (2) International Division of Production

The factories of manufacturing industries tend to repeatedly move to better place to minimize production cost including transport cost. The manufacturing industries, especially labor-intensive industries in Thailand recently relocated to surrounding countries to minimize production costs, of which the movement is called as "Thai-Plus-One". It is a good chance for the surrounding countries for their industrialization as well as logistics business development. To grab the business chance, there are many projects to establish industrial compounds like economic special zones, industrial zones and industrial parks at the border area along economic corridors.

**Table 5.10 Special Economic Zone at Border Area in Mekong Countries**

	Name of facilitation	Region • Country	Open Year	Remarks
1	Muse border trade zone	Muse/Myanmar	2004	China(Mizurei) border
2	Moc Bai border gate economic zone	Moc Bai/Vietnam	2008	On the South Economic Corridor
3	Manhattan special economic zone	Bavet/Cambodia	2006	On the South Economic Corridor
4	Koh Kong special economic zone	Koh kong/Cambodia	2006	On the South Economic Corridor
5	Sanko Poipet special economic zone	Poipet/Cambodia	2013	On the South Economic Corridor
6	Lao Bao special economic and trading zone	Lao Bao/Vietnam	2005	On the East-West Economic Corridor
7	Dansawan border trading and commerce area	Dansawan/Laos	2002	On the East-West Economic Corridor
8	Savan-Seno special economic zone	Savanalhet/Laos	2003	On the East-West Economic Corridor

Source: JICA Survey Team

**(3) Linkage between Market and Production Area**

Cash crop cultivation and added value processed agricultural products from lower income countries are sold with high price in market in higher ones. Lower income countries can gain more income and foreign currency through these economic activities. There are rich natural resources such as Mekong river for agriculture in Mekong countries. It also has sufficient forest resources. Agricultural products and forest resources in Mekong countries are recently added high value by technical transfer and invest from foreign countries, which can sell with higher price to the market in higher income countries. For example, cabbage and Chinese cabbage in the Boloven Plateau in southern Laos are cultivated and sold with high price in Thai market when these vegetables are short in market. Vegetables in Dalat Plateau in central Vietnam are cultivated by Japanese companies and transported to Cambodia to sell to wealthy people at the shopping centre. There is gum plantation in southern and northern Laos which are sold to Vietnam and China.

**5.4 Considerations on Further Development of Myawaddy Area****5.4.1 Development Opportunities****(1) Thai Context (more acceleration of Thai+1)**

As mentioned, many factories, especially labour-intensive factories in Thailand currently tend to move to the border areas in Cambodia, Laos and Myanmar because of increasing wage and labor shortage. There is an advantage with easy use of unskilled foreign labors at the border areas with designation of the border SEZ. Chulalongkorn University and JICA survey mentioned that there were about 400 labour-intensive factories such as garment and textile in Mae Sot in 2012 where approximately 20,000 Myanmar persons worked there.

**(2) Increase of Export and Import**

Depending upon sound economic growth of Myanmar, trade volume gradually increases year by year. Regarding the total export amount by the value of the goods, it increases by 3.8 times from the base year of 2004-2005 to 2015-2016, while the import increases 8.4 times in value basis during the same period. Looking at import and export via land, the export by land increased by 7.8



times, the import increases by 9 times in the same period, too. Myawaddy is the second largest cross-border point in Myanmar and has more varieties of development opportunities based on increased trade volume and traffic of peoples.

#### 5.4.2 Development Potentials

Myanmar government expects that Myawaddy area would be a leading area of Myanmar economy along the East-West Corridor with designating as an industrial, trade and tourism zone. It would be done by widely receiving capital and technology from Thailand and by targeting Thai market as well. On the other hand, Thai government designates Mae Sot Area as a special economic zone for industrial relocation seeking abundant and low-cost labor force in Myanmar. Therefore, it needs a development plan which makes both countries profit.

In reference to the existing cases of development at the border area in the Mekong Region, there are several projects that are identified to boost economy up at Myawaddy area.

- Logistics development: foreign trade will gradually increase depending upon steady economic growth of Myanmar and Mekong countries. It increases demand on more volume and more variety of goods, which may generate more business opportunities in logistics and transport businesses.
- SEZ development: Thai+1 or expansion of global value chain may accelerate international division of production. Based on the lower labor cost, Myawaddy area have more potential on industrial location, if certain infrastructure, incentives and sound legislative operation.
- Agricultural development: Efficient transport to Thai market may secure agricultural development with unique cash crops and rubber plantation.

**Table 5.11 Current Development Situation and Potentiality in Myawaddy**

	Border area development			International Division of Production	Linkage between market and production area
	Logistics	Commercial and service	Tourism		
Current Development	○ (Myawaddy Trading Zone)	○ (Forming one economic zone)	○ (Casino)	---	×
Potential	Special Logistics Zone (Dry port with processing)	---	---	Myawaddy SEZ	Agricultural development

Source: JICA Survey Team

#### 5.4.3 Potential Development Projects

##### (1) Short Term Development

##### 1) Special Logistics Zone Development

It is expected that the number of container truck entering and exiting at the Myawaddy border area will be increasing because of the increasing of logistics volume and number of 40 feet truck through the second Friendship Bridge. Trans-shipment operations are currently carried out at Myawaddy Trading Zone, private owned land, or road side. It needs dry port for shortening

trans-shipment operations, reducing cost and preventing lost cargo. The special logistics zone may serve Single Stop Inspection (SSI) with Thai officials, accommodate truck-head change, warehousing, parking and related miscellaneous services in the site. The dry port project may enhance logistic and related businesses in Myawaddy through contributing increase of trade volume and related employment.

Dry port in Muse could make economic development. In 2000, the Chinese government set up border trading zone with trading, processing facilitation and warehouse. This zone also provides tax incentive. On the other hand, Myanmar government opened Muse border trading zone in 2004. It provides CIQ and warehouse. Free trade zone was designated within 300 km<sup>2</sup> around border. Economic activities were activated in both border area. As a result, Muse became the largest land border gate in Myanmar and had economic benefits from trading business.

However, special logistics zone policy needs to consider the progress of CBTA because transshipment operation will not be needed.

## 2) Special Economic Zone Development

Special Economic Zone has the possibility of promoting investment from Bangkok, Ayuttaya and East Coast Area. From the mentioned above, the factories of manufacturing companies are currently moving not only in domestic areas but surrounding countries, Cambodia and Laos. To promote investment from Thai companies, it is necessary to improve the investment environment and provide better conditions compared to other countries.

Mae Sot area may have more demand of relocation of labor-intensive factories due to construction of Tak SEZ. On the other hand, Myanmar side has an abundant labor force. Accordingly, both sides can be in a win-win relation each other, so there is a great chance to develop together.

**Table 5.12 Characteristics of Myawaddy and Mae Sot**

	Advantage	Disadvantage
Myawaddy Area or other border areas in Cambodia and Laos	<ul style="list-style-type: none"> <li>● Abundant and low-cost labour force</li> <li>● Abundant land</li> </ul>	<ul style="list-style-type: none"> <li>● Insufficient infrastructure and utility</li> <li>● Unstable and not-transparent border trade procedure</li> <li>● Far from big market (Yangon etc.) and deep sea port</li> </ul>
Mae Sot Area	<ul style="list-style-type: none"> <li>● Infrastructure including electricity and water for stable factory operation</li> <li>● Stable raw materials supply</li> <li>● Large market</li> <li>● Good Transport infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>● Shortage of labor force</li> <li>● Higher labor cost</li> </ul>

Source: JICA Survey Team

## (2) Mid and Long Terms Development

From the mid and long terms points of view, Myawaddy area has a possibility to become a logistics passing point between Yangon and Bangkok market because the progress of AEC and CBTA can remove the border barrier. It is on the East-West Corridor, and is almost half way between Yangon (about 450 km) and Bangkok (490 km). Therefore, setting storage and processing facility are considered as development policy in Myawaddy area because of this geographical characteristics and regional resources.

South-east area including Myawaddy area has a large gum plantation and cashew products. Gum can include rubber products such as tire and rubber shoes. Gum tree can be used for materials for furniture and flooring which has demand from the Bangkok market. Cashew can be used as ink or oil. Its nut also can be eaten. These agricultural products can be added value by setting up storage and processing facilitation and transported to Bangkok and Yangon market to sell higher price. It is also considered that vegetable or fruits are collected, stored and processed to add value to create cold chain.

These storage and processing facilitation will be built by private companies' demand. Therefore, Myanmar government is needed to rehabilitate infrastructure around the areas and provide tax incentive.

#### 5.4.4 Potential Project

"Myawaddy logistics park" is considered as a potential development project whose outline is mentioned below.

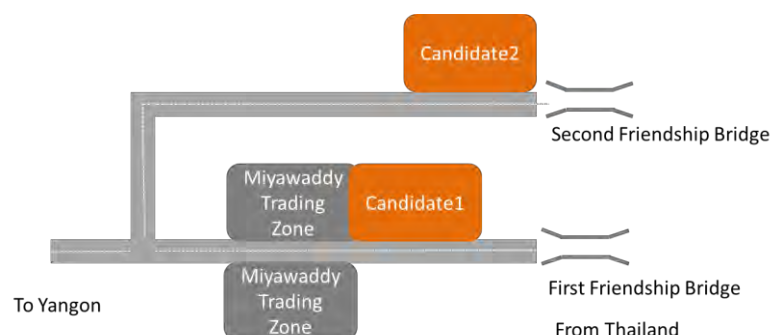
##### (1) Necessity

Current Myawaddy Trade Zone (MTZ) mainly offers one stop service on necessary permit and inspection for export/import. The MTZ has limited other logistics services like storing and transshipment of cargo. The storing cargo and transshipment between Myanmar truck and Thai truck are inefficiently made at small private warehouses or roadside space. It causes traffic congestion in downtown of Myawaddy. Depending upon increase of import cargo volume and kinds of goods, current practice will worsen its efficiency and cause more traffic congestion in town. Accordingly, it is of great necessity to introduce more efficient logistics facility, namely "Myawaddy logistics park", which offers comprehensive services for import/export cargo including OSSC.

##### (2) Location

The Myanmar Government has two candidate sites for new OSSC after developing the Second Friendship Bridge at this moment, which would be the candidates for the Myawaddy Logistics park such as:

- Candidate1: Inside of the Myawaddy Trading Zone.
- Candidate2: Near the Second Thai-Myanmar Friendship Bridge.



**Figure 5.3 Candidate Sites of "Myawaddy Logistics Park"**

Both sites may have advantages and disadvantages. The location should be selected with careful

considerations on land condition, land acquisition, accessibility, future extension, impact on environment, construction cost etc.

**Table 5.13 Preliminary Comparison of Candidate Sites**

	Advantage	Disadvantage
Site 1	<ul style="list-style-type: none"> <li>• Good access to the Bridge (possible to reach Thai truck with current regulation)</li> <li>• Easily develop logistics facility to consider future CCI (common control area) and SSI (single stop inspection) with Thai side</li> <li>• Relatively smaller environmental impacts to urban peoples</li> </ul>	<ul style="list-style-type: none"> <li>• Higher cost of construction and land acquisition</li> <li>• Difficulty of land acquisition (many lands near the Bridge are speculated.)</li> </ul>
Site 2	<ul style="list-style-type: none"> <li>• Less construction cost with expansion of existing OSSC</li> <li>• Less cost and time for land acquisition</li> </ul>	<ul style="list-style-type: none"> <li>• Longer distance from the Bridge (may be necessary to set-up new regulation, if Thai truck reaches the site)</li> <li>• Inconvenience with separated import and export facility</li> <li>• Necessary to expand building for Thai offices when SSI is operated.</li> </ul>

### (3) Function and Service

#### 1) Function

The Myawaddy logistics park works for increased number of trucks by providing with more space for transshipment and efficient operation of customs clearance with MACCS to reduce transportation cost and time. In the later stage, the Myawaddy logistics park works more on distribution processing center and agricultural logistics center for vegetables, fruits and timbers from domestic area to process and distribute to Thai market. Accordingly, the Myawaddy logistics park is a multi-purpose facility for cross-border logistics. Major functions to be included are:

- For goods vehicles from Myawaddy border, it is provided OSSC, transshipment operations, truck-head change, warehousing and parking to reduce the related transportation cost and prevent lost cargo.
- For goods vehicles to Myawaddy border, it is provided cold storage warehouse and distribution processing for vegetables, fruits, timbers etc., to add high value for these products and sell to bigger markets such as Bangkok.
- For certain imported and exported goods, it adds value on goods from/to Myanmar by providing distribution processing utilizing lower cost local labors.

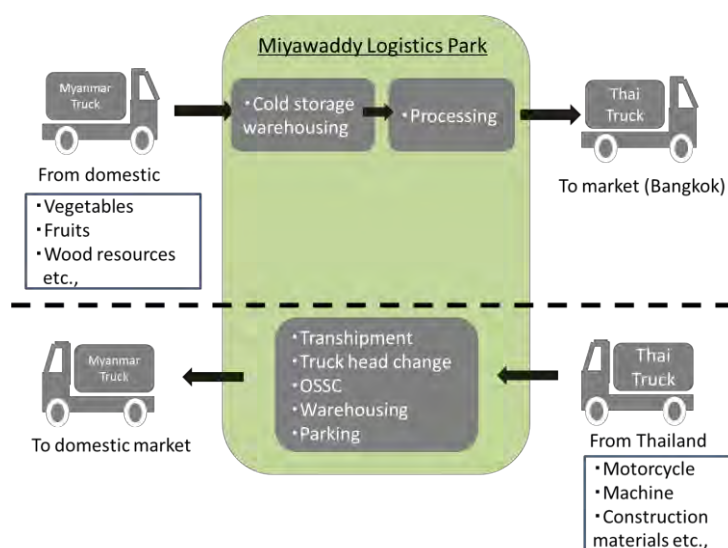


Figure 5.4 Image of “Myawaddy Logistics Park”

## 2) Service

To well facilitate the function above, the Myawaddy logistics park may require the following facilities:

- OSSC (to be SSI in future)
- Container Yard
- Container Freight Station
- Warehouse
- Truck terminal
- Truck parking
- Distribution processing center with cold storage warehouse

The figure below is a image of image layout of the Myawaddy logistics park.



Figure 5.5 Candidate Sites of “Myawaddy Logistics Park”

Layout and necessary facility should be decided with detailed study which includes demand forecast on goods such as import goods like construction materials and consumptive goods, export goods like agricultural products and wood-resources around Myawaddy in near future.

### **3) Implementation**

The Myawaddy logistics park may require to start operation just after the opening of the Second Thai-Myanmar Friendship Bridge because the number of trucks and volume of cargos are expected to dramatically increase.

To minimize public investment as well as to induce private know-how on operation of the logistics facility, PPP scheme should be taken into consideration. Infrastructure such as electricity, water and earthwork will be constructed by ODA or Myanmar government, and operation will be done by private companies.

Myawaddy logistics park should be designated as SEZ to attract foreign investors.

## Chapter 6 Recommendations on Connectivity Enhancement

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### 6.1 Recommendations on Enhancing Connectivity in Myanmar

#### 6.1.1 Past Achievements and Current Issues

##### (1) Physical Connectivity

###### 1) Road

Myanmar connects to Thailand with 2 major GMS economic corridors: The East-West Economic Corridor (EWEC) and the Southern Economic Corridor (SEC). As achievements with past efforts, the EWEC and the SEC have significantly improved to drastically reduce transport-time in the Mekong Region. The EWEC has almost completed in all sections among Myanmar, Thailand, Lao PDR and Vietnam. In Myanmar sections, the 2<sup>nd</sup> Friendship Bridge between Myawaddy and Mea Sot is under construction., The section between Myawaddy and Khawkaeik was improved in 2015 with Thai assistance, and the section between Yangon and Thaton was improved with BOT. The remaining sections to be improved is only the section between Thaton and Khawkaeik. On the other hand, the SEC is the same status as the EWEC. The SEC is completed except for the section between Htee Khee and Dawei. In the Myanmar section of the SEC, the section between Phu Nam Ron (Thai border) and Htee Khee (Myanmar border) was paved, and the section between Thaton, Mawlamyain and Dawei in the National Highway 3 were improved with 2 lanes in 2016.

Another important route connecting to Thailand is the Thabyuzayat-Three Pagoda Pass route. The sections in Myanmar have less progress without foreign assistance.

Even though Myanmar is ratified as CBTA in 2011, there is no bilateral agreement with Thailand yet, so there is no truck entry permission. There is a plan of cross-border facility at 2<sup>nd</sup> Friendship Bridge to manage single stop inspection at common area in future.

Accordingly, remaining issues are the complete improvement of remaining sections along the EWEC and the SEC and to improve cross-border operations to reduce stress time-loss of cross-border at Thai border. It may contribute to faster, reliable and flexible transport in Myanmar.

Based on the considerations above, the followings would be issues:

- Improvement of the Dawei-Htee Khee section of Southern Corridor and Kawkaeik-Eindu-Thaton sections of the EWEC
- Development of OSSC facility and improve to the SSI/CCA with Thailand
- Install road signs (English) in accordance with the ASEAN standards

- Implement road safety measures

## 2) Port

Myanmar has the two ports handling substantial cargo of the international trade, i.e. Yangon Port including Thilawa area (Yangon/Thilawa Port) and Kawthoung Port. Yangon/Thilawa Port is the river port to accommodate up to 9m draft vessels at maximum and connected with ports of the other countries by maritime route. Containers the port is handling are mainly transhipped at Singapore, Port Kelang and Colombo. At Yangon City, the port has little room to expand handling capacity due to limited area and location. While, Thilawa area has abundant room to expand the port capacity to meet future demand. On the other hand, there are 6 domestic ports under the MPA such as Kyaukphe, Thandwe, Patheingyi, Mawlamyine, Dawei, Myeik ports, which are mainly connected to the Yangon port.

Currently, two new ports are constructed or planned in Myanmar. One is Dawei Port where a 100m jetty as “small port” has been built and a big port as a core project of Dawei Development is planned to be built. While, at Sittoung Port at Rakhine State, new port facilities have been constructed as a gateway of the Kaladan Multi-Modal Transit Transport Corridor.

Foreign Trade may continuously increase depending upon economic growth and population increase. Yangon Port will sufficiently meet the demand on the maritime transport in the short-term and the mid-term. Dawei Port will function as a core of the regional development and corridor development, respectively. Under the rise of production cost caused by labour cost increase, the industry sector will strongly require the lower freight to reduce transport cost to secure trade competitiveness of Myanmar against her rival countries. The maritime transport sector should realize more volume of transport with a lower cost. Accordingly, large deep-sea port will be required in future.

Based on the considerations above, the followings would be issues:

- Handling Capacity expansion to meet increasing demand
- Development of deep sea-port along Indian Ocean
- Dawei Port as a core of “Dawei Development”
- Improvement of security and measures for anti-terrorism

## 3) Airport

Myanmar has three international airports such as Yangon, Nay Phi Taw and Mandalay airport, which connect more than 25 cities in abroad. 24 domestic airports mainly connect to Yangon. Traffic demand in both international and domestic airports will continuously increase depending upon economic growth. It is equally important to properly respond to demand by expanding capacity of airports and air businesses under safety conditions.

Based on the considerations above, the following would be issues:

- Expansion of facility depending on demand increase
- Actions on Security and Anti-terrorism



## **(2) Institutional Connectivity**

### **1) Transport**

CBTA is an achievement of GMS countries as a result of regional economic cooperation. Myanmar ratified the CBTA and related protocols and annexes in 2011. On the other hand, Myanmar hasn't reached an agreement on the cross-border transport with Thailand, so that there is no truck entry permission each other. All cargo for cross-border transport to/from Thailand are subject to change trucks at the border. One Stop Service Center (OSSC) is established at the border points at Myawaddy, Tachireik and Muse. The MOCon currently takes the leading role and other related agencies like General Department of Customs (GDC), immigration, police take a sub role to establish and manage the OSSC. The current OSSC in Myawaddy is called as "Myawaddy Trade Zone (MTZ)", which consists of the OSSC and some warehouses. However, the warehouses in the MTZ are not actively used.

The principle issue to be taken into consideration is how to develop a seamless cross-border transport under the CBTA or bilateral agreement. In this regard, entry permission of trucks, Harmonized border operation between Myanmar and Thailand and effective logistics operations are the key issues for further actions.

Based on the considerations above, the following would be issues:

- Steady progress of bilateral negotiations with Thailand
- Improvement of OSSC (missing or distant from border)
- Collaborative/Harmonized border management with Thailand
- Liberalization of transport and logistics related businesses in the region (enhancement of domestic related businesses in parallel)

### **2) Trade**

Establishment of the ASEAN Single Window (ASW) is a common policy of the ASEAN countries. Since ASW is developed based on the National Single Window (NSW) of each ASEAN member country, establishment of the NSW is also a sort of commitment of governments in the ASEAN. Accordingly, electrified system development for export/import toward the NSW is strongly rationalized for earlier implementation even in Myanmar. Along this circumstance, the GDL introduces the MACCS system as a main frame of e-customs. On the other hand, the Port EDI is a key core system to manage port and ships as well as one of the important elements of the NSW. The Port EDI project is under implementation with JICA supports. It aims to start the operation from June 2018.

The key issue to properly progress the NSW and the ASW, the MACCS and the Port EDI should be properly developed and rolled out to cover the whole country as core systems. At the same time, simplification of procedures, documentation on export and import are essential to keep the private companies to be favourable for Myanmar.

Based on the considerations above, the followings would be issues:

- Expansion (rollout) of the MACCS
- Alleviation of non-tariff barriers of Myanmar such as import and export license,

pre-application, transit trade license, etc.

- Alleviation of non-official fees on cargo clearance procedures
- Ease of complicated tax calculation at border customs (transparency and accountability challenges)

### **(3) Regional Development along the Corridors**

There are few border towns economically developed such as Myawaddy, Tachireik and Muse. These 3 borders points occupies more than 90% of land transport. Myawaddy and Tachireik are at the border to Thailand, and Muse is at the border to China.

Myawaddy is along the EWEK and opposite is Mea Sot in Thailand. Myawaddy is traditionally developed as a trade and logistics base with Thailand. Price gap to Thailand generates many business opportunities but only few are emerged as an actual business. For example, Myawaddy may have potential to establish SEZ since labor-intensive production process tends to move to surrounding counties, which is called as “Thai+1”. However, Myawaddy doesn’t realize industrial zone/SEZ yet. Meanwhile, Me Sot is designated as an SEZ in Thailand and receives many relocated factories. Many young laborers in Myanmar are recruited to work in factories on the Thai side. On the other hand, tourism facilities at Myawaddy successfully Thai tourists to generate a lot of local jobs in the service sector.

Goods demand in Myanmar through Myawaddy and Thai tourists are expected to increase depending upon economic growth of both countries. Economic growth also makes the labor-intensive manufacturing to be more difficult to maintain competitiveness in Thailand, resulting in accelerating relocation to the surrounding countries in the future for seeking lower production costs. In this regard, the new 2<sup>nd</sup> Friendship Bridge at Myawaddy, which expects to improve cross-border transport in both cost and time aspects, will expand the variety of business opportunities in logistics, manufacturing, tourism and agriculture.

Based on the considerations above, the following would be issues:

- Enhancement of logistics and transport businesses
- Attraction of labor-intensive manufacturing
- Tourism promotion
- Promotion of contract farming

#### **6.1.2 Overall Policy Direction**

Connectivity between Myanmar and rest of the Mekong Region countries has significantly progressed with a lot of efforts of the GOM and assistance from various donors. Basic transport network and core instruments for the NSW are provided at this moment. In general, it seems to be the time to more focus on the quality of the connectivity from focusing on debottlenecking of infrastructure and system regarding the connectivity. Accordingly, the overall principle of future development of the connectivity shall pay more attention on “Improvement of Quality of Connectivity”. For this purpose, the following 3 important policy directions such as: 1) speed-up, 2) sustainability, and 3) activation may be taken into consideration.

## Improvement of Quality of Connectivity

Speed-up  
Sustainability  
Activation

### (1) Speed-up

Speed-up is one key direction on the improvement of quality of connectivity. For the speed-up, sufficient capacity of physical connectivity and seamless and speed services on cross-border including export/import procedure are indispensable to take into consideration.

Demand on goods transport in both foreign trade and internal transport is supposed to continuously increase in Myanmar, depending upon economic growth and population increase. The connectivity is required to be physically and institutionally maintained to be well functioned to properly respond the increased transport volume. For this purpose, road network as well as system on export/import permit procedure should be enhanced to properly meet the increased demand in the future.

Increased volume and variety of goods for transport and trade will make export/import permit/inspection procedure more difficult and complicated. It may strongly require the acceleration of introducing an IT system for the processing as well as the simplification of documentation and inspection methods of the procedure in future.

### (2) Sustainability

Many infrastructure developments as well as system developments like the MACCS and the Port EDI are carried out with assistance from various donors. To effectively function, these infrastructure and system's sustainability would be an important issue to keep the quality of connectivity. Maintenance of infrastructure is important in both technical and financial aspects. For the system like the MACCS or the Port EID, system maintenance, replacement and up-grading is also important to keep service well in long time. Human resource development is another important aspect of sustainability.

### (3) Activation

The GMS Transport Meeting at July 2017 emphasizes "how to use the corridors" rather than "how to make road network". Major discussion shifts to realize economic development along the economic corridors with logistics development and SEZ development and so on. Economic growth will expand the market, and the expanded market will generate more business opportunities in various sectors and various regions. In this regard, the new 2<sup>nd</sup> Friendship Bridge at Myawaddy, which expects to improve cross-border transport in both cost and time aspects, will expand a variety of business opportunities in logistics, manufacturing, tourism and agriculture. The experience in Myawaddy will be a roll-out model to apply to other borders like Htee Khee, Three Pagoda Pass etc. For this purpose, it is also considerable to exploit new international gateways to connect surrounding countries.

There are a lot of complaints on import/export procedure, cross-border operation and transport from the foreign investors. The foreign investors point out higher transport costs comparing them to the surrounding countries and unaccountable and less-transparent import/export procedures.

Myanmar is still in an early stage to consolidate market-oriented economy and western-styled-democracy, so that further efforts need to consolidate market mechanism to generate competition among the transport modes and logistics-related businesses, which has significant impact to reduce transport cost as well as accountability and transparency.

### **6.1.3 Potential Projects**

Based on the overall principle described in the previous section, necessary actions along the past achievements and current issues are taken into consideration. The Survey Team suggests 27 projects in total to further project formulation. Accordingly, the projects proposed hereinafter are subject to be revised and improved through further considerations. Initial idea on Projects to enhance connectivity of Myanmar is shown in Table 6.1.

Overall issues and potential projects above are summarized in Figure 6.1 as well.

Table 6.1 Potential Projects

	Project No.	Project Title	Project Outline	Implementation			Project Type	Responsible Organization	Remark
				Short	Midium	Long			
Physical Connectivity	P111	Kawkaireik-Eindu Road Improvement	Road widening and pavement	X			Construction	Ministry of Construction, Department of Road	ADB
	P112	Eindu- Thaton Road Improvement	Road widening and pavement	X			Construction	Ministry of Construction, Department of Road	Thai
	P113	Dawei-Htee Khee Road Improvement	Road widening and pavement	X			Construction	Ministry of Construction, Department of Road	Thai (private)
	P114	Thabyuzayat-Three Pagoda Pass Road Improvement	Road widening and pavement		X		Construction	Ministry of Construction, Department of Road	
	P115	ASEAN Standardization Project	1) Road improvement of road width, curve etc. at necessary sections to meet ASEAN standard along EWEC and SEC 2) Road number and signals (English)		X		Construction	Ministry of Construction, Department of Road	
	P116	Improvement of Sustainability of Road	1) Maintenance technology 2) Maintenance organization 3) Budget and financing to cover road maintenance cost			X	Construction/ Capacity Development	Ministry of Construction, Department of Road	
	P117	Safety Improvement Project	1) Climbing lane 2) Slope protection 3) Installation of street lights and cat's eyes along EWEC and SEC			X	Construction	Ministry of Construction, Department of Road	
	P121	Expansion and Improvement of Thilawa Port	1) Capacity expansion to meet increased cargo demand in future 2) Introduction of Port EDI and NSW 3) Security facilities improvement to meet SOLAS (fence, CCTV) in accordance with the capacity expansion	X	X		Construction	MPA	JICA for Port EDI
	P122	Dawei Port Development	New port development for dawei development	X			Construction	MPA	Under JICA Study

Institutional Connectivity	Airport	P123	New Deep-sea Port Development	New deep-sea port at Donsong Bay or Ngayok Bay to cover future cargo demand			X	Construction	MPA	FS by Singapore investor and Japanese private separately
		P131	Actions for Security and Anti-terrorism at Airport	Security improvement at Yangon, Nai Phay Taw and Mandalay international airports with 1) APIS (including PNR) and CCTV (including Biometrics)	X			Procurement	Ministry of Civil Aviation	
		P132	New International Airport Development	Development of new international airport at Yangon to reflect increased number of passengers and air cargo in future			X	Construction	Ministry of Civil Aviation	
	Transport	P211	Introduction of OSSC at Myawaddy	Development of new One Stop Service Center (OSSC) for 2nd Friendship Bridge as "Myawaddy Logistics Park" including functions of: 1) OSSC 2) Dry port (CY, FCS, warehouses) and truck terminal and related facilities 3) distribution processing factories estate	X			Construction/ System development	Ministry of Transport, Ministry of Commerce and other related agencies	to be introduced MACCS by JICA
		P212	Improvement of OSSC to SSI/CCA	Improve OSSC to be Single Stop Inspection (SSI) at Common Control Area (CCA) with Thai CIQ agencies		X		System Development	Ministry of Transport, Ministry of Commerce and other related agencies	
		P212	GPS Trucking System introduction	Introduction of trucking system for transit cargo trucks (mainly between Myawaddy and Yangon) to improve security of transport		X		System Development	Ministry of Transport, General Department of Customs	
	CIQ	P221	Modernization of Import and Export Permit System	1) Review the current import and export permit requirements and reduce the number of permit required items to be the international standard items. 2) Eliminate the double administrative requirement of import or export license. (stop the recommendation letter system by the concerned authority of the government and allow each	X			Institutional development	Ministry of Commerce (MOCOM) and other license issuing government agencies	

[illegible]

P313	Myawaddy Logistics Park Development	Development of logistics complex at Htee Khee border to encourage logistics businesses and smooth cross-border. Facilities are: 1) OSSC building 2) Dry port (CY, FCS, warehouses) and truck terminal and related facilities		X	Construction/ System Development	Ministry of Transport, Ministry of Commerce and other related agencies	
P314	Myawaddy Regional Development	Development of Myawaddy area by fully utilizing Thailand such as: 1) promotion of contract farming targeting Thai market 2) tourism development to invite more Thais		X		Ministry of Industry, Ministry of Agriculture	

Note: The projects above suggested are just preliminary project proposals from the JICA Survey Team, accordingly there is no commitment on further study nor implementation by any agency concerned.

Source: JICA Survey Team



Past Achievement		Current Issue	Overall Policy Direction	Potential Action (project)			
				【Short Term】	【Mid Term】	【Long Term】	
Infrastructure	Road	<ul style="list-style-type: none"><li>2nd Bridge between Myawaddy-Mee Sot is under construction. New OSSC is under consideration.</li><li>Myawaddy-Kawthareik section in East-west corridor was improved in 2015.</li><li>Yangon-Thaion section was improved with BOT.</li><li>Thaion-Mawmying-Dawei sections in NH3 were improved with 2 lanes in 2016.</li><li>Phu Nam Ron (Thai border) to Hee Khee section is paved.</li></ul>	<p><b>Improvement of Quality of Connectivity</b></p> <ul style="list-style-type: none"><li>Speed-up</li><li>Sustainability</li><li>Activation of Economy</li></ul>	<ul style="list-style-type: none"><li>Completion of Major Network with Thailand<ul style="list-style-type: none"><li>Road improvement of Kawthareik-Endu-Thaion sections of East-West Corridor</li></ul></li><li>Road improvement Dawei-Hee Khee section of Southern Corridor</li></ul>	<ul style="list-style-type: none"><li>Completion of Alternative Network with Thailand<ul style="list-style-type: none"><li>Road improvement of Thabyuayath-Three Pagoda Pass section</li></ul></li><li>ASEAN Standardization<ul style="list-style-type: none"><li>Road improvement</li><li>Road number and signals (English)</li></ul></li></ul>	<ul style="list-style-type: none"><li>Improvement of Sustainability of Road<ul style="list-style-type: none"><li>Maintenance technology</li><li>Maintenance organization</li><li>Budget and Finance</li></ul></li></ul>	
	Port	<ul style="list-style-type: none"><li>Yangon, Thilawa and Kawthiung ports are available as international port.</li><li>Kyaikyui, Thandwe, Patheingyi, Mawmying, Dawei, Myeik ports are available as a domestic port mainly connecting with Yangon port.</li></ul>		<ul style="list-style-type: none"><li>Expansion and Improvement of Thilawa Port<ul style="list-style-type: none"><li>Capacity</li><li>Port EDI System and NSW</li><li>Security Facilities to meet SOLAS (fence, CCTV etc.)</li></ul></li><li>Development of Dawei Port</li></ul>	<ul style="list-style-type: none"><li>Improvement of Safety<ul style="list-style-type: none"><li>Climbing lane</li><li>Installation of street light and cat's eye</li><li>Slope protection</li></ul></li></ul>	<ul style="list-style-type: none"><li>Deep Sea Port Development at Donson Bay or Ngazok Bay</li></ul>	
	Airport	<ul style="list-style-type: none"><li>Yangon, Nay Phi Taw and Mandalay airports are international airports connecting more than 25 cities in abroad.</li><li>There are 24 domestic airports connecting mainly with Yangon.</li></ul>		<ul style="list-style-type: none"><li>Actions for Security and Anti-terrorism at Yangon, Nai Phi Taw and Mandalay<ul style="list-style-type: none"><li>APIS (including PNR)</li><li>CCTV (including Biometrics)</li></ul></li></ul>		<ul style="list-style-type: none"><li>Development of New International Airport at Yangon</li></ul>	
Institution	Transport	<ul style="list-style-type: none"><li>CBTA is ratified in 2011.</li><li>No truck entry permission with any surrounding countries yet.</li><li>Bilateral agreement with Thailand is under negotiation (supposed to be signed within 2018).</li><li>One Stop Service Center (OSSC) is established at Myawaddy, Tachirek and Muse.</li></ul>		<ul style="list-style-type: none"><li>Steady progress of bilateral negotiation with Thailand</li><li>Improvement of OSSC (missing or distant from border)</li><li>Collaborative-Harmonized border management with Thailand</li><li>Liberalization of transport and logistics related businesses in the region (enhancement of domestic related businesses in parallel)</li></ul>	<ul style="list-style-type: none"><li>Introduction of OSSC for 2<sup>nd</sup> Friendship Bridge at Myawaddy</li><li>Improvement of OSSC to SSICCA</li><li>Development and introduction of Trucking System with GPS</li></ul>		
	Trade	<ul style="list-style-type: none"><li>MACCS system is introduced to Yangon and Thilawa.</li><li>Port EDI project (Project for Port EDI for Port Modernization) is under implementation with JICA supports. EDI starts in Oct. 2017.</li><li>No functional and practical collaboration/coordination on import/export requirements with other Mekong countries</li></ul>		<ul style="list-style-type: none"><li>MACCS Rollout Project<ul style="list-style-type: none"><li>Other border points</li></ul></li><li>Modernization of Export and Import Permission System</li><li>Trade Facilitation Information Exchange Platform Development</li></ul>	<ul style="list-style-type: none"><li>National Single Window (NSW) Development</li></ul>	<ul style="list-style-type: none"><li>Realization of ASW</li></ul>	
Regional Development	<p>【Industrial development】</p> <ul style="list-style-type: none"><li>Myawaddy area has no industrial zone/ SEZ. Me Sot is designated as SEZ in Thailand.</li><li>Many young labor go to work in factories in Thailand.</li></ul> <p>【Commercial and Tourism Development】</p> <ul style="list-style-type: none"><li>Market</li><li>Myawaddy Complex (about 600 employees)</li><li>Not actively with Thai market</li></ul>			<ul style="list-style-type: none"><li>Myawaddy Logistics Park Development<ul style="list-style-type: none"><li>OSSC</li><li>FCS, CY and Warehouse</li><li>Distribution processing</li><li>Other services</li></ul></li><li>Myawaddy SEZ Development</li></ul>	<ul style="list-style-type: none"><li>Logistics park at Hee Khee and Tachirek</li></ul>	<ul style="list-style-type: none"><li>Myawaddy Regional Development<ul style="list-style-type: none"><li>Contract farming</li><li>Tourism development</li></ul></li></ul>	

Figure 6.1 Issues and Potential Actions to Enhance Regional Connectivity of Myanmar

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## 6.2 Issues on Enhancing Connectivity in the Mekong Region

### 6.2.1 Past Achievements and Current Issues

#### (1) Physical Connectivity

##### 1) Road

Since 1990s, the Asian Development Bank (ADB) and Japan strongly support to formulate economic corridors in the Greater Mekong Subregion (GMS). There are currently 9 GMS economic corridors designated, which is totally about 9,000 Km. In relation to the Mekong Region, the EWEC and the SEC are corridors in east-west direction, while North-South Economic Corridor, Northeastern Economic Corridor and Western Economic Corridor are corridors in north-south direction.

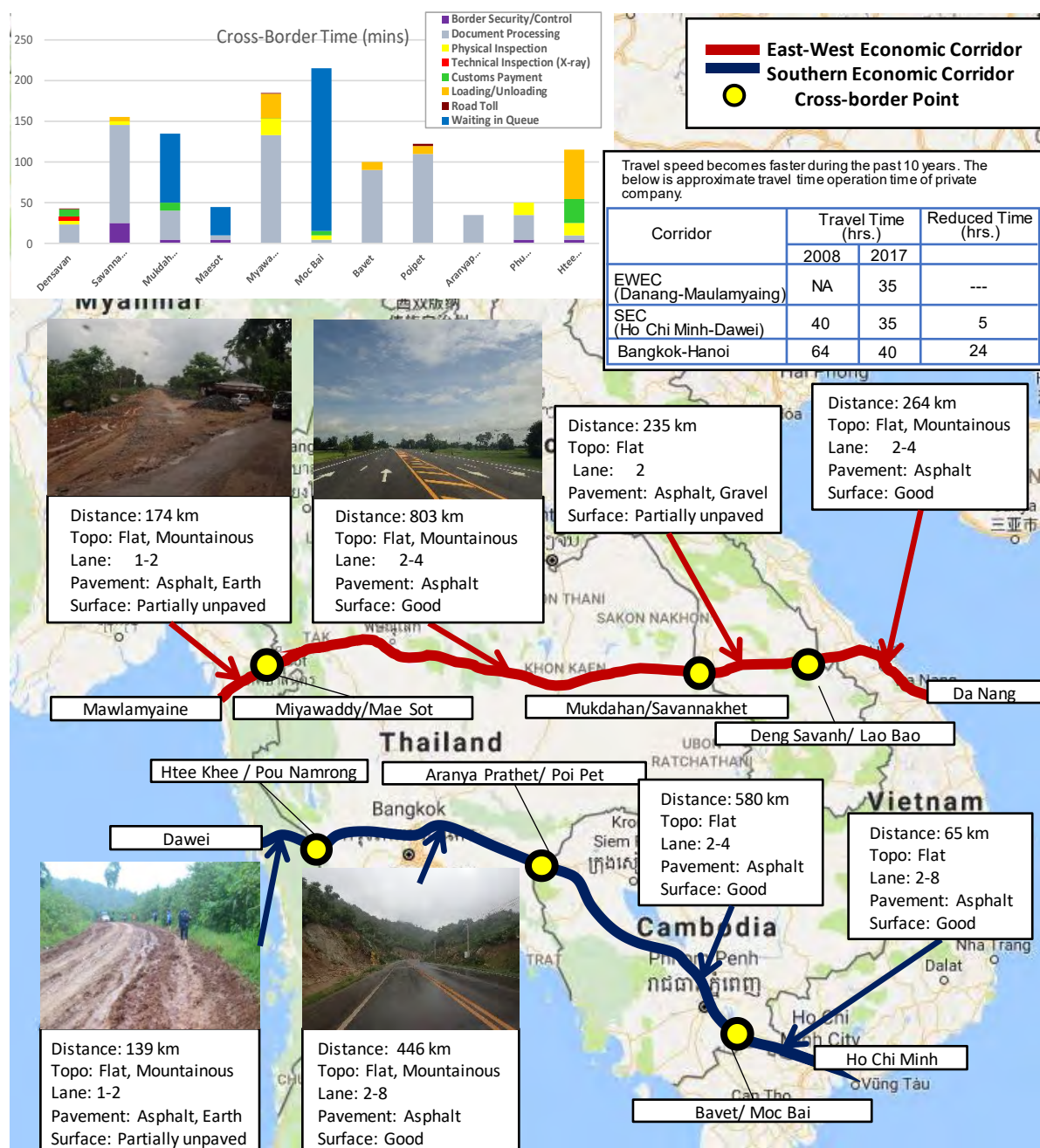
The EWEC is about 1,406 Km of routes connecting Yangon/Thilawa of Myanmar and Da Nang of Viet Nam via Thailand and Lao PDR. While, the SEC is about 1,255 Km of routes connecting Ho Chi Minh City of Viet Nam and Dawei of Myanmar via Cambodia and Thailand. Most of the sections in the EWEC and the SEC are completed rehabilitation /improvement works except for sections in Myanmar. Extension of the economic corridors enable the establishment of many new cross-border points, which contribute to diversify transport routes and to activate border trade business.

Improvement of the EWEC and the SEC contributes to drastically reduce travel time along the corridors. Comparing the travel time between 2008 and 2017, 5 hours of travel time is reduced in the SEC, while 24 hours of the travel time is reduced in Hanoi-Bangkok route.

For the road network, it can be accordingly said that focal point will gradually change to “how to keep the network” from “how to construct the network”. In this regard, maintenance of the network as well as the improvement of service level would be more important.

Based on the considerations above, the followings would be issues:

- Expansion of capacity to meet increase of demand depending on activating traffic in the Mekong Region
- Improvement of capacity of maintenance of road network in both technical and financial aspects
- Road safety and disaster prevention



Note: Waiting in Queue in the figure of travel time above may be fluctuated depending upon time (peak/off-peak, border operation hour) and traffic volume.

Source: JICA Survey Team

**Figure 6.2 GMS East-West and Southern Corridors**

## 2) Port

Learn Chabang Port, Hai Phong Port and Cai Mep/Thi Vai Port are the major regional feeder ports in the Mekong Region, connected directly or indirectly to final destinations such as east Asia, the USA and Europe. Yangon/Thilawa Port in Myanmar is mainly connected to Singapore Port, while Sihanoukville Port and Phnom Penh Port in Cambodia are connected to Singapore Port and Cai Mep/Thi Vai Port respectively. Thus, regional major ports have been developed and they are effectively connected to Singapore Port.

Foreign Trade may continuously increase depending upon economic growth and population increase in the Mekong Region. Accordingly, the focal issue will be effective maintenance and operation. As same as the road network, maintenance will be important to sustain the port functions. While, capacity expansion should be properly done to keep a high service level regardless of handling volume increase in the future. As for operation, efficient operation at container yard (CY) and inland container depot (ICD) would be important to improve service and reduce cost and time.

Based on the considerations above, the following would be issues:

- Expansion of Capacity to meet demand increase
- Maintenance of infrastructure and facilities in ports
- Improvement of cargo handling efficiency at CY and ICD
- Improvement of security and safety

### **3) Airport**

Regional hub airports in the Mekong Region such as Suvarnabhumi Airport (Bangkok) and Noi Bai Airport (Hanoi) are completed in construction, which connect the Mekong Region to rest of the world by air link. All countries in the Mekong Region connects to each other as well.

Traffic demand in both international and domestic airports will continuously increase depending upon improvement of income level under economic growth in each country. Accordingly, the focal issue will be maintenance and operation as same as the port.

Based on the considerations above, the following would be issues:

- Expansion of Capacity to meet demand increase
- Maintenance of infrastructure and facility in airport
- Improvement of security and safety

## **(2) Institutional Connectivity**

### **1) Transport**

GMS countries have been very keen to proceed Cross Border Transport Agreement (CBTA). All Mekong Countries currently approve or ratify the CBTA. Additionally, most of the countries have bilateral agreement on transport to facilitate mutual entry permit and single stop inspection (SSI) except for Myanmar. There is no bilateral agreement yet between Thailand and Myanmar, but it is under negotiation.

Lao PDR and Vietnam border, Dengsavang and Lao Bao, have successfully introduced the SSI in the CCA in 2017. According to the freight test-run survey done by the JICA Survey Team, the average time to pass the border at Dengsavang and Lao Bao is reduced to 42 minutes from 90 minutes before the introduction of the CCA. Thailand and Cambodia are now under negotiation to establish the SSI at Stung Bot at Aranyaprathet-Poipet border.

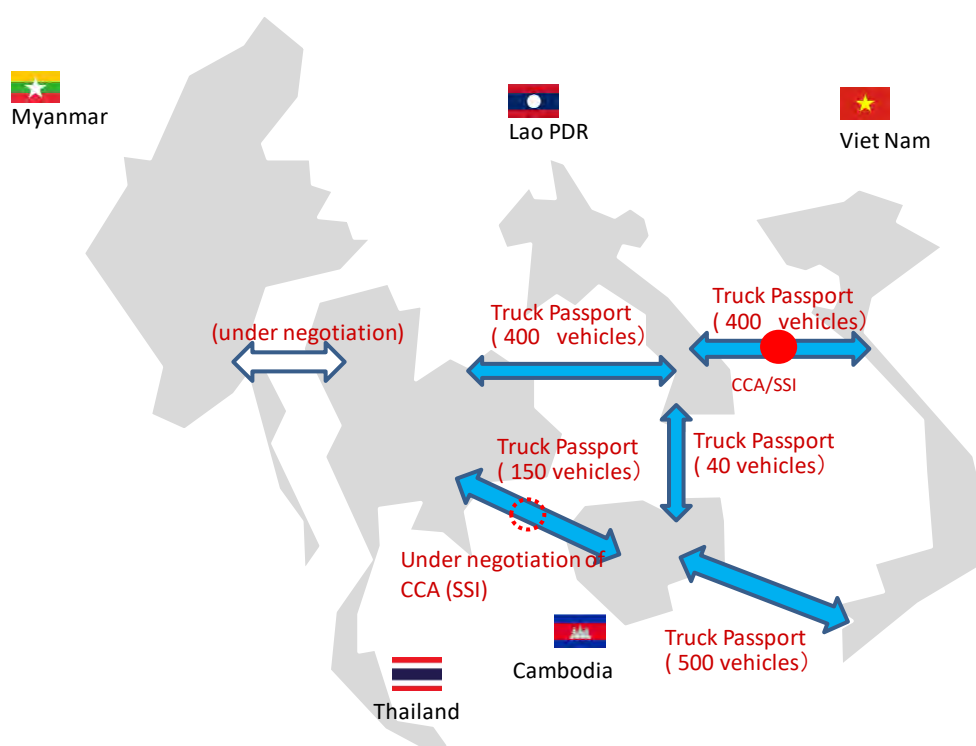
Figure 6.4 implies many facts on cross-border transport. One important point is that the progress of the simplification is largely different among the countries even though each Mekong country makes a lot of effort to simplify the cross-border procedure like CIQ and other necessary permission and inspection. Thailand and Viet Nam are rather advanced in terms of “user friendly”

than other countries in the Mekong Region. Second is that there is still room to simply improve to reduce stress and time of the cross-border, which may contribute the private sector as a “lower hanging fruits project”, for example alleviation of traffic congestion at border.

Accordingly, the principle issue would be how to continuously improve cross-border transport and border operation.

Based on the considerations above, the following would be issues:

- More mutual entry permission under the CBTA
- Introduction of the SSI at the CCA
- Capacity expansion of cross-border points to properly meet traffic demand in future

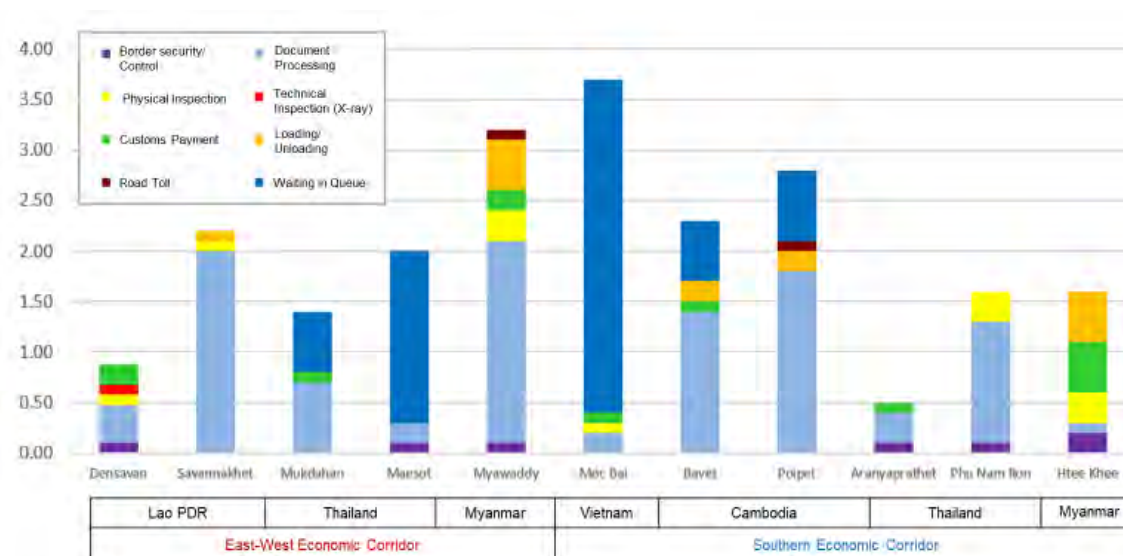


Note: Blue arrow indicates truck passport, while arrow indicated no truck passport. Red circle indicates CCA/SSI under implementation, while dotted circle indicated CCA/SSI under negotiation.

Source: JICA Survey Team

**Figure 6.3 Current Status of CCA and Mutual Entry Permit in the Mekong Region**





Source: JICA Survey Team

**Figure 6.4 Crossing Time at Borders**

## 2) Trade

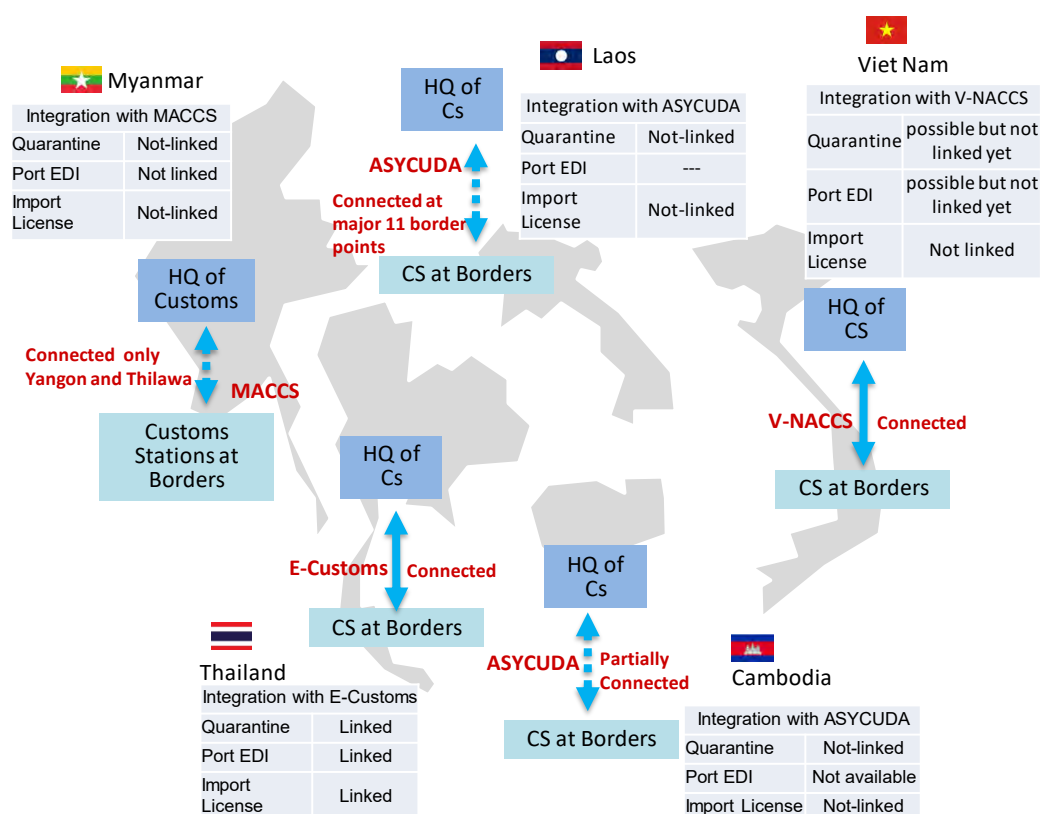
Significant progress is seen to establish the national single window (NSW). Thailand has already completed the NSW with E-commerce system. Viet Nam has introduced the VNACCS system for customs and now tries to integrate others into the VNACCS. Myanmar introduced the MACCS system for customs and trying to roll out it. Cambodia and Lao PDR introduce the ASYCUDA-World for customs.

On the other hand, the Port EDI, which is one of the key elements of the NSW, is gradually introduced in the Mekong Region. Thailand and Vietnam have competed to introduce this, while the Port EDI project is on-going at Cambodia and Myanmar.

The key issue to properly develop the NSW and the ASW, is that the electric customs system as well as the Port EDI system should be properly introduced to each country. At the same time, simplification of procedures, documentation on export and import are essential to keep the private companies to be favourable for Myanmar.

Based on the considerations above, the following would be issues:

- Completion of the NSW toward the ASW
- Simplification of export/import documentation and inspection
- Information exchange for mutual understanding on customs system among the Mekong countries



Note: Blue arrow indicates the electric customs covers whole country, while blue-dotted arrow indicates the electric customs partially covers whole country

Source: JICA Survey Team

**Figure 6.5 Current Status of NSW in the Mekong Region**

### (3) Regional Development along the Corridors

There are many unique economic developments at border areas and along the economic corridors. Development of the road network and cross-border improvement contributes to agricultural development by improving the connection between production place and market. There are two unique developments. In the case of Southern Laos, Bolovens Plateau expands fruits and vegetable production which mainly targets Thai markets. In a case of Chiang Rai, flower and fruits production quickly expands to target the Yunnan market. It is also GMS North-South Economic Corridor that contributes it.

For the industrial development, there are many SEZs and Industrial parks at border areas like Sanco Poipet SEZ (Cambodia), Phnom Penh SEZ (Cambodia), Sihanoukville Port SEZ (Cambodia), Manhattan SEZ (Cambodia), Savan-Seno SEZ (Laos), Pakse SEZ (Laos) and VITA Park (Laos), etc. These industrial sites aim to receive relocated factories of labor-intensive / low-production-cost-oriented manufacturing from Thailand and Vietnam. These industrial sites fully utilize benefits of road development to generate the situation that investment and production cost there is cheaper than that of Thailand/ Vietnam by reducing transport cost and time. In this regard, the economic corridors development significantly contributes to the industrialization of Laos and Cambodia.

As logistics business development, transshipment business and customs clearance support

business quickly expand at the border area, in particular Myadawwdy, Savnnakhet along the EWEK and Poipet and Bavet along the SEC.

In the service industry development, there are two unique activities observed in the Mekong Region. First is the expansion of commercial function of border towns. As a result of the ease of traffic of people and goods, market, retail shops at border town expands, for example, at Vientiane and Nong Khai, or Myawaddy and Mae Sot, the service sector is significantly activated due to many people that communicate with each other. Second is tourism development. Many resort and amusement tourism attractions are located in the border areas at Myawaddy, Savannakhet, Poipet and Bavet, which generate many non-agriculture employments.

Goods demand and tourists are expected to increase depending upon economic growth of both countries. Industrial relocation may continue to the surrounding countries.

Based on the considerations above, the following would be issues:

- Improvement of logistics in both time and cost aspects to ease relocation of factory
- More liberalization of transport and logistics business to expand market
- More Compatibility/communication of inspection, standards and authentication regarding agricultural and industrial products
- Streamlining of tax procedure
- More border and urban areas development along the economic corridors for more industrial accumulation (especially higher and vocational education and medical services)

## 6.2.2 Overall Policy Direction

Physical connectivity has almost achieved with certain remaining. Institutional connectivity such as import/export permission and inspection and cross-border transport system has gradually progressed on the right direction with aiming at same goal. The initial stage of the connectivity in the Mekong Region seems to be almost completed. Accordingly, the GMS Transport Minister Meeting at July 2017 emphasizes “how to use the economic corridors”. Now, substantial issue on the connectivity in the Mekong Region should shift to the next stage.

In this regard, more focus should be on the quality of the connectivity from focusing on rehabilitation of the infrastructure and system. Quality includes the connectivity to generate value from the economic corridors. Accordingly, overall principle of future development of the connectivity can be “**Alive and Value-Generating Connectivity**”. More specifically, there are 3 important pillars under “Improvement of Quality of Connectivity” such as: 1) sufficient capacity, 2) single and simple, 3) variety of international gateways, and 4) market mechanism.

### **“Alive and Value-Generating Connectivity”**

through High-Quality Infrastructure Development Partnership

Pillar 1: Speed-up

Pillar 2: Sustainability

Pillar 3: Activation

#### (1) Pillar 1: Speed-up

Speed-up is one key direction to increase quality and value of the connectivity. It is indispensable



for the speed-up to provide with sufficient capacity of physical connectivity and seamless and speedy services on cross-border including export/import permission and inspection.

In the Mekong Region, demand on trade among the countries is supposed to continuously increase. It increases the volume of goods and variety of goods demanded, depending upon economic growth and rise of income level of population. The connectivity should physically and institutionally function to serve more volume and more variety of goods. For this purpose, road network as well as system on export/import permission and inspection procedure should be enhanced to properly meet with such changes of demand in future. It may strongly require the acceleration of introducing IT system for the process as well as the simplification of documentation and inspection method of the procedure in future.

Based on the considerations above, the following would be major actions to be taken:

- Sufficient capacity of road network to properly meet future demand
- Harmonized cross-border operation (SSI/CCA)
- NSW and ASW
- Simplification of import/export documentation and inspection

## **(2) Pillar 2: Sustainability**

Developed infrastructure and the system like VNACCS, MACCS etc. are to require maintenance, the replacement and upgrading to keep effective function for a long time. In this regard, sustainability is an important issue to keep generating value of the connectivity.

Based on the considerations above, the followings would be major actions to be taken:

- Asset management of infrastructure and system
- Maintenance of infrastructure and system
- Human Resource development to keep/improve service
- Security and safety

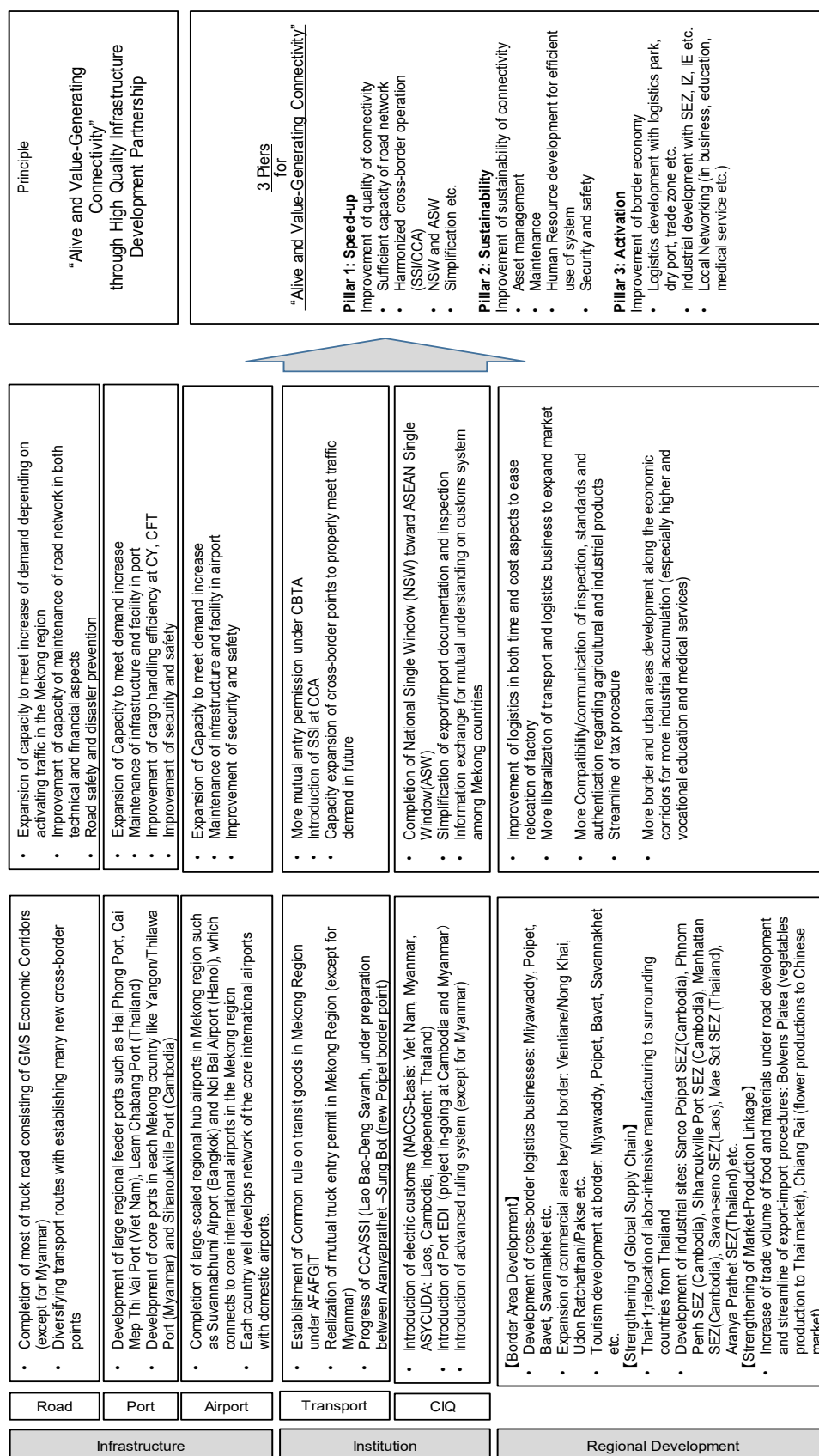
## **(3) Pillar 3: Activation**

Economic growth will expand market, and the expanded market will generate more business opportunities in various sectors and various regions. In this regard, borders may have more variety of business opportunities in logistics, manufacturing, tourism and agriculture.

Based on the considerations above, the following would be major actions to be taken:

- Logistics development with logistics park, dry port, trade zone etc.
- Industrial development with SEZ, IZ, IE etc.
- Local Networking (in business, education, medical service etc.)

Overall issues and policy direction above are summarized in Figure 6.6.



**Figure 6.6 Issues and Overall Policy (proposed) to Enhance Connectivity in the Mekong Region**

### **6.2.3 Further Actions**

Practical projects to enhance connectivity in each country in the Mekong Region should be formulated with current progress and issues on the connectivity by country. On the other hand, there is no regular coordinating body on the connectivity in the region. Although minister, transport minister, and high-ranked officials have annual meetings, there are limited opportunities for the technical level. Accordingly, technical level staffs may have limited knowledge on other countries, according to the experience of JICA Survey Team of preparing and organizing workshop in Vietnam in September 2017. In this regard, the JICA Survey Team proposes the following actions:

- Mekong Connectivity Forum
- Project on Up-dating Data on Connectivity in the Mekong Region

#### **(1) Mekong Connectivity Forum**

Organizing annual meetings like the workshop in Viet Nam under this survey. The forum aims to consolidate human network related to the connectivity in the Mekong Region. The forum is organized annually at a different country every year. Details are as follows:

- Objective: 1) Consolidating human resource network on connectivity, 2) building knowledge network
- Scope: 1) workshop, 2) site visit
- Period: 4 years (to round one meeting at least each country)

#### **(2) Project on Up-dating Data on Connectivity in the Mekong Region**

Data-collection networking to update data on connectivity. The network aims to develop data collection system on latest information on connectivity in the Mekong Region. Details are as follow:

- Objective: 1) Up-date data o connectivity in the Mekong Region, 2) building data collection system, and 3) consolidating human relation through cooperative works
- Scope: 1) Survey to develop format and procedure of data collection, 2) implementation of data collection, and 3) refinement of system, 4) implementation
- Period: 3 years
- Note: Results of updated data is presented in the forum above.

## **Chapter 7 Conclusion**

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### **7.1 Conclusion**

#### **7.1.1 Land Connectivity**

Myanmar connects to Thailand with two major GMS economic corridors: the East-West Economic Corridor (EWEC) and the Southern Economic Corridor (SEC). The EWEC and the SEC have completed the pavement and widening except for the sections in Myanmar. Accordingly, the issues that remain are to quickly remove bottlenecks by completing the remaining sections along the EWEC and the SEC, and by improving cross-border operation to reduce stress and time-loss at Thai border.

#### **7.1.2 Connectivity on Maritime Transport**

Myanmar has three international ports such as Yangon, Thilawa and Kawthoung ports. Yangon and Thilawa port, which are river ports that accommodate up to 9m draft vessels. Currently, there are two new ports such as Dawei port and Sittwe port. Foreign Trade may continuously increase, but Yangon Port and Thilawa Port will sufficiently handle demand on the maritime transport in short-term and mid-term as mentioned in Chapter 3 (section 3.2). Dawei port and Sittwe port will be function as a core of the regional development and corridor development, respectively. The maritime transport sector will be required to realize more volume of transport with a lower cost, so that large deep-sea port will be required in future.

#### **7.1.3 Institutional Connectivity**

Establishment of ASEAN Single Window is a common policy of ASEAN counties. Accordingly, the GDC introduces MACCS as a main frame of e-customs. Port EDI, which is a core system to manage ports and ships as well as one of the important elements of the NSW, is under implementation. Accordingly, it is important to properly continue the MACCS and the Port EDI projects to rollout whole country as core systems. At the same time, simplification of procedures, documentation on export and import are essential to keep the private companies to be favorable for Myanmar.

The CBTA is an achievement of GMS countries. Myanmar ratified the CBTA and related protocols and annexes in 2011. However, Myanmar has not reached an agreement on the cross-border transport with Thailand, so there is no truck entry permission for each other. Accordingly, the main issue is to realize the SSI with Thailand at Myawaddy toward a seamless cross-border transport.

#### **7.1.4 Myawaddy Area Development**

Myawaddy, facing Mea Sot along the EWEC, is traditionally developed town as a border trade and

logistics base with Thailand. In addition, many young labors in Myanmar are currently recruited to work in factories in Thai side, and many Thai tourists visit to the tourism facility at Myawaddy side, which generates much local employments in service sector.

Goods demand and Thai tourists are expected to increase depending upon economic growth of both countries. Industrial development will provide more potential to receive relocated factories from Thailand. In this regards, the new 2<sup>nd</sup> Friendship Bridge at Myawaddy expects to improve cross-border transport in both cost and time aspects and it will strongly support to expand a variety of business opportunities in logistics, manufacturing, tourism and agriculture.

## **7.2 Recommendations on Connectivity Enhancement**

Physical connectivity has almost achieved with certain remaining sections in Myanmar. Institutional connectivity such as import/export permission and inspection and cross-border transport system has gradually progressed on the right direction with aiming at same goal. The initial stage of the connectivity in the Mekong Region seems to be almost completed. In this regard, more focus should be on the quality of the connectivity from focusing on rehabilitation of the infrastructure and system. Quality includes the connectivity to generate value from the economic corridors. Accordingly, overall principle of future development of the connectivity can be “Alive and Value-Generating Connectivity”. More specifically, there are three important pillars under “Improvement of Quality of Connectivity” such as: 1) speed-up, 2) sustainability, and 3) Activation.

Practical projects should be formulated with current progress and issues on the connectivity by country. However, interaction among the technical staffs regarding the connectivity in the Mekong Region will be fruitful for further harmonization and cooperation among the region. In this regard, the JICA Survey Team proposes two projects such as 1) Mekong Connectivity Forum, and 2) Project on Up-dating Data on Connectivity in the Mekong Region.

## Appendix I Transport Test Run on East-West Economic Corridor, Southern Economic Corridor and Hanoi-Vientiane Corridor

### I.1 Freight Transport Test Run

#### I.1.1 Overview

There are 3 economic corridors in the Greater Mekong Subregion (GMS), namely East-West Economic Corridor, Southern Economic Corridor and Hanoi-Vientiane Corridor. The test run aims to grasp the understanding of the current situation and issues related to the provision of physical and institutional connectivity within the region. Table I. 1 illustrates a list of survey items of the test run.

**Table I.1 Survey Items of Freight Transport Test Run**

No	Survey items	Description
1	Import/export, customs clearance procedures and time	Details of customs formalities (export, import and transit) and the time taken for each process are examined with a focus on: a) pre-customs clearance preparation, and b) customs clearance and border-crossing procedures at the borders along the corridors
2	Travel time and travel distance	Distance and travel time for each route (excluding the time required for customs clearance at the border as mentioned in the preceding item) are recorded. This also includes the distance and time required between key locations, resting time and miscellaneous time such as occasional passport check by the police and toll payment. In addition, a GPS logger "I gotU GT-600" was used to accurately assess the average travel speed
3	Road infrastructure and road transport	The conditions of road infrastructure by road section (e.g., by section between key locations) are recorded for each route. In addition, where roads are in poor condition or damaged, photographs are taken to record the state of infrastructure visually.
4	Related facilities at the border	The conditions of border facilities related to cross-border transport are examined, and problems and issues will be identified. For instance, these may include the provision and conditions of transshipment facilities at the borders, ease of cargo handling, availability of warehouse facilities, and features of CIQ facilities (e.g. size of the facilities, operational efficiency, extent of computerization)
5	Other regulations and local customs	The survey items will include regulations (other than the procedures and rules related to customs clearance and border

		crossing) and local customs that may influence transport cost and time. Examples include collection of tolls and additional taxes, passport check by police, and different regulations on total vehicle weight and axle load across countries in the region.
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## I.1.2 Route

Figure I.1 shows geographical locations of three corridors covering five GMS countries including Vietnam, Laos, Thailand, Cambodia and Myanmar as well as of 16 border-crossing points (BCP). The transport test run was carried out on the road based on the following routes.

- ① **East-West Economic Corridor:** Danang (Vietnam) – Lao Bao / Densavan (Laos) – Savannakhet / Mukdahan (Thailand) – Maesot / Myawaddy (Myanmar) – Mawlamyine - Yangon
- ② **Southern Economic Corridor:** Ho Chi Minh (Vietnam) – Moc Bai / Bavet (Cambodia) – Poipet / Aranyaprathet (Thailand) – Phu Nam Ron / Htee Khee (Myanmar) – Dawei
- ③ **Hanoi-Vientiane Corridor:** (1) Hanoi (Vietnam) – Vinh – Cau Treo / Nam Phao (Laos) – Laksao - Vientiane; (2) Nakhom Phanom (Thailand) / Thakhek (Laos) – Na Phao / Cha Lo (Vietnam) - Vinh



Figure I.1 Test Run Routes of Three GMS Corridors

**Table I.2 Border-Crossing Points on Corridors**

<b>East-West Economic Corridor</b>		<b>Southern Economic Corridor</b>		<b>Hanoi-Vientiane Corridor</b>	
<i>BCP</i>	<i>Country</i>	<i>BCP</i>	<i>Country</i>	<i>BCP</i>	<i>Country</i>
Lao Bao	Vietnam	Moc Bai	Vietnam	Cau Treo	Vietnam
Densavan	Laos	Bavet	Cambodia	Nam Phao	Laos
Savannakhet	Laos	Poipet	Cambodia	Nakhom Phanom	Thailand
Mukdahan	Thailand	Aranyaprathet	Thailand	Thakhek	Laos
Maesot	Thailand	Phu Nam Ron	Thailand	Na Phao	Laos
Myawaddy	Myanmar	Htee Khee	Myanmar	Cha Lo	Vietnam

### I.1.3 Period of Implementation

The test run was conducted from July to September. Since this survey took place during the rainy season, the JICA survey team was unable to carry out a test run between Htee Khee and Dawei, the Myanmar section on the Southern Economic Corridor. Therefore, data is retrieved from a relevant study, “Research and Trial Operation of Cross-Border Logistics System from Thailand to Southern Myanmar” which was conducted by Ministry of Land, Infrastructure, Transport and Tourism in March 2016.

- 1) **East-West Economic Corridor:** July 4, 2017 – July 12, 2017 (9 days)
- 2) **Southern Economic Corridor:** August 1, 2017 – August 4, 2017 (4 days)
- 3) **Hanoi-Vientiane Corridor:** September 6, 2017 – September 13, 2017 (8 days)

## I.2 Test Results 1: East-West Economic Corridor

### I.2.1 Import/Export, Customs Procedure and Time

#### a) Pre-customs clearance preparation

##### i. Export procedures in Vietnam

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List, Letter of Authorization
2	Declaration input on VNACCS	The above documents need to be translated to Vietnamese
3	Receive declaration results with a declaration number >> received Green	Green = export approval Yellow = document inspection Red = cargo inspection
4	Loading cargo	N/A



## ii. Transit procedures in Laos

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List, Letter of Authorization
2	Declaration input on ASYCUDA	The above documents need to be translated to Laos
3	Receive declaration data with a declaration number	N/A
4	Output ASEAN Customs Declaration Document (ACDD)	N/A

iii. Import procedures in Thailand<sup>1</sup>

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List
2	Declaration input on E-Customs	N/A
3	Receive declaration data with a declaration number	N/A
4	Output import declaration form	N/A

## iv. Export procedures in Thailand

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List
2	Declaration input on E-Customs	N/A
3	Receive declaration results with a declaration number	N/A
4	Create Goods Control	N/A

## v. Import procedures in Myanmar

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List, Sales Contract, Certificate of Origin
2	Forward original documents from Yangon to Myawaddy customs	N/A
3	Document preparation in Burmese by customs agency	Invoice, Packing List and Sales Contract * These documents are counterfeited by people involved in customs procedures (the price of goods was reduced to match with the previous record).
4	Unloading and temporary storage of cargo	At forwarder's warehouse
5	Create declaration documents	Import Goods Declaration, Import Declaration *These documents are created using the above fake documents

<sup>1</sup> Necessary procedures and facilities for transit formalities in Thailand are not fully developed. Vehicles with traffic permits for land border crossing between Thailand, Laos and Myanmar (including Vietnam) are severely limited, thereby requiring foreign (non-Thai) vehicles to transship cargo at a Free Trade Zone on Thai territory. However, there is no FTZ along East-West Economic Corridor at the present, with the nearest FTZ only located at Bangkok or Laem Chabang. Performing transit formalities in Thailand along EWEC is inefficient and economically unviable, thus import formalities are carried out in this test run.

## b) Customs Clearance and Transboundary Procedures at Border

### i. Export and Transit procedures at Densavan<sup>2</sup> (Laos)

No	Process	Time	Duration	Place	Remarks
1	Entry of truck	8:30	-	Densavan border gate	N/A
2	Immigration	8:30- 8:31	1	Immigration counters	Vietnam and Laos immigration windows are in the same counter (joint and simultaneous)
3	Customs document check	9:05- 9:15	10	Customs Building (Vietnam counter)	N/A
4	Final Check (vehicle and customs documents)	9:25- 9:30	5	CCA (Vietnam counter)	- Vehicle temporary export re-import declaration document - Container temporary takeout form - Vietnam-Laos Cross-Border Transport Permit - Vehicle inspection certificate - Vehicle register certificate
5	Approval check	9:35- 9:40	5	CCA (Vietnam counter)	N/A
6	Pay a toll for truck	9:40- 9:42	2	Customs Building (Vietnam counter)	Cost: VND 200,000 (for Quang Tri Province, not customs)
7	Pay a fee for crossing the border	9:45- 9:47	2	CCA (Laos counter)	Cost: KIP 165,000
8	System input	9:50- 9:53	3	Customs Building (Laos counter)	Cost: KIP 100,000 (system fees), KIP 350,000 (application fees)
9	Check a permit license	9:55- 9:58	3	CCA (Vietnam counter)	Receive a confirmation stamp on Cross-Border Transport Permit
10	Pay for X-ray inspection	10:00- 10:02	2	CCA (Laos counter)	Cost: KIP 50,000
11	Physical inspection and sealing	10:05- 10:10	5	CCA (Laos counter)	Inspected by Laos officers
12	X-ray inspection	10:25- 10:30	5	X-ray inspection site	X-ray inspection mandatory
Total			43		

### ii. Export procedures at Savannakhet (Laos)

No	Process	Time	Duration	Place	Remarks
1	Thai vehicle and immigration applications	9:00- 11:00	120	Mukdahan Border Gate (Thailand)	Submit a driver/ truck passport at Immigration counter and a special entry application at Customs counter
	Document inspection			Laos Customs office at Border	Submit Laos customs clearance documents while processing Thai vehicles applications
2	Entry of Thai vehicle	11:05	-	Private warehouse	Savannakhet
3	Arrival of Laos customs officers	11:10	-	Private warehouse	Savannakhet
4	Cargo inspection by Laos customs officers	11:10- 11:15	5	Private warehouse	- Check a sealing of Vietnamese vehicle - Open the sealing - Receive signs on customs clearance documents
5	Transshipment and	11:15-	5	Private warehouse	From Vietnamese to Thai vehicle

<sup>2</sup> Since the implementation of Single Stop Inspection at the Lao Bao and Densavan Border in 2005, border customs procedures have been simplified requiring trucks to stop only once at country of exit. If travelling westbound from Vietnam to Laos, customs procedures are undertaken at Densavan, Laos.

	sealing	11:20			
6	Move to border customs	11:20-11:25	-	Border gate	N/A
7	Border customs clearance	11:25-11:50	25	Border gate	Officers at the gate check signed documents and the sealing number
8	Cross the border	11:50-12:00	-	Second Friendship Bridge	To Mukdahan
Total			155		

### iii. Import procedures at Mukdahan (Thailand)

No	Process	Time	Duration	Place	Remarks
1	Waiting at border gate	12:00-13:00	60	Border gate	Customs office closed due to lunch break from 12-13pm
2	Document inspection	13:00-13:05	5	Customs office at border gate	Document inspection, and registration on E-Customs after completion of document inspection. Necessary documents include: export declaration, Invoice, Packing list, Bill of lading
3	Sealing	13:05-13:10	5	Border gate	Sealed by customs officer >> move to Customs Building next to the gate by car (about 2 minutes)
4	Move to Customs Building	13:10-13:15	5	Customs Building	N/A
5	Document inspection	13:15-13:55	40	Customs Building	Payment (10 minutes) Taxes: THB 20,131 VAT (7%): THB 6,106
6	Customs inspection, import approval	14:00-14:25	25	Customs inspection site	No inspection was carried out (though customs' document says, the inspection was undertaken)
Total			140		

### iv. Export procedures at Maesot (Thailand)

No	Process	Time	Duration (min.)	Place	Remarks
1	Waiting in queue at X-ray inspection site near the border gate	9:50- 10:25	35	X-ray inspection site	All trucks need to wait in queue
2	Document inspection	10:25-10:30	5	X-ray inspection site	Need of x-ray inspection is made after reviewing documents and E-customs data (For this test run, no X-ray inspection was required due to Green lines) Necessary documents include: export declaration, goods control, Invoice, Packing list, carrier's report
3	Document submission at border	11:00- 11:15	5	Border gate	Maesot/ Myawaddy border
Total			45		

v. Import procedures at Myawaddy (Myanmar)

No	Process	Time	Duration	Place	Remarks
1	Document inspection	9:00- 11:00	120	Myawaddy FTZ (Import zone)	Go through 5 customs officers: - Low-rank Officer (submission of documents) - Valuation Officer / appraiser (evaluation of declaration price) - Examination Officer (tax calculation) - Chief Examination Officer (application of customs inspection) - Assistant Director (payment of duty, tax) * duty: KS 1,470.30 * commercial tax: KS 1,544.00 * withholding tax: KS 600
2	Transshipment	11:00- 11:30	30	Myawaddy FTZ (Import zone)	From Thai to Myanmar vehicle
3	Customs inspection	11:30- 11:50	20	Myawaddy FTZ (Import zone)	Examination Officer
4	Import approval	11:50- 12:00	10	Myawaddy FTZ (Import zone)	Chief Examination Officer
5	Final customs check	12:30- 12:33	3	10km from Myawaddy FTZ	Check import approval document
Total			183		

## I.2.2 Distance and Travel Time

Table I.3 is a detailed record of travel data (distance, time and speed) for each section along EWEK. Time only includes actual transport time (without resting time) and excludes clearance time at border.

**Table I.3 Records of Travel Time, Distance and Speed on EWEK**

No	Route	Country	Distance (km)	Time (hr/min)	Average speed (km/h)
1	Da Nang – Lao Bao	Vietnam	264	05:53	44.9
2	Densavan – Savannakhet	Laos	235	04:27	52.6
3	Mukdahan – Khon Kaen	Thailand	249	03:58	65.2
4	Khon Kaen – Phitsanulok		322	04:24	74.2
5	Phitsanulok – Maesot		232	03:13	72.5
6	Myawaddy – Mawlamyine	Myanmar	161	03:42	43.6
Total			1467	25:37	-




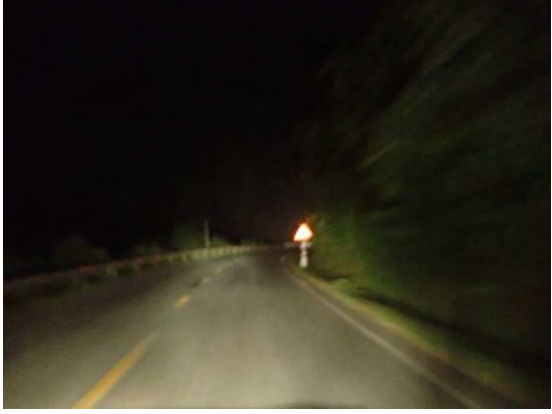
## I.2.3 Road Infrastructure

### (1) Da Nang – Lao bao (Vietnam)

- This section comprises two national roads, National Route 1A and National Route 9D, with the former forming part of Asian Highway (AH) 1 and the later AH16.
- National Route 1A (AH1) from Da Nang to Dong Ha consists of 2-4 lane paved roads in flat terrain. These straight, level roads with a clear line of sight enable drivers to travel safely and

smoothly at the maximum speed of 60km/h. Traffic volume is about 2,500 vehicles per day.

- National Route 9D (AH16) is joined by AH1 at a small town, Dong Ha, from which 2-lane mountain roads with 400m elevation run westwards to Lao Bao. This mountain road poses a danger to driving at night because of numerous sharp curves, insufficient road light as well as the bright lights coming from oncoming cars. In addition, roads in this section pass through many villages where residents frequently walk on the edge of the roads. As a result, driving requires a high degree of awareness with the average speed of 30-40km/h. Traffic volume was relatively low in this section, around 800 vehicles per day.

Photo I.1 National Route 1A	Photo I.2 National Route 9D
	
Photo I.3 Intersection at Dong Ha	Photo I.4 Mountain road at night
	

## (2) Lao Bao – Densavan (Vietnam and Laos)

- 4-lane asphalt roads are newly built on the Vietnam side, whereas the Laos side has only a single lane road. Between two border gates lies a single lane road with the centreline marked only on the Vietnam side.

<p><b>Photo I.5 Road on the Vietnam side</b></p>	<p><b>Photo I.6 Border gate in Vietnam</b></p>
	
<p><b>Photo I.7 The road between border gates</b></p>	<p><b>Photo I.8 Border gate in Laos</b></p>
	
<p><b>Photo I.9 Road on the Laos side</b></p>	
	

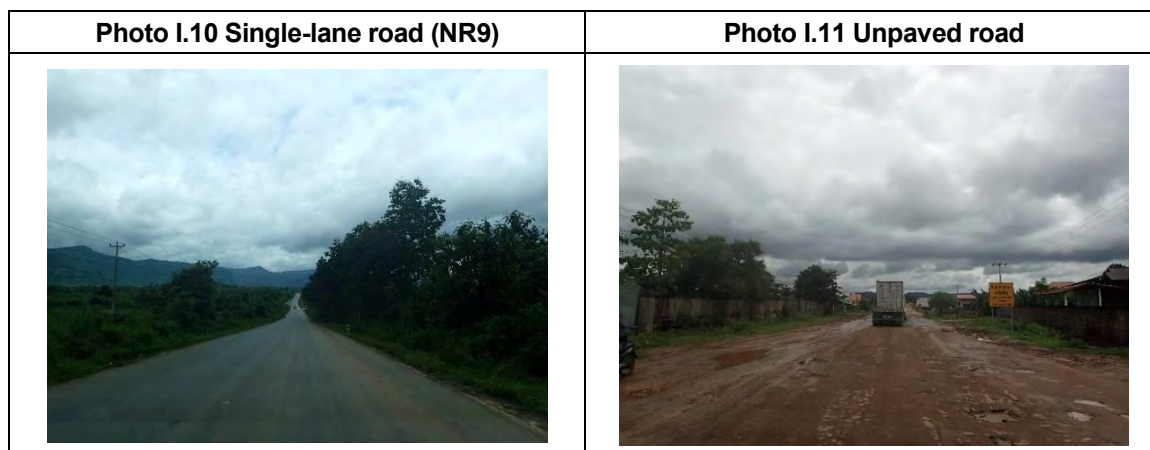
### (3) Densavan – Savannakhet (Laos)

- National Road 9 (AH 16) crossing the central and southern part of Laos has a single-lane road with a constant width of 8 m, which is situated in flat and hilly topography. The section clearly does not meet the required AH design standards, that is, a paved 2-lane road (Class III). The road conditions vary greatly from dirt roads to asphalt roads, or from unpaved to paved roads. The paved roads with asphalt surfacing are maintained in good condition and are mostly double lanes, yet road markings are hard to identify in some paved sections. Damages and



potholes are found in some unpaved, dirt road sections, raising a concern of physical damage to goods. In overall, the current road conditions, albeit not meeting AH standards, are sufficient enough to accommodate low volume of traffic (about 500 vehicles per day).

- There is a special economic zone along the road near Savannakhet, though the volume of trade and cargo seem to be low at this moment, considering low occupancy rates of properties.



#### (4) Savannakhet – Mukdahan (Laos and Thailand)

- Road conditions near the border differ greatly between two countries. The Laos side has a single-lane road (two-way traffic flow) paved with concrete, while the Thai road is made of asphalt and has 6 lanes in total.
- The Second Thai-Lao Friendship Bridge connects two countries. The bridge is 1,600 meters long and 12 meters wide, with two traffic lanes (each lane is 3.5m wide). When entering from Laos, traffic on the bridge drives on the right and stays on the right until the end of the bridge in Thailand. Traffic changes from right to left at the lane switching point placed on the Thai territory, where road markings and signs of course direction are easy to identify.





<p><b>Photo I.14 Second Thai-Lao Friendship Bridge</b></p>	<p><b>Photo I.15 Lane switching point in Thailand</b></p>
	
<p><b>Photo I.16 Border gate in Thailand</b></p>	<p><b>Photo I.17 Road on Thai side</b></p>
	

#### (5) Mukdahan – Khon Kaen (Thailand)

- National Highway 12 (AH 16) connecting Mukdahan and Khon Kaen is mostly flat with 2-4 lane straight roads, thereby realising stable and effective transport operations at the average speed of about 65km per hour. The road shoulder (2m) is mainly used by two-wheeled vehicles, which are separated from trucks and cars.
- Traffic speed on National Road 12 is defined as: 60km/h for large vehicles, 80km/h for medium-sized vehicles, and 90km/h for passenger cars and motorcycles. The speed limit in the hilly section is set at 50km/h for all transport modes.
- Traffic volume was about 5,000 vehicles a day.



Photo I.18 National Highway 12 (AH 16)	Photo I.19 Speed limit sign
	

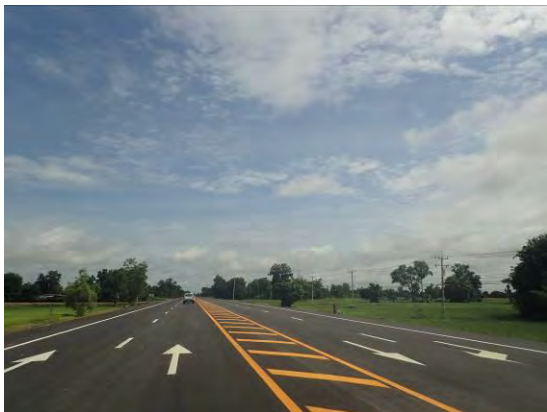

#### (6) Khon Kaen – Phitsanulok (Thailand)

- National Highway 12 (AH 16) in this section consists of flat and mountain areas. 2-4 lane roads run in straight line in a flat area, with the average driving speed of 80 km per hour.
- 2-4 lane roads with a maximum gradient of 8 degrees cross Phetchabun mountains (800-900m). Many sharp curves, police check controls and rock falls could undermine the efficient operation of transporting cargo. Between two mountainous areas lie 2 lane flat roads, over 5 km of which is currently under expansion from 2 to 4 lane roads with the median strip.
- Traffic volume is around 5,000 vehicles per day with some variations.

Photo I.20 National Highway 12	Photo I.21 Police check point
	
Photo I.22 Sharp curve on mountain	Photo I.23 Rock falls
	

### (7) Phitsanulok – Maesot (Thailand)

- National Highway 12 (AH 1 or 16) consisting of 2-4 lane roads continues throughout the Thai section. A large-scale road expansion (over 5 km, from 2 to 4-6 lanes) was underway in the mountainous area between Tak and Maesot.
- The volume of traffic between Phitsanulok to Tak was about 5,000 vehicles per day, whereas about 3,000 vehicles were recorded in the mountain area.

Photo I.24 National Highway 12	Photo I.25 Large-scale road expansion
	

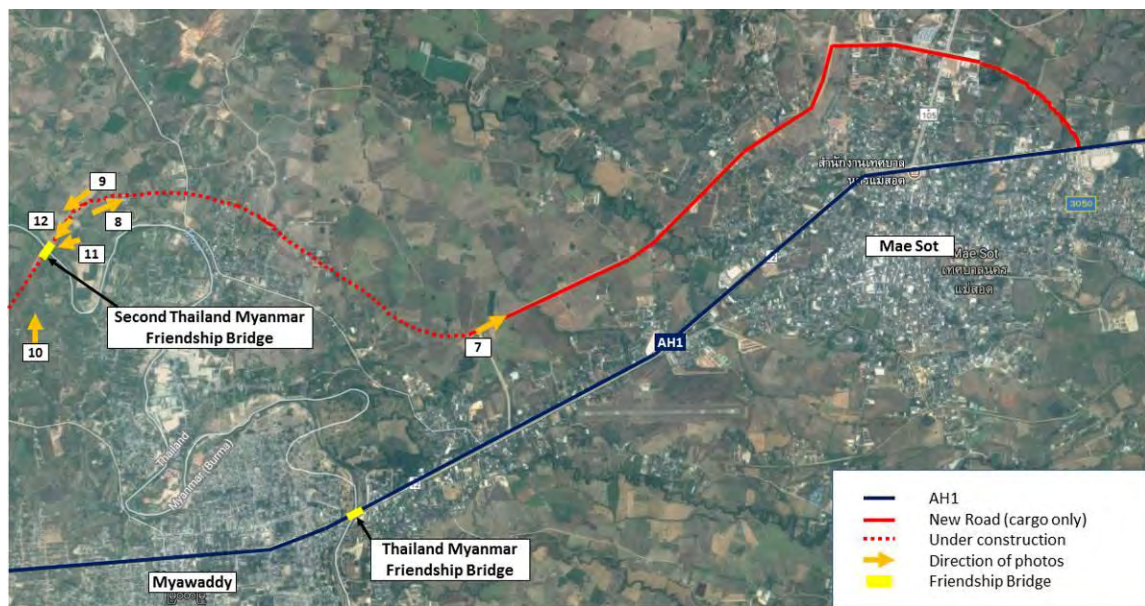
### (8) Maesot – Myawaddy (Thailand and Myanmar)

- The road on the Thai side is a 6-lane, well-paved road, with the road width totaling about 25 m, while the Myanmar side is overcrowded with cars and bikes parked along 15m narrow road.
- The First Thai-Myanmar Friendship Bridge connects two countries by land. The bridge is only about 500 meters long and 10 meters wide, with double traffic lanes. When entering from Thailand, traffic on the bridge stays on the left side and changes from left to right at the middle of the bridge where the lane switching point is designed with road markings and signs of course direction.
- The First Thai-Myanmar Friendship Bridge is a bottleneck for seamless cross-border transport (particularly heavy trucks) because of vehicle weight restrictions banning the entry of trucks more than 25 tons. To solve this physical capacity problem, the Second Thai-Myanmar Friendship Bridge is currently underway, which is scheduled to be open to the public in 2019 as an exclusive cargo-only route. Concurrently, a large-scale road construction work is being carried out at both ends of the bridge. The Thai side has been paved to some extent with some sections already being completed. On the Myanmar side, however, there seems to be a delay in road pavement.

<p><b>Photo I.26 Road on Thai side</b></p> 	<p><b>Photo I.27 Road on Myanmar side</b></p> 
<p><b>Photo I.28 Thai-Myanmar Friendship Bridge</b></p> 	<p><b>Photo I.29 Lane switching point on bridge</b></p> 
<p><b>Photo I.30 Border gate in Thailand</b></p> 	<p><b>Photo I.31 Border gate in Myanmar</b></p> 



<p><b>Photo I.32 Completed road</b></p>	<p><b>Photo I.33 Road under construction (Thailand)</b></p>
	
<p><b>Photo I.34 Road under construction (Thailand)</b></p>	<p><b>Photo I.35 Road under construction (Myanmar)</b></p>
	
<p><b>Photo I.36 Second Thai-Myanmar Friendship Bridge</b></p>	<p><b>Photo I.37 Second Thai-Myanmar Friendship Bridge</b></p>
	



**Figure I.2 Locations of Two Friendship Bridges and New Roads**

#### **(9) Myawaddy – Mawlamyine (Myanmar)**

- National Road 85 (AH 1) starts at Myawaddy and continues westward to Mawlamyine, though road design and conditions differ greatly between sections. A newly built 2 lane roads bypass winding mountain routes between Myawaddy and Kawkaeik. Despite installment of safety measures such as reflectors, there remains a high risk of accidents as passenger cars recklessly overtake heavy trucks that are driving ahead at a low speed.
- There are two routes between Kawkaeik and Mawlamyine in a flat area. The first route follows National Road 85 (AH 1) until Ein Du where the route is joined by a new, double-lane paved road linking Ein Du with Mawlamyine. The road between Kawkaeik and Ein Du remains a bottleneck to the safe and expeditious movement of cargo as well as to enhancing the physical connectivity of EWEK, due to deteriorated road conditions such as potholes and bumps. Poor road conditions and quality resulted in meandering and driving at a low speed. The road width is quite narrow (sometimes 5 meters), thereby frequently causing traffic congestion when passing by the oncoming vehicle.
- Another route is the 25km Kyargalay bypass connecting Kyargalay to the vicinity of Mawlamyine. This route, however, is currently made of dirt and gravel roads which are not suitable for freight transport, particularly during the rainy season when the roads are covered in mud. Sitting along the river, the route also presents a risk of possible floods. Due to these safety issues, this test run did not run the Kyargalay bypass.
- Traffic volume is about 1,000 vehicles per day.



<p><b>Photo I.38 Reckless overtaking</b></p> 	<p><b>Photo I.39 Steep curves in mountain</b></p> 
<p><b>Photo I.40 Narrow road on NR 85</b></p> 	<p><b>Photo I.41 Potholes on NR 85</b></p> 
<p><b>Photo I.42 Villages along the route</b></p> 	<p><b>Photo I.43 Kyargalay Bypass</b></p> 

#### (10) Mawlamyine – Yangon (Myanmar)

- The road between Mawlamyine and Bago is a 2 lane, flat road (partly without road markings), which is kept in good condition. Where there are damages to the road surface, road maintenance works were underway, such as near Zin Kyaik. National Road 8 (AH 112) extending north to south covers the section between Mawlamyine and Tathon. The road (AH 112) is joined by the logistics route, National Road 85 (AH 1), which connects Myawaddy to Yangon, at Tathon and continues as National Road 8 (AH 1) all the way to Bago.
- There are two routes from Bago to Yangon depending on types of transport modes. One route is the Express Highway connecting Mandalay to Yangon. The four-lane highway (lane width

3.7m, shoulder 1.5m) is designed for only passenger cars and buses. Trucks are prohibited from using the highway. There is also a high risk of traffic accidents, partly due to the maximum speed limit which is set at 100 km per hour. The volume of traffic was considerably small, about 1,000 vehicles per day.

- Another route is Yangon-Mandalay Road which consists of a double to 4-lane road. The width of lane ranges from 3.5 to 4.5 meters. Compared to the highway, the traffic volume is as high as about 3,000 vehicles per day.
- In addition, the Mawlamyine and Yangon section includes 14 toll gates (7 for city tax and another 7 for road maintenance).

<b>Photo I.44 Road near Mawlamyine (AH 112)</b>	<b>Photo I.45 Road maintenance work near Zin Kyaik</b>
	
<b>Photo I.46 Tolls on road</b>	<b>Photo I.47 Tolls gate</b>
	

#### I.2.4 Related Facilities at the Border

The conditions of border facilities related to cross-border transport are examined at each border crossing point, as shown in Table I.4. Customs inspection and border processing were not carried out at Lao Bao border crossing point, as these procedures only take place in country of exit because of the implementation of Single Stop Inspection at Lao-Bao – Densavan border.

**Table I.4 Conditions of Border Facilities Related to Cross-Border Transport**

Border crossing point	Lao Bao (Vietnam)	Densavan (Laos)	Savannakhet (Laos)	Mukdahan (Thailand)	Maesot (Thailand)	Myawaddy (Myanmar)
Number of lanes (entry and exit)	10	2	8	8	2	2
Vehicle waiting area	Partly (not provided)	Yes	Yes	Yes	No	No
Immigration	No (provided at Densavan)	Yes (Vietnam and Laos counters under one roof)	Yes	Yes	Yes	Yes
Customs storage	No (provided at Densavan)	Yes (Vietnam and Laos customs under one roof)	Yes	Yes	Yes	Yes (about 5km from the border gate)
Cargo inspection site	No (provided at Densavan)	Yes (including X-ray inspection facility)	Yes	Yes	Yes (including X-ray inspection facility)	Yes (about 5km from the border gate)
Quarantine	No (provided at Densavan)	Yes (Vietnam and Laos quarantine under one roof)	Unable to check	Yes	Yes	Yes
CIQ facilities (degree of computerization)	Unable to check	Partly (manual check)	Partly (manual check)	Partly (manual check)	Partly (manual check)	No
Cargo handling equipment	Unable to check	No	Yes	Yes	Yes	Yes
Warehouse facilities	Unable to check	No	Yes	Yes	Yes	Yes

## I.2.5 Other Regulations and Customs

**Table I.5 Other Regulations and Customs**

(number of other documentation/inspection on cross-border)

Country	Vietnam	Laos	Thailand	Myanmar
Tolls	3	No	No	14
Additional taxes	No	No	No	No
Passport check	No	1	No	No
Driving side	Right	Right	Left	Right
Right- and left-hand traffic	Left	Left	Right	Right



### I.3 Test Results 2: Southern Economic Corridor

#### I.3.1 Import/Export, Customs Procedure and Time

##### a) Pre-customs clearance preparation

###### i. Export procedures in Vietnam

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List, Letter of Authorization
2	Declaration input on VNACCS	The above documents need to be translated to Vietnamese
3	Receive declaration results with a declaration number >> received Green	Green = export approval Yellow = document inspection Red = cargo inspection
4	Loading cargo	N/A

###### ii. Transit procedures in Cambodia

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List, Letter of Authorization
2	Declaration input on ASYCUDA	The above documents need to be translated to Khmer
3	Receive declaration results with a declaration number >> Green	Green = export approval Yellow = document inspection Red = cargo inspection
4	Output Single Administrative Document	N/A

###### iii. Import procedures in Thailand

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List

###### iv. Export procedures in Thailand<sup>3</sup>

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List, Export declaration, application for export cargo outside official border, goods control, truck receipt,

###### v. Import procedures in Myanmar

No	Process	Remarks
1	Bring original documents on the day of clearance	Invoice, Packing List, Truck receipt, Sales agreement

##### b) Customs clearance and transboundary procedures at border

###### i. Export procedures at Moc Bai (Vietnam)

No	Process	Time	Duration	Place	Remarks
1	Waiting in queue	7:00- 9:00	120	Border gate (1 <sup>st</sup> )	A long queue was generated before Border gate (1 <sup>st</sup> gate), partly due to different

					operation hours of customs office between Moc Bai (8am) and Bavet (6am).
2	Submit documents	9:00- 9:05	5	Customs office (inside immigration building)	Necessary documents include: - export declaration document - bill of lading
3	Pay transport fees	9:05- 9:10	5	Customs office (inside immigration building)	VND 100,000
4	Waiting in queue	9:10- 10:30	80	Border gate (2 <sup>nd</sup> )	N/A
5	Cargo check (export approval)	10:30- 10:35	5	Border gate (2 <sup>nd</sup> )	Submit documents to inspection officers who only opened and checked a cargo
Total			215		

ii. Transit procedures at Bavet (Cambodia)

No	Process	Time	Duration	Place	Remarks
1	Submit customs document (through local forwarder)	9:00- 10:30	90	Customs Building	Necessary documents include: - Invoice, Packing list, Letter of Authorization, Bill of lading - Single Administrative Document - Transit control form - Container list - Transit application form - Transit license  Pay application fees: - customs seals fees: KHR 8,000 - customs fees: KHR 15,000
2	Entry of Vietnamese vehicle to Cambodia	10:55	-	Bavet Border Gate	N/A
3	Arrival of Vietnamese vehicle to Dry Port	11:15	-	So Nguon Dry Port	N/A
4	Transshipment	11:30- 11:35	5	So Nguon Dry Port	From Vietnamese to Cambodian vehicle * Transit license from Bavet and Poipet are allocated to only container trucks
5	Sealing	11:35- 11:40	5	So Nguon Dry Port	Sealed by customs brokers without the attendance of customs officers
6	Leave for Poipet	11:50	-	-	Trucks must arrive at Poipet customs within 24 hours after completion of customs clearance at Bavet.
Total			100		

iii. Export procedures at Poipet (Cambodia)

No	Process	Time	Duration	Place	Remarks
1	Arrival of Thai truck from Aranyaprathet	AM	-	Diamond Transportation Yard	Thai truck arrived from Aranyaprathet for transshipment. Necessary documents to cross the border from Aranyaprathet to Poipet include: - Letter of Authority - Transit licenses - Driver's passport and license
2	Arrival of	15:10	-	Diamond	N/A

	Cambodian truck from Poipet			Transportation Yard	
3	Submit customs documents through local forwarder	15:50-15:55	5	Diamond Transportation Yard	Necessary documents include: - Invoice, Packing list, Letter of Authorization, Bill of lading - Single Administrative Document - Transit control form - Container list - Transit application form - Transit license
4	Transshipment	15:57-16:07	10	Diamond Transportation Yard	From Cambodian to Thai truck Seal opening is done by customs brokers
5	Overnight detention	-	-	Diamond Transportation Yard	Customs clearance at Poipet and neighbouring Aranyaprathet (Thailand) must be completed on the same day, within the opening hours of both customs.
6	Document inspection	8:00- 9:45 (next day)	105	Customs office	N/A
7	Cross the border	10:35	-	Poipet Border	N/A
Total			120		

## iv. Import procedures at Aranyaprathet (Thailand)

No	Process	Time	Duration	Place	Remarks
1	Declaration	10:38-10:48	10	Customs office	Only after Thai trucks cross the border
2	Arrival of Thai truck	10:50	-	Aranyaprathet border gate	N/A
3	Submission of documents	10:50-11:15	25	Customs office	Necessary documents include: - Invoice, P/L, import declaration, truck B/L, car receipt, car manifest
Total			35		

## v. Export procedures at Phu Nam Ron (Thailand)

No	Process	Time	Duration	Place	Remarks
1	Customs inspection	-	15	Parking site at border	N/A
2	Document submission	-	15	Customs office at border	N/A
3	Temporary border pass application	-	15	Border pass application site	BAHT 30 per person
4	Crossing the border	-	-	Border gate	N/A
5	Cargo inspection by Army	-	5	Zero point	N/A
Total			50		

## vi. Import procedures at Htee Khee (Myanmar)

No	Process	Time	Duration	Place	Remarks
1	Border check	-	5	Border	By police and Karen National Union (KNU)
1	Transshipment	-	60	Transshipment site	From Thai to Myanmar truck
2	Customs inspection	-	20	Inspection site	Including 5 minutes of document check
3	Payment of import taxes	-	15	Customs office	VAT: 3% of Invoice value Commercial tax: 5% of Invoice value Withholding tax: 2% of Invoice value
4	KNU taxes	-	15	KNU office	BAHT 400 per truck (or sometimes XX% of

					Invoice value) * A tax structure is not streamlined
Total			115		

### I.3.2 Distance and Travel Time

Table I.6 is a detailed record of travel data (distance, time and speed) for each section along SEC. Time only includes actual transport time (without resting time) and excludes clearance time at border.



**Table I.6 Records of Travel Time, Distance and Speed on SEC**

No	Route	Country	Distance (km)	Time (hrs/min)	Average speed (km/h)
1	Ho Chi Minh – Moc Bai	Vietnam	65	01:42	38.2
2	Bavet – Phnom Penh	Cambodia	170	03:40	56.7
3	Phnom Penh – Poipet	Cambodia	410	08:29	61.9
4	Aranyaprathet – Bangkok	Thailand	262	04:40	55.9
5	Bangkok – Phu Nam Ron	Thailand	184	03:15	59.2
6	Htee Khee - Dawei	Myanmar	139	04:30	30.9
Total			1230	26:16	-

### I.3.3 Road Infrastructure

#### a) Ho Chi Minh – Moc Bai (Vietnam)

- National Route 22 (Asian Highway 1) consisting of 4 lane roads with the median strip connect Ho Chi Minh and Moc Bai. Despite sufficient road capacity, the average travel speed stays around 40 km/h mostly due to motorbikes travelling between two cities and lack of priority lane for trucks (albeit speed limit being 60 km/h). Daily traffic volume is 3,000 vehicles.





Photo I.48 National Route 22	Photo I.49 Motorbikes
	

#### b) Moc Bai – Bavet (Vietnam and Cambodia)

- Road conditions as well as surrounding environment differ between two countries. On the Vietnam side lie 4 lane roads with clear road markings and the median strip. Besides small

stores for drivers, there is little development along the road. In contrary, roads on the Cambodian side consist of unmarked 2 lanes with medium-scale developments such as casino and hotels along the road.



- Before Moc Bai border gate, hundreds of trucks were making a queue for customs clearance. Given a large volume of traffic along the road as well as sufficient road capacity, the underlying issue of this heavy congestion is institutional, particularly in relation to capacity constraints of officers on ground and different office hours between Moc Bai and Bavet Customs. Also, lack of border facilities (e.g. inspection site, parking) may lead to further congestion.

Photo I.50 Moc Bai border gate	Photo I.51 A long queue before Moc Bai gate
	
Photo I.52 Zero point between two gates	Photo I.53 Bavet gate
	

### c) Bavet – Phnom Penh (Cambodia)



- National Highway 1 (AH1) is the main road linking Vietnam and Cambodia in the south of the Mekong region. 2 straight lanes run through the middle of a flat, agricultural area with some low-key developments (towns) found along the road. For this topography, trucks can travel at an average speed of 57 km/h. Traffic volume is no different from the Vietnam section, around 3,000 vehicles per day.
- A notable recent infrastructure progress made along this corridor is the construction of Neak Loeung Bridge, which opened to public in 2015 and has facilitated the movement of people and goods. Until its grand opening, people and vehicles were required to cross the river via ship.
- Vehicles with over four wheels (e.g. six-wheeled trucks) are forbidden from travelling on National Highway 1 from Neak Loeung and Phnom Penh sections between 5am and 9pm. During this period, trucks need to take a different route at Neak Loeung (before crossing the

bridge) by making a detour northbound along National Highway 11 and 8

Photo I.54 National Highway 1 (AH1)	Photo I.55 Neak Loeung Bridge
	

**d) Phnom Penh – Poipet (Cambodia)**




- National Highway 5 (AH1) is located between two cities, providing a key linkage to Thailand. The road is mostly 2 lanes in a flat wetland, with some sections under road expansion to be increased from 2 to 4 lanes. The average speed is around 62 km/h. Traffic volume is 2,500 vehicles per day.

Photo I.56 National Highway 5	Photo I.57 Road expansion
	

**e) Poipet – Aranyaprathet (Cambodia and Thailand)**

- Road between two gates, approximately 160 meters in length and 10-12 meters in width, is of poor quality in terms of design and of low capacity in terms of road capacity. No traffic signs and markings are provided along the single lane road, despite the need to switch lanes from right (Cambodia) to left (Thailand) or vice versa. Instead, officers use hand signals and gestures for manual traffic direction and control. As a result, a long queue was generated before the gate, especially on the Thai side, leading to timely and inefficient border crossing for drivers. Furthermore, border brokers on the Cambodia side unofficially and randomly collect transport fees (we were required to pay 200 Baht when crossing the Cambodian border).

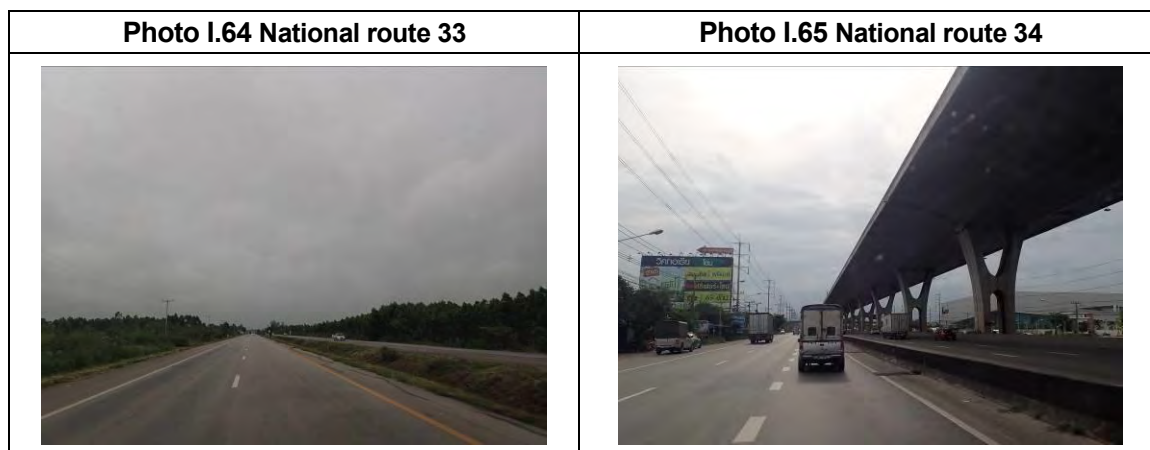


<p><b>Photo I.58 Poipet border gate</b></p> 	<p><b>Photo I.59 Zero point (to Aranyaprathet)</b></p> 
<p><b>Photo I.60 Zero point (to Poipet)</b></p> 	<p><b>Photo I.61 Aranyaprathet border gate</b></p> 
<p><b>Photo I.62 Long queue before Thai gate</b></p> 	<p><b>Photo I.63 Collecting unofficial transport fees</b></p> 

**f) Aranyaprathet – Bangkok (Thailand)**

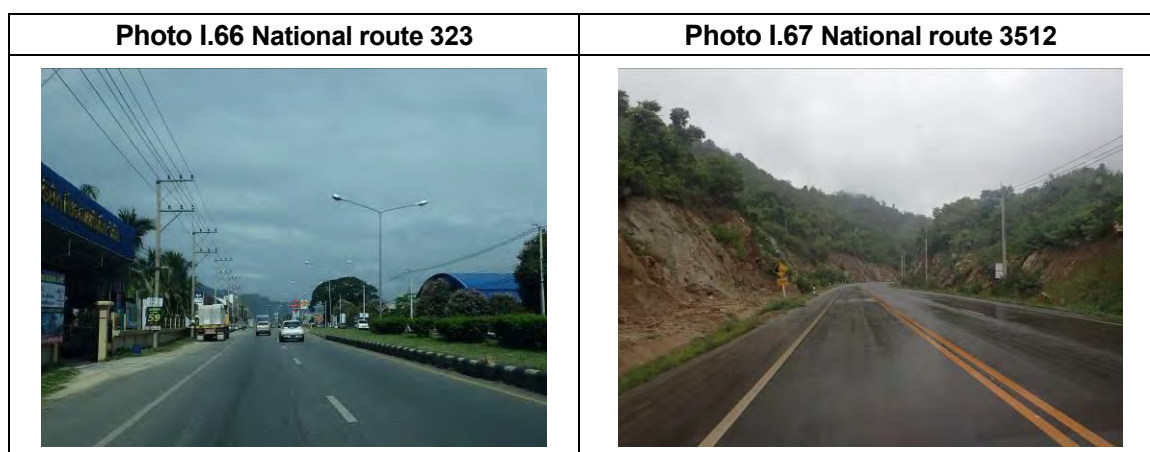
- Road in the Thai section is of high quality compared to other countries along the corridor. Situated in a flat area, this section runs along various routes including National Route 33, 359, 304, 365, 314 and 34. These are mostly 4-6 lanes with the median strip placed in the middle of the road. Local traffic regulations ban vehicles with over four wheels from entering National Route 7, 8-lane motorways. Traffic volume varies greatly depending on the route, from 4,000 near the border to over 12,000 near Bangkok's city limits.





**g) Bangkok – Phu Nam Ron (Thailand)**

- Road is made of flat and mountainous sections. 2-3 lanes in flat terrain continue from Bangkok to Kanchanaburi via National Route 323. After Kanchanaburi, a gradual slope starts passing through various 2 lane roads (NR 3429, 3209, 3085, 3512) until reaching Phu Nam Ron at an altitude of 400 meters. Daily traffic volume is 9,000 along National Route 323, while that volume declines to as low as 800 in the mountainous section.




**h) Phu Nam Ron – Htee Khee (Thailand and Myanmar)**

- Road conditions between two countries show a remarkable change when crossing the international border. 2 lane roads with clear road markings are paved from the Thai gate to the Myanmar border where road conditions suddenly change from asphalt to earth.
- According to Thai customs officers on ground, daily traffic volume at this border is around 10-20, most of which are small trucks carrying daily goods from Thai to Myanmar and seafood from Myanmar to Thai.

<b>Photo I.68 Thai border gate</b>	<b>Photo I.69 Zero point (Thai side)</b>
	
<b>Photo I.70 Myanmar gate and road</b>	<b>Photo I.71 Trucks crossing the border</b>
	

**i) Htee Khee – Dawei (Myanmar)**

- The mountainous section from Htee Khee to Mita is unpaved roads that are often impassable for months during the rainy season. However, under such conditions, tractors are used to pull small vehicles facing difficulties in climbing a steep slope on the muddy road. This unpaved section was to be upgraded by a private company, Italian-Thai Development, yet no progress has been made at the present. The section from Mita to Dawei, a port, is paved with asphalt.

<b>Photo I.72 Unpaved road</b>	<b>Photo I.73 Small bridge</b>
	



<p><b>Photo I.74 Fallen tree</b></p> 	<p><b>Photo I.75 Unpaved road</b></p> 
<p><b>Photo I.76 Mud road</b></p> 	<p><b>Photo I.77 Fallen vehicle</b></p> 
<p><b>Photo I.78 Slope</b></p> 	<p><b>Photo I.79 Tractor pulling vehicle</b></p> 

#### I.3.4 Related Facilities at the Border

**Table I.7 Conditions of Border Facilities on Southern Corridor**

Border crossing point	Moc Bai (Vietnam)	Bavet (Cambodia)	Poipet (Cambodia)	Aranyaprathet (Thailand)	Phu Nam Ron (Thailand)	Htee Khee (Myanmar)
Number of lanes (entry and exit)	10	6	2	4	2	1
Common Control Areas (CCA)	No	No	No	No	No	No
Vehicle waiting area	No	Partly (at dry port, not border)	Partly (at dry port, not border)	No	Yes	No

Immigration	Yes	Yes	Yes	Yes	Yes	Yes
Customs storage	Yes	Yes	Yes	Yes	Yes	Yes
Cargo inspection site	No (inspection lanes at gate)	No (inspection lanes at gate)	N/A (unable to check)	No	No	No
Quarantine	Yes	Yes	N/A (unable to check)	Yes	N/A (unable to check)	N/A (unable to check)
CIQ facilities (degree of computerization)	Yes	Partly (manual check)	Yes	No	No	No
Cargo handling equipment	Yes (at border zero point)	Yes (at border zero-point)	No (at dry port)	No	No	No
Warehouse facilities	No	No (at dry port)	No (at dry port)	No	No	Yes
CBTA Fast-track lanes	Yes (for low-risk cargo)	No	No	No	No	No

### I.3.5 Other Regulations and Customs

**Table I.8 Other Regulations and Customs**

Country	Vietnam	Cambodia	Thailand	Myanmar
Tolls	No	No	No	No
Additional taxes	No	1 additional tax	No	1 additional tax
Passport check	No	No	No	Yes
Driving side	Right	Right	Left	Right
Right- and left-hand traffic	Left	Left	Right	Right

## I.4 Test Results 3: Hanoi-Vientiane Corridor

### I.4.1 Import/Export, Customs Procedure and Time

#### a) Pre-customs clearance preparation

##### i. Export procedures in Vietnam

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List, Letter of Authorization
2	Declaration input on VNACCS	The above documents need to be translated to Vietnamese
3	Receive declaration results with a declaration number >> received Green	Green = export approval Yellow = document inspection Red = cargo inspection
4	Loading cargo	N/A

##### ii. Import procedures in Laos

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List, Letter of Authorization

##### iii. Export procedures in Thailand

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List

2	Declaration input on E-Customs	N/A
3	Receive declaration results with a declaration number	Received Green line
4	Create Goods Control	N/A

iv. Transit procedures in Laos

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List, Letter of Authorization, transit applications
2	Declaration input on ASYCUDA	The above documents need to be translated to Laos
3	Receive declaration data with a declaration number	N/A
4	Output ASEAN Customs Declaration Document (ACDD)	N/A

v. Import procedures in Vietnam

No	Process	Remarks
1	Document preparation in English by shippers	Invoice, Packing List, Letter of Authorization
2	Declaration input on VNACCS	The above documents need to be translated to Vietnamese
3	Receive declaration results with a declaration number (received Green line)	Green = export approval Yellow = document inspection Red = cargo inspection
4	Loading cargo	N/A

b) Customs clearance and transboundary procedures at border

i. Export procedures at Cau Treo (Vietnam)

No	Process	Time	Duration	Place	Remarks
1	Document inspection	10:00-10:05	5	Customs office	Transport fees: VND 300,000 (40 feet container)
2	Entry of truck	11:00	-	Border gate	N/A
3	Cargo inspection	11:20-11:25	5	Border gate	Office fees outside of regular operation hours: VND 20,000 (lunch break: 11:00-13:00)
4	Transit application	11:30-11:50	20	Transit office	Necessary documents include: - Vehicle temporary export re-import declaration document - Container temporary takeout form - Vietnam-Laos Cross-Border Transport Permit - Vehicle inspection certificate - Vehicle register certificate
5	Final cargo check	11:50-11:52	2	Border gate (exit)	Cargo exterior and number check >> Exit
Total			32		

ii. Export procedures at Nam Phao (Laos)

No	Process	Time	Duration	Place	Remarks
1	Entry of truck	12:00	-	Border gate	
2	Immigration	12:00-12:15	15	Border gate	Immigration and passport check Transport fees: KIP 165,000 System usage fees: KIP 5,000
3	Move to customs	-	(45)	-	31km from border gate

	building				
4	Document inspection	13:00-13:15	15	Customs building	Local forwarders submit documents to customs after crossing the border. Customs officers input declaration details on ASYCUDA.
5	Arrival of truck	13:20	-	Customs building	N/A
6	Customs inspection (1 <sup>st</sup> )	13:30-13:35	5	Customs office	Valuation check (only 1 container) by customs officers
7	Tax payment via Smart Tax	13:45-13:50	5	Customs office	KIP 320,400
8	Customs inspection (2 <sup>nd</sup> )	13:50-13:55	5	Customs gate	Cargo exterior and number check by customs officers
9	Import approval	13:55-14:00	5	Customs gate	Exit
Total			50		

### iii. Export procedures at Nakhon Phanom (Thailand)

No	Process	Time	Duration	Place	Remarks
1	Entry of truck	10:00	-	Border gate (entry)	N/A
2	Document submission	10:05-10:20	15	Customs office	Necessary documents: Declaration form, goods control, Invoice, Packing List (only document check since received Green line) Payment: Customs fees (THB 200), transport fees (THB 320)
3	Final check	10:20-10:30	10	Border gate (Exit)	Gate officers check a license number of truck Transport fees (Laos): THB 530
Total			25		

### iv. Transit procedures at Thakhek (Laos)

No	Process	Time	Duration	Place	Remarks
1	Document inspection	N/A (1 day before)	30		Documents include: Invoice, Packing List, Letter of Authorization, transit applications, ACDD Payment (system usage: KIP 100,000; transit application fees: 350,000)
2	Entry of truck	10:50	-	Border gate	N/A
3	Cargo inspection	10:50-10:55	5	Border gate	Cargo exterior and number check by immigration officers
4	Transshipment	11:45-11:55	10	Transshipment site	From Thai to Vietnam truck
-	24-hour rule (customs clearance at Na Phao must be completed within 24 hours after cargo sealing at Thakhek) applies to transit cargo. Considering a long drive to Na Phao Border, we waited one day for the final customs clearance.				
5	Waiting for arrival of customs officers	8:00-8:45	45	Exit gate at Transshipment site	Gatekeepers take note of container number
6	Cargo inspection and sealing	8:45-8:47	2	Exit gate at Transshipment site	Parking fees: KIP 105,000 per night No weight fees imposed because of cargo weight (50kg) (weight fees are usually imposed: KIP 132,000 per ton)
7	Exit	8:47	-	-	-
Total			92		

### v. Export procedures at Na Phao (Laos)

No	Process	Time	Duration	Place	Remarks
1	Arrival of truck	11:44	-	Customs building	18km before Na Phao border gate

2	Document submission >> exit approval	N/A	50	Customs building	Necessary documents include: Invoice, Packing list, LOA, ACDD, transit applications Payment: transport fees (KIP: 500,000 for 40 feet container)
3	Leave for Na Phao border	13:30	-	-	-
4	Arrival of truck	16:05	-	Border gate	N/A
5	Open container seal	16:05-16:07	2	Border gate	Gatekeepers check a seal number and document
6	Final check	16:07-16:08	1	Border gate	Submit documents >> exit
Total			53		

vi. Import procedures at Cha Lo (Vietnam)

No	Process	Time	Duration	Place	Remarks
1	Arrival of truck	16:15	-	Parking site	N/A
2	Customs document submission	16:40-17:00	20	Customs office (2 <sup>nd</sup> floor)	Necessary documents include: import declaration, Invoice, Packing list, LOA Payment: duties (30%): VND 10,550,850 VAT (10%): VND 4,572,035
3	Immigration and vehicle registration	17:00-17:15	15	Designated counters (1 <sup>st</sup> floor)	Necessary documents include: - Vehicle temporary export re-import declaration document - Container temporary takeout form - Vietnam-Laos Cross-Border Transport Permit - Vehicle inspection certificate - Vehicle register certificate Transport fees: VND 450,000 (40 feet container)
4	Cargo inspection	17:30-17:34	4	Border gate	Cargo exterior and number check by police and customs officers
5	Final approval	17:35	1	Border gate	Customs officer >> Exit
Total			40		

#### I.4.2 Distance and Travel Time

Table I.9 is a detailed record of travel data (distance, time and speed) for each section along Hanoi-Vientiane Corridor. Time only includes actual transport time (without resting time) and excludes clearance time at border.

**Table I.9 Records of Travel Time, Distance and Speed**

No	Route	Country	Distance (km)	Time (h/m)	Average speed (km/h)
1	Hanoi - Vinh	Vietnam	290	05:48	49.9
2	Vinh – Cau Treo		96	03:40	33.5
3	Nam Phao - Laksao	Laos	31	00:47	42.0
4	Laksao - Vientiane		332	07:20	48.9
Total			749	17:35	-
Transit from Vientiane/Nong Khai to Nakhon Phanom/Thakhek via Thailand (without cargo)					

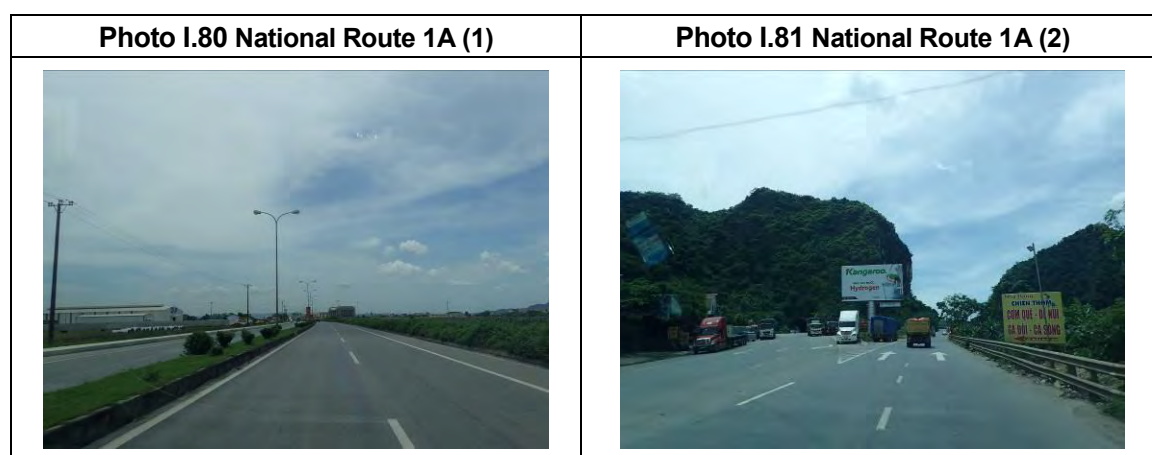


1	Thakhek – Na Phao	Laos	160	04:06	39.1
2	Cha Lo - Vinh	Vietnam	167	03:47	44.3
Total			327	7:53	-

### I.4.3 Road Infrastructure

#### a) Hanoi – Vinh (Vietnam)

- National Route 1A (AH1) runs north to south from Hanoi to Vinh along 4 lane flat roads with the median strip placed in the middle. Traffic volume is around 5000-7000 vehicles per day. A traffic restriction exists in Vinh, in which trucks are not allowed to enter the city from 6am to 22pm.



#### b) Vinh – Cau Treo (Vietnam)

- National Road 8A (AH15) in this section can be divided into two levels of topography: flat terrain (from Vinh to city limits at the 80km point) and mountainous areas (from the 80km point to Cau Treo border point). The flat section consists of 1 lane paved roads, though a point **X** (red coloured “X” in the bar-chart below) in Figure I.3. All include a 200m-long gravel road (unpaved) with a narrow width of 6m. Pavement work is currently carried out using manual labour. Daily traffic volume is about 1200.

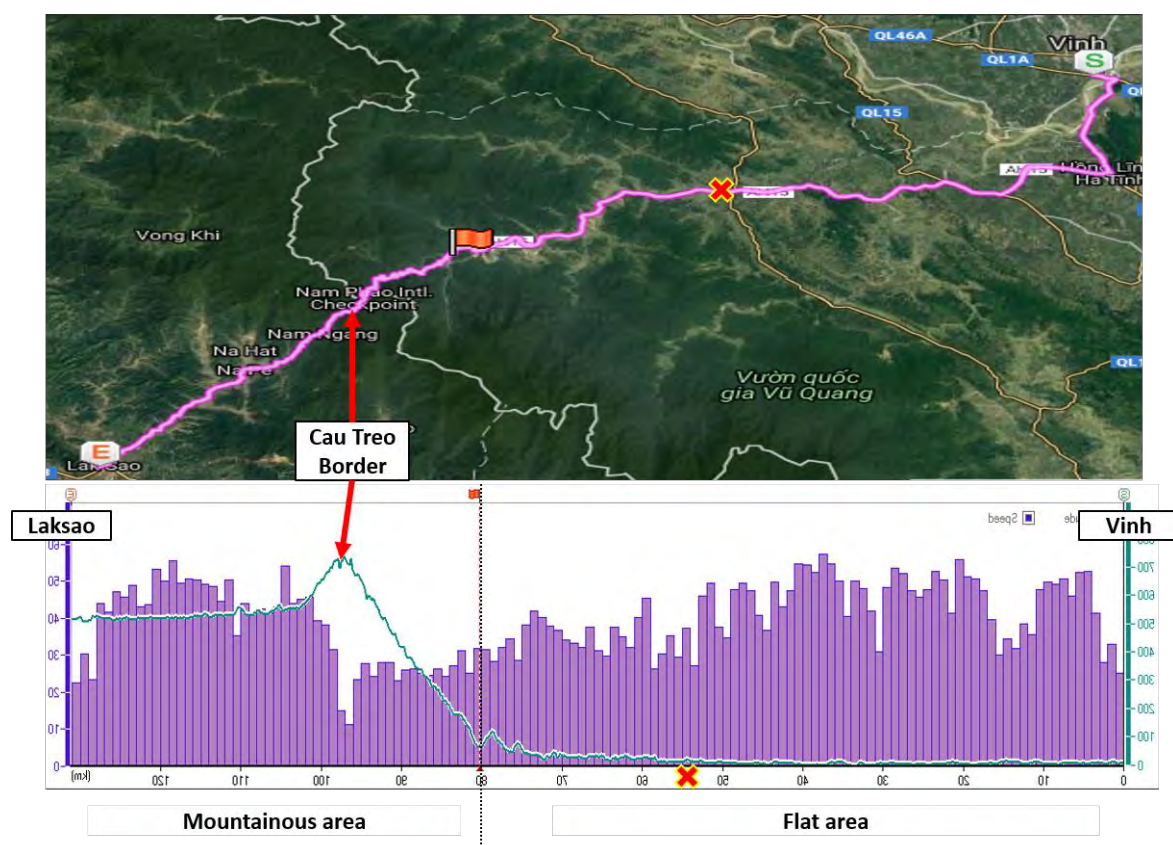


Figure I.3 Altitude and Speed Map between Vinh and Laksao





- The mountainous section consists of 1 lane roads with steep slopes (up to 10%), sharp curves and a narrow width (8m). These road conditions are not suitable for heavy trucks. The average speed was about 25 km/h. Despite provision of safety measures such as guardrails, the road surface is partially collapsed to the extent that immediate maintenance works are required. Traffic volume is about 500 vehicles per day, mostly heavy vehicles such as trucks and buses.







<b>Photo I.84 Narrow road</b>	<b>Photo I.85 Collapsed road</b>
	
<b>Photo I.86 Bus coming from Laos</b>	<b>Photo I.87 Mountain road</b>
	

**c) Cau Treo – Nam Phao/ Laksao (Vietnam and Laos)**

- The international border is located at the mountain's 743-meter summit. Vietnam is currently undergoing large-scale infrastructure construction for border buildings and access roads. The Laos side shows no sign of construction work in the near future. The border gates are connected by a single lane road, which continues for 30km until reaching Laksao along National Road 8.

<b>Photo I.88 Current border facilities (Vietnam)</b>	<b>Photo I.89 Access road (Vietnam)</b>
	

<p><b>Photo I.90 New border gate (Vietnam)</b></p> 	<p><b>Photo I.91 View from new border gate (Vietnam)</b></p> 
<p><b>Photo I.92 Single lane road between gates</b></p> 	<p><b>Photo I.93 Laos border gate</b></p> 

**d) Laksao – Vientiane (Laos)**

- National Road 8 in the mountainous section near Laksao can be a bottleneck for realising smooth and efficient transport, due to obstacles such as sharp curves, rock falls and possible mudslide. National Road 13 is 2 lane roads running through a flat agricultural area. Along the road lie numerous villages and community facilities (schools, markets, etc). Daily traffic volume is around 500 on Road 8 and 1,500 on Road 13.


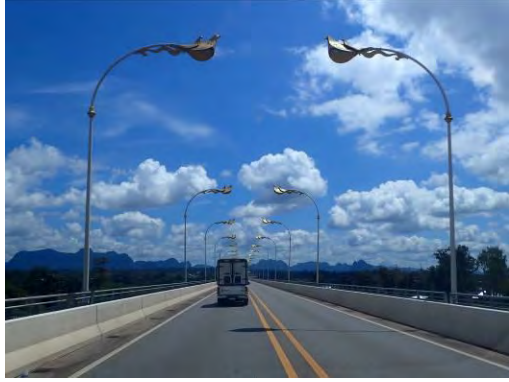


<p><b>Photo I.94 Rock falls on National Road 8</b></p> 	<p><b>Photo I.95 National Road 13</b></p> 
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**e) Nakhon Phanom – Thakhek (Thailand and Laos)**

- Third Thai-Lao Friendship Bridge is 1.4 km in length and has two lane roads connecting two



border gates. Vehicles stay on the left until the end of the bridge on the Laos side where traffic changes from left to right at the lane switching point.

<p><b>Photo I.96 Thai border gate</b></p> 	<p><b>Photo I.97 Friendship Bridge</b></p> 
<p><b>Photo I.98 Switching lanes</b></p> 	<p><b>Photo I.99 Laos border gate</b></p> 



**f) Thakhek – Na Phao (Laos)**

- National Road 12 (AH131) is 2 lane roads running east to west through the Phou Hin Poun National Biodiversity Conservation Area, except Na Phao border area which consists of unpaved, gravel roads (single) along the mountain terrain. In the mountainous section, small-radius curves can be a bottleneck for passing of heavy vehicles, considering a high volume of traffic. On the day of the test run, hundreds of heavy trucks were making a long queue because a 40-container truck's wheel was stuck in a ditch. It took more than 2 hours to ease traffic congestion. Traffic volume in flat terrain is about 1,200 per day.

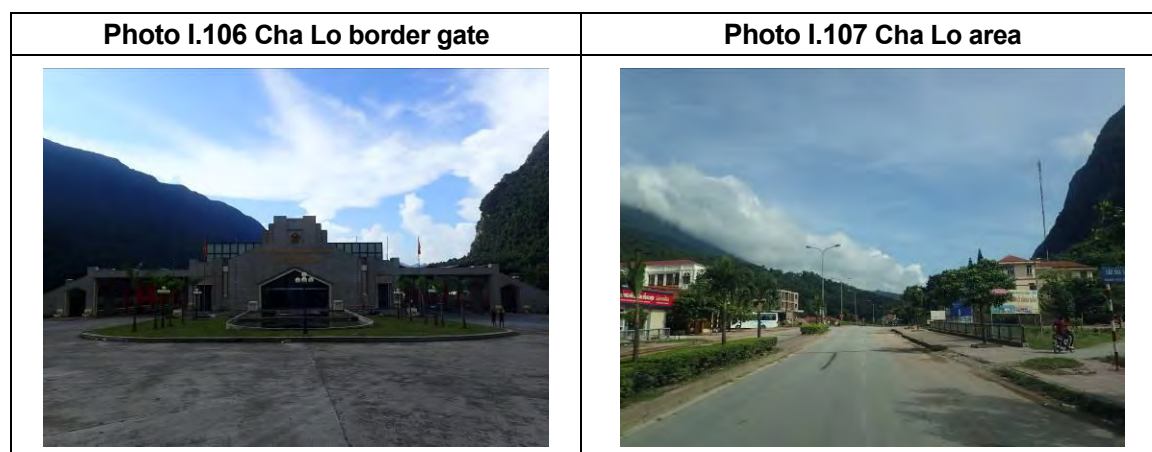
<b>Photo I.100 Long queue to Na Phao border</b>	<b>Photo I.101 Stuck in ditch</b>
	
<b>Photo I.102 Traffic jam</b>	<b>Photo I.103 National Road 12 in mountain</b>
	

**g) Na Phao - Cha Lo (Laos and Vietnam)**

- Na Phao border is located at an altitude of 423 meters. The front space, accompanied by small offices and restaurants on the side, is largely underused. Access roads between two countries are 2 lanes, with some unpaved sections. Cha Lo border is newly developed, equipped with sufficient physical infrastructure (e.g. large parking space, 3 lanes for border processing). Regardless of its remote location, necessary services such as hotels and restaurants are provided for long-distance drivers.

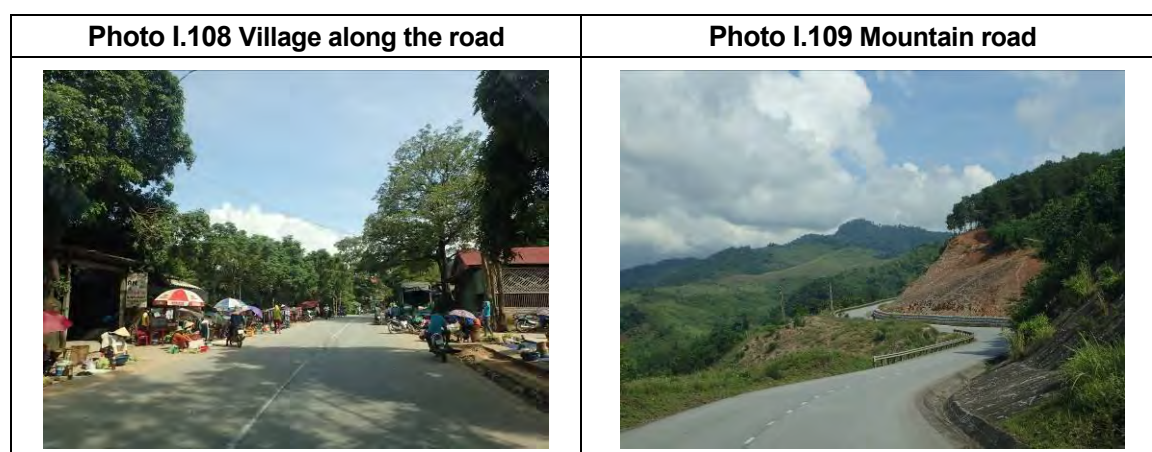
<b>Photo I.104 Na Phao border gate</b>	<b>Photo I.105 Access road between gates</b>
	





#### h) Cha Lo – Vinh (Vietnam)

- 2 lane roads continue from Cha Lo border to the 60km point along National Route 15 (AH131). With clear road markings and guardrails implemented, passing of heavy trucks faces no difficulty from the perspective of running stability and safety. Traffic volume varies from 1,200 in mountain to 2,500 in flat city limits area.



#### I.4.4 Related Facilities at the Border

**Table I.10 Conditions of Border Facilities on Hanoi-Vientiane Corridor**

Border crossing point	Cau Treo (Vietnam)	Nam Phao (Laos)	Nakhon Phanom (Thailand)	Thakhek (Laos)	Na Phao (Laos)	Cha Lo (Vietnam)
Number of lanes (entry and exit)	2	2	4	4	2	6
Common Controls Area (CCA)	No	No	No	No	No	No
Vehicle waiting area	Partially (only 5 or 6)	No	Yes	Yes	Yes	Yes
Immigration	Yes	Yes	Yes	Yes	Yes	Yes
Customs storage	Yes	No	Yes	Yes	Yes	Yes
Cargo inspection site	No	No	No	Yes	No	Yes
Quarantine	Yes	No	Yes	Yes	Yes	Yes
CIQ facilities (degree of computerization)	Yes	No	Yes	Yes	Yes	Yes
Cargo handling equipment	No	No	No	Yes	No	No
Warehouse facilities	No	No	No	No	No	No



## I.4.5 Other Regulations and Customs

Table I.11 Other Regulations and Customs

Country	Vietnam	Laos	Thailand
Tolls (place)	4	No	No
Additional taxes	No	No	No
Passport check	No	No	No
Driving side	Right	Right	Left
Right- and left-hand traffic	Left	Left	Right

## I.5 Analysis

### I.5.1 Physical Aspect: Average Travel Speed

Average travel speed is a useful indicator of physical connectivity, as it gives a perspective of physical road conditions and transport system quality. Assuming that similar types of vehicles are used, levels of speed illustrate the quality of road infrastructures (e.g. whether paved or unpaved, types of road materials). Figure I.4 is an overview of average travel speed along East-West and Southern Economic Corridors. Although vehicle speeds vary greatly from one country to another, the Myanmar sections clearly record the lowest travel speeds along two corridors. Reduced travel speeds, or infrastructure gaps in Myanmar, impede efficient operations and safe and expeditious movement of vehicles throughout the GMS corridors. Increasing travel speeds by improving road infrastructures especially in Myanmar is a key to eliminating a physical bottleneck and to achieving better connectivity between and among GMS countries.

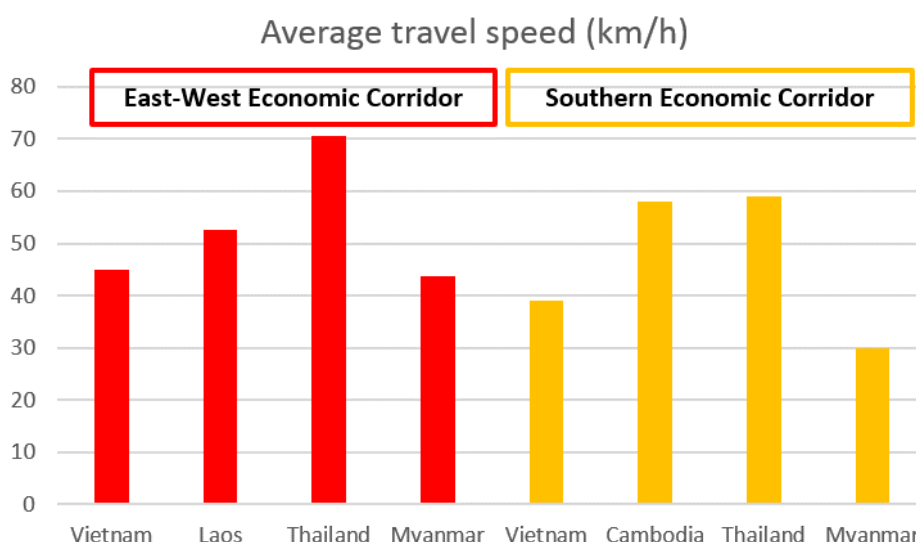
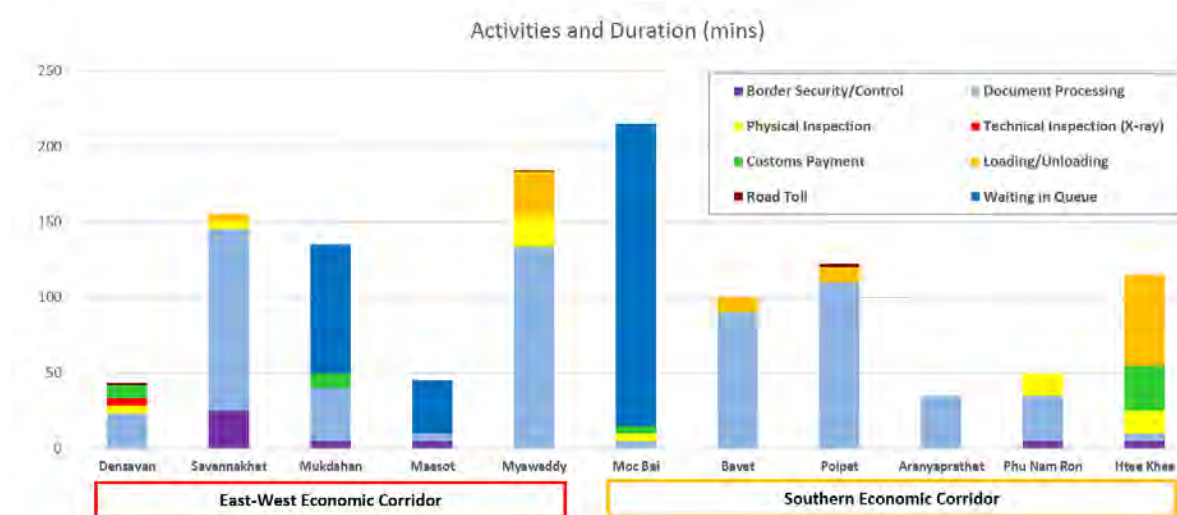


Figure I.4 Average Travel Speed along GMS Corridors

### I.5.2 Institutional Aspect: Clearance Time and Border-Crossing Procedures

Despite recent efforts towards more systematised and simplified customs clearance such as Single-Stop Inspection at the Lao bao-Densavan BCP, this transport test run reveals that customs clearance procedures are handled differently at each border and country (see Figure I.5), and that

there is a huge gap in levels of development of customs control and operation capacities between GMS countries. While all countries spend a huge amount of time in document inspection, Myanmar's lengthy clearance time derive from customs fees and payments (particularly, calculation of taxes at Thee Khee BCP, Southern Economic Corridor) and transshipment of cargo. However, these matters are expected to be solved, with the implementation of MACCS to borders and the realisation of CBTA agreements (e.g. promotion of cross-border procedures). In addition, waiting time in queue – though varying greatly depending on transport time and date – reflects multi-dimensional constraints regarding international cross border transport. For instance, over 2 hours of waiting time at the Moc Bai and Bavet BCP is not solely caused by large volumes of traffic but also indicates a lack of collaborative border management. Operation hours of customs offices of two neighbouring countries differ by 2 hours (Moc Bai office opens at 6am whereas Bavet office opens at 8am). Furthermore, only 2 officers handle hundreds of container trucks at border lanes, implying that human capacity constraints may contribute to long clearance time.



**Figure I.5 Customs Activities and Duration at Border Crossing Points**

### I.5.3 Characteristics of Drivers and Vehicles

Drivers and vehicles types that directly affect transport operations are also key factors in analysing transport time. Table below summaries characteristics of drivers and vehicles of the transport test runs. Drives from Vietnam drive most safely and cautiously compared to other countries. This explains the reason behind slow travel speeds despite the provision of quality road infrastructures in Vietnam. A combination of ruthless driving and excellent infrastructures, such as the Thailand case on EWEC, results in high travel speeds. However, a more aggressive driving style of Myanmar drivers is not reflected in travel speeds, which indicates inadequate and poor road infrastructures along the corridors.

**Table I.12 Characteristics of Drivers and Vehicles**

Corridor	East-West Economic Corridor				Southern Economic Corridor			
Country	Vietnam	Laos	Thailand	Myanmar	Vietnam	Cambodia	Thailand	Myanmar
Driver	From Vietnam. Follows traffic		From Thailand.	From Myanmar.	From Vietnam.	From Cambodia.	From Thailand.	From Myanmar.

	rules and drives safely and cautiously.	Follows traffic rules (speed limits) but drives very aggressively , overtaking numerous cars along the route.	Completely ignores traffic rules and drives very dangerously.	Follows traffic rules and drives safely and cautiously.	Follows traffic rules and drives safely and cautiously.	Follows traffic rules and drives safely.	Completely ignores traffic rules and drives very dangerously .
Vehicle	20 feet container truck (12 wheels)	10-ton small truck (4 wheels)	3-ton van (4 wheels)	10-ton small truck (4 wheels)	40 feet container truck (10 wheels)	3-ton car (4 wheels)	10-ton small truck (4 wheels)
Traffic rules (strict or not strict)	Very strict	Not strict	Not strict	Very strict	Not strict	Strict	Not strict

## I.6 Comparison of GMS Corridors and Countries

### I.6.1 Detailed Overview of Transport Test Runs (physical)

#### (1) East-West Economic Corridor

Country	Vietnam	Vietnam / Laos	Laos	Laos / Thailand	Thailand			Thailand / Myanmar	Myanmar
Section	Danang - Lao Bao	Lao Bao - Dansavanh	Dansavanh - Savannakhet	Savannakhet - Mukdahan	Mukdahan - Khon Kaen	Kohn Kaen - Phitsanulok	Phitsanulok - Maesot	Maesot - Myawaddy	Myawaddy - Mawlamyine
Test results	Distance (km)	264	0.5	235	3.3	249	322	232	0.2
	Transport time (hour)	5.9	N/A	4.5	N/A	3.9	4.4	3.2	N/A
	Average speed (km/h)	44.9	N/A	52.6	N/A	65.2	74.2	72.5	N/A
Traffic data	Average daily traffic volume	2500 (AH1) 800 (AH16)	N/A	500	N/A	5000	5000	5000	N/A
	AH classification	Primary, Class I and Class II	Class II	Class II and below Class III	Class II	Class I and Class II	Class I and Class II	Class I and Class II	Class II and below Class III
	Terrain classification	Level, Mountainous	Level	Level	Level	Level	Level, Mountainous	Level, Mountainous	Level, Mountainous
Road design	Lane <sup>4</sup>	2-6	<sup>2</sup> (Gate: 10-2)	2	<sup>2</sup> (Gate: 8-8)	2-4	2-4	2-4	<sup>2</sup> (Gate: 2-2)
	Pavement type	Asphalt	Asphalt	Asphalt, gravel	Asphalt	Asphalt	Asphalt	Asphalt	Asphalt, bituminous treatment
	Road signs (English)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Partly
Local traffic rules and customs	Driving side	Right	Right	Right	Right / Left	Left	Left	Left	Left / Right
	Left/right-hand drive	Left	Left	Left	Left / Right	Right	Right	Right	Right / Right
	Checkpoint (passport control)	N/A	N/A	1	N/A	N/A	N/A	N/A (4 Army checkpoints)	N/A
	Tolls	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
									14

<sup>4</sup> Gate represents the number of lanes, both entry and exit, at the border gate.

## (2) Southern Economic Corridor

Country	Vietnam	Vietnam / Cambodia	Cambodia		Cambodia/Thailand	Thailand		Thailand / Myanmar	Myanmar
Section	Ho Chi Minh – Moc Bai	Moc Bai - Bavet	Bavet – Phnom Penh	Phnom Penh - Poipet	Poipet - Aranyaprathet	Aranyaprathet - Bangkok	Bangkok – Phu Nam Ron	Phu Nam Ron – Htee Khee	Htee Khee - Dawei
Test results	Distance (km)	1.0	170	410	0.6	262	184	4	139
	Transport time (hour)	N/A	3.7	8.5	N/A	4.7	3.3	N/A	4.5
	Average speed (km/h)	N/A	56.7	61.9	N/A	55.9	59.2	N/A	30.9
Traffic data	Average daily traffic	N/A	2000	3000	N/A	5000-10000	1000-9000	N/A	20
	AH classification	Primary, Class I and Class II	Class II	Class I and Class II	Class II	Primary, Class I	Class I and Class II	Class II and Below Class III	Below Class III
Road design	Terrain classification	Level	Level	Level	Level	Level	Level, Rolling	Rolling, Mountainous	Mountainous
	Lane	2-6	2	2-4	<sup>2</sup> (Gate: 2-4)	4-8	2-6	<sup>2</sup> (Gate: 2-1)	2
	Pavement type	Asphalt	Asphalt	Asphalt	Asphalt	Asphalt	Asphalt	Asphalt/Earth	Earth
Local traffic rules and customs	Road signs (English)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
	Driving side	Right	Right	Right	Right /Left	Left	Left	Left/Right	Right
	Left/right-hand drive	Left	Left	Left	Left/Right	Right	Right	Right/Right	Right
	Checkpoint (passport control)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2
	Tolls	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A

**(3) Hanoi-Vientiane Corridor**

Country		Vietnam		Vietnam / Laos		Laos		Thailand / Laos	Laos	Laos / Vietnam	Vietnam
Section	Hanoi - Vinh	Vinh – Cau Treo		Cau Treo – Nam Phao		Nam Phao – Lak Sao	Lak Sao - Vientiane	Nakhon Phanom - Thakhek	Thakhek - Na Phao	Na Phao – Cha Lo	Cha Lo - Vinh
	290	96	0.6	31	332	3.3	160	2.2	167		
Distance (km)											
Transport time (hour)	5.8	3.7	N/A	0.8	7.3	N/A	4.9	N/A	3.8		
Average speed (km/h)	49.9	33.5	N/A	42.0	48.9	N/A	39.1	N/A	44.3		
Average daily traffic	6000	500	N/A	500	1,500	N/A	1,200	N/A	2,500		
Road design	AH classification	Class I	Class II, Below Class III	Class II	Class II	Class II	Class II, Below Class III	Class II	Class I, Class II		
	Terrain classification	Level	Level, Mountainous	Mountainous	Level	Level	Level, Mountainous	Level	Level, Mountainous		
	Lane	4	1-2	2	2-4	2	2	2	2-4		
	Pavement type	Asphalt	Asphalt, gravel	Asphalt	Asphalt	Asphalt	Asphalt, gravel	Asphalt	Asphalt		
Local traffic rules and customs	Road signs (English)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
	Driving side	Right	Right	Right	Right	Right	Right	Left/Right	Right		
	Left/right-hand drive	Left	Left	Left	Left	Left	Left	Right/Left	Left		
	Checkpoint (passport control)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
	Tolls	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

## I.6.2 Current Issues Concerning Road Infrastructure and Transport

### (1) East-West Economic Corridor

Issues	Vietnam	Vietnam / Laos	Laos	Laos / Thailand	Thailand			Thailand / Myanmar	Myanmar
	Danang - Lao Bao	Lao Bao - Dansavanh	Dansavanh - Savannakhet	Savannakhet - Mukdahan	Mukdahan - Khon Kaen	Kohn Kaen - Phitsanulok	Phitsanulok - Maesot	Maesot - Myawaddy	Myawaddy - Mawlamyine
Missing link	There are no more missing links								
Unpaved section	No	No	Yes	No	No	No	No	No	Yes
Inconsistent road design (AH requirements)	No	No	Yes	No	No	No	No	No	Yes
Inadequate road signs	No	No	No	No	No	No	No	Yes	Yes
Safety	Inadequate street lights, pass through communities	N/A	Pass through communities, animal crossings, inadequate street lights	N/A	N/A	N/A	N/A	N/A	Unpaved section between Kawkaik and Ein Du, pass through communities, animal crossings, right-hand driving on the right-hand side of the road
Impact on cargo*	Little	Little	Moderate	Little	Little	Little	Little	Little	Significant
Impact on surrounding communities*	Moderate	Little	Moderate	Little	Little	Little	Little	Little	Significant
Traffic volume	Medium	Low	Low	Medium	Medium	Medium	Medium	Medium	Medium
Excessive waiting time, congestion	No	No	No	No	No	No	No	Yes	No

Note.\* based on the investigation of surveyors.



## (2) Southern Economic Corridor

Issues	Vietnam	Vietnam / Cambodia	Cambodia		Cambodia/Thailand	Thailand		Thailand / Myanmar	Myanmar
	Ho Chi Minh – Moc Bai	Moc Bai - Bavet	Bavet – Phnom Penh	Phnom Penh - Poipet	Poipet - Aranyaprathet	Aranyaprathet - Bangkok	Bangkok – Phu Nam Ron	Phu Nam Ron – Htee Khee	Htee Khee - Dawei
Missing link			There are no more missing links						
Unpaved section	No	No	No	No	No	No	No	Partly	Yes (between Htee Khee and Mita)
Inconsistent road design (AH requirements)	No	No	No	No	No	No	No	Partly	Yes
Inadequate road signs	No	No	No	No	Yes	No	No	Yes	Yes
Safety	Road crowded with motorbikes	N/A	Pass through communities	Pass through communities, road crowded with motorbikes	N/A	N/A	N/A	N/A	Unable to pass in rainy season, road surface unpaved, narrow road
Impact on cargo*	Little	Little	Little	Little	Little	Little	Little	Little	Significant
Impact on surrounding communities*	Little	Little	Moderate	Moderate	Little	Little	Little	Little	Little
Traffic volume	High	Medium	Medium	Medium	Medium	High	Medium	Very Low	Very Low
Excessive waiting time, congestion	No	Yes	No	No	Yes	No	No	No	No

Note: \* based on the investigation of surveyors.

### (3) Hanoi-Vientiane Corridor

Issues	Vietnam		Vietnam / Laos	Laos		Thailand / Laos	Laos	Laos / Vietnam	Vietnam
	Hanoi - Vinh	Vinh - Cau Treo	Cau Treo - Nam Phao	Nam Phao - Lak Sao	Lak Sao - Vientiane	Nakhon Phanom - Thakhek	Thakhek - Na Phao	Na Phao - Cha Lo	Cha Lo - Vinh
Missing link	There are no more missing links								
Unpaved section	No	Partly	No	No	No	No	Yes (18km mountain section to Na Phao border)	No	No
Inconsistent road design (AH requirements)	No	Partly	No	No	No	No	Yes	No	No
Inadequate road signs	No	No	No	No	No	No	No	No	No
Safety concerns	N/A	Narrow road with steep slopes/ sharp curves, collapsed roads, no light	N/A	N/A	Pass through communities, rock falls, no light	N/A	Narrow road with steep slopes/ sharp curves, no light	N/A	Pass through communities
Impact on cargo*	Little	Significant	Little	Little	Little	Little	Moderate	Little	Little
Impact on surrounding communities*	Little	Little	Little	Little	Moderate	Little	Little	Little	Moderate
Traffic volume	High	Low	Low	Low	Medium	Medium	Medium	Medium	Medium
Excessive waiting time, congestion	No	No	No	No	No	Yes	Yes	No	No

Note: \* based on the investigation of surveyors.

### I.6.3 Detailed Overview of Transport Test Runs (institutional)

#### (1) Pre-Customs Clearance Preparation

##### East-West Economic Corridor and Southern Economic Corridor

	East-West Economic Corridor					Southern Economic Corridor			
	Vietnam (Lao Bao)	Laos (Densavan / Savannakhet)	Thailand (Mukdahan / Maesot)	Myanmar (Myawaddy)		Vietnam (Moc Bai)	Cambodia (Bavet/Poipet)	Thailand (Aranyaprathet/ Phu Nam Ron)	Myanmar (Htee Khee)
Pre-customs time	Pre-customs declaration can be submitted before shipping through VNACCS. It takes about 15 min to complete declaration and receive its results.	Pre-customs declaration can be submitted before shipping through ASYCUDA. It takes about 15 min to complete declaration.	Pre-customs declaration can be submitted before shipping through E-Customs. It takes about 15 min to complete declaration.	No pre-customs declaration can be made before the arrival of cargo. However, shipper's original documents (invoice, etc.) must be sent to customs agency beforehand, thereby extra preparation time, about 3-4 days, is required.		1 day for document preparation. 15 min to complete declaration via automated system on the day of customs clearance	1 day for document preparation. 15 min to complete declaration via automated system on the day of customs clearance	1 day for document preparation. 15 min to complete declaration via automated system on the day of customs clearance	No pre-customs preparation required. A forwarder brings original documents with a cargo to Htee Khee Customs on the day of customs clearance.
Customs clearance system	VNACCS	ASYCUDA	E-CUSTOMS	N/A (MACCS will be implemented in 2018).		VNACCS	ASYCUDA	N/A (as of March 2016)	N/A
Result of customs declaration	Green line = Instant export approval. Submission of documents is still required at the border (no document and physical inspection required).	No import/export approval at this moment (only receive declaration data). Document screening and physical inspection are required at the border.	No import/export approval at this moment (only receive declaration data). Document screening and physical inspection are required at the border.	No pre-customs declaration available. A forwarder needs to create and submit declaration forms after the arrival of cargo.		Green line = Instant export approval. Submission of documents is required at the border (no document and physical inspection)	Green line = Instant export approval. Submission of documents is required at the border (no document and physical inspection)	Aranyaprathet: No declaration data is created at this moment. E-Customs can only be submitted after the arrival of Thai truck in Aranyaprathet.  Phu Nam Ron: Green line = Export approval (still requiring border inspections)	N/A

## Hanoi-Vientiane Corridor

	Vietnam	Laos	Thailand	Laos	Vietnam
	Cau Treo	Nam Phao	Nakhon Phanom	Thakhek / Na Phao	Cha Lo
Pre-customs time	Pre-customs declaration can be submitted before shipping through VNACCS. It takes about 15 min to complete declaration and receive its results.	Pre-customs declaration can be submitted before shipping through ASYCUDA. It takes about 15 min to complete declaration.	Pre-customs declaration can be submitted before shipping through E-Customs. It takes about 15 min to complete declaration.	Pre-customs declaration can be submitted before shipping through ASYCUDA. It takes about 15 min to complete declaration.	Pre-customs declaration can be submitted before shipping through VNACCS. It takes about 15 min to complete declaration and receive its results.
Customs clearance system	VNACCS	ASYCUDA	E-CUSTOMS	ASYCUDA	VNACCS
Result of customs declaration	Green line = Instant export approval. Submission of documents is still required at the border (no document and physical inspection required).	No import/export approval at this moment (only receive declaration data). Document screening and physical inspection are required at the border.	Green line = Instant export approval. Submission of documents is still required at the border (no document and physical inspection required).	No import/export approval at this moment (only receive declaration data). Document screening and physical inspection are required at the border.	Green line = Instant import approval. Submission of documents is still required at the border (no document and physical inspection required).

## (2) Customs Clearance and Transboundary Procedures at Border

### East-West Economic Corridor and Southern Economic Corridor

Corridor	East-West Economic Corridor				Southern Economic Corridor			
Border-crossing point	Vietnam (Lao Bao)	Laos (Densavan / Savannakhet)	Thailand (Mukdahan / Maesot)	Myanmar (Myawaddy)	Vietnam (Moc Bai)	Cambodia (Bavet / Poipet)	Thailand (Aranyaprathet / Phu Nam Ron <sup>5</sup> )	Myanmar (Htee Khee <sup>3</sup> )
Border formalities	Export	Transit / Export	Import / Export	Import	Export	Transit / Export	Import / Export	Import
Clearance time (min)	N/A (SSI at Densavan)	Densavan 44 / Savannakhet 155	Mukdahan 75 / Maesot 10	183 (up to 1.5 days: 1 day for document processing and 0.5 day for inspection)	15	Bavet 100 / Poipet 120	Aranyaprathet 35 / Phu Nam Ron 50	115
Queuing time (min)	N/A (SSI at Densavan)	0 / 0	60 / 35	0	200	0 / 0	0 / 0	0
Relevant authorities	N/A (SSI at Densavan)	Densavan: 5 Vietnamese customs officers (all)	Mukdahan: 1 customs broker, at least 3 customs	5 customs officers (valuation officer / appraiser, police)	2 customs officers (1 administrative, 1 inspection), 1	Bavet/Poipet: Unable to meet/identify	Aranyaprathet: 1 customs officer	2 customs officers (1 administrative, 1 inspection), 1

<sup>5</sup> Data on Phu Nam Ron and Htee Khee is retrieved from a MLIT study, "Research and Trial Operation of Cross-Border Logistics System from Thailand to Southern Myanmar" which was conducted in March 2016. The data was used because this survey took place during the rainy season in August 2017 and was unable to move a truck cargo from Phu Nam Ron to Dawei through Htee Khee due to heavy rain.

		administrative), 5 Laos customs officers (3 administrative, 1 physical inspection, 1 X-ray), 1 customs broker <u>Savannakhet:</u> 2 customs officers	officers (unable to confirm the exact number) <u>Maesot:</u> 1 customs officer	customs officer, examination officer, chief examination officer and assistant director), inspectors officers, customs brokers and 1 security check officer at the end of customs control  In addition, two groups of border brokers collecting informal transport fees at the border.	customs broker	customs officers. Customs formalities are done through selected forwarders/brokers at So Nguon Dry Port (Bavet) and at Diamond Transportation Yard (Poipet).  1 customs broker collecting informal transport fees at the Poipet border.	<u>Phu Nam Ron:</u> 2 customs officers, 1 customs broker.  In addition, there is Thai Army control checkpoint between Phu Nam Ron and Htee Khee.	customs broker, 1 Karen National Union (KNU) officer  In addition, Myanmar police and KNU officer check cargo at the entrance of border-crossing point
Customs office hours	Weekdays and Saturdays (7:30-17:00) *closed on Sundays and holidays	Weekdays and Saturdays (7:30 – 17:00) *closed on Sundays and holidays	Weekdays (8:30-16:30) *closed on Saturdays, Sundays and holidays	Weekdays (8:00 – 18:00), (document screening: 9:00 – 16:00) *closed on Saturdays, Sundays and holidays	Weekdays and Saturdays (6:00-22:00) *closed on Sundays and holidays	Bavet: Weekdays and Saturdays (8:00-17:00) *closed on Sundays and holidays  Poipet: Weekdays, Saturdays and Sundays (8:00-17:00) *closed on holidays	Weekdays (8:30-16:30) *closed on Saturdays, Sundays and holidays	Weekdays (9:00 – 16:00) *closed on Saturdays, Sundays and holidays
Customs document	N/A (SSI at Densavan)	<u>Densavan:</u> - Invoice - Packing list - Letter of authorization - Export declaration - Dispatch  - Customs declaration for temporary export and re-import means of transportation - Vietnam/Lao Cross-Border Transport Permit - Vehicle inspection certificate - Vehicle registration certificate	<u>Mukdahan:</u> - Invoice - Packing list - Import declaration - Truck billing list  <u>Maesot:</u> - Invoice - Packing list - Goods control - Carrier's report	- Invoice - Packing list - Sales contract - Certificate of origin - Import goods declaration - Import declaration	- Customs declaration - Dispatch	<u>Bavet / Poipet:</u> - Invoice - Packing list - Letter of authorization - Truck billing list - Single administrative document - Transit control form - Container list - Transit application form - Transit license  <u>Phu Nam Ron:</u> - Invoice - Packing list - Export declaration - Goods control list - Application for exported cargo outside official border - Truck receipt - Temporary border pass	<u>Aranyaprathet:</u> - Invoice - Packing list - Import declaration - Truck billing list - Car receipt - Car manifest  <u>Phu Nam Ron:</u> - Invoice - Packing list - Export declaration - Goods control list - Application for exported cargo outside official border - Truck receipt - Temporary border pass	- Invoice - Packing list - Sales contract

	<p>- Container temporary takeout form</p> <p><u>Savannakhet:</u></p> <ul style="list-style-type: none"><li>- Invoice</li><li>- Packing list</li><li>- Letter of authorization</li><li>- ASEAN customs declaration document (ACDD)</li></ul>		<p><u>Mukdahan:</u></p> <ul style="list-style-type: none"><li>- An on-site broker directly deals with customs officers, not allowing traders to observe the process behind the scene. For instance, even though no inspection was conducted, a customs document recorded inspection as completed. The process is non-transparent and unaccountable.</li><li>- In case that goods are declared as "Red" lines through E-Customs, documents must be submitted to the customs office in Mukdahan, several kilometres away from the border.</li><li>- Transit regime is not open to all agencies – only authorized transit traders can perform transit operations. If not authorized,</li></ul>	<ul style="list-style-type: none"><li>- The customs process (manual) is non-transparent and unaccountable. For instance, customs documents (including original shipper's documents) are counterfeited by people involved in customs procedures (the price of goods was reduced to match with the previous record).</li><li>- Only several customs brokers are entitled to handle customs formalities (lack of competition, monopoly of customs).</li><li>- Manual document screening and physical inspection usually take up to 1.5 days. In this test run, a local trader requested customs a special arrangement in advance (by greeting Assistant Director of Customs),</li></ul>	<ul style="list-style-type: none"><li>- Owing to the lack of border facilities near the gate, inspection is done at two designated lanes at the border gate (in total three lanes for outbound cargo).</li><li>- Another lane is designated as a fast-track lane for goods with "Green" line. However, all cargo regardless of a pre-customs result need to go through quick visual inspection of cargo.</li><li>- Despite the large volume of cargo arriving at the gate, customs inspection is handled by only two customs officers. Capacity constraints can be a barrier to effective and efficient customs formalities.</li><li>- The difference in office hours between Moc Bai and Bavet Customs contributes</li></ul>	<p><u>Bavet:</u></p> <ul style="list-style-type: none"><li>- Customs formalities are done through selected forwarders/brokers. The customs process is non-transparent and unaccountable.</li><li>- Brokers are permitted to seal a cargo by Customs. However, no sealing was placed on cargo from the Moc Bai gate to a dry port in Bavet, located about 500m after passing the Bavet gate. This raises a concern about securing a bonded state of cargo in transit.</li><li><u>Poipet:</u></li><li>- Customs clearance at Poipet Customs must be carried out within 24 hours after transit clearance at Bavet Customs (within the opening hours of Poipet Customs on the following day). This includes the</li></ul>	<p><u>Aranyaprathet:</u></p> <ul style="list-style-type: none"><li>- Despite the implementation of E-Customs, a preliminary customs declaration is not allowed. Declaration cannot be processed until the arrival of Thai truck in Aranyaprathet.</li></ul> <p><u>Phu Nam Ron:</u></p> <ul style="list-style-type: none"><li>- Although an on-site broker is in full charge of handling customs formalities, the process is simple, accountable and transparent.</li><li>- Customs officer only check a cargo to confirm if it matches documents.</li><li>- Unlike Maesot-Myawaddy BCP, a truck needs a temporary permit to cross the border.</li></ul>	<ul style="list-style-type: none"><li>- The process is simple, accountable except tax calculation. A broker handles document processing. A customs officer only inspects a cargo to confirm if it matches with documents.</li><li>- Calculation of government taxes is complicated and lasted over an hour (several ministries involved in collecting taxes).</li><li>- Taxes made to KNU is unaccountable and not standardized, which are calculated based on either the number of accompanying vehicles or a certain percentage of invoice values (there is no fixed calculation method).</li></ul>	
Customs formalities	<p><u>Densavan:</u></p> <ul style="list-style-type: none"><li>- Even when goods are declared as "Green" lines via VNACCS (meaning no document and physical inspection is required – only the submission of documents), it was necessary to get signatures and stamps from customs officers, which ultimately lead to manual screening of documents.</li><li>- While no physical inspection was conducted by Vietnamese officials, Laos Customs require all cargo (100%) to go through X-ray inspection at the Densavan border regardless of types of goods. There is no standardized technical inspection standard.</li></ul> <p><u>Savannakhet:</u></p> <ul style="list-style-type: none"><li>- Inspection (document and physical) is done at a private forwarder's warehouse where customs officers, called upon the request, carry out inspection. Only selected forwarders inherit such benefits.</li></ul>		<ul style="list-style-type: none"><li>- In case that goods are declared as "Red" lines through E-Customs, documents must be submitted to the customs office in Mukdahan, several kilometres away from the border.</li><li>- Transit regime is not open to all agencies – only authorized transit traders can perform transit operations. If not authorized,</li></ul>						

	<p>transit cargo needs to be transhipped to Thai vehicle and enter a free trade zone in Bangkok (or Laem Chabang).</p> <p>- There is no free-trade zone along the EWEC, a key requirement for transit.</p> <p><u>Maesot:</u></p> <p>- All cargo need to wait for the X-ray inspection site. If E-Customs display "Green" lines after inputting document details, no physical inspection is required (Green line = Instant export approval; Red line = physical inspection with possible X-ray inspection)</p>	<p>resulting in a significant reduction of time. Establishing a close relationship with customs officers is a key to efficient and timely customs clearance.</p>	<p>to generating a long queue of trucks at the Moc Bai gate and along its access roads. Until the opening of the Bavet gate at 8am, trucks are not allowed to clear customs at the Moc Bai gate.</p>	<p>transhipment of cargo from Cambodian truck to Thai truck at Poipet, thereby a Thai truck needs to enter Poipet beforehand.</p> <p>- Also, customs clearance at Poipet and Aranyaprathet must be completed on the same day, within the opening hours of both customs. If a truck arrives at Poipet after 16pm, customs clearance on Aranyaprathet side cannot be completed. Thus, overnight detention (longer lead-time) will occur at the dry port near the Poipet border</p>		
SSI (Single Stop Inspection)	<p><u>Lao Bao/Densavan:</u></p> <p>- Implemented but not to full extent.</p> <p>- Cargo is checked by both national authorities at the Dansavanh border (no need to stop at the Lao Bao border). However, SSI is still not fully implemented because customs officials from two countries don't carry out inspections jointly and simultaneously. Vietnam Customs first processed documents (no physical inspection) which was followed by Laos Customs conducting both document processing and X-ray inspection.</p> <p>- Yet SSI has clearly facilitated border crossing clearance formalities, as clearance time at the Dansavanh border recorded the lowest on two GMS corridors in terms of cross-border formalities by two national authorities (36</p>	<p><u>Mukdahan:</u></p> <p>- Not implemented.</p> <p><u>Maesot:</u></p> <p>- Not implemented</p>	Not implemented	Not implemented	<p>Aranyaprathet: Not implemented</p> <p><u>Phu Nam Ron:</u> Not implemented</p>	Not implemented



	minutes).								
SWI (Single Window Inspection)	Savannakhet: Not implemented <u>Lao Bao/Densavanhi:</u> - Implemented to some extent  - Customs and Immigration formalities are jointly inspected through a single window system at the Densavan border. However, for passengers, there is a separate immigration checkpoint at the Densavan border, which is jointly and simultaneous operated by Vietnamese and Laos officers (two adjacent counters in the same office).  - As for Customs formalities, it is mandatory to collect stamps/signatures from different customs officers and pay customs duties and taxes at different windows (5 for Vietnam and 3 for Laos), with physical and X-ray inspection conducted separately by 2 Laos officers.  Overall, the customs process must go through 10 separate windows (officers) for different administrative and technical purposes. Most administrative and inspection duties are done at Common Control Areas (CCA), but certain administrative tasks such as the submission of documents are handled at Customs Department Building. These buildings are 50m apart.  <u>Savannakhet:</u> Customs and Immigration formalities are handled separately.	<u>Mukdahan:</u> - Unable to identify.  <u>Maesot:</u> - Customs and Immigration formalities are handled separately.	Customs and Immigration formalities are handled separately.	Unable to identify	Unable to identify	Aravaprathet: Customs and Immigration formalities are handled separately.  <u>Phu Nam Ron:</u> Customs and Immigration formalities are handled separately.	Customs and Immigration formalities are handled separately.		
	Exchange of traffic rights	- A Vietnamese commercial vehicle (truck) with traffic permits was able to enter Laos and crossed the territory all the way to Savannakhet where a truck cargo was transhipped to a Thai truck (Vietnam-Laos). - On the other hand, a Vietnamese passenger car crossed Lao territory, passed Lao-Thai Friendship Bridge and entered Thailand until Mukdahan border gate (Vietnam-Laos-Thai border gate).  - With the restriction of traffic rights (lack of quota), most Vietnamese vehicles are forbidden from entering Thailand.	- A Thai commercial truck entered both Laos and Myanmar and made a stop for transshipment in Savannakhet and Myawaddy, respectively. Thai commercial vehicles can enter neighbouring countries within 10km from the border, without any	- Myanmar commercial trucks are prohibited from entering Thailand (restricted traffic rights). A Thai truck transhipped a cargo to a Myanmar truck at a private warehouse in Myawaddy, about several kilometres away from the border.	- Due to lack of traffic permits, a Vietnamese commercial vehicle only crossed the border and transhipped a cargo to a Cambodian vehicle at Bavet (allowed to enter Cambodia if within several kilometres from the border).	- Cambodian vehicles (both commercial and passenger) operated inside the country from Bavet to Poipet.  - As a key network hub linking Vietnam with Thailand, traffic rights (quota) are very limited. Only 40 permit quotas are granted (as of 2013)	- Thai commercial trucks can enter Poipet and Htee Khee to tranship a cargo from or to foreign trucks, but only within several km from the border.  - Due to lack of traffic rights, a passenger car couldn't cross the Thai-Cambodia border.	Myanmar commercial trucks are prohibited from entering Thailand (restricted traffic rights). With a temporary transport permit issued at Phu Nam Ron (by only a Thai driver with a Thai vehicle), Thai vehicles crossed the Thai-Myanmar	

	- Laos vehicles were not used in this test run, thereby unable to confirm the validity of traffic rights in neighbouring countries.		traffic rights. - In contrary, a Thai passenger car didn't cross any borders – it only operated inside Thailand from Mukdahan to Maesot Border.	- With a temporary Myanmar passenger car can enter Thai areas near the border (only within 500m from the border) to pick up and transfer passengers to Myanmar.	- In contrary, a Vietnamese passenger car couldn't even cross the border and stopped in front of Moc Bai Border (Vietnam), requiring passengers to cross the border on foot.	which can be used only along the Bangkok-Phnom Penh route.  - At Cambodia border crossing points, passengers were required to walk across the border (zero point between two border gates).	border and reached Htee Khee. A Thai truck entered Myanmar and transhipped a cargo to a Myanmar truck at a customs warehouse in Htee Khee.
Special traffic regulation / area	N/A	N/A	N/A	N/A	N/A	Vehicles with over four wheels (e.g. six-wheeled trucks) are forbidden from travelling on National Highway 1 from Neak Loeung and Phnom Penh sections between 5am and 9pm. Out of this time period, trucks need to take a different route at Neak Loeung by making a detour along National Highway 11 and 8.	N/A
						In Bangkok, vehicles with over four wheels (e.g. six-wheeled trucks) are prohibited from entering the metropolitan area at the peak hours of between 6-9 in the morning and 16-20 in the evening.	

### Hanoi-Vientiane Corridor

Country	Laos		Thailand		Laos		Vietnam	
Border-crossing point	Nam Phao		Nakhon Phanom		Thakhek		Cha Lo	
Border formalities	Import		Export		Transit		Import	
Clearance time (min)	50		25		47		40	
Queuing time (min)	0		0		46		0	
Relevant authorities	1 customs officer, 1 inspection officer, 1 officer at vehicle registration, 1 officer at immigration (all Vietnam), 2		1 immigration officer, 1 customs officer (only document check)		1 immigration officer, 2 customs officers		1 customs officer, 1 immigration officer, 1 officer at border	
	Border gate (only immigration): 1 immigration officer		1 immigration officer, 1 customs officer (only document check)		1 immigration officer, 2 customs officers		1 immigration officer, 6 customs officers (document check (1 <sup>st</sup> ), document check (2 <sup>nd</sup> ), vehicle registration,	

	officers at final immigration check (nationality unknown)	Customs building (only customs): 1 customs broker, 2 customs officers (valuation and inspection)				payment fees, cargo inspection, final checkpoint)
Customs office hours	Everyday including weekends and holidays (7:00-11:00 & 13:30-17:00)  *lunch break from 11:00-13:30	Border gate: Everyday including weekends and holidays (8:00-12:00 & 13:00-16:30)  Customs building: Everyday including weekends and holidays (8:00-12:00 & 13:00-17:00)	Everyday including weekends and holidays (6:00-22:00)	Weekdays (8:00-16:00)  *closed on weekends and holidays	Everyday (6:00-17:00)	Everyday (7:30-11:30 & 13:30-19:00)  *lunch break from 11:00-13:30
Customs document	<ul style="list-style-type: none"> <li>- Invoice</li> <li>- Packing list</li> <li>- Letter of authorization</li> <li>- Export declaration</li> <li>- Dispatch</li> <li>- Customs declaration for temporary export and re-import means of transportation</li> <li>- Vietnam/Lao Cross-Border Transport Permit</li> <li>- Vehicle inspection certificate</li> <li>- Vehicle registration certificate</li> <li>- Container temporary takeout form</li> </ul>	<ul style="list-style-type: none"> <li>- Invoice</li> <li>- Packing list</li> <li>- Letter of authorization</li> <li>- ASEAN customs declaration document (ACDD)</li> </ul>	<ul style="list-style-type: none"> <li>- Declaration form</li> <li>- Goods control</li> <li>- Invoice</li> <li>- Packing List</li> </ul>	<ul style="list-style-type: none"> <li>- Invoice</li> <li>- Packing List</li> <li>- LOA</li> <li>- Transit applications</li> <li>- ASEAN customs declaration document (ACDD)</li> </ul>	<ul style="list-style-type: none"> <li>- Invoice</li> <li>- Packing list</li> <li>- Letter of authorization</li> <li>- Import declaration</li> <li>- Dispatch</li> <li>- Customs declaration for temporary export and re-import means of transportation</li> <li>- Vietnam/Lao Cross-Border Transport Permit</li> <li>- Vehicle inspection certificate</li> <li>- Vehicle registration certificate</li> <li>- Container temporary takeout form</li> </ul>	N/A
Customs formalities	Customs clearance can be processed during lunch time at a fraction of cost (VND 20,000).	Immigration is handled at Nam Phao, whereas customs clearance is processed at Laksao, about 30km from Nam Phao.	N/A	24-hour rule (customs clearance at Na Phao must be completed within 24 hours after cargo sealing at Thakhek) applies to transit cargo.	Document inspection is done at Customs building, located at 18km from Na Phao border. Na Phao border checkpoint only deals with immigration and cargo inspection.	N/A
SSI (Single Stop Inspection)	Not implemented	Not implemented	Not implemented	Not implemented	Not implemented	Not implemented
SWI (Single Window Inspection)	Customs and Immigration formalities are handled separately.	Customs and Immigration formalities are handled separately.	Customs and Immigration formalities are handled separately.	Customs and Immigration formalities are handled separately.	Customs and Immigration formalities are handled separately.	Customs and Immigration formalities are handled separately.
Exchange of traffic rights	- A Vietnamese commercial vehicle (truck) with traffic	- Laos vehicles were not used in this test run, thereby	- A Thai commercial truck entered Laos but needed to	- Laos vehicles were not used in this test run, thereby	- Laos vehicles were not used in this test run, thereby	N/A

	permits was able to enter Laos and crossed the territory all the way to Vientiane.	unable to confirm the validity of traffic rights in neighbouring countries.	tranship cargo to a Vietnamese truck with traffic permits for border crossing between Laos and Vietnam.	unable to confirm the validity of traffic rights in neighbouring countries.	unable to confirm the validity of traffic rights in neighbouring countries.
Special traffic regulation / area	Vehicles with over four wheels (e.g. six-wheeled trucks) are not allowed to enter Vinh from 6am to 22pm.	In Vientiane, Vehicles with over four wheels (e.g. six-wheeled trucks) are prohibited from entering the city during the following time: 7-9am and 16-18pm. However, with a permit issued by Ministry of Public Works, heavy vehicles including the above can enter the city.	N/A	N/A	Container trucks are not allowed to pass the following routes: - QL 15 between DT2 and DT3 (instead via DT3, AH1 and QL 1A) - QL 1A between Hong Linh and Nghi Xuan (instead via QL8B)  This information is based on hearings from local drivers.

### (3) Border-Related Facilities

#### East-West Economic Corridor and Southern Economic Corridor

Corridor	East-West Economic Corridor				Southern Economic Corridor			
	Vietnam (Lao Bao)	Laos (Densavan / Savannakhet)	Thailand (Mukdahan / Maesot)	Myanmar (Myawaddy)	Vietnam (Moc Bai)	Cambodia (Bavet/Poipet)	Thailand (Aranyaprathet/ Phu Nam Ron)	Myanmar (Htee Khee)
Border-crossing point								
Common Control Area (CCA)	N/A (provided at Densavan)	Yes / Yes	Yes / No	No / No	No / No	No / No	No / No	No / No
Vehicle waiting area	Partly (parking on access roads)	Yes / Yes	Yes / No	No / No	No / No	Partly (at dry port, not border)	No / Yes	Yes
Immigration	N/A (provided at Densavan)	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes	Yes
Customs storage	N/A (provided at Densavan)	Yes / Yes	Yes / Yes	Yes (5km from the gate)	Yes / Yes	Yes / Yes	Yes / Yes	Yes
Cargo inspection site	N/A (provided at Densavan)	Yes / Yes	Yes / Yes (X-ray)	Yes (5km from the gate)	No (inspection lanes at gate)	No (inspection lanes at gate) / N/A (unable to identify)	No / No	No

Quarantine	N/A (provided at Densavan)	Yes / Unable to check	Yes / Yes	Yes / Yes	Yes / Yes	Yes / N/A (unable to check)	Yes / N/A (unable to check)	N/A (unable to check)
C/IQ facilities (degree of computerization)	Partly (manual check)	Partly (manual check)	Partly (manual check)	No / No	Yes / Yes	Partly (manual check)	Yes / No	No
Cargo handling equipment	N/A (unable to check)	No / Yes	Yes / Yes	Yes / Yes	Yes (at border zero-point)	Yes (at border zero-point) / No (at dry port)	No / No	No
Warehouse facilities	N/A (unable to check)	No / Yes	Yes / Yes	Yes / Yes	No / No	No (at dry port)	No / No	Yes
CBTA Fast-track lanes	N/A (unable to check)	No / Yes (for empty truck)	Yes / No	No / No	Yes (for low-risk goods)	No / No	No / No	No

### Hanoi-Vientiane Corridor

See Table I. 10, Conditions of border facilities on Hanoi-Vientiane Corridor.

### I.7

### Connectivity Issues and Countermeasures

Category	Issues	Descriptions	Countermeasures/ Actions (short-term)	Countermeasures/ Actions (medium- and long-term)
Infrastructure	Inconsistent road design (in line with Asian Highway standards)	<ul style="list-style-type: none"> <li>Unpaved road sections between Htee Khee and Mita (Myanmar) along SEC</li> <li>Poor road conditions between Kawkareik and Ein Du (Myanmar) along EWEK</li> <li>Narrow mountain roads between Vinh and Cau Treo along National Road 8 (Hanoi-Vientiane Corridor)</li> <li>Unpaved road near Na Phao border along National Road 12 (Hanoi-Vientiane Corridor)</li> <li>Border with low transport capacity (particularly the bridge between Maesot and Myawaddy, and between Poipet and Aranyaprathet)</li> </ul>	<ul style="list-style-type: none"> <li>Complete road networks (at least a paved two-lane road)</li> <li>Construct a large-scale bridge to accommodate increased volume of cargo (already underway at both borders)</li> </ul>	<ul style="list-style-type: none"> <li>Realise high stability and smooth running by implementing road safety measures such as road lights, reflectors, English signs</li> </ul>
Customs clearance, procedures	Inadequate operation of electronic customs clearance system	<ul style="list-style-type: none"> <li>Despite receiving an instant export approval with Green lines through VNACCS, it is still necessary to obtain stamps and signatures on documents from customs officers at Lao Bao/Densavan, hampering the efficient and timely clearance, (no different from document inspection)</li> <li>Results of preliminary customs declaration are</li> </ul>	<ul style="list-style-type: none"> <li>Capacity building of relevant authorities to enforce preliminary customs clearance results</li> <li>Integrate relevant customs counters into single window to minimize unnecessary document checks (promote Single Window Inspection)</li> </ul>	<ul style="list-style-type: none"> <li>Promote paperless transactions (only the submission of documents for low-risk cargo)</li> <li>Realise ASEAN Single Window</li> </ul>

		not strictly enforced by customs officers on ground who demand to open a container to check goods			
	Single Stop Inspection (Lao Bao/Densavan Border)	<ul style="list-style-type: none"> <li>- Apart from stopping only once at the exit border (Densavan), the joint customs inspection was not carried out by two national authorities in practice (still in first phase, not full SSI).</li> <li>- Instead, inspection is carried out separately, first by Vietnamese officers and followed by Laos officers.</li> </ul>	<ul style="list-style-type: none"> <li>- Staffing constraints</li> <li>- Capacity building of officers to facilitate joint and simultaneous inspection</li> <li>- Promote mutual recognition of preliminary customs clearance results between neighbouring countries</li> </ul>	<ul style="list-style-type: none"> <li>- Better coordinated management</li> <li>- Amendment of relevant customs laws and regulations where necessary</li> </ul>	
	Operational inefficiency of customs clearance	<ul style="list-style-type: none"> <li>- Manual document screening is still widely practiced at border customs (with/without electronic clearance system). In Myanmar, original documents need to be sent to customs office in advance of clearance</li> <li>- Manual checking and inspection lead to delays and long queues</li> </ul>	<ul style="list-style-type: none"> <li>- Implement electronic clearance system and expand a single window system to all border-crossing points to minimize unnecessary document handlings</li> </ul>	<ul style="list-style-type: none"> <li>- Promote risk management system by installing a fast-track lane (priority lane) to release low-risk cargo</li> <li>- Realise document-free customs clearance system through leveraging electronic clearance system, SWI and SSI</li> </ul>	
	Transparency challenge	<ul style="list-style-type: none"> <li>- Tax calculation at Myanmar borders is not standardized and local authorities on ground often exercise their own discretion to determine the amount, thereby non-transparent and unaccountable (not in accordance with the law).</li> </ul>	<ul style="list-style-type: none"> <li>- Simplify and streamline a tax structure (particularly Myanmar customs)</li> </ul>	<ul style="list-style-type: none"> <li>- Institutional management</li> <li>- Law enforcement</li> </ul>	
	Administrative standards	<ul style="list-style-type: none"> <li>- Format of documents (e.g. contents, language) is complicated and not integrated among member countries</li> </ul>	<ul style="list-style-type: none"> <li>- Integrate document formats in line with UN standards (ASEAN Customs Declaration Document or ACDD)</li> <li>- Include English descriptions in all documents (use a common language), in addition to national language</li> </ul>	<ul style="list-style-type: none"> <li>- Simplify and harmonize border-crossing formalities by repealing unnecessary administrative processes and documents through leveraging electronic clearance system, SWI and SSI</li> </ul>	
Border management regime	Lack of collaborative border management	<ul style="list-style-type: none"> <li>- Duplication of customs/border checks and efforts impose unnecessary cost on legitimate shippers</li> <li>- Excessive waiting time in queue due to the difference in customs office hours between two neighbouring countries (Moc Bai and Bavet) lead to severe delays</li> </ul>	<ul style="list-style-type: none"> <li>- Information and knowledge sharing</li> <li>- Coordinate office hours to eliminate a time-lag between two customs (particularly at Moc-Bai and Bavet Border)</li> <li>- Implement and leverage Single Stop Inspection as well as Common Control Areas</li> <li>- Capacity building of relevant authorities at border and customs</li> </ul>	<ul style="list-style-type: none"> <li>- Collaborative and joint border management through SSI and CCA</li> <li>- Amendment and harmonization of relevant laws and regulations in line with CBTA</li> </ul>	
Institutional arrangement	Unofficial fees and informal payments	<ul style="list-style-type: none"> <li>- Customs agents (from customs officials to brokers) often demand informal payments to forwarders (or tea money), if they wish to proceed customs clearance in a timely efficient manner. Such old-fashioned practice leads to costly customs process (and may cause severe delays if not paid), imposing additional fees on legitimate shippers.</li> </ul>	<ul style="list-style-type: none"> <li>- Capacity building of customs officers as well as private customs brokers</li> </ul>	<ul style="list-style-type: none"> <li>- Institutional arrangement and mobilisation of personnel</li> <li>- Enforcement of customs law and regulations</li> </ul>	
Trade and transit facilitation	Protected road freight market (high logistics cost)	<ul style="list-style-type: none"> <li>- Only a number of logistics companies have transit licenses, thereby creating an environment of monopoly in the logistics sector that is not open,</li> </ul>	<ul style="list-style-type: none"> <li>- Increase transit license as well as quota of traffic rights</li> <li>- Promote a fair, business-friendly and open</li> </ul>	<ul style="list-style-type: none"> <li>- Private sector development in trade and logistics</li> <li>- Remove transport licenses required for a road</li> </ul>	

		<p>uncompetitive and exclusive</p> <ul style="list-style-type: none"> <li>- The inability of trucks to cross borders results in the need for transshipment at the border, adding an extra layer of costs</li> <li>- After initial delivery, trucks return to the origin country with empty containers (which ultimately lead to "doubled" transport cost)</li> <li>- Informal payments at customs and border controls are also a cause of high transport cost</li> <li>- There is little economic activity along EWEC (Laos, Myanmar) and SEC (Cambodia, Myanmar), thereby volume of cargo is low</li> <li>- Direction of traffic is often one-way (e.g. from Vietnam/Thailand to Laos along EWEC, Vietnam/Thailand to Cambodia along SEC)</li> <li>- Vehicles pass through numerous villages along the corridors at high speed (even though there is a speed limit), posing a serious threat to the safety of residents</li> </ul>	<p>environment through regulation and enforcement</p> <ul style="list-style-type: none"> <li>- Improve physical connectivity by linking road networks with maritime transport (ports) to enable the inner region such as Laos to access outside markets</li> <li>- SMEs development in agriculture sector</li> <li>- Install bumps on the road running across villages (where building a bypass is not economically viable)</li> </ul>	<p>hauler to gain access to another country's market</p> <ul style="list-style-type: none"> <li>- Establish a Free Trade Zone in Thailand along the EWEC (ideally near Mukdahan border town) to enable transit facilitation</li> <li>- Development of regional economy along corridors to increase the volume of cargo</li> <li>- Enhance agriculture-based economy by creating refrigerated warehouses along EWEC/SEC to transform and realise GMS corridors that link member countries to each other and to other global markets</li> <li>- Regional development</li> <li>- Establish safety standards to enforce strict punishments at regional and national levels</li> </ul>
Social issue	<p>Lack of key economic activities (underdeveloped)</p> <p>Safety of residents in the vicinity of corridors</p>			



## Appendix II Workshop on Connectivity Enhancement in the Mekong Region

### II.1 Outline

The Government of Japan and the governments of the Mekong Region such as Cambodia, Lao PDR, Myanmar, Thailand, and Vietnam have agreed to implement prioritized projects under the “Japan-Mekong Connectivity Initiative” with the aim to realize an integrated market and a vibrant and effective connectivity within the Mekong Region in the Eighth Mekong-Japan Summit held in September 2016. As a part of this initiative, the survey team, sponsored by the Ministry of Foreign Affairs, Japan and JICA, hold a workshop to mutually understand current situations on physical and institutional connectivity in the Mekong Region for further enhancement of the connectivity.

#### (1) Title of the Workshop

Workshop on Connectivity Enhancement in the Mekong Region

#### (2) Duration

18 September 2017 – 21 September 2017

#### (3) Objectives

1. to update and share progress of connectivity improvement in Mekong Region in physical and institutional aspects, and
2. to create human network regarding connectivity in the region

#### (4) Participants

The number of participants: 25 people (see Table II.1)

The number of observers (including Japanese lecturers): 18 people (see Table II.2)

**Table II.1 List of Participants**

No.	Country	Position and Affiliation
1	Cambodia	Deputy Director General, General Department of International Trade, Ministry of Commerce
2	Cambodia	Deputy Director, Mekong Cooperation Department, Ministry of Foreign Affairs and International Cooperation
3	Cambodia	Deputy Director General, General Department of Posts and Telecommunications, Ministry of Posts and Telecommunications
4	Cambodia	Deputy Head, Phnom Penh Customs Branch, General Department of Customs and Excise of Cambodia
5	Cambodia	Chief Office, Cambodian Special Economic Zone Board/ Operation and Management Department, Council for the Development of Cambodia
6	Cambodia	Administration and Finance, Ministry of Public Work and Transport

7	Lao PDR	Deputy Director General, Department of Waterways, Ministry of Public Work and Transport
8	Lao PDR	Project Director, Department of Waterways, Ministry of Public Work and Transport
9	Lao PDR	Director of EID, Department of Planning and Cooperation/ Economic Integration Division, Ministry of Agriculture and Forestry
10	Lao PDR	Deputy Chief of Unit, Lao Customs Department, Ministry of Finance
11	Lao PDR	Deputy Head of Division, Department of Import and Export, Ministry of Industry and Commerce
12	Lao PDR	Department of Economic Affairs, Ministry of Foreign Affairs
13	Myanmar	Director, Customs Department/ MACCS Division, Ministry of Planning and Finance
14	Myanmar	Director, Customs Department, Ministry of Planning and Finance
15	Myanmar	Deputy Director, Customs Department, Ministry of Planning and Finance
16	Myanmar	Customs Department/ MACCS Division, Ministry of Planning and Finance
17	Myanmar	Customs Department/ MACCS Division, Ministry of Planning and Finance
18	Myanmar	Customs Department/ MACCS Division, Ministry of Planning and Finance
19	Thailand	Director, Information and Communication Technology Bureau, Thai Customs Department
20	Thailand	Information and Communication Technology Bureau, Thai Customs Department
21	Thailand	Customs Procedures Division, Thai Customs Department
22	Thailand	Planning Division, Department of Land Transport
23	Thailand	International Coordination and Strategy Office, Office of the National Economic and Social Development Board (NESDB)
24	Vietnam	Deputy Director, International Cooperation Department, General Department of Vietnam Customs
25	Vietnam	International Cooperation Department, General Department of Vietnam Customs

\* Participant No. 24 attended only on 19 September 2017.

**Table II.2 List of Observers (including Japanese lecturers)**

No.	Organization
1	Deputy Director General, International Cooperation Bureau, Ministry of Foreign Affairs
2	Deputy Director, Country Assistance Planning Division I, International Cooperation Bureau/Country Assistance Planning Division I, International Cooperation Bureau, Ministry of Foreign Affairs
3	Advisor, Planning and ASEAN Partnership Division, Southeast Asia and Pacific Department, Japan International Cooperation Agency
4	Chief Advisor, JICA Expert, General Department of Vietnam Customs, Japan International Cooperation Agency Vietnam Office
5	Japan International Cooperation Agency Vietnam Office (1)
6	Japan International Cooperation Agency Vietnam Office (1)
7	JICA Chief Advisor, JICA Expert, Project for Modernization of Myanmar Customs, Ministry of Planning and Finance, Japan International Cooperation Agency Myanmar Office
8	JICA Expert, Japan International Cooperation Agency Myanmar Office
9	Japan International Cooperation Agency Myanmar Office (1)
10	Japan International Cooperation Agency Myanmar Office (2)
11	JICA Expert, Customs Project on Rules of Origin, Japan International Cooperation Agency Thailand Office
12	Sankyu Inc.

13	Team Leader, JICA Survey Team
14	JICA Survey Team (1)
15	JICA Survey Team (2)
16	JICA Survey Team (3)
17	Local Assistant, JICA Survey Team (1)
18	Local Assistant, JICA Survey Team (2)

\* Observers No. 5, 6, 11, and 12 attended only on 19 September 2017.

\* Observer No.4 attended 19 September 2017 and the site visit only for Noi Bai International Airport on 20 September 2017.

\* Observer No. 18 attended only on 20 September 2017.

## **II.2 Agendas**

### **(1) On 19 September 2017**

#### **1) Lectures**

They were held at Grand Ballroom, Melia Hotel Hanoi. The session 1-a explained the reason why physical and institutional connectivity enhancement is required in the Mekong Region. The session 1-b and 1-c focused on the current situation of the physical connectivity of the East-West Economic Corridor and the Southern Economic Corridor. Improvements has been made (especially on road condition) and some more challenges to be tackled (especially for crossing borders) are well shared. The session from 2-a to 2-e focused on institutional connectivity; the history, experience and challenges to introduce electronic customs system in Japan, Vietnam, Myanmar, and Thailand were informed. Even the key to realize National Single Window and further AESAN Single Window was also presented.



**Photo II.1 Workshop Lecture**

**Table II.3 Timetable of the lectures**

<i>time</i>	<i>contents</i>
8:00 - 8:15	Registration
8:15 - 8:25	<b>Opening Remark</b> Deputy Director-General, International Cooperation Bureau, MOFA Advisor, Southeast Asia and Pacific Department, JICA
8:25 - 9:00	<b>Session 1-a</b> <u>Topic</u> : Current Situation of Connectivity in Mekong Region <u>Speaker</u> : Team Leader, JICA Survey Team
9:00 - 9:40	<b>Session 1-b</b> <u>Topic</u> : Results of the Freight Transport Test Run along East-West and Southern Economic Corridor <u>Speaker</u> : JICA Survey Team
9:40 - 10:10	Coffee Break
10:10 - 10:50	<b>Session 1-c</b> <u>Topic</u> : Current Cross Border Issues from the Private Logistics Company Point of View <u>Facilitator</u> : Sankyu Inc.
10:50 - 11:30	<b>Session 2-a</b> <u>Topic</u> : Current Condition of Customs System and the Progress of Installing Electronic Customs System for Each Country in the Mekong Region <u>Speaker</u> : JICA Survey Team
11:30 - 13:00	Lunch
13:00 - 13:50	<b>Session 2-b</b> <u>Topic</u> : History and Current Condition of Operation of Electronic Customs System in Japan <u>Speaker</u> : JICA Survey Team
13:50 - 14:30	<b>Session 2-c</b> <u>Topic</u> : Presentation of the JICA Project Related to Customs System Improvement in Vietnam <u>Speaker</u> : Chief Advisor, JICA Expert
14:30 - 15:00	Coffee Break
15:00 - 15:50	<b>Session 2-d</b> <u>Topic</u> : Presentation of the JICA Project Related to Customs System Improvement in Myanmar <u>Speaker</u> : Director of Customs Department, Ministry of Planning and Finance
15:50 - 16:40	<b>Session 2-e</b> <u>Topic</u> : Presentation of Advanced Case of National Single Window in Thailand <u>Speaker</u> : Director of Information and Communication Technology Bureau, Thai Customs Department, Ministry of Finance
16:40 - 17:00	<b>Announcement and Group Photo Shoot</b>

## **2) Reception Party**

It was held in Melia Hotel Hanoi to enhance “human connectivity” (network) by sharing tables with participants from other countries.



**Photo II.2 Reception Party**

### **(2) On 20 September 2017**

#### **1) Site Visit (to Hai Phong Port and Noi Bai International Airport)**

In the morning, Mr. Truong Van Thai, Deputy General Director of Hai Phong Port welcomed the participants at the Tan Vu Terminal. At his lecture, he introduced various measures to improve Hai Phong Port connectivity: new roads development, traffic management, and improvement of railways and inland waterways. He also showed terminal operation system which is only operated in this terminal in Vietnam.



**Photo II.3 Site Visit - Hai Phong Port**

In the afternoon, a staff from Noi Bai International Airport and a staff from Air Cargo Services of Vietnam (ACSV) showed the cargo terminal in the airport. The participants learned that the customs takes dual system of V-NACCS and paper-based operation and observed both import area and export area.



**Photo II.4 Site Visit – Noi Bai International Airport**

## **2) Wrap Up**

The team leader briefly re-visited each lecture given on 19 September and other programs to emphasize the objectives of this workshop. The study tour in Japan to be held within this fiscal year is also introduced.

## **II.3 Evaluation**

It was relatively a short intense program; however, it was comprehensive enough regarding the lecturers covered physical and institutional connectivity and the site visit to two ports.

However, it seems the intentions of the workshop are well conveyed to almost all of the participants, especially on importance of the region-wide institutional connectivity enhancement and its challenges. Here are some comments on the questionnaires done at the wrap up session:

- I learned current situation of our neighbor countries in the Mekong Region on how they improve their connectivity with each other in terms of physical connectivity through roads and infrastructure as well as institutional connectivity.
- After receiving the presentation from other countries, our country (Myanmar) is still needed to deal with a lot of issues to be improved such as infrastructure, IT knowledge and human resource development.
- Developing their own NSW application like Thailand is also a good move; however, if the country does not have their own NSW, NACCS seems to be the solution to faster connection amongst ASEAN countries and to solve the border problem.
- I realized that harmonizing and simplifying software connectivity or customs system is a key issue to promoting GMS CBTA since now I think one of many problems is the different customs procedure/system in each country.
- I learned the way forward to address and enhance the collaborations in the Mekong Region and the opportunities of having the strong and secure transaction in the import, export, and logistics.
- Japanese experiences in customs procedures could be good practices for countries in the Mekong Region.

Furthermore, some participants mentioned that this workshop gave a good opportunity for them to strengthen their relationship which shall accelerate cooperation in the Mekong Region as well as information sharing.

As for the improvement of the workshop, some recommendations are raised which are also applicable to the study tour in Japan of this project. Firstly, there are some voices that the duration should be a bit longer and reserve time for discussion among related departments such as customs and private companies or brainstorming activity for the development of further plans for enhancing ASEAN Single Window. To have this kind of discussion or brainstorming should make the study tour more fruitful. Secondly, some people, especially for those who are not from the customs department, had difficulties to understand NACCS system and requested to have video tutorial or demonstration on the operation. Some officers who are not from the customs department shall attend the study tour in Japan; accordingly, it is better to give consideration to them. Lastly, some participants requested to issue the invitation letter well ahead since coordination among agencies for selection of candidates and procedure to get approval for participation in the agency take time. The invitation to the study tour should be distributed as early as possible.



## Appendix III      Technical Site Investigation Tour in Japan for Connectivity Enhancement in the Mekong Region

### III.1 Outline

As a part of “Japan-Mekong Connectivity Initiative”, the survey team hold a site visit in Japan, titled Technical Site Investigation Tour in Japan for Connectivity Enhancement in the Mekong Region, aiming to contribute to connectivity enhancement within each Mekong country, furthermore among these countries by sharing Japanese technology, system, and management. This was the following program of the workshop held in Hanoi in September 2017 (refer Appendix II). In addition, on the last day of this site investigation tour, a forum named Japan-Mekong Connectivity Forum was held to share the findings of this data collection survey and the current situation and prospect of the connectivity in each Mekong country with Japanese ministries and private companies under the sponsorship of the Ministry of Foreign Affairs, Japan and JICA.

#### (1) Title of the Program

Technical Site Investigation Tour in Japan for Connectivity Enhancement in the Mekong Region

#### (2) Duration

25 February 2018 – 3 March 2018 (7 days)

#### (3) Objectives

1. to share the CIQ technology, system, and management in Japan for the officials from the Mekong countries (Cambodia, Lao PDR, Myanmar, Thailand, and Vietnam)
2. to give some references for their improvement of the connectivity in their own country
3. to contribute to human network on the connectivity among Japan and the Mekong countries

#### (4) Participants

The number of participants: 29 people as follows

No.	Country	Position and Affiliation
1	Cambodia	Deputy Secretary General of The Cambodian Investment Board, Council for The Development of Cambodia
2	Cambodia	Deputy Director General, Ministry of Commerce
3	Cambodia	Deputy Director of Phnom Penh Customs Branch, General Department of Customs and Excise
4	Cambodia	Deputy Director, Ministry of Foreign Affairs and International Cooperation
5	Cambodia	Director of Department, Ministry of Post and Telecommunications
6	Thailand	Customs Technical Officer, Thai Customs Department
7	Thailand	Customs Technical Officer, Thai Customs Department

8	Thailand	Computer Technical Officer, Thai Customs Department
9	Thailand	Computer Technical Officer, Thai Customs Department
10	Thailand	Customs Technical Officer, Thai Customs Department
11	Thailand	Customs Technical Officer, Thai Customs Department
12	Viet Nam	Deputy Director General, General Department of Viet Nam Customs
13	Viet Nam	Deputy Director, General Department of Viet Nam Customs - Quang Ninh Customs Department
14	Viet Nam	Deputy Director, General Department of Viet Nam Customs - Customs Control and Supervision Department
15	Viet Nam	Deputy Director, General Department of Viet Nam Customs - Legal Department
16	Viet Nam	Customs Officer, General Department of Viet Nam Customs - International Cooperation Department
17	Viet Nam	Deputy Director General, IT Department of Vietnam Custom
18	Myanmar	Assistant Secretary, Ministry of Transportation and Communication
19	Myanmar	Deputy Chief Engineer, Myanmar Port Authority
20	Myanmar	Manager, Myanmar Port Authority
21	Myanmar	Deputy Director, Department of Trade
22	Myanmar	Assistant Director, Customs Department
23	Myanmar	Custom Inspector, Customs Department
24	Lao PDR	Deputy Director General of Department of Planning and Cooperation, Ministry of Industry and Commerce
25	Lao PDR	Deputy Director of Land Transport Division, Department of Transport, Ministry of Public Works and Transport
26	Lao PDR	Deputy Director of Division of Mekong countries and Development Partners Cooperation, Department of Economic Affairs, Ministry of Foreign Affairs
27	Lao PDR	Official of Department of Economic Affairs, Ministry of Foreign Affairs
28	Lao PDR	Deputy Director of legal Division Customs Department, Ministry of Finance
29	Lao PDR	Deputy Director of Lao-Thai Friendship Bridge Customs International Checkpoint, Ministry of Finance

### III.2 Programs

The itinerary of the technical site investigation tour was as follows:

date	time	venue	purpose of visit
25 Feb (Sun)		Arrival Day	
26 Feb (Mon)	10:00 14:00	JICA Briefing Japan Freight Railway International Inc. Sumidagawa Freight Station	To learn overview of freight railway transportation and modal shift, and to see a freight station management
27 Feb (Tue)	9:30 14:45	Tokyo Customs  Tokyo Minatorie (Port of Tokyo)	To learn an efficient system to simplify customs clearance procedures (AEO, advance ruling system, etc.)  To learn port development and observe cargo terminals

	16:30	Yamato Holdings Co., Ltd. Haneda Chronogate	To learn a last-one-mile logistics system
28 Feb (Wed)	10:00	Nippon Automated Cargo and Port Consolidated System Inc. (move to Nagoya)	To learn NACCS system and operation
1 Mar (Thu)	10:40	Nagoya-ko Vessel Traffic Service Center (Port of Nagoya)	To learn overview of port of Nagoya, including port security countermeasures (amended SOLAS)
	13:00	Tobishima Container Terminal and Centralized Control Gate (Port of Nagoya) (move to Tokyo)	To learn Nagoya United Terminal System (NUTS) and observe an efficient container transportation
2 Mar (Fri)	13:00	Japan-Mekong Connectivity Forum 1. Report of the JICA Data Collection Survey on Connectivity Enhancement in Myanmar 2. Presentation by each Mekong country's representative 3. Networking	To share the current situation, challenges and opportunities, and prospect of the connectivity in Mekong countries among participants from the Mekong Region, Japanese public officials, and Japanese private company persons
3 Mar (Sat)		Departure Day	

### (1) JR Sumidagawa Freight Station

The purpose of visiting Japan Freight Railway Company (JRF) was to understand the role of freight railway transportation in a whole logistics process in Japan and how it was linked with other modes.

First, the role of freight railway transportation and some relevant business of JRF was introduced by a video. Then, a manager from Overseas Business Office, JRF gave a complementary lecture on i) JRF's nation-wide freight railway network, ii) latest container yard operation system, iii) ICT utilization for container management, iv) transshipment service and inland container depot, and v) international transportation routes to South Korea and China. A station master of Sumidagawa Freight Station explained i) frequency of transportation between Sumidagawa Freight Station and freight stations in Northern Japan, ii) amount and variety of freight they deal with, and iii) the history of the station. After the lectures, the station master took the participants to the rooftop of a station building to have a whole view of the freight station and conducted a bus tour in the container yard.



**Photo III.1 JRF Lecture**



**Photo III.2 View of Sumidagawa Freight  
Station Yard**

The participants learned how JRF's transportation system has been contributed to the economic development in Japan and how it is well-integrated within a multi-modal system of logistics, and seemed to start considering the importance of future freight-station development.

## **(2) Tokyo Customs**

The lectures by Tokyo Customs officers were intended to share measures taken to simplify customs clearance procedures introduced in Japan. The participants were invited in the headquarters.

The first lecture was about Authorized Economic Operator (AEO) system: the concept, advantage, condition to be a AEO-qualified company, mutual authentication with other countries, and so on. The other lecture was about Advance Ruling for Classification: the purpose, procedures, benefit, and so on. For Myanmar delegates, as Myanmar has just introduced AEO-like system, Japanese experiences, especially on promotion, seemed interesting and helpful.

After the lectures, the participants were invited to the operation room as a site investigation.



**Photo III.3 Tokyo Customs Lecture**

## **(3) Tokyo Minatorie (Port of Tokyo)**

The participants visited the Exhibition Room of the Tokyo Waterfront Area on the 20<sup>th</sup> floor of a building located right next to the Aomi container terminal, named Tokyo Minatorie to learn the history of Tokyo port development and to have a view of the port.

An officer from Kanto Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism (MLITT) explained i) an important role to play for Tokyo metropolitan area, ii) current physical improvement projects, including the effect the completion of Tokyo Gate Bridge, iii) outline of container terminals, and iv) landfill and its usage.

The participants seemed to be interested in how the Port of Tokyo had been developed to accelerate trading and even increased value of the filled land.



**Photo III.4 Tokyo Minatorie**

#### **(4) Yamato Haneda Chronogate**

To learn the last-one-mile logistics system, or TA-Q-BIN service of Yamato Holdings Co., Ltd., the participants joined a site visit tour offered in a logistics gate named Yamato Haneda Chronogate which was strategically located near to an airport, a seaport, and a freight station.

In the tour, showing the actual facilities, a guide explained i) the efficient flow of parcels from a sender to a receiver, ii) the function of logistics gate, including Haneda Chronogate, especially the automation of sorting work by parcels' destination, and iii) various value-adding services specially taken place in Haneda Chronogate.

Some participants were very impressed by its business model and the high technology and sophisticated management introduced to realize efficient services.



**Photo III.5 Yamato Haneda Chronogate Site Visit Tour**

#### **(5) NACCS Center**

To have a whole picture of automated customs clearance system and single window in Japan, the participants had a lecture at Nippon Automated Cargo and Port Consolidated System Inc. (NACCS Center).

The lecture covered i) the uniqueness of the organization, ii) development and improvement of NACCS, iii) features, including risk management and tax payment, and benefits for introduction, and iv) implementation of NACCS-type system in Vietnam and Myanmar. Especially the Cambodian and Laos delegates were curious to know how the Vietnam Customs and the Myanmar Customs found the systems introduced in their country (V-NACCS and MACCS) and to know whether NACCS could be integrated with the existing automatic customs clearance system and whether NACCS could be introduced partially. Some participants seemed to take an interest



in how various stakeholders were got involved in its operation and management.

After the lecture, the participants visited the help-call center to learn how to deal with inquiries and measures to reduce the number of enquiries.



**Photo III.6 NACCS Center Lecture**

#### **(6) Port of Nagoya**

The participants visited the Port of Nagoya to learn the most advanced terminal operation system and SOLAS-related facilities.

On the top floor of Nagoya-ko Vessel Traffic Service Center located on the edge of Kinjo wharf, officers from Port and Airport Department, Chubu Regional Bureau, MLITT explained i) physical overview of the port, ii) trend of import/export cargo, and iii) facilities introduced under SOLAS. Moved to Tobishiam wharf, officers from Nagoya Harbor Transportation Association lectured on Nagoya United Terminal System (NUTS), which consists of four sub-systems, namely Yard Planning System, Yard Operation System, Control System, and Vessel Planning and realizes an efficient and functional terminal operation through a mutual linkage among those sub-systems, development of a port-wide LAN, utilization of radio handy terminals, or so. Then, the participants made an inspection of Centralized Control Gate.

The participants well learned how cargo and containers were efficiently handled with ICT. One of the participant was very curious to find out the demarcation of responsibility on port development, including infrastructure installation and seemed to be more eager to realize proper port development for economic growth of his own country.



**Photo III.7 Lecture on Physical Aspect  
of Port of Nagoya**



**Photo III.8 Lecture on NUTS**

## **(7) Japan-Mekong Connectivity Forum**

On the afternoon of the last day of the technical site investigation tour, Japan-Mekong Connectivity Forum was held sponsored by Ministry of Foreign Affairs to share the situation around the connectivity in each Mekong country among Mekong countries, Japanese line ministries, and logistics companies or relevant private companies.

In the first half part of the forum, the JICA survey team reported the result of the survey in Myanmar and test runs along the East West Economic Corridor and Southern Economic Corridor. The situation on physical connectivity improvement and the need of further and consistent support on quality improvement on physical and institutional connectivity and on adding value to logistics services. In the second half part, representatives from each country presented the current situation, challenges and opportunities, and prospect related to connectivity enhancement in their own country. Cambodian representative emphasized the opportunity for investment. Laos representative introduced the physical connectivity enhancement projects and showed the eagerness to develop dry ports. Myanmar representative also mentioned the current projects related to physical connectivity enhancement and recognized the importance of further infrastructure development. Thai representatives explained national single window and advance tariff ruling in Thai customs. Lastly, Vietnamese representative presented the achievement of customs automation, including VNACCS, and of national single window.

From the delegates from each Mekong country, following comments were raised on the whole.

### **[ First Part ]**

- The presentations were comprehensive and informative enough to be updated on the situation of the connectivity for the Mekong Region
- The information and recommendations obtained in the presentation shall be utilized to adapt and improve the border services in my own country and other challenging areas.
- It was a great opportunity to learn contribution and interest of Japan in the Mekong Region; continuous financial and technical assistance for infrastructure and institutional improvement is expected.
- Border crossing point survey shall be conducted at all points to get more accurate data analysis.
- The presentations should have mentioned the recommendation to overcome the challenges analyzed through the survey more to emphasize the positive aspect.
- For some part, source of information was not clear enough which shall make difficult for policy makers to decide the future direction.

### **[ Second Part ]**

- It was a great opportunity to grasp the e-customs procedure and other development, experiences or technologies in the other Mekong countries and to understand the other countries' vision to facilitate trading with in the region
- The strength and weakness which are needed to be taken into consideration for further improvement between Mekong countries were well shared.



- The need to collaborate with the other neighboring countries for realizing better border services and seeking mutual benefit is well acquired.



**Photo III.9 Japan-Mekong Logistics Forum**

### **III.3 Evaluation**

The objective of this program was generally achieved regarding the feedbacks given in questionnaires and through communication.

For the first objective of this site investigation tour, the tour could visit wide-range of relevant places in terms of connectivity and logistics network and learn latest ICT or systems implemented for efficient management with kind cooperation of line ministries and private companies. Some participants mentioned that it was well learned how different stakeholders work together to become one which entails the harmonization and alignment of the relevant documents and data sets in Japan, and that, though the participants were from various agencies, the tour covered all relevant places for all participants.

For the second objective, as described above, participants became eager to introduce or improve similar system, especially AEO and NACCS to seek further port and railway transportation development. However, following places to visit or requests were raised to be added in the program for better understanding and reference in the relation with their own job responsibility:

- To visit CIQ at a sea port and an airport for more practical lessons
- To visit a tariff bureau
- To visit private cargo terminal to learn security management and storage management
- To exchange opinion with private companies which use Japanese customs services
- To learn the data synchronization between NACCS and Port EDI in detail

- To obtain some challenges facing at each organization in order to share the problems and solutions, especially with governmental officials
- To learn transport policy and planning matter
- To visit industrial park to learn industrial cluster development and to obtain the need of Japanese investors when invest abroad
- To learn the connectivity between of Japan with the rest of the world

For the last objective, even during the tour, the participants were not necessarily separated per country and exchanged the situation in his/her own country with others within and outside of the program. In the reception on the forum, of course, the participants well communicated with other participants from the Mekong Region and Japan.

Lastly, the JICA survey team would like to extend our sincere gratitude to Ministry of Foreign Affairs, Ministry of Finance, Ministry of Land, Infrastructure, Transport and Tourism, Japan International Cooperation Agency, Japan Freight Railway Company, Yamato Holdings Co., Ltd. Nippon Automated Cargo and Port Consolidated System, Inc., International Hospitality and Conference Service Association, and Japan International Cooperation Center for their cooperation on arrangement and implementation of this program.