

An Exploratory Study on Logistics Infrastructures in Cambodia : Current Issues and Future Solutions

캄보디아의 물류 기반시설에 관한 탐색적 연구 : 그 쟁점과 해결방안

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Abstract

This study uncovered some issues that have constrained the development of logistics performance in Cambodia. Firstly, literature review was narrowed down to include studies involving the relationship between Logistics and transportation, the relationship between the infrastructure and economic growth and the important role of logistics on economic growth and poverty reduction. Then the next step the study identified some issues related to transport infrastructure that were assumed to cause the enhancement of logistics sector. Moreover, a case study about cost and time analysis was used to address some issues of logistics cost in Cambodia comparing to its neighboring countries: Thailand and Vietnam. Based on the time and cost analysis, it revealed that the logistics cost in Cambodia is much high than Thailand and Vietnam. In addition, some logistics issues were found through other two case studies about the export and trade facilitation. The participants raised some issues related to issuance of certificate of origin, the availability of information about agreements, laws, rules, and regulations, checkpoints along the corridor and opening hours of logistics service providers and slow processes. Then the authors suggested some appropriate solutions to answer to the current issues related to transport infrastructure and logistics sector in Cambodia.

Key Words : Transportation, Infrastructure, Logistics, Cambodia.

I. INTRODUCTION

It has been acknowledged that an efficient logistics system can increase one nation's competitiveness and ability to attract foreign direct investment. If one nation lacks the reliable network of dependable transportation, telecommunications, and other related infrastructure, firms will be hindered from designing an efficient logistics strategy for the movement and storage of its traded goods. This limitation currently exists in some countries in Southeast Asia, especially in Cambodia. Despite recently there have been a lot of improvements in infrastructure in country, logistics costs remain high compared with those in other countries in the region such as Vietnam and Thailand. In Cambodia, manufacturers and traders require efficient and effective logistics services that can move their products to the right place, at the right time, in the right condition, and at the right price. To establish production networks and develop logistics for better access to the global market; therefore, it is of great importance that regional linkages among neighboring countries are strengthened. Furthermore, Efficient Logistics infrastructure is essential to sustain broader economic growth and industrial competitiveness, thereby creating jobs and expanding the country's tax base. Logistics improvements are therefore critical for Cambodia to develop the country as an Asian production center and to integrate itself into regional production networks and supply chains.

In the last ten years, there have been a lot of researches conducting about the transport infrastructure; however, not many researches about logistics issues in Cambodia were studied. This motivated the author to conduct this research in order to uncover the logistics infrastructures issues that cover both physical infrastructures and non-physical infrastructures in Cambodia. The significance of this research is that Cambodia lies at the center of the region experiencing high economic growth; in spite of this, it is not yet taking advantage of the export opportunities that do exist and the potential to benefit from its low labor costs—all because of a logistics performance that could not compete with its neighbors. Cambodia's Logistics Performance Index ranking in 2014, as measured by the World Bank, has improved in the past few years, but it still ranks much below than its neighbors at 83 out of 160 countries, compared with Vietnam (48) and Thailand (35).¹⁾ This means that Cambodia's farmers and manufacturers confront greater difficulties

1) The World Bank(2014), *Logistics Performance Index*.(<http://lpi.worldbank.org>).

in moving goods to markets; exporters face challenges in supplying overseas customers and integrating into regional production networks; and the cost of moving cargoes is higher than in neighboring countries. Moreover, recently there have been a lot of Korean businessmen and companies moving to invest in Cambodia as well as fast-growing middle-income countries like Thailand, Vietnam and China that are constrained in their trade with Cambodia, due to the lack of capacity to handle time-sensitive goods at low risk and competitive prices. Therefore, the finding of this research will be a tremendous help for improving the logistics in Cambodia in order to attract foreign investment for bringing economic growth that leads to economic development in the country.

II. LITERATURE REVIEW

1. Interrelationship between transportation and logistics

Being one of the most visible elements in the logistics operations, transportation has gained a lot of importance and interest from the logistics perspective. Additionally, as the main component of logistics, transport plays an important part in all management decisions within the organization, from strategic decisions to everyday operations. The appropriate use of transportation is the key to any supply chain's success. For example: Wal-Mart uses a responsive transportation system to lower overall costs.²⁾ Wal-Mart uses the technique of aggregation for products leaving for different retail stores on trucks leaving to a supplier. At distribution centers, Wal-Mart uses cross-docking, where product is exchanged between trucks such that each truck going to a retail store has products from different suppliers. Accordingly, transportation takes a crucial part in the manipulation of logistics. Without well-developed transportation systems, logistics could not bring its advantages into full play. A good transportation system in logistics activities could provide better logistics efficiency, reduce operation cost, and promote service quality. A transportation system is the most important economic activity among the components of business logistic

2) Humberto B.S, Ramon C.M & Emili G.T, "Quantifying Walmart's Sources of Advantage", Spain : Business Department, Universitat Autònoma de Barcelona, 2012.

systems. It is estimated that around one third to two thirds of the expenses of enterprises' logistics costs are spent on transportation.

Based on Fung Business Intelligent Center³⁾, it indicated that China's total logistics costs amounted to 9,400 billion Yuan and the ratio of total logistics costs to GDP was 18.0% in 2012. From 2009 to 2012, transportation cost occupied for the largest share. It occupied more than 50 percent of the total logistics cost.

2. The important role of logistics on economic growth

The importance of developing an efficient logistics system has been acknowledged by governments of countries around the world. In particular, in 2006, the Busan Declaration on Transport Development in Asia and the Pacific emphasized the important role of transport and logistics in supporting economic and trade growth and competitiveness of the region, and called for the enhancement of an international integrated intermodal transport and logistics system. Afterwards, in 2009, the Bangkok Declaration on Transport Development in Asia further highlighted the essential role of logistics in fostering the development of regional cooperation, production and distribution networks and international trade.

Most developing countries are still at early stage in developing their logistics systems and confront challenges of high logistics costs and poor logistics performance. In many countries, logistics costs occupy a large proportion of gross domestic product (GDP). For example, in Indonesia, logistics costs consisted 14 percent of GDP, compared with 5 per cent in Japan, and 18.1 per cent of GDP in China in 2008.⁴⁾ In view of the high logistics costs and poor logistics performance of many countries in the region, there is clearly a need to identify and address the issues and challenges these countries are facing at both the national and international levels.

Banomyong(2010) suggested that Logistics plays an important role in national and regional economies in two ways.⁵⁾ Firstly, it is one of the major expenditures for businesses that affecting and being affected by other economic activities. Secondly, it supports the movement of a

3) Fung Business Intelligent Center, "Logistics Industry in China", Hong Kong: FBIC, 2013, p.6.

4) Economic and Social Commission for Asia and the Pacific, Ministerial Conference on Transport, Transport Logistics, United Nations, 2011, p.2.

5) Banomyong, R., Logistics Challenges in Cambodia, Lao PDR, Myanmar, and Vietnam, A Study on Upgrading Industrial Structure of CLMV Countries, 2010, pp.392-420.

multitude of economic transactions. It is an important aspect of facilitating the sale of all goods and services.

Additionally, Goh and Ang(2000) discovered that an efficient logistics infrastructure strengthen a nation's competitiveness and its ability to attract and encourage foreign direct investment (FDI).⁶⁾ If a nation lacks a reliable network of dependable transportation, telecommunications, warehousing, and other related infrastructure, firms will be hindered from creating an efficient logistics strategy for the distribution of finished goods.

Moreover, Zhang(2002) utilized regional economy and trade theory to show the correlation between regional logistics and regional economic development.⁷⁾ He pointed out that China's economic development promoted the development of modern logistics. Meanwhile modern logistics development also enhanced the regional economic growth ways and promoted the formation of new industries and maximized the regional industrial structure. Similarly, Cheng, Liu, Xie, and Zhou(2010) conducted a study to assess the importance of logistics industry to regional economy. The research assessed the special character of logistic industry in different stage based on a sample of twenty years (1978-2008) in Henan province.⁸⁾ The results revealed that the logistics industry will reach its peak stage in year 2015. The logistics plays a more and more crucial role in economic growth and become economic backbone of the region. Moreover, the research revealed that the logistics industry could have strong effect on economy; conversely, if the logistics index drops less than this level, the industry will obstruct the whole economy.

3. The positive impact of infrastructure development

The importance of infrastructure development has recently regained recognition in the development community. Particularly in the context of East Asia, the forces of globalizing corporate activities as well as emerging human capital and entrepreneurship in local community have created sophisticated international production/distribution networks and have generated massive

6) Goh, M. & Ang, A., "Some Logistics Realities in Indochina," *International Journal of Physical Distribution & Logistics Management*, Vol.30, No.10, 2000, pp.906-907.

7) Zhang, W. J., "Regional Economic Development and Modern Logistics," *Market*, Vol.1, No.2, 2002, pp.7-9.

8) Cheng, G., Liu, W., Xie, W., & Zhou, J., "The Contribution of Logistics Industry to Economic Growth Based on Logis Model," *Proceeding ISME '10 Proceedings of the 2010 International Conference of Information Science and Management Engineering*, Vol.2, 2010, pp.489-492.

trickle-down effects even on the poorest groups and communities. In these processes, infrastructure plays a significant role. Bhattacharyay(2009) categorized the logistics Infrastructure into two groups. First is the hard infrastructure which refers to physical structures or facilities that support the society and economy, such as transport; energy; telecommunications; and basic utilities. Another one is the non-physical infrastructure that refers to non-tangibles supporting the development and operation of hard infrastructure, such as policy, regulatory, and institutional frameworks; governance mechanisms; systems and procedures; social networks; and transparency and accountability of financing and procurement systems.⁹⁾

Infrastructure requires massive investment, and its return comes very slow. Governments in less developed countries (LDCs) must always fight with tight budget and security markets are inevitably immature. LDCs in the current globalizing generation have advantages in possibly using international private forces as well as the donor community; however, international competition over investment climate is stronger than ever. Even if infrastructure spending accounts for a significant proportion of national income and consumption in many countries; as such, any reform affecting the sector is likely to have wider effects on the economy. Notwithstanding this, evidence from a study conducted by Narayan(2002) indicated that spending on infrastructure has a positive and statistically significant effect on long-run economic growth¹⁰⁾. The infrastructure development that have been taking place since the intergovernmental Agreement on the Asian Highway Network¹¹⁾ and the intergovernmental Agreement on the Trans-Asian Railway Network¹²⁾ entered into force bring the promise of improved land transport connections to Europe and other regions and this could change the landscape of the international conventions.

A number of existing literatures have stressed positive relationship between infrastructure investment and economic growth. Some earlier studies on infrastructure investment discovered that public expenditure on infrastructure produced a very positive impact on economic growth as well as poverty reduction (Phim, 2004; Calderon and Servén, 2004).¹³⁾ They highlighted that it is

9) Bhattacharyay, B. N., Infrastructure Development for ASEAN Economic Integration, ADBI Working Paper 138, 2009, pp.1-20.

10) Narayan, D., Empowerment and Poverty Reduction, Washington, DC: World Bank, 2002, pp.1-335.

11) United Nations Treaty Collection, (n.d.), *Transports and Communications*. <<https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&msgid=XI-B-34&chapter=11&lang=en>>

12) United Nations Treaty Collection, (n.d.), *Transports and Communications*. Available at <<https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&msgid=XI-C-5&chapter=11&lang=en>>

13) Phim, R., Empirical Study on Economic Growth Effect of Government Activities in Developing Countries, Master Thesis, Nagoya University: Japan, 2004, pp 18-19.

worth investing more on infrastructure if wanting to achieve on economic growth¹⁴).

The lack of infrastructure is hindering the economic growth in many developing countries. Infrastructure investment has the effects of contributing to increase the productivity and it is expected to contribute to future economic growth in developing countries where infrastructure is still insufficient. Therefore, infrastructure development is one of the most integral parts of the public policies in developing countries.

Yoshida(2000) presented a positive analysis from various angles of the correlations between economic growth and the infrastructure in Japan, such as the energy, electricity, and transportation sectors over the last century in order to share lessons that can be useful to developing countries.¹⁵ He divided Japan's economic development phase into five with major characteristics, and discussed the patterns of demand and investment in infrastructure over one century. He found that the growth rate of demand in infrastructure was much higher than that of per capita GNP in the early stage of development, and public investment in infrastructure was big. And he also discovered that infrastructure investment in rural area had a trend to adjust the inequality of regional income.

Furthermore, other empirical studies have highlighted the importance of infrastructure in promoting growth and reducing poverty. Kuroda(2006) uncovered that infrastructure plays an important role in promoting rapid economic growth and making this growth more inclusive, by sharing the benefits of growth with poorer groups and communities, particularly in rural and isolated areas and small and landlocked countries.¹⁶ He also found that infrastructure facilitates the poor's access to basic services and helps increase their income. In addition, physical connectivity through cross-border infrastructure development is momentous for enhanced regional cooperation and economic integration. Similarly, a research on road infrastructure in the Philippines has found that rural roads create the largest impact in terms of income growth. The same study revealed that rural household's production and income-generation potential is optimized with access to networks that reduce their isolation (Barrios, 2008).¹⁷ Besides, Ang(2008)

14) Calderon, C. and Servén, L., "The Effects of Infrastructure Development on Growth and Income Distribution," *Central Bank of Chile Working Paper No.3400*, 2004, pp.26-27.

15) Yoshida, T., "Japan's Experience in Infrastructure Development and Development Cooperation," *JBIC Review No.3*, 2000, pp.62-92.

16) Kuroda, H., "Infrastructure and Regional Cooperation," *Paper presented at the annual Bank Conference on Development Countries (RIS)*, 2006. 3, pp.242-243.

17) Barrios, E., *Infrastructure and Rural Development: Household Perceptions on Rural Development*, United Kingdom: Elsevier Ltd, 2008, pp.38-42.

conducted a study on the determinants of Foreign Direct Investment (FDI) inflows in Malaysia has revealed that having an adequate infrastructure base promotes FDI inflows.¹⁸⁾

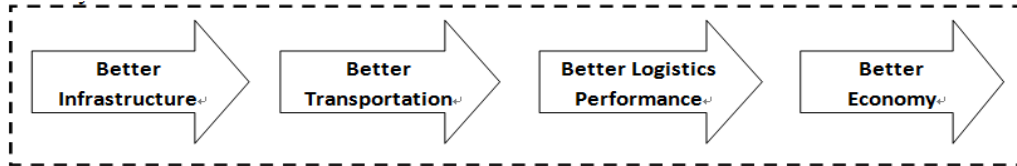
On the other hand, there are also negative results assumed that infrastructure investment does not contribute to economic growth. Devarajan, Swaroop, and Zou(1996) drew analytical conclusions about developing countries based on the endogenous growth theory in order to find out which type of government expenditures promote economic growth¹⁹⁾. They estimated the relationship between the composition of public expenditure and economic growth using data from 43 developing countries over 20 years. This estimation showed that an increase in the share of current expenditure has positive and statistically significant effects on economic growth. In contrast, the relationship between the capital component of public expenditure and per capita growth is negative. The major assumption is that infrastructure has a negative effect on the economic growth rate because in developing countries infrastructure is oversupplied compared to the economic scale.

According to the literature reviews, the author assumed that logistics and infrastructure created the positive impacts on economic growth as well as poverty reduction. Some emphasized that the lack of infrastructure hindered the development of economic growth. Even Infrastructure needs massive investment. Infrastructure investment has the effects of contributing to increase the productivity and it is expected to contribute to future economic growth in developing countries. Besides infrastructure development, the literature review pointed out that the inefficient logistics performances decrease a nation's competitiveness and its ability to attract foreign direct investment. Moreover, transportation is the main component of logistics that occupied the highest cost among the related elements in logistics systems, the improvement of transport efficiency could affect the overall performance of a logistics system. All in all, the author concludes that better infrastructure makes better transportation system that leads to better logistics system resulting in better economy in the country.

18) Ang, J., "Determinants of Foreign Direct Investment in Malaysia," *Journal of Policy Modeling*, Vol.30, No.1, 2008, pp.185 - 189.

19) Devarajan, S., Swaroop, V., Zou, H., "The Composition of Public Expenditure and Economic Growth," *Journal of Monetary Economics*, Vol.37, 1996, pp.313-44.

Figure 1: Factors that promote Economic Development



Source: made by author.

III. RESEARCH METHODOLOGIES

This research focuses on the infrastructure and logistics issues that impact the development of the logistics sector in Cambodia present day. A qualitative approach was used for data collection. Under this approach, two means for collecting data were used: primary data and secondary data. First, literature review had been review for supporting the main idea of this research. The literature reviews studied a lot of papers concerned with the most important factors that affects logistics performance. Also some revealed the important role of infrastructure to support the economic growth. Second, this research found out the issues relating to transport infrastructure and other issues relating to exporting logistics. A case study about time and cost analysis was used to determine the higher cost and time delays in cross border trading using the Southern Economic Corridor(SEC) focusing on the Cambodia section of the Central Sub-corridor(a major cargo route) from Bangkok via Phnom Penh to Ho Chi Minh City. In the second case study, the survey results from the meeting and workshops about the improving trade and trade facilitation in Cambodia were utilized to find the constraints on exporting process related to logistics in Cambodia. Another case study was brought up to discover the bottlenecks faced by the exporters in the private sector. Interviews were conducted by using questionnaires concentrated on key constraints to exporting, logistics and supply chain impediments. Lastly, the author recommended some strategies to answer to those problems that were uncovered from the last section. Policy recommendations for transport infrastructure issues as well as for trade logistics issues were provided.

IV. THE FINDINGS AND RECOMMENDING SOLUTIONS

1. Transport Infrastructure issues in Cambodia

1) Roads

In Cambodia, road transport accounts for a great share of the total transported volume of passengers (65%) and freight (70%). The road network is the bloodline of Cambodia's development and covers all major regions in the country. However, Cambodia still remains to have many unpaved sections of roads. Below is the condition of the roads network in 2011:

National road: one-digit national roads have a total length of 2,258 km (4.8% of the total roads) even if 93% of the roads are paved by only 58% are covered with DBST and the remaining is covered by concrete. **Two-digit national roads** have a total length of 3,342 km (7.1% of the total roads) only 55.9% of the roads are paved and 46.69% of the paved roads are covered with earth and laterite.

Provincial road: this is labeled as three and four digit national road and has a total length of 6,607 (14.0% of the total roads). Only 15.1% of the provincial roads are paved. And among the paved road only 14.58% are covered with Double Bituminous Surface Treatment (DBST) and the most of the remaining are covered with earth and laterite.

Rural roads have a total length of approximately 35,000 km and represents 74.1% of the total roads. And the majority of the roads are unpaved.

According to the above information, only 19% of the total roads are paved and among those paved roads only about 33% are covered with asphalt. And the majority of rural road conditions vary from poor to very poor.

Table 1: Road pavement ratio and road pavement status by road classification in 2011

Items	National road		Provincial road
	1-digit road	2-digit road	
Road pavement ratio (%)	93.70	55.9	15.1
Pavement status by Type of pavement			
Earth(km)	0	1541.47	4274.54
Laterite(km)	0	18.97	1751.2
DBST(km)	1328.57	1751.2	963.33
Concrete(km)	768.37	116.81	23.03

Source: Overview on Transport Infrastructure Sectors in the Kingdom of Cambodia 2012. Retrieved from <http://spied.mpwat.gov.kh/pdf/Overview-on-Transport-Infrastructure-Sectors-in-Cambodia-2012.pdf>

- Regional Comparison

As a country in Asia, Cambodia has struggled to improve the development of road infrastructure in the last 10 years. There is a little improvement on the road sector. If we compare the degree and condition of the development of road infrastructure with regional countries such as Thailand, Malaysia and Vietnam, the percentage of the paved road is very low. In Thailand, ratio of paved road to the total road length is 80.8%. And the percentage of paved road in Malaysia is 78.3%. While in Vietnam, the ratio of the paved road is 66.3% in year 2012. However, the ratio of paved road comparing to the total road length is very low. It accounts only 10.7% and it is the lowest rate among other countries in Southeast Asia. This is shown in table below.

Table 3: Road Transport 2012

Indicator name	Unit of measurement	Cambodia	Lao	Myanmar	Vietnam	Malaysia	Thailand
Total road length	Kilometer	51,422	43,600	151,298	326,000	182,699	231,620
Length of paved road	Kilometer	5,474	6,496	32,535	216,000	143,012	187,207
Ratio of paved road to the total road length	Percent	10.7%	14%	21.5%	66.3%	78.4%	80.8%

Source: Asean Japan Transport Partnership (AJTP) Information Center. Retrieved from <http://www.ajtpweb.org/statistics>

2) Railway

Cambodia has two rail lines, both originating in Phnom Penh and totaling about 650 km of single railway tracks. The existing railway system in Cambodia consists of two lines: the 264 km Southern Line (SL) from Phnom Penh to Sihanoukville City and the 338 km Northern Line (NL) from Phnom Penh to Poipet on the Thai border. However, the last 48 km of the NL from Sisophon to Poipet was entirely missing. Infrastructure of both lines are in poor condition due to the damages caused during the civil war, the trains operated at a speed less than 15-20 km/h. Passenger train service ceased to operate at South Line since 2004 and it also ceased to operate at North Line since mid 2008. Freight Service remains function at South Line but it stopped to operate at North Line since 2009.

The development of the railway system in Cambodia has not recognized and it has been left behind. The railway facilities have been not upgraded and have decreased constantly from time to time. In particular, the number of railway equipment such as railway locomotives, passenger

coaches and freight wagons has decreased sharply from the year 2004 to 2012. Moreover, there are not double track railway route in Cambodia Railway system that are available at the neighboring countries that make Cambodia railway system less competitive. This is demonstrated in the table 4.

Comparing with other countries in the region, Cambodia railways condition is far behind the countries like Malaysia, Thailand, Indonesia and Vietnam in terms of railway route length, double-track railway route length electrified track railway route length and urban railway route length. In addition, the number of railway locomotives, the number of passenger coaches and the number of freight wagons are too little compare to those countries in the regions. It is shown in the table 4.

Table 4: Railway transport 2012

Indicator name	Unit/scale of measurement	Cambodia	Indonesia	Malaysia	Thailand	Vietnam	Japan
Railway transport Infrastructure							
Total railway route length	Kilometer	652	4861	1641	4043	2554	27604
Double-track railway route length	Kilometer	N/app	539	344	90	N/app	9,618
Electrified track railway route length	Kilometer	N/app	222	344	105	N/app	
Urban railway route wagons	Kilometer	N/app	900	158	85	N/app	955
Railway Transport equipment							
Number of railway locomotives ready for operation	Count	18	406	92	263	303	
Number of passengers coaches	Count	9	1,655	210	1,260	1,040	
Number of freight wagons	Count	100	3,937	3,002	5,637	5,332	
Railway Transport measurement, traffic							
Total number of rail passengers	Million persons	N/app	147	39	41	12	23,042
freight	Thousand ton	0	22	6,096	11,849	7,076	42,340

Source: Asean Japan Transport Partnership (AJTP) Information Center. Retrieved from <http://www.ajtpweb.org/statistics>

2. Current Logistics Issues in Cambodia

1) Case study 1: the time-cost analysis

- Methodology and approach

The findings are based primarily on data obtained in interviews with the private sector and in

workshops with high-level policy makers. Primary data were collected through interviews with representatives of business associations, individual freight forwarders, and transport companies, as well as from discussions held during regional logistics-related events.²⁰⁾ During individual interviews and workshop discussions, it was discovered that business representatives were reluctant to share detailed data on time and costs as these were considered sensitive business information. Those who did provide information for this study did so only after being guaranteed anonymity.

- Findings of the time-Cost analysis

The results of the time-cost analysis are summarized in Table 5. Table 5 shows that it costs \$2,064.22 and take 1434minutes to import a container from Bangkok to Phnom Penh. And it costs \$739.36 and takes 839minutes to import a container from Phnom Penh to Ho Chi Minh City. The analysis reveals that trucking costs account for roughly 40%–45% of the total logistics costs on both legs of the corridor.

Table 5: Detailed overview of Time and Costs along Southern Economic Corridor

City	Bangkok to Phnom Penh		Phnom Penh to Ho Chi Minh	
	Time (minutes)	Cost (\$)	Time (minutes)	Cost (\$)
Pre-shipment process				
Deliver original documents		40.00		0
Obtain documents	2-3 days	350.00	1-2 days	110.00
Process documents		20.00	240	90.00
Trucking	724	869.22	289	338.36
River Crossing			30	15.00
Police checkpoints	0	40.00	0	80.00
Weigh bridges	20	0	10	0
Transshipment (TEU)	60	80.00	60	80.00
Border process, incl. local customs	570	465.00	210	80.00
Final clearance	60	200.00		
Total	1,434	\$2,064.22	839	\$793.36

Source: Ksoll, Christian and Brimble, Peter(2012), Facilitating trade along the Southern economic Corridor. In Srivastava, P. and U. Kumar (Ed.), Trade and trade facilitation in the Greater Mekong Subregion, p.47, Mandaluyong City, Philippines: Asian Development Bank.

20) Discussions were held at the GMS - Business Forum (GMS-BF) Transport and Trade Facilitation Working Group meeting on 18 - 19 November 2010 in Phnom Penh, Cambodia, and the ADB Symposium for Developing the Southern Economic Corridor on 9 - 10 March 2011 in Phnom Penh

Table 6: Performance by Corridor, Bangkok–Phnom Penh

Item	Total	Cambodia	Thailand
Total distance(km)	665.80	405.80	260.00
Total time (hours)	23.90	15.90	8.00
Total logistics cost (\$)*	2,064.22	1607.08	457.14
Average time (min per km)	2.20	2.30	1.80
Average speed (km per h)	27.90	25.60	32.50
Average cost (\$ per km)	3.10	3.96	1.74
Transport cost per ton-km*	0.07	0.09	0.06
Logistics cost per ton-km*	0.16	0.20	0.09
The non-trucking logistics cost		0.11	0.03

Source: Ksoll, Christian and Brimble, Peter(2012), p.50.

Table 6 demonstrates the costs and time moving goods along the Thai and Cambodian segments of the SEC while transporting goods along the SEC from Bangkok to Phnom Penh. Table 7 shows the costs and time for the Cambodian and Vietnamese segments along the SEC from Phnom Penh to Ho Chi Minh City.

The important finding in this analysis shows that the transport costs per ton-km, at \$0.13 per ton-km, are much higher for the Cambodian part of the Phnom Penh–Ho Chi Minh City route (Table 7) than for the Cambodia part of the Bangkok–Phnom Penh route, at \$0.09 per ton-km (Table 6), a difference of about \$0.04 per ton-km, or almost 50%. With a transport cost of \$0.06 per ton-km in Thailand and \$0.07 per ton-km in Viet Nam, the trucking industry can be considered as operating quite efficiently. On the other hand, the transportation cost for the Cambodian section, at \$0.09 per ton-km from Bangkok to Phnom Penh and \$0.13 per ton-km from Phnom Penh to Ho Chi Minh City, can be considered high. Similarly high transport costs are faced normally in countries in Africa such as Burundi (\$0.11 per ton-km), Congo (\$0.12 per ton-km) and Niger (\$0.15 per ton-km).²¹⁾

Furthermore, another important finding is that it is not only the high transport costs that make trade expensive but also non-transport costs that contribute to Cambodia's high overall logistics costs. The tables presented in this study (Table 5, 6 and 7) reveal and confirm this finding. Cargo-clearance procedures and document processing are the highest cost items in import and export costs. Logistics costs in Cambodia, at \$0.20 per ton-km from Bangkok to Phnom Penh and

21) Babalola, A., Transport Infrastructure Overview, Business Opportunity Seminar, 2012, p.5.

\$0.19 per ton-km from Phnom Penh to Ho Chi Minh City, are almost double those for the Thai (\$0.09 per ton-km) and Vietnamese (\$0.10 per ton-km) sections. Non-trucking logistics cost can be deduced from tables 6 and 7. For example, from Bangkok to Phnom Penh, transport cost on the Cambodian section is \$0.09 per ton-km and the logistics cost is \$0.20 per ton-km (table 6). The non-trucking logistics cost in Cambodia is \$0.11 per ton-km. However, for Thailand the non-trucking logistic cost is only \$0.03 per ton-km (Table 6). Similarly, from Phnom Penh to Ho Chi Minh, the non-trucking logistics cost in Cambodia is \$0.06 per ton-km but only \$0.03 per-ton km in Viet Nam (Table 7). Thus, the non-trucking logistics cost in Cambodia is more than 3 times that in Thailand and 2 times that in Viet Nam.

Table 7: performance by Corridor, Phnom Penh–Ho Chi Minh City

Item	Total	Cambodia	Vietnam
Total distance(kilometer)	237.10	167.10	70.00
Total time (hours)	14.00	9.00	5.00
Total logistics cost (\$)*	793.36	649.14	144.22
Average time (minute per kilometer)	3.50	3.20	4.30
Average speed (kilometer per hour)	17.0	18.70	14.0
Average cost (\$ per kilometer)	3.35	3.88	2.12
Transport cost per ton-kilometer*	0.11	0.13	0.07
Logistics cost per ton-kilometer*	0.17	0.19	0.10
The non-trucking logistics cost		0.06	0.03

Source: Ksoll, Christian and Brimble, Peter(2012), p.51.

To a large extent, the lower logistics costs in Thailand and Vietnam can assume that they have higher-quality infrastructure and better import–export procedures than Cambodia’s. Average logistics costs seem to be fairly consistent within Cambodia when the Cambodian sections of the Central Sub-corridor of the SEC from Bangkok to Phnom Penh and Phnom Penh to Ho Chi Minh City are compared. The average logistics cost for the Cambodian section is \$0.20 per ton-km from Bangkok to Phnom Penh (Table 6) and \$0.19 per ton-km from Phnom Penh to Ho Chi Minh City (Table 7). Therefore, this reveals that because of the slow degree of infrastructure development, the low quality of the infrastructure and inefficiency import-export procedures that cause Cambodia logistic cost become expensive comparing to its neighboring countries.

2) Case Study 2: Trading Survey results relating to logistics problem

For this section, the survey results from the discussion about the improving Trade and Trade Facilitation in Cambodia were used to identify the constraints on logistics exporting process.

- Methodology and Approach

The issues presented here are based on interviews with the key stake holders.²²⁾ A total of 43 respondents from five core groups participated in workshops. The five core groups and the number of participants from each were as follows: (i) Federation of Associations for Small and Medium Enterprises of Cambodia, 11 participants; (ii) Phnom Penh Special Economic Zone, 13 participants; (iii) Garment Manufacturers Association in Cambodia, 8 participants; (iv) Manhattan Special Economic Zone, 9 participants; and (v) rice exporters, 2 participants.

- The findings of the survey

After the workshops and group discussion, there are a lot of issues that were raised by the participants. However, only the 4 highest issues are presented in this section.

(1) The problem of the issuance of certificates of origin

In every workshop, it was named as the top issue, and was viewed as particularly important in comparisons with neighboring countries. For example, in Thailand, a certificate of origin costs only \$5 and is issued almost immediately. Even in the garment industry, which has access to expedited services, the process of obtaining a certificate of origin is perceived as slow. There also seemed to be confusion about the exact requirements for obtaining a certificate of origin. The Ministry of Commerce requires exporters to obtain a certificate of origin, irrespective of whether

22) All the issues discussed here were drawn from discussions held in 2010 and 2011 with key stakeholders, including meetings in Phnom Penh, Cambodia, of the GMSBF Transport and Trade Facilitation Working Group on 18 - 19 November 2010 and the ADB Symposium for Developing the Southern Economic Corridor on 9 - 10 March 2011, the Third Economic Corridors Forum in the Lao People's Democratic Republic in June 2011, and another meeting of the GMS-BF Transport and Trade Facilitation Working Group in Phnom Penh in November 2011. While the GMS-BF meetings mostly convened transporters and freight forwarders operating on the SEC, the SEC symposium brought together representatives from four GMS governments, including local governments, private sector representatives, and multi- and bilateral development partners. Issues from the November 2010 meeting of the GMS-BF Transport and Trade Facilitation Working Group were summarized and presented at the ADB Symposium for Developing the Southern Economic Corridor on 9 - 10 March 2011, where the participants generally endorsed the findings. The findings from this study were fully endorsed by the private sector in the GMS-BF Transport and Trade Facilitation Working Group meeting on 31 May 2011.

it is required by the buyer or the destination country, possibly because it sees the process as a revenue-generating opportunity.

(2) The unavailability of information about agreements, laws, rules, and regulations

It was ranked second highest in three of the five workshops. Workshop participants mentioned this as particularly important for potential foreign investors who want assurance that their business will operate efficiently. A rice sector participant stated that “having a one-stop place for information would be valuable since it would help both the private sector and the government to know the law.” Participants from the garment sector, one of the most mature and well-organized industries in Cambodia indicated that information about export processes is still difficult to obtain. Participants from the Garment Manufacturers Association in Cambodia proposed that a list of procedures must be made available so that exporters and importers know exactly what they have to do, which documents they must use, and what timeline and costs they must meet.

(3) Too many checkpoints along the corridor

According to the survey and discussion participants, mobile checkpoints operated by customs were major concern as they waste time and require unofficial payments. To avoid the mobile checkpoints, companies sometimes transported their goods at night. Although the government has forbidden the charging of fees to the rice sector, study participants reported that fees still have to be paid and that will be hard to change as many benefits financially from these informal checkpoints.

(4) The limit of opening hours of logistics service providers and slow processes

This problem was named the top priority in two workshops. Participants complained that time are often lost because customs desks are closed. High informal fees then have to be paid to speed up the processing of goods. In many workshops, participants stated that they would be willing to pay slightly higher fees to speed up service, and even pay for overtime, if necessary, but they want to pay fixed fees and obtain official receipts. Keeping customs offices open during lunch hour was also viewed as important, but to reduce waiting times, participants put even greater emphasis on delegating signing authority to lower-ranking officials. When offices have shorter-than-advertised hours and only one person has authority to sign documents, delays in processing are inevitable.

3) Case study 3: Logistics constrains on Exports in Cambodia

This section presents findings from a case study conducted in selected sectors in Cambodia understand the bottlenecks faced by the exporters.²³⁾ In the case study, which involved a qualitative survey, firms were asked about the logistic and supply chain constraints, i.e., those related to export and import procedures and logistics. The case study covered the following sectors: (1) Wood and wood products (2) Rice, fruits and vegetables, and other food products; and (3) Garments.

- Methodology and approach

The research in this section is based on a case study done in selected sectors in Cambodia involving interviews with exporters in the private sector. The interviews with the firms took place in September and October 2011. The firms interviewed were identified through business networks and the sample selection was therefore nonrandom. In all, 39 interviews were conducted with exporters in Cambodia—15 in the garments sector, 14 in rice and food products, and 10 in wood and grass products. Firms in the case study were questioned about logistic barriers to exporting. All firms in the survey were asked to rank their top-three logistic barriers from a given list of nine constraints,²⁴⁾ from 1 (the most severe) to 3.

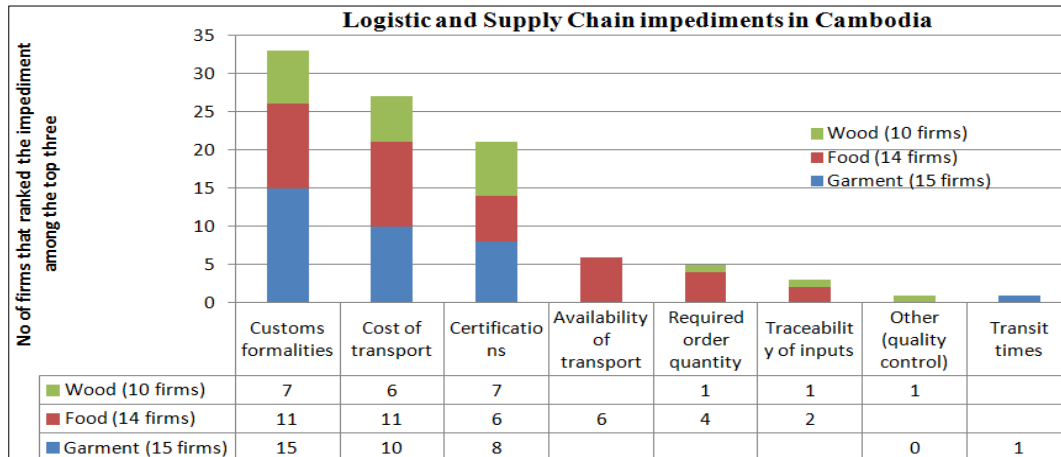
- The findings of Logistic and Supply Chain Impediments to Increasing Exports

Figure 5.5 summarizes the responses of the Cambodian firms in the three sectors to logistic impediments to exporting. The figure also distinguishes the responses by sector. Among 39 Cambodian firms that were covered by the study, 33 ranked customs formalities among their top-three impediments. This does not mean that customs formalities were ranked as the number one impediment by 33 firms. Instead, it means that, among all the impediments listed, customs formalities were ranked 1, 2, or 3 by more firms than was any other impediment.

23) Peters, G., Khemra, T., & Hyman, B., "Constraints on exports in Cambodia and the Lao PDR", *In Trade and trade facilitation in the Greater Mekong Subregion*, 2012, pp.111-144.

24) The firms were asked to rank the top-three constraints from the following list: (i) availability of transport; (ii) transit times (from time of leaving factory door); (iii) cost of transport (all cost variables); (iv) certifications (including certificates of origin); (v) customs formalities, fees, and inspections; (vi) required quantity of order fulfillment; (vii) traceability of input; (viii) flexibility in routing cargo; (ix) paperwork and clearance processing; and (x) others (as specified by the interviewee).

Figure 2: Logistics and Supply Chain impediments in Cambodia



Note: Customs formalities also include paperwork and clearance processing, which was included as a separate impediment during the interview.

Source: Gordon Peters, Thy Khemra, and Ben Hyman(2012), Constraints on exports in Cambodia and the Lao PDR. In Srivastava, P. and U. Kumar (Ed.) Trade and trade facilitation in the Greater Mekong Subregion, p.125, Mandaluyong City, Philippines: Asian Development Bank.

(1) Customs Formalities

The results showed that most of the surveyed firms—15 out of 15 in the garments sector, 11 out of 14 in the food products sector, and 7 out of 10 in the wood products sector equals to 84.6 % ranked customs formalities among their top-three barriers.

Some of the firms stated that customs procedures were a constraint on the timely delivery of input supplies, increasing the costs and forcing the firms to use local supplies, and it affected the overall quality of the final product. For example, in the case of garments, there are no input supplies in Cambodia and a garment factory’s ability to get shipments of fabric on time that affects their delivery times. If inbound shipments are delayed at the border, outbound shipments will most likely also be delayed, resulting in extra shipping fees. Similarly, several exporters in the Cambodian wood product sector addressed about the difficulty and costs related to importing goods such as additional raw materials, specific chemicals, or dyes. One specific cost was too high, they said, referring to the practice of charging fees based on the entire invoice value, which often includes tax and cost of shipping. For some firms, if the costs of importing become too high to compete and export, and production inputs are restricted to those available in Cambodia, the production of certain goods can stop altogether.

(2) Cost of Transport

Overall, the cost of transport was ranked as the number one constraint by most firms (not shown in Figure) by 9 out of 15 firms in the garments sector, 8 out of 14 in the food products sector, and 5 out of 10 in the woods products sector. In other words, most of the firms interviewed regarded transport cost to be a major challenge.

Cambodian garment manufacturing firms noted that freight forwarders are nominated by buyers and the garment manufacturers therefore have less negotiating power. Informal payments included in the transport charges could also partly explain why transport cost is a barrier. As the survey responses showed, firms had little idea of, or control over, the informal payment part of overall transport charges. Transport charges could also be high because of the lack of competitive transport service providers. Several factors support this hypothesis. First, Cambodia's trucking companies are relatively small and aging. Second, transportation costs per ton-kilometer are significantly higher in Cambodia than in neighboring countries.²⁵⁾ Third, the lack of firms engaged in cross-border shipments and restrictions on foreign-owned trucking companies operating in the country provide a relatively protected domestic environment for transport service providers to operate in. Fourth, a relatively small number of large trucking firms account for the vast majority of trailer trucks and international shipments.

(3) Certifications

Acquiring the necessary certifications was ranked as an impediment by 21 firms about 54%—8 out of 15 in the garments sector, 6 out of 14 in the food products sector, and 7 out of 10 in the woods products sector. In the wood products sector, the ranking is most likely due to the various clearances required for the wood used.

According to the finding above, Cambodian firms listed that customs formalities, cost of transportation and certification are the most problematic logistics issues in Cambodia exporting sector. This result shows similar issues to the previous case study such as certifications and customs formalities and transportation costs.

25) Transport cost per ton-km is higher in Cambodia than in Thailand or Viet Nam (tables 6 and 7).

IV. RECOMMENDING STRATEGIES

1. Recommending strategies for transport infrastructure in Cambodia

1) Road Transport Infrastructure

The road transport infrastructure is indeed instrumental in interconnecting all businesses to all major world markets, driving trade, creating employment, ensuring a better distribution of wealth, and uniting mankind. It plays a pivotal role in the daily economic and social life of industrialized and developing countries alike. As in Cambodia nowadays there have been a lot of improvements on road transport infrastructure but still there are lot of issues such as road rehabilitation, road maintenance, road safety and human resource development. These issues have slowed down the development process of road transport infrastructure in Cambodia. These are the recommendation strategies to support the development of road transport sector in Cambodia: (1) Innovation of Road rehabilitation, (2) Development of Road planning, (3) Enhancement of road maintenance, (4) Improvement of traffic control and administration, (5) New framework for toll road concessions, and (6) development of human resource.

2) Rail Transport Infrastructure

A comprehensive and accessible rail transport system is an important link in Cambodia transport chain that joins communities and strengthens industry. According to the present time of the poor condition of the Cambodia Railway infrastructure, It needs immediately meet the fully rehabilitation of the existing physical infrastructure in both lines to make sure that railway infrastructure have been rehabilitated and has capability strong enough in traffic required. Currently, the concept of a Trans-Asia Railway is being studied. If Cambodia wants to put this concept into practice, the country will have to restore the Thai- border section of the north line and construct a new railway between Phnom Penh and Vietnamese border. To realize the concept for the railway, it has to be ensured that it will be economically efficient, technical problems will be solved, and coordination will be ensured with the other countries concerned. Here are some recommendations for the future development of railway infrastructure: (1) South Line: South Line

connects Phnom Penh to Sihanouk Port. It has a special priority that can be competitive with other modes of transportation in carrying oil, cement, containers, and other large-volume freight. Royal Railways of Cambodia need to take a number of actions to improve the south line, including repairing new construction branch lines in previous stations especially branch lines connecting to the cement plants and reinforcing sections that have been left unattended during the restoration work, linking the line with freight shipping facilities and dry ports, restoring switches to allow and could save rail service at least for daily service. (2) North Line: North line connects Phnom Penh to Thailand. Only small portion of the entire line is complete so it needs restoration work. Moreover, there is a missing in the North line from Sisophon to Poipet near Thai border. This missing line needs to be restored so the international transport between Thailand and Cambodia will be connected as the alternatives of road transport. (3) New Line: Railways in Cambodia are expected to be part of the Asian Railway Network through linkage with the railway network in Thailand and Vietnam. To this end, it is necessary to construct new line from Phnom Penh to Vietnam border. The new Line is the construction of a 255 kilometers link between Phnom Penh and Lock Ninh (Vietnam) that would integrate the Cambodian railway into the regional railway system (Singapore-Kunming rail link). After completion of this new line there would an international line through come through Cambodia from Thailand to Vietnam. This can be an alternative to compete with road transport which is the only alternative nowadays to move goods from Thailand to Vietnam through Cambodia.

3) Urban Transport Infrastructure

As cities become the engines of economic growth, city government and decision makers confront a challenging task of developing and maintaining efficient urban transport systems. These systems must challenge the problems of severe congestion, deteriorating air quality, energy sustainability, and increasing numbers of road accidents. However, urban transport planning and management is complex. It is more than choosing technologies. Here are the policy recommendations in supporting Cambodian Urban Transport policy: (1) Management of urban transport: The city officials need to rationalize institutional responsibilities for urban and community transport and strengthen organizations to improve efficiency, effectiveness, transparency and accountability. Also they need to develop and introduce new technical standards to improve

the safety of infrastructures and means of transport, (2) Extending of urban road infrastructure: The number of paved roads and road drainage systems need to be developed and increased to limit the effects of flooding and improve intersections in urban and community areas to clearly demarcate various road user priorities and provide adequate drainage facilities and surface conditions.. Besides, in order to reduce city traffic congestion, they need to construct ring roads for major urban centers. (3) The enforcement of traffic law: Training and equipment to the traffic police should be provided through the National Road Safety Program along with sharing vehicle control enforcement between the traffic police and the Ministry of Public Works and Transport.

2. Recommending Strategies for Cambodia's Business Logistics Sectors

1) General recommendations

The government should promote the operation of transport and communication infrastructure. Transport, communications infrastructure, and equipment have always been recognized as a fundamental role in defining the efficiency of logistics. Communications infrastructure and systems (infrastructure, equipment and software) are being gradually recognized as important elements of logistics. Besides, the role of government and national coordination should be strengthened.

While most logistics services are provided by the private sector, many government agencies, such as the national planning department, ministry of transport, ministry of trade, customs authority, ministry of information and technology, and ministry of land and construction need to come together in the development of logistics at the national level. Moreover, Statistical data should be monitored and collected. The logistics performance in Cambodia needs to be monitored and formulated appropriately. To this end, reliable and accurate data on logistics Cambodia need to be collected and analyzed. Statistical indicators need to be developed to give a reliable picture of the situation and evolution of the logistics industry in the country over time. The government should create opportunities to share experience and form partnership within the region. Furthermore, one of the most difficult problems involving logistics in Cambodia is the lack of skilled professional human resources. Human resource deficiencies can be observed with all stakeholder and at all levels of operations and managerial decision-making. There is, therefore, a need to develop training programmes that enhance logistics knowledge in order to upgrade logistics skills and practices.

2) Import and export logistics sector

Here are Policy recommendations for the Cambodia import and Export logistics sector:

(1) speeding up the issuance of certificate of origin: the appropriate solution is to introduce information and communication technology for processing, as well as issuing certificate of origin. The applicant would be able to save a lot of time because they don't have to apply in person for the certificate of origin. Moreover, establishing a website for submitting documents related to the certificate of origin could solve part of the problem quite easily.

(2) Increasing the availability of information about agreements, laws, rules and regulations: The relevant ministries should establish a website or links to an existing website by identifying a lead agency to supply information (a private or public institution). Also they should appoint focal points in each concerned ministry who will be required to provide relevant information as soon as it becomes available and keep updating.

(3) Eliminating checkpoints along the corridors: it needs commitment from the highest levels of government. Even with that, the elimination of checkpoints will pose great challenges because of the low wages in the public sector and the many people receiving unofficial checkpoint fees. The impact of removing checkpoints is mainly financial. Eliminating such stops could reduce trucking costs significantly. A reduction in unofficial payments can reduce the overall transport charges, and the reductions, when passed on to the firms, can make their products more competitive.

(4) Extending the opening hours of logistics service providers and delegate responsibilities to fasten processes: a solution to solve this problem is to extend the opening hours of all agencies service providers and delegate responsibilities to expedite processes. Besides, they should operate each office hours without lunch breaks by introducing a fixed fee for overtime would enable private companies to calculate costs exactly and determine whether to request overtime. Assigning some responsibilities to lower-ranking staff could significantly reduce truckers' waiting time at government agencies and borders.

(5) Implementation of the Single-Stop Inspection Mechanisms: The implementation of the Great Mekong Sub-region Cross Border Trade Facilitation Agreement (GMS CBTA) is a key component of the economic cooperation program for facilitating cross-border transport, trade, investment, tourism, and enhanced access to vital services in the GMS that comprises Cambodia, Lao People's Democratic Republic, Myanmar, Thailand, Viet Nam, and Yunnan Province in the People's

Republic of China. It vividly demonstrates what is meant by the three Cs of the GMS program—improved connectivity, greater competitiveness, and the spirit of community. Single-Stop Inspection (SSI) allows border control authorities from two countries to jointly conduct one-stop inspections at inbound checkpoints. A successful implementation of SSI commenced at the Lao-Bao-Dansavanh border crossing points in 2005 under a bilateral road transport agreement between Lao PDR and Viet Nam Asian Development Bank, (2013, November), “Progress Report on Transport and Trade Facilitation Initiatives in the Greater Mekong”, Southeast Asia Department Asian Development Bank, p.11.. Initial implementation of SSI mechanisms resulted in a substantial reduction in border crossing times as Vietnamese trucks needed to be checked only at the Dansavanh border crossing point and Lao trucks needed to be checked only at the Lao-Bao border crossing point. According to the Ministry of Transport of Viet Nam, since initial implementation of Step 1 of SSI at Lao-Bao/Dansavanh, the average clearance time for trucks at the border was reduced from 90 minutes to 29 minutes, providing significant time and cost savings, improved governance, and increased trade between Lao PDR and Viet Nam.

V. CONCLUSIONS

In Cambodia, the development of logistics sector has been developed slowly; meanwhile, its neighboring countries have improved their logistics system constantly and noticeably. This causes a lot of problems such as facing difficulties in moving goods to markets; confronting challenges in supplying overseas customers and integrating into regional production networks; and the cost of moving cargoes is higher than in neighboring countries.

The purpose of this study is to identify and address the issues that have hindered the development of logistics systems that Cambodia is facing at both the national and regional levels. The first step of this research was the literature; it narrowed down the importance of the development of logistics and the factors that impacts logistics performance and some previous empirical studies demonstrated the important role of logistics in promoting the development of regional cooperation, production and distribution networks and international trade. Based on the literature review, a study revealed that transportation system is the most important economic

activity among the components of business logistic systems. The literature review also shows about the importance of logistics. It showed that efficient logistics infrastructure increases a country's competitiveness and its ability to attract foreign direct investment. Moreover, other empirical studies have highlighted the importance of infrastructure in promoting economic growth and reducing poverty. The second step of research was to reveal issues that Cambodia has faced in the development of effective logistics systems that are related to transport infrastructure and trade logistics, in particular the issues related to trade between its neighboring countries, namely, Vietnam and Thailand. The research showed that in the area of transport infrastructure, comparing to regional countries, the development of road transport, rail transport, and urban transport infrastructure. For the trade logistics issues, the research has revealed some problems as followed. First, according to case study 1 about the time and cost analysis, it showed that the logistic cost in Cambodia is much higher than its neighboring countries: Thailand and Vietnam. Also it discovered that it is not only the high transport costs that make trade expensive but also non-transport costs that contribute to Cambodia's high overall logistics costs. Moreover, other two case studies were used to discover the issues. The studies also uncovered problems relating to trade logistics through interviews, discussions and workshops. The Last and the most important step of this research is the recommending strategies that could solve those issues. The policy recommendations to improve the transport infrastructure (road, rail and urban transport), Cambodia logistics system, and logistics system relating to the exporting trade are presented.

In conclusion, since recently there are lot of Korean businesses coming to Cambodia. The authors suggest that at first the Korean Companies should consider and study about the logistics infrastructures in Cambodia because logistics costs can affect and decide the whole process of trading. There is a big gap between the quality of Korea and Cambodia logistics infrastructure. Therefore, If it is possible, the authors propose that Korean investors cooperate with the Cambodia government by sharing the knowledge and technology that is being used in Korea nowadays to enhance and improve Cambodia logistics infrastructures.

It would take great efforts to succeed in developing the current logistics systems in Cambodia. Also it would require a lot of time and money to achieve all the above recommendations. Notwithstanding, it is necessary to struggle and find the solutions to handle these problems. If these problems could be solved then Cambodia logistics system would promote the economic

growth and reduce the poverty. The most important thing is Cambodia trading sector would be able to compete with its neighboring countries in the future.

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국문초록

캄보디아의 물류 기반시설에 관한 탐색적 연구 : 그 쟁점과 해결방안

Dannsoleilnay Long · 김종철

본 연구는 현재 한국기업들의 캄보디아에 진출이 증가하고 있는 시점에서 캄보디아의 물류발전의 제한적인 문제점을 발견하고 해결책을 제시하고자 탐색적 연구를 시도하였다. 현재까지 국내연구논문에서 캄보디아에 대한 물류연구는 전무하다시피 열악한 실정이며 동남아시아의 시장정보차원에서 물류상황에 대한 문제점과 그 해결방안을 소개하는 것도 매우 의미가 있을 것으로 판단된다. 본 연구는 첫 번째로 문헌연구는 물류 및 수송, 사회기반시설과 경제성장 그리고 경제성장에서 물류의 중요성과 빈곤감소 사이의 관계를 포함되도록 제한하여 실시하였다. 다음 단계에서는 물류영역의 촉진원인으로 수송 기반시설과 관련된 사항을 확인하였으며 비용과 시간(time-cost analysis)에 관한 사례 연구를 통하여 캄보디아 내의 물류비용과 관련된 몇 가지 주제를 주변국(태국과 베트남)과 비교하였다. 시간과 비용 분석 결과, 캄보디아의 물류비용은 태국과 베트남에 비하여 상당히 높은 것으로 파악되었으며 수출과 무역절차 간소화와 관련한 두 가지 사례 연구를 통하여 몇 가지 물류 문제점을 발견할 수 있었다. 참가자들은 원산지 증명서의 발급, 계약서에 관련된 정보의 유용성, 법률, 규칙과 규정 국경 검문소에서 절차, 물류서비스 제공자의 영업시간 그리고 더딘 진행과 관련된 몇 가지 문제점을 제기 하였다. 본 연구는 캄보디아의 수송기반 시설과 물류영역과 관련된 현재의 문제점에 답하기 위한 몇 가지 적절한 해결책을 탐색적 연구결과로 제안하고 한국기업들에게 정책적 시사점을 제공하고자 하였다.

주제어 : 운송, 사회기반시설, 물류, 캄보디아