

An Assessment of Small Medium Enterprises (SMEs) Development at the Border Twin Cities of the GMS: A Case Study of Aranyaprathet (Thailand), Mukdahan (Thailand), Mae Sai (Thailand), Savannakhet (Lao PDR) and Tachileik (Myanmar)

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ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
CBTA	Cross-Border Transport Agreements
EWEC	East-West Economic Corridor
GDP	Gross Domestic Product
GMS	Greater Mekong Sub-region
Lao PDR	Lao People's Democratic Republic
MPDF	Mekong Private Sector Development Facility
NGOs	Non-Governmental Organizations
NSEC	North-South Economic Corridor
PRC	People's Republic of China
SEC	Southern Economic Corridor
SEZ	Special Economic Zone
SMEs	Small and Medium Enterprises
UNCTAD	United Nations Conference on Trade and Development
UNESCAP	United Nations Economic & Social Commission for Asia & the Pacific

Abstract

Promoting and sustaining economic growth is an overall interest of every nation and one of the government's effective mechanisms to achieve this is to promote small and medium enterprises (SMEs). In many countries, including the Greater Mekong Subregion (GMS), SMEs are recognized as the backbone of economic growth as they contribute significantly to the country's GDP through job creation, income generation and poverty alleviation. In addition, SMEs also play an increasingly important role in development as global economic reforms move towards greater trade liberalization and privatization (UNCTAD, 2005).

However, the growth of SMEs in the GMS is often constrained by many factors, such as limited access to information and technological know-how, lack of competitive advantages, deficiencies in good governance, limitation in gaining access to funds and government efforts in creating environments for SMEs development including inefficient systems of information gathering and exchange, poor infrastructure of trading routes and borders and slow and costly customs procedures.

To eliminate the impediments and to promote the SMEs development in order to maximize the SMEs revenues, it is necessary to develop the infrastructure (hardware) to further reduce transportation time and costs and the Cross-Border Transport Agreement (CBTA), a multilateral legal instrument (software) to facilitate trade in the GMS region.

This study examines how the CBTA implementation and infrastructure development impact the SMEs' revenues in five border cities. This includes Aranyaprathet (Thailand), Mukdahan (Thailand), Mae Sai (Thailand), Savannakhet (Lao PDR) and Tachileik (Myanmar). The study also investigates the SME respondents' perceptions of the CBTA and infrastructures development in the five border cities. This comparative paper is written based on five individual reports completed by researchers in the GMS.

A personal administered survey with structured questionnaire was used to collect data via a convenient sampling of 811 SMEs owners in the five border cities in 2008. The questions were designed to obtain information on the profile of SMEs, their awareness of the CBTA, economic corridors and economic zones, the impact of infrastructure and CBTA development on SMEs' revenues, and the demographic and socio-economic profile of the respondents.

The research results revealed that the majority of the SMEs in five border cities are small enterprises in trading and service businesses and privately owned. Infrastructures and utilities (namely storm drainage system, solid waste disposal system, banking system, and public and private hospitals) significantly impact the SMEs revenue in the five border cities. Some of the problems at the border check points include inconsistent custom rules, laws, regulations, unfriendly immigration officers and lengthy immigration process, specific requirements for vehicles crossing, and short operating hours. The research results also revealed a great disparity exist between the five border cities in terms of the awareness of the CBTA, economic corridors and economic zones.

Keywords: SMEs, CBTA, infrastructure, economic corridors, economic zones

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1.0 Introduction

1.1 An Overview of SMEs Development

Promoting and sustaining economic growth is an overall interest of every nation and one of the government's effective mechanisms to achieve this is to promote small and medium enterprises (SMEs). In many countries, particularly in developing countries, SMEs are recognized as the backbone of economic growth as they contribute significantly to the country's GDP through job creation, income generation and poverty alleviation. In addition, SME sector also plays an increasingly important role in development as global economic reforms move towards greater trade liberalization and privatization (UNCTAD, 2005).

In the Greater Mekong Sub-region (GMS), SMEs are also considered as the main catalyst for economic growth in the six GMS economies, namely Cambodia, the People's Republic of China (Guangxi and Yunnan Provinces), Lao People's Democratic Republic, Myanmar, Thailand, and Viet Nam. Both governmental and non-governmental organizations in each GMS country have put many efforts in promoting the development of SMEs through a wide range of programs.

According to an Asian Development Bank (ADB, 2008) report, at the 10th GMS Ministerial Conference in November 2001, 11 flagship programs were initiated to enhance sub-regional economic cooperation and one of these 11 flagship programs is *Enhancing Private Sector Participation and Competitiveness* which aims to: (i) strengthen the microeconomic foundations of competitiveness in the GMS by providing support to SMEs, (ii) strengthen the indigenous private sectors in the GMS countries, especially in transition economies (such as Cambodia, China, Lao PDR, and Viet Nam), (iii) develop a network of private institutions in the GMS to promote business, trade and investment opportunities in the region, (iv) strengthen and expand mechanisms for private sector participation in the GMS, and (v) encourage private sector participation in sub-regional infrastructure projects (ADB, 2005a). Given that the SMEs comprise the mass of private production units in the GMS, enhancing private sector competitiveness in the GMS should include the SMEs as well.

It is estimated that about 99 per cent of enterprises in most GMS economies are SMEs (UNESCAP, 2008) and by promoting SMEs, it is expected to increase business activity, investment and trade, and generate employment, which in turn will result in increased incomes and consumption, pro-poor growth, promoting competitiveness, and ultimately, accelerating the process of regional integration in the GMS (see Table 1). As a result, the Mekong Private Sector Development Facility (MPDF), which is the largest SME facility in the Mekong Region, has actively supported the SMEs by providing company advisory assistance (market development, management improvement, and business planning), business development services (capacity building of private sector associations), and fostering reforms in the business enabling environments (research on specific SME-related issues, dissemination of research findings, and policy dialogue with governments) with technical assistance supported by the ADB (ADB, 2005). The ADB has also established the Mekong Equity Fund in 2001 to provide long-term equity support to SMEs.

Table 1. SMEs in the Greater Mekong Subregion

		Year	No. of SMEs (1,000)	SMEs as % of all enterprises	SME employees as % of total employment	Source
Cambodia		2007	32.6	99	45	ADB
PRC	Yunnan	2007	87	99	80	www.yn.xinhuanet.com
	GZAR	2007	63.1	99.6	86	www.smegx.gov.cn
Lao PDR		2006	12.7	99.8	83	ADB
Myanmar		2004	40.2	92.6	80	Ministry of Industrial, Myanmar
Thailand		2007	2,275	99.5	75.4	Office of SMEs Promotion, Thailand
Vietnam		2007	291	97	50	General Statistics Office Vietnam

According to the ADB (2005), support for private sector SME development can be carried out by reforming financial sectors, providing direct financial assistance to SMEs, and creating enabling business environments. One of the ways to reach the latter approach is through transport infrastructure development as it can increase SMEs productivity by reducing transport costs and moving goods and people more efficiently, and give them a competitive position in the global market.

Under the 11 flagship GMS programs, three major economic corridors have been initiated for transport infrastructure development, including the East-West Economic Corridor (EWEC), the North-South Economic Corridor (NSEC), and the Southern Economic Corridor (SEC)¹. The SEC stretches across three GMS countries (Thailand, Cambodia and Viet Nam), and comprises of 3 border crossing points at the Aranyaprathet (Thailand) – Poipet (Cambodia), Bavet (Cambodia) – Moc Bai (Viet Nam), and Hat Lek (Thailand) – Cham Yeam (Cambodia). Although the transport infrastructure along the SEC is not as well developed as the other two economic corridors, the SEC is still expected to play a crucial role in promoting SMEs development in the GMS countries as the transportation costs and time for importing and exporting goods and services will be shortened. The SEC Flagship Initiative includes road, rail, water transport, and air transport linkages; and the first road component projects, the Bangkok – Aranyaprathet – Phnom Penh – Ho Chi Minh City – Vung Tau road improvement project (GMS R1) and the Southern Coastal Road Corridor (GMS R10) are considered high priority by the GMS countries. The flagship initiative also includes the development of fiber optic transmission links and two power transmission interconnection options (ADB, 2005). Keorodom et al. (2007) study the perspective of the EWEC on business development in Savannakhet province, Lao PDR. They reported that 25 percent of the respondents benefited after the completion of the Second Mekong Bridge and 17 percent reported that the development of the EWEC decreased transportation costs in importing and exporting goods and services. These development programs can help enhance SMEs development along the SEC.

With the development of transport infrastructure (hardware) and to further reduce transportation time and costs, the Cross-Border Transport Agreement (CBTA), a multilateral legal instrument (software), initiated by the GMS as one of the key projects with regard to trade facilitation, came into force on 31 December 2003. The objectives of the CBTA are to facilitate the cross-border transport of goods and people between and among the contracting parties, to simplify and harmonize legislation, regulations, procedures, and requirements relating to the cross-border

¹ For details on routes and border crossings along each corridor see *Attachment to Protocol 1* or from <http://www.adb.org/Documents/Others/GMS-Agreement/Protocol1-Attachment.pdf>

transport of goods and people, and to promote multimodal transport (<http://www.adb.org/GMS/Cross-Border/part1.asp>).

As defined in the CBTA Protocol 1, the CBTA will be implemented on a pilot basis at five of the 15 border crossing points (see Figure 1). For example, Aranyaprathet is one of the pilot border twin cities located along the SEC and is one of the most significant border cities since its location is the nearest to Bangkok and Laem Chabung. In this regard, if the CBTA is fully implemented, all types of SMEs in Aranyaprathet border city will benefit from lower transport costs and time, increased tourism, and greater opportunities for cross-border trade and investment.

It is anticipated that the implementation of the CBTA software will bring more benefits to the local SMEs because it can further facilitate the freer and more efficient movement of people (customers), goods and services across the borders; and further reduce transportation time and costs. Based on the interviews with the SME respondents, some reported they were satisfied with the road condition in the five border cities but they admitted that the towns are still deficient in public transport, which is inconvenient to people's movement. Furthermore, the survey results revealed that the development of the economic corridors and economic zones have marginal impact in the region.

1.2 Problem Statement and Research Objectives

SMEs have increasingly played an important role and are seen as the growth drivers of most GMS economies because they are the primary contributors to the member country's GDP and the major source of domestic employment. However, most SMEs in the GMS economies face a number of impediments including the absence of a clear SME development policy and coordination framework, tedious and costly procedure for business registration and licensing, limited access to financial and physical resources, limited access to international markets and quality standards, lack of a level playing field with state-owned enterprises, and ineffective enforcement of economic contracts (ADB, 2004). Poor infrastructure, services and unfavourable business environment also hamper the productivity and competitiveness of SMEs (ADB, 2004; Kyaw, 2008). In addition, SMEs in the GMS countries are often handicapped by their weak technical capacities, lack of modern management knowledge, and lack of access to information, capital and links to foreign markets (ADB, 2004). For example, the SMEs in Aranyaprathet border city are family-owned and operated or with a few employees, and they usually have limited resources, fewer in-house specialist skills and limited capacity to deal economically with changes, compared to the larger enterprises.

This research examines how the implementation of the CBTA initiatives and infrastructure development impact SMEs businesses in the five border cities of Aranyaprathet, Mukdahan, Mae Sai, Savannakhet, and Tachilek. The SMEs in the five border cities face constraints such as roads, electricity, water, drainage and waste system, hospital, banking system, telecommunication. For example, the existing roads, electricity, and banking facilities in the five border cities are inadequate and inefficient. The research objectives are:

- To study the characteristics of SMEs in the five border cities;
- To study the impacts of the CBTA and infrastructure development on SMEs in the five border cities; and
- To examine the SME respondents' perceptions of the CBTA, infrastructure, economic zones and economic corridors development in the five border cities.

1.3 Research Study Sites

There are eight cross border cities connecting the neighboring GMS countries including Lao Bao-Dansavanh, Poipet-Aranyaprathet, Mukdahan-Savannakhet, Bavet-Moc Bai, Mae Sot-Myawaddy, Mae Sai-Tachilek, Hekou-Lao Cai, Youyiguan (Guanxhi) and Huu Nghi (Vietnam). For example, the Savannakhet-Mukdahan border is one of the most important borders that link the EWEC through the Second Mekong Bridge and Route No. 9. This study covers five border cities of Aranyaprathet, Mukdahan, Mae Sai, Savannakhet and Tachilek which share a border with Thailand.

1. Tachileik, is a border town in the Shan State of eastern Myanmar (formerly Burma). It is 37 kilometers away from Wan Pong, a famous city of the Golden Triangle Area
2. Mae Sai is the northernmost district (Amphoe) of Chiang Rai Province in northern Thailand. It is a major border crossing between Thailand and Myanmar, where Asian Highway Network AH2 (Thailand Route 1 or Phahonyothin Road) crosses the Mae Sai River to Tachileik in Myanmar.
3. Mukdahan became Thailand's 73rd province in 1982. Located in the northeastern (Isan) region of the country, on the banks of the river Mekong, it was formerly a district of Nakhon Phanom Province. Savannakhet (Laos) / Mukdahan (Thailand), the Second Thai Lao Friendship Bridge connects Savannakhet to Mukdahan (<http://www.justthailand.org/thailand/thailand-routes.asp>). Mukdahan has been regarded as a land of bountiful natural rocks and a major gateway to Lao PDR and Vietnam.
4. Aranyaprathet border city is one of the 9 districts in Sa Kaeo Province, located in the eastern border of Thailand, facing Poipet, Cambodia. Aranyaprathet is well known as a business centre with “Ban Khlong Luek” border market or Rong Kluea market at Aranyaprathet-Poipet border crossing
5. Savannakhet is a province located south of Lao PDR. It is bordered by Khammouan to the north, Salavan to the south, Quang Tri and Thua Thien-Hue of Vietnam to the east and Nakhon Phanom and Mukdahan of Thailand to the west (http://en.wikipedia.org/wiki/Savannakhet_Province). Most of the SMEs import products from Thailand through the Second Mekong bridge

The study is organized as follows: Section I provides an introduction to the study and Section II discusses the role of SMEs in the GMS and the difficulties faced by the SMEs in the GMS. It also highlights the importance of the Cross Border Transport Agreement (CBTA) and infrastructure development in enhancing economic development in the GMS. Section III discusses the data collection and research methodology. Section IV presents the results and findings of the research. Section V concludes the study, and discusses limitations and suggestions for future study.

2. Background

2.1 Role of SMEs in the Greater Mekong Subregion

There is no precise definition of SMEs. According to UNESCAP (2008), SMEs can be considered as local enterprises that are relatively small in their scale and scope of operations. For statistical and policy purpose, most countries use either an employment measure or a monetary measure (capitalization, sales, etc.) of size, or both in defining SMEs. For example, SMEs can be as large as 500 employees or as small as zero employee, or anywhere in

between, and the only really common characteristic of SMEs is that they are “not large,” whether a firm is really an SME or not is a question of relative size.

The definition of SMEs in the GMS varies from country to country. SMEs in the GMS countries generally refer to those enterprises which do not hold leading position in the market and are relatively small in business scale. The number of employees and value of assets are generally the index used to classify SMEs in the GMS (UNESCAP, 2008). For example, in Thailand, micro enterprises are defined as having between one and ten workers while SMEs is defined as a business, which employed between 10-200 workers (Wiboonchutikula, 2000). According to the Vietnamese Government Decree 90/2001/ND-CP (2001), SMEs in Vietnam are defined as independent production and business establishments with registered capital not exceeding VND 10 billion or employment not exceeding 300 people (@www.business.gov.vn). The non-uniformity of definition (see Table A1 to A5 in Appendix I) has made the design, implementation, coordination and evaluation of SME-related policies difficult among the GMS countries (Dutta, 2009).

SMEs can be found in virtually every field of socio-economic activities and services - in both urban and peri-urban areas, and across domestic provinces and regions within the GMS. SMEs cater largely to the local markets (Dutta, 2008). A small number of SMEs have been highly successful in their outward orientation - as direct exporters, or as suppliers to domestic exporters. Majority of the SMEs are labor-intensive with simple technologies, including processing and manufacturing activities. Most of the SMEs in Thailand are owned and operated by the entrepreneurs and members of their extended families. The entrepreneurs themselves tend to play a crucial role in the success or failure of the SMEs concerned. It employs between 75-90% of domestic workforce, especially young persons and women (Dutta, 2008). For example, in border town of Mae Sai, the majority of the SMEs owners are female.

SMEs are a major source of entrepreneurial skills, innovation, and employment for the sub region. They represent not only a majority of the total stock of enterprises but also a significant proportion of the national production system in most GMS countries. For example, in Cambodia, SMEs accounts for 99% of all enterprises and employed 87,072 labors in 2006 (Vanthouch et al., 2008). Similarly, the number of SMEs in China accounts for 99% percent of all enterprises, and provide more than 75% of employment opportunities (Xiangfeng, 2007). SMEs in Myanmar dominate most of Myanmar's economic sectors, accounting for 90 percent of the industrial sector and 99 percent of the manufacturing sector (Union of Myanmar Federation of Chambers of Commerce & Industry, 2006). The total number of small, medium and large enterprises throughout Thailand is estimated at 2.01 million. Out of these, 99 % or approximately 1.99 million are SMEs (Chewcharat, 2008). In Vietnam, the SMEs contribute to 39% of the GDP and 85% of the total workforce. Furthermore, the Vietnamese SMEs comprises more than 90% of all registered enterprises in 2007 (Cuong et al, 2007). Similarly in Lao PDR, SMEs play a very important role in the economy. According to a report by SMEs Promotion Development Office (SMEPDO) in 2007, the number of SME establishments was more than 134,000, representing 95% of the total establishments in the country. In terms of human development, SMEs offer more than 400,000 job opportunities. Thus, SMEs are seen as the prime vehicle to sustainable economic growth and development in the sub region.

A healthy and sustainable development of SMEs is essential to long term economic growth in the context of regionalism and globalization. In order to achieve a competitive business environment, the GMS member countries have placed greater emphasis on promoting SME development. For example, the SME Development Framework has been developed in Cambodia to improve and coordinate the government's efforts in promoting SME activity in a market economy focusing on regulatory and legal framework, access to finance, and SME support activities (Kanika, 2008). The Prime Minister's Decree No. 42 in 2004 on the

“Promotion and Development of Small and Medium-sized Enterprises” is the first official, high-level document defining directions and policies for SME development in Lao PDR. Furthermore, a SME Promotion and Development Fund has been established to provide support to SME development (Phoumilay and Douangsavanh, 2008). In Myanmar, the Private Industrial Enterprises Law and the Promotion of Cottage Industrial Law were enacted in 1990 and 1991 respectively, in order to boost industrialization process through private sector investment (Kyaw, 2008). Thailand has the most number of SMEs in the GMS. For example, the Office of SME Promotion has been called to solve obstacles faced by entrepreneurs affected by the 1997 financial crisis, and promote SMEs under the concept of “creating more entrepreneurs in Thailand and to enable SMEs to achieve international standards in strength and stability and to become a major factor in the general economy and community (Department of Industrial Promotion of Thailand, 2003). The SME Development Bank of Thailand was established in 2002 to provide liquidity to the SME sector (www.smebank.co.th). In addition, intermediary organizations such as chambers of commerce at different levels have grown in importance in most GMS countries aimed at improving linkages among members and pursuing their industry interests with government assistance to improve local business conditions and investment climate (ADB, 2005).

2.2 Difficulties Confronting SMEs in the GMS

Many of the traditional problems facing SMEs include lack of financing, difficulties in exploiting technology, constrained managerial capabilities, low productivity and regulatory burdens, which become more severe in a globalized environment (OECD, 2006). The lack of competitive advantages, limitation in gaining access to funds, deficiencies in good governance, and government efforts in promoting SMEs are also problems confronting SMEs development (Dejvitak, 2006; Wattanapruttipaisan, 2003). In addition, UNECE (2007) reports that the major impediments to trade include the following: inefficient systems of information gathering and exchange which allow for subjective control and corrupt practices; bad infrastructure of trading routes and borders; slow and costly customs procedures; bad coordination among control agencies inside and between countries; and high and often unsanctioned transit fees. These obstacles make the cost of exports high.

Most of the SMEs in Lao PDR face not only internal but also external constraints. The internal constraints include a lack of financial support and low skilled management and marketing, and inadequate knowledge of law and regulation while the external constraints include inefficient and insufficient infrastructure development and unfavorable administrative and regulatory business environment. SMEs in Savanakheth province also face similar problems. They face more challenges and constraints from infrastructure development including road, public transportation, electricity, water, drainage and waste system, telecommunication, hospital, banking system and the CBTA. The Lao-German Programme on Human Resource Development (2006) conducted a baseline survey on SMEs in Lao PDR. The survey result reported that the physical infrastructures are in good working conditions in the capital city of Vientiane but the SMEs in other provinces have difficulties in accessing basic utilities, such as electricity, water, internet, and telephone.

The growth potential of SMEs in Myanmar is limited by power shortages, rising fuel prices, escalating rentals and property prices, high cost of inputs, as well as increasing expenses (Kyaw, 2008). In Vietnam, e-commerce is expected to play a vital role in Vietnam’s growth and development in the future. Currently however, especially in rural areas, the lack of proper telecommunications, hardware and software, training, human skills and access to technology constitute major obstacles to the development of e-commerce for SMEs. Major effort is required of the Vietnamese government to improve the current situation. A World Bank study (Konishi, 2003) identified key constraints in the competitiveness of the private sector in Cambodia, which relate to some causes of the added cost of doing business in Cambodia: (1)

high costs for customs clearance; (2) red tape and bribery; (3) smuggling; and (4) high energy costs. SMEs in China are constrained by (1) government rules and activities that burden SMEs; (2) incomplete development of market-economy institutions; and (3) insufficient dissemination of business and technical knowledge (World Bank, 2004).

2.3 Importance of Cross Border Transport Agreement (CBTA) and Infrastructure Development in Enhancing Economic Development in the GMS

The GMS countries received support from the ADB to enhance connectivity, increase competitiveness, and greater sense of community in the region (Mekong Institute, 2008). The Mekong transport sector development plans consist of 11 projects including economic corridors, railways, airport, and highway. The Northern Economic Corridor (NEC) is one of eleven projects linking Myanmar, Thailand, Lao PDR, and South of China (ADB, 2007). The development of the economic corridors is one of most significant activities within the GMS cooperation framework. These economic corridors are major hubs or centres of economic activity and exchanges in well-defined geographical areas, and centered along transport routes where infrastructure development and economic activities are integrated.

The GMS economic corridors were designed: 1) to link the sub-region with road network, including transport (roads, rail, airports and seaports), energy, water, sewer, telecommunications systems, and irrigation; 2) to facilitate cross-border trade and investment that are considered an important vehicle of growth for the sub-region and; 3) to enhance private sector participation in development and improving its competitiveness (Mekong Institute, 2008). The goal is to develop a highly efficient transport system, which allows goods and people to circulate or move around the region without significant impediment or excessive cost or delay. Furthermore, the transportation networks and linkages are developed to promote economic growth, regional development, poverty reduction, and tourism. Transportation infrastructures are the arteries that provide access for the free flow of people, goods, and information that are necessary in an export oriented economy. The success of the corridor initiative requires the successful implementation of the CBTA initiatives and annexes among the GMS countries.

According to the ADB , the CBTA initiatives cover all the relevant aspects of cross-border transport facilitation, including: a single window and single stop customs inspection; the cross- border movement of people (multi-entry visa, recognition of driver license); transit traffic regimes (exemptions from physical customs inspection, bond deposits, escorts, and agriculture and veterinary inspections); requirements that road vehicles will have to meet to be eligible for border crossings; exchange of commercial traffic rights and; infrastructure (road and bridge design standards, road signs, and signals) (Mekong Institute, 2008. p. 13).

Transportation facilities that are included in physical infrastructure are critical to economic development, enabling access to resources, goods, and markets. Moreover, transportation consists of the means and equipment necessary for the movement of people or goods and it tends to be high-cost investments (www.investopedia.com). According to the GMS Regional Policy Dialogue (2008, pp. 14), increased movement of goods and people increased exports from the GMS economies from US\$ 26.2b in 1990 to US\$ 153b in 2005. As a result, a compound annual rate of 12.3 percent increases twice as fast as that of world exports. Further, the level of market openness has risen throughout the region as well as the ratio of intra-regional trade to total GMS trade, which grew from 5 percent in 1992 to more than 12 percent in 2002, and continues to rise. There has also been a marked change in the commodity structure of exports.

The development of economic corridors in the GMS countries encourages and promotes the growth of foreign direct investment and diversified the development of SMEs. For example,

Thailand is one of the most successful GMS countries to develop industrial zones. There are some 30 diversified industrial estates throughout Thailand, with key sectors in automobile, consumer products, and electronics. Majority of the manufacturing companies are located in the industrial zone. The sector created more than two million suppliers to support the businesses and half of the suppliers are SMEs (Punyasavatsut et al, 2007). Savannakhet province was developed into a special economic zone since 2002 under the Savan-SENO Special Economic Zone Authority (SEZA). According to the report on special economic zone development in border area by KRI International Corp. and Nippon Koei Co., Ltd (2001), SEZA would create about 14,000 jobs and increase the number of subcontractors especially SMEs in the area.

The CBTA was initially implemented at selected border crossing points between 2005- 2008. By the year 2009-2010, when the CBTA initiatives and annexes are fully implemented, the creation and development of at least 14 border crossing points would facilitate overland trading activities to provide access to the large, neighboring markets (Mekong Institute, 2008. p. 14). Moreover, interconnected power transmission lines and telecommunication links have been designed to provide increased flexibility and reliability of electricity supply and ensure intra-regional communications throughout much of the sub region. These actions would enhance the growth and development of SMEs in the GMS.

In addition to the CBTA and infrastructure development, SMEs can also be affected by the economic corridors and economic zones (or special economic zones) development under the framework of the GMS programme. The economic corridors development is one of GMS's flagship programmes, which aims to strengthen economic cooperation among the GMS members by reducing cost of transport along the corridors, enhancing efficiency in movement of goods and people, rural development at border areas, increase income in the region, increase job opportunities, and promote tourism (ADB, 2008). There are three initial economic corridor development projects at present: the North-South Economic Corridor, East-West Economic Corridor, and Southern Economic Corridor.

The implementation of the economic corridors has developed significant changes in many sectors in the GMS countries resulting from several interrelating factors such as improvement in cross-border trade, increase in tourism and investment (Mekong-Ganga Policy Brief, 2007). For example, Mukdahan province is part of the East West Economic Corridor (EWEC) linking Myanmar, Thailand, Lao PDR and Vietnam, some 1,450 km. It also links Thailand and Lao PDR via Mukdahan-Savannakhet border crossing point (ADB, 2005). Aranyaprathet-Poipet is one of the pilot border twin cities located along the SEC and is one of the most significant border cities since its location is the nearest to Bangkok and Laem Chabung. The SEC helps SMEs in the district to eliminate some of the impediments and barriers in order to reduce the cost of production and maximize revenues.

The development of special economic zone (SEZ) needs support from governments to benefit the SMEs. For example, the Thai government has plans to set up a SEZ in the border area in Mukdahan (Wongvittit, 2008). However, the SEZ at the border area needs close cooperation between Thailand and its neighbouring countries to make it successful and beneficial to all parties. The government should have measures to protect the SMEs from competition from foreign investors. The Thai government should also pay attention to the development of twin cities at the border area as part of a mega project under the GMS framework. For example, there are efforts to enhance border trade between Thailand and Lao PDR through the industrial zone in Mukdahan and the Savan-Seno SEZ in Savannakhet. There is also a proposed regional development project (Mukdahan-Savannakhet SEZ in the border area) as part of a series of development projects conducted by international donors such as the ADB and by each member country to promote regional development (JICA, 2007).

3. Data and Research Methodology

3.1. Data

The lack of published research relating to infrastructure and the CBTA development in the five border cities made it necessary to collect primary data to answer the research objectives of this study. The questionnaire was designed specifically for this study as this research is exploratory. An extensive review of the literature and focus group discussions were used to help identify the infrastructure and the CBTA factors that impact the SMEs development in the five border cities.

The survey questionnaire is divided into four sections. The first section was designed to collect data on SMEs' characteristics in the five border cities of Aranyaprathet, Mukdahan, Mae Sai, Savannakhet, and Tachilek. Section Two was designed to collect data relating to the respondents' awareness of the CBTA development. Section Three was designed to collect data on the impacts of the infrastructure and CBTA development in promoting SME development in the five border cities. The last section established the demographic and socio-economic characteristics of the SME respondents who participated in this study.

The survey questionnaire was designed and implemented according to the Dillman Total Design Method (1978), which has proven to result in improved response rates and data quality. Nominal and interval scales were used to measure the questions on profile of SMEs and the demographic characteristics of the respondents. The questions on the perception, awareness, and impact of the CBTA, economic corridors and economic zones and infrastructure development were measured in a five-point Likert scale. The questions were phrased in the form of statements scored on a 5-point Likert-type scale, where 1 = "strongly disagree," 3 = "neither disagree nor agree," and 5 = "strongly agree."

To assess the reliability and validity of the questionnaire, a pre-test was conducted. As the questionnaire was developed specifically for this research, pre-testing helped to clarify the items used in the questionnaire. Ten questionnaires were randomly distributed to SME respondents 18 years and older. The respondents were encouraged to comment on any questions or statements that they thought were ambiguous or unclear. Some modifications to the questionnaire were made as a result of this process.

Following this, the team members participated in a mid-term training in August 2008 organized by the Mekong Institute. Changes were made to the survey questions based on the feedback from the pre-test during the training. The revised questionnaire was translated into local languages and then administered to a convenient sample of 811 respondents in the five border cities (see Appendix II). The survey questionnaires were conducted using face-to-face interview with the respondents. This method of data collection is one of the most widely used methods to gather information from consumers (Wong, 1996). In addition, secondary data from various sources were obtained to support the study.

3.2 Methodology

Descriptive statistics were used to answer the first and third research objectives. Ordinal regression was used to answer the second research objective, which explained the relationship between changes in SMEs' revenue (dependent variable) and the CBTA and infrastructure development (independent variables).

The correlation matrix was computed to check for correlation among the independent variables. If there is a high correlation among the independent variables, they will be grouped into one variable by applying factor analysis and reliability test in SPSS version 15. This rectifies the multi-collinearity problem arising from high correlation among the independent

variables. Thus, factor analysis was employed to reduce the large number of variables to a smaller set of underlying factors that summarize the essential information contained in variable. Following this, reliability test was conducted to identify the relevant factors from the factor analysis. We then ran ordinal logistic regressions. Table 2 shows the consolidated factor analysis output from the five border cities. Results of the complete factor analyses and ordered logistic regressions are available upon request from the authors.

Table 2. Consolidated Factor Analysis Output

City	Independent Variables (Derived from Factor Analysis)
Tachileik	Factor analysis is not applicable due low response rate on the CBTA questions
Mae Sai	Utility1 (+) = (Electricity, water supply, public transport, telecommunication, banking, roads and bridges) Network = (Inspection, competition, networking, number of SMEs, transport cost) Utility2 = (Drainage system, hospital, waste disposal system)
Aranyaprathet	Utility1 (+) = (Electricity supply, public transport, piped water supply, roads and bridges, telecommunication) Infrastructure1 (+) = (Inspection, networking, number of SMEs, transport cost) Infrastructure2 (+) = (Storm drainage system, solid waste disposal) Comp (+/-) = (Competition, and migration) Utility2 (+) = (Banking, public and private hospitals)
Mukdahan	Infrastructure and utilities1 (+/-) = (Hospital, banking, roads & bridges, electricity, public transport, telecommunication) Utility2 (+/-) = (Drainage system, waste disposal system, water supply) CMI (+/-) = (Competition, migration and inspection)
Savannakhet	Utilities (+) = (Electricity, water and transportation) CNI (+) = (Cost, network, and inspection) Growth and competition (+/-) = (Increasing number of SMEs, Increasing competition among SMEs) BT (+) = (Banking, telecommunication system)

3.3 Empirical Model

Many dependent variables of interest will have more than two possible categories. These categories might be unordered (doesn't move, moves South, moves East) or ordered (high, medium, low; favors more immigration, thinks the level of immigration is about right, favors less immigration). For example, the SME respondents were asked whether their business revenues have increased, remained the same, or decreased in the last 12 months. An ordered logit model is used in this case. The reduced form model follows can be written as:

$$\text{Revenue} = f(\text{Infrastructure, CBTA}, \epsilon) \quad (1)$$

Where

Revenue = SMEs' revenue is based on the question Q28, "has your business revenue increased, remained constant or decreased" in the last 12 months?

Infrastructure (+) = SME respondents' perception of the infrastructure development

CBTA (+) = SME respondents' perception of the CBTA development

ϵ = error term

4. Results and Discussions

A total of 811 respondents were interviewed at the five border cities. However, only 61 respondents' businesses in Savannakhet and 60 in Tachileik met the criteria of the SME definition in our study (see Table A1 to A5 in Appendix I). This resulted in a useable response rate of 83.5% (see Table 3).

Table 3. Sample Size and Useable Response Rate of the Study

City	Sample Size	Useable Sample Size	Useable Rate
Aranyaprathet	200	200	100%
Mukdahan	206	206	100%
Mae Sai	150	150	100%
Savannakhet	155	61	39%
Tachileik	100	60	60%
Total	811	677	83.5%

A profile of sampled respondents is presented in Table 4. The respondents in Tachileik, Aranyaprathet and Savannakhet are mostly male; mostly female in Mae Sai and Mukdahan; and mostly married in all the cities at the time of the survey. Majority of the survey respondents were between 35 to 46 years old and have at least a bachelor degree except for Aranyaprathet and Savannakhet where most of the respondents have only high school education.

In terms of business revenue, the SMEs in the five border cities earned lower than USD 5,000 in the past 12 months. There is no large gap in the revenue of SMEs in the five cities. One reason is that the scale of production and cost are similar. The change in SMEs revenue in the past 12 months differs in the five cities, where the results show an increase of SMEs revenue in Mae Sai and a decrease in Mukdahan. The average annual revenue is the same for all five cities with similar SME sizes having no more than 10 employees (see Table 4).

Table 4. Profile of the Respondents

Demographic Profile	Tachileik	Mae Sai	Mukdahan	Aranyaprathet	Savannakhet
Gender	Male (63.5%)	Female (51.1%)	Female (57.8%)	Male (51.3)	Male (52.5%)
Age Group	36-45 (31.3%)	25-35 (42.4%)	25-35 (35.3%)	36-45 (33.8)	25-35 (36.1%)
Marital Status	Married (68.7%)	Married (66.9%)	Married (59.5%)	Married (65.3)	Married (70.5%)
Education Levels	Bachelor Degree (34%)	Bachelor Degree (39.9%)	Bachelor Degree (25.5%)	High School (22.6%)	High School (44.3%)
Annual Business Revenue	<USD5000 (38.7%)	<USD5000 (43.9%)	<USD5000 (50.7%)	<USD5000 (48.2%)	<USD5000 (57.4%)
Situation of Business Revenue	Constant (42.9%)	Increased (54.7%)	Decreased (36.8%)	Constant (57.3%)	Constant (59.0%)

4.1 Characteristics of SMEs at the Five Border Cities

Table 5 shows the characteristics of SMEs in the five border cities. In terms of the number of employees, majority of the SMEs in Mae Sai, Mukdahan and Aranyaprathet have less than 5 employees while the SMEs in Tachileik and Savannakhet have between 8 to 10 employees. The SMEs in three border cities are mostly in the trading sector while those in Mae Sai and Savaanakheth are involved in the service sector. It is noticeable that all of the SMEs in the five cities are privately-owned businesses. For example, 85.5% of the SMEs in Mukdahan hire no more than 5 employees and most of them finance their business using their personal savings. Similarly, the survey result shows 71% of the SMEs in Mae Sai finance their business from personal saving followed by family funds (35.9%), and loan from bank (22.8%). Furthermore, most of the SMEs respondents have difficulty in accessing financing since most of the financial institutions require collateral and high interest rate in lending. These results reflect the findings of Dutta's (2008) SME study. The privately owned business finances usually come from personal and family savings. Therefore, most of the SMEs in the five cities face major constraints in expanding their business due to the limitation of financial resources.

Most of SMEs buy their products from Thailand but some of the products are imported from neighboring cities such as Lao PDR and China in response to the demands of the local people. For example, in Mae Sai, 84.7 percent of the goods are imported from Thailand, followed by China (31.3%), Myanmar (10.7 %), and only a small proportion (1.3 percent) are from Lao PDR. Similarly, in Mukdahan, Thai suppliers were the main sources of goods for the SMEs, accounting for 96.6% followed by Lao PDR (11.2%) and China (9.7%). The survey results also show that most of the SME respondents ordered their goods predominantly by telephone followed by personal contact and fax. With regards to border crossing, the data showed that most of the SME respondents took less than 5 trips across the border per month and the average crossing time was between 10 and 30 minutes. Half of the total SME respondents in Aranyaprathet and Mukdaham did not cross the border in a given month.

The duration of transporting goods from the suppliers to the SMEs is usually less than one week except for Mae Sai which requires more than 3 weeks to transport. For example, the survey results revealed that 98.5% of the SME respondents in Mukdahan transport their goods by road and 10.2% by water. Transportation in all these five cities is commonly by road. The major problems people encounter when crossing the border include lengthy immigration process, problems of inconsistent custom rules, laws, and regulations in Mai Sai, and expensive visa and custom fees in Savanakheth. For example, 30.8% of the total SME respondents in Tachileik reported lengthy immigration process as the main problem they faced when crossing the Tachileik – Mae Sai border check point. Crossing the border in Mukdahan required additional charges, such as passing through fee, service charge, vehicle fee, and health related inspection fee. It is anticipated that the implementation of the CBTA will rectify some of these border cross problems.

Table 5. Characteristics of SMEs in the Five Border Cities

Characteristics of SMEs	Tachileik	Mae Sai	Mukdahan	Aranyaprathet	Savannakhet
No. of staff	10 (18.9%)	2 (18.7%)	2 (21.4%)	2 (20.1%)	8 in average
Types of Business	Trading (50.5%)	Services (63.7%)	Trading (69.4%)	Trading (41%)	Services (50.8%)
Types of Ownership	Private (60.0%)	Private (69.3%)	Private (62.6%)	Private (61.81%)	Private (73.8%)

Means of Business Finance	Personal savings (62.4%)	Personal Savings (71.0%)	Personal Savings (61.7%)	Personal savings (50.8%)	Personal Savings (81.9%)
Supplier	Thailand (42.6%)	Thailand (84.7%)	Thailand (96.6%)	Thailand (98.0%)	Thailand (43.6%)
Transportation	By road (83.3%)	By road (84.0%)	By road (98.5%)	By road (99.5%)	By road (91.3%)
Frequency of Order	More than 3 times (57.3%)	2 times (84.0%)	More than 3 times (17.5%)	None (62.8%)	More than 3 times (42.6%)
Duration of Goods Transport	Less than 1 week (40.2%)	More than 3 weeks (62.0%)	Less than 1 week (68.4%)	Less than 1 week (64.3%)	Less than 1 week (47.5%)
Means of Goods Order	Telephone (56.0%)	Personal contact (61.0%)	Personal contact (73.8%)	Telephone (83.4%)	Telephone (60.7%)
Main Customers	Thailand (42.6%)	Thailand (64.0%)	Thailand (98.5%)	Thailand (90.0%)	Lao PDR (90.2%)
Number of trip(s) /month	Less than 5 trips (46.5%)	Less than 5 trips (50.0%)	None (56.3%)	None (58.3%)	Less than 5 trips (49.2%)
Duration of Border Crossing	Between 10-30 minutes (57.6%)	More than 31 minutes (31.9%)	Never cross the border (52.9%)	Never cross the border (57.8%)	Never cross the border (29.5%)
Additional Charge for Border Crossing	Passing through (47.7%)	None (71.0%)	Passing through (40.3%)	None (71.9%)	None (27.1%)
Problems faced during Crossing the Border Checkpoints	Lengthy immigration process (30.8%)	Inconsistent custom rules, laws, regulations, etc. (36.2%)	Lengthy immigration process (33.0%)	Lengthy immigration process (59.3%)	Expensive visa and custom fee (22.4%)

4.2. Impact of Infrastructure and the CBTA Development on the SMEs in the Five Border Cities

4.2.1 Ordered Logistic Results

The SPSS ordinal regression procedure or PLUM (Polytomous Universal Model), an extension of the general linear model to ordinal categorical data, was used to estimate our model. Preliminary analyses of the ordered logistic regressions show no significant relationships between the infrastructure and the CBTA development on SMEs' revenues for Mae Sai and Mukdahan but significant relationship for Aranyaprathet. The ordered logistic regression is not applicable to SMEs in Tachileik and Savannakhet due to the low response rates (see Table 6).

Table 6. Impact of Infrastructure Development and CBTA on Changes in SMEs Revenue in the Five Border Cities

Tachileik	Mae Sai	Mukdahan	Aranyaprathet	Savannakhet
Ordered logistic not applicable due to low response rate	Ordered logistic regression shows no significant relationship Ordered logistic not applicable	Ordered logistic regression shows no significant relationship	Infrastructure2 (storm drainage system and solid waste disposal) and Utility2 (banking and public and private hospitals) are significant at the 5% level of significance	Ordered logistic not applicable due to low response rate

Table 7. Ordered Logit Results (Aranyaprathet)

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	28.969			
Final	12.742	16.227	5	.006

Link function: Logit.

Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[revenue2 = 1]	34.862	18.453	3.569	1	.059	-1.305	71.029
	[revenue2 = 2]	38.856	19.856	3.830	1	.050	-.060	77.773
Location	Utility1	.197	1.894	.011	1	.917	-3.515	3.910
	Infrastructure	1.294	1.751	.546	1	.460	-2.138	4.725
	Infrastructure2	2.843	1.333	4.553	1	.033 *	.232	5.455
	Comp	1.084	1.503	.520	1	.471	-1.861	4.029
	Utility2	4.504	2.220	4.114	1	.043 *	.152	8.856

Link function: Logit.

*** < 0.050**

According to Pseudo R-Square in Table 7, the Cox and Snell's R-Square shows that about 68.6% of SMEs revenue can be explained by independent variables. The parameter estimates table shows the statistical result from the ordinal regression. The estimates labeled *Threshold* are the intercept equivalent terms. The estimates labeled *Location* are the coefficient of independent variables. The third column shows the estimate coefficient of each variable. From the observed significant level in the Parameter Estimates table, only infrastructure2 (storm drainage system and solid waste disposal) and Utility2 (banking and public and private hospitals) are significant at the 5% level of significant.

The ordered log-odds estimate for a one unit increase in **infrastructure2** on the expected **Revenue** level given the other variables are held constant in the model. A one unit increase in **infrastructure2** would result in a 2.843 unit increase in the ordered log-odds of the SMEs being in a higher **Revenue** category while the other variables in the model are held constant.

This means that the storm drainage and solid waste disposal systems in Aranyaprathet impact changes in SMEs' revenues because the dumping of solid waste blocks the side drainage and sewage pathways. These unhygienic conditions can make the community people vulnerable to health hazard diseases. This can affect their productivity and indirectly their earnings. Furthermore, the government can impose a fine on businesses who dispose their waste recklessly.

Similarly, a one unit increase in **utility2** would result in a 4.504 unit increase in the ordered log-odds of the SMEs being in a higher **Revenue** category while the other variables in the model are held constant. For example, if ATMs are adequate and easy to find in Aranyaprathet, people can easily do their transactions because ATMs are simple to use, available 24 hours per week and can ensure that cash is easily accessible. It helps businesses facilitate cash-only transactions and save time and cost. In addition, the efficient banking system can help SMEs boost their business development with a flexibly managed system of customized products, and efficient business operations. The banking system can also be seen as the significant source of financing for SME to borrow at competitive rates to enhance their business and revenue earning capacity. There is no statistically significant effect of Utility1, Infrastructure, and Comp on SMEs' revenues.

Cross tabulation was used to analyze whether the infrastructure development have any impact on the SMEs' revenues in Tachileik, Mae Sai, Mukdahan and Savannakhet since the ordered logistic regression showed insignificant relationship. Table 8 shows the impact of infrastructure development on the SMEs revenues in the five border cities. The tick mark in the cells means that the factor in the row has an impact on SMEs revenue. The blank cells mean that the factor in the row has no impact on SMEs revenues. For example, roads and bridges and electricity supply have no impact on SMEs revenues in the five border cities, while water supply has an impact on SMEs revenue in Mae Sai and Mukdahan. There are five factors including public transport, water supply, public and private hospitals, telecommunication, and banking system that influence the SMEs revenue in Mukdahan. Similarly, public and private hospitals and banking impact the SMEs revenue in Savannakhet.

Table 8. Summary Impacts of Infrastructure Development on SMEs Revenue in the Five Border Cities

	Tachileik	Mae Sai	Mukdahan	*Aranyaprathet	Savannakhet
1. Roads and bridges					
2. Public transport		✓	✓		
3. Electricity supply					
4. Water supply		✓	✓		
5. Telecommunication			✓		
6. Solid waste disposal systems				✓	
7. Storm drainage systems		✓		✓	
8. Public and private hospitals			✓	✓	✓
9. Banking system			✓	✓	✓

* Results derived from logistic ordered regression

Table 9 summarizes the impact of the CBTA development on SMEs revenue in the five border cities. Most of the CBTA factors (or features) have no impact on the SMEs revenue since most of the respondents were not aware of the ongoing CBTA development.

Table 9. Summary Impacts of the CBTA Development on SMEs Revenue at the Five Border Cities

	Tachileik	Mae Sai	¹ Mukdahan	² Aranyaprathet	Savannakhet
1. The number of small and medium enterprises/businesses will increase in each city		✓			
2. The transport costs of exporting and importing goods and services will decrease for each city		✓			✓
3. There will be an increase in competition among the businesses in each city					✓
4. There will be an increase in migrant workers in each city	✓	✓			✓
5. Exemptions from physical customs inspection and agriculture and veterinary inspection between both cities will decrease transport costs of goods across the border					✓
6. Strengthening of business network within the city		✓			✓

1. Only 27.7% of the respondents were knowledgeable of the existence of CBTA

2. Only 7% of the respondents were knowledgeable of the existence of CBTA

3. Empty cells imply no impacts or the impacts are ambiguous/negligible from the survey results

4.3 SME Respondents' Perception of the Infrastructure Improvement, the CBTA, Economic Corridor and Economic Zone Development in the Region

4.3.1 SME Respondents' Perception on Infrastructure Development

Table 10 shows the SME respondents' **perception** on the infrastructure improvement in the region. For example, about 53.1% of the respondents in Tachileik strongly agreed that if the infrastructure in Tachileik is improved, it will increase the flow of freight and passengers of the city. Most of the SMEs in the five border cities agreed that if infrastructure is improved, it will benefit the SMEs in the region as follows:

- Increasing flow of freight and passengers between two border provinces;
- Enhancing the development of SMEs business;
- Creating more job;
- Improving standard of living of the people;
- Promoting private sector development;
- Strengthening of business network;
- Reduce transport costs of exports and imports;

- Faster border crossing times.

The survey results also report that the main problems confronting respondents from Savannakhet when crossing the bridge include expensive visa and custom fee and restrictive custom policy. Other problems include lengthy immigration process and unfriendly immigration officers. This is one of the many obstacles in fully implementing the CBTA between Thailand and Lao PDR and other GMS member countries, since the CBTA regulations need to be applied consistently with the domestic laws of each country. Furthermore, the interviewed respondents reported that the CBTA also increases the migration of workers and may create labor shortage and unemployment due to wage difference across the borders.

However, most of the respondents in Mae Sai have reported a score of Neutral for factor 1, Neutral for factors 7 and 8 in Mukdahan and Neutral for factors 1 and 5 in Savannakhet (see Table 10).

Table 10. SME Respondents' Perception of Infrastructure Development in the Five Border Cities

Factors	Tachileik	Mae Sai	Mukdahan	Aranyaprathet	Savannakhet
1. Increase the flow of freight and passengers	Strongly agree (53.1%)	Neutral (34.8%)	Strongly agree (51.7%)	Strongly agree (38.2%)	Neutral (48.28%)
2. Enhance the development of SMEs businesses	Strongly agree (57.0%)	Strongly agree (34.8%)	Strongly agree (48.3%)	Agree (37.7%)	Agree (36.21%)
3. Create more jobs	Strongly agree (61.9%)	Strongly agree (33.8%)	Strongly agree (49.8%)	Strongly agree (39.2%)	Agree (36.21%)
4. Improve the standard of living of the people	Strongly agree (61.3%)	Strongly agree (34.6%)	Strongly agree (50.7%)	Strongly agree (34.7%)	Agree (36.21%)
5. Promote private sector development	Strongly agree (53.7%)	Agree (34.1%)	Strongly agree (39.4%)	Agree (36.2%)	Neutral (34.48%)
6. Strengthening of business network	Strongly agree (57.4%)	Strongly agree (35.6%)	Strongly agree (47.8%)	Agree (34.7%)	Agree (29.31%)
7. Reduce transport costs of exports and imports	Strongly agree (55.3%)	Strongly agree (34.1%)	Neutral (32.5%)	Agree (32.7%)	Strongly agree (32.76%)
8. Faster border crossing times	Strongly agree (64.6%)	Strongly agree (34.8%)	Neutral (33%)	Agree (34.2%)	Strongly agree (53.45%)

4.3.2 SME Respondents' Perceptions of the CBTA Development

The SME respondents' perceptions of the CBTA development in the five border cities are summarized in Table 11. The CBTA has been implemented in some of the border cities but majority of the SME respondents are not aware of its existence. A total of 53.4% of the respondents in Tachileik and 69.6% in Mae Sai are aware of the existence of the CBTA development in the region compared to 27.7% in Mukdaham, 7% in Aranyaprathet and 22.95% Savannakhet, respectively. This is because of the lack of extensive promotion and

information on the CBTA given to the public. For example, there are only 14 out of 200 SME respondents in Aranyaprathet who know of the existence of the CBTA and received the CBTA information mainly from local media, such as TV, radio, newspaper and magazines, government, internet website, and friends. Similarly, only 14 out of 61 respondents in Savannakhet were aware of the existence of the CBTA. The main source of the CBTA information was from the media including television, radio, newspapers and magazine.

Government officers and friends were also important sources although much less important than the local media. However, most of the interviewed respondents reported positive perception of the CBTA in promoting SME development in the region. They strongly agreed that the CBTA would increase the number of SMEs in Mukdahan and the business network can be strengthened by the CBTA implementation. However, their perceptions of the CBTA in promoting SME development in terms of cheaper transport cost, increase in competition among SMEs, increasing movement of migrant workers, and decreased cost of transporting goods through the border were ambiguous, since the majority of the respondents answered “Neutral.”

Table 11. SME Respondents’ Perception of the CBTA Development in the GMS

	Tachileik	Mae Sai	Mukdahan	Aranyaprathet	Savannakhet
Aware of the CBTA	Yes (53.4%)	Yes (69.6%)	No (72.3%)	No (93%)	No (77.05%)
Source of Information	Local media (45%)	Local media (69.7%)	Local media (86.0%)	Local media (57.1%)	Local media (71.42%)

Table 12 shows the respondents’ perception on the impact of the CBTA in promoting SMEs development. For example, about 53% of respondents in Tachileik agree that the implementation of CBTA will increase the number of SMEs in each city. Most of the respondents’ answers are between Neutral and Agree that the CBTA will promote SMEs development as follows:

- Increasing the number of SMEs in each city;
- Decreasing transport costs of export and import of goods and services;
- Increasing the competition among business;
- Increasing migrant workers;
- Exemptions from physical customs inspection and agriculture and veterinary inspection between both cities will decrease the costs of transporting goods across the border

Table 12. Impact of the CBTA in Promoting SMEs Development in the Five Border Cities

	Tachileik	Mae Sai	Mukdahan	Aranyaprathet	Savannakhet
1. The number of SMEs/ businesses will increase in each city	Strongly agree (53%)	Strongly agree (42.2%)	Strongly agree (43.9%)	Neutral (42.9%)	Disagree (35.7%)
2. A decrease in the transport costs of exports and imports of goods and services	Strongly agree (56.8%)	Neutral (36.4%)	Neutral (42.1%)	Neutral (35.7%)	Agree (42.9%)
3. An increase in competition among the businesses	Strongly agree (51.1%)	Not Available	Neutral (40.4%)	Strongly agree (35.7%)	Strongly agree (50.0%)
4. An increase in migrant workers	Strongly agree (46.2%)	Not Available	Neutral (38.6%)	Neutral or Agree (28.6%)	Strongly agree (42.9%)
5. Exemptions from physical customs inspection and agriculture and veterinary inspection between both cities will decrease the transport costs of goods across the border	Strongly agree (63.0%)	Not Available	Neutral (40.4%)	Neutral or Agree (28.6%)	Strongly agree (28.6%)
6. Strengthening of business network within city	Strongly agree (61.5%)	Not Available	Strongly agree (50.9%)	Strongly agree (35.7%)	Neutral or Agree or Strongly agree

4.3.3 SME Respondents' Perception of the Economic Corridor and Economics Zone Development in the Five Border Cities

Majority of the respondents in Tachileik were aware of the presence of the economic corridors and perceived it will generate benefit to the SMEs. However, most of the respondents in Mukdahan and Aranyaprathet were not aware of the existence of the economic corridors. The survey results show that only 8 out of 200 SME respondents in Aranyaprathet have heard of the economic corridors. This could be due to lack of government public announcement on the development taking place along the economic corridors. Surprisingly, most of the SME respondents in Mukdahan were not aware of the existence of the economic corridors in Mukdahan even though Mukdahan is regarded as part of the EWEC. The province links Myanmar and Thailand to Lao PDR and Vietnam and can be a production and distribution hub in the region (Wongvitit, 2008). This is because the information about the economic corridors has not been widely disseminated. For example, the terminology of "Economic Corridor" is difficult for low educated people to understand and visualize. When translated into infrastructure development such as road or bridge development, the locals seemed to understand better.

Table 13. SME Respondents' Perception of the Economic Corridors Development in the Five Border Cities

	Tachileik	Mae Sai	Mukdahan	Aranyaprathet	Savannakhet
Awareness of Economic Corridors	Yes (60.2%)	N/A	No (83%)	No (95%)	N/A
Benefit Generation of Economic Corridors to SMEs	Yes (72%)	N/A	Yes (94.3%)	Yes (50%) No (50%)	N/A

Except for Tachileik, majority of the respondents in Mukdahan, Aranyaprathet and Savannakhet do not know that there is an economic zone in their city (See Table 14). The SASEZ has been developed in Savannakhet since 2002, but many locals in Savannakhet have little knowledge of it. The reason behind the low awareness of the SASEZ is because the name has been changed to SAVAN Park. There is a potential to establish a SEZ in Mukdahan due to the strategic advantages of the province. It can be linked to Savan-Seno Special Economic Zone (SEZ) in Savannakhet, twin city of Mukdahan. Mukdahan is part of the investment zone established by Thailand's Board of Investment. Any investment project located in Mukdahan will be exempted from import duty on machinery, corporate income tax, and import duty on raw or essential materials used in the manufacture of export products. (<http://www.bia.co.th/007.html>).

Table 14. SME Respondents' Perception of the Economic Zones Development in the Five Border Cities

	Tachileik	Mae Sai	Mukdahan	Aranyaprathet	Savannakhet
Awareness of Economic Zones	Yes (57%)	Not Available	No (80.6%)	No (92%)	No (80.3%)
Impact of Economic Zones on SMEs Development					
1. Higher output, employment and standard of living of the local people	58.8%	55.2%	85%	56.3%	72.73%
2. Forge closer ties between all businesses	60.6%	52.2%	60%	62.5%	63.64%
3. Increase in foreign direct investment	21.2%	50.7%	42.5%	62.5%	54.55%
4. Technology transfer	36.4%	32.8%	50.0%	56.3%	18.18%
5. Increase in income generation of SMEs	40%	59.7%	42.5%	56.3%	45.45%
6. Upgrading skills of local workers	44.1%	37.3%	40.0%	56.3%	36.36%
7. Increase in female employment	35.3%	26.9%	20.0%	68.8%	36.36%
8. Access to a larger pool of suppliers	38.2%	22.4%	40.0%	56.3%	45.45%

Majority of the respondents perceived that the economic zone will contribute to SMEs development in the five border cities. For example, 58.8% of the respondents in Tachileik who know of the existence of an economic zone perceive that it will bring higher output, higher employment, and improve the living standard of the people in Tachileik. Similarly, the survey results reported that most of the respondents in Savannakhet agreed in principle that the SASEZ could potentially increase employment and living standard of the people and forge closer ties between businesses.

5. Conclusions

The SMEs in the border cities of Tachileik, Mae Sai, Mukdahan, Aranyaprathet and Savannakhet are relatively small-sized businesses with less than 10 employees and dominated mainly by the trading and service sectors. Their sources of funds include personal funds and savings, and are privately owned. Most of the SME respondents order and buy their products locally. Therefore, it is not surprising that more than half of the interviewed SME respondents have not crossed the border to their neighbouring cities. However, for those who have crossed the border, some of the problems they faced at the checkpoint include lengthy immigration process and inconsistent custom rules, laws, and regulations. Some of these border crossing problems are expected to be resolved when the CBTA is fully implemented by 2010. Most of the SME respondents use the roads as their main business transportation. This underlines the role of infrastructure especially the roads for trade facilitation between the border cities.

In terms of the impact of the CBTA and infrastructure development on the SMEs revenues, the ordered logistic regression result reveals that storm drainage system, solid waste disposal system, banking system, and public and private hospitals are significant and have effects on SMEs revenues in Aranyaprathet. However, the ordered logistic regression result shows that infrastructure and CBTA development have no impact on the SMEs revenues in Tachileik, Mae Sai, Mukdahan and Savannakhet. The insignificant result is due to low response rate on the question regarding the CBTA. These results differ from the study of Mekong Institute in 2008, i.e., improvement of infrastructure and CBTA will enhance trade and income of business in border cities. However, when applying cross tabulation analysis, the results show that telecommunication and banking have positive effect on changes in SMEs revenue in Savannakhet. Similarly, the number of SMEs, transport cost, increased migrant worker, and strengthening of business networking do impact the SMEs' revenues in Mae Sai.

Most of the SME respondents were not aware of the CBTA development due to lack of exposure and information. Thus the respondents perceived that the CBTA development has marginal impact on the SMEs' revenues. There is also a great deal of ambiguity in regards to the awareness of economic corridors and economic zones in the five border cities. For example, the survey results revealed that the respondents in Savannakhet were not aware of the economic zone given the SASEZ has been developed in some sites (industrial and logistic sites) in 2002. However, majority of the interviewed respondents agreed that the economic corridors and economic zones do promote economic growth and enhance SMEs growth and development in the region.

5.1 Policy Recommendations

SMEs in the five border cities are the main source of employment, growth, innovation, and development in the economy, and therefore they should have a better business environment for further growth and development. In order to achieve this, policy makers and organizations should review their commitment to promote SMEs' growth and development in the region. For example, the survey results showed that almost all of the SME respondents transport their goods largely by roads and they perceived that the improvement of infrastructure will

generate greater benefits in terms of reduction in travel time and cost. However, the software infrastructure, such as the CBTA, is also essential, though the survey results illustrate that the CBTA has minimal or no impact on the SMEs' revenues. This is because most of the interviewed respondents were not aware of and did not understand the development of the CBTA.

The government, ADB and/or the related governmental agencies should help promote and disseminate information about the CBTA and its annexes and protocols in the five border cities. The full implementation of the CBTA is recommended to include capacity building to the local government officials, such as technical training and supports, and a clear understanding of the CBTA software. This is because the implementation of the CBTA involves modern technology equipment and a computerized system, but the local governmental agencies lack the knowledge and technical skills. The government should also focus on raising awareness on the benefits of CBTA, infrastructure and the economic corridor for SMEs since these improve GMS transport network, connecting not only the GMS countries but also the neighboring countries and the region. A one-stop agency for the promotion of SME development would be very helpful to the SMEs, particularly in terms of accessibility to financial institutions.

Lengthy immigration procedure and unfriendly immigration officers are recognized as the major problems at the five border cities crossing points. An effective cooperation mechanism among relevant agencies including customs, police, quarantine, health institutions of both sides should be established to facilitate trade logistics for both inbound and outbound shipments. Furthermore, progress is needed in areas, such as enhancing the legal framework, increasing transparency and reducing inappropriate charges, in order to hasten border crossing time, reduce trade costs, and thus fulfill the trade facilitation features of the CBTA.

Strong financial institutions should be established in the five border cities to serve the SMEs, since the survey findings show that the banking system is weak in the region and the banks are the least accessible source of funds for the SMEs. Accessibility to financial institutions especially banks should be promoted in order to provide sufficient funds to the SMEs. In addition, the borrowing procedure should not be complicated and interest rate should reflect the rates of returns.

The governments in the region should promote SMEs exports since export capacity in the region is marginal due to several constraints. For example, taxes are a major barrier for most SMEs in Tachileik and Mae Sai, especially double taxation (tax on raw materials and on value-added export products) which cause the prices of goods to increase and this makes the SMEs uncompetitive in the market.

5.2 Limitations and Suggestions for Future Study

When administering the survey questionnaire in five border cities, we noticed that many of the SME respondents did not feel comfortable to provide relevant information regarding their businesses and income. Thus, the findings of this study might not be robust. Most of the respondents do not understand the concept and terminology of the CBTA initiatives and annexes and this may influence the data and results obtained. Thus, the impact of infrastructure and CBTA development on the SMEs' revenues could not be assessed robustly in our ordered logistic regression. Furthermore, the impacts of the CBTA on SMEs' revenues are ambiguous if not negligible.

Another limitation in our study was the data collection on SMEs. There are a number of unregistered SMEs, such as the small-sized family business, particularly in the rural areas. Thus, the primary data cannot be collected from all parts of the province and therefore it

cannot represent all SMEs in the five border cities. This prevents generalization of our research findings. In addition, travel time and budget constraints impact the data collection process. This results in low sample size and low response rates.

Although the research assistants were trained during the pre-testing, errors were still inevitable. Some of the respondents cannot read Thai or English since they are Shan, Chinese, and Burmese. Since the CBTA has not been fully implemented, it was difficult to analyze the real impact on SME development at the site. The analysis was based on the perceptions of the local people and some available literature on the potential impact of CBTA. Hence, to understand the CBTA impact, the full implementation at the site is necessary and future study should be conducted thereafter.

Many studies have shown that limited access to financing is considered a key constraint to SMEs growth and the country's growth as a whole. Therefore, to improve the SMEs in the five border cities as well as in the GMS region, future research should study the difficulties and constraints faced by the SMEs when borrowing from financial institutions. In addition, since most of the SMEs are small-sized enterprises, future research could study the effects of SME size on businesses to identify what factors determine the success of the small-sized businesses and how the government can help to promote their businesses.

6. References

Asian Development Bank, (2007). “GMS Transportation Strategy 2006-2015 Coast to Coast and Mountain to Sea: Toward Integrated Mekong Transportation System”, ADB’s Strategy Study, The Philippines.

Asian Development Bank, (2004). "Small and Medium-Sized Enterprise Growth and Development Phase II (RETA 6210)", <http://www.adb.org/GMS/projects>

Asian Development Bank, (2005). “GMS Flagship Initiative: East West Economic Corridor”, Retrieved from <http://www.adb.org/GMS/Projects/flagshipB.asp>, 13 December 2008.

Asian Development Bank, (2008). *GMS Development Matrix*, Retrieved from <http://www.adb.org/GMS/Projects/default.asp#flagship>

Chewcharat, P, (2008). “Regional Finance in Recent Period and the Way Forward”, SME Development Bank of Thailand Available at: <http://www.fsa.go.jp/frtc/kenkyu/event/20080430/08e.pdf> (2009, February 3).

Cuong, Tran T., San, Le X., and Anh, Nguyen K, (2007). “Vietnam’s SME development: Characteristics, Constraints and Policy Recommendations” JETRO working paper, Bangkok: IDE-JETRO.

Dejvitak, N, (2006). *The Role of SME Bank in Thailand*, SME Development Bank of Thailand.

Dillman, D. A. (1978). *Mail and Telephone Surveys: The Total Design Method*. New York: A Wiley-Interscience Publication. John Wiley and Sons.

Dutta, M.K, (2009). “SME / Entrepreneurship development – the GMS Experience”, Cambodia India Entrepreneurship Development Centre, Phnom Penh.

Dutta, M.K, (2008). “Overview on SMEs Development and Entrepreneurship in the GMS, GMS Research Roundtable Meeting,” Mekong Institute, Khon Kaen, Thailand.

Japan International Cooperation Agency (JICA), (2007). “The Research on the Cross-Border Transportation Infrastructure: Phase 2,” Japan.

Kanika, N, (2008). “Country Paper on SME Development and Regional Economic Integration”. Downloadable @ <http://adbi.adb.org/files/2008.09.23.cpp.paper.cambodia.sme.dev.mngt.pdf> (March 16, 2009).

Keorodom, B, Butphomvihane, S., and Vanhnalat, B, (2007), “Impact of East West Economic Corridor on Tertiary Business and Social Development of Savannakhet Province, Lao PDR,” Mekong Institute Research Working Paper Series No. 02, Khon Kaen, Thailand.

Konishi, Y, (2003). “Towards a Private Sector-led Growth Strategy for Cambodia”. Volume 1: Value Chain Analysis. Report prepared for the World Bank, Private Sector Development by Global Development Solutions, LLC.

KRI International Corp. and Nippon Koei Co., Ltd, (2001) “The Study on Special Economic Zone Development in Border Area (Savannakhet Province) in Lao PDR”, Vientiane, Lao PDR.

Kyaw, A, (2008). “Financing Small and Medium Enterprises in Myanmar”. Downloadable @ <http://www.ide.go.jp/English/Publish/Download/Dp/pdf/148.pdf> (March 16, 2009)

Lao-German Programme on Human Resource Development for Market Economy, (2006). “Enterprise Baseline Survey”, Vol. 1, Vientiane Capital: Manthathulath Printed House.

Mekong Institute, (2008). “Trade Facilitation Policy Gap Analysis on Cross Border Transport Agreement (CBTA) in the Greater Mekong Sub-Region”, Policy Dialogue Proceedings, Khon Kaen, Thailand.

Organisation for Economic Co-Operation and Development (OECD), (2006). *OECD Reviews of Regulatory Reform Background Document on Regulatory Reform in OECD Countries*.

Phoumilay, P., and Douangsavanh, B, (2008). “Country Paper – Lao PDR ‘Best Practices on SME Development and Management’”.

Downloadable @ http://www.adbi.org/files/2008.09.23.cpp.paper.lao_pdr.sme.dev.mngt.pdf (March 16, 2009).

Punyasavatsut, C., Kohpaiboon, A., Techakanout, K., and Sirasootorn, P, (2007). “SMEs in the Thai Manufacturing Industry: Linking with MNEs”, JETRO Working Paper, Bangkok: IDE-JETRO.

United Nations Economic Commission for Europe (UNECE), (2007). *Regional Trade Integration in Central Asia: The Way to Modernize, Attract Investment and New Technologies*, Special Programme for the Economies of Central Asia (SPECA), Second session of the Project Working Group on Trade.

United Nations Conference on Trade and Development (UNCTAD), (2005). *Linkages, Value Chains and Outward Investment: Internationalization Patterns of Developing Countries’ SMEs*, Trade and Development Board, Commission on Enterprise, Business Facilitation and Development, Ninth session Geneva.

United Nations Economic & Social Commission for Asia & the Pacific (UNESCAP), (2008). *E-business development services for small and medium enterprises (SMEs) in the Greater Mekong Subregion (GMS)*.

Vanthoch, et al., (2008). “The Constraints and Potential Development of Small and Medium Scale Enterprise in the Greater Mekong Sub-region: A case Study of Cambodia,” Khon Kaen: Mekong Institute.

Wattanapruittipaisan, T, (2003). *Promoting SME Development: Some Issues and Suggestions for Policy Consideration*, Bulletin on Asia-Pacific Perspectives 2002/03.

Wong, T, (1996). *Marketing Research*. Singapore: Marketing Institute of Singapore.

Wongvitit, S. et al., (2008). “Final Report of the Study on Strategies for Special Economic Zone Development at Border Area”, Bangkok: Ramkhamhaeng University.

World Bank, (2004). “Investment Climate for Small and Medium Enterprises (SMEs) in Southwest China,” Beijing, China. Downloadable @ <http://www.worldbank.org.cn/English/content/sme.pdf>. (March 16, 2009).

Wiboonchutikula, Paitoon, (2000). ‘The Pole of SMEs in Thailand’s Economic Development’, *Chulalongkorn Journal of Economics*, Vol. 12(3).

Xianfeng, L, (2007). “SME Development in China: SME industrial Cluster Feature and Perspective” JETRO working paper, Bangkok: IDE-JETRO.

Websites

“Business Promotion Incentives”, Retrieved from <http://www.bia.co.th/007.html>, 10 December 2008.

<http://adbi.adb.org/files/2008.09.23.cpp.paper.cambodia.sme.dev.mngt.pdf>

<http://www.adb.org/Documents/Others/GMS-Agreement/Protocol1-Attachment.pdf>

<http://www.adb.org/GMS/Cross-Border/part1.asp>

<http://www.justthailand.org/thailand/thailand-routes.asp>

http://en.wikipedia.org/wiki/Savannakhet_Province

www.sme.go.th

www.business.gov.vn

www.investopedia.com

7. Appendices

Appendix I. Definition of SMEs in the GMS Countries

Table A1. Definition of SME in Cambodia

Size	Employees	Assets
Micro	<10 employees	< US\$50,000
Small	11-50 employees	US\$50-250,000
Medium	51-100 employees	US\$250-500,000
Large	> 100 employees	> US\$500,000

Source: @<http://adbi.adb.org/files/2008.09.23.cpp.paper.cambodia.sme.dev.mngt.pdf>

Table A2. Definition of SME in Lao PDR

Category	Number of employees	Annual turnover in million Kip	Total assets in million Kip
Small	1-19	<400	<250
Medium	20-99	<1,000	<1,200

Source: @http://adbi.adb.org/files/2008.09.23.cpp.paper.lao_pdr.sme.dev.mngt.pdf

Table A3. Definition of SME in Myanmar

Categories	Small	Medium	Large
Power used(horsepower)	3-25	26-50	Over 50
Number of workers	10-50	51-100	Over 100
Capital investment (million kyat)	Up to1	1-5	Over 5
Annual production (million kyat)	UP to 2.5	2.5 to 10	Over 10

Source: Private Industrial Law (1990). Cited in Kyaw, (2008).

Table A4. Definition of SME in Thailand

Type	Small		Medium	
	Number of Employees	Fixed Assets excluding land (million baht)	Number of Employees	Fixed Assets excluding land (million baht)
Manufacturing	Not more than 50	Not more than 50	51-200	> 50-200
Service	Not more than 50	Not more than 50	51-200	> 50-200
Wholesale	Not more than 25	Not more than 50	26-50	> 50-100
Retail	Not more than 15	Not more than 30	16-30	> 30-60

Source: @www.sme.go.th

Table A5. Definition of SME in China

Type	Index of measure	Unit	Medium	Small
Industry*	Number of employees	person	300-2,000	<300
	Annual sales	10,000RMB	3,000-30,000	<3,000
	Asset	10,000RMB	4,000-40,000	<4,000
Construction	Number of employees	person	600-3,000	<600
	Annual sales	10,000RMB	3,000-30,000	<3,000
	Asset	10,000RMB	4,000-40,000	<4,000
Wholesale	Number of employees	person	100-200	<100
	Annual sales	10,000RMB	3,000-30,000	<3,000
Retail	Number of employees	person	100-500	<100
	Annual sales	10,000RMB	1,000-15,000	<1,000
Transportation	Number of employees	person	500-3,000	<500
	Annual sales	10,000RMB	3,000-30,000	<3,000
Post	Number of employees	person	400-1,000	<400
	Annual sales	10,000RMB	3,000-30,000	<3,000
Hotel/ restaurant	Number of employees	person	400-800	<400
	Annual sales	10,000RMB	3,000-15,000	<3,000

* Industry includes mining, manufacturing, production and distribution of electricity, gas and water.
Source: National Bureau of Statistics of China,

Definition of SME in Vietnam

According to Government Decree 90/2001/ND-CP, dated 23 November 2001, SMEs in Vietnam are defined as independent production and business establishments, which make business registration according to the current law provisions, each with registered capital not exceeding VND 10 billion or annual labor not exceeding 300 people. (@www.business.gov.vn)

Figure 1. GMS Economic Corridor and Border Crossing Points of the CBTA



1st proof, 17 June 05

05-gms3341 RM

Source: Asian Development Bank, 2005

Appendix II

Survey Questionnaire

Questionnaire No. _____

An Assessment of SMEs Development at the Border Twin Cities of the GMS

This survey assesses the SMEs Development at the Border Twin Cities of the GMS. There are 5 sections to this survey. Please complete the entire survey and answer all of the questions as best as you can. Your participation is voluntary and your individual answers to this survey are confidential and will not be released. Your responses will be summarized with those of others to form an overall result in percentages or averages.

If there is a question that you feel might be best to skip, we will do that; just let us know. There is no need to explain your reasons. Simply skip the question.

Section 1. Profile of Small Medium Enterprises

The questions below relate to general Small Medium Enterprise information, within the past 12 months. For each question, please tick the answer(s) that is most applicable to your situation

1. How many staffs do you employ in your business enterprise currently?
Please specify _____ number of staff
2. How would you describe your business operations? (You can tick more than one)
 - a. Services (including transport, hotel, banking, etc.) []
 - b. Trading []
 - c. Manufacturing []
 - d. Agriculture []
 - e. Construction []
 - f. Other(s) please specify _____
3. What type of ownership is your business?
 - a. Privately owned []
 - b. Partnership []
 - c. Family owned []
 - d. State owned []
 - e. Foreign owned []
 - f. Other(s) please specify _____
4. Who are your main customers?
 - a. Lao PDR []
 - b. China []
 - c. Vietnam []
 - d. Thailand []
 - e. Cambodia []
 - f. Myanmar []
 - g. Other(s) please specify _____
5. Where do you buy your goods? (You can tick more than one)
 - a. Lao PDR []
 - b. China []
 - c. Myanmar []
 - d. Vietnam []
 - e. Thailand []
 - f. Cambodia []
 - g. Other(s) please specify _____

6. How are the goods delivered/transferred to your business from your suppliers?
(You can tick more than one)
- | | | | |
|----|-------------------------------|---|---|
| a. | By air | [|] |
| b. | By water | [|] |
| c. | By road | [|] |
| d. | By rail | [|] |
| e. | Other(s) please specify _____ | | |
7. How often do you buy goods from other countries in the last 12 months?
- | | | | |
|----|-------------------|---|---|
| a. | None | [|] |
| b. | 1 time | [|] |
| c. | 2 times | [|] |
| d. | 3 times | [|] |
| e. | More than 3 times | [|] |
8. On average, how long does it take to transport goods from the place you order them to your business?
- | | | | |
|----|--------------------|---|---|
| a. | less than one week | [|] |
| b. | One week | [|] |
| c. | 2 weeks | [|] |
| d. | 3 weeks | [|] |
| e. | More than 3 weeks | [|] |
9. How do you order your goods? (You can tick more than one)
- | | | | |
|----|-------------------------------|---|---|
| a. | Telephone | [|] |
| b. | Email | [|] |
| c. | Facsimile or fax | [|] |
| d. | Personal contact | [|] |
| e. | Contract suppliers | [|] |
| f. | Other(s) please specify _____ | | |
10. How do you finance your business? (You can tick more than one)
- | | | | |
|----|-------------------------------------|---|---|
| a. | Personal funds, savings, etc. | [|] |
| b. | Family members | [|] |
| c. | Relatives/Friends | [|] |
| d. | Loans from banks | [|] |
| e. | Loans from microcredit institutions | [|] |
| f. | Other(s) please specify _____ | | |
11. How many trip(s) do you take across the border on average in a given month?
- | | | | |
|----|-------------------------------|---|---|
| a. | None | [|] |
| b. | Less than 5 trips | [|] |
| c. | Between 6 – 10 trips | [|] |
| d. | More than 11 trips | [|] |
| e. | Other(s) please specify _____ | | |
12. How long does it take you to cross the border?
- | | | | |
|----|-------------------------------|---|---|
| a. | Never cross the border | [|] |
| b. | Less than 10 minutes | [|] |
| c. | Between 10 – 30 minutes | [|] |
| d. | More than 31 minutes | [|] |
| e. | Other(s) please specify _____ | | |
13. Are there any additional charges (beside visa fee) for crossing the border?
(You can tick more than one)
- | | | | |
|----|------------------------|---|---|
| a. | None | [|] |
| b. | Services charge | [|] |
| c. | Passing through charge | [|] |
| e. | Vehicle fee | [|] |

- f. Health related inspection fee []
g. Others, please specify _____

14. What are some of the problems you face when crossing the border checkpoints?
(You can tick more than one)

- a. Lengthy immigration process []
b. Expensive visa/custom fee []
c. Unfriendly immigration officers []
d. Specific requirements for vehicles crossing []
e. Operating hours are too short []
f. Restrictive custom policy at the cross border check point []
g. Inconsistent custom rules, laws, regulations, etc. []
h. Other(s) please specify _____

15. Below is a series of statements pertaining to the working conditions of the existing infrastructures and utilities (examples roads, bridges, electricity, etc.) in your city. Please circle the number which most accurately reflects how strongly you agree or disagree with each statement on a scale of 1 to 5, where 1 means “Very Poor” and 5 means “Very Good”

QUESTION 15	Very Poor	Poor	Fair	Good	Very Good	Not Applicable
Overall perceptions of the working conditions of the existing infrastructures and utilities						
1. Roads and bridges condition in the city	1	2	3	4	5	N/A
2. Public transport in the city	1	2	3	4	5	N/A
3. Electricity supply	1	2	3	4	5	N/A
4. Piped water supply	1	2	3	4	5	N/A
5. Telecommunication system (including internet)	1	2	3	4	5	N/A
6. Solid waste disposal systems	1	2	3	4	5	N/A
7. Storm drainage systems	1	2	3	4	5	N/A
8. Public and private hospitals	1	2	3	4	5	N/A
9. Banking system (including ATM, foreign exchange, etc)	1	2	3	4	5	N/A

16. Below is a series of statements pertaining to your overall perceptions of infrastructure improvement (roads, telecommunication, etc.) in your city. Please circle the number which most accurately reflects how strongly you agree or disagree with each statement on a scale of 1 to 5, where **1** means “Strongly Disagree” and **5** means “Strongly Agree”

QUESTION 16	Strongly Disagree		Neutral		Strongly Agree	Not Applicable
Overall perceptions of the improvement of infrastructure						
1. Increase the flows of freights and passengers between the two cities	1	2	3	4	5	N/A
2. Enhance the development of SME businesses	1	2	3	4	5	N/A
3. Creates more jobs in both cities	1	2	3	4	5	N/A
4. Improve the standard of living of the people of both cities	1	2	3	4	5	N/A
5. Promote private sector development between both cities	1	2	3	4	5	N/A
6. Strengthening of business network between both cities	1	2	3	4	5	N/A
7. Reduce transport costs of exports and imports	1	2	3	4	5	N/A

8. Faster border crossing times between both cities	1	2	3	4	5	N/A
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17. Is there any special economic/trade/industrial zones been established in your city in recent years?

a. Yes [] b. No []

If yes, please go to Q18, if no, please go to Q19

18. How did the special economic/trade/industrial zones contribute to development of small and medium enterprises in your city? (You can tick more than one)

Result in higher output, employment and standard of living of the local people	
Forge closer ties between all businesses	
Increase in foreign direct investment	
Technology transfer	
Increase in income generation of SMEs	
Upgrading skills of local workers	
Increase in female employment	
Access to a larger pool of suppliers	

Section 2. Awareness of the Cross Border Transport Agreement (CBTA)

The questions below relate to how knowledgeable are you concerning the CBTA. For each question, please tick the answer(s) that is most applicable to your situation

19. Have you heard of the CBTA development signed by all GMS countries?

a. Yes [] b. No []

If yes, please go to Q20, if no, please go to Q22

20. If yes in Q19, where did you hear it from?

a. Government []
b. Local media (TV, radio, newspaper, magazines, etc.) []
c. Friends []
d. Internet websites []
e. Other(s) please specify _____

Section 3. Impact of CBTA in Promoting SMEs Development (Q21)

Below is a series of statements pertaining to the development of the CBTA in promoting SME development in your city. Please circle the number which most accurately reflects how strongly you agree or disagree with each statement on a scale of 1 to 5, where **1 means “Strongly Disagree”** and **5 means “Strongly Agree”**

Question 21	Strongly Disagree		Neutral		Strongly Agree	Not Applicable
Impact of the CBTA in promoting SME development in your city						
1. The number of small and medium enterprises/businesses will increase in each city	1	2	3	4	5	N/A
2. The transport costs of exports and imports of goods and services will decrease for each city	1	2	3	4	5	N/A
3. There will be an increase in competition among the businesses across in each city	1	2	3	4	5	N/A
4. There will be an increase in migrant workers in each city	1	2	3	4	5	N/A

5. Exemptions from physical customs inspection and agriculture and veterinary inspection between both cities will decrease costs for goods to cross the border	1	2	3	4	5	N/A
6. Strengthening of business network within city	1	2	3	4	5	N/A

22. Have you heard of the economic corridors?
a. Yes ☐ b. No ☐
If yes, please go to Q23, if no, please go to Q25
23. If yes in Q22, have the economic corridors generated any benefits to your business?
a. Yes ☐ b. No ☐

Section 4. Demographic Profile of the Respondents

24. What is your gender?
a. Male ☐ b. Female ☐
25. Which age group do you belong to?
a. Below 25 ☐
b. 25-35 ☐
c. 36-45 ☐
d. 46-55 ☐
e. 56-65 ☐
f. Above 65 ☐
26. What is your marital status?
a. Single ☐
b. Married ☐
c. Divorced/separated ☐
d. Widow / widower ☐
27. What is your highest level of education?
a. Did not attend any school ☐
b. Primary ☐
c. Middle school ☐
d. High school ☐
e. Vocational ☐
f. Some college ☐
g. Bachelor degree ☐
h. Postgraduate degree ☐
28. What is your annual business revenue for the last 12 months?
a. Less than USD 5,000 ☐
b. Between USD 5,001-10,000 ☐
c. Between USD 10,001-15,000 ☐
d. Between USD 15,001-20,000 ☐
e. More than USD 20,000 ☐
f. Other(s) please specify _____
29. Based on Q 29, would you think your business revenue has:
a. Increased ☐
b. Constant ☐
c. Decreased ☐

Thank You for Completing this Questionnaire