

CHAPTER 2

Economic Sub-corridors and Potentials for Regional Development in Lao PDR

Vanthana Nolintha

This chapter should be cited as:

NOLINTHA, Vanthana 2012. “Economic Sub-corridors and Potentials for Regional Development in Lao PDR” in *Emerging Economic Corridors in the Mekong Region*, edited by Masami Ishida, BRC Research Report No.8, Bangkok Research Center, IDE-JETRO, Bangkok, Thailand.

CHAPTER 2

ECONOMIC SUB-CORRIDORS AND POTENTIALS FOR REGIONAL DEVELOPMENT IN LAO PDR

Vanthana Nolintha

INTRODUCTION

Following the policy of the government in transforming Lao PDR from land-locked to land-linked status, there have been substantial investments in transport infrastructure. Such initiative is driven by developing partners, mainly the Asian Development Bank (ADB), through the Greater Mekong Sub-region (GMS) framework and bilateral cooperation between Laos and its neighbors. This gives birth to the economic corridor development concept, focusing on developing the transport infrastructure to connect Lao PDR with her giant neighbors, including the construction of the East-West Economic Corridor (EWEC) and the North-South Economic Corridor (NSEC), and the promotion of economic opportunities along the corridors. Road development has a major role to play in poverty reduction (Oraboune, 2008) and strengthening private sector development in Lao PDR (Oraboune, 2007). Many quantitative studies suggest that infrastructure development such as the construction of regional highways could lead to an increase in the welfare of Laos and other GMS member countries through reduction in regional transport cost and time, while improvements in the soft measures of connectivity will increase the magnitude of the positive spillovers (Kumagai et al, 2007; Stone and Strutt, 2009; Banomyong, 2007). Moreover, the construction of the international bridges crossing the Mekong River is very crucial for the maximization of the benefits from the regional highway development projects (Tan, 2009; Leebouapao, Insisienmay and Nolintha, 2010).

The government of Laos has gradually improved the trade and investment climate in the country with the objective of facilitating the private sector to maximize the benefits

from this increased connectivity and integration. Some of the latest initiatives include the removal of the bridge toll stations across the country, the beginning of one-stop service for investment registration,¹ the establishment of the national trade facilitation committee² and the ending of the goods transport permit.³

Despite the massive investment in hardware, together with gradual reforms in trade and investment regulations, the expansion of trade and investment in the sub-region and in Lao PDR in particular remains below expectations and the transport cost has not reflected this development. To a certain extent, this is due to the slower progress in improvement of the soft measures of the connectivity, such as the Cross Border Trade Agreement (CBTA). The ability of the domestic private sector to absorb and integrate into such development also explains some of the problems. Moreover, in order to increase transport route options for Lao exports and further enhance the connectivity of Lao PDR from various regions, there is a need to explore the possibilities for developing other alternative routes or corridors to connect each regional center to the seaports in the neighboring countries, especially Vietnam. These include Routes No. 6 and No. 7 which connect the northern region of Laos, Route No. 8 and Route No. 12 connecting the central region of Laos, and Route No. 16 and Route No. 18 that help connect the far south of Laos (Figure 1).

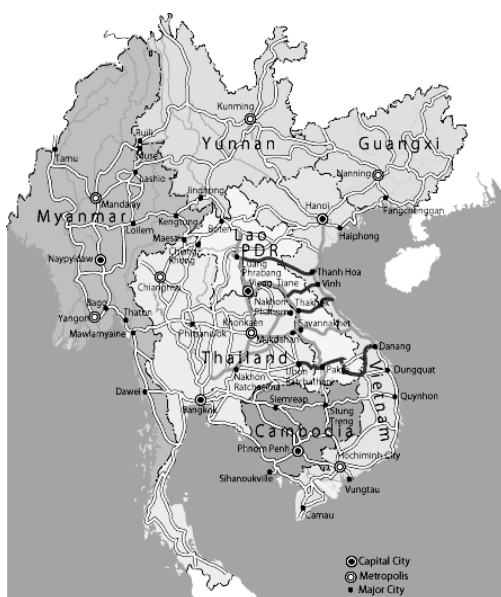
This paper will try to examine the interrelation between the development of alternative sub-corridors and the potentials for regional development along the corridors. First, the paper will review the related existing literature, followed by descriptions of new supportive institutional frameworks. The third section will discuss transport options for Lao exports with consideration of both conventional and alternative routes. The discussion on the

¹ The investment registration services will take place in three ministries. Entrepreneurs who wish to do business in Laos will need to submit their documents at the Ministry of Industry and Commerce. Investment application for concession-related projects will be submitted at the Ministry of Planning and Investment. Tax-related paperwork will be submitted at the Ministry of Finance. (*Vientiane Times*, October 11, 2011, p.1).

² This cross-ministry committee aims to eliminate trade barriers, improve the international rank of Lao PDR in terms of trading difficulties, make international trade and customs procedures easier, faster and more effective, and reduce unnecessary costs to allow for efficient production and increased competitiveness. (*Vientiane Times*, October 19, 2011, p. B.3).

³ The Ministry of Industry and Commerce orders provincial authorities to end the practice of issuing permits for traders to move goods from production bases to markets, in line with the Party's new "breakthrough" approaches to development (*Vientiane Times*, October 18, 2011, p.14).

Figure 1: Map of the GMS Showing the Alternative Routes for the Export of Lao Goods to Third Countries via Vietnam



Note: The routes in dark-colored are the alternative routes of interest to the scope of this paper.

Source: Drawn by the editor.

potentials for regional development along the new corridors will be provided in the fourth section, followed by a conclusion and policy recommendations.

1. INSTITUTIONAL FRAMEWORKS

Economic corridors development in Laos is overwhelmingly supported by regional and sub-regional integration frameworks. The initiative is led by the ABD-funded GMS program that aims to strengthen the economic integration of the GMS. Such intensive cooperation provides favorable conditions for the improvement of the connectivity of Lao PDR with the regional and global economy. Other frameworks include the CLV development triangle and the northern region's master plan.

1.1. CLV Development Triangle

Based on a long history of traditional relations, friendship and cooperation among Cambodia, Laos and Vietnam, the governments of the three countries declared the establishment of the Development Triangle Area of Cambodia-Laos-Vietnam (CLV) in 2004 during the

Vientiane Summit. The CLV covers Mondulkiri, Rattanakiri and Stung Treng of Cambodia; Champasak, Saravane, Attapeu and Sekong of Laos; and Dak Lak, Dak Nong, Gia Lai and Kon Tum of Vietnam. In relation to the 2004 declaration of the CLV, the Lao government has developed the Socio-Economic Development and Cooperation Master Plan for Development Triangle Area of Lao PDR 2010-2020 (Lao CLV hereafter). The master plan sheds light on key development directions for the 4 Lao southern provinces of Champasak, Saravane, Attapeu and Sekong with a total population of over 1.2 million and a gross regional product of more than US\$ 1 billion. The vision of this master plan is to “develop this area as a centre of economic cooperation, trade, investment, tourism and transit services in the south of Lao PDR with the aim of sustainable economic growth; steady and fitting economic structure; where people enjoy higher income and better quality of life; secure and just society; and free from poverty in 2020” (GOL, 2010).

1.2. Economic Development Master Plan of Northern Region of Lao PDR

The government of Lao PDR, with technical cooperation from the People’s Republic of China (PRC), drafted the Economic Development Master Plan of the Northern Region (Northern Master Plan hereafter) to further develop the economy of the northern region of Laos (NERI, 2004). The Northern Master Plan aims to accelerate the economic growth in the region and improves the income per capita to US\$ 1,170 by 2020. This plan comprehensively examines the potentials, challenges, development models and options, shaping the key development direction for the northern region until 2020. The plan covers 9 provinces: Phongsaly, Luang Namtha, Bokeo, Oudomxay, Huaphanh, Xiengkhuang, Luang Prabang, Xayabury and Vientiane. This area has a total population of more than 2.4 million inhabitants, spread over a total land area of 139,000 km².

2. PROVINCES ALONG THE ALTERNATIVE CORRIDORS

The alternative routes discussed in this paper pass through some major provinces in all regions of Laos. These corridors will have substantial roles in shaping the future development of the provinces. This section of the paper will introduce the corridors and the provinces along the corridors (Table 1) as a context for further discussion.

Table 1: Basic Data of Provinces along the Alternative Routes

Routes	Provinces	Area (km ²)	Population (Persons)	GDP per capita (\$US)	Distances to major border or port (km)	
Route 7	Xiengkhuang	16,850	263,697	519	- 124.4	(Nam Kan border)
Route 8	Borikhamsay	14,863	247,556	1,070	- 326	(Cua Lo Port)
Route 12	Khammuane	16,000	330,000	887	- 317	(Vung Ann Port)
Route 18	Southern Region	44,026	1,200,000	n.a.	- 387.4 - 584.1	(Attapeu-Quy Nhon) (Pakse- Quy Nhon)

Note: Distance data is from the author and editor's field survey in 2011.

Sources: DPI in each province.

2.1. Route No. 7 and Xiengkhuang Province

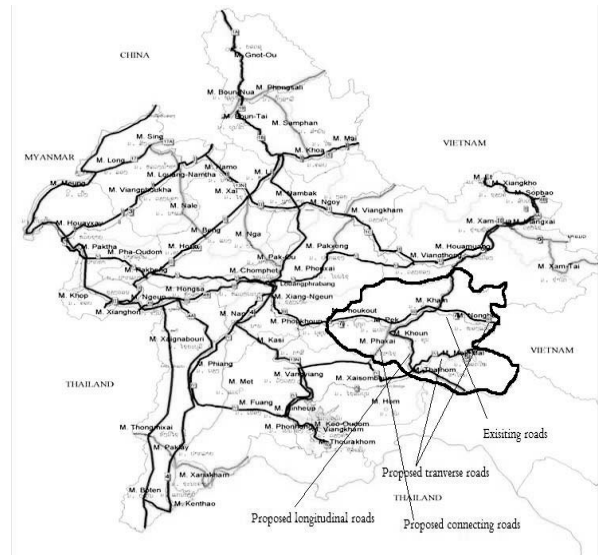
Xiengkhuang Province is located in the northern region, sharing borders with Luang Prabang and Huaphanh in the north, Vietnam to the east, Borikhamsay in the southeast and Vientiane Province in the west. Xiengkhuang is very mountainous, making agriculture production difficult. Phonesavanh (formerly known as Muang Pek) is the capital district. The province is historically very important in terms of being a military and political hub. However, with the long history of war and difficult geographical conditions, development of the province is slight compared to other provinces in the region.

Xiengkhuang can be accessed by road from all neighboring provinces and from Vietnam by air at Vientiane Capital. Route No. 7 is the key transverse road that crosses through the center of the province, connecting it with larger provinces in the east as well as with Nge Ann Province of Vietnam. Route No. 7, with a total length of 224 km, connects with Route No. 13 North (13N), giving access to Vientiane Province, Vientiane Capital and other northern provinces, as well as connecting with Vietnam via the Namkan-Num Can border. Route No. 6 connects, on the other hand, Xiengkhuang with Huaphanh Province and with another access to Vietnam via the Na Meo border. The ongoing development of Route No. 1D will create a shortcut for the connectivity of Xiengkhuang with Route No. 13 South, giving access to Vientiane Capital and the central region of Laos via Borikhamsay. The proposed development of longitudinal, transverse and connecting roads under the Northern Master Plan runs through Xiengkhuang and could improve the connectivity of the province further (Figure 3).

Figure 1: Location and Accessibility of Xiengkhuang



Figure 2: Proposed Road Developments



Source: Original map from the Northern Master Plan (NERI, 2011), edited by the author.
 Note: The black thick arrows show the accessibilities of the province.

2.2. Route No. 8 and Borikhamsay Province

Borikhamsay Province is located in the central region of Lao PDR, sharing a border with Vientiane Province and Xiengkhuang in the north, Khammuane in the south, Vietnam in the east, and Vientiane Capital and Thailand in the west (Figure 3). The province comprises 6

Figure 3: Map of GMS Showing the Location of Borikhamsay Province



Source: Original map from Google, edited by the author.

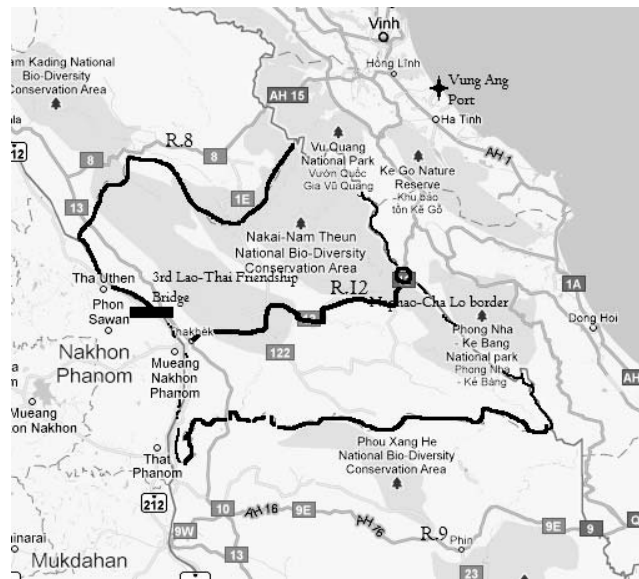
districts, with Paksan being the capital district, located on Route No. 13.

Like other provinces in the central region, Borikhamxay has great accessibility with other parts of the country, especially the eastern part along the Mekong River. The province could be accessed by road via Route No. 13 from Vientiane Capital and the southern region of Laos. The province can also be accessed by river from Bungkhan Province of Thailand. To the east, there are two routes connecting Vietnam. First, the traditional route is Route No. 8 from Paksan to the Nam Phao-Cau Treo border of Vietnam's Ha Tinh Province before going to Nge An Province, Vinh City and the Cua Lo port. Although this route is a paved road in fairly good condition, the road does present the challenge of a very mountainous landscape with an average slope of 10 to 12 degrees. This could have a sizable impact on the speed of heavy trucks. Another route, which is under construction, travels from Paksan to the Viengthong district, connecting Thanh Thuy (Vietnam border) of Nge An Province, Vinh City and then Cua Lo port. The second route is expected to be completed by 2013 with a total distance of 223 km on the Lao side. The route via Thanh Thuy is more favorable than the Cau Treo because the former has a shorter distance to the seaport and has smaller slopes (Oraboune, 2011). It is reported that the difficult segment of this route has a distance of only 10 km on the Vietnamese side with an average slope of 9 to 11 degrees. The authorities of Borikhamxay and Nge An provinces in principle have agreed to jointly develop this alternative route with an objective to increase trade and investment in this region.

2.3. Route No. 12 and Khammuane Province

Khammuane Province is located in the central region of Laos bordering Bolikhamxay in the north, Savannakhet in the south and Nakhon Phanom Province of Thailand in the west (Figure 4). Thakhaek is the provincial capital, situated across the Mekong from Nakhon Phanom in Thailand. The connectivity of Khammuane has been improved substantially with the completion of the Third Lao-Thai Friendship Bridge, opened on November 11, 2011. Khammuane can also be accessed via Route No. 13 from the north and south sides of the provinces. Route No. 12 is the province's most strategic road that allows access to Vietnam and it could serve as an alternative corridor to facilitate regional trade from the east to the west, similar to Route No. 9 in Savannakhet (Nolintha, 2011). This route is developed under the bilateral agreement between Laos and Vietnam of 1996.

Figure 4: Map of GMS Showing the Location of Khammuane Province and the Route No. 12



Source: Original map from Google, edited by the author.

Later, the Thai government decided to become a partner in developing this route by constructing the third Mekong bridge.

2.4. Route No. 18 and the Southern Region of Laos

Provinces in the southern region of Laos have a diverse development stage and possess interesting characteristics. Champasak Province is the economic center of the southern region, fueled by expansion of the agriculture and service sectors. However, Attapeu, Sekong and Saravane are among the country’s smallest and poorest provinces. Due to such special characteristics, the government, in cooperation with Vietnam and Cambodia, decided to put forward the integrated development of the southern region (commonly referred to as the Lao Development Triangle Area or DTA) as one regional bloc to create synergy in development. This development initiative fits with the growth pole model of regional development, which has been applied successfully in both developed and developing countries especially during the 1970s and 1980s. This model recommends the attraction of activities and the concentration of growth in poles, from where the diffusion of growth is

expected to occur towards the surrounding region.⁴ Champasak will continue to play an important role in pushing the growth of the southern region, taking into account complimentary potentials of all provinces.

The DTA, with a combined area of 44,026 km², is located about 600 km from Vientiane Capital and bordered by Kuang Nam, Thua Thien Hue and Kon Tum provinces of Vietnam in the east, Savannaket Province of Laos in the north, Ubon Ratchathani of Thailand in the west, and Rattanakiri and Stung Treng provinces of Cambodia in the south. The DTA can be accessed by air and road. The international airport is located in Pakse City of Champasak Province, with the capacity to land the Boeing 737 aircraft. Each week, there are 5 to 7 flights from Vientiane Capital, Bangkok (Thailand) and Siem Reap (Cambodia). By road, the DTA can be accessed from all directions. Important routes in the DTA include Route No. 13, No. 16, No. 18B, No. 16B and No. 15B.

3. EXISTING INDUSTRIES AND POTENTIALS FOR REGIONAL DEVELOPMENT ALONG THE SUB-CORRIDORS

Regional development has been perceived as an important element for the socio-economic development of Lao PDR. Such importance is stressed in the country's industrialization and modernization strategy, the vision 2020 and the 7th Five Year Socio-Economic Development Plan for 2011 to 2015. Most provinces position themselves as transit hubs that facilitate regional trade and transport and consider road infrastructure development as an important investment for their provincial socio-economic development.⁵ This section will discuss the existing industries and potentials for regional development of various provinces along the alternative sub-corridors.

3.1. Route No. 7 and Regional Development of Xiengkhuang

Xiengkhuang's economy has grown at an average of 7.8% a year during 2006-2010. This is a relatively slow growth rate compared to other parts of the region. The agriculture sector

⁴ More discussions on the growth pole theory can be found in Christofakis (2011), which discusses the implication of the model on the case of Greece and Richardson (1978) presenting an opposite argument to the model.

⁵ Personal interviews with the Department of Planning and Investment in all of the provinces on the potential new sub-corridors during September 2011.

accounts for 53% of the provincial GRP, while the shares of the industry and service sectors are 33.2% and 13.6%, respectively. Over the past 5 years, the province has managed to attract 85 private investment projects with total registered capital of over 678 billion Kip (or about US\$ 85 million), an increase of 16 times compared to 5 years ago. Foreign investment accounts for 1/4 of the total private investment, spread evenly in agriculture (31%), industry (31%) and mining (27%). The top investors come from Vietnam and China.

3.1.1. Existing Industries

Despite being an agriculture-based economy, this province has very limited land available for cultivation. In 2010, the total agriculture land was about 55,000 ha, with the major crops being rice (29,310 ha) and maize (20,845 ha). The rice production in 2010 reached only 107,331 tons, increasing by approximately 2.4% per year during the past five years. Rice productivity ranges from 2 tons/ha for high land to 3.7 tons/ha for low land and wet season rice. The provincial authority aims to increase the rice production area to 32,000 ha with an average annual output of 118,600 tons over the next five years. In addition, the expansion of maize production shows outstanding performance. For instance, maize production in 2010 alone hit the record of 83,000 tons and the accumulated production in the period of 2006-2010 increased by 1.9 times compared to the previous five years. It is expected that maize production will increase further to an average of 95,000 tons per year. Other major crops include taro, garlic, peanut and soybean.

Livestock has been an important source of income, thanks to the cool temperature and large area of grassland around the mountains. The province recognizes cattle farming as the priority sector that will drive the economy over the next five years and for laying down important foundations for the meat processing industry in the future. The main livestock is buffalo (51,324 units), cow (112,014 units) and pig (92,614 units). The cow rearing number has increased by about 14% per year during the past five years, in response to the provincial government's promotion of rearing cattle for commercial purposes. Recently, a few companies from overseas have eyed the opportunity for cattle farming in the province and expressed an interest in setting up large-scale cattle farms there with the objective of exporting meat to overseas markets.⁶ During this period, buffaloes and pigs have also

⁶ Interested companies include a high-value beef processing factory from Japan (personal interview, September 2010).

increased in number by about 6.5% and 4.8% per year, respectively. The province has set the target of increasing by 2015 the number of livestock to 58,619 buffalos, 137,121 cows and 98,000 pigs. In order to support cattle farming, the province will promote the plantation of grass from 4,000 ha in 2010 to 8,500 ha by 2015, together with the establishment of an animal disease lab, a veterinary school and an animal quarantine center.

Tourism is gradually becoming an important sector of Xiengkhuang's economy. The Plain of Jars is the province's most important landmark and it is now under UNESCO's consideration for a world heritage site. The province is also well known for historical tourism, linked with the revolutionary movement of Lao PDR originating from Xiengkhuang. The number of tourists visiting this province increased from 5,000 in 2003 to almost 22,000 in 2010. This is also reflected in the Lao Tourism Authority's survey findings that the reported samples show visits to Xiengkhuang increasing from 8.5% in 2006 to 30% in 2010 (LNTA, 2011). Such an increase in tourism leads to an expansion of tourism-related industries. For instance, the number of accommodation providers increased from 32 to 77 places over the past five years, with current capacity at 1,100 rooms and 1,540 beds.

Although the industrial sector has grown quite fast over the past five years, most growth has come from the expansion of small and micro-scale factories that produce basic goods for domestic consumption. By 2010, there was a total of 107 factories covering both industry and the handicraft sub-sector. There are three permanent markets located in the major districts, along with the presence of over 30 occasional markets that open in accordance to the festive and religious calendar. There are also signs of the beginning of a processing industry such as for pinewood oil extracting⁷ and processing. Some pipeline investment projects include a steel melt factory, copper processing factory, zinc processing factory, cement factory and coal processing factory.

Finally, the Xiengkhuang Special Economic Zone (XK-SEZ) has been proposed to the government for consideration. The planned location covering 26,000 ha runs about 5 km along Route No. 7 from the city center to the west, 2 km away from the airport and along the planned railway route.⁸ The objective of XK-SEZ is to systematically plan Xiengkhuang's

⁷ A Chinese FDI company has extracted oil from pinewood trees for export. So far, the company has extracted oil mainly from natural pinewood trees via the contract farming practice with local villages. The company also plans larger-scale processing with pinewood trees in the future.

⁸ The planned railway route under the Northern Master Plan will cut through Xiengkhuang Province, parallel to Route No. 7.

economy in light of the country’s modernization and industrialization strategy, further mobilize foreign direct investment (FDI) into the export-oriented sector, and improve important economic infrastructures (Xiengkhuang DPI, 2011). This SEZ is blessed with good accessibility by road and air, and in the future by railway, with other parts of Lao PDR, Vietnam and China. XK-SEZ targets a broad range of businesses, from heavy to light industry to trade and services.

3.1.2. Potentials of Route No. 7 for Regional Development in Xiengkhuang

Via Route No. 7, exports from the province could reach the Cua Lo port in about 7 hours with the total length of 400 km. This could also serve as the transport corridor for other provinces in the northern region of Laos as well as Vientiane Capital. For instance, the travel time from the Cua Lo port is 15 hours to Vientiane Capital and 13 hours to Luang Prabang (Table 2). Recent developments in Xiengkhuang’s economy combined with directions of the Northern Master Plan have shed light on many potentials that Xiengkhuang will benefit from after further improvement of Route No. 7. Some of the key potentials are as follows.

Cattle farming, which has begun to expand in recent years, could be further developed into commercial-scale farming and later a meat processing industry. With the ease of connectivity of Xiengkhuang, it will be economically feasible for the province to export cattle and later meat, and processed meat to other parts of Lao PDR, Vietnam and third

Table 2: Distance and Travel Time from Various Origins to Ports via Route No. 7

	Distance (km)	Time (hh:mn)	Average speed (km/h)
Route No. 7			
Phonsavanh District to Namkan Border	124.4	2:33	48.8
Namkan border to Cua Lo port	275.0	5:05	50.5
Vientiane to Cua Lo port via R.7	780.0	15:30	49.5
Phonsavanh District to Cua Lo port	399.4	7:38	50.0
Luang Prabang to Cua Lo Port ¹⁾	661.4	13:23	44.0
Vientiane to Cua Lo Port via R.1D ²⁾	692.0	n.a.	n.a.

Notes: 1) The distance and travel time for Luangprbanag to the Cua Lo port is estimated and not based on actual observation.

2) The distance is estimated by the provincial Department of Planning and Investment.

Source: Author and editor, BRC field visit in 2011.

countries via Vietnam. Because of the geological and climate characteristics of the province, the pasture land around the Phaxai district is identified as an optimal area for cattle farming and meat production in the Northern Master Plan (NERI, 2011).

Xiengkhuang also has big potential to develop the tourism sector, which could help the province maximize the benefit from the corridor development. The province already has some of the country's and the world's well-known tourist sites, including the Plain of Jars, hot springs and Lao war heros linked caves, which could be promoted further with a comprehensive and proactive development plan. The greater connectivity of the province will give a boost to this already growing industry. The province has some high-potential markets such as China and Vietnam, in addition to local tourists who could be attracted by the historical and natural heritage sites. The Northern Master Plan also locates Xiengkhuang as one of the most important tourist cities and part of the promoted tourist routes that connect Xiengkhuang's sites with those of the world heritage city of Luang Prabang and the natural abundance of Vientiane Province.

Crops plantation, to a lesser extent, will also benefit from the development of Route No. 7 into an economic sub-corridor. Despite the scarcity of low land suitable for agriculture production, the province has shown impressive performance in expanding agriculture production. The Northern Master Plan has declared the low land area of Xiengkhuang to be an optimal region for vegetables, sericulture, soybeans and temperate fruits, and sub-optimal for rice. However, the provincial authority plans to increase rice production to a rice sufficiency level by 2015. Taking into account the limited low land area, the province has to be more selective in the choice of crops promoted. The selection should consider the economic return, and the suitability of soil quality and ecological conditions. With the improved connectivity, Xiengkhuang can plan a few crops in which it has a comparative advantage and trade them with neighboring provinces.

Finally, the proposed development of the SEZ could add another benefit from Route No. 7 and this corridor. The development of the SEZ could attract FDI to the province to supplement the level of investment needed to accelerate the development of the province. The SEZ development should focus, however, on the sectors in which the province possesses advantages compared to other provinces and be more purposive in terms of the promoted sector. In order to best utilize the potentials of Route No. 7 and future development

directions of the province and the northern region, the agriculture processing, tourism and trade should be among the priority sectors to be promoted in the SEZ.

3.2. Route No. 8 and Regional Development in Borikhamsay

Borikhamsay's economy has managed to grow at an average of 9.57% during the past five years. The structure of the economy has gradually transformed in accordance to the country's industrialization and modernization strategy. The share of agriculture in 2010 fell by 4.45 percentage points to 30% of GDP compared to five years ago. The share of industry, on the other hand, increased 3.19 percentage points over the same period, while the service sector also expanded by 1.26 percentage points.

3.2.1. Existing Potentials

The major agriculture products are rice, corn, tobacco and sugarcane. In terms of harvest area, rice had the largest plantation (41,624 ha), followed by corn (2,547 ha) and high-carbohydrate crops such as taro and sweet potato (2,310 ha) in the fiscal year 2008-09. Production is 111,529 tons of rice, 22,334 tons of corn and 8,164 tons of high-carbohydrate crops. In addition, the province also grows some industrial crops such as tobacco (1,126 ha) and sugarcane (927 ha). The province has also supported programs that promote commercial production. These include the plantation of agar wood, rubber trees, eucalyptus and palms, and cattle farming.

The industrial sector has grown largely due to the expansion of small and medium-size factories. The number of factories increased from 408 in 2006 to 1,931 in 2009, of which 97% are small enterprises. Almost half of total factories are rice mills. Other active sectors include construction production (79 businesses) and furniture (82 businesses). It is interesting to note a few emerging processing industries which could give birth to a more value-added processing industry. These include a traditional medicine factory ⁹ and an agar wood oil extraction factory.

The service sector has expanded remarkably. Trade is an important area that drives the service sector of Borikhamsay due to the province's geographical location with close proximity to Vientiane Capital and strong connectivity with Thailand and Vietnam. In 2010,

⁹ This factory extracts *Kheua Haem* (*Coscinium fen stratum*), which is one of the non-timber forest product commonly used as medicine.

there was a total of 3,780 businesses registered for wholesale, retail and import-export. The volume of wholesale and retail trade has increased on an average of 12-15% a year during the past five years. The value of exports increased from US\$ 2.4 million in 2005 to US\$ 7 million in 2009, while imports also increased from US\$ 7 million to US\$ 10.7 million over the same period. Wood products account for more than 75% of total exports, while major imports include construction materials (30%), clothes and household goods (21%) and food (13%). In addition, the tourism sector has grown substantially. The number of tourist sites increased from 53 to 74 places over the past five years, of which more than 80% are classified as natural tourist sites. Many tourist promotion programs attempt to link the beauty of nature and the lifestyle and heritage of local people. The expansion of the tourist sector in the province is also reflected by an increase in the number of tourist-related businesses (from 137 to 275 providers) and the number of tourists visiting the province (from 53,000 to 138,000).

An SEZ has been proposed to the government for consideration. The Vieng Kham-Thansahard SEZ will be located about 90 km from the capital district Paksan, at the junction of Route 13 South and Route 8. This area is the narrowest part of Lao PDR, representing the shortest distance to Vietnam from Vientiane, central Lao PDR and Northeastern Thailand. Although Borikhamsay does not have an airport, the international airport in Vientiane Capital is only 251 km away and can be reached within 3 hours. The Third Lao-Thai Friendship Bridge is only about 87 km from the SEZ. In addition, this proposed SEZ has close proximity to big cities such as Vientiane Capital (246 km), Nakhon Phanom of Thailand (114 km) and Vinh Province of Vietnam (214 km). The provincial authority proposes the construction of another Lao-Thai Friendship Bridge in the area near this SEZ.

3.2.2. Potentials for Regional Development from Route No. 8

The fact that Borikhamsay is located near Vientiane Capital has posed both opportunities and challenges to the development of this province. For a long time, the capital district Paksan and the province have resembled “transit town” characteristics and have not gained much from the strategic status. The recent development of Route No. 8 and seaports in Vietnam has created new opportunities for the development of this province. Via Route No. 8, the distance from the Cua Lo port is only 300 km to Paksan and about 500 km to

Vientiane Capital (Table 3). The proximity of the Cua Lo port via Route No. 8 makes this route very interesting for the transport of Lao goods to a third country by the central part of Vietnam. Some of the major potentials for regional development in Borikihamsay from the development of Route No. 8 include the following.

Logistic service should be systematically and proactively promoted. This will allow the province to maximize the benefit of having the strategic corridor like Route No. 8. The local private sector should be given incentives to strengthen its capacity and to network with perhaps stronger business partners from overseas. Development of the private sector in the logistic industry should not be limited to those within the province but should also involve other larger companies in Vientiane with the objective of serving export businesses in the capital.

Tourism could be a strategic and sustainable sector that would benefit from Route No. 8. Borikhamsay Province has some well-known tourist sites such as the *Lak 20* (20 km) area where many local and foreign tourists like to travel to enjoy the cooler climate and natural beauty. Home-stay and eco-tourism has already begun to flourish and should be further promoted. As Route No. 8 passes Borikhamsay within a very short distance, the province has the potential to attract regional tourists from Thailand and Vietnam for two-country package tours (Laos-Vietnam and Laos-Thai). The government should increase investment in developing necessary infrastructures that favor the development of the tourism sector, such as road access to important tourist sites, information centers, public toilets and rest areas along Route No. 8. Public private partnership (PPP) might be adopted to develop some of the

Table 3: Distance and Travel Time of Various Origins to Ports via Route No. 7

	Distance (km)	Time (hh:mm)	Average speed (km/h)
Route No. 8			
Paksan-Cua Lo via Cau Treo border	326.1	6:32	62.2
Vientiane - Cua Lo via Cau Treo border	498.2	9:18	53.6
Third mekong Bridge - Cua Lo via Cau Treo	350.8	6:26	54.5
Paksan-Cua Lo via Than Thuy ¹⁾	303.0	n.a.	n.a.
Vientiane-Cua Lo via Than Thuy ¹⁾	475.1	n.a.	n.a.

Note: 1) The distance and travel time for Luang Prabang to the Cua Lo port is estimated by Oraboune (2011).

Source: Author and editor, BRC field visit in 2011.

infrastructures.

The proposed SEZ will have a lot of potential to increase the benefits of Route No. 8 to the province. By being a small economy and located near other more powerful economies like Vientiane Capital and Khammuane, the SEZ in Borikhamsay might find it difficult to attract FDI into traditional sectors such as manufacturing. The incentives should be more selective towards other sectors which could be competitive considering the location advantage of the province and which investors would find more attractive. The SEZ might consider focusing on strategic sectors like trade, tourism, logistic service and light manufacturing for exports such as wood processing.

3.3. Route No. 12 and Regional Development in Khammuane

3.3.1. Existing Industries

Khammuane's economy has grown at 10% per year over the past five years. The share of the agriculture sector fell from 48.7% in 2006 to 41% in 2010, while the share of the industrial sector increased from 32.4% to 39.87% over this period. The service sector remains at about 19% on average. This shows that the industrial sector has the most rapid growth in this period and has become the main driver of Khammuane's economy. The cement industry is a major contributor to such rapid growth in the industrial sector. In 2009, the province could produce almost 500,000 tons of cement with a value of over 200 billion Kip, which was equivalent to one-quarter of the GDP of the industrial sector. Hydro electricity is also booming. The active operations include the Nam Theun 2 dam with a capacity of 1,070 mw and Thuen Hinboun (220 mw). Other contributors include wood processing (10% of the sector's GDP) and mining (3%). Currently, there are 26 mining companies (11 are FDIs) engaged in various mining activities, including limestone, gypsum, metal, tin, coal and salt. The number of industrial factories was 2,359 in 2010, of which 62 factories are categorized as large enterprises. Major industrial factories include cement processing, bio-fertilizer, salt, steel processing, wood processing and coal production.

The agriculture sector continues to grow gradually. At present, the province is categorized as a rice surplus province with the excess being exported to other regions of Laos and overseas. Rice production has risen from 186,867 tons in 2006 to 261,850 tons in 2010, on average growth of 5.61% a year. The plantation of secondary crops almost doubled in this period, while livestock increased only moderately, except for pig farms. For instance, there are 327 pig farms in the

province raising a total of 55,608 pigs, with an increase of 12.6% a year. Industrial trees plantation has also expanded quite remarkably, especially eucalyptus (16,000 ha) and rubber trees (6,144 ha). Some agro-forestry companies from China, Vietnam and Japan¹⁰ are already eyeing the potential of the agro-forestry industry in the province and have begun investing in the planting of trees for woodchips, timber, rubber and cassava.

Tourism and trade are the key drivers of the service sector in Khammauane. The province has rich potential for tourism development. According to the Savannakhet-Khammuane Regional Development study, the capital district Thakhek was suggested to be promoted as a gateway for tourism, as well as an industrial city for resource-based manufacturing industries (JICA and CPC, 2001). Tourism-related facilities could be developed around historical buildings, especially along the Mekong River. Nakai, with the completion of the Nam Theun 2 Hydropower Project, is the site of a large artificial lake envisioned to become one of the major tourist destinations in the province. The town of Nakai could be developed into a “mother town” for tourists visiting the lake, as well as a center for a local wood-based industry. Such potentials have led to a rapid expansion of the tourism industry in Khammuane over the past five years. The number of accommodation providers increased from 26 in 2006 to 81 in 2010, with the number of rooms expanding from 400 to over 1,200 during this period. The number of tourists visiting the province also increased from 28,000 to 174,000 over the period. In addition, Khammuane has been one of the active channels for regional trade. Total imports over the past five years reached a record high of US\$ 457 million, with an annual increase of over 170% a year. Major imports are for large investment projects such as the third Mekong bridge, hydro electricity and a cement factory. Exports, however, are rather marginal with a total value of US\$ 77 million, of which more than 60% are wood products. Internal traffic of goods increases about 20% a year, with major products being livestock (especially pigs), wood products and other agriculture products.

In order to capitalize on the potential of the province, two SEZs are proposed to be developed in Khammuane. The Phoukiaw Nakhon Specific Economic Zone has been granted an agreement for establishment in late 2010 with a total land area of 4,850 ha. The investment is by a domestic private company with a registered investment capital of US\$ 708 million. The objective of this zone is to develop a new township with the promotion of trade, education, tourism,

¹⁰ A Japanese company has invested in growing trees for woodchips production. The accumulative plantation area was 33,400 ha in 2010 and is expected to reach 68,000 by 2015. The harvest will begin in 2012 and the exports will start after the company achieves sizable output (JDI, 2010).

healthcare services and manufacturing. The location of this zone is about 3 km south of the province along Route No. 13 South. At the current stage the company, together with provincial authorities, is focusing on details of the design of the zone, with construction expected to begin in late 2011. In addition, the Khammuane Daen Kharm Special Economic Zone is now under consideration by the government. This second SEZ is proposed to be developed near the Third Lao-Thai Friendship Bridge. Among the 350 ha of proposed land, 100 ha will be allocated for industrial use, another 100 ha for commercial, residential and hotel use, and the remaining 150 ha for sport, recreational and green zone use (JDI, 2010). This SEZ will promote forestry-based industries (e.g. woodchips processing, lumber processing), agro-processing industries (cassava, vegetable oil, bio-ethanol, bio-diesel), rubber processing and rubber product manufacturing, and zinc and lead processing. The development of this SEZ will help the province to maximize the benefit from the Third Lao-Thai Friendship Bridge and Route No. 12.

3.3.2. Route No. 12 and Potentials for Regional Development

Route No. 12 is a strategic route for export from the province, Vientiane Capital and Northeastern Thailand to access the Vung Ang port in Vietnam, Northern Vietnam and further to China (Table 4). Via Route No. 12, the distance from the production based in the Thakek capital district of Khammuane and the Vung An port is slightly above 300 km, substantially shorter than going to Danang via Route No. 9. Therefore, Route No. 12 will play a crucial role in driving the industrial development of Khammuane and the central region of Laos.

The presence of Route No. 12 and completion of the Third Lao-Thai Friendship Bridge create significant potentials for regional development in Khammuane. The potentials are mainly based on the strengths that the province possesses. These can be summarized as the following.

One of the major implications of Route No. 12 is on the agro-forestry processing industry in Khammuane and the central region of Laos. The distance to the seaport and capacity of the seaport are important for the development of the agro-forestry processing industry in Khammuane. Route No. 12 will provide a shortcut route for the production based in Khammuane to the seaport. Also, the loading yard can be built close to the operating berth because the Vung Ang port is not yet densely used with available spaces near the berth. The Vung Ang port could also accommodate large vessels when the woodchips production hits the maximum. These conditions will be favorable for the development of the agro-forestry processing industry in Khammuane. At the first

Table 4: Distance and Travel Time of Various Origins to Ports via Route No. 12

	Distance (km)	Time (hh:mn)	Average speed (km/h)
Route No. 12			
Vientiane - Third Mekong bridge	321.4	4:40	68.9
Third Mekong - Vung Ang via R.12	304.9	4:58	61.4
Vientiane - Vung Ang via R.12	626.3	9:38	65.1
Thakek (Khammuane) - Vung Ang	317.6	5:09	60.0
Thakek - Hanoi via R.12 ¹⁾	643.0	n.a.	n.a.
Nakhon Phanom-Ping Xiang (Vietnamese-Chinese border) via R.12 ¹⁾	1029.0	n.a.	n.a.

Note: 1) The distance is estimated by the Nakhon Phanom Province Government Office (2011).

Source: Author and editor, BRC field visit in 2011.

stage, woodchips processing could be the pioneer to take advantage of the improved transport infrastructures, strong demand for woodchips in Japan and other advance economies, and the presence of an industrial plantation company from Japan in the province. Other sub-industries to be developed later include lumber processing, furniture manufacturing and rubber processing. Livestock husbandry and meat processing could also be promoted in line with the provincial authority's target to increase the livestock husbandry in the province. Improved connectivities will facilitate the livestock trade between the province and other parts of the country as well as with export markets. This could also support the growing tourism industry.

Trade and logistic service could be developed and expanded with the establishment of the SEZ and development of logistic services along Route No. 12. The province has already established a good record of trade with other parts of the country and with other countries in the region. However, strong government commitment, a clear and feasible development plan and an effective SEZ development promotion campaign are crucial for the success of developing this potential. The promoted sectors in the Khammuane SEZ should be very specific and closely linked to the provincial potentials. Lessons from the development of the SEZ and the EWEC in Savannakhet are valuable for the development of the Khammuane SEZ because of the high degree of similarity among these two areas (Nolintha, 2011). It has taken almost a decade for the Savannakhet SEZ to reach the current stage of development despite being blessed by strategic

location, good road infrastructure like the EWEC, and very supportive government policy from the central and provincial levels. The important issue is the identification of the developer who has a long-term investment vision, will be committed to provide massive capital for economic infrastructure development, and has strong skills in promoting the investment opportunities in collaboration with the government.

Tourism is another sector that will receive a big boost from this improving connectivity. The presence of the Lao-Vietnamese checkpoint and improvement of Route No. 12 have already helped increase the number of international visitors to the province in the past year. Most of the tourists are from the neighboring countries. The opening of the Third Lao-Thai Friendship Bridge will have a positive impact on the number of tourists visiting the province. The challenge is the ability of the province to expand tourist-related services to increase the absorption of local businesses. The province can continue the central region tourism promotion campaign to promote tourism potentials to both domestic and international visitors. In addition, the province could cooperate further with the tourism authorities in Thailand and Vietnam to promote a sub-region tourism campaign to integrate the tourism potentials of Khammuane with those of its neighbors.

3.4. Sub-corridors in the South and Regional Developments

Both Route No. 18 and Route No. 16B have crucial roles in improving the connectivity of the southern region. At present, via Route No. 18, the distance from Pakse to the seaport is below 600 km, less than from other parts of the region (Table 5). If Route No. 16B is fully developed, the distance from Pakse to the seaport will be shortened to below 400 km, giving Southern Laos a new phase of connectivity with the regional economy. Via Route No. 16 B the distance between the Andaman Sea in Myanmar and the China Sea in Vietnam will be just 1,549 km, which is slightly above the distance between Danang (Vietnam) and Mawlamyaine (Myanmar) via Route No. 9. However, it is reported that the geographical conditions of the Route No. 16B route are more favorable to truck traffic, hence travel time will be saved via this route (Ubon Ratchathani Chamber of Commerce, 2011). Under the Lao CLV, five economic corridors will be further developed in the DTA to improve the connectivity of the DTA (Figure 6) and accelerate the economic progress.

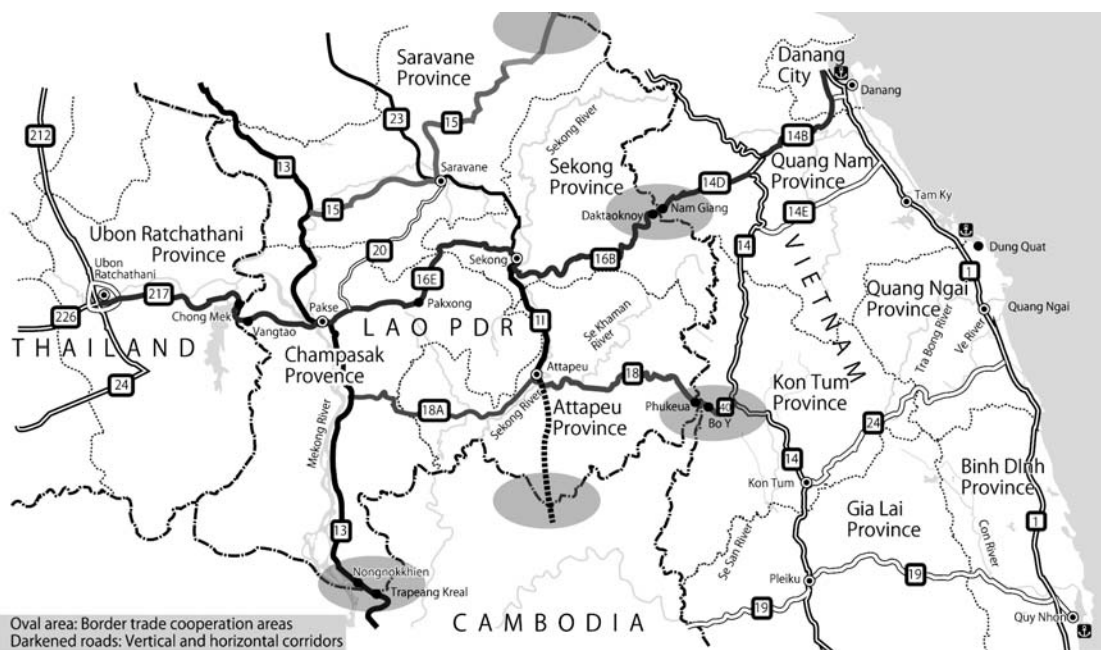
Table 5: Distance and Travel Time of Various Origins to Ports via Route No. 18 and Route No. 16B

	Distance (km)	Time (hh:mn)	Average speed (km/h)
Route No.18			
Attapeu-Danang	349.7	7:00	50.0
Attapeu-Quy Nhon	387.4	8:16	46.9
Sekong-Danang	425.7	8:36	49.5
Sekong- Quy Nhon	463.4	9:52	47.0
Pakse-Danang	546.4	10:57	49.9
Pakse-Quy Nhon	584.1	12:13	47.8
Danang - Ubun Ratchathani	619.1	12:56	47.9
Quy Nhon- Ubun Ratchathani	723.3	14:08	51.2
Route No. 16B ¹⁾			
Sekong-Danang	262	n.a.	n.a.
Pakse-Danang	383	n.a.	n.a.
Danang - Ubun Ratchathani ¹⁾	542	n.a.	n.a.
Bangkok-Danang ¹⁾	1,081	n.a.	n.a.
Danang - Dawei (Myanmar) ¹⁾	1,549	n.a.	n.a.

Note: 1) The distance is estimated by the Ubun Ratchathani Chamber of Commerce (Thailand).

Source: BRC field visit in 2011.

Figure 5: Map of Southern Laos Region Showing the Proposed Development Concept of Lao CLV



Source: Drawn by the editor.

3.4.1. Existing Industries

The economy of the DTA has grown moderately well over the past five years. On average, the DTA economy grows at 9.44%, slightly above the national average. The income per capita reached US\$ 870 in 2010. The industrial sector grows the fastest, followed by services and agriculture. The structure of the economy has transformed somewhat slowly. Agriculture remains the largest sector of the economy with a share of 54.1% of the GDP, followed by services (26.6%) and industry (19.3%).

Agriculture is the backbone sector of the DTA's economy, covering more than 80% of the labor force and more than half of the total value added. In terms of the land use allocation, Champasak and Sekong allocate a relatively large share of total land for agriculture use while Saravane and Attapeu set aside a larger area for productive forest. Under the Lao CLV, agriculture processing has been identified as the second priority sector that will drive the economy of this region (GOL, 2010). Most agriculture production can be categorized as small-scale, family-oriented and self-sufficient. The production techniques rely on traditional methods with minimum use of equipment and technology.

However, in recent years large-scale commercial agriculture productions have emerged, especially in the rich soil areas like the Bolaven plateau. Rice production in the DTA is mainly for self-consumption, except in some areas of Champasak and Sravane where excess rice supply is for export to the neighboring countries. In 2010, rice was planted in the total area of 218,612 ha with an output of 752,700 tons. The poor transport system makes the distribution of rice across the region difficult, leaving some areas with a rice shortage while other areas have an excess for export to foreign markets. On the other hand, coffee plantation has been part of the history of the DTA dating back to the French protection period. Therefore, local people in many areas, especially in the Pakxong district of Champasak Province, the Lao Ngam district of Saravane Province and the Thateng district of Sekong Province, have grown coffee as one of their major sources of income. In 2009, 33,933 ha of coffee plantation was cultivated with a total harvest of more than 30,540 tons. Most of the output is exported. The coffee industry has moved up in the value chain from raw materials suppliers to a semi-final and final products supplier, increasing value added and value retention in the regional economy. At present, there are two coffee processing companies located in Champasak Province with the capacity to produce a variety of coffee products,

from roast coffee bean to instant coffee. Much of the coffee plantation area has been transformed into popular tourist sites and resorts, bring additional value to this growing coffee industry.

Other crops grown in the DTA include maize (15,891 ha) and vegetables (39,421 ha) such as cassava, taro, cabbage, beans and fruits. Cash crop plantation especially in Champasak has been supported significantly by local authorities through the contract farming and business matching agreement with the Thai counterpart. This system has gradually transformed the cash crop plantation from subsistent to more commercial-based production. Finally, rubber trees plantation has begun to expand across this region with the total harvest area of almost 35,000 ha (2009). The plantation of rubber trees appears to be carefully and properly managed. Many soil-rich areas, including the Bolaven plateau in Champasak and some areas in Sekong, have banned rubber plantation and have been reserved for other cash crops and tourism activities.

The industrial sector has gradually become an important contributor to the economy of the DTA. There are 2,305 industrial factories with a total employment of 24,674 workers. Most of the factories are small-scale and related to saw mills, slice mills, wood processing and furniture, rice mills and some food processing. To further boost the development of the industrial sector, local authorities plan to establish 6 industrial zones in the DTA at the Saysettha district (Attapeu Province), Dakcheung district (Sekong Province), Saravane district (Saravane Province), and Bachieng, Phonthong and Sanasomboun districts (Champasak Province). Hydropower generation is identified as the priority sector that will contribute to the economic development of the DTA (GOL, 2010). At present, 4 hydropower dams are operating in the DTA, namely the Xeset I, Xeset II, Houihor and Xelabum dams. These dams supply electricity for both local consumption and export. In addition, the Sekaman I and III hydropower dams are under construction and expected to be completed soon. To further develop the hydropower industry, the government plans to build 8 additional hydropower dams in the DTA by 2020 with an estimated electric power generation of up to 1,958.5 MW. Other heavy industries such as mining and construction materials production are still at the stage of surveys and feasibility studies.

The tourism sector has been selected as the third priority sector. There are 31 tour companies and branches in the DTA. However, most of the tourist service activities are small-scale and family business. The number of accommodation providers in the DTA has

increased 10% per year during the past five years to reach 264 businesses, with a capacity of almost 4,000 beds in 2010. The number of tourists visiting the DTA increased on average by 36% per year, reaching a record of more than 400,000 persons in 2010. However, more than 70% of accommodation providers and tourists concentrate on Champasak, and more than 90% of the tour companies are also located in that province. The tourism industry in the DTA is already well endowed by good road access and an abundance of natural tourist sites such as waterfalls and caves and world renowned Wat Phu Champasak, which was built in the same period as Angkor Wat in Cambodia. The challenges of developing this industry further are to be more proactive in the marketing and promotion of major tourist destinations, to further explore new tourist destinations and, most importantly, to integrate the promotion of tourist routes around the DTA to expand the concentration of the tourism industry to other areas of the DTA outside Champasak.

3.4.2. Potentials for Regional Development

The development of the economic sub-corridors in the southern region of Laos, especially Route 18 and Route 16B, has significant implications for the regional development in this area. The development triangle framework will play a crucial role in utilizing the economic corridors for the development of this area. Some of the major implications are as follows.

Champasak Province will transform from its current natural status as center of the south to a well-established economic center of the DTA. The Champasak economy already shares about 57% of the GDP of the southern region, and significant development of the agro-processing, industrial and service sectors has been observed. Further development of both Route No. 16B and Route No. 18 will give a boost to the tourism industry, which has already grown rapidly in recent years. The improvement of road linkage will supplement the development of tourism focal areas under the Lao CLV, in which two of the three areas cover substantial parts of Champasak Province. Agriculture production and the agro-processing industry will be further developed. The processing industry will also utilize the agriculture production from other provinces to achieve economy of scale. Corridors development will also benefit the proposed development of the industrial zone in the northern part of the province and the border trade areas at Vangtao-Chong Mek (Lao-Thai) and

Nong Nokkhien (Lao-Cambodian). The Pakse City development project ¹¹ with a grant from the ADB will provide complementary support to both the utilization of the corridors and the overall development of the southern region.

Sekong Province will also benefit significantly from the development of Route 16B and other corridors in the southern region. Route No. 16B will transform this poor and isolated province into another land-linked province. This route will make a significant contribution to poverty reduction in this province. The challenge is the ability of the province to absorb the benefits from the important corridor that runs through it. The immediate benefits tend to be on agriculture and the tourism sector. Route No. 16B will increase the visibility of tourism potentials in the Dukchueng district, which is one of the poorest areas in the province, to potential private investors. Route No. 16B will further connect the agriculture production based in Thateang and other districts to the markets in Champasak, Thailand and Vietnam. Coffee and other cash crops plantation, which have already emerged in this province, can be further promoted. The local authority has a clear vision to develop this small province into an agriculture linked tourism-based economy with less reliance on other labor-intensive industries. ¹² Such vision fits with the characteristics of the province of being small in terms of population, land area and economy. In the medium to long term, the province could benefit from initiatives put forward in the Lao CLV, including the logistic hub along 16B, the border trade area near the Lao-Vietnam border, and the industrial production focal area in the Dukcheang district. These potentials, however, will only be materialized if the government invests in necessary infrastructures, coupled with active investment from the private sector.

Attapeu is located at the center of the broader CLV development area, with the presence of a border checkpoint with Vietnam and a planned checkpoint with Cambodia. The province already has a recently improved Route No. 18 which now serves as one of the active transport corridors that facilitate transport between Southern Laos and Thailand with Vietnam. Provincial authorities declare the priority sectors to be industrial trees and cash crop plantation, livestock farming, energy, mining, tourism and logistic service. In the short term, the corridor development will give a boost to tourism, and rubber tree and cash crop plantation. The strategic location of Attapeu is very interesting for tourists who wish to travel in the Indochina area. The Lao CLV plans to promote the

¹¹ The Asian Development Bank will support the development of Pakse to be a regional economic and tourism center through urban and environmental infrastructure improvement and stronger urban management capacity (ADB, 2010).

¹² Personal interview with the Director General of Sekong Province' Department of Planning and Investment (September 2011).

natural, traditional and historical focal tourist area in Attapeu, which links the Dong Amphang protected area with additional tourism potentials such as other protect forest areas, caves, waterfalls and ethnic culture villages. The industrial production focal zone will also be established in the Saysettha district along Route No. 18B, with a focus on agriculture products processing, rubber processing and other heavy industries. Industrial tree plantations have already emerged in the province, especially rubber and eucalyptus trees. For instance, a foreign rubber company is currently investing in the planting of a rubber plantation on 12,500 ha, with a plan to expand to 30,000 ha in the near future. Another investor has received approval to plant eucalyptus trees on an area of 10,000 ha. Both investors plan to develop the processing and linkage industries when the production of raw materials is ready.

Saravane is blessed with a high degree of connectivity with neighboring countries and other provinces of Laos. Saravane is the only province of the DTA that has a proposed corridor development (Para-EWEC No. 3 under the DTA) running through the country from the east to the west, coupled with the intersection of both proposed north-south corridors of the DTA. Therefore, the development of these corridors will have a substantial effect on the development of the province. The immediate benefits will be on the agriculture sector and border trade development. In the medium to long term, the province could develop the Napong area of Khongsedone district and the junction of Route No. 15A and Route No. 13 into a road station and trade center to facilitate trade, goods transport and the movement of people. The development of the corridors, in the long term, will accelerate development of the proposed industrial focal zone in Saravane under the Lao CLV, with a focus on agro-forestry processing, mining and other heavy industries.

4. ALTERNATIVE PORTS AND ROUTES FOR LAO EXPORTS

With a land-locked country status, the options and quality of transport route are very crucial for the competitiveness of Lao exports. The travel cost and time also play a significant role in the decision over the route and seaport. Most existing studies¹³ that compare cost and time for Lao exports to a third country by way of Thailand and Vietnam focus on the use of the conventional routes. Taking into account both cost and time factors, the road-sea transport mode via the Bangkok (Khlungtoey) port is the most efficient conventional route for the destination to Singapore and second best for the route to Europe (Table 6). The road-sea

¹³ Banomyong (2001a and 2001b).

transport model via the Danang port is the least efficient choice for both destinations. However, the strengthening of economic cooperation between Laos and Vietnam and the policy of the Vietnamese government on deep-sea ports development have given rise to the possibility of more alternative routes for Lao exports via Vietnam. The travel cost and time via the Vung Ang port by way of Route No. 8 and Thanh Thuy¹⁴ (another Lao-Vietnamese border of Nge An Province) is above that of the Bangkok route but below the Danang route for the Singapore destination (Table 6). On the other hand, the route to the Cua Lo port by Route No. 8 and Thanh Thuy is very competitive for the Hong Kong destination. If the Cau Treo checkpoint is used in conjunction with Route No. 8, the transport cost and time is slightly higher than the Thanh Thuy combination but remains competitive over the Route No. 9-Danang route. The road condition of the Cau Treo route is more difficult than the Thanh Thuy, especially in terms of the slope and width of the road. These suggest the importance of the Vung Ang port, the Cua Lo port and Route No. 8 (via Cau Treo or the Thanh Thuy border) as a new corridor for Lao exports.

Table 6: A Comparison of Cost and Time for Lao Exports to Various Destinations by Seaports

Route	Singapore		Rotterdam		Hong Kong	
	Cost (US\$)	Transit time (days)	Cost (US\$)	Transit time (days)	Cost (US\$)	Transit time (days)
Bangkok	1,617	6-7	2,477	30-31	2,006	8-9
Danang	2,150	9-10	3,420	31-32	2,150	7-8
Lad Krabang (Thailand)	1,550	7-8	2,518	30-31	n.a.	n.a.
Laem Chabang (Thailand)	n.a.	n.a.	2,503	30-31	n.a.	n.a.
Port Klang (Malaysia)	n.a.	n.a.	2,467	27-28	n.a.	n.a.
Cua Lo (via Thanh Thuy)	1,915	7-8	n.a.	n.a.	2,004	10-11
Cua Lo (via Cau Treo)	1,997	8-9	n.a.	n.a.	2,075	8-9
Vung Ang (via Thanh Thuy)	1,910	7-8	n.a.	n.a.	1,855	9-10
Vung Ang (via Cau Treo)	1,956	7-8	n.a.	n.a.	1,778	8-9

Note: The estimated cost is per TEU. Data for Danang and ports in Thailand is as of 2001 while data for Cua Lo and Vung Ang is estimated as of 2010.

Source: Banomyong (2001a, 2001b) and Oraboune (2011).

¹⁴ Thanh Thuy is another Vietnamese border with the Viengthong district of Borikhamsay. This route on the Lao side is under construction. Further discussions can be found in the next section.

Other potential routes which could be considered as Para-EWEC ¹⁵ for the export of Lao goods to a third country by way of Vietnam include Route No. 12 via the Na Phao-Cha Lo border, Route No. 18 via the Phukeua-Bo Y border, Route No. 7 via the Nameo border and the new route via Sekong Province. Route No. 12 is very similar to Route No. 8 both in terms of the length to the nearest seaport and the condition of the road. The exports from Vientiane will reach the Vung Ang port at slightly above 600 km and less than 10 hours via Route No. 12. In addition, Route No. 7 in Xiengkhuang Province has become another interesting option for a transport route to a third country via Vietnam, especially with the development of Route 1D, a new connecting route from Xiengkhuang to Borikhamsay Province. This will be another alternative for the transport of goods in Central Laos to Northern Laos and to Northern Vietnam by Xiengkhuang.

The choice of seaports and the distance between the origin and the sea-port are important for the decision over the routes. The decision on route and/or seaport for transport of Lao goods to the third country still relies on the decision of the buyers. The sellers and the transport provider do not wish to take the risk of any delays in the transport of goods, which could lead to a sizable penalty. ¹⁶ However, in terms of distance, the Khlongtoey port in Bangkok, Thailand, appears to be the most suitable one for exports from Luang Prabang, Vientiane Capital and Khammuane. The Danang port in Vietnam, on the other hand, is closest to the southern region of Laos, especially Savannakhet and Champasak. However, the relatively lower frequency of ships leaving the Danang port compared to ports in Thailand could lead to higher transport cost and time and consequently decrease the attractiveness of the Danang port. Hai Phong is another important port especially for the export of Lao goods to the east, including major markets such as Japan and South Korea. At the moment, other smaller ports in Vietnam such as Dung Quat, Vung Ang and Cua Lo have not been utilized to full capacity, mainly due to the lack of readiness of the facilitation at the ports, the size and frequency of the ship using the port.

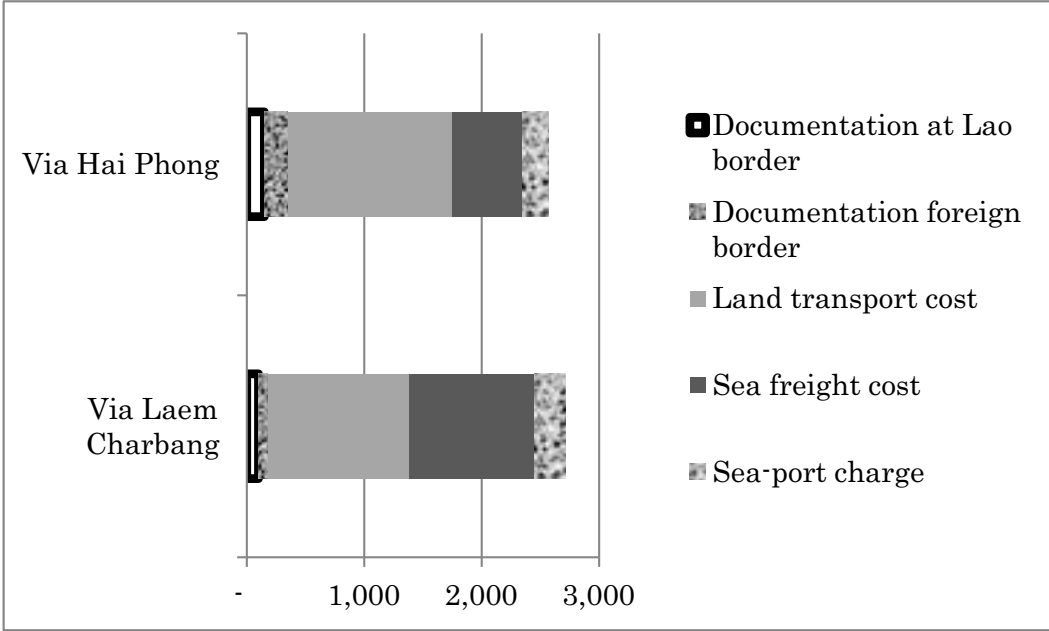
Despite the ongoing efforts at the regional, bilateral and national level in strengthening the cross border trade facilitation, the cost and time related to documentation before and at the border remain important obstacles for the regional transport. A comparison of the

¹⁵ Sub-corridors which are parallel to the EWEC, connecting Thailand and Vietnam via Lao PDR.

¹⁶ Personal interview, LIFFA (October, 2011).

documentation and procedures involved in an export of goods from Vientiane to Japan via Hai Phong by Route No. 9 and the Laem Chabang port shows some interesting findings (Figure 7). First, the total inland travel time for the Hai Phong route is double that of Laem Chabang. Second, the number of documents required for the exportation to Thailand is about half of what is required for Vietnam for regular goods and one-third for controlled goods. In addition, the number of procedures at the border, the duration of checking time at the border, and the number of checkpoints between border and seaport are also higher for the route to Hai Phong. However, the Hai Phong port is slightly more competitive in terms of the total transport cost. Exporters, therefore, face tradeoffs between cost and time. Given the size of differences in the cost, they might prefer the route to Laem Chabang over Hai Phong.¹⁷ These suggest the need to reduce the number of documents and procedures for the export of Lao goods via Vietnam to strengthen the feasibility of Vietnam as an alternative corridor for Lao exports.

Figure 7: A comparison of Transport Cost Structure for Export from Vientiane to Japan via Laem Chabang (Thailand) and Hai Phong (Vietnam)



Source: LIFFA, 2011.

Note: The cost estimation is for 40' container.

¹⁷ Personal interview, LIFFA (October, 2011).

CONCLUSIONS AND RECOMMENDATIONS

The development of economic corridors is one of the Lao government's priorities to strengthen the integration of the Lao economy with the sub-regional, regional and global economy. In addition, regional developments in Lao PDR over the next decade will enjoy a supportive environment, driven by major cooperation and a development framework such as the Northern Master Plan and the Cambodia-Lao-Vietnam Development Triangle. In recent years, more transport routes have been developed as alternatives for Lao exports. In addition to the GMS corridors such as Route No. 3 and Route No. 9, available alternative routes for Lao exports include Route No. 7 in Xiengkhuang, Route No. 8 in Borikhamsay, Route No. 12 in Khammuane and Route No. 18 in Attapeu. Route No. 8, No. 12 and No. 18 open alternatives for Lao exports by way of Vietnam as well as serving as Para-EWEC alternative east-west transport routes comparable to the EWEC. Finally, the ongoing development of Route No. 16B via Sekong will become another important alternative, especially for the southern region of Laos and Ubon Ratchathani of Thailand.

The aforementioned transport corridors have significant implications for the regional development opportunities for the provinces along the corridors. Potentials lie with the strengths that each province already possesses. Route No. 7 will strengthen Xiengkhuang's potentials in cattle farming, tourism, cash crop plantation and SEZ development. Route No. 8 provides the opportunity for Borikhamsay to develop its logistic service, tourism and SEZ. Similarly, Route No. 12 together with the completion of the Third Lao-Thai Friendship Bridge will accelerate the growth of Khammuane's economy through strengthening opportunities for the agro-forestry processing industry, tourism and SEZ development. Finally, the improvement of Route No. 18 and the development of Route No. 16B will play key roles in the development of the southern provinces of Laos, especially the agriculture and tourism sectors.

Benefits from recent investment in improving transport infrastructures have not yet met expectation, especially in terms of an increase of trade and investment. An important missing piece of the puzzle is the absorption capacity of the Lao economy from this improved transport infrastructure. Regional development is therefore one of these missing puzzle pieces that could contribute to the transformation of transport corridors into economic

corridors. In addition, the choice of transport corridor also diverges from the expectations. The development of alternative corridors such as Route No. 8 and Route No. 12 is expected to increase the use of the Vietnam seaports for the export of Lao goods to a third country. However, seaports in Thailand remain the most utilized ones for exports from Laos, especially from Vientiane Capital and the central region. In order to increase the absorption of the regional economy and contribute to the transformation from transport corridors to economic corridors, this study proposes the following recommendations.

- 1) Strengthening local people and domestic enterprises are crucial for the improvement of local absorption capacity. Financial and other incentives should be specifically given to local firms in essential sectors to facilitate and promote the development of those important sectors, taking into account the provincial real potentials and the development directions. Participation of the local people should be promoted via short training programs on important skills related to trade, tourism and other areas.
- 2) Tourism is the common sector in all studied areas that could drive the regional development of the province and increase the benefit from the corridors development. Road access to important tourist sites is among the priorities for infrastructure development in this sector. Local participation should be promoted and facilitated through short training for local tour guides, home-stay promotion and the like. SMEs should be developed in close linkage with the tourism sector. Local handicrafts, local food and snacks, rest areas, toilet service and convenience store are some examples for SME business opportunities.
- 3) The number of procedures at the Lao-Vietnamese border should be further reduced in order to increase the utilization of alternative routes via Vietnam.
- 4) Construction of connecting roads should be among the top priorities for infrastructure development. The construction of Route 16B should be further supported by the government as well as a consideration under the ADB's GMS framework.
- 5) Current momentum on trade facilitation and liberalization should be continued together with advancement in the implementation of the CBTA.
- 6) SEZ development is another common implication in all of the studied areas. The promoted sector in each SEZ should be further reviewed and linked with the province's actual potentials. The consideration between labor intensive and capital intensive sectors

should be taken into account and reflected in the incentives given to each sector. The complimentary and substitutability among the SEZs in the nearby region should be considered before the approval of any new SEZs.

REFERENCES

- ADB (2010a) *Sharing Growth and Prosperity: The Strategy and Action Plan for the GMS Subregion Southern Economic Corridor*. Manila: Asian Development Bank.
- ADB (2010b) “Concept Paper: Lao People's Democratic Republic: Pakse Urban Environmental Improvement Project”, Manila: Asian Development Bank, Philippines.
- Banomyong, Ruth (2001b) Multimodal transport: the case of Laotian garment exporters, *International Journal of Physical Distribution & Logistics Management*, Vol. 31 No. 9, 2001, pp. 663-685.
- ____ (2001a) “Modeling freight logistics: the Vientiane-Singapore corridor”, Proceedings of the First International Conference on Integrated Logistics (ICIL), Singapore, 21-24 August 2001, pp. 441-446, ISBN: 981-04-4562-8.
- ____ (2007) “Logistics Development Study of the Greater Mekong Subregion North South Economic Corridor”, A summary version of the Development Study of the North-South Economic Corridor supported by ADB RETA No. 6310.
- Christofakis, Manolis (2011) “The Growth poles strategy in regional planning: the recent experience of Greece”, *The Theoretical and Empirical Researches in Urban Management*, Volume 6 Issue 2.
- GOL (2010) “The Socio-Economic Development and Cooperation Master Plan for Development Triangle Area (DTA) of Lao PDR: Saravane, Sekong, Attapeu and Champasak province for 2010-2020”, The Government of Laos with technical assistance of the National Economic Research Institute, Vientiane.
- Kumagai, Satoru, Toshitaka Gokan, Ikumo Isono and Souknilanh Keola (2007) “Geographical Simulation Model for ERIA: Predicting the Long-run Effects of Infrastructure Development Projects in East Asia.” In *ERIA Research Project Report No.2: International Infrastructure Development in East Asia- towards Balanced Regional Development and Integration*, edited by Kumar, Nagesh. Jakarta: ERIA.
- Oraboune, Syviengxay (2007) “Infrastructure Development in Lao PDR.” In *ERIA Research Project Report No.2: International Infrastructure Development in East Asia- towards Balanced Regional Development and Integration*, edited by Kumar, Nagesh. Jakarta: ERIA.

_____ (2008) “Infrastructure (Rural Road) Development and Poverty Alleviation in Lao PDR”, *IDE Discussion Paper*, No. 151.

MFA Thailand, www.mfa.go.th/internet/emerald/ACTIONPLAN.doc.

Richardson, Harry W. (1978), “Growth centers, rural development and national urban policy: A defense”, *Regional Science Review*, December 1978, Vol.3, pp.133-152.

Stone, S., and A. Strutt (2009) *Transport Infrastructure and Trade Facilitation in the Greater Mekong Subregion*. ADBI Working Paper 130. Tokyo: Asian Development Bank Institute.

Available: <http://www.adbi.org/workingpaper/2009/01/20/2809.transport.infrastructure.trade.facilitation.mekong/>