The Thailand Land Bridge Project: Reducing the Logistics Gap for the ASEAN Region and Beyond

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Abstract: Similar to the Eastern Seaboard project, initiated with a comprehensive approach to regional development, which included a world class port, petrochemical industries, a cluster of heavy industries, a dry port connected by highways and cargo-oriented railway, Thailand now is proceeding with a similar project, known as the ‘Thailand landbridge project’, which would be located in the southern region of Thailand. It is a logistics park concept, interfacing transport hubs, intertwined landbridge with heavy industries; oil refinery and petrochemical industry; light industries and services; and special and free economic zone. Several studies have already been done and analyzed its feasibility in terms of flow, finance and environment. The project is a mega project and carries pros and cons in terms of the project, community concern, and national development perspective. In these contexts, this paper has synthesized the critical components of the project, analyzed them, and brought forward their binding elements.

Key Words: Thailand, landbridge, logistics

1. INTRODUCTION

Thailand has started to move ahead with market economy since long, and now as globalization has become the unidirectional move of the world economy, its success hinges on how fast and how smoothly Thailand becomes to play its visible role in the world market by managing the globalization and the market economy, shaped by the phenomena of globalization. Thailand also has to be well prepared for joining in 2015 the ASEAN Economic Community, which is also working for the ASEAN Strategic Transport Plan (2011-2015) with the vision to a single market and production base, competitive economic region, equitable economic development, and enhanced participation in the global supply network. In this regard, Thailand is moving ahead with the agenda of playing one of the pivotal roles in the ASEAN Economic Community and becoming the transport and logistics hub and gateway of the Greater Mekong sub-region. The Royal Thai Government has realized that Thailand should achieve high competitiveness and maintain it, not only to be in the forefront in the world market, but also to sustain its economy and establish itself as a major player in the world trade of merchandise and commercial services. In attaining and maintaining its competitiveness, Thailand should be able to produce better quality of products and bring them to the doors of consumers in competitive price. In this process, transport and logistics services strongly supported by efficient transport network (both least distance and least cost) and services should play a crucial role by bringing down the total logistics costs and managing the
just-in-time delivery of the total distribution system for production and consumption.

Geographically located at the centre of the Mekong sub-region, Thailand has also developed north-south and east-west transport corridors under umbrella of the Asian Highway and the Trans-Asian Railway, and under the economic development of the Mekong sub-region. Now the ASEAN strategic transport plan (2011-2015) has been approved with the goals of establishing of safe, efficient, intelligent and environmentally friendly integrated sustainable regional land transport network and corridors for the promotion of trade and tourism within ASEAN and other countries, implementing/establishing Singapore-Kunming rail link and the ASEAN highway network on land transport; ASEAN integration on air transport; and establishment of the integrated, competitive and seamless maritime transport network with environmentally and user-friendly port system and safe navigation. Similarly, important specific goals like (i) the implementation of the Singapore-Kunming rail link project by 2015; (ii) establishing the integrated ASEAN highway network by 2020; (iii) developing connectivity with the Asian countries; (iv) establishing the multimodal transport system; (v) establishing a single aviation market by 2015; (vi) accomplishing the efficient and competitive maritime transport system; and (vii) accomplishing integrated and high-performance transport network and port facilities are directly related to the transport network. Most share of Thailand in achieving these goals has progressed quite ahead and the remaining part is in the process. Actually, Thailand’s air transport hub is unchallengeable in the foreseeable future. However, despite currently unchallengeable Laem Chabang port (21st in the world rank), Thailand is out of the major maritime transport corridor of the Strait of Malacca. The strategic location of the major maritime corridor does not facilitate Thailand, yet there is the high potentiality for a secondary alternative corridor for the global maritime transport, which is the proposed ‘Thailand landbridge project’.

The study of the master plan development for passenger and freight transport in the southern economic zone of Thailand has been initiated a long time ago due to the fact that the area has a high potential in terms of location, geographical features and resources. The conception continued for a long period of time under the Kra canal project as well as the Southern Seaboard project, the one like the Eastern Seaboard Project, which has been implemented since 1980s with a comprehensive approach to regional development and included a world class port, petrochemical industries, a cluster of heavy industries facilitated by a dry port connected by super highway and cargo-oriented railway along with the connection to the economic powerhouse of Bangkok.

In 2007, the Royal Thai Government with a resolution approved the Thailand’s Logistics Development Strategy (2007-2011) as proposed by the National Economic and Social Development Board (NESDB). Among others the strategic agenda on logistics and transport network optimization are to develop an integrated logistics network, both locally and internationally, and to develop new trade-lanes to the Middle East, Africa and Europe via Thailand’s Andaman Sea, and to accommodate the expanding trade activities to its neighbouring countries.

Under the strategic agenda of developing new trade-lanes, Thailand will develop a new trade-lane or new trade-route, consisting of projects to support the linking of the Gulf of Thailand and the Andaman Sea. This project is proposed as the Thailand landbridge project and would be located in the southern part of Thailand, developed on the logistics park concept to interface transport hubs intertwined with oil-bridge and landbridge, and included all the structures and functions of the Eastern Seaboard project; heavy industries with aluminium,
iron and steel, and petrochemicals; light industries and services; and special and free economic zone. This project will support the expansion of trade and transport in the Asian region and link to other regions in the world. It will also enhance the potential of Thailand to become a regional transport hub by linking land transport and marine transport associated with freight transport in the Eastern economic and industrial corridor, namely the Laem Chabang deep sea port at Chonburi province and Map Ta Phut port and industrial complex at Rayong province. It will include the development of an intermodal transport system to maximize the effectiveness of both road and rail transport, which will result in a reduction in national transport and logistical costs, and an increase in Thailand’s competitive capability with the neighbouring countries. It will also strengthen the stability of the southern part of Thailand by means of raising employment opportunities and the income levels of the local people living near the project and within the sphere of influence of the landbridge and industrial complexes.

2. OBJECTIVE AND STUDY METHOD

In the above background of the concept of a landbridge in the southern part of Thailand, this paper in the context of reducing the logistics gap for the ASEAN region and beyond, i.e., the East Asia, South Asia, the Middle-East, Africa, Europe and Americas, has synthesized the critical components of the project at the backdrop of the new ASEAN strategic transport alternative, analyze them, and bring forward strongly their binding and loosening elements for the successful implementation of the project. The information is largely derived from the reports available in the concerned government agencies including the National Economic and Social Development Board (NESDB) and the Office of the Transport and Traffic Policy and Planning (OTP) which has been the responsible agency to conduct study on this issue and a number of reports have been submitted in recent years.

Based on the preliminary feasibility, the project is to be located in the south of Thailand, connecting Songkhla-2 deep seaport at the Gulf of Thailand and Pak Bara deep seaport at Satun province (see figure 1). Similarly, the route for the freight rail landbridge has been decided which will be 142 km in distance, and will be all new track. Assigning particular values i.e. 35 for engineering parameters, 25 for economic and social parameters and 40 for environmental parameters, the route is selected from five alternatives. The selected route is the combination of sections A+B+E+F+H as shown in figure 1. The route alignment starts from the Pak Bara deep seaport heading to the east to pass the north of the Khuan Kalong district (section A). Then the alignment is adjusted to head to the northeast to parallel with a high-voltage transmission line and Highway Route No. 406 (section B). After that the alignment turns to the east at the Khao Phra sub-district to the parallel with Highway Route No. 4287 and links with the existing railway of Hat Yai-Padang Besar railway line at the south of Hat Yai (section E). After linking with the existing railway, the route has the alignment being elevated the existing railways of the Hat Yai-Padang Besar railway line and Hat Yai- Su-ngai Kolok railway line and slope down to be at-grade section at the east of Hat Yai (section F) then heading to the east to end the alignment at the Songkhla-2 port (section H) at Ban Na Thub, Songkhla province.
A logistics concept has been developed for the Thailand landbridge based on the expected cargo flows to and from various origins and destinations and the logistics park and industrial complexes at the landbridge corridor (see figure 2 for a thematic concept of the project). This concept shown in figure 2 indicates the east and west ports, a heavy industrial area, a light industry cluster which includes the logistics park and a refinery with a petrochemical cluster at the east side of the land bridge. As shown in figure 2 the expected cargo flows along the landbridge. The project also includes the selection of an appropriate location for inland container depot (ICD) in order to facilitate, enhance, and support cargo distribution by rail and by other modes of transport.
3. NATIONAL TRANSPORT NETWORK AND THAILAND LANDBRIDGE

Thailand has a total road network of over 390,000 km, railway line of over 4,000 km, inland water transport of 1,750 km, 37 airports, 25 ports, pipeline of 2,750 km, as well as three truck terminals, 16 container freight stations (CFSs), six inland container depots (ICDs), 25 container yards (CYs), 323 warehouses, 13 silos and 102 cold storages. These infrastructure installations constitute the total transport and terminal network of Thailand.

The total road network of about 390,000 km in Thailand constitutes approximately 64,600 km of highway (per two-traffic lanes) including 450 km of motorway and 22 km of concession road, over 50,000 km of rural road, and remaining local road. Thailand also includes 5,112 km of the Asian Highway segment (see figure 3). Road is such a transport mode which virtually links all modes, connects all transport terminals and reaches to all destinations. There are 42 international checkpoints or border-crossing points by road, including 29 permanent ones. These border-crossing points facilitate road transport to the neighbouring countries: Cambodia, Lao PDR, Malaysia and Myanmar.

The railway line is composed of single line (3,764 km), double lines (173 km) and triple lines (107 km). This network covers 47 provinces and all regions of the country, running from Chiangmai in the north, Nongkhai and Ubon Ratchathani in the northeast through Bangkok to Padang Besar and Sungai Kolok in the south. It also connects Aranyapathet in the east through Bangkok to Nam Tok in the west. Railway connections can link to three neighbouring
countries from four border-crossing points, i.e. Lao PDR through Nong Khai station, Cambodia through Aranyaprathet station, and Malaysia through Padang Besar and Sungai Kolok stations (see figure 3). Other main points of linkages are all seaports, including Bangkok port, Laem Chabang port and ICD Latkabang though most railway lines in Thailand are old and they cannot be used with full capacity, railway is well maintained by changing rail ties and gravel as well as after completion of the railway rehabilitation project, expected in 2014, railway in Thailand can be the main transport means of transport for the movement of international cargo.

![Major Highways in Thailand](image1)

![Major Railway Network in Thailand](image2)

**Figure 3 Major highways and railway lines in Thailand**

Thailand has a total length of 2,614 km coastline along the Gulf of Thailand and Andaman Sea. In addition, the inland water transport consists of 1,750 km in total. There are in total 25 ports in Thailand. The main ports for international transport are Bangkok port, Laem Chabang port, Songkhla port, Phuket port and Map Ta Put port. However, only the Laem Chabang port has the port depth capacity for post-Panamax liners. The inland water transport is limited to the central Thailand only, i.e. from Bangkok to Nakhon Sawan and the major route is the River Chao Phraya, which can harbour international coastal ships to an inward route of 45 km from the estuary. These major inland and coastal ports can supplement the increasing domestic and international cargo transport with efficiency and economy.

Regarding air transport, there are 37 civil airports in Thailand, seven of which (Suvarnabhumi, Don Muang, Chiang Mai, Chieng Rai, Phuket, Hat Yai, Ubon Ratchathani and Utapao) are international airports and the remaining 30 are domestic airports. Though the exclusive domestic airports connect only among themselves, the international airports establish connection with over 80 cities in more than 40 countries. The Suvarnabhumi as the 19th busiest airport in the world.

Currently, there are two pipeline transport namely Thai Petroleum Pipeline Co., Ltd (THAPPLINE) and Fuel Pipeline Transportation Limited (FPT), extending for 2,750 km. The pipeline of THAPPLINE has two routes, the first one starts from the oil refinery group at
Amphoe Si Racha at Chonburi province and ends at Sao Hai in Saraburi province, and the second route starts from the oil refinery at Map Tha Put industrial estate and ends at Amphoe Si Racha with a total length of 360 km. The FPT’s pipeline starts from the Bangjak oil refinery and ends at tank farm in Amphoe Bang Pa-In with a total length of 68 km. In addition, gas pipeline consists of offshore transmission with 1,359 km and onshore transmission with 1,031 km.

The transport terminals, which relate to the logistics services, are important facility for transport system, because freight transport requires collection, storage and distribution of all goods/merchandise including customs clearance. There are three truck terminals, 16 container freight stations, six inland container depots, 25 container yards, 323 warehouses, 13 silos and 102 cold storages. The truck terminals and the container freight stations are solely invested by the Government; silos, cold storages and bonded warehouses are invested exclusively by the private sector; and inland container depot, container yards and public warehouses by both the Government and the private sector. However, except four container yards and seven public warehouses all are operated by the private sector.

The truck terminals are located in the outskirts of Bangkok. Off-dock container freight stations are located obviously along the River Chao Phraya, extending from Chonburi through Bangkok to Ayutthaya provinces. Similarly, the inland container depots, which are in limited numbers, are located around Bangkok as well. The container yards though spread along the coastal region are basically concentrated around Bangkok particularly all the private ones, and only the Government invested four container yards are located in four railway junctions in four provinces in the Northern, North-eastern and Southern regions. The warehouses, which were supposed to be spread all over the country, are located only in 19 provinces and they are found largely concentrated in and around Bangkok, as 24 of the total 85 warehouses are located in Bangkok followed by Samut Prakarn (16) and Chonburi (7). Public silos are also basically located in and around Bangkok. However, cold storages which are developed to manage seafood, fruits and vegetables and other specific products, are spread over respective production locations, particularly the seafood cold storages are spread over all coastal provinces and the vicinity of Bangkok. Yet, more than 50% of the total 102 cold storages in the country are located in Samut Sakorn, Bangkok and Samut Prakarn. Finally, the bounded warehouses, which are the numerous terminals and can be categorized as (i) manufacturing; (ii) general; (iii) duty-free shop; (iv) general bonded warehouse for exhibition; (v) general bonded warehouse for gasoline storage; (vi) dockyard; and (vii) general warehouse boundary for free trading activities, are also mostly located in and around Bangkok. These logistics infrastructure though presently mainly located in and around Bangkok can easily serve the proposed landbridge.

4. SALIENT FEATURES FOR A FEASIBLE LANDBRIDGE PROJECT

Following the logistics concept of the physical infrastructure development as presented above in figure 2, in accordance with the new trade-lane; the existing cargo of 28 million TEUs/per year passing through the Straits of Malacca, which is already overcrowded and a likely scenario for the diversion of transhipment if an alternative exists; vigorously increasing trade of south-western China, which needs the safe, efficient, and economy flow of cargos; steadily increasing trade share of the Mekong sub-region along with the BIMSTEC alliance; and an equally viable oil-bridge for the Asian region, the Thailand landbridge project is assessed.
Figure 4 shows the composition of the logistics-based origin and destination of cargo for the Thailand landbridge. The composition of cargo is derived from different five sources, namely (i) south-western China cargo; (ii) import/export to/from other regions; (iii) hinterland import/export; (iv), cargos from the logistics park and industrial complexes along the landbridge; and (v) transhipment through the landbridge which is the diversion from the Straits of Malacca. The origin and destination are East Asia, the Americas, and Australia in the east, and South Asia, the Middle East, Africa and Europe in the west.

Various previous studies have also forecasted the volume of goods and commodities passing through the two ports of the landbridge (see table 1). Royal Haskoning (2009) has forecasted a minimum threshold of 450,000 TEU cargos per year to be feasible. Various forecasts show a feasible ‘critical mass’ of traffic for this landbridge, which support the above threshold. The key issue in relation to the potential viability of the Thailand landbridge is the source of new and additional traffic in order to reach the critical demand. All studies have forecasted that there will be some significant diversion from the existing Malacca Strait route to the landbridge, though the major long-haul cargo may not be available for transhipment in the short-run. In the long-run, a transhipment of 5 per cent can be expected and various calculations have shown that this can happen as the landbridge would be 835 km shorter than the Malacca Strait route. The oil refinery and petrochemical industries cluster, heavy industry cluster with aluminium and iron and steel, the light industries and value addition done in the logistics park are the other reliable components of the landbridge, which combined make it viable.
Table 1 Summary of demand forecasts from previous studies

<table>
<thead>
<tr>
<th>Year</th>
<th>Export/Import Goods</th>
<th>Landbridge Goods</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Pak Bara 1)</td>
<td>Songkhla-2)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>Rail</td>
</tr>
<tr>
<td>2014</td>
<td>217,475</td>
<td>-</td>
</tr>
<tr>
<td>2018</td>
<td>711,908</td>
<td>303,779</td>
</tr>
<tr>
<td>2020</td>
<td>899,747</td>
<td>600,000</td>
</tr>
<tr>
<td>2022</td>
<td>896,213</td>
<td>600,000</td>
</tr>
<tr>
<td>2027</td>
<td>1,026,379</td>
<td>600,000</td>
</tr>
<tr>
<td>2032</td>
<td>1,410,267</td>
<td>830,377</td>
</tr>
<tr>
<td>2037</td>
<td>2,309,109</td>
<td>1,603,957</td>
</tr>
<tr>
<td>2042</td>
<td>2,474,999</td>
<td>1,712,025</td>
</tr>
</tbody>
</table>

1) The detailed design of Pak Bara Port (July 2009)
2) The feasibility study of the deep sea port on the Gulf of Thailand coast in the lower southern Thailand (October 2009) (Container cargos only)
3) Thai Land Bridge Project by Dubai World (March 2009)


Similarly, a recent study commissioned by the Office of the Transport and Traffic Policy and Planning (OTP) also has forecasted the freight demand for the landbridge project taking into consideration the China cargo, hinterland import/export, import/export to and from other regions, particularly the Mekong sub-region and the BIMSTEC alliance and the transshipment through the landbridge (see table 2 for details). In estimating the cargo demand particularly from the other regions and China, the basis for selecting the route was studied and the result was found that entrepreneurs considered cost the most (38%) followed by reliability (33%), convenience (15%) and time (10%) for import/export from other regions. This landbridge offers some edge over all the four concerns. Similarly, the major concerns for the route selection for China cargo was the existing resources and facilities (39%), reliability (29%), cost (22%) and time (10%). In this case also the existing resources and facilities indicated somehow the Thailand route(s), which after the completion of the landbridge will be more efficient and economy in addition to more reliable and slightly time saving.

Though the study does not include the cargo generated in the situ, i.e. from the logistics park and industrial complex, which are the parts of the project, demand forecasted as presented in table 2 and the analysis shows that the project is viable.

Similarly, the key issue in relation to the potential viability of the Thailand landbridge is the source of additional and sustainable demand in order to reach the ‘critical mass’ for which five additional sources have been examined: heavy industry from the eastern industrial cluster; feeder traffic from the Bay of Bengal; Thai export traffic to South Asia, the Middle East and Europe; traffic from northern Malaysia; and traffic from southwest China. Studies have concluded that combined they have indications for a viable project (see table 2 for summary).
Table 2 Freight demand forecast for the landbridge project (without constraint case) (‘000 TEU)

<table>
<thead>
<tr>
<th>Year</th>
<th>Pak Bara Port</th>
<th>Songkhla-2 Port</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Export</td>
<td>Import</td>
</tr>
<tr>
<td></td>
<td>Southern Region Cargos</td>
<td>Other Regions Cargos</td>
</tr>
<tr>
<td>2018</td>
<td>46</td>
<td>15</td>
</tr>
<tr>
<td>2020</td>
<td>63</td>
<td>21</td>
</tr>
<tr>
<td>2022</td>
<td>79</td>
<td>27</td>
</tr>
<tr>
<td>2027</td>
<td>93</td>
<td>32</td>
</tr>
<tr>
<td>2032</td>
<td>110</td>
<td>39</td>
</tr>
<tr>
<td>2037</td>
<td>135</td>
<td>49</td>
</tr>
<tr>
<td>2042</td>
<td>166</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: Feasibility Study and Preliminary Design of Pak Bara – Songkhla Freight Rail Landbridge Project, 2010, Table 4.35.

The project is also conceptualized on the optimization of the Thai transport and logistics network by means of integrated transport network. Under this strategy cargos destined to and from the western part of Thailand would be routed by the Pak Bara port. A rail connection from Pak Bara through the ICD in the west of Bangkok and Bangkok to the north including the southwest China though integrated transport system would facilitate the potential for shipping lines, freight forwarders and multimodal transport operators to use this intermodal link. This strategy would help to reach the minimum threshold of 450,000 TEU cargos per year by 2018, i.e. after the new project operation, as it is expected to start the operation in 2018.

Moreover, the Thai oil-bridge also can provide savings in transport costs between the Middle East and East Asia prior to the costs of transporting the oil across the isthmus, based on the principle of large tankers carrying the oil from the Middle East to the west port and smaller tankers delivering from the east coast port. The oil-bridge concept could be made viable by obtaining additional volumes through accessing new types of activities/flows. The financial analysis indicates that potential returns solely on the basis of this traffic may be questionable. However, by increasing the volumes by competing in a potentially larger traffic market (ULCC-VLCC), offsetting the projects risks by development of a refinery and engaging in oil trading would change the financial profile of the concept by achieving higher levels of throughput/revenue and generate them much earlier in the project cycle. This could make the Thailand landbridge project viable both from a Government and investor perspective.

The project assumes to develop an industrial cluster adjacent to the east coast port. It would require land between 4,600 and 7,800 hectares. Similarly, the Special Economic Zone is to be established with certain types of business would be able to apply to the Board of Investment for Zone 3 status and benefits irrespective of whether they were within a nominated General Industrial Zone (GIZ) or an Export Processing Zone (EPZ). The author sees this special economic zone (SEZ) should be the new value addition zone (both export and import processing zone) by employing a new concept in the world trade chain. A land size of about 500-800 hectares may be required in the longer term including the extension to the existing site or another site near Hat Yai.

A logistics park would be built which, however, may not be required for handling the landbridge traffic. It would be expected that all traffic would move direct between the port and the importer or exporter without the need for consolidation/deconsolidation as fundamentally it is either transhipment cargos or use an intermodal logistics system of cargo.
shipment. The logistics park would be needed to value addition activities as explained in the last paragraph. The location for the logistics park could be close to the east, west, or even northern junctions. These locations would be expected to be the key transports nodes on the corridor and in the corridor region in general. It is expected that land up to 100 hectares should be reserved for this purpose in local land use plans.

The heavy industrial development which is the essential modality of the project, yet it is not expected to generate significant amounts of container traffic as the majority of output is for domestic consumption and the secondary product as well as the remainder is likely to be shipped in general cargo vessels or bulk carriers. In the meantime, it is expected that the heavy industry port activities are self-sustaining.

The cost for the rail link is estimated in a ranges between US$ 500 million for a single track capable of handling 0.5 million TEU to US$ 800 million for a double track capable to accommodate a volume of 3.0 million TEU according to the Royal Hoskoning (2009) and 53,067 million baht (=US$ 1,769 million) for a 3-track railway line according to the OTP study (2010). In view of these high investment costs and the low volume of forecasted containers using the land bridge connection, Royal Hoskoning (2009) has rejected the rail option and accepted for the road-based landbridge project whereas the OTP study (2010) by forecasting higher cargo movement accepted the rail landbridge for the transhipment traffic, supplemented by the road transport for the origin-destination movement of cargos.

Regarding the construction of the ports, the west port is expected to be the busier port with higher volumes after 2027 as forecasted. The container volumes at the east port are slightly less than the west port. The cost estimates for the container terminals are calculated at US$ 594 for the west port terminal to US$ 147 for the west port terminal for their expected full capacity. However, in order to be competitive and therefore to conclude that the proposed landbridge concept is feasible the cost of using the ports and the connecting corridor will need to be competitive with other ports i.e. Singapore port, Penang port, Port Klang, Tanjung Pelepas port and the expected port in Myanmar and alternate handling approaches, such as transshipment.

The project must be evaluated in its totality to be this feasible. Anyway this is the revised version of the long waited comprehensive southern Thailand development scheme. With this view, the highest economic benefits would be in terms of direct and secondary employment and the positive effect of wealth generation. This would be generated not only in the immediate landbridge area, but also extended to the industrial complex and the whole southern region. It will thus help achieving the major goal of the Southern Seaboard project as an end result.

The Thai landbridge is a mega project that will require the participation of both the public and private sector to achieve its objectives and become a viable project, under the consideration that the transport infrastructure is developed by the Government and industrial establishments and transport operation will be developed by the private sector. Indeed, the heavy and light industrial clusters are required to act as ‘development catalysts’ for the land bridge for which the Government needs to create conducive environment. The Royal Hoskoning study (2009) has estimated indicative costs of approximately $25 billion, of which around 10 per cent is direct capital expenditure on ports and connecting infrastructure. Whilst it is considered that the high cost industrial elements will generally be funded by the private sector, their development is apparent in generating the volumes of traffic necessary to make the landbridge viable.
5. CONCLUSION

The comprehensive development plan of the southern region of Thailand has been discussed for many years and has failed to materialize. This time there is an opportunity to proceed with the concept of a landbridge which intertwined with the logistics orientation with a view to reduce the logistics gap for the ASEAN region, the Mekong sub-region, south-west China, BIMSTEC alliance and an interest of the long-haul lines (with a question) has substantially attracted strong interest of the Government, despite again local people divided into “go’ and ‘don’t go’ camps. A strong commitment and determination of the government and local community in implementing the project can achieve the development thrust of the southern Thailand with minimum negative consequences both in the environment and people and a long-term economic development in the region.

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