

CHAPTER 7

A Study on Cross-Border Trade Facilitation and Regional Development along Economic Corridors: Thailand Perspectives

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A STUDY ON CROSS-BORDER TRADE FACILITATION AND REGIONAL DEVELOPMENT ALONG ECONOMIC CORRIDORS: THAILAND PERSPECTIVES

Nucharee Supatn

INTRODUCTION

To respond to the challenges of world-class business and social evolution, regional cooperation of neighboring countries is important since it would strengthen the potential of each individual member country in the region. Regarding their long historical business and social relations, together with the shared values and cultures, the neighboring countries in Southeast Asia that are located on the banks of three important rivers, the Ayeyawady River, Chao Phraya River, and the Mekong River, have joined together under the framework of the Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy (ACMECS) with 5 official members: Thailand, Lao PDR, Myanmar, Cambodia, and Vietnam. A number of projects calling for bilateral and multilateral cooperation have been developed and implemented. The transportation infrastructures within and between member countries, especially the South-East and North-West Economic Corridors, have been constructed. Financial and non-financial supports from member countries and other countries such as Japan, Australia, Germany, France, and the United States have been given. The cross-border transportation is promoted. Thailand, as a member of the ACMECS, has contributed several activities to promote this cooperation. Two institutes, the Neighboring Countries Economic Development Cooperation Agency (NEDA) and the Thailand International Development Co-operation Agency (TICA), have been established and assigned to operate and facilitate ACMECS projects and activities. The infrastructure of the involved provinces, especially those located on or nearby the South-East and North-East

Economic Corridors, have been developed to promote cross-border trade and transportation. This chapter reviews the economic cooperation between Thailand and other ACMECS countries, and the infrastructures and potentials of 6 provinces in Thailand that border the ACMECS countries, i.e. Ubon Ratchathani, Nakhon Phanom, Mukdahan, Nong Khai, Kanchanaburi, and Sa Kaeo.

The chapter consists of 4 sections. First is the introduction of the economic cooperation of Thailand and ACMECS countries, followed by the analyses of the current transportation and logistics infrastructure associated with the East-West Economic Corridor (EWEC) and related routes. The third section explores the current economic structures of the 6 provinces together with the economic cooperation of Thailand with the neighboring countries. Finally, the regional development plan in Thailand associated with the economic corridors is reviewed and discussed.

1. THE ECONOMIC COOPERATION OF THAILAND WITH THE NEIGHBORING COUNTRIES

The ACMECS was officially established by the 4 member countries of Lao PDR (or Laos), Cambodia, Myanmar, and Thailand under the Bagan Declaration in 2003. A year later, in 2004, Vietnam joined the project, which makes the ACMECS consist of 5 member countries covering a total area of 1.94 million km² with a combined population of 213 million (Office of the National Economic and Social Development Board, 2006). The name “ACMECS” was derived from three main rivers in this sub-region, the Ayeyawady, Chao Phraya, and Mekong rivers. The ACMECS is aimed at promoting economic prosperity and social sustainability among neighboring countries in the region by bridging the economic gap among the 5 countries. Several projects have been developed and implemented in 6 cooperation areas: 1) trade and investment facilitation, 2) agricultural and industrial cooperation, 3) sport linkages, 4) tourism cooperation, 5) human resources development, and 6) public health. The focus is on transforming the border areas of the 5 countries into zones of economic growth, social progress, and prosperity, and blending the local, national, and regional interests for shared benefits and good neighborliness.

In 1996, the Thai government set up the Neighboring Countries Economic Development Cooperation Fund (NECF) to provide financial assistance to the neighboring countries. To further this cooperation with the ACMECS, it was transformed into the NEDA in 2005, with the aim to offer both financial and technical assistance to ACMECS countries. Thailand also authorized another major agency, namely the TICA, to incorporate with the Ministry of Foreign Affairs in performing the active role of providing training and technical assistance to ACMECS and other countries. Thailand has invested in related infrastructure and has also opened markets for international trade with the neighboring countries, as reported by the United Nations.

NEDA offers soft loans with the conditions of a repayment period of 30 years, excluding a 10-year grace period, and a 1.5 % interest rate to the ACMECS countries so that they are able to develop their economies and focus on regional cooperation.

Bilateral cooperation is respected as a key to closer cooperation and economic relationships between a couple of the ACMECS countries, since it serves to systematize and guide future cooperation. Master plans for economic cooperation between Thailand and Cambodia, Thailand and Vietnam, and Thailand and Lao PDR were completed in 2001, 2006, and 2007, respectively. Regarding these bilateral cooperation plans, Thailand expects to gain more intensity in regional cooperation in the near future. In line with the bilateral cooperation between Thailand and ACMECS countries, Thailand also emphasizes domestic development in the related geographic regions and sectors to prepare for the creation of economic corridors and sister cities, contract farming, industry development, and the establishment of special border economic zones. The northeastern region is the focal area of development, since it has a 1,040-km border with Lao PDR and a 798-km border with Cambodia.

2. REVIEWS OF THE CURRENT TRANSPORTATION AND LOGISTICS INFRASTRUCTURE

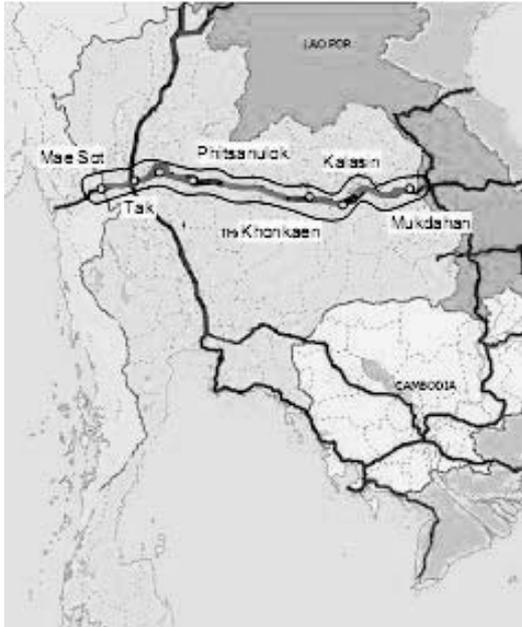
To achieve cooperation among ACMECS countries, the connections through multi-modal transportation systems should be an area of focus. Not only the main economic corridors linking to gateways and interchange nodes should be developed but

the roads connecting to the rural areas and the markets should also be emphasized. The infrastructural improvements would help save time, lower transportation costs, reduce risks, promote production and employment opportunities, and encourage trade along the corridor. To connect with the ACMECS countries, the EWEC is important. The route starts from Mawlamyine, gateway to the Indian Ocean in Myanmar, connected to Pitsanulok in the lower north region of Thailand as an Indochina cross-road with the North-South Economic Corridor (NSEC). The EWEC then connects to Khon Kaen, which has been set as a logistics hub and medical and HRD centers, and links to the border gateway “Mukdahan”, a Thailand-Laos bordering province in which the Second Mekong Friendship Bridge is located. The east-west corridor passes to Hue, Quang Tri, which is positioned as a tourist hub, and ends up at Danang, the gateway to the South China Sea. This route is 200 km in Myanmar, 800 km in Thailand, 240 km in Lao PDR, and 260 km in Vietnam. Another route that connects Thailand and Cambodia is the Southern Economic Corridor (R1). This route begins with Bangkok and connects to Phanom Sarakham, Kabin Buri, Sa Kaeo, and Aranya Prathet, which borders Cambodia. The 272-km 4-lane road is completely constructed. This road connects to Cambodia and ends at South Vietnam. The details are shown graphically in Figure 1.

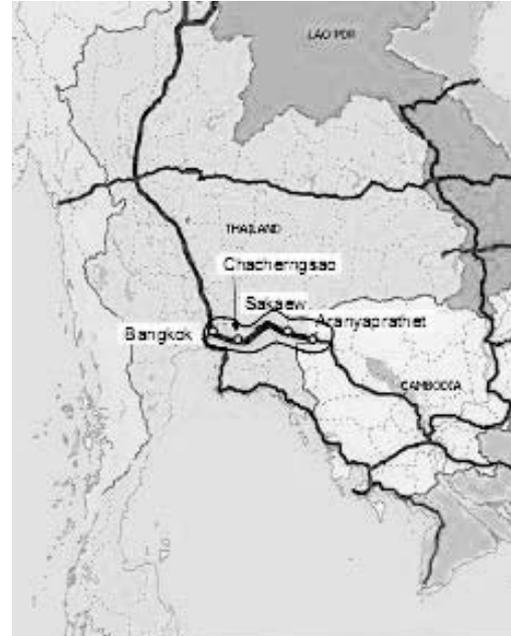
In Thailand, there are road networks that connect all provinces, districts, sub-districts, and villages together. However, the conditions of the roads are unequal. All main roads and highways connecting the provinces are paved, with concrete or asphalt, and more than half have 4 or 6 lanes, which are in good condition. The roads connecting provincial capitals to large district towns are two or 4 lanes in good condition. Some of them are currently being widened to 4 lanes while some other roads connected to the remote small villages are still earthen roads. The main highways have frequent gas stations with rest areas and small coffee shops and/or local restaurants. All gas stations sell 91 and 95 octane gasoline and diesel fuel. Bio-diesel fuel is available in some stations. However, LPG (liquid petroleum gas) and NGV (natural gas for vehicles) gas stations are rarely available.

To get to the Thailand-Laos bordering provinces which are located in the northeastern region from Bangkok by road, Route (Highway) No. 1 has to be taken, and then turn right at Saraburi to use Route No. 2 to Nong Khai with about 25 km to reach Vientiane. Route No. 2 (Friendship Highway or Thanon Mitraphap) was built by the

Figure 1: GMS Road Project Location



A. East-West Economic Corridor (R2)
 Myanmar-200 km
 Thailand-800 km: 50% is 4lanes
 Lao PDR-240km: 2 lanes
 Vietnam-260 km: 2 lanes



B. Southern Economic Corridor (R1)
 BKK-Aranya Prathet-272 km
 (Cambodia border)
 Completed 4 lanes

Source: Asian Development Bank (2009)

United States to supply its military bases in the 1960s and 1970s. This road used to be the “best condition” road in Thailand for decades. It connects Saraburi and Nong Khai Province. Currently, there is a road bridge, namely the First Friendship Bridge, which was jointly built by the Australian, Laos and Thai governments to cross the Thailand-Laos border over the Mekong River on the outskirts of Nong Khai to Vientiane. To get to other bordering provinces, Route No. 2 must be used from Saraburi, straight to Nakhon Ratchasima, and then get to the roads that access to the focal provinces. As the roads are networked, more than one route can be accessed to the selected province. Most roads in the northeastern region are paved. All major roads interconnecting the provinces are in good to excellent condition for driving and most are 4 or 6-lane highways.

There are three routes to get to the Thai-Cambodia border at Sa Kaeo Province by road. First, use Route No. 1 from Bangkok to Saraburi and then turn to Route No. 33 to Nakhon Nayok, Kabin Buri, and Sa Kaeo. The total distance is 245 km. The second uses Route No. 3 from Rungsit, Bangkok, to Nakhon Nayok and turns to Route No. 33 to Kabinburi and Sa Kaeo. This route is about 214 km. For the third route, use Route No. 304 to Meenburi, Chachoengsao, and Phanom Sarakham, and turn right at Kabin Buri to use Route No. 33 to Sa Kaeo. This route is about 210 km. All roads in the three routes are paved and are in good condition.

The major route to go to the Thai-Myanmar border at Kanchanaburi Province by road is to use Route No. 4 (Phetkaseam Road) straight to Nakhon Pathom and then use Route No. 323 to Ratchaburi and Kanchanaburi. The total route is about 129 km to the town of Kanchanaburi. However, to avoid the traffic congestion of Phetkaseam Road in Bangkok, an alternative is to use the Pin Klao-Nakhonchaisri Road to Nakhon Pathom instead. The road accesses the Three Pagodas Pass, the Thai-Myanmar checkpoint for border trade and a temporary crossing point at Sangkhlaburi district, and is in good condition.

The road accesses the Dawei deep-sea port project, which is about 160 km from the border and under construction by a Thai company. The Baan Phu Nam Ron natural pass will be upgraded to an international crossing point. The road accesses the crossing point, the customs house, and other office buildings that are under construction.

Bus networks from Bangkok to all provinces, as well as buses to the major provincial districts and from a province to its nearby provinces, are available throughout the country. Local buses connecting districts and sub-districts in a province are also available in most areas.

Besides the roads, the bordering provinces can be accessed by trains operated by the State Railway of Thailand. There are two main train lines in the northeastern region starting from Bangkok. The first runs east through Nakhon Ratchasima to Surin and Ubon Ratchathani. The second runs north through Khon Kaen, Udonthani, and Nong Khai. The rail link from Nong Khai to the Lao terminus via the first Friendship Bridge was recently completed and operated in 2009. Currently, there are no train links to Nakhon Phanom and Mukdahan Province. However, there is a construction plan for the

Figure 2: Trans-Asian Rail Network



Source: Nakhon Phanom Province.

Trans-Asian Rail Network that will link to Nakhon Phanom, Mukdahan, and the Thailand-Laos border in Ubon Ratchathani. There is also a train link to Aranya Prathet, the Thai-Cambodia border at Sa Kaeo. The details are shown in Figure 2.

For Kanchanaburi, currently there is the train link to the Kwai River but not yet to the Thai-Myanmar border. However, the extension of the train link to the Three Pagodas Pass is also planned in the Trans-Asian Rail Network.

In addition, most bordering provinces can be accessed by air. The Ubon Ratchathani Airport is an international airport. Three airlines, Thai airways, Nok Air, and Air Asia, provide many daily flights from and to Bangkok and also have routes connecting to other major destinations in Thailand such as Phuket and Chiang Mai several times a week. The airport at Nakhon Phanom is a domestic airport in which the daily flights from and to Bangkok are provided by Nok Air. All of these airports are operated by the Department of Civil Aviation, Ministry of Transport, which is the government sector. There are no airports at Mukdahan and Nong Khai. However, The

Ubon Ratchathani and Nakhon Phanom airports are not so far away from Mukdahan, while the Udonthani international airport is only 60 km from Nong Khai. The transportation via these airports is convenient. The airports in Sa Kaeo (Watthana Nakhon Airport) and Kanchanaburi (Fort Surasi Airport) are now operated by the Royal Thai Air Force and the Royal Thai Army but there is a plan to open for commercial flights in the near future.

3. REVIEWS OF THE PROVINCES BORDERING THE ACMECS COUNTRIES

The northeastern region, with about 170,000 km², is known as the largest land area in Thailand. Commonly, Thai people call this region *Isaan*, which means “northeastern” in Sanskrit. *Isaan* is separated from the central region of Thailand by the Prachinburi and Phetchabun mountain ranges. The middle of the region is located on the Khorat Plateau and bordered by the Mekong River, along the border with Lao PDR. It is a high plains land which tilts from the Phetchabun mountain range in the west of the region down toward the Mekong River. The plateau is separated into two plains by the Phu Phan mountains. The northern Sakon Nakhon plain is drained by the Loei and Songkhram rivers while the southern Khorat plain is drained by the Moon and Chi rivers. The Moon River rises in the Khao Yai National Park and runs east joining the Mekong in Ubon Ratchathani Province while the Chi River flows through central *Isaan* before turning south to meet the Moon River in Sisaket Province. The smaller Loei River flows north through Loei Province while the Songkhram River flows east through Udon Thani, Sakon Nakhon, Nakhon Phanom, and Nong Khai provinces. As the north and east borders on Lao PDR, the south of the region borders on Cambodia.

In the northeast region, there is evidence of the long history of the Bronze Age, the pre-historic era of about 5,000 years ago, from the cliff paintings and iron and bronze tools found at Ban Chiang, Udon Thani. Later, the region came under the Dvaravati culture, followed by the Khmer empire, as evidenced by many sandstone sanctuaries. After the decline of the Khmer empire in the 13th century, *Isaan* was dominated by the Lao Lan Xang kingdom.

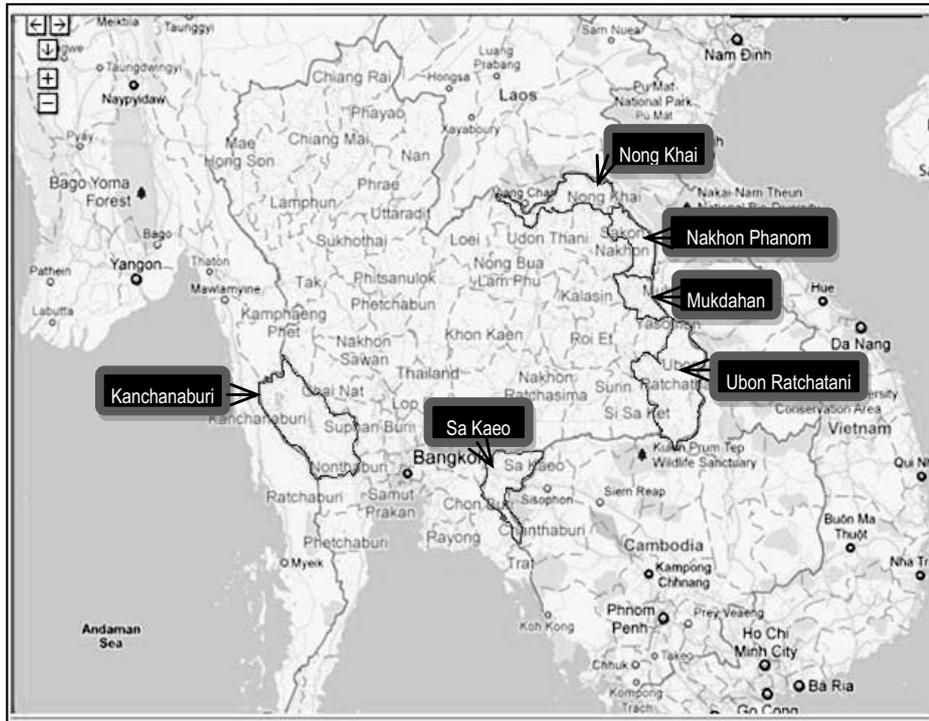
With a long history and cultural development, the people in the northeastern region have their own style of living and unique traditions. The main spoken language is *Isaan*, which is based largely on the Chiang Seng and Lao-Phutai language. It is slightly different from Central Thai and Lao. However, most *Isaan* people can speak Central Thai and the written language is also Thai. Agriculture is the main economic activity of the region.

The population of the northeastern region as of 2010 was 21.31 million people. Forty % of them live in the 4 major provinces of the region, which are Nakhon Ratchasima, Ubon Ratchathani, Udon Thani, and Khon Kaen. Most people in the region are *Thai-Isaan* who have been in the area for generations. The major income of the people is from agriculture, especially the cultivation of rice. However, based on the uncontrollable hot and dry climate, together with unpredictable rains and floods, the agricultural production is not high and may be unreliable. This makes *Isaan* remain the poorest region of Thailand. Besides that, there is another major group of people who are Thai-Chinese and whose ancestors migrated to the area. These people are somewhat different from the local people i.e. the *Thai-Isaan*, in that they have business skills and like to handle trading/retailing or other types of business rather than growing crops or working in any agricultural area.

The northeastern region is made up of 20 provinces, which are Amnat Charoen, Buriram, Chaiyaphum, Kalasin, Khon Kaen, Loei, Maha Sarakham, Mukdahan, Nakhon Phanom, Nakhon Ratchasima, Nongbua Lamphu, Nong Khai, Roi Et, Sakon Nakhon, Sisaket, Surin, Ubon Ratchathani, Udon Thani, Yasothon, and Bueng Kan. During past decades, there has been a huge development of infrastructure to accommodate the expected tourism boom and the Greater Mekong Subregion (GMS) project, especially for the provinces that border Laos and Cambodia. With their strategic location on the borders, those provinces become a significant gateway to the ACMECS countries and Indochina.

This chapter reviews 4 Thailand-Laos bordering provinces, which are Nong Khai, Mukdahan, Nakhon Phanom, and Ubon Ratchathani, in some related aspects together with Sa Kaeo and Kanchanaburi provinces. Sa Kaeo, adjacent to the northeastern region, borders Cambodia. Kanchanaburi, in the west of Thailand, not only borders Myanmar but is also the gateway to the forthcoming Dawei deep-sea port. Thus, a total of 6 provinces is the focus. The location of each province can be seen in Figure 3.

Figure 3: Thailand Map and the 6 Focal Provinces



Source: Processed on by author.

To understand the current situation, these 6 provinces are reviewed in various aspects. First, general information of each province is overviewed. Then, the economic structure, agricultural products, livestock, fisheries, mining, and manufacturing products of each province are discussed and compared. The details are .:

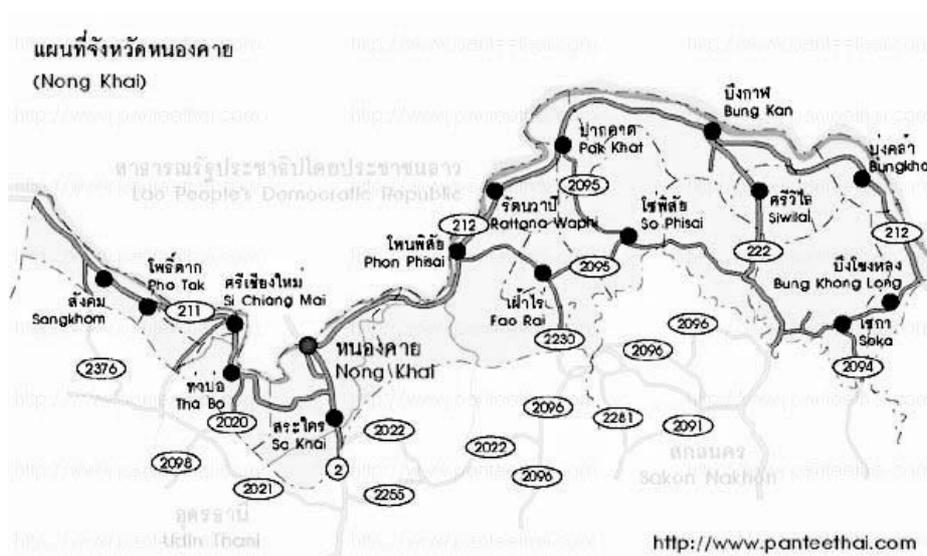
3.1. General Information of the Provinces Bordering the ACMECS Countries

The 6 provinces bordered by Lao PDR, Cambodia, and Myanmar — Nongkhai, Nakhon Phanom, Mukdahan, Ubon Ratchathani, Sa Kaeo, and Kanchanaburi — are the focus. General information of each province is .:

3.1.1. Nong Khai

Nong Khai is the northernmost province of the northeastern (Issan) region. It is 615 km from Bangkok. It borders Vientiane and Borikhamxay of Laos to the north, Sakon Nakhon and Udon Thani to the south, and Bungkan and Loei Province to the east and

Figure 4: Nong Khai Province



Source: www.Panteethai.com.

west, respectively (Figure 4). The Laotian capital Vientiane is only 25 km from the city center of Nong Khai. The province is located in the valley of the Mekong River.

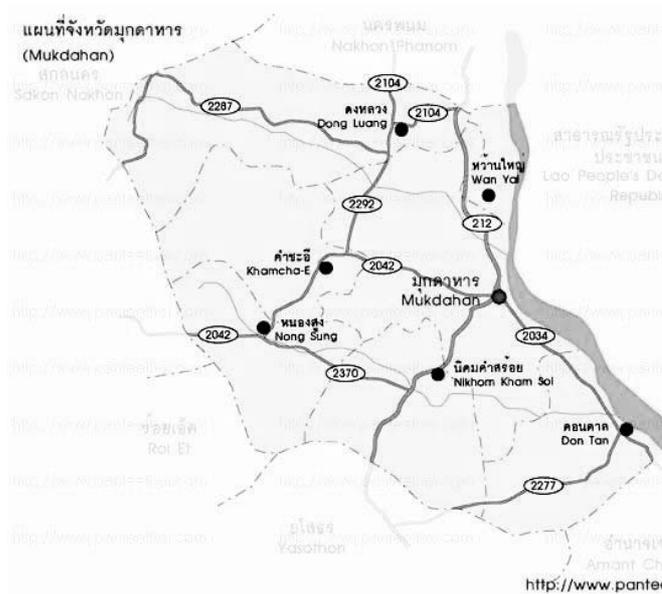
The train station has been relocated near the border, about 500 meters from the international shuttle bus station near the first Thai-Lao Friendship Bridge which is about 4 km from the center of the city. Prior to the establishment of Bungkan Province, Nong Khai was composed of 17 districts. However, as 8 districts including Bungkan were separated and restructured as a new province, only 9 districts exist in Nong Khai, together with 62 sub-districts and 705 villages.

3.1.2. Nakhon Phanom

Nakhon Phanom Province is approximately 735 km northeast of Bangkok. It borders Lao PDR on Khammuane Province and is about 378 km southwest of Ho Chi Minh City, Vietnam. Nakhon Phanom borders Nong Khai Province to the north, Mukdahan Province to the south, the Mekong River along with Khammuane and Borikhamsay Province of Lao PDR to the east, and Sakhon Nakhon Province to the west.

The province is subdivided into 12 districts (*amphoe*) with 7 sub-districts

Figure 6: Mukdahan Map

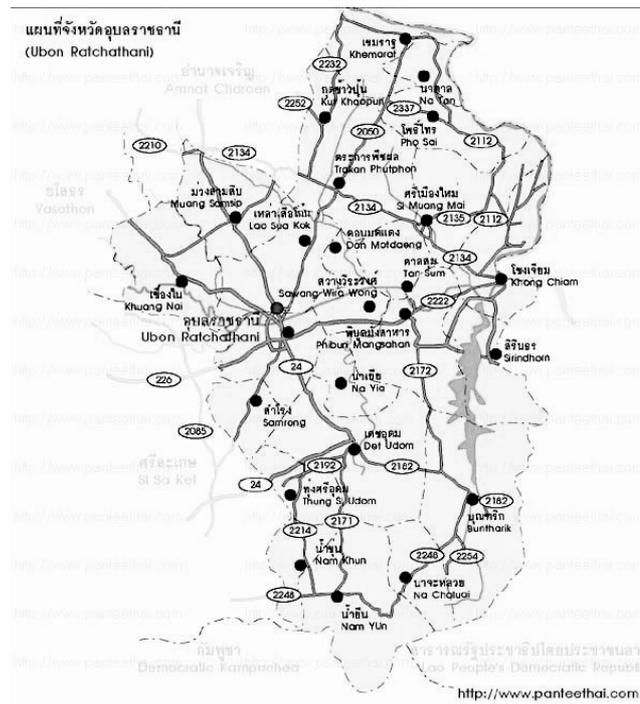


Source: www.Panteethai.com.

Savannakhet of Laos. It is 624 km from Bangkok. The founder of the Mukdahan migrated from Laos to establish the city in the late Ayutthaya period. Mukdahan borders Nakhon Phanom and Sakon Nakhon provinces to the north, Yasothon, Amnat Charoen, and Roi Et provinces to the south, the Mekong River along with Savannakhet Province of Laos to the east, and Kalasin and Roi Et provinces to the west, as seen in Figure 6. The province is subdivided into 7 districts which consist of 52 sub-districts and 526 villages.

Mukdahan is composed of 8 ethnic minorities, namely, Thai *Isaan*, Phu Thai, Thai Kha, Kraso, Thai Kaloeng, Thai Yo, Thai Saek, and Thai Kula. West of the province is the Phu Phan mountains, which are covered with thick forests. It is a land of fantastic natural rock parks and a major gateway to Indochinese countries, especially Laos and Vietnam. The local people of Mukdahan have had a long relationship with the people in Savannakhet Province of Laos. The town also hosts the Indochine Market, a bustling weekend market selling a whole range of items from Thailand, Laos, and Vietnam.

Figure 7: Ubon Ratchathani Map



Source: www.Panteethai.com.

3.1.4. Ubon Ratchathani

Ubon Ratchathani is located on the Khorat Plateau, 629 km northeastern of Bangkok. The ground slopes downward to the east and the Mekong River. Most of the area in the north, west, and center is relatively flat but there are hills and other geographical formations east along the Mekong and in the south bordering Cambodia. At Khong Chiam district, about 84 km from the city center, the Moon River, the biggest river of the Khorat Plateau, joins the Mekong and forms the Maenam Song Si (“two-colored river”), in which blue water from the Moon River is mixed with the brown water from the Mekong River. Ubon Ratchathani borders Amnat Charoen and Yasothon Province to the north, Preah Vihear Province of Cambodia to the south, the Mekong River along with Savannakhet, Champasak, and Salawan provinces of Laos to the east, and Sisaket Province to the west (Figure 7).

There are a total of 26 districts with 219 sub-districts and 2,469 villages. The area where the borders of the three countries of Thailand, Laos, and Cambodia meet is

promoted as the Emerald Triangle, in contrast to the Golden Triangle in the north of Thailand.

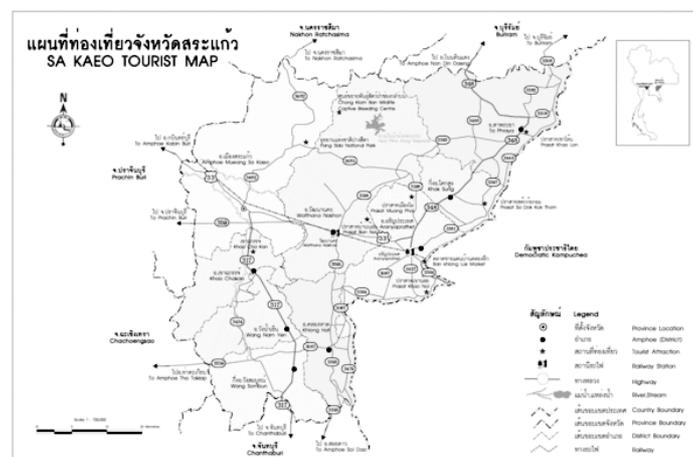
3.1.5. Sa Kaeo

Sa Kaeo is located in the eastern border of Thailand, facing Cambodia at Aranya Prathet district. The province is located in the eastern region of Thailand, not northeastern. The name “Sa Kaeo” was derived from the geographical character of the place. Prior to the Ratanakosin era, King Rama I, on the way to Cambodia, had stopped by the area and found the two ponds, namely “Sa Keao” and “Sa Kwan.” The water from the two ponds was used to show his faithfulness on his duty as the head of the army. Sa Kaeo Province is 237 km east of Bangkok. It connects through 165 km with Cambodia at 4 districts, Aranyaprathet, Klonghad, Taphya, and Khogsun.

Sa Kaeo borders Nakhon Ratchasima and Buriram provinces to the north, Chantaburi Province to the south, Cambodia to the east, and Prachin Buri and Chachoengsao Province to the west, as seen in Figure 8. The well-known Cambodian border Rong Kluea Market is located in Aranya Prathet district of Sa Kaeo Province. This flea market sells a variety of goods, including counterfeit and secondhand products. The business operators are both Thai and Cambodian.

Generally, the area varies from plains to highlands. Highlands and mountains are in the north where Pang Sida National Park is located, while the south is covered with wavy

Figure 8: Sa Kaeo Map



Source: Tourism Authority of Thailand.

plains and hills. Also, there are evergreen forests along the Chanthaburi mountain range. In the central area, there are plains and hills. Sa Kaeo is divided into 9 districts with 58 sub-districts and 731 villages.

3.1.6. Kanchanaburi

Kanchanaburi has been part of Thailand since the pre-history era. Similar to the provinces in the northeastern region, Kanchanaburi has a long history of ancient culture. However, Kanchanaburi town was originally established by King Rama I in 1767 as a first line of defense against the Burmese, who might use the old invasion route through the Three Pagodas Pass on the Thai-Myanmar border. The Thais and Burmese have a long history of cross-border troubles at the Three Pagodas Pass in Sangkhlaburi district.

During World War I, in 1940, the Japanese Imperial Army started construction of the 415-km railway connecting Thailand and Burma (currently called Myanmar). Known as the "Death Railway", it carried supplies to Japanese soldiers in Burma.

Kanchanaburi is the third largest of Thailand's 77 provinces. It is located 130 km west of Bangkok on the bank of the Kwai River. The two River Kwai, Kwai Yai and Kwai Noi, join together as the Mekong River at Pak Prak sub-district. Kanchanaburi borders Myanmar at the northwest for 370 km. There are 43 crossing points along the border. Out of these, there is only one checkpoint for border trade and temporary crossing, the rest being a natural pass. However, there are two crossing points at Baan Iee Tong and Baan Phu Nam Ron that have potential to be developed into a checkpoint for border trade or a permanent crossing point in the future.

Kanchanaburi borders Tak and Uthai Tani to the north, Ratchaburi to the south, Supanburi and Nakhon Pathom to the east, and Myanmar to the west (Figure 9). The province is subdivided into 13 districts, 95 sub-districts, and 959 villages. The province captivates with its natural beauty and the friendly people with their native charm. The gemstones found in the area attract Thais and neighboring people to visit the province. Several scenic sites such as waterfalls, mountains, caves, national parks, and the River Kwai make Kanchanaburi one of the most attractive provinces in Thailand, even for the Thai people.

Figure 9: Kanchanaburi Map



Source: www.Kanchanaburi-info.com.

3.2. Economic Structures of the Provinces Bordering the ACMECS Countries

The economic structures can be seen from the gross provincial product (GPP) compared to the gross domestic product (GDP) of the whole kingdom. Table 1 shows the Thai GDP, gross regional product (GRP) of the northern, northeastern, central, southern, eastern, and western regions, and the GPP of the focal provinces. The size of the population together with the GPP per capita and the ranking order to the region and to the country are shown. The total population of the northeastern region in 2010 was 22,878,000 people, which was about one-third of the total population of the whole kingdom.

The per capita GPP of the northeastern region in 2010 was US\$ 1,636, the lowest region. The per capita GPP of each bordering province was about the same or less than that of the region, which was ranked 61st, 65th, 66th, and 72nd of the 77 provinces of Thailand. This confirmed that the northeast was still the poorest region of the country, even though it was focused on as a significant site for the ACMECS project. The per

Table 1: GDP, GRP, and GPP at Market Prices 2010

Region/ Province	GDP/GRP/ GPP (Million US\$)	Population (1,000 persons)	Per capita GPP (US\$)	Per capita GPP	
				Region	Country
Whole Kingdom	336,827	67,313	5,004		
Northern	32,127.8	12,176	2,638.6		
Northeastern	37,438	22,878	1,636		
Central	26819.7	3,044	8809.5		
Southern	32,741	9,378	3,491.27		
Eastern	54,351.00	4,587	11,847.83		
Western	14,124	3,686	3,832		
Bangkok	139,226	11,562	12,041.43		
Nong Khai	1,464	975	1,501.63	8	65
Nakhon Phanom	969	751	1,289.60	15	72
Mukdahan	567	344	1,647.20	5	61
Ubon Ratchathani	2,802	1,870	1,498.33	9	66
Sa Kaeo ²⁾	1,266.30	550	2,303.03	8	51
Kanchanaburi ³⁾	2,744	791	3,467.40	4	26

Notes: 1) GDP = Gross Domestic Product, GRP = Gross Regional Product and GPP = Gross Provincial Product.

2) Sa Kaeo is in the eastern region.

3) Kanchanab is in the western region.

Source: Office of the National Economic and Social Development Board (2011).

capita GPP of Sa Kaeo and Kanchanaburi provinces were higher than the bordering provinces in the northeastern region, being ranked 51st and 26nd of the whole kingdom, respectively.

To get a clearer picture of the GPP, economic activities that influence the GPP were analyzed. The details are shown in Table 2. Agriculture was the top-ranked economic activity for Nong Khai, Nakhon Phanom, Mukdahan, and Sa Kaeo, followed by trading and retailing. The third-ranked activity for Mukdahan and Sa Kaeo was manufacturing, while for Nakhon Phanom and Nong Khai education was ranked third. The economic activities of Ubon Ratchathani were not different from those of the aforementioned provinces, although agriculture was second not first, with trading/retailing being first. Undoubtedly, agriculture and trading/retailing were the top two industries of the provinces. As most people in the region were farmers, the land used for agriculture was 33 to 56 % of the total area of the province. It is also not surprising that trading and

retailing business ranked first or second, since the groups of Thai-Chinese people in the area have done their trading/retailing businesses for decades from generation to generation. Their long-term skills and knowledge help them handle their businesses successfully.

As stated by Ubon Ratchathani Chamber of Commerce representatives, the provincial retailing business is not only able to compete with major retail chains in Thailand such as Big C, Tesco Lotus, and Makro Discount Stores, but has also expanded to nearby provinces. With the long-term relationship and in-depth understanding of customers and suppliers, they could perform their trading and retailing businesses very well. This serves both the local people and people in neighboring countries, especially Laos. Most consumer products in Laos are imported from Thailand via these provinces. More details on the manufacturing firms, the third rank, are discussed in the next section of this chapter.

Income generated in the educational industry, the third rank of Nong Khai and Nakhon Phanom, seems to be the new trend of the region. As a result of the higher cooperation between Thailand and neighboring countries, and possibly from the GMS and ACMECS projects, it is popular for people in the neighboring countries to send their sons and daughters to learn in the nearby provinces of Thailand. Thus, education is another important industry that should not be overlooked, since it could not only enhance the GPP but also promote intensive understanding and sustainable relationships among people in the ACMECS countries. Education was also ranked in the top 5 highest industries that influence the GPP of Ubon Ratchathani and Mukdahan. Details of the top three industries of the provinces as well as their value are presented in Table 2.

The economic activities of Kanchanaburi Province were not different from those of the bordering provinces in the northeastern region. The GPP was influenced significantly by the same top three industries, which were agriculture, trading/retailing, and manufacturing. However, the shares of these industries were in the same range at 22.10, 19.73, and 19.29 %, respectively.

Table 2: Top Three Provincial Economic Activities in 2010

Province	Economic Activities			
	Rank	Type	Value (US\$ million)	Proportion (% of GPP)
Nong Khai	1 st	Agriculture	410.30	28.03
	2 nd	Trading/retailing	292.03	19.95
	3 rd	Education	176.97	12.09
Nakhon Phanom	1 st	Agriculture	275.87	30.77
	2 nd	Trading/retailing	163.73	18.26
	3 rd	Education	144.50	16.12
Mukdahan	1 st	Agriculture	44.67	21.08
	2 nd	Trading/retailing	37.27	17.67
	3 rd	Manufacturer/factory	23.36	11.08
Ubon Ratchathani	1 st	Trading/retailing	1,154.47	28.70
	2 nd	Agriculture	692.40	18.80
	3 rd	Manufacturer/factory	559.03	15.29
Sa kaeo	1 st	Agriculture	306.83	28.48
	2 nd	Trading/retailing	267.53	24.83
	3 rd	Manufacturer/factory	27.00	11.79
Kanchanaburi	1 st	Agriculture	530.07	22.10
	2 nd	Trading/retailing	473.4	19.73
	3 rd	Manufacturer/factory	462.77	19.29

Source: Office of the National Economic and Social Development Board (2011).

3.3 Agricultural and Mining Products of the Provinces Bordering the ACMECS Countries

Agriculture was the largest sector of the economy in the region. The land holding and utilization report showed that the major land use was for agriculture, which was 54.62 % of the total land area. The high proportion of forest land has no impact on the GRP since the Thai government has promulgated a total ban on logging over the country as of 1989. Thus, the entire forest land has been reserved. None of the forestry wood products could be produced. Details are shown in Table 3.

Among the provinces that border the ACMECS countries, Nakhon Phanom had the highest proportion of agricultural area, i.e. farm holding land, at around 56 %, while Mukdahan had the smallest proportion at 34 %. In contrast, Kanchanaburi, at the west of the country, had only 17 % of the farm holding land while its forest land was around

Table 3: Land Utilization of Thailand by Region and Province, 2008

Area	Total Land (km ²)	Forest Land		Farm Holding Land	
		(km ²)	(% of total)	(km ²)	(% of total)
Whole Kingdom	513,115	171,586	33.44	210,857	41.09
Northern	169,644	95,075	56.04	45,339	26.73
Northeastern	168,854	27,556	16.32	92,236	54.62
Central	103,901	30,261	29.12	41,507	39.95
Southern	70,715	18,694	26.44	31,776	44.94
Nong Khai	7,332	557	7.602	2,777	37.88
Nakhon Phanom	5,513	849	15.4	3,092	56.09
Mukdahan	4,340	1,434	33.04	1,457	33.58
Ubon Ratchathani	15,745	3,035	19.28	6,782	43.07
Sa Kaeo	7,195	1,584	22.01	3,332	46.31
Kanchanaburi	19,483	12,285	63.05	3,332	17.10

Source: Office of Agricultural Economics (2010) and Royal Forest Department (2009).

63 % of the total area. Agricultural products included major crops, livestock, and fisheries. The details are discussed in the following section.

3.3.1. Major Crops

The crops in the region are rice, cassava, rubber, maize, sweet corn, sugarcane, tomatoes, tobacco, and pineapples. The production of major crops in each province in 2009 is reported in Table 4.

Rice and sticky rice was the main agricultural crop of the region. Paddy fields in 2009 accounted for 57.26 % of the agricultural land of the region. Mostly, two harvests are possible each year. Rice produced in Ubon Ratchathani in 2009 accounted for 3.24 % of production in the whole country, while that from other provinces in the list was about 1 % each.

However, the variety of crops was increasingly diversified from rice, including rubber, palm, and so on. Moreover, cash crops such as cassava, maize, and sugarcane were of interest since they are able to be cultivated on a vast scale. Currently, a greater variety and a larger amount of crops are produced in the region. For example, Ubon Ratchathani produces 2 % of the country's cassava and Sa Kaeo makes almost 5 %. The cassava plantation area in Sa Kaeo Province was the third largest in Thailand. There are

Table 4: Production of Major Crops in 2009 Categorized by Type

Region/Province	Major Crops (1,000 Tons)					
	Rice ¹⁾	Cassava	Rubber	Maize	Sugarcane	Palm
Whole Kingdom	316,684	22,006	3,052	4,616	68,808	8,223
North	93,978	4,220	22	2,982	21,757	2.7
Northeastern	112,148	11,710	231	1,005	23,867	31
Central	101,132	6,076	372	629	23,183	740
Nongkhai	374	120	62	1.1	66	9.7
<i>% of total product</i>	1.18	<i>0.54</i>	2.04	<i>0.02</i>	<i>0.10</i>	<i>0.12</i>
Nakhon Phanom	324	47	13	-	66	.07
<i>% of total product</i>	1.02	<i>0.21</i>	<i>0.41</i>		<i>0.10</i>	<i>0.001</i>
Mukdahan	110	309	12	-	901	.10
<i>% of total product</i>	<i>0.35</i>	<i>1.40</i>	<i>0.38</i>		1.31	<i>0.001</i>
Ubon Ratchathani	1,025	425	.011	.68	-	17
<i>% of total product</i>	3.24	1.93	<i>0.35</i>	<i>0.01</i>		<i>0.20</i>
Sa Kaeo	257	973	3	133	1,863	10
<i>% of total product</i>	<i>0.81</i>	4.42	<i>0.10</i>	2.88	2.71	<i>0.12</i>
Kanchanaburi	316	828	9.1	59	6,678	5.4
<i>% of total product</i>	1.00	3.76	<i>0.30</i>	<i>1.28</i>	9.71	<i>0.07</i>

Notes: 1) Rice includes major rice and second rice. Major rice means the rice planted in the rainy season during May to October. Second rice means the rice planted in summer and winter during November to April.

2) Bold number shows the percentage exceeds 1 % of the total product of the country

Source: Office of Agricultural Economics, Ministry of Agriculture and Cooperatives (2010).

two large-sized cassava starch manufacturing firms in the province as well as an additional 87 factories that produce ethanol as an alternative energy product. Of these, cassava is used as the major raw material. Moreover, Sa Kaeo produces 3 % of the maize and sugarcane of the whole country. Nong Khai also produces 2 % of the country's rubber. In addition, the long, narrow bank along the Mekong River of Nong Khai Province is suitable for the plantation of pineapples, tobacco, and tomatoes. Tomatoes are grown on an industrial scale around Sri Chiang Mai district in Nong Khai. Two large-sized tomato processing factories are located in Nong Khai. Silk production is also well known and important in the region.

Even though agriculture is the dominant product that contributes significantly to the economy of the region, growing crops seems to be extremely problematic. The dry climate in summer and winter and unpredictable floods in the rainy season, together with the salty soil, make crop production unreliable. As such, agriculture has been declining in

its importance while the trade and service sectors have been growing in the past two decades.

3.3.2. Livestock and Products

Livestock produced in the region includes buffaloes, swine, beef cattle, dairy cows, and poultry, i.e. broilers, native chickens, layer hens, meat ducks, and layer ducks. As the northeastern region is mostly located on the Khorat Plateau, its climate and environment are appropriate for raising certain kinds of animals, especially cattle and buffaloes.

In 2009, Ubon Ratchathani produced 10.17 % of the buffaloes of the whole country. Nakhon Phanom produced 5 % of the country's buffaloes, while another 5 % came from Nong Khai, Mukdahan, and Sa Kaeo. Besides buffaloes, around 10 % of the beef cattle in Thailand were produced in these provinces, while 6.42 % of all dairy cows in the country were raised in Sa Kaeo. To serve the dairy farm products that are produced in the province, there has been a UHT milk manufacturing firm and a dairy farm cooperative named Wang Nam Yen Diary Cooperative.

A number of native chickens were raised in these provinces. 4 % of all native chickens in Thailand were raised in Ubon Ratchathani and a total of 4 % were raised in Nong Khai, Nakhon Phanom, Mukdahan, and Sa Kaeo. Not many broilers were raised in this area, but about 3 % of layer chickens in Thailand were raised there.

A number of beef cattle, dairy cows, broilers and layer hens were raised in Kanchanaburi, that being 4.08, 5.07, 5.05, and 3.01 % of the country's total, respectively. The rich natural resources of land, weather, and environment promote high agricultural productivity in both crops and livestock in the province. The production of major livestock in the region is concluded in Table 5.

For the individual farmers, most agricultural products are sold to middlemen or the agro-industrial agency who buys the raw products from farmers at the farm sites. The products are then distributed to retailers for domestic consumption, or the agro-processing firms process and sell the products domestically and export them internationally.

Farmers who made contracts with any agro-processing firms must supply all crops and livestock to the contracting firms. The farmers are, mostly, responsible for

Table 5: Production of Livestock in 2010

Province		Livestock (1,000 animals)						
		Buffalo	Swine	Beef	Dairy	Native	Broiler	Layer
Whole Kingdom	Amount	1,191	8,347	6,427	530	71,207	151,115	43,713
	Farmers ¹⁾	258,955	200,145	998,150	20,116	2,485,624	46,754	48,331
Nong Khai	Amount	24	68	60	0.874	975	21	639
	Percent ²⁾	1.98	0.81	0.94	0.17	1.37	0.01	1.46
	Farmers	3,901	1,605	9,006	2	42,537	833	773
Nakhon Phanom	Amount	60	56	118	-	910	34	160
	Percent	5.05	0.67	1.83		1.28	0.02	0.37
	Farmers	12,394	2,040	23,854		41,625	407	297
Mukdahan	Amount	17	12	64	-	427	84	3
	Percent	1.43	0.14	1.00		0.60	0.06	0.01
	Farmers	4,380	1,838	12,868		16,711	161	102
Ubon Ratchathani	Amount	121	110	282	0.224	2,819	402	413
	Percent	10.17	1.32	4.38	0.04	3.96	0.27	0.94
	Farmers	32,943	6,520	60,003	37	96,585	2,207	1,770
Sa Kaeo	Amount	14	27	78	34	585	163	257
	Percent	1.15	0.33	1.21	6.42	0.82	0.11	0.59
	Farmers	1,302	1,476	6,681	1,288	23,209	556	847
Kanchanaburi	Amount	6	141	262	27	868	7,631	1,315
	Percent	0.52	1.69	4.08	5.07	1.22	5.05	3.01
	Farmers	504	2,287	12,293	1,227	21,879	501	362

Notes: 1) Number of farmers is reported by household

2) Percentage of livestock in the province to the whole kingdom is reported

Source: Department of Livestock Development, Ministry of Agriculture and Cooperatives (2011).

plantation, harvesting, or raising the livestock, while the logistics, processing, and marketing are in the hands of the middlemen and the agro-processing firms. However, there has been a cooperative system in Thailand. The group of farmers who produce the same agricultural products may join together and register as a cooperative. The management team of the cooperative takes the role of an agency to do the merchandising with more negotiation power in dealing with the price, amount, and delivery lead time of products that are sold to the agro-processing firms or exporters.

3.3.3. Fisheries and Products

As in other regions of Thailand, the fish and fish products come from local capture fisheries (catch) and aquaculture (farms). The water resources for local capture fisheries are inland water areas such as the Mekong, Moon, and Chi rivers, canals, swamps, and reservoirs. The aquaculture sector is diversified. Fish are raised in earthen or concrete ponds, paddy fields, ditches, and cages in any natural water bodies. The types of fish

being reared and caught in this region are various. The popular ones are Nile tilapia, red tilapia, common carp, common silver carp, Jullien's golden carp, Chinese carp, and catfish. Nile tilapia, red tilapia, and carp are popular for aquaculture since they grow quickly and are easy to manage. Apart from catches, most popular aquaculture in this region is pond rearing followed by the cage system. In 2009, Ubon Ratchathani produced the largest amount of inland fishery products at 22,578 tons or around 3 % of the whole kingdom, followed by Nong Khai, Mukdahan, Nakhon Phanom, and Sa Kaeo, respectively.

The fishery production of Kanchanaburi is in the same pattern of the aforementioned provinces in terms of the total product. However, the ditch and cage system seems to be more popular in this province. It is noticeable that even though the product volumes are about the same, the number of farmers is less than half of those in the northeastern region. The details of fishery production are presented in Table 6.

Inland fishery products are important, not only for trading but also as a vital source of food for local people. Catches of a small amount for sufficient economy are commonly practiced throughout the area. Fishery products from any sources, either capture or aquaculture, that are traded as merchandise may be directly as fish on ice from wholesalers to retailers to customers or to the fish processing factory. The various forms of fish products such as frozen fish, dried and salted fish, fermented fish, or even the new forms of product such as fish cakes, fish balls, and fish sausage, are produced and have

Table 6: Production of Inland Fishery (Including Freshwater Culture) 2009

Province	Total	Catch	Farms	Aquaculture [Farms] Type (tons)				
				Pond	Paddy-f	Ditch	Cage	Farmers
Whole Kingdom	728,734	206,854	521,880	459,030	20,726	5,886	36,238	
Northeastern	195,394	100,996	94,398	82,720	2,112	20	9,546	
Nongkai	9,459	4,972	4,487	4,394	15	0	78	2,398
Nakhon Phanom	5,219	2,405	2,814	2,328	427	0	59	6,336
Mukdahan	6,408	2,045	4,363	3,665	2	0	696	5,727
Ubon Ratchathani	22,578	13,992	8,586	6,525	0	0	2,061	9,426
Sa Kaeo	4,019	1,030	2,989	2,963	2	3	21	2,342
Kanchanaburi	6,620	1,916	4,704	3,276	0	17	1,411	2,547

Source: Department of Fisheries, Ministry of Agriculture and Cooperatives (2010).

become popular. This makes fishery products one of the important economic activities of the region.

3.3.4. Mining and Mineral Products

Non-metallic minerals or industrial minerals such as fluorite, silica sand, limestone, marble, potash, and rock salt have been found in the northeastern region for years, since the land located in the Khorat and Sakon Nakhon plateaus is underlain by a sequence of rock salt and potash. One salt rock mine has been operated in Ubon Ratchathani while 4 limestone mines are operating in Sa Kaeo Province. Sand and gravel, as raw materials for construction and building, are also found in the region. There are 53 firms operating sand mining in Nong Khai, 7 in Nakhon Phanom, and 10 in Mukdahan. There are also 20 gravel mines in Nakhon Phanom. Other ores such as marble, magnesite, manganese, chromites, calcite fluorite, and iron are also found in Sa Kaeo Province but they are currently not produced commercially. The mineral products of the whole northeastern region from 2003 to 2009 are presented in Table 7.

The ores found in Kanchanaburi Province, in the western part of Thailand, are different from those of the northeastern region. The ores found in Kanchanaburi are gemstones, feldspars, quartz, dolomite, and kaolin (China clay or white clay). Rubies and sapphires are the well-known gemstones of Kanchanaburi. There are currently 36 business operators who hold the mining concession in the province. Besides that, there

Table 7: Mineral Products in Northeastern Region in 2003-2009

Type/Year	Mineral Product (1,000 Tons)						
	2003	2004	2005	2006	2007	2008	2009
Limestone	8,060.2	9,583.2	12,373.4	11,321.2	9,657.4	8,362.9	9,413.6
Basalt	820.3	8,648.2	9,779.4	9,336.5	9,789.1	8,856.6	10,358.2
Salt Rock	892.2	1,031.2	1,074.2	1,008.3	1,134.9	1,211.6	1,376.07
Iron Ore	n/a.	n/a.	43.0	258.3	1,445.9	1,601.5	309.5
Barite	9.1	5.1	3.99	4.6	4.3	2.5	1.98
Marble	9.5	6.9	4.5	1.6	.96	.10	.90

Source: Department of Primaries and Mines, Ministry of Industry Thailand (2010).

are 7 stone mines in the province. The mineral and stone mines contributed US\$ 57.5 million or around 2.5 % of the GPP of Kanchanaburi in 2009.

3.4. Manufacturing Firms in the Provinces Bordering the ACMECS Countries

The manufacturing industry is another important part that contributes to the economic growth of Thailand. The manufacturing industry has spread from the capital city and its vicinity to other provinces based on several reasons, especially lower logistics, transportation, and labor costs and increasing marketing opportunities. Not only large-sized firms are important to the Thai economy, as the small and medium enterprises (SMEs) also significantly influence the national economy. SMEs indirectly contribute to economic growth by creating opportunities for more local employment.

In northeast Thailand, the manufacturing industry expands rapidly since various raw materials are available in the area. Raw materials such as agricultural products, minerals, and construction materials like gravel, rock, soil, and sand, together with the availability of low-cost labor, enable firms to operate their businesses effectively and efficiently. In addition, the strategic location of the bordering provinces in which the cross-border trade

Table 8: Factories and Investment of Establishments in 2010

Provinces	Number of factories	Investment of establishments (US\$ million)	Labors (persons)
Nong Khai	1,227	169	7,969
Nakhon Phanom	327	70	3,898
Mukdahan	219	104	2,740
Ubon Ratchathani	938	515	12,810
Sakaeo	466	306	11,870
Kanchanaburi	1,425	1,540	29,740

Note: The number of factories includes group 2 and group 3 factories. Group 2 factories are the type, kind, and size that when engaging in a factory business must be notified in advance to the grantor. Group 3 factories are the type, kind, and size as to be granted a permit prior to the engagement.

Source: Department of Industrial Works, Ministry of Industry (2011) and Statistical Forecasting Bureau, National Statistical Office, Ministry of ICT (2011).

of goods and services is commonly performed would also encourage investors to invest in the region. The details of the factories and investments are shown in Table 8.

There were a total of 42,406 factories in the northeastern region in 2010: 1,227 factories in Nong Khai, 327 factories in Nakhon Phanom, 219 factories in Mukdahan, 938 factories in Ubon Ratchathani, and 466 factories in Sa Kaeo. In 2010, Nong Khai had a total of 1,227 factories with a total investment of 169.33 million US\$ and 7,969 laborers. Among these, 704 factories or 61.53 % were SMEs with less than US\$ 334 thousand (10 million THB) investment, 166 factories or 14.51 % were medium-size with US\$ 334-3,334 thousand (10-100 million THB) investment, and 274 factories or 23.95 % were large-size with more than US\$ 3,334 thousand (100 million THB) investment. Most of them were SMEs that produced canned sweet corn, tomato ketchup and tomato juice, rubber boxes, and rice (rice mills). Major agricultural products produced in the provinces, such as tomatoes, rubber, sweet corn, and rice, were utilized by these factories.

For Nakhon Phanom, there were 327 factories with US\$ 69.99 million investment and 3,898 laborers. Out of this, 290 factories or 88.96 % were SMEs with less than US\$ 334 thousand (10 million THB) investment. Most of them were tomato processing factories, window and door frame factories, metal welding factories, and car repair garages. The next 23 factories or 7.06 % were medium-size with US\$ 334-3,334 thousand (10-100 million THB) investment. The businesses handled by this group were jewelry, electronic parts manufacturing, and ready-mixed concrete. The remaining 5 factories were large-size with more than US\$ 3,334 thousand (100 million THB) investment. The sweet corn processing and aquatic animal (food) frozen and processing factories were in this group. In addition, there were a total of 9 rice mills in the province.

Mukdahan, in 2010, had a total of 219 factories with US\$ 104 million investment and 2,740 laborers. All factories were SMEs. 19 of them were in the agro-industry producing cassava starch, sugar, and rice (rice mills). The rest of the firms were in transportation and metal welding, among other areas. 938 factories were registered in Ubon Ratchathani with investment of US\$ 514.63 million and 12,810 laborers. Out of this, 798 factories or 85.07 % were SMEs with less than US\$ 334 thousand (10 million THB) investment. Most of them were rice mills, ready-mixed concrete factories, wooden furniture manufacturers, metal welding firms, and car body repair garages that serve both Thai and Lao customers.

Some 118 factories or 12.58 % were medium-size and the remaining 23 factories or 2.34 % were large-size with more than US\$ 3,334 thousand (100 million THB) investment. The medium and large-size firms mostly handled wood processing, steel processing, and rice milling.

In Sa Kaeo, there were 466 factories with US\$ 305.67 million investment and 11,870 laborers. The factories are focusing on food processing, paper and paper products, beverages, wood processing and wood products, furniture, ethanol for alternative energy, and other agro-industrial products. Last but not least were about 1,452 factories with US\$ 1540.0 million investment and 29,740 laborers in Kanchanaburi Province. Major products produced in the province were sugar, alcoholic beverages, paper and paper products, and fertilizer.

3.5. Cross Border Trade in the Provinces Bordering the ACMECS Countries

Thailand's trade with the ACMECS countries is in surplus most of the time, except that of Thailand-Myanmar if natural gas is included and that of Thailand-Lao PDR a couple of years ago. As Thailand does not border Vietnam, the cross-border trade between these parties is not reported here. Cross-border trade with Cambodia is commonly done in the bordering provinces, which are Sa Kaeo, Trad, Chantaburi, Surin, Sisaket, and Ubon Ratchathani. The total trade value was US\$ 1,909 million in 2010. Cross border trade was done the highest at Sa Kaeo and the second highest at Trad Province. Mostly, export value from Thailand to Cambodia is higher than from Cambodia to Thailand. The major export products are motorcycles and parts, sugar, vehicle tires, cement, and auto parts, while the major import products are scraped steel and cow skin. Sa Kaeo also has a Thai-Cambodian border market place, namely the Rong Kluea Market, which is a flea market that sells a variety of goods, including counterfeit and secondhand products. The business operators are both Thai and Cambodian, while the customers are both locals and tourists from other provinces and even other countries. Border trading at this market contributes largely to the total border trade value. Thailand-Cambodia trade value at Ubon Ratchathani is low since there is only one checkpoint at Chong Anma, where the road infrastructure is not in good condition. Hence, freight transportation via this border checkpoint is inconvenient. As such, only a small amount of consumer products for local

Table 9: Border Trade Value in 2007-2010 (US\$ million)

Province	2007		2008		2009		2010	
	Export	Import	Export	Import	Export	Import	Export	Import
Thai-Cambodia Border Trade								
Sa Kaeo	595.69	45.14	891.66	71.92	715.22	64.65	963.45	124.67
Trad	492.48	1.68	551.50	1.15	599.91	1.66	631.65	2.08
Chantaburi	54.66	19.85	70.20	30.19	56.88	28.54	76.69	46.35
Surin	15.91	0.87	27.38	1.86	24.79	1.71	29.74	0.91
Si Saket	16.10	0.95	45.64	1.91	30.19	6.17	23.98	1.13
Ubon Ratchathani	0.00	0.00	8.60	0.00	10.33	0.00	8.73	0.00
Total	1,174.84	68.48	1,594.98	107.03	1,437.31	102.72	1,734.25	175.13
Trade Value	1,243.32		1,702.02		1,540.04		1,909.38	
Thai-Laos Border Trade								
Nong Khai	791.00	52.01	969.06	68.42	1035.97	77.15	1204.61	93.30
Bung Kan	157.04	20.04	153.25	17.31	172.83	9.38	167.77	6.68
Nakhon Phanom	123.25	25.12	136.84	42.35	121.58	50.28	137.89	51.59
Mukdahan	211.55	421.81	343.27	457.96	262.50	314.08	790.31	485.16
Ubon Ratchathani	123.83	22.72	192.23	28.33	182.26	33.24	265.69	38.49
Loei	42.81	32.66	66.72	31.12	52.06	46.14	57.79	35.19
Total	1,449.48	574.37	1,861.37	645.48	1,827.20	530.26	2,624.05	710.42
Trade Value	2,023.85		2,506.85		2,357.46		3,334.46	
Thai-Myanmar Border Trade at Kanchanburi Province								
All Products	220.03	119.45	216.35	103.76	514.00	107.6	2,114.24	299.41
Natural Gas		71,922.43		103,880.55		87,644.32		82,975.99
Total	220.03	72,041.88	216.35	103,984.31	693.42	87,751.92	2,114.24	83,275.41
Trade Value	72,261.91		104,200.66		88,445.34		85,389.65	

Source: Department of Foreign Trade, Ministry of Commerce (2011).

use is traded here. The details are shown in Table 9.

Border trade with Laos is performed in many provinces such as Nong Khai, Bung Kan, Nakhon Phanom, Mukdahan, Ubon Ratchathani, and Loei. The total trade value in 2010 was US\$ 3,334.46 million. The highest trade value was at Nong Khai, followed by Mukdahan and Ubon Ratchathani, respectively. Exports from Thailand to Laos prior to the EWEC were much larger than the Lao exports to Thailand. The large expansion of copper shipments from Laos to Thailand in the early 2000s has reversed that pattern. However, after the opening of the Second Thai-Lao Friendship Bridge in 2007, the export value from Thailand to Laos became significantly higher whereas the import value has not changed.

The sufficient infrastructure of Nong Khai such as the first Thai-Lao Friendship Bridge and the train to Laos makes it convenient to access Vientiane and Than Nalang, the in-land logistics node. This promotes efficient cross-border freight transportation. The major export products of Nong Khai are gasoline, vehicles and auto parts, and construction machines, while the major import products are processed wood and left-driving cars and parts. Border trade value at Mukdahan is continuously growing after the opening of the Second Thai-Lao Friendship Bridge in 2007. The major export products of Makdahan are hard disk drives and other computer parts, gasoline, consumer products, and vehicles and auto parts, while the major import products are machines, apparel, electronics parts, agro-products and most important, copper. Border trade value at Ubon Ratchathani diminished for years to become third in 2010 since the import of cooper has been shifted to Mukdahan. Currently, the major export products to Laos are gasoline, consumer products, construction materials, cars, tractors, fertilizer, power production, and chemicals, while the major import products include processed wood, cabbage, and bananas. The border trade value of Nakhon Phanom was 4th in the list. The major imported/exported products were not much different from those of Ubon Ratchathani. However, the forthcoming Third Thai-Lao Friendship Bridge is expected to contribute to a large expansion of the border trade value of Nakhon Phanom.

Myanmar is the only country that gains a huge trade surplus with Thailand. A number of products are substantially imported from Thailand, but because of the increasing demand for natural gas, the total import value of Kanchjanaburi is much higher than the export value. The major export products of Kanchanaburi are milk, supplementary food, snacks, and other food products, while the major import products are buffaloes, beef cattle, and raw materials for shoe manufacturing.

4. REVIEWS OF THE REGIONAL DEVELOPMENT PLAN

Because of the region's long history, the relationship between Thailand and neighboring countries has existed for centuries. However, there has not been substantial progress in terms of trade and investment in this decade. Thailand is now a trading partner and investor in Cambodia, Lao PDR, Myanmar, and also Vietnam. Trade volumes and

values between Thailand and neighboring countries increased continuously based on the high demand for construction materials, construction and manufacturing machines, vehicles and parts, gasoline, electronics and electrical appliances, consumer goods, and also some professional services of the neighbors, as well as the demand of Thailand for raw materials, labor, fuel (natural gas), minerals, and other resources from the neighbors. As such, Thailand maintains the policy of building long-term relationships and strategic partnerships with all neighboring countries to enhance the competitive advantages of the region and share benefits among ACMECS countries. The financial and technical assistance would help generate higher income and improve the life quality and living conditions of people in the region in the big picture. Besides the national policy, each bordering province also has its own policy to promote and facilitate relationships and cooperation on the provincial level that would be more effective and practical for each area. For a clearer picture, the development plan of each province is discussed in detail.

4.1. Nong Khai

The sister city of Vientiane, Nong Khai has a policy to develop as the first-ranked “healthy city” of the northeastern region. As such, some strategic plans are developed to:

- Strengthen the potential of labor, community and society
- Add value to and raise the standard of agricultural product quality
- Improve the environmental and natural resource management
- Enhance the quality of logistics and transportation management
- Promote more variety of both agricultural and non-agricultural products

Nong Khai has gained a lot of profit from the first Thai-Lao Friendship Bridge. Freight transportation can be done straight to the distribution center in Laos. However, the freight transportation to a third country such as Vietnam or China is still not much since the custom procedures are complicated and unstable. This discourages business operators from performing border trade with Laos as well as import-export with Vietnam and China via the EWEC. Thus, the province is trying to deal with this issue to promote more cooperation with ACMECS countries. However, as it is beyond the scope of duty of the province, negotiation and agreement on the national level is required. In

addition, to promote cross-border trading, the province is trying to develop the special border zone (SBZ) to help business operators gain tax privileges and other benefits.

4.2. Nakhon Phanom

The Third Thai-Lao Friendship Bridge is expected to help change the picture in Nakhon Phanom Province. As it is located 8.8 km from the city center of Nakhon Phanom and 13 km from the city of Thakek in Khammoune Province of Laos, it can provide easy access to Routes No. 8, 12, and 13 and reaches the Vung Aug deep-sea port in Vietnam in 270 km. The road could also access Vinh and Ha Tinh of Vietnam and Guangzhou, China, in 1,029 km. Currently, in cooperation with business operators, the province has set up several business matching events with business operators in Laos, Vietnam, and China. This is to promote international trade via the EWEC to ACMECS countries and China, and has generated some successful business agreements. However, as some roads in Laos and Vietnam are not in good condition and Route No. 12 is not covered by GMS and CBTA, transportation via this route is not possible at this moment. Moreover, the 2 to 6 % charged together with the 1.5 % tax charged at the Laos crossing point discourages business operators from transporting their freight via this channel (fruit and plastic charge is 6 %, electrical appliances charge is 4 %, and apparel charge is 2 %; all plus the 1.5 % tariff). For the Thai side, the province is trying to develop an SBZ to help business operators gain tax privileges but for the Lao side it, again, may be beyond the authority of the province to reduce or make a free tax for transit goods. Negotiation and agreement on the national level is required.

4.3. Mukdahan

As the “border gateway” of the EWEC, Mukdahan Province currently gains benefits from the Second Thai-Lao Friendship Bridge that can access Route No. 9 to Savannakhet of Laos, the Danang deep-sea port, and other nearby cities in Vietnam. The border trade value increases over time, period by period. Business matching with Lao, Vietnamese, and Chinese business operators has been done successfully. However, freight transportation via the Danang seaport to China and other countries is rarely done at this moment since the availability of the ship lines is low and the freight charge is high. When comparing the overall transportation cost and lead time, shipping goods via the

Leam Chabang seaport in the eastern part of Thailand is more economical. As such, the ACMECS countries could not gain full benefits from the EWEC. However, this problem should also be considered and solved on the national level.

In addition, the Industrial Estate Authority of Thailand plans to establish a logistics center and industrial estates in Mukdahan near the Second Thai-Lao Friendship Bridge. Moreover, an SBZ is planned for development in the province to promote more production of agriculture and food processing, consumer products, automotive parts and motorcycles, and agriculture machinery and equipment for export to Laos and Vietnam via this route. This would promote more investment and, in turn, enhance the border trade and export value and volumes in the near future.

4.4. Ubon Ratchathani

With its land connection with Laos and the permanent crossing point at Chong Mek, Ubon Ratchathani's relationships and border trade seem to be settling down. The focal areas of the province's development are the enhancing of production and product quality of the agro-industry, retailing, trading, and tourism, as well as the quality of life of the people. The restructure of the management in agriculture and the agro-industry, water resource management for agriculture, manufacturing, and marketing will be done in the big picture.

4.5. Sa Kaeo

With the intention to be the "Indochina logistics node", Sa Kaeo plans to improve its logistics and product distribution system to become the product distribution center to Cambodia and other countries. It is trying to set up more border crossing points with sufficient facilities, since there is huge demand for several products at the borders. Moreover, Sa Kaeo has a policy to improve the productivity of its agro-products, promote eco-tourism in the province, and enhance the quality of life of the people by increasing human potential via the learning process and knowledge management. This would promote the province to be the "healthy city of the eastern region." The current problem of the province is the migration of a large amount of illegal laborers from Cambodia who work in the province and also move to nearby provinces and Bangkok, the capital city. However, there is no clear action plan to solve this problem intensively.

4.6. Kanchanaburi

Three key strategic plans of Kanchanaburi Province are: 1) to enhance the production efficiency of the agricultural products for both local consumption and export, 2) to promote and enhance cross-border trade, and 3) to improve the tourism industry.

There are a total of 43 natural passes to Myanmar, since its border is 370 km long. However, the cross-border trade is performed mostly at the Three Pagodas Pass at Sangkhlaburi district, as it is the only checkpoint for border trade and the only temporary crossing point. Currently, the province is attempting to upgrade two crossing points from the natural pass. One is at Baan Iee Tong, Thong Pha Phoom district, and another one is at Baan Phu Nam Ron in Muang Kanchanaburi district to serve for the Dawei seaport project in Myanmar. The construction of road infrastructure to Baan Phu Nam Ron, and also the deep-sea port in Dawei, the custom house and other office buildings at the Baan Phu Nam Ron crossing point, would facilitate higher border trade volume and value in the future when this seaport is fully operational. Kanchanaburi itself is expected to earn huge profits and economic growth from this project.

All provinces develop and propose their own projects that are suitable for the specific situation and environmental surroundings of the region. All provincial policies are in line with the national policy that aims to promote cooperation among ACMECS countries in 6 areas: 1) trade and investment facilitation, 2) agricultural and industrial cooperation, 3) sport linkages, 4) tourism cooperation, 5) human resources development, and 6) public health. These have been developed and implemented. Currently, there is a lot of cooperation on trade and investment facilitation, while other cooperation is still not at the same level of trade and investment.

SUMMARY

Thailand has a strong policy to promote cooperation among the ACMECS countries in all aspects. Financial and other support has been given to the ACMECS countries while the development of the infrastructures, facilities, and policies has been done in all provinces that are bordering the ACMCES countries. The 6 focal provinces play active

roles in improving and developing their infrastructures and policies to promote cross-border trade, transportation and other cooperation between the provinces and the adjacent areas in the neighboring countries. A lot of projects on trade and investment facilitation, and agricultural and industrial cooperation have been proposed and implemented. The linkages of the business activities that contribute highly to the gross provincial profits, i.e. agriculture, trading/retailing, education, and manufacturing, of the neighboring countries are highlighted. The cross-border trade increases gradually year by year. However, more checkpoint border trade and permanent border crossing points between Thailand and neighboring countries are required, while more facilities are also needed in some existing checkpoints.

Another benefit from the ACMECS is the cross-border freight transportation since the East-West and North-South corridors and other road infrastructures are constructed. The road infrastructure in Thailand is mostly in good condition. Most main roads along the country are 4 to 10 lanes paved. To cross the Thai border into Laos, Route No. 1 from Bangkok to Saraburi has to be taken. Then, many roads can be used to reach the bordering provinces since most of the roads in the northeastern region are networked. The 4 popular routes to cross the Thailand-Laos border are 1) Nongkhai-Vientiane via the first Friendship Bridge, 2) Nakhon Phanom-Thakek via the Third Thai-Lao Friendship Bridge, 3) Mukdahan-Savannakhet via the Second Thai-Lao Friendship Bridge, and 4) Ubonratchathani-Pakse.

To cross the border into Cambodia, Poipet is the biggest crossing point among the 67 Thailand-Cambodia crossing points. It is located in Aranya Prathet district, Sa Kaeo Province. Also, there are many crossing points between the Thailand-Myanmar border. However, only Baan Phu Nam Ron is emphasized in this chapter regarding the Dawei deep-sea port mega project, which is a cooperation between Thailand and Myanmar. The cross-border freight transportation is the current interest of the firms that provide freight forwarding and logistics service. The communications and promotion of the cross-border (road) transportation as an alternative for freight transportation to Vietnam and China are offered to the Thai exporters. However, besides the imperfect road infrastructure, there are a couple of operational problems that need to be solved where the results must be respected by all ACMCES countries. First is the permission for the

trucks from one country to pass through all neighboring countries. As for the current practice, the trucks from one country can enter some countries in a limited area, e.g. 3 to 10 km except that Laos exchanged traffic rights with the 4 neighboring countries, while the trucks from the members that are not adjacent to one county are not allowed to get in or pass through. Thus, the waiting time and excessive cost for changing trucks arise. Second is the tax and other charges on border crossing procedures, and third is the complicated, un-standardized and different border crossing procedures of the member countries and also of the crossing points. Last but not least is the unequal freight charges and transportation lead times of the different seaports. As the Laem Chabang seaport in Thailand has high utilization rates, the availability of the ship lines are higher than at other seaports. As such, the freight can be shipped to a third country quickly with less freight charges. Therefore, some Thai exporters prefer to use the Laem Chabang seaport over others, even if the distance to Laem Chabang is longer. These problems may be solved at the policy level. The discussion among ACMECS parties on these issues should be emphasized.

The road infrastructure in terms of the routes, distances, and conditions from Bangkok to the bordering provinces, and to Laem Chabang, and from each province to the neighboring countries is concluded in Table 10.

Table 10: Cross-Border Road Infrastructure (Continues)

Origin	Destination	Route No.	Distance¹⁾ (km)	Road Condition*
Bangkok to bordering provinces				
Bangkok	Nong Khai	No.1, No.2	615	Mostly 4-lane, paved, Good condition
	Nakhon Phanom	No.1, No.2, No.23, No.213, No.22	740	
	Mukdahan	No.1, No.2, No.207, No.212	642	
	Ubon Ratchathani	No.1, No.2, No.24, No.2085, No.2178	630	
	Sa Kaeo	No.1, No.33 or No.3, No.33	245	
	Kanchanaburi	No.4, No.323	129	
	Laem Chabang	Outer Ring West, Outer	130	
	Deep Seaport	Ring South, No.34, No.7		

Table 10: Cross-Border Road Infrastructure (Continued)

Origin	Destination	Route No.	Distance ¹⁾ (km)	Road Condition*
Nong Khai – Vientiane (via the 1st Friendship Bridge)				
Nong Khai	Vientiane	Cross border at Nong Khai -Thanaleng	25	4-lane paved Good condition
Nakhon Phanom – Thakek, Vung An Port and Hanoi via the 3rd Friendship Bridge				
Nakhon Phanom	Thakek	No. R12, Cross border at (Laos)- (Vietnam)	270	2-lane paved road, good condition
Thakek	Na Phao border			
Cha Lo Border	Vung Ang Port	No. R15, No. R12	400	
Vung Ang Port	Hanoi	No. 1A		
Mukdahan – Hanoi (via the 2nd Friendship Bridge)				
Mukdahan	Savannakhet	No. 9E	250	2-lane paved; road, good condition
Savannakhet	Lao Bao	No. 9E		
Lao Bao	Hanoi	No. 1	660	
Ubon Ratchathani – Danang				
Ubon Ratchathani	Thai Border: Chong Mek	Route No. 217, Cross border at - Laos).	90	4-lane paved; good condition
Vangtao Border	Pakse	Para-EWEC2 (No. 14)	349	Most are 2-lane paved fairly good condition, Some parts are bad (≈4km)
Pakse	Attapeu			
Laos-Vietnam	Kon Tum	cross border at Phukeya (Laos)- Bo Y	383	
Border				
Kon Tum	Danang	No.40, No.1, No.14E, No.14		
Sa Kaeo (Aranya Prathet) – Phnom Penh and Ho Chi Minh City				
Aranya Prathet	Phnom Penh	No. 5	421	2 lane paved road, most are good/condition
Phnom Penh	Ho Chi Minh City	No. 1	241	
Kanchanaburi – Dawei				
Dawei	Baan Phu Nam Ron	Under construction	160	
Baan Phu Nam Ron	Kanchanaburi city	No. 323	70	4 to 10 lane-paved road; Good condition
Kanchanaburi city	Bangkok	No. 4, No. 338	99	
Bangkok	Leam Chabang	Outer Ring West, Outer Ring South, No. 34, No. 7	130	
	Deep Seaport			

Source: 1) Made by the author in accordance with the field survey data and interviews with the logistics service providers.

REFERENCES

- Asian Development Bank (2009) *Thailand Country Report on 13th Meeting of the GMS Sub-regional*, available at www.adb.org/Documents/Events/Mekong/Proceedings/STF-Appendix3.5.pdf, retrieved on August 3, 2011
- Transport Forum (STF) available at www.adb.org, retrieved on August 17, 2011
- Asian Development Bank (2010) *Strategy and action plan for the Greater Mekong Subregion East–West Economic Corridor*. Mandaluyong City, Philippines: Asian Development Bank.
- Jewyam, W. (2010) *A Study on Water Quality and Status of Fishery Resources for Conservation of Wetland: Bung Khong Long, Nong Khai Province*, Research report, available at http://www.nkc.kku.ac.th/rdc/Research_Navamin52.Pdf
- The Nation (2010) 5 ACMECS nations to support new trade lane linking Thailand, Burma, Malaysia, *The Nation Newspaper*, November 18, 2010
- Office of the National Economic and Social Development Board. (2006). *Thai Policy on Cooperation with Neighboring Countries*, retrieved from www.nesdb.go.th on August 28, 2011.
- Office of Agricultural Economics (2010) *Agricultural Statistics of Thailand, 2009*, available at <http://www.oae.go.th> retrieved on August 15, 2011.

Website

- ACMECS (<http://www.acmecs.org>)
- ADB: Asian Development Bank (<http://www.adb.org>)
- Bureau of Trade Initiatives, Department of Foreign Trade, Ministry of Commerce (<http://www.dft.moc.go.th>)
- Department of Agriculture, Ministry of Agriculture and Cooperatives (<http://www.doa.go.th>)
- Department of Fisheries, Ministry of Agriculture and Cooperatives (<http://www.fisheries.go.th>)
- Department of Foreign Trade, Ministry of foreign Affairs (<http://www.dft.go.th>)
- Department of Highways, Ministry of Transport (<http://www.doh.mot.go.th>)

Industrial Estate Authority of Thailand: IEAT, Ministry of Industry
(<http://www.ieat.go.th>)

Kanchanaburi Information (www.kanchanaburi-info.com)

Kanchanaburi Province (<http://www.kanchanaburi.go.th>)

Kanchanaburi Provincial Livestock Office Z (http://www.dld.go.th/pvlo_knr/)

Mukdahan Chamber of Commerce (www.mukdahanchamber.com)

Mukdahan Province (www.mukdahan.go.th)

Mukdahan Provincial Livestock Office (www.dld.go.th/pvlo_man/)

Nakhon Phanom Chamber of Commerce (www.nkchamber.com)

Nakhon Phanom Province (www.nakhonphanom.go.th)

Nakhon Phanom Provincial Livestock Office (www.dld.go.th/pvlo_kop/)

Neighbouring Countries Economic Development Cooperation Fund: NECF (Fiscal Policy Office), Ministry of Finance (<http://www.fpo.go.th>)

Nong Khai Chamber of Commerce (www.nongkhaichamber.com)

Nong Khai Province (www.nongkhai.go.th)

Nong Khai Provincial Livestock Office (www.dld.go.th/pvlo_Nok/)

Office of Agricultural Economics, Ministry of Agriculture and Cooperatives
(<http://www.oae.go.th>)

Office of Industrial Economics, Ministry of Industry (<http://www.oie.go.th>)

Office of the National Economic and Social Development Board (www.nesdb.go.th)

Royal Forest Department, Ministry of Natural Resources and Environment
(www.forest.go.th)

Sa Kaeo Province (www.sakaeo.go.th)

Sa Kaeo provincial Livestock office (www.dld.go.th/pvlo_srkl/)

Thailand International Development Cooperation Agency: TICA, Ministry of Foreign Affairs (WWW.tica.org)

Thailand Map (www.panteethai.com)

The Kanchanaburi Chamber of Commerce (<http://kanchamber.com>)

The Ubon Chamber of Commerce (www.ubonchamber.org)

Ubon Ratchathani Province (www.123.242.163,1:8050/province/homepage/city/php)

Ubon Ratchathani Provincial Livestock Office ([/www.dld.go.th/pvlo_ubt/](http://www.dld.go.th/pvlo_ubt/))

Ubon Ratchathani Provincial Operation Center (UBPOC) (www.ubonratchathani.go.th)