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Exporting Thai Fruits to the People's Republic of China via. R8, R9 and R12 Routes: Current Situation and Future Prospects

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Abstract: This research presents the exploration of R8, R9 and R12. These international land routes connect Thailand, Lao People's Democratic Republic (PDR), the Socialist Republic of Vietnam (Vietnam) and People's Republic of China (PRC). An objective of this research is to propose an assessment of different Northeast route options. Data used in this research comprise of both primary and secondary data. Primary data included the route surveys and a semi-structured interview with respondents. Secondary data were preliminarily retrieved from academic documents and reports. A cost/time-distance methodology was employed to represent graphical logistics data. It was found that R9 route is the official route to trade fruits between Thailand and PRC. Chinese custom duty is waived, according to the fruit transport protocal but the entrepreneur must make a value-added tax payments. However, R12 route is chosen as the main route for Thai fruits distribution based on time, cost and distance.

Key words: Thai fruits, exportation, road transportation, assessment, cross border, entrepreneur must

INTRODUCTION

Numerous varieties of exclusive and great-tasting fruits have been recognized as having high potential on Thailand's exports (Pongpanich and Phitya-Isarakul, 2008). Some of the economic cooperation programs like ASEAN Economic Community (AEC), Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy (ACMECS), Greater Mekong Sub-region (GMS) have been launched to support the free flow of goods and finance. Nevertheless, the main export problems of fresh-fruit trading are a long-distance transportation and perishable nature of fruits (Tansuchat *et al*., 2016).

A national logistics system plays a vital role in driving seamless movement of goods across countries and reducing high transaction cost. National logistics system not only involves enormous stakeholders for considering both economic and non-economic tradeoffs as social and environmental perspectives but also, emphases on developing and providing infrastructures and spatial connectivity (Banomyong *et al*., 2015). Fechner affirmed that linear and nodal infrastructures in the national logistics system are important to manage logistics activities such as handling, storage and delivery. It should be noted that roads, waterways, airways and pipelines are linear infrastructures.

Thai fresh fruits are exported through the Northeast gateways to People's Republic of China (PRC) by motor carrier (road transportation) on R8, R9 or R12 route. These international land routes connect Thailand, Lao People's Democratic Republic (PDR), the Socialist Republic of Vietnam (Vietnam) and PRC. On one hand, these connectivity routes develop international trade. On the other hand, they leverage international relations to improve the related logistics management, for example, Thailand has an agreement between governments on land transportation with Lao PDR to liberalize road transport entrepreneurs in 2004. Thus, in 2007, two hundred entrepreneurs approximately were permitted compared with the original of only five entrepreneurs and transportation cost was reduced about 20-30% (Tansuchat *et al*., 2016).

Cheng (2013) reviewed that China and Association of South East Asian Nations (ASEAN) have begun extensive with growing sub-regional economic co-operation projects as presented in China's Foreign policy. The Nanning-Singapore economic corridor is an extension transport network project from the Nanning-Hanoi economic corridor. The update project connects through Laos PDR, Cambodia, Thailand, Malaysia and Singapore. Thailand Northeast gateways are also involved in this project as a part of a highway network. There is a lack of academic research related to the Thai Northeastern routes based on a holistic perspective.

An objective of this research is to propose an assessment of different Northeast route options. While an official route was promoted by the Thai and Chinese agreement, the other route is chosen to trade Thai fruits by private entrepreneurs.

Table 1: Basic data of R8, R9 and R12

Routes	Details	Distance (km)	Duration (h)
R8	Bueng Kan-Pakxan-Ban Namthon-Lak Sao-Nam Phao-Cau Treo-Vinh-Hanoi-Lang Son-Pingxiang	817	N/A
R9	Mukdahan-Savannakhet-Dan Sa Vanh-Lao Bao-Dong Ha-Vinh-Hanoi-Lang Son-Pingxiang	1,388	39
R12	Nakhon Phanom-Thakhek-Khammouane-Na Pao-Cha Lo-Vinh-Hanoi-Lang Son-Pingxiang	831	31-34

Applied from Pongpanich and Phitya-Isarakul (2008)

An overview of routes: A starting point of R8 is Bueng Kan Province, Thailand, connecting Pakxan border, Borikhamxay Province, Lao PDR. It leads to Lak Sao by switching from R13-R8 at Ban Namthon, Pak Kading. Then it crosses to Vietnam at Cau Treo border via. Nam Phao border, Lao PDR. This route has a beautiful mountain scenery for travellers (Cheng, 2013).

The R9 route was officially approved by Chinese Government on 24th June 2009 for the fruit transport protocol from Thailand through third countries (Lao PDR and Vietnam). This official route starts from Mukdahan Province, Thailand at Second Thai–Lao Friendship Bridge (F.S.B II border) to Savannakhet Province, Lao PDR. Next, a border crossing at Lao PDR and Vietnam is Dan Sa Vanh border and Lao Bao border, respectively. Dong Ha which is the capital of Quang Tri Province is situated at the crossroads of National Highway 1A and R9.

Based on the R12, Nakhon Phanom Province, Thailand connects with Thakhek, Khammouane Province, Lao PDR by using F.S.B III border to cross the Mekong River. Na Pao border and Cha Lo border are employed as a border crossing between Lao PDR and Vietnam.

However, R8, R9 and R12 are joined at Vinh, Nghe An Province for heading to Hanoi and Lang Son Province. Lang Son Province is bounded in the North by Pingxiang, Guangxi Zhuang Autonomous Region, PRC. Table 1 exhibits data for R8, R9 and R12.

MATERIALS AND METHODS

Data used in this research comprise of both primary and secondary data. Primary data were not only examined by exploring all routes but also by organizing a semi-structured interview with respondents. Route surveys were done to explore the AS-IS logistics situation of physical flows. Semi-structured interview is a flexible and fluid characteristic to follow up and develop with respondents (Banomyong *et al*., 2015). The interviewees were specified persons in public and private sectors. Secondary data were preliminarily gathered from the relevant text books, journal articles, public reports and technical assistance reports.

A cost/time-distance methodology was employed to represent graphical logistics data. A vertical axis demonstrates the time or cost while the horizontal axis corresponds to the distance travelled from origin to destination (Short and Kopp, 2005).

RESULTS AND DISCUSSION

This research explores routes during March-August, 2017 for studying logistics activities, laws and regulations along routes and border trades. By exploring R9, the Mukdahan border is a starting point. The head of a Mukdahan customhouse informed total values of exports and imports during Thai fiscal years 2010-2016 (1 October 2009-30 September 2016). During this period, surplus balance of trade was found in most years, except on 2015 as shown in Fig. 1.

Based on Thai fiscal years 2014-2016, Thai fruits were exported at the highest volume in June, 2014 around 494 million baht. This export cycle was in accordance with the fruit season in Thailand. The 2015 export values sharply dropped compared with previous year. However, this channel was not selected from Thai fruit shippers, since, March, 2016 in Fig. 2.

After crossing the Thai border, a vehicle is driven in Savannakhet Province at a cruising speed of 60-80 km/h but occasionally slows to <50 kph on the one-lane stretches. Some parts of roads were under construction. An inconvenient rest area is located in Phalanxai. At Dan Sa Vanh border, this place has an area for operating the Cross-Border Transport Facilitation Agreement (CBTA) based on the Greater Mekong Subregion (GMS) Economic Cooperation Program by the Asian Development Bank (ADB). Lao Bao border, Vietnam provides logistics areas for truck's activities. In Vietnam land route to Dong Ha and Vinh, petrol stations are used as a temporary rest area for truck drivers. The speed limit is 50 kph in Vietnam on the one-lane stretches.

On R12 route, the head of a Nakhon Phanom customhouse was interviewed to collect import and export statistics. Total values of exports and imports during Thai fiscal years 2011-2015 (1 October 2010-30 September 2015) were formed as a trade surplus, especially in 2013 jumped around 5.18 times compared with previous year as shown Fig. 3.

The fruits export data of Nakhon Phanom customhouse from April 2015 to February 2017 is shown in Fig. 4. The export volume of fresh fruit in 2015 was slightly fluctuated. The highest exports occurred in August which is worth about 670 million baht. There is a volatility pattern in 2016. It was found that the export volume exceeded 1,000 million baht in May, August and September with the highest export volume in September

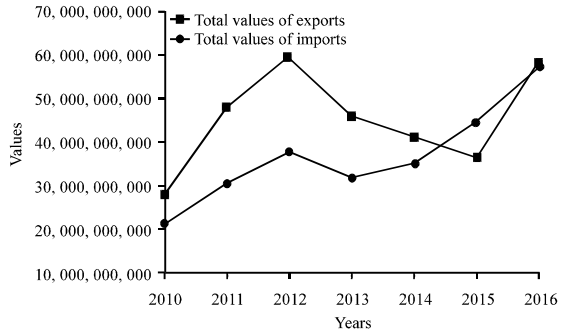

Fig. 1: Mukdahan total values of exports and imports (Currency: Thai baht) Mukdahan customhouse

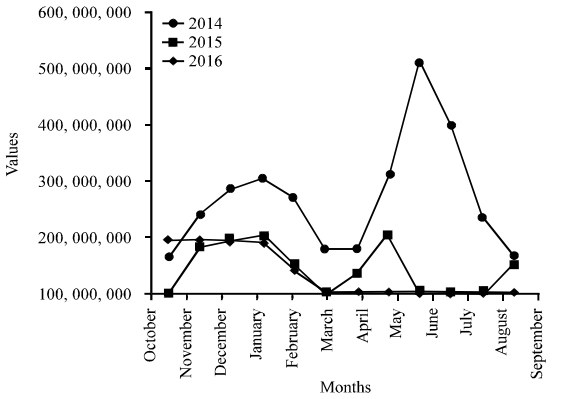

Fig. 2: Mukdahan monthly export values of Thai fruit (Currency: Thai baht) Mukdahan customhouse

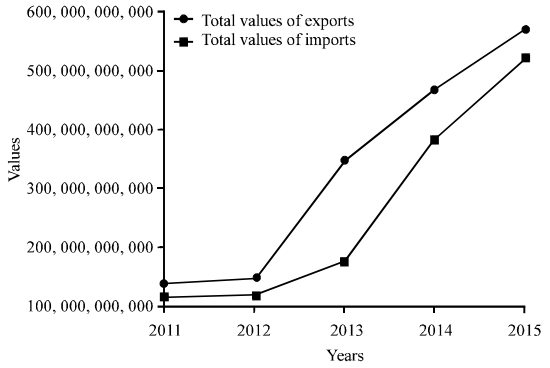

Fig. 3: Nakhon Phanom total values of exports and imports (Currency: Thai baht) Nakhon Phanom customhouse

equaled to 1,732 million baht. The export volume was likely to grow very well throughout October 2016 until February 2017. Hence, fresh fruits were the product with the highest export volume of Nakhon Phanom customhouse. Especially in December, the volume of exports reached 2,870 million baht. By interviewing with

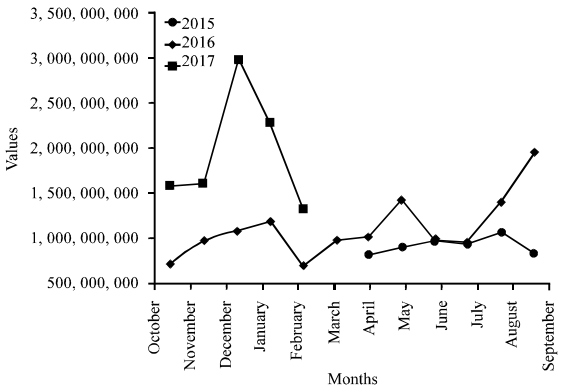

Fig. 4: Nakhon Phanom monthly export values of Thai fruit (Currency: Thai baht) Nakhon Phanom customhouse

the head of Nakhon Phanom customhouse, it was found that jackfruit, durian, longkong, tamarind, longan and lychee (code 0810), followed by mango and mangosteen (code 0804).

Based on R12, the Nakhon Phanom border is a starting point to Thakhek, Khammouane Province, Lao PDR. Before arriving at Na Pao border, some petrol stations and repair shops are found along the route. A connecting path between Na Pao border and Cha Lo border was constructed to pave a road with concrete. Cha Lo border was also expanded to serve logistics activities. From Cha Lo to Vinh, there is a two-lane highway with good pavement condition. However, some parts had road surface conditions.

For R8, no fruit export and import data were found during Thai fiscal years 2012-2017 reported by the head of a Bueng Kan customhouse. In the construction of the F.S.B V, there is still no further action or conclusion to build it. A ferry or a motor raft is used at piers to cross Mekong River from Bueng Kan to Pakxan. R13 is a two-lane paved highway with road surface conditions and narrow shoulders. At Ban Namthon, R8 is a road to Nam Phao border and Cau Treo border. During the trip, it was found that this route was not suitable for transportation. This route is an uphill area with a lack of maintenance. Some areas, the roads are still very steep and curves are very sharp. Experienced drivers are needed in driving on this route.

From Vinh to Pingxiang, a standard two-lane in rural areas and four-lane in urban areas are constructed with the smooth pavement condition. The speed limit is 50 kph along the route. Good logistics facilities are appeared to service tourists and truck drivers.

At Pingxiang, this place has three borders for importing fresh fruits. Each border operates and gains

income from Value Added Tax (VAT) or cross-border fee. Youyiguan border is specifically used for R9 as the fruit transport protocol. Fresh fruits are rated at 11% in the import VAT. Puzhai check point for border trade is a channel in response to huge volumes of imported fresh fruits. Nonghuai check point for border trade is a channel in response to small volumes. Both check points charge 4% cross-border fees. Table 2 provides some different characteristics of three borders.

A cost/time-distance methodology was applied to represent graphical logistics data. A cost/time-distance methodology was applied to compare R8, R9 and R12. All routes are separated into three parts as shown in Table 3. Part A is a Thai and Laos linear. Part B considers logistics activities along Vietnam borders. Pingxiang is set to present as part C. The total cost comprised of transportation cost and administrative cost at the border. Costs from origin to destination were collected by using interview with entrepreneurs and reviewing the previous researches.

Most logistics activities of all route occur in the area of Vietnam in terms of distance, time and cost. On the contrary, logistics activities at Pingxiang comprised of 1 h of customs clearance and cost about 17,700 baht. Table 4 exhibits data of distance, time and cost which are measured in kilometers, hours and baht, respectively.

Comparisons of transit time and distance occurred in all three routes were found that the time spent in transportation was more than the time spent in the customs clearance processes (Fig. 5). The transportation time was approximately 60-69%. The transportation time spent in the area of Vietnam about 70-80%. If considering the distance, the transportation occurs in Vietnam at about 75-80%. The remaining distance is in the area of Laos PDR.

Comparisons of cost and the distance are presented as Fig. 6. It was found that a cost pattern of R8 and R12 is similar. The customs clearance cost was higher than the cost of transportation around 55-59%. For R9, the cost of transportation was slightly higher than the customs clearance (about 2%). In the cost perspective, the costs incurred about 68-72% occurred in Vietnam. In addition, the Vietnam customs clearance was higher than other countries.

Table 2: Characteristics of three borders at Pingxiang

Names	Border type	Import charges (%)	Volume	Vehicle type
Youyiguan	International	11	Large	Refrigerated container
Puzhai	Check point	4	Large	Refrigerated container
Nonghuai	Check point	4	Small	Small truck

Table 3: Characteristics of three borders at Pingxiang

Routes	A	B	C
R8	Bueng Kan-Nam Phao	Cau Treo-Lang Son	Pingxiang
R9	Mukdahan-Dan Sa Vanh	Lao Bao-Lang Son	Pingxiang
R12	Nakhon Phanom-Na Pao	Cha Lo-Lang Son	Pingxiang

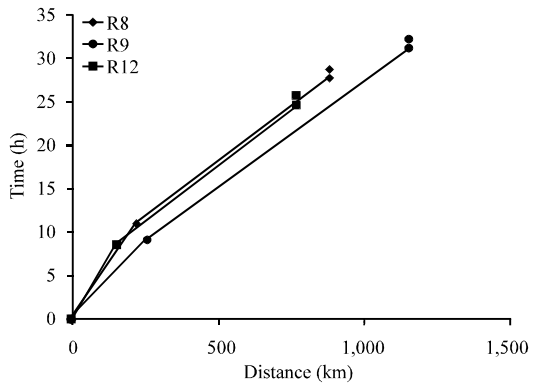

Fig. 5: A time-distance comparison of all routes

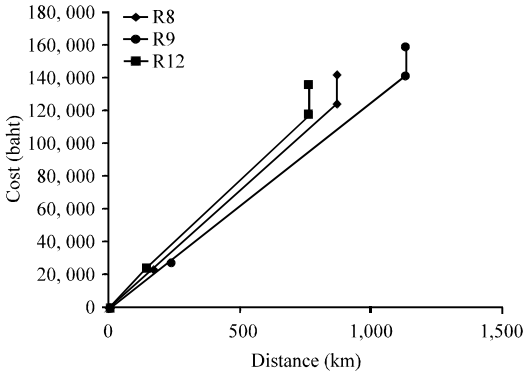

Fig. 6: A cost-distance comparison of all routes

Table 4: Distance, time and cost

	A			B			C		
Routes	Distance	Time	Cost	Distance	Time	Cost	Distance	Time	Cost
R8	222	11	28,600	657	17	97,700	0	1	17,700
R9	250	9	28,600	900	22	114,700	0	1	17,700
R12	150	8.5	23,700	620	16	94,600	0	1	17,700

Applied from Soratana

CONCLUSION

If comparing the three routes, R9 is the official route approved by Chinese government for the fruit transport protocol. Nonetheless, this route could not compete with the R8 and R12 routes in terms of cost, time and distance. R8 is a promising route but there is no road link between Thailand and Lao PDR. Presently, R12 route is chosen as the main route for Thai fruits distribution. All routes has some obstacles such as poor road quality, cattle and pedestrians walking along roads. Some basic facilities (gas station, rest area, warehouse, standard container yard, etc.) should be invested by private and public sectors.

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