

## Development of Thai International Ports in accordance with ASEAN Economic Community

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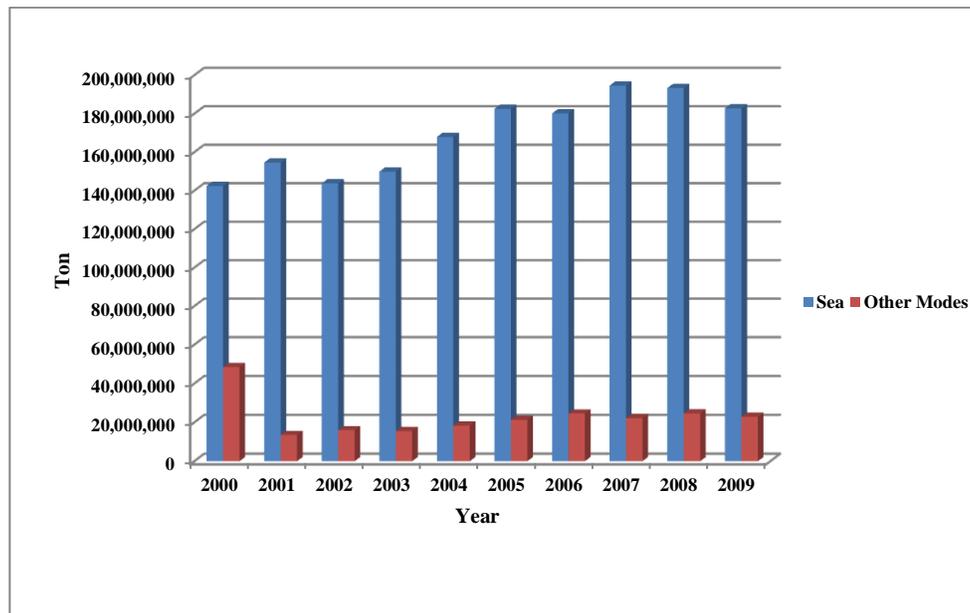
**Abstract:** This research investigates the trade and transport facilities at Thailand's international ports to understand obstacles and seek a practical development plan to improve and prepare them according to the ASEAN Economic Community. The study consists of field data collection at 9 international ports in Thailand. 39 stakeholders including port operators, customs officers, freight forwarders, shipping agents, ship liners, other government officials as well as importers/exporters were interviewed to understand existing situations, obstacles, and ways to improve the goods movement process. In addition, Port of Singapore, as a good-practice example, was surveyed for gap analysis between Port of Singapore and Thailand's ports which was used as a guideline to improve efficiency at Thailand's ports. Lastly, port stakeholders were invited in a focus group to gather their comments. The findings from this research lead to realistic suggestions of how to improve Thailand ports in accordance with the ASEAN Economic Community.

*Key Words:* Port, Maritime Transportation, ASEAN Economic Community.

### 1. INTRODUCTION

The ASEAN Economic Community or AEC, one of the three pillars of the ASEAN Community that will be established in 2015. The establishment is based on a convergence of interests among ASEAN member countries to deepen and broaden economic integration. According to Roadmap for an ASEAN Community 2009–2015, the AEC aims to establish ASEAN as a single market and production. Free flow of goods is one of the principal means by which the aims of single market and product base can be achieved. The implementation plans that might affect sea transportation are elimination of tariffs and non-tariffs barriers, rules of origin, trade facilitation, customs integration, ASEAN Single Window, and the implementation according to International Maritime Organization (IMO) and the Roadmap towards an Integrated and Competitive Maritime Transport in ASEAN (The Association of Southeast Asian Nations, 2009).

Thailand, as a main member of the AEC agreement, has depended on international trade for a long time and maritime transportation always plays an important role to its trade. Figure 2 shows that during the past 10 years, Thai seaborne trade has increased steadily and over 80% of the trade volumes are shipped by sea. Hence the country should adapt for incoming changes and must prepare port infrastructure and management to operate more efficiently.



**Figure 1: Volume of Thai Import-Export Goods by Mode of Transport**  
(Information and Communication Technology Bureau, Customs Department Thailand)

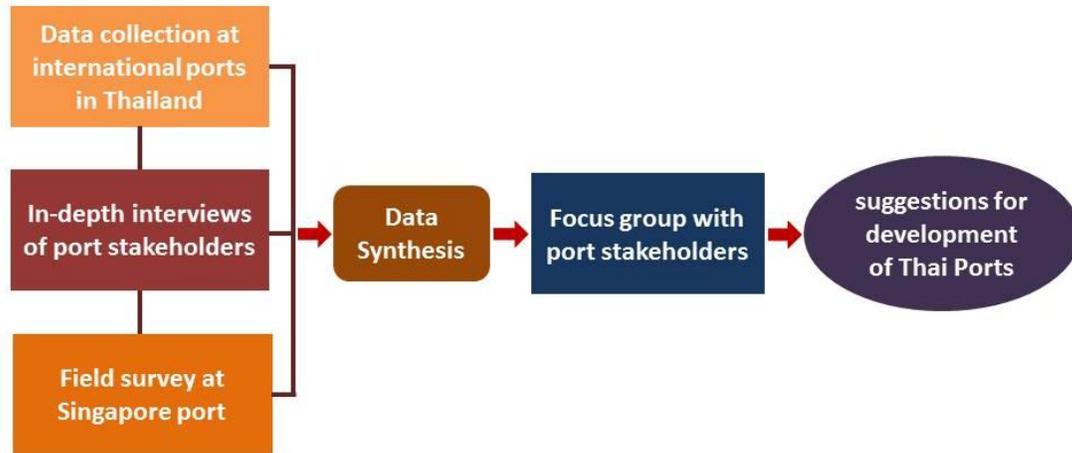
This research investigates the trade facilitation at Thailand’s international ports. We look at existing obstacles and seek a practical development plan to improve and prepare them for the AEC. The study consists of field data collection at major ports, interview of key stakeholders regarding maritime transport to summarize the existing situations and obstacles with the objectives to recommend how to improve the goods movement process from the good–practice port, i.e., the Port of Singapore.

The remainder of the manuscript is organized as follows. Section 2 relates the study methodology. The existing situations of international ports in Thailand are described in Section 3. Section 4 presents the summary of opinions from Thailand ports’ stakeholders. Section 5 shows lessons learnt from a good practice port. Then, the focus group was organized with the results shown in Section 6. The concluding remarks are discussed in the final section.

## 2. STUDY METHODOLOGY

This study depended on qualitative research methodology. It comprised field data collection at international ports in Thailand as well as in–depth interviews of port stakeholders. The objective of these two steps was to understand existing situation, obstacles, and ways to improve the goods movement process. Next step was field survey at Port of Singapore as a good–practice example. The objective was to do gap analysis between Port of Singapore and Thailand’s ports and the differences were used as guidelines to improve efficiency at Thailand’s ports. The data collected from the three steps were synthesized as the topics for the last step, focus group with port

stakeholders. The objective of this step was to set up suggestions of development of Thai ports according to AEC. The study methodology is shown in Figure 3.



**Figure 2: Study Methodology**

### 3. EXISTING SITUATION OF THE INTERNATIONAL PORTS IN THAILAND

To understand the present situation of Thailand’s ports in details, not only secondary data from literature and research documents were collected, but also field surveys of various types of international ports such as general cargo, container, bulk, were conducted. The selection of international ports for the field data collection was based on location, administration and throughput.

Nine international ports were selected for the field surveys. They situate on all parts of the country, four locate on the Chao Phraya River which is the most important river in the middle part of Thailand, three are on the eastern coast, and one is on the southern coast of Thailand. In administration aspect, four of them are state–owned ports and five are private–owned. Based on types of goods, Bangkok Port, Leam Chabang Port and Songkhla Port are major ports for break bulk especially containerized cargoes, and Map Ta Put Port is the major port for liquid bulk and dry bulk. The selected private–owned ports are the prominent common user ports in the central and eastern parts of the country. When taking throughput of the ports into consideration, they share over 90% of the Thai seaborne trade. Table 1 is the lists of the selected ports.

**Table 1: Details of Studied Ports**

Port Name	Type of Cargo	Ownership	Operator	Location
1. Bangkok Port	Container, Break Bulk	State–owned	Port Authority	Chao Phraya River
2. BMT Pacific	Container, Break Bulk	Private–owned	Private Company	Chao Phraya River
3. Thai Prosperity Terminal (TPT)	Container	Private–owned	Private Company	Chao Phraya River
4. Unithai Port	Container	Private–owned	Private Company	Chao Phraya River
5. Sriracha Harbor	Container, Bulk, Break Bulk	Private–owned	Private Company	Eastern Coast

**Table 1: Details of Studied Ports**

Port Name	Type of Cargo	Ownership	Operator	Location
6. Kerry Siam Port	Container, Bulk	Private-owned	Private Company	Eastern Coast
7. Leam Chabang Port	Container, Break Bulk, Bulk	State-owned	Private Company	Eastern Coast
8. Maptaput Port	Container, Liquid Bulk, Break Bulk	State-owned	Private Company	Eastern Coast
9. Songkhla Port	Container, Break Bulk	State-owned	Private Company	Southern Coast

The field survey at the nine ports included observation of cargo handling procedure and customs formality procedure, and interview of port users. The findings from the field survey are as follows:

**Management and Administration:** The ports in Thailand are owned either by government or private company. The owner of the state-owned ports are various, namely the Port Authority of Thailand (PAT) which owns Bangkok Port and Leam Chabang Port, Industrial Estate Authority of Thailand (IEAT) which owns Maptaput Port, and the Treasury Department which owns Songkhla Port. Most of the state-owned ports are common user ports. However, most of them are landlord ports of which services are provided by private operators, except Bangkok Port is operated by PAT.

The owner of the private-owned ports are also various such as importer/exporter, manufacturer, shipping lines, logistics provider. Most of them originally aimed to serve their own business and later extended the services to common users. Although the sizes of the private-owned ports are much smaller than the state-owned ones, the services are efficient and more flexible, and the price of services are lower than the state-owned ports.

**Cargo Handling Operations:** In containerized cargo handling, there is slightly difference between the two major ports, i.e., Bangkok and Leam Chabang, and the others. The first two ports consist of several container terminals, after a container truck passing the main gate of the port, if it is a “green”, or low risk shipment which means no special inspection is required, it will directly enter the sub-gate of each terminal to the container yard. In case of a “red” or high risk shipment, the special inspection will be taken either by an X-ray machine or opening it. Most of the other ports are small ports with only one container terminal. Hence the main gate and the sub-gate are combined. In case of a “green” shipment, after the main gate the container will be taken to the container terminal and in case of a “red” shipment, the inspection will be taken only by opening. This is because there are no X-ray machines installed at the other ports except Bangkok Port and Leam Chabang Port. Moreover, apart from the two aforementioned ports, the other ports are multipurpose ports which handle bulk, break bulk and container, mobile tower cranes are usually used both for loading and discharging container and break bulk cargoes.

**Customs System:** It is claimed by the Customs Department that the declaration and clearance of import and export goods are currently under the e-customs system. Therefore, there is no need for relevant parties to submit paper document as all data are transmitted electronically from import and export companies’ computer system to the e-customs system. However the paperless customs procedure practically cannot be completely operated without papers since the computer systems of the customs and the port are still not linked up so paper document is still necessary for all shipments.

#### 4. OPINIONS FROM PORT STAKEHOLDERS

In order to identify the problems and obstacles of the Thai ports, the in-depth interviews of 39 key port stakeholders including five importers and exporters, five freight forwarders, nine port operators and ten customs officers were carried out in this study. Their opinions are as follows:

**Port and Terminal Operators:** The problems of the state-owned and private-owned ports are different. The most serious problem of the state-owned ports namely Bangkok and Leam Chabang is congestion between the ports and their hinterlands. The congestion at the ports themselves is not much critical. The cause of the problem is due to the increase in cargo volumes far exceeding the development of the inland transport. For the private-owned ports, they have been facing two major problems, land area for port expansion and financial investment. Without the government support the problems cannot be solved.

For customs aspects, since there are plenty of customs laws and regulations concerning cargoes and ships, it needs more collaboration between the ports and the customs to eliminate problems that may occur. The computer systems of the customs should be linked up with the ports' so the fully paperless customs procedure can be operated.

**Importers/Exporters:** There are more than 30 government agencies involving in import and export procedure, hence the major problems for importers and exporters are too many regulations issued by different government agencies. These brought unnecessary costs and delays, which result in losing the country's competitiveness. Several regulations should be revised especially those regarding transportation of domestic coastal cargoes and dangerous goods.

**Freight forwarders:** The clear government policy is the most important factor in the establishment of trade facilities in accordance with the AEC, not only the national single window system, but also the port infrastructure and transport network. Moreover, old-fashioned customs law and regulations should be revised or eliminated.

**Shipping lines and agents:** From the viewpoints of shipping lines and agents, shipping business gets little affected from the AEC because shipping business is already in the international and competitive environment, and conforms to international maritime laws and regulations.

The customs procedure which directly relates to the shipping business is the declaration of crew and their personal effects. This procedure is still in manual hence the paperless-customs should be applied to shipping. In order to reduce the costs of ships calling at Thai ports and ship's turnaround time, laws and regulations concerning customs and immigration should be modified.

**Customs Officers:** In order to create the customs integration with the other ASEAN country members, the Customs Department is designated to be the focal point in developing the National Single Window (NSW). The major problem in the development of national single window is the difficulty in collaboration among 36 government agencies involving in the permit of import and export of some goods and each of them has their own formats and computer systems.

#### 5. LESSON LEARNT FROM THE GOOD PRACTICE PORT

Since the Port of Singapore is considered to be one of the most prominent ports in the world and the largest transshipment hub of Asia, it is selected as a good-practice example to improve

efficiency at Thai ports. In-depth interviews of Port of Singapore Authority (PSA), the owner and the operator of the port and two of the port’s users, RCL Feeder Pte., Ltd, a feeder shipping lines and SCG Singapore Trading Pte., Ltd, a subsidiary company of Siam Cement Group (Thailand) were conducted.

The Port of Singapore is one of the top 20 container ports of the world. In 2011, its throughput was up to 29.9 TEUs (UNCTAD, 2012), with over 80% of them were transshipped. Apart from prime location, there are two the key factors for success of the port. One is the corporatized of PSA in 1997 which made it highly flexible to crop with the changing situation in maritime transport and port business and more dynamic in port operations. The other is invention of computer technology and software by the port itself. Without its own computer technology and software, it is not possible for the port to become a successful transshipment hub. Port of Singapore introduced the first version of PORTNET® a paperless electronic link with local port and shipping community was introduced in 1984. Then in 1989 it was added to the Singapore Customs TradeNet® system, a nation-wide Electronic Data Interchange (EDI) System which allows the various parties from the public and the private sectors to exchange structured trade message and information electronically.

Concerning the AEC, The Port of Singapore will get less benefit than Thai ports. The free flow of goods will facilitate inland transport of cargo and the direct calls of ship especially at main land of the ASEAN region. Hence it is necessary for Thailand to set up a vision of Thai international ports and move steadily until the goal is achieved.

## 6. SUGGESTIONS FROM THE FOCUS GROUP OF THE STAKEHOLDERS

In order to get a practical recommendation, port stakeholders (as shown in Figure 4) were invited in a focus group to gather their comments.

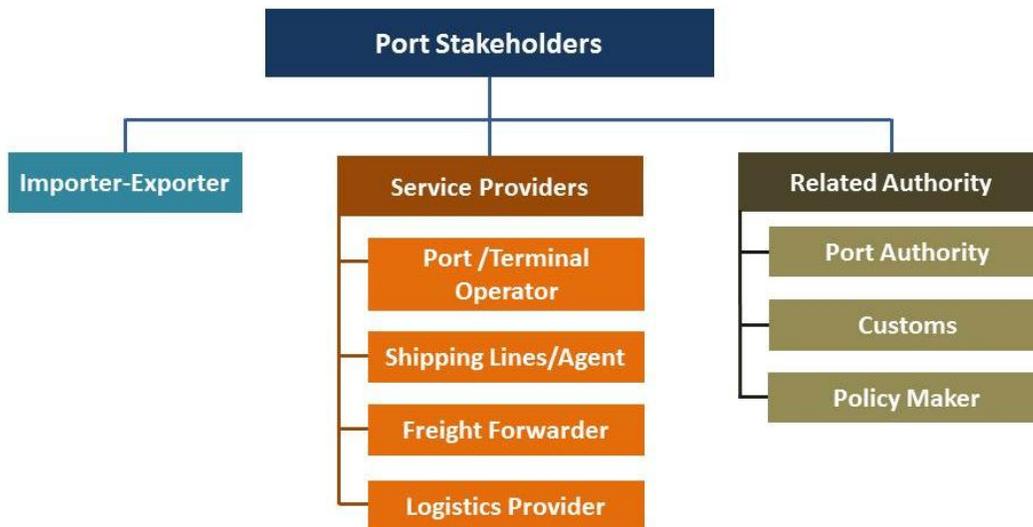


Figure 3: Port Stakeholders

The data collected from the previous steps are synthesized to topics for discussion which include suggestion for overall port development, development of port infrastructure, and development of customs system. The suggestions from the focus group of the port stakeholders are as follows:

**Suggestion for overall port development:** An organization should be established to responsible for port activities, both state-owned and private-owned ports. This organization should be supported by a board of commissioners of which members are from port stakeholders in both public and private sectors. The most important task of the organization and the board is to draw a master plan for national port development. Presently port development plan is only a small part of the National Logistics Strategic Plan. The port master plan should integrate the capacity and utilization of both state-owned and private-owned ports.

**Development of port infrastructure:** To develop Thai ports to be a gateway of the region, the capacity of transport network that links ports and their hinterlands should be improved especially the Leam Chabang Port, the most important port of the country. However, the transport network that links the private port should also be taken into consideration. A multimodal transport system should be established especially rail and coastal shipping.

**Development of Customs System:** Thai e-Customs should be well-connected with the all parties involving in the importation and exportation, and maritime transport and service providers especially the port which is the most important node in maritime transport. The establishment of Thai National Single Window is in a very early stage of development which is quite behind the schedule of the AEC. There are several government agencies involving in the NSW and the establishment of the NSW needs the collaboration from all agencies. To create the collaboration a clear policy from the government is the most important driven force.

Apart from the computer system, well-trained computer and language skills of staffs in both customs and port sides should be taken into consideration. Furthermore unnecessary laws and regulations related to importation and exportation should be revised or eliminated. To facilitate Thai port to be a region gateway, modern regulations regarding the goods-in-transit and transshipment cargos should be set up.

## 7. CONCLUDING REMARKS

In summary, this research is carried out by qualitative methodology to investigate the existing facilitation at Thailand's international ports to understand obstacles and seek a practical development plan to improve and prepare them according to the ASEAN Economic Community which will be established in 2015. The suggestions from the study are as follows:

ASEAN National Single Window is one of the most important trade facilitation for the AEC. It is an environment where ten National Single Window systems of individual member countries operate and integrate. The establishment of Thai national single window is still far behind the schedule, it is necessary to accelerate the establishment. It should be linked up with the computer systems of the ports which are the most important node in maritime transport.

The free flow of goods is one of the principal means by which the aims of AEC single market and production base can be achieved. It will facilitate inland transport of cargo and the direct ship calls at Thai ports. At present the congestion between the two major ports of the country and their hinterlands is the critical problem which has to be to urgently solve. Moreover

transport network should be upgraded to accommodate the increasing trade volumes before the AEC is established.

Several laws and regulations concerning both cargo and ship are old-fashioned, to support Thai major ports to become the gateway of the region, modern customs laws and regulations especially regarding the goods-in-transit and transshipment should be set up.

There should be an organization responsible for port activities of which members comprises port stakeholders. The major take is to set up a master plan for national port development which integrates the capacity and utilization of both state-owned and private-owned ports. A clear vision of Thai ports as a whole should be also set up and the government should give full support to all ports to move steadily to achieve the goal.

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## **REFERENCES**

- The Association of Southeast Asian Nations. (2009) *Roadmap for on ASEAN Community 2009-2015*, Jakarta, Indonesia.
- The Association of Southeast Asian Nations. (2010) *Master Plan on ASEAN Connectivity*, Hanoi, Vietnam.
- UNCTAD (2012) *Review of Maritime Transport 2012*. New York and Geneva.
- Port of Singapore Authority: PSA. (2013) *Our History*. [Online]  
<http://www.singaporepsa.com/heritage.php> (Accessed on February 15, 2013)
- Singapore Customs. (2013) *About Us*. [Online] <http://www.customs.gov.sg/topNav/abo/>  
(Accessed on January 20, 2013)
- Thailand Customs Department. (2013) *National Single Window*. [Online]  
<http://www.customs.go.th/wps/wcm/connect/custen/nationsinglewindow/> (Accessed on January 20, 2013)