

Part II

Field Surveys

5 THE NORTHERN MALACCA STRAIT CROSSINGS AMONG INDONESIA, MALAYSIA AND THAILAND

This section deals with two route candidates: (i) Belawan – Penang, and (ii) Belawan – Phuket.



Figure 5.1 Surveyed Routes

5.1 Economy and Trade

1) North Sumatra, Indonesia

Belawan is located in North Sumatra Province of Indonesia. The province stretches across the island of Sumatra between the Indian Ocean and Malacca Strait. It borders Aceh province on the northwest and Riau and West Sumatra provinces in the southeast. The province has a total land area of 71,681 km² and is administratively divided into eight (8) cities and twenty-five (25) regencies. North Sumatra's population in 2009 was 13.2 million, growing by an average of 1.45% during 2000-2009 (see Table 5.1). About 16% of the population live in Medan City, the province's capital, and the fourth largest city in Indonesia.

The agriculture sector employs a major part of the labor force (47%), followed by trading, tourism and beverage sector (20%), private and government services sector (12%), and industrial sector (9%). The Gross Regional Domestic Product (GRDP) in 2009 was IDR236.4 trillion at current prices and IDR110.8 trillion at constant 2000 prices. This translates to a per capita GRDP of USD1,932 at current prices, an average growth of 14% yearly from 2006. The industrial sector is still the main contributor to national production (23.3%), closely followed by the agricultural sector (23%) and trading (19%).

Table 5.1 Socio-Economics of North Sumatra Province

Year	Population	GRDP (IDR billion)		GRDP p.c. (USD)
		At current price	At constant price	At current price
2006	12,643,494	160,377	93,347	1,374
2007	12,834,371	181,820	99,792	1,534
2008	13,042,317	213,932	106,172	1,777
2009	13,248,386	236,354	110,851	1,932

Source: Statistics of North Sumatera

North Sumatra's total exports were up to 8.1 million MT by 2009, a decrease of 5% from the year before. Similarly, the import volume decreased by 11% to 5.2 million MT. These exports were valued at USD6.5 billion and the imports, USD2.7 billion, making the province a net exporter. In terms of value, the major export commodities are vegetable oils and fats, natural rubber latex, aluminum, coffee, tobacco, apparel and accessories, margarine and shortening, cocoa and alcohols (see Table 5.2). Its biggest export markets are India (26% share) and Japan (10%). Major imports include petroleum products, animal feeds, fertilizer, aluminum ores and concentrates, oil seeds, flour, machinery and transportation equipment, and construction materials (see Table 5.3).

Table 5.2 Top 10 Export Commodities of North Sumatra, 2009

No	Export Commodity	Value (USD 000)	Net Weight (MT)
1	Vegetable fats and oils	2,726,016	4,312,082
2	Natural rubber latex	943,011	567,639
3	Aluminum	244,216	153,614
4	Coffee	203,646	67,318
5	Tobacco, manufactured	198,495	37,307
6	Articles of apparel and clothing accessories of other than textile fabrication	173,462	49,676
7	Margarine and shortening	167,992	210,710
8	Animal and vegetable oil and fat, processed and wax of animal/vegetable	156,036	247,629
9	Cocoa	140,375	55,453
10	Alcohols, phenols, phenolalcohols and their halogenated	120,398	145,860
	Others	1,386,471	2,211,568

Note: Based on 3-digit SITC code.

Source: North Sumatra in Figures (2010), Statistics of North Sumatra

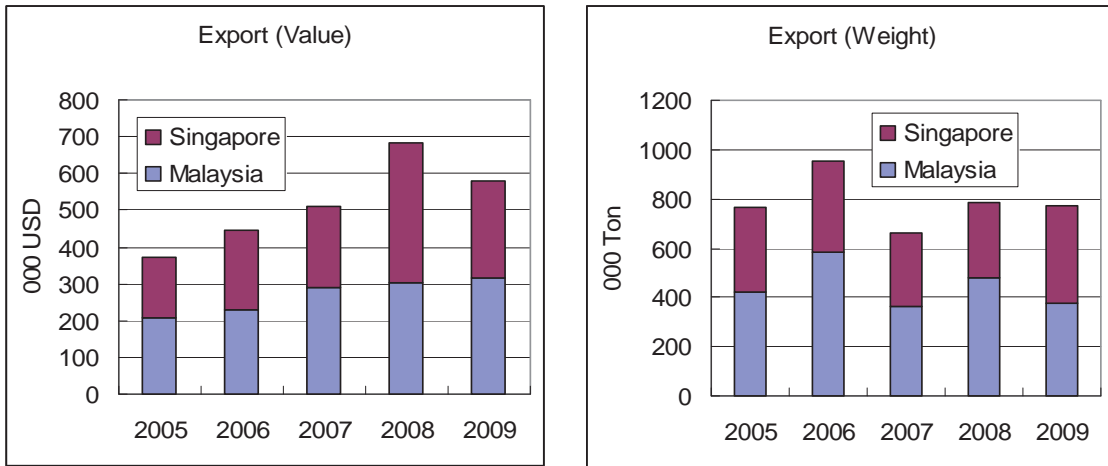
Table 5.3 Top 10 Import Commodities of North Sumatra, 2009

No	Import Commodity	Value (USD 000)	Net Weight (MT)
1	Petroleum products, refined	546,715	984,921
2	Feeding stuff for animals	214,423	466,520
3	Fertilizer manufactured	139,766	425,342
4	Aluminum ores and concentrates	131,546	472,286
5	Residual petroleum products and related materials	69,370	134,516
6	Rotating electric plant and parts	57,795	700
7	Oil seeds used for extraction of soft fixed vegetable oils	51,721	90,533
8	Steam and other vapor generating boilers and parts	46,759	13,751
9	Meal and flour wheat and flour of meslin	41,409	128,198
10	Lime, cement and fabricated construction materials	41,151	840,055
	Others	1,383,580	1,659,654

Note: Based on 3-digit SITC code.

Source: North Sumatra in Figures (2010), Statistics of North Sumatra

North Sumatra's exports to ASEAN countries are mainly shipped to Malaysia and Singapore, while import cargo from ASEAN countries comes from Malaysia, Singapore and Thailand (see Figures 5.2 and 5.3). In its trade relations with ASEAN countries, North Sumatra is a net importer.



Source: Statistics of North Sumatra

Figure 5.2 Exports of North Sumatra to ASEAN



Source: Statistics of North Sumatra

Figure 5.3 Imports of North Sumatra from ASEAN

2) Penang, Malaysia

Penang is one of the thirteen (13) states of Malaysia. Located near the northwestern coast of Peninsular Malaysia, Penang State consists of Penang Island (with a land area of 285 km²) and Seberang Perai mainland (land area of 753 km²). The island is connected to the mainland by ferry and by the 13.5 km-long Penang Bridge. Penang Island is irregularly shaped, with a granitic, hilly and mostly forested interior. Due to the lack of land for development in Penang, a few land reclamation projects had been undertaken to provide suitable low-lying land in high-demand areas. On the peninsular side, industrial estates and housing areas are developed.

Penang's total population in 2011 was 1.6 million, growing by an average of 1% a year (see Table 5.4). This includes an estimated 70,000 to 80,000 migrant workers, especially from Indonesia, Myanmar, Vietnam, Thailand, and South Asian nations who are mostly involved in domestic help, services, manufacturing, construction, plantation and agricultural work. In 2010, Penang's GRDP reached MYR46.5 billion at current prices, translating to a per capita GRDP of USD9,133. The manufacturing sector is the biggest contributor to the national economic output.

At Penang Port, foreign trade is larger than domestic trade. It handled a total of 39.3 million MT of foreign cargo and 21.6 million MT of domestic cargo in 2010 (see Table 5.5). Most (62%) of this is containerized cargo carried by container ships. The average daily total of exports/ imports was about 80,000 MT (see Figure 5.4).

Table 5.4 Socio-economic Indicators of Penang State, 2009-2011

Year	Population	GRDP at Current Prices (MYR Million)	Per Capita GRDP at Current Prices (USD)
2009	1,577,300	42,217	8,471
2010	1,609,900	46,455	9,133
2011	1,611,600	nd	nd

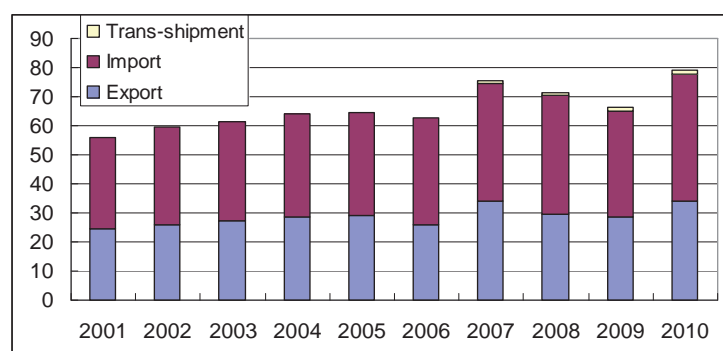
Note: Other statistical sources indicate that per capita GRDP is more than USD10,000.
 nd - no data available

Source: Department of Statistics, Malaysia

Table 5.5 Trade Volume in Penang Port, 2010-2011

Domestic & Foreign	Type	2010	2011
Gross Registered Tonnage (MT)	Domestic	21,649,520	23,976,343
	Foreign	39,328,559	nd
Type of Cargo Handled	Unit	2010	2011
General Cargo	MT	1,950,574	1,620,791
Dry Bulk	MT	3,743,738	3,694,818
Liquid Bulk	MT	4,563,636	4,882,371
Containerized	MT	18,594,422	19,192,472
Container	TEU	1,106,099	1,198,844

Source: Derived from the statistics provided by Penang Port Sdn Bhd



Source: All Ports and Marine Department, Malaysia

Figure 5.4 Average Daily Cargo in Penang Port ('000 MT), 2001-2010

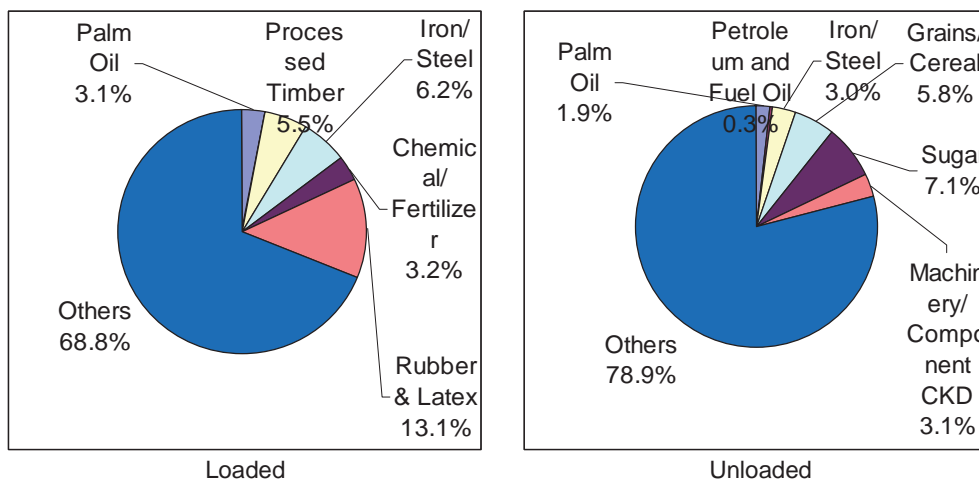
In terms of both exports and imports at Penang Port, machinery and transport equipment account for more than 70% of the total trade value (see Table 5.6). The next commodity is manufactured goods.

Table 5.6 Percentage Share of Export/Import Commodities in the Total Trade Value in Penang Port, 2009

Commodity	Exports CIF	Imports FOB
Food	1.06	4.47
Beverages and Tabacco	0.12	0.29
Crude Materials, Inedible	1.10	2.67
Mineral Fuels, Lubricants	0.03	0.13
Animal and Vegetable Oil and Fats	0.37	0.27
Chemicals	2.57	3.85
Manufactured Goods	4.04	7.02
Machinery and Transport Equipment	78.34	71.18
Miscellaneous Manufactured Articles	11.87	4.68
Miscellaneous Transactions and Commodities	0.50	5.44
Total	100	100

Source: Derived from the statistics provided by Penang Port Sdn Bhd

In terms of weight, the higher volume of commodities loaded at Penang Port in 2010 included rubber and latex products, iron and steel, processed timber, chemicals and fertilizers, and palm oil (see Figure 5.5). The unloaded commodities include sugar, grains and cereals, machinery and CKD components, iron and steel, palm oil, and petroleum and fuel oil products.



Source: All Ports and Marine Department, Malaysia

Figure 5.5 Loaded/Unloaded Commodities (Weight) in Penang Port, 2010

In terms of tourism, tourists usually come by air, car and railway. The Penang Airport handled an average of 2,700 international passengers daily in 2010. George Town in Penang is a designated World Heritage Site which attracts many tourists. The medical tourism market is also a growing market segment for Penang. Star Cruises currently use Swettenham Pier, Penang Port as a homeport of the fleet.

3) Phuket, Thailand

Phuket is an island province of Thailand. It has a land area of 543 km² and it the second smallest province among all the 76 provinces in the country.

The official census of population shows 335,913, but they do not include semi-permanent workers and visitors. The major industries are tourism, rubber, tin, agriculture, such as coconuts, pineapples, bananas and cashews, and fishing. The Thai government does not want industrialization of this island and the industries are encouraged to be developed in the mainland, in south Thailand.

Table 5.7 Socio-Economics in Phuket

Items	2006	2007	2008	2009	2010
Population	292,245	300,737	315,498	327,006	335,913
GRDP (mil. Baht)	65,906	74,934	74,241	70,196	78,964
GRDP per capita (USD)	7,141	7,890	7,451	6,798	7,444

Source: Statistics of Phuket, 2011

In the island there are four (4) ports and six (6) marinas. Because the deepest port is Phuket port, most trading goods are carried to Phuket port from south Thailand.

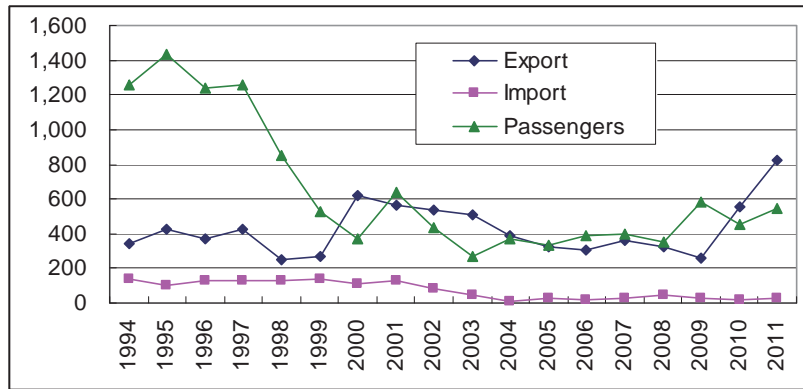
At Phuket port the major export cargoes are latex, rubber, MDF board, and limonite ore. The major import cargoes are petroleum coke, equipment, and tin. In the past tin ore was collected from southern Thailand to Phuket island and tin metal was exported, but at present, the role of Phuket port for tin trade is diminishing because the big tin-producing areas are now in Nigeria, Lao PDR, Banka island in Indonesia, and Myanmar.

The import is negligible and much smaller than the export because the import goods are firstly unloaded in the capital region and they are distributed domestically to the island.

In 2011, the ratios of trade at Phuket port are shown in the figure. In the recent trend, the major export item is wood and furniture and some frozen fish is also imported.

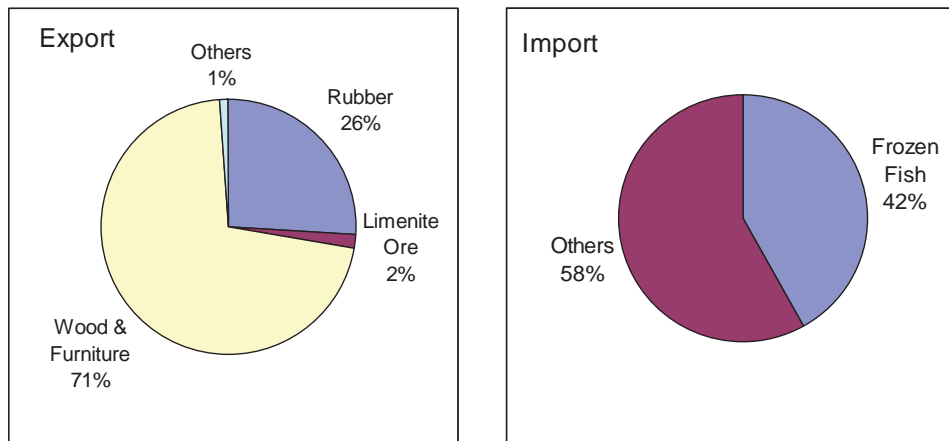
Many cruise ships for tourists come to Phuket port, but the number of sea passengers will be limited by the capacity of the berth. Meanwhile 14 air companies have air routes from Phuket, so air passengers are increasing.

Average daily export/import tons and passengers at Phuket port are shown in the following figure which does not include the other three (3) ports in Phuket island.



Source: Chaophaya Terminal International Co.,Ltd. Phuket Port

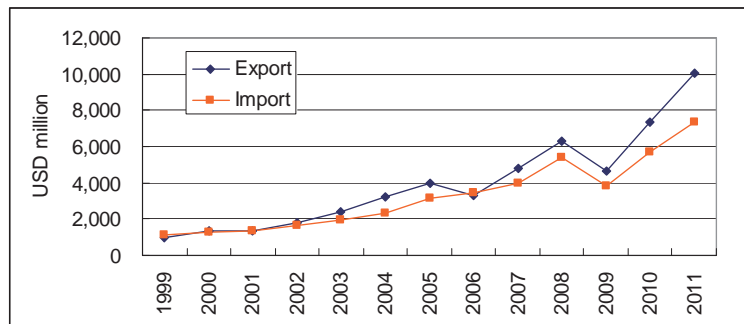
Figure 5.6 Average Daily Cargo Volume (Ton) and Passenger



Source: Chaophaya Terminal International Co.,Ltd. Phuket Port

Figure 5.7 Export/Import Cargo (Ton) at Phuket Port

In the last decade, trade between Thailand and Indonesia has been sharply expanding. Since the economic and industrial structures between Southern Thailand and North Sumatra are similar, there is no obvious direct trading activity according to the reports of respective port administrators and customs offices.



Source: Ministry of Commerce, Thailand

Figure 5.8 Trade in Thailand to Indonesia

5.2 Corridor-wide Traffic

1) Belawan - Penang

Container shipping movement at both Belawan and Penang is analyzed, using two benchmark years of 2008 and 2011. As a result, some distinguishable features are identified. (Refer to Table 5.5)

- There is direct container shipping service between Belawan and Penang. After a couple of years' suspension from 2009, such direct service was revived in 2012.
- Belawan Port has increased container service frequency from 22 vessels in 2008 to 47 vessels in 2011. During the period, the port has strengthened the routes with Port Klang (19 vessels) and Singapore (21 vessels) rather than the national gateway ports, such as Tanjung Priok (2 vessels) and Tanjung Perak (5 vessels).
- Penang Port has also greatly increased container service frequency from 26.6 vessels in 2008 to 61 vessels in 2011. During the period, the port is more connected with Singapore (31 vessels) rather than Port Klang (14 vessels). Penang has a wider port network in 2011, including Tanjung Priok, Bangkok and East Asia compared with the 2008 network.

In March 2012, container shipping shuttle service was revived by MV Uni Assent (refer to Section 15.2).

Fast passenger shipping service was also suspended in June 2010 due to severe competition with air transport, particularly low cost air carries. The port statistics shows a sharp decrease in ship passengers since 2009.

Table 5.8 International Ship Passengers, Belawan

Activity	2006	2007	2008	2009	2010	2011
Embark	28,102	30,488	24,397	12,667	4,503	-
Disembark	26,975	26,337	24,261	13,939	4,749	-

Source: Port Authority of Belawan

Nowadays, air traffic is very vital on the corridor. The number of flights weekly is as high as 71 round trips. These services are provided by 4 airline companies, namely, Sriwijaya Air, Lion Air, Air Asia and Firefly. Flight duration between Medan and Penang is 45-55 minutes. In 2010, according to KADIN North Sumatra, there were around 500 thousand passengers that flew from Medan, this figure increased in 2011 to around 700 thousand passengers.

Table 5.9 International Flights between Medan and Penang

Airline	Type of Airplane	Maximum Capacity (pax)	Number of Weekly Flights (one way)
Lion Air	ATR	72	15
Air Asia	Airbus 320	180	21
Sriwijaya Air	Boeing 737- 600	167	7
Firefly	ATR	72	28
Total			71

Source: Relevant Airlines, as of June 2012

During the first field survey, it was reported that three (3) wooden-hull vessels ply between Belawan and Penang to transport perishable goods such as vegetable and fruits, 400 tons per month on the average. The service is directional and thus no backload cargo is carried from Penang.

Table 5.10 No. of Monthly Container Ships by Route, Belawan and Penang, 2008

	BELAWAN	PENANG	Tj Priok	Tj Perak	Port Klang	Tj. Pelepas	Singapore	South Asia	Middle East	North America	Total
BELAWAN		1.6	3.0	8.0	3.6	0	4.0	0	0.6	0.5	21.3
PENANG	0		0	0	16.0	2.0	8.0	1.0	0.6	0	27.6
Tj Priok	10.6	0									
Tj Perak	1.7	0									
Port Klang	7.1	12.0									
Tj. Pelepas	0	1.0									
Bintulu	0	2.0									
Singapore	2.0	4.0									
South Asia	0	6.0									
Middle East	0.3	0									
Africa	0.3	0									
North America	0	0									
Total	22.0	26.6									

Note: As of 2008

Source: MDS Transmodal Containership Databank

Table 5.11 No. of Monthly Container Ships by Route, Belawan and Penang, 2011

	BELAWAN	PENANG	Tj Priok	Tj Perak	Port Klang	Tj. Pelepas	Singapore	Bangkok	South Asia	East Asia	Total
BELAWAN		0	2	5	15	0	21	0	0	0	43
PENANG	0		12		14	0	31	4	4	4	69
Tj Priok	2	12									
Tj Perak	5	0									
Port Klang	19	14									
Tj. Pelepas	0	0									
Singapore	21	31									
Bangkok	0	0									
South Asia	0	4									
East Asia	0	4									
Total	47	61									

Note: As of July 2011

Source: Indonesia Shipping Gazette

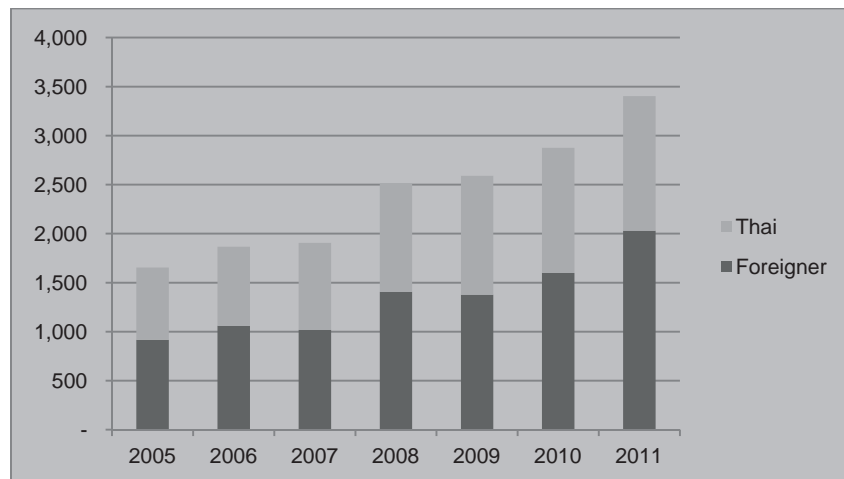
2) Belawan – Phuket / Penang – Phuket

Due to similar economic structures, no trade is recorded between Belawan and Penang although one general cargo ship regularly enters into both the ports to load similar local products for the markets of USA and the Middle East.

Catamaran ferry boat was operated three (3) or four (4) times weekly between Phuket and Penang in the 1990s. A couple of reasons forced the service to be suspended, including short and unstable demand and rough sea conditions particularly during the southwest monsoon season from May to October.

Today, two Star Cruises vessels viz, Super Star Virgo and Super Star Libra, coming from Penang call at Phuket every week. The passengers of cruise ship take immigration clearance on board because Phuket Port has no immigration office.

One remarkable trend is the increasing cross-border movement between Malaysia and Thailand from 1,655 thousand in 2005 to 3,403 thousand in 2011, 60% of which are foreigners, mostly Malaysian. However, vehicle types and objectives to cross the border are uncertain. During the first field survey, a tourism association representative in Phuket reported increasing tourism bus coaches from Malaysia.



Note: From Malaysia to Thailand, thousand persons

Source: Thailand Immigration

Figure 5.9 Malaysia – Thailand Land Cross-border Traffic

3) Foreign Visitors

The three surveyed areas are regarded as international tourism destinations such as Phuket beach resort, the World Heritage site of George Town, Penang and Lake Toba in North Sumatra. The numbers of foreign visitors in 2009 are comparatively analyzed as follows:

- North Sumatra (116 thousand foreign visitors in 2009): The number is quite small compared to Phuket and Penang. Malaysian visitors have a dominant share of 88%.
- Penang (3.6 million foreign visitors in 2009): The foreign visitors account for around 60% of the total visitors. It is almost equal to the foreign visitors of Phuket.

- Phuket (3.6 million foreign visitors in 2009): The foreign visitors have a share of 68% in the total visitors.

Table 5.12 Average Daily Foreign Visitor Arrivals in North Sumatra by Nationality

Nationality	2007	2008	2009
Brunei	0.4	0.2	0.3
Malaysia	222.9	231.2	281.3
Myanmar	0.2	0.3	0.4
Philippines	2.5	2.7	2.7
Singapore	20.9	27.2	28.4
Thailand	2.7	4.0	4.6
Vietnam	0.4	0.3	0.3
Others ASEAN	0.0	0.4	0.1

Source: Statistics of North Sumatra

5.3 Port Operation and Infrastructure

1) Port of Belawan

(1) Overview of the Port

The Port of Belawan is located about 30 Km from Medan City the Capital of North Sumatra Province and about 13.5 km upstream from the mouth of the Belawan River. Belawan Port is a main gate for economic activities of North Sumatra and neighboring provinces. Most of the agroindustry commodities of Indonesia that are exported through the port are palm, rubber, chocolate, coffee, tobacco, etc.



Figure 5.10 Location of the Port of Belawan

(2) Natural Conditions

The port is located along the river and so the waters surrounding the port are calm generally and the wave does not have a significant influence on port operation and ship navigation. The tidal range of the port waters is about 2 m in average but during a spring tide, it reaches more than 5 m. The depth of the port waters is 5 m to 10 m.

(3) Port Facilities/Layout

An approach channel to the port is about 12 nm in length and an approaching vessel takes 30 minutes to one hour going through the channel. The depth of channel is 8.7 m LSW and its width is enough only for one vessel to go through.

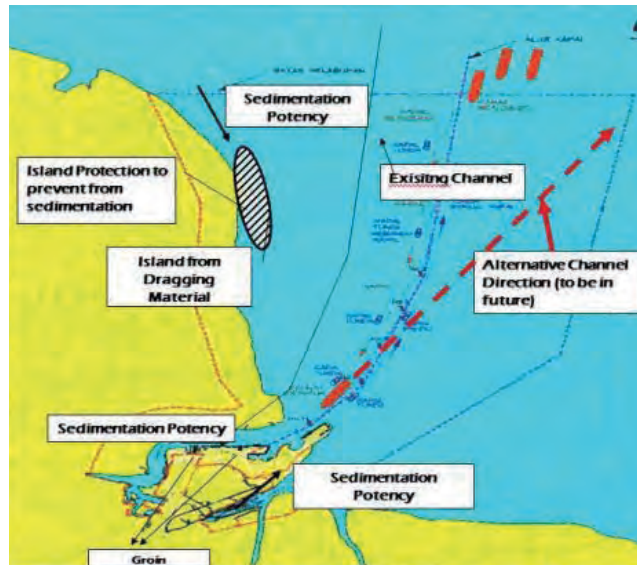


Figure 5.11 Approach Channel

There are six terminals: Container Terminal, Pertamina Jetty, IKD, Citra, Ujung Baru and Belawan Lama. The Passenger Terminal is located at the east edge of Ujung Baru. The location of these terminals is shown in Figure 5.11; and dimensions of the facilities of each terminal is shown in Table 5.13.



Figure 5.12 Layout Terminals

Table 5.13 Outline of Terminals

Terminal	Dimension
Container Terminal	Quay length: 500 m, Depth 10 to 11 m, Yard: 73,000 m ²
Pertamina Jetty	Maximum vessel size: 17,000 DWT
IKD	Quay length: 300 m, Depth 4 to 6 m, Yard: 7,500 m ²
Citra	Quay length: 625 m, Depth 5 to 8 m, Yard: 8,938 m ²
Ujung Baru	Quay length: 1,670 m, Depth: 9 m, Yard: 20,906 m ²
(Passenger Terminal)	Capacity of passenger building: 700 pax /international, 2,450 pax/domestic
Ujung Baru	Quay length: 1,670 m, Depth: 9 m, Yard: 20,906 m ²
Belawan Lama	Quay length: 689 m, Depth: 5 to 7 m, Yard: 9,833 m ²

(4) Management and Operation

There are three key organizations related to the management and operation of the port, such as the Port Authority of the Port of Belawan, ADPEL and the Belawan branch of PELINDO I. The port authority and ADPEL are stage agencies under DGST, while PELINDO I is an operator which was privatized according to the provisions of the Shipping Act in 2008. PELINDO I takes the role of a port management body and carries out construction and improvement of port facilities.

(5) Connection with Hinterland

From downtown Medan, Belawan Port can be reached via a toll road in 30-45 minutes, which provides a good connection between Belawan Port and Trans-Sumatra Highway or ASEAN Highway No. 25. The traffic flow between Belawan and Trans-Sumatra Highway is not affected by urban transport in Medan because the toll road passes only at the edge of the urban area of the city. On the other hand, there are some road sections with bad conditions on the Trans-Sumatra Highway. Maintenance and road expansion would improve the transport network in Sumatra.



Figure 5.13 Belawan-Medan Toll Road

Most of the port access road has big capacity and there is no regulation banning container trailers, etc. High-standard roads (four lanes with a median) are available between the end of the toll road and gates of Belawan Port and thus freight vehicles from/to the port do not have to go through the downtown of Belawan.

Port access roads:

- Road width	:	7-14 m
- Number of lane	:	2-3 lanes
- Pavement type	:	Flexible pavement
- Weight limit	:	n.d.
- Freight vehicle type observed on site	:	Truck, container trailer
- Passage of heavy vehicle	:	Allowed
- Time/distance to the nearest city	:	45 minutes (to Medan)
- Future plan related to road infrastructure	:	n.d.

(6) Future Development

PELINDO I is implementing the project of developing a new passenger terminal. The project aims to relocate the existing passenger terminal at Ujung Baru to Belawan Lama. The project is composed of improvement of the existing wharf, construction of passenger terminal building, dredging of basin and other attendant works. The size of a wharf is planned to be 689 m in length and 5 to 7 m in depth with an area of 9,833 m². The project cost is 15 billion IDR.

PELINDO I has an interest in the development of RO-RO terminal but does not have a clear plan at present.

In addition, PELINDO I plans to improve the alignment of the present channel by deepening and widening the channel.

The port is supported by CIQS facilities, such as security posts, police station, customs office, immigration office, quarantine office. The port provides necessary facilities for securing port security.

2) Port of Penang

(1) Overview of the Port

The port of Penang is located along the north-west coast of Malay Peninsula facing the Malacca Straits. The port is cast as one of the feeder ports for Port Klang, but plays important roles in the economic activities of northern Malaysia and in the international trade with southern Thailand, Myanmar and northern Sumatra. The port was opened in George Town on Penang Island in 1786. Now this area is used for a cruise terminal mainly and cargo handling facilities are situated on the mainland.

(2) Natural Conditions

The port faces the Straits of Malacca but hydrographic conditions do not affect the use of the port almost. The tidal range is 1.6 m on average.

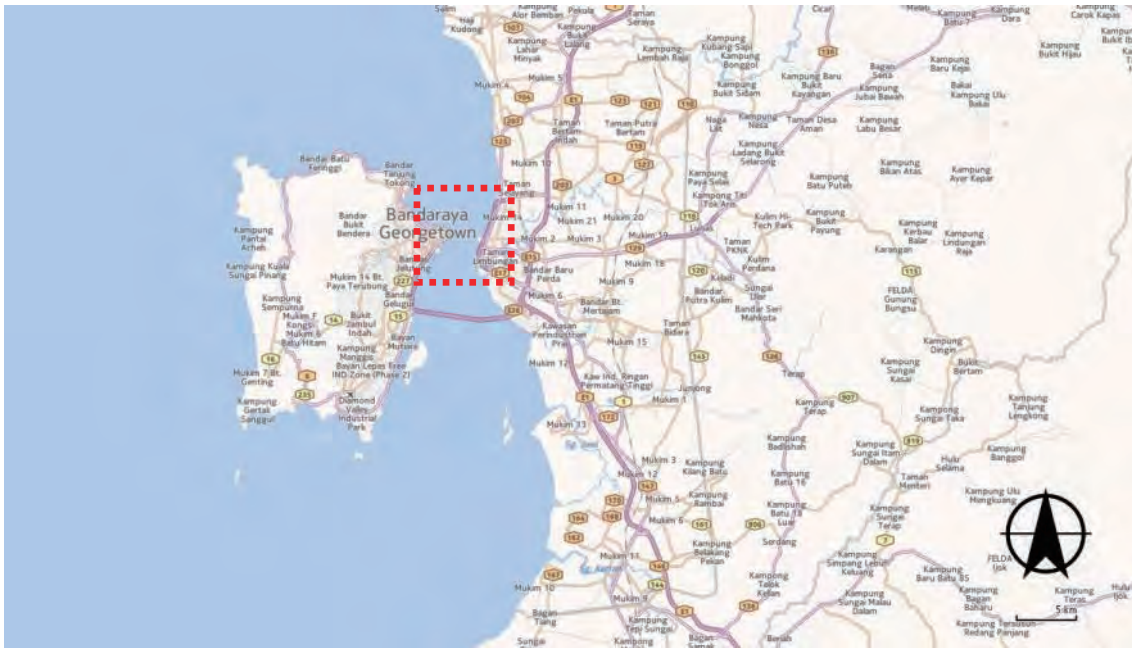


Figure 5.14 Location of Penang

(3) Port Facilities/Layout

Two approach channels are available and a 20-nm-long north channel is the main channel with the width of 182 m and the depth of 11 m. The maximum vessel size is 60,000 DWT. However, maintenance dredging on the scale of 8 million cubic meters need to be conducted once in two or three years.

There are four terminals, one on Penang Island (Swettenham Pier) and three on the mainland, namely North Butterworth Container Terminal (NBCT), Butterworth Deep Water Wharves (BDWW), and Prai Bulk Cargo Terminal (PBCT). In addition to these terminals, ferry jetties are located at both sides of the island and the mainland. The Port layout is shown in Figure 5.15 and the outline of the main terminals are shown in Table 5.14.

(4) Management and Operation

The Port of Penang is under the management of Penang Port Commission (PPC) which serves as the port authority. PPC is a statutory body under the purview of the Ministry of Transport. As a statutory body, PPC is responsible for the administration of the Port of Penang. Its responsibilities are to provide and maintain port and ferry services in the port as well as upgrading the development and the use of the port. Since January 1994, the operation of the port has been privatized to Penang Port Sdn. Bhd. (PPSB) under the Ports Privatization Act 1990.

Regarding CIQS, Penang Port is well supported by CIQS facilities, such as security posts, police station, customs office, immigration office and quarantine office.



Figure 5.15 Port Layout

Table 5.14 Outline of Main Terminals

Swettenham Pier		
	Cruise Terminal	4 berths (2 outer berths/2 inner berths) Quay of 400m in length, 12.0 m in depth, 25 m in width A three-story terminal building of 15,005 m ² area
	Pontoons	1 for domestic use: 30m x 10m 1 for international use: 30m x 10m (not in use)
	Ferry Jetty	Jetty for ferry connecting island and main land
	Yacht harbor	Pontoon type facilities
North Butterworth Container Terminal		
	Container Terminal	1,500 long quay with 12 m in depth Container yard with capacity of 4,400 TEUs GS CFS of 8,400 m 16 Gantry Crane etc.
Butterworth Deep Water Wharves		
	General Berth	4 berths (715 m in length and 9.0 m in depth) Storage area(more than 10, 000m ²)
	Container Berth (Use as General Berth)	2 berths(331 m in depth and 9.0 m in depth) Container yard
Ferry terminal		
	Ferry Jetty	Jetty for ferry connecting island and main land
Prai Bulk Cargo Terminal		
		2 berths (331 m)

(5) Connection with Hinterland

The port is connected by a good network of roads and rail to its hinterland. Berths in the Butterworth side can be accessed smoothly via toll roads, Butterworth Outer Ring Road (Route E17) and Butterworth–Kulim Expressway (Route E15), which connect

the port to the North-South Expressway (Route E1) or ASEAN Highway No. 2. There is no heavy vehicle ban regulation. The current road maximum capacity is 40 tons. At the Butterworth side, there is a frequent railway freight transport service by KTM Kargo on the rail tracks of the Malayan Railway. Currently twelve (12) round trips of container trains are operated between Butterworth and the Malaysia-Thailand border, Padang Besar.

George Town in Penang Island is linked with the mainland by a 6-lane road called Penang Bridge and with a ferry service crossing the Selatan Strait. The length of the bridge is 13 km while the ferry route distance is 3.2 km. There are eight (8) available ferries to serve the route. The capacity varies but on average a ferry can carry around 300 passengers and 30 cars each way. There is a large traffic volume on street roads around the passenger terminal in George Town but the streets are in good conditions. It would be necessary to evaluate the effect on local city traffic of the additional port traffic, especially during the morning and evening peak hours if a RO-RO service utilizes a berth in the George Town side. Street safety could also be one of problems because there are numerous tourists in the World Heritage town.

Port access roads:

- Road width : n.d.
- Number of lane : n.d.
- Pavement type : flexible pavement
- Weight limit : 40 ton
12 tons (max. axle rating for single axle with 4 wheels)
based on Weight Restriction Order (Amendment) 2003 for Peninsular area
- Freight vehicle type observed on site : n.d.
- Passage of heavy vehicle : Allowed
- Time/distance to the nearest city : n.d.
- Future plan related to road infrastructure : The Second Penang Bridge is under construction.

(6) Future Development

The construction project of a new Swettenham Pier Cruise Terminal was completed in November 2009. The terminal consists of a T-shaped berth with a 400-m-long quay and depth of 12 m, a three-story terminal building and an open yard in front of the building

The expansion project of the container terminal of NBCT is being carried out at present.

(7) Topics of RO-RO terminal

The old container terminal in Butterworth Deep Water Wharves was used as a RO-RO terminal some years ago but it is used as general cargo terminal at present.

In a RO-RO service trial in 2005 to 2006, the pontoon which is situated behind the cruise terminal of Swettenham Pier was used for passenger's embarking and

disembarking and a part of the North Butterworth Container Terminal was used for vehicle loading and unloading. The pontoon remains at such a position but is no longer used at present.

3) Port of Phuket

(1) Overview of the Port

There are four ports in Phuket: Gipsy Port (the largest and the main port and called Phuket Port), Rassada Port (Ferry Port), Victory Port (for Cruises) and one small port. The port of Phuket is located in the southeast area of Phuket Island. The port was built in 1989 for serving both cargo and passenger vessels. The main export cargoes are latex, rubber, and limonite ore, while the main import cargoes are petroleum, beverages, equipment (for festival and other occasions) and tin.



Source: Google Maps

Figure 5.16 Location of Phuket Port

(2) Natural Conditions

During the southeast monsoon season between May and October, strong swells happen frequently, or 20-30% of the days, in the sea around the port. The tidal range of the port waters is about 2.7 m in spring.

(3) Port Facilities/Layout

The access channel to the port is 1,500 m in length, 120 m in width and 9 m in depth. The necessary depth is maintained by dredging. There is a turning basin of 360 m in diameter at the north of the wharf.

The port has a total area of 26 ha and is provided with two berths with a total length of 360 m and a 30-m-wide apron. The depth of water along the wharf is 10 m. In addition to the berth, four barge berths are also provided. The maximum LOA and depth of vessels which can enter the port is 180 m and 9.4 m respectively.

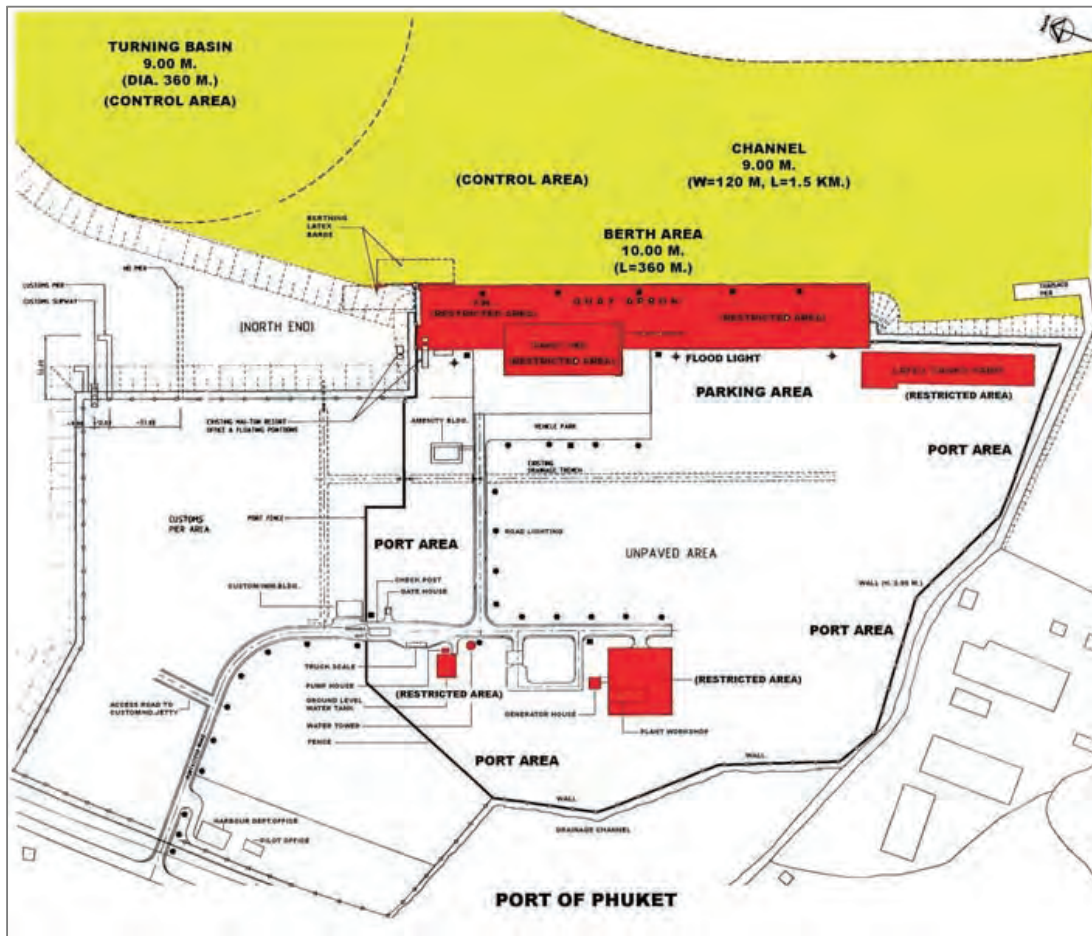


Figure 5.17 Layout of Terminal

(4) Management and Operation

The port is under the management of the Marine Department, Ministry of Transportation. The operation of the port is conducted by a private company based on a concession contract between the Marine Department and the selected private company. At present, the port is operated by Chaopaya Terminal International Company with a two-year concession term. The company has operated the port since the beginning of the port (1989) and the current contract is valid until 2014.

Phuket Port has no immigration office for international visitors. Immigration service is provided onboard for international cruise passengers.

(5) Connection with Hinterland

There is only one main road connecting the City Center to Phuket Port. From the City Center, this road is connected to two highways, which are the north highway (Route 402) and the south highway (Route 4021 and 4024). The port access road length is about 6 km with approximately 15 minutes distance by car from the city center. The road width is approximately 12 meters, with two lanes only, adequate to accommodate about two medium size trucks passing each other at the same time. The road surface condition is good with asphalt pavement. If the cargo traffic volume increases in the future, it would be necessary to consider expanding the port access road.

Phuket Island is not connected directly to the ASEAN Highway Network but Route 41, a part of ASEAN Highway No. 2, is connected to the Island via Routes 4 and 402. The latter is a 4-lane highway with a median which links between the island and the mainland of Thailand.

(6) Future Development


Phuket Port has a berth expansion plan by 60 m at the area where several dolphin structures are installed. The plan is now in the process of EIA.

(7) Topics related to RO-RO Terminal

Phuket Port experienced a trial fast ferry service connecting Phuket Port and Penang Port, but it was unsuccessful and stopped due to demand shortage and rough sea conditions.

A representative of Port Administrator of the Marine Department suggests Lamshabang Port as a suitable port for RO-RO operation using a RO-RO vessel with side Ramp.

An operator points out that sea condition may be a main factor against RO-RO operation. Because wind condition is very bad and the wave is very high during May – October due to southwest monsoon, specific tools to keep trucks or vehicles safe when vessels are caught by high waves may be necessary.

Column 5.1	Pilot RO-RO Shipping Project between Belawan and Penang
Pilot Operation	<p>PT. ASDP, an Indonesian state-owned ferry operator, ran operational test of the Belawan-Penang route with a RO-RO vessel named KMP Jatra III on 15-22 June 2005. The first trip carried nothing from Belawan Port, and the second trip carried only one car from Malaysia.</p>
Vessel Information	<p>Jatra III (GT 3,123) was a second hand vessel bought from Japan which was built in 1985.</p> 
Identified Problems	<p>(1) Technical problem: Jatra III needed additional waiting time by 1-2 hours to enter into the port due to shallow tide. The ramp door position of Jatra III is at front and rear with no side ramp available, so it was difficult to allow rolling-on and rolling-off when the weather was bad.</p> <p>In Penang, there was no dedicated RO-RO terminal available. RO-RO vessels must use for vehicle at Butterworth wharf while for passengers at Swettenham Pier Cruise Terminal;</p> <p>(2) Regulation problem: In relation with the customs regulation in Indonesia, all foreign vehicles must be treated as imported goods or temporary imported goods. In case of transit vehicles, they are regarded as temporary imported goods (MOF Regulation No. 142/2011). In the pilot project, a Malaysian driver bought a guarantee bond from an Indonesian insurer which was equivalent to the import duty of his vehicle, usually 40-50% of its vehicle price. Due to prohibitive guarantee bond and its complicated procedure, foreign drivers must hesitate to bring their vehicles to Indonesia by using RO-RO vessel;</p> <p>(3) Subsidy problem: The Government of North Sumatra agreed to support the pilot operation by giving PT. ASDP fuel subsidy. But in fact, there was misunderstanding between PT. ASDP and the government regarding the definition of fuel subsidy. PT. ASDP considered to use domestic fuel to operate Jatra III. Due to the relevant international regulation, however, the company must use international fuel which is expensive than domestic fuel due to no central government's subsidy. The difference made the company's business plan unattractive.</p> <p>Due to combined impacts of those problems, an anticipated RO-RO shipping market was not realized in the pilot project.</p>

Source: JICA Study Team, interviewed with PT. ASDP and Customs Office in Belawan Port

5.4 Shipping Routes

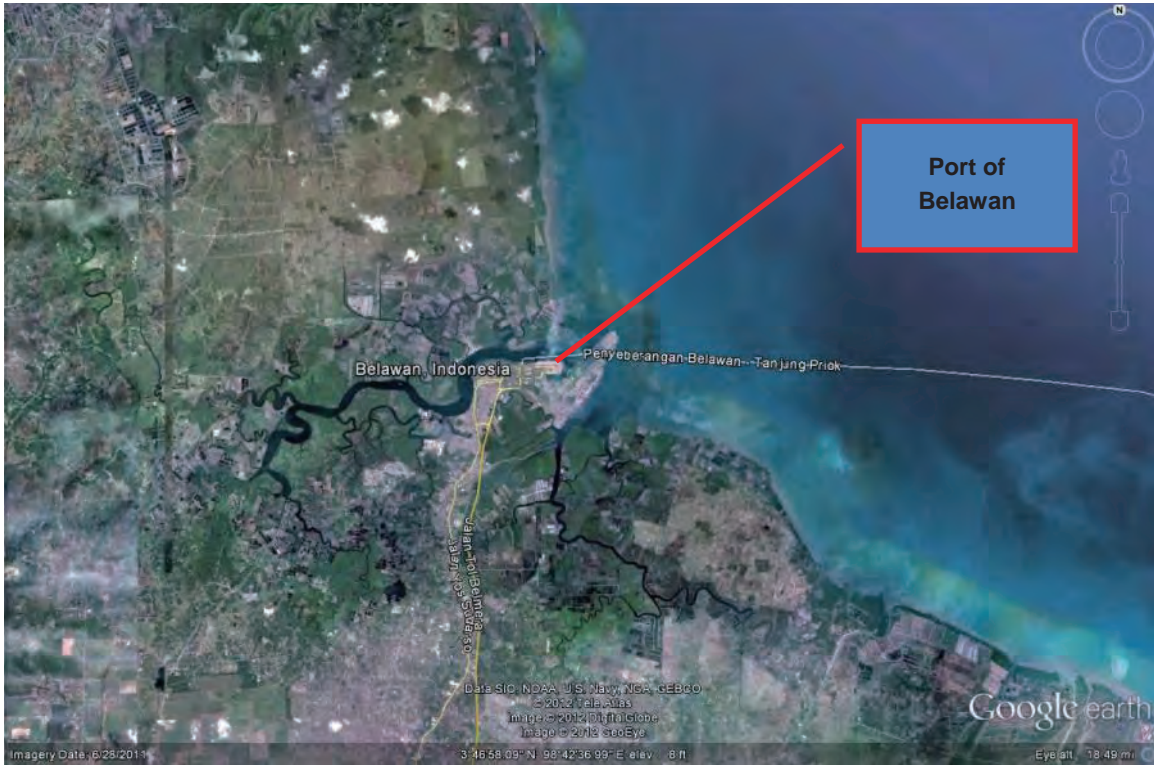
The Port of Belawan serves as the central port for this route. The route traverses the Strait of Malacca to connect the Island of Sumatra with Mainland Asia through Penang (Malaysia) and Phuket (Thailand). The sea distance from Belawan to Penang is around 140 nautical miles, and around 240 nautical miles to Phuket. After navigating the river channel of the Port of Belawan, the voyages are just straightforward crossing of Malacca Strait to either Penang or Phuket.

The Port of Belawan is located on the estuary of Belawan and Deli River, on the east coast of Sumatra close to Malacca Straits. It serves Medan, which is a fast-growing urban center of Sumatra. The approach to the port is marked at the entrance of Belawan River by a lighthouse at Tj. Nipah Larangan. Considering that the river channel of more than seven (7) nautical miles is narrow, pilotage is compulsory for vessels over 150 GT. The channel is continuously dredged up to 8.5 m (MLWS), at the basin the draft limit is from 6.0m – 10.0m (LWS). The port operates 24/7 and has no tidal or nighttime restrictions. Please see Figure 5.18.

The Port of Penang is on the west coast of Malaysia and is protected by Penang Island. Penang is a highly urbanized and industrialized and one of the most developed and economically important states of Malaysia. It has also developed into a thriving tourist destination. The port that can be used for ASEAN RORO could either be at the island or at the mainland. The ports at Penang operate 24/7 and have no tidal or nighttime restrictions. The port can be accessed via the North Channel, with a draft of 11.0m, or via South Channel, with a draft of 5.8m. There is also an air draft limitation of 28m due to Penang Bridge. Pilotage is compulsory for berthing vessels over 200 GT. Please see Figure 5.19.

The Port of Phuket is located at Makham Bay on the eastern coast of Phuket island, on the western seaboard of Thailand, on the Andaman Sea. It is but a small port serving limited passenger and cargo traffic. Although Phuket is a prime tourist destination, however, most of tourists arrive via air. The approach to the port is normally through the channel around Koh Tapae Kyai, passing it in a clockwise direction. Pilotage is compulsory due to the many bends and turns along the access route. Please see Figure 5.20.

See Annex 5.1 for more details.



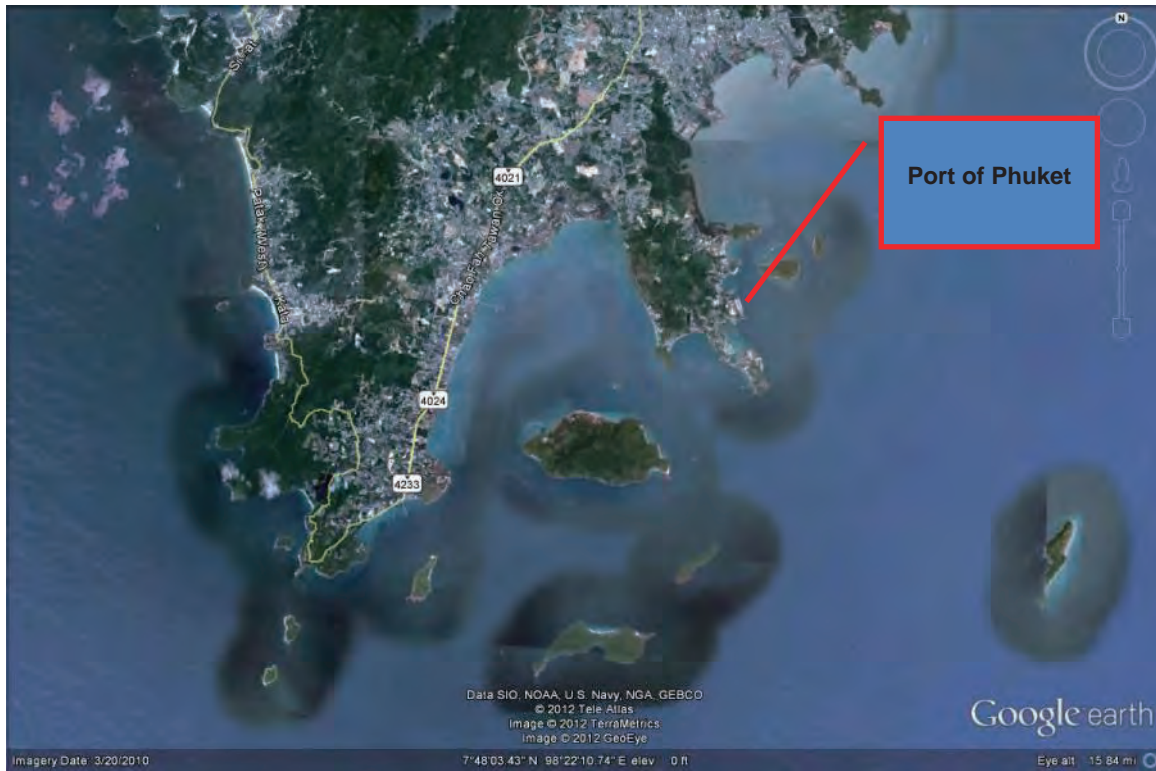
Source: Google Earth

Figure 5.18 Port Channel at Belawan



Source: Google Earth

Figure 5.19 Port Channel at Penang



Source: Google Earth

Figure 5.20 Port Channel at Phuket

5.5 CIQS Services

The ports of Belawan and Penang already have CIQS offices and systems in place, considering that these ports have historically been handling international cargoes and passengers being declared as international gateway ports. Both ports operate under the “single-window” system, wherein the CIQS services are done in a single corridor and in an integrated area.

The CIQS services at the Port of Belawan operate on a 24-hour basis, so passengers and cargoes can expect immediate service upon arrival. The Customs at the Port of Penang operates from 6:00 a.m. until 4:45 p.m., while Immigration and Quarantine services operate on a 24-hour basis.

The Port of Phuket does not have complete CIQS facilities and services. For example, the immigration clearance procedures are done on board for international passengers. Although Phuket is a well-known tourist destination, the big bulk of tourists comes in via air transport mode, and international passengers coming via the maritime mode are few and far in between.

With regard to the proposed ASEAN RO-RO services, all three countries committed to support the proposed service by further improving their CIQS facilities and services.

At the Port of Belawan, the Customs Office commits to support RO-RO ASEAN operation and will follow the adjusted CIQS regulation, if Customs Office in Central

Government agrees and gives directions. In order to support future ASEAN RO-RO operation, the Customs planned three (3) improvements as follows:

- Vessel for Import and Export must berth at customs area. Hence, the administrator will construct a new design of customs and immigration inspection area
- To prepare specific places or terminals with separation function for passenger, goods and tourism vehicle corridor
- To prevent smuggling activities (especially drugs), the administrator plans to improve the security officers capacity building and increase the number of security and inspection equipment

At the Port of Penang, CIQS operations and services will be improved to cover the plan of container terminal expansion. The number of several inspection equipment, such as cargo x-ray and security posts will be increased according to the growing demand.

As discussed in an earlier section, there are still outstanding issues with regard to the treatment of vehicle in transit and the requirement for pocket money of incoming international passengers. In order that the ASEAN RO-RO service will be successful and sustainable, these issues must be resolve in the spirit of facilitation of trade and movement of people and goods.

Table 5.15 shows the CIQS facilities and services at the three (3) ports.

Table 5.15 CIQS Facility Condition in Belawan, Penang, and Phuket Port

Item	Belawan (Indonesia)	Penang (Malaysia)	Phuket (Thailand)
Port Name	Belawan Passenger Port	Swettenham Port	Phuket Port
<i>CIQS Facility</i>			
Building	Security Post and Gates Police Station Customs Office Immigration Office Quarantine Office Passenger Waiting Room Secure Parking Health Emergency Room	Security Post and Gates Police Station Customs Office Immigration Office Quarantine Office Passenger Waiting Room Secure Parking Health Emergency Room	Security Post and Gates Police Station Secure Parking Multifunction Room
Facility	X-Ray Machine Walkthrough Metal Detector Handheld Metal Detector CCTV CCTV Monitor Room Permanent Fence Temporary Fence Access Card Gate with Access Card Mirror Inspection for Vehicle Street Poles and Lights	X-Ray Machine Walkthrough Metal Detector Handheld Metal Detector CCTV CCTV Monitor Room Permanent Fence Temporary Fence Access Card Gate with Access Card Mirror Inspection for Vehicle Street Poles and Lights Manifest System	X-Ray Machine Walkthrough Metal Detector Handheld Metal Detector Street Poles and Lights
<i>CIQS Service</i>			
Service Hours	24 Hours	<ul style="list-style-type: none"> • Customs: 06:00 am – 04:45 pm according to arrivals at jetties • Immigration and Quarantine are 24 Hours 	No specific information
Operational System	<ul style="list-style-type: none"> • The operation system adopts Single window system with custom, immigration and security checks are done in a single corridor and more integrated area • There is an improved facility to do customs and immigration checking for passengers on board • Basically, as an international port, Belawan Port already implemented the standard of customs working by implementing two types of cargo inspection lanes, namely Green Line and Red Line. Green Line, trusted line, is measured by reliability of shipper. It usually took about 2 minutes process with the latest is 1 hour. The 1 hour scenario would happen if a technical problem occurred such as broken computer, off electricity etc. in this kind of line, there is no need to do physical inspection. The second line is Red Line, this line will take maximum 3 days process including physical inspection, but in fact as long as shipper document complete, it usually take 1 day only. About 90% of cases in Belawan took 1 day process only. • Port visitors and porters are well managed to enter wharf area under port administrator control 	The operation system adopts Single window system with custom, immigration and security checks are done in a single corridor and more integrated area.	Phuket Port has no specific room for CIQS so far, such immigration service is provided onboard for international cruise passengers.

Major Issues	<ul style="list-style-type: none"> • Unofficial import products • Cross border vehicle treatment differences between Indonesian side and Malaysian side (unsuccessful operation of RO-RO Belawan – Penang, where customs matter become one of main cause) 	<ul style="list-style-type: none"> • Cross border vehicle treatment differences between Indonesian side and Malaysian side (unsuccessful operation of RO-RO Belawan – Penang, where customs matter become one of main cause) • Administration and information. According to Immigration Office, many passengers from Belawan (Indonesia) cannot enter Penang area when they arrived due to administration matters such as incomplete document. For instance: regarding money should carry in pocket of foreign passenger. One time a passenger came to Penang and brought 1000 RM, the immigration office said not enough at least 2000 RM available, and then other day passenger came again showed 2000 RM, but the immigration said not enough again. Passenger that could not enter will claim back his ferry ticket to shipping company. This attitude made shipping company feel disadvantaged, also such problems made passenger from Indonesia felt hesitate to enter Penang via seaport. 	No specific information
<i>Coordination with other country</i>			
Cross-border Agreement	<ul style="list-style-type: none"> • Coordination between Indonesian government and Malaysian government were taken several times to solve the treatment differences between Indonesian side and Malaysian side • So far, Indonesia government follows Ministry of Finance Regulation Number 142/2011 regarding Temporary Import, where cross-border vehicles will be treated as temporary import product which given free import duty. However, the regulation mentions if in order to prevent smuggling, customs will ask for cash or custom bond that is released by insurance company or bank guarantee as a safety guarantee. This safety guarantee will be released back at the time when the vehicle going back to origin country • According to regulation, the amount of money released for safety guarantee is equivalent with the price of import duty for its vehicle, usually about 40% to 50% of its vehicle price • In additions, in terms of wider region, as a part of ASEAN, this port is also regulated under IMT-GT and ASEAN agreements, therefore, the port will follow those agreement points which mainly 	<ul style="list-style-type: none"> • Coordination between Indonesian government and Malaysian government were taken several times to solve the treatment differences between Indonesian side and Malaysian side • Malaysia under their regulation recognize cross border vehicle as temporary import product with free tax. However the regulation stipulated two requirements for cross border vehicle, which among others: (1) one international circulation permit issued by Road Transport Agency of Malaysia (valid for 90 days free of charge and 1 day process), and (2) safety insurance for vehicle. In this case, Malaysia recognize Malaysian and Singaporean insurance. Therefore, Indonesian, Thailand or other countries cross border vehicle want to enter Malaysia gate, they should pay for these insurance from the third party, usually informed in the Immigration Office/gates. • In additions, in terms of wider region, as a part of ASEAN, this port which located under IMT-GT and ASEAN agreements, will follow those agreement points which mainly regulate integration of cross border trade, immigration, and vehicle. 	<p>As a part of ASEAN, this port which located under IMT-GT and ASEAN agreements, will follow those agreement points which mainly regulate integration of cross border trade, immigration, and vehicle. The specific aspects related are as follows:</p> <ul style="list-style-type: none"> • Recognition of country domestic driving license and vehicle inspection • Handling on left hand driving and right hand driving • Tax and Insurance for cross border vehicle <p>In terms of land cross border, Thailand has at least three strategic connections with other countries, which are Malaysia, Cambodia, and Lao PDR. Since 2010, Thailand has two regulation arrangements regarding cross-border car with other countries, especially with Malaysia, Lao PDR and Cambodia. They are government to government agreement and ASEAN agreement (Brunei Action Plan). In case of ASEAN agreement, it is still draft. For Agreement with Lao PDR, Thailand had completed the regulation, therefore, now many Lao PDR cars come to Thailand everyday and vise versa. For agreement with Cambodia and Malaysia, those are still in draft</p>

	regulate integration of cross border trade, immigration, and vehicle especially between Penang (Malaysia) and Phuket (Thailand).		<p>status, and to be completed in few years ahead.</p> <p>Thailand accepts all driving license type from ASEAN countries. This policy shows Thailand commitment to start the ASEAN agreement. But, this system should be improved since many driving license have different type and classification, and this difference can make the inspection process difficult to implement.</p> <p>Thailand regulation allows all foreign vehicle to move freely around Thailand area, include to refill the fuel, if the vehicle is registered in the customs and immigration gates. The registration requirement is different between countries, but the minimum requirement documents are same, which among others:</p> <ul style="list-style-type: none"> • Valid driving license from origin country • Passenger passport • Certificate of vehicle inspection • Thailand Insurance <p>Thailand Insurance can be obtained in border gates, and upon this complete registration foreign vehicles can stay in Thailand for one month.</p>
Export-Import	Customs mostly handles vegetables, rubber, CPO, cocoa for export commodities, while for import commodities such as fish, spare part for palm manufacture, supporting chemical for industry. To be noted, it is recorded that many commodities (from local and sometimes from foreign countries) come by informally (without sufficient documents)	Customs mostly handles vegetables, rubber, CPO, and fishery products	<p>Potential commodities to be handled by Customs if RO-RO ASEAN Operated are as follows:</p> <ul style="list-style-type: none"> • Rubber • Fishery Products
<i>Other related matters</i>			
Regulation for Truck and Port	No specific regulation provided by the government to control truck movement	No specific regulation provided by the government to control truck movement	No specific regulation provided by the government to control truck movement
Future CIQS Improvement Plan	<p>Customs Office intended to support RO-RO ASEAN operation and will follow the adjusted CIQS regulation if Customs Office in Central Government agree and gives directions. In order to support future RO-RO ASEAN Operation, Customs planned 3 improvements as follows:</p> <ul style="list-style-type: none"> • Vessel for Import and Export must berth at customs area. Hence, the administrator will construct a new design of customs and immigration inspection area • To prepare specific places or terminals with separation function for passenger, goods and tourism vehicle corridor 	CIQS implementation will be improved to cover the plan of container terminal expansion. The number of several inspection tools such as cargo x-ray and security posts will be increased in adjustable scale	CIQS Facility will be located near to wharf area.

	<ul style="list-style-type: none"> To prevent smuggling activities (especially drugs), the administrator planned to improve the security officers capacity building and increase the number of security and inspection tools 		
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5.6 Stakeholders' Views

Firstly, the stakeholders in relation to the northern Malacca Strait crossing understand well the pilot RO-RO shipping project in 2005, particularly the reason why the pilot operation was suspended. In addition, the stakeholders in Belawan/Medan, Penang and Phuket expressed the following views:

1) Belawan – Penang Route

The lack of backload from Penang has contributed to the unsustainability of the RO-RO service from Belawan. The local KADIN pointed to a lack of products that can be traded across the route. Perhaps more attention can be given to promoting tourism across the border. However, the competition with air transport is very tight.

Aside from the RO-RO service, the passenger ferry service between Belawan and Penang also had its share of problems. This service was provided by the Express Bahagia Group, a Malaysian passenger shipping company. The company served the Penang-Belawan route using two passenger boats, "MV Ekpres Kenangan" and "MV Ekpres Bahagia", from 1991 until 2010. The passenger service stopped due to the following reasons:

- (1) Tight competition with air transport service. The last passenger ferry tariff between Belawan and Penang is MYR150/ pax per one way, and MYR220/ pax for two ways within one month expiry. This price was only a bit lower than the cost of airline tickets for the same route.
- (2) Immigration regulations. There seems to be a lack of consistency in the regulation by the Immigration agency at the Penang side on the minimum amount of backup cash required per passenger crossing the border. For instance, a passenger came to Penang with MYR1,000 and the immigration officer said the amount was not enough and suggested the passenger should carry at least MYR2,000. When the same passenger returned the day after with the increased amount, the immigration officer said the amount was not enough again, making the passenger hesitate to come again. Passengers that cannot enter Penang will reimburse his ferry ticket to the shipping company.
- (3) Declining passenger traffic. The passenger ferries used to average 160 passengers per trip. Due to declining traffic, the number of return trips decreased from 3 to just 1 before the service ceased operations in 2011.

As an active large international port in Western Indonesia, Belawan Port is considered a strategic gateway for international trade in Indonesia. It is supported by complete CIQS facilities. The Customs agency committed to support the ASEAN RO-RO project as long as the Customs Central Office agrees. For smooth RO-RO operations, they suggested several requirements, namely: (1) the vessel for import and export must be berthed at the customs area; (2) a place or terminal for passenger and goods and tourism vehicles should be prepared; (3) to prevent drug smuggling, it will be better to prepare the necessary

inspection places. With regard to the customs guarantee, a possible model that can be explored for the ASEAN RO-RO project is that of the European regulation called ATA Carnet. Every vehicle registered in ATA Carnet will have guarantee from each country.

According to PELINDO, there are currently two vessels prepared to serve Belawan-Port Klang-Singapore-Tanjung Pelepas route, but not a direct Belawan-Penang route. PELINDO is studying the possibility to move RO-RO activities from Belawan Port to Belawan Lama Port, about 20 minutes away, where passenger embarking/disembarking has already been moved. This is because Belawan Port has a multipurpose terminal, which makes passenger activities inside the terminal dangerous. Belawan Lama Port is served by train and bus terminals.

2) Belawan – Phuket Route

Stakeholders expressed contrasting sentiments about the potential trade between Indonesia and Thailand through the Belawan-Phuket route. Some believe trade prospects are small since both countries have similar products. So far, there is not much cargo from Belawan. There is, however, some transit cargo on the Bangka (Palembang)-Belawan-Phuket-Padang-USA (New Orleans) route. On a more positive note, KADIN North Sumatra sees many business opportunities that can be created in opening up trade between Belawan and Phuket. From Belawan, live fish, handicrafts, cangkingan (goods carried with hand) can be exported. From Thailand, rice (used to be a major import but is now limited by the Indonesian Government to protect its domestic product), appliances (e.g., washing machines, air conditioners) can be imported.

The port operator and shipping agent in Phuket said that Phuket Port's deep seaport characteristics make it more competitive than other ports located in Southern Thailand such as Songkhla and Kantang. If the port would handle more cargo and attract more cargo vessels, Phuket Port could benefit the economy of Southern Thailand. However, the Government intends for Phuket to be an international tourism destination rather than a logistics hub. A RO-RO service could increase cargo truck traffic and industries coming to Phuket and this may be against the tourism promotion policy. There is also concern that during May-October, the wind condition at the southwest sea of Phuket is very bad and waves are very high, e.g. 2 meters, making it dangerous for small RO-RO vessels, especially for vehicles inside the vessel.

A tourism association representative in Phuket related that past efforts to develop subregional tourism products between Phuket and Penang and between Phuket and North Sumatra have failed. Despite this, the Tourism Association of Phuket continues to be interested in diversifying its tourism products under subregional collaboration. This will require greater efforts among stakeholders. The RO-RO shipping service may provide opportunities to attract more Malaysian tourists to Phuket. In recent years, an increasing cross-border tourism bus traffic from Malaysia to Phuket has been observed. There was an attempt to open a once-a-week fast ferry service between Phuket and Penang but after three or four trips, the service was stopped due to lack of demand.

6 THE SOUTHERN MALACCA STRAIT CROSSING BETWEEN INDONESIA AND MALAYSIA

This section deals with the route candidate of Dumai – Malacca.



Figure 6.1 Surveyed Route

6.1 Economy and Trade

1) Riau Province, Indonesia

Dumai is one of two cities in Riau Province in the island of Sumatra, Indonesia. The other, the City of Pekanbaru, is the provincial capital. Riau Province is geographically located on 01° 05' 00" South Latitude - 02° 25' 00" North Latitude and 100° 00' 00" East Longitude - 105° 05' 00" East Longitude. It is adjacent to Malacca Strait and North Sumatra province in the north, Jambi Province and North Sumatra province in the south, West Sumatra Province and North Sumatra province in the west, and Riau Isles Province and Malacca Strait in the east.

Riau Province is divided into nine (9) regencies and the cities of Dumai and Pekanbaru. The province has a total land area of 89,150 km². Its population in 2010 was 5.5 million (see Table 6.1).

The Provincial GRDP at current prices, with oil and gas, increased from IDR297.2 trillion in 2009 to IDR342.7 trillion in 2010. Without gas and oil, GRDP at current prices also increased from IDR179.0 trillion to IDR214.6 trillion over the same period. The Per Capita GRDP at current prices was USD13,009 and USD8,146 with and without oil and gas, respectively.

Riau Province is one of the richest provinces of Indonesia in terms of natural resources, particularly petroleum, natural gas, rubber and palm oil. It has the largest plantation area of oil palm which accounts for about 25% of the country's total. Agriculture is the main sector, producing plantation commodities such as coconut, oil palm, gambir, cocoa, rubber, coffee and durian. The fishery subsector produces fish from sea culture and brackishwater cultivation. The services sector is mainly from tourism, particularly culture and nature-based tourism.

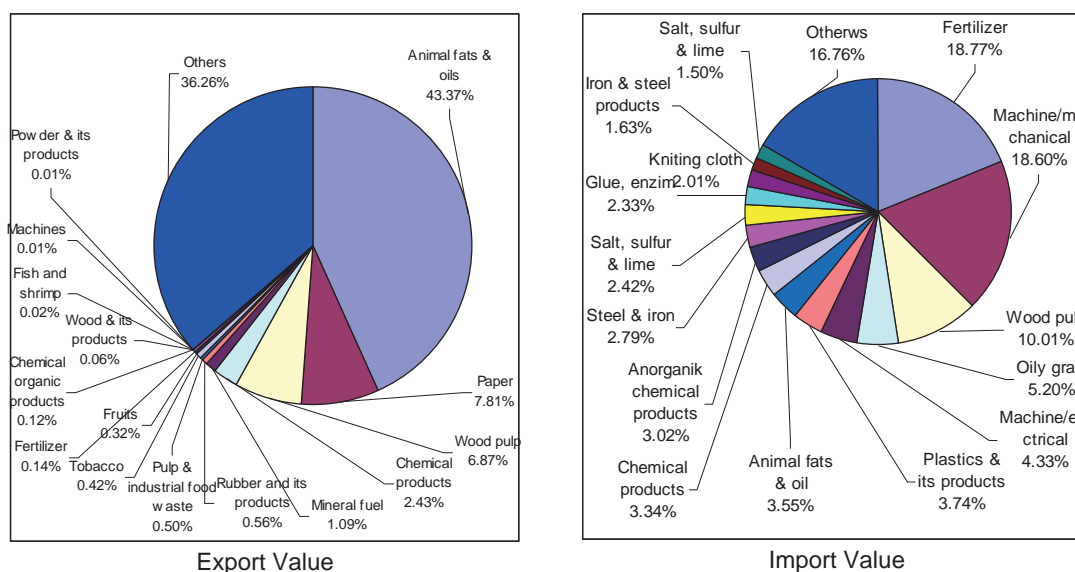
Dumai has a land area of 1,727 km² and is divided into three (3) districts that consist of 22 villages. The city's population in 2010 was 253,178 with a density of 147 persons per km². Dumai's GRDP at current prices, including oil and gas, increased to IDR6.5 trillion in 2010 from IDR5.3 trillion in 2009. At constant 2000 prices, the GRDP, excluding oil and gas, was IDR2.1 trillion as compared to IDR1.9 trillion in 2008, indicating a real economic growth of 8.6%.

Table 6.1 Socio-economic Indicators of Riau Province

Year	Population	GRDP at Current Prices with Oil & Gas (IDR Billion)	Per Capita GRDP at Current Prices with Oil & Gas (USD)	Per Capita GRDP at Current Prices without Oil & Gas (USD)
2000	nd	94,758	8,471	nd
2005	nd	139,019	9,133	nd
2010	5,538,367	342,691	13,009	8,146

Source: Riau in Figures (2011), Statistics of Riau

Figure 6.2 and Table 6.2 show the international trade of Riau Province excluding oil and gas because the value of exported oil and gas accounts for half of the non-oil and gas products. The major export commodities are animal fats and oil, paper, wood pulp, chemical products and mineral fuel, among others. The major imports are fertilizer, machine/ mechanical products, wood pulp, oily grain, machine/ electrical products, and other industrial products.



Source: Riau in Figures (2011), Statistics of Riau

Figure 6.2 International Trade (Excluding Oil & Gas) of Riau Province, 2011

Table 6.2 Top 10 Export and Import Commodities (Excluding Oil & Gas) of Riau Province, 2011

Top	Export			Import		
	Commodity	Weight (000 MT)	Value (Mil. USD)	Commodity	Weight (000 MT)	Value (Mil. USD)
1	Animal fats & oils	8,120.8	6,894.6	Fertilizer	650.9	185.5
2	Paper	1,480.9	1,242.3	Machine/mechanical	34.3	183.7
3	Wood pulp	1,969.1	1,091.4	Wood pulp	133.5	98.9
4	Chemical products	493.3	385.7	Oily grain	59.7	51.4
5	Mineral fuel	2,614.5	173.8	Machine/electrical	7.2	42.8
6	Rubber and its products	28.0	89.7	Plastics & its products	23.9	36.9
7	Pulp & industrial food waste	917.6	79.9	Animal fats & oil	46.2	35.1
8	Tobacco	5.5	66.1	Chemical products	8.8	33.0
9	Fruits	121.0	50.9	Organic chemical products	157.5	29.9
10	Fertilizer	58.5	23.0	Steel & iron	31.4	27.6
	Others	89.0	47.3	Others	839.7	263.2
	Total	15,898.1	10,144.6	Total	1,993.2	988.0

Source: Riau in Figures 2011, Statistics of Riau

The largest ASEAN trade partner of Riau Province is Malaysia, both in terms of export and import (see Table 6.3). The weight on both ways is about 7,500 MT per day, but one third of the weight is crude oil and oil.

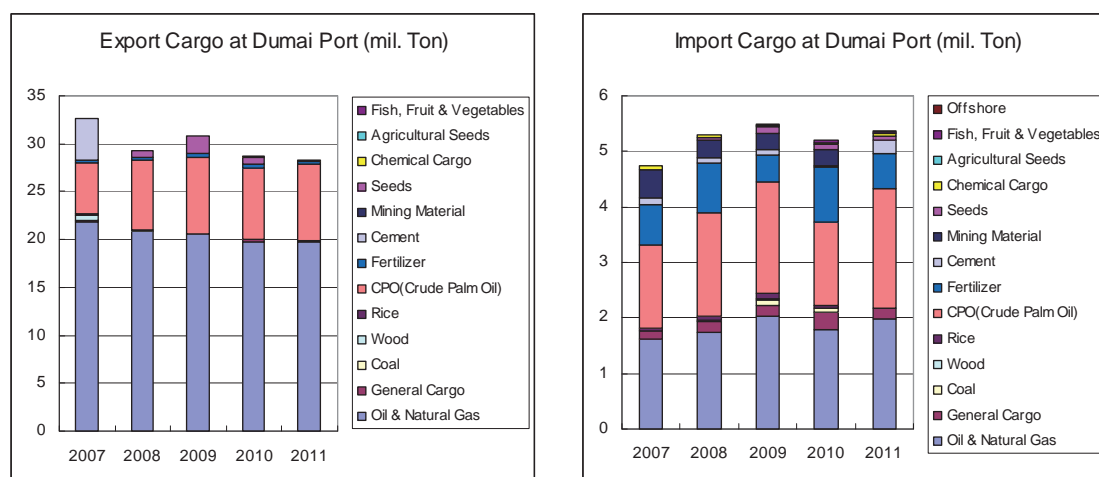
Table 6.3 International Trade Destinations from/to Riau Province, 2011

Country	Export		Import	
	000 MT	Mil. USD	000 MT	Mil. USD
Brunei Darussalam	0.394	0.338		
Cambodia	115	9		
Malaysia	2,218	1,070	527	191
Myanmar	63	56		
Philippines	135	82	0.000027	0.003057
Singapore	579	350	292	255
Thailand	754	71	152	60
Vietnam	138	100	18	11

Source: Riau in Figures 2011, Statistics of Riau

To support economic activities and investments in Riau Province, the province has four seaports, namely Pekanbaru Port in the City of Pekanbaru, Perawang Port in the City of Pekanbaru, Dumai Port in the City of Dumai, and Bagan Siapi-api Port in the Regency of Rokan Hilir; as well as two airports, namely Sultan Syarif Kasim II Airport in Pekanbaru and Pinang Kampai Airport in Dumai.

At Dumai Port, the major commodity for export is oil and natural gas, and for import is crude palm oil (see Figure 6.3). Although both of these commodities are carried by liquid tankers and are not cargoes on RO-RO vessels, it is worth noting that trade of palm oil between Malaysia and Indonesia is very large (see Table 6.4). There is also potential for trade in fertilizer, seeds, fish, fruits and vegetables.



Source: Dumai Port Authority

Figure 6.3 Export/Import Cargo at Dumai Port

Table 6.4 Intra-ASEAN Export/Import Matrix of Palm Oil, 2009 (in USD 000)

From/To	Brunei Darus-salam	Cambo-dia	Indo-nesia	Lao PDR	Malay-sia	Myan-mar	Philip-pines	Singa-pore	Thailand	Vietnam
Brunei D.										
Cambodia										
Indonesia	804	298			719,443	77,921	24,001	392,602	4,163	129,306
Lao PDR										
Malaysia	4,569	5,820	27,739	129	364	64,750	62,031	244,208	34,920	188,055
Myanmar										
Philippines										
Singapore	390	358	51		14,195	1	714		41	2,427
Thailand		31	1	1,447	9,182	29,561		16		8,593
Vietnam										

Source: FAO, FAOSTAT: Trade Sheets

2) Malacca, Malaysia

The State of Malacca is a small state in the southern part of the west coast of Peninsular Malaysia. The state covers a total land area of 1,664 km² and is divided into three (3) districts, namely Central Malacca, Alor Gajah, and Jasin. Malacca is adjacent to Johor in the east and south, Malacca Strait (and Sumatra Island) in the west, Kuala Lumpur and Negeri Sembilan in the north. The state capital, Malacca City, is strategically located between the two busiest cities of Kuala Lumpur and Singapore, and well connected by roads and highways. The State of Malacca also covers some offshore islands such as Besar Island, Upeh Island, and Tanjung Tuan Island.

The population of Malacca in 2010 was 821,110 and growing by an average of 1.3% a year (see Table 6.5). In terms of regional distribution, 61% of the population was in Malacca Tengah, 22% in Alor Gajah, and the rest in Jasin. Overall population density of the state was 493 persons/km². Only 1% of the State's labor force of 290,000 was unemployed, making it a region with one of the lowest unemployment rates in Malaysia.

Table 6.5 Socioeconomic Indicators of Malacca State

Year	Population	GRDP at Constant Prices with Oil & Gas (MYR Million)	Per Capita GRDP at Current Prices (MYR)	Per Capita GRDP at Current Prices (USD)
2006	732,700	13,091	nd	nd
2007	742,300	nd	nd	nd
2008	751,900	nd	24,686	nd
2009	761,600	14,445	22,583	nd
2010	821,110	15,284	24,697	7,817

Source: Department of Statistics, Malaysia

The State of Malacca had a GRDP at constant prices (with oil and gas) of MYR15,284 million in 2010, growing by an average of 3.2% from MYR13,091 million in 2006. The Per Capita GRDP at current prices was MYR24,697 or USD7,817. Malacca is similar to Penang with regard to industries and tourism. In terms of economic structure, Malacca's economy was dominated by services (46% share) and industry (42%). The biggest contribution to the industry sector was from the manufacturing industry while the services sector derived its income from the utilities, transportation, storage and communication, finance, insurance, real estate, and business subsectors. At 7% average growth per year, the services sector was also the fastest growing sector. Malacca has about 22 industrial areas which are developed by the private sector or the Melaka Development Corporation. In these industrial areas automotive, electronics, furniture and others are manufactured and distributed by road, rail and sea.

Aside from oil and gas, another major export commodity from Malacca is iron ore which is sent to China from its sources in Johor. The main import commodities are maize, corn, animals, steel coils, iron, and pipe gases from Taiwan.

As a World Heritage City, tourism in Malacca focuses on cultural and historic old-city tourism attractions such as museums, statues, rivers, and preserved buildings, as well as native and special tribe cultures.

To support its economic and investment activities, Malacca's transport infrastructure includes the Inter-City Highway (connecting Malacca City with Johor, Kuala Lumpur, and other big cities in Malaysia), Malacca Airport, and the state's two major seaports, namely Tanjung Bruas Port and Kuala Linggih Port. Most of the ports are supported by good road infrastructure. Access to the Tanjung Bruas Port is via a two-lane 9-meter wide road which can accommodate traffic of small cars, motorcycles, small buses, and small to medium-sized trucks. This road also connects the city to Kuala Linggih Port, located around 40 km from the city center. Tanjung Bruas is in between the city center and Kuala Linggih.

Tanjung Bruas is used for bulk cargo and the City Wharf is used for passenger ferry to Dumai and Bengkalis in Indonesia. Tanjung Bruas Port handled some 451,000 MT of cargo in 2010, most (92%) of which were imports (see Table 6.6). Cargo throughput at the port was mainly break bulk cargo (68%), dry bulk (28%), and liquid bulk (4%). However, its proximity to the two major neighboring ports of Tanjung Pelepas and Port Klang, which are connected with Singapore and Kuala Lumpur by good road, provides serious competition for export/ import.

Table 6.6 Cargo Throughput in Tanjung Bruas Port ('000 MT)

	2006	2007	2008	2009	2010
Export	7		14	25	37
Import	399	606	543	437	414
Total	406	606	557	462	451

Source: Transport Statistics Malaysia, 2010

6.2 Corridor-wide Traffic

1) Passenger Traffic

There are several shipping companies providing crossing service for passengers between Dumai Port – Malacca and Dumai – Port Klang. Dumai – Malacca is served by 2 passenger boats and Dumai – Port Klang is also served by 2 passenger boats. Other than this 4 passenger boats, there are 2 passenger boats provided as a back up when an unexpected incident happens.

Table 6.7 Ship particular operated in Dumai – Malacca and Dumai – Port Klang

No	Name of Ships	Hull Number	Flag	IMO #	Size (LxWxD) in meters	Machine Power	Number of Pax	Year Built
1	KM Indomal Express	GT.145 No.686/GGa	Indonesia	8966602	29.07x5.47x2.27	3 x 1,000 PK	255	1997
2	KM Indomal Express II	GT.147 No.510/PPm	Indonesia	8984355	29.07x5.47x2.27	3 x 1,000 PK	262	1997
3	KM Indomal Express 3	GT.143 No.987/GGa	Indonesia	9328194	31.28x6.70x2.58	3 x 1,500 TK	275	2003
4	KM Indomal Express 5	GT.159 No.840/GGa	Indonesia	9894376	30.82x6.60x2.80	2 x 956 KW 1 x 1,050 KW	272	2000
5	KM Indomal Express 8	GT.148 No.564/PPj	Indonesia	9123257	27.61x6.50x1.90	3 x 610 KW	212	1995
6	KM Indomal Express 1	GT.194	Indonesia	8980074	32.50x7.00x1.53	3 x 1,500 TK	275	2001

Source: PT. Lestari Indomabahari (DUMEX), 2012

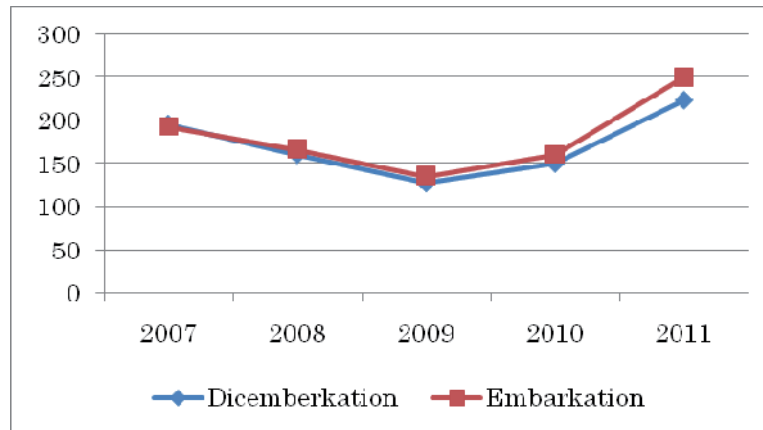


Figure 6.4 Dumai – Malacca Route and Dumai – Port Kelang Route, 2012

The number of international shipping passengers is 261,495 on a disembarkation basis in 2012. The strait crossing passengers have some characteristics as follows:

- Although nationality is unknown in the statistics, the field survey observed most of strait crossing passengers are Indonesian. The provincial statistics shows that Dumai received merely 14,394 foreign visitors in 2010;

- Main clientele segments are overseas workers to Malaysia on the Dumai – KL route and the people visiting relatives and receiving medical care on the Dumai – Malacca route;
- A traffic drop in 2009 is explainable by a stricter overseas workers reception policy by the Government of Malaysia in response to the Global Financial Crisis that hit the world in 2008 and its associated economic recession in Malaysia.
- Unlike the Belawan-Penang route, the operators enjoy shipping business without competition with airlines. Dumai is located 199 km from Pekanbaru, the provincial capital with a feeder domestic airport.



Source: PT. PELINDO I, Dumai Branch

Figure 6.5 Trend in International Ship Passengers, 2007-2011

Malacca has a World Heritage Site, attracting 1.2 million foreign visitors in 2008. Indonesia was ranked as the third country with the most visitors, when 106 thousand Indonesians visited the city.

2) Cargo Traffic

The trade between Riau Province and Malaysia is vigorous. As introduced earlier, the Riau – Malaysia trade is outstanding among other ASEAN countries at 7,500MT per day. Although huge exports of oil and forestry related products account for 89% of the provincial export, however, Malaysia's share is a modest 13% in export and 26% in import in the economy of Riau Province.

The first field survey reveals the following characteristics in the strait crossing trade between Riau and the Malay Peninsula:

- Most of the strait crossing trade is done by Indonesian wooden-hull vessels. They homeport at PELINDO Dumai Port or the riverside shore nearby;
- According to the statistics of PELINDO Dumai Port, the sizes of foreign vessels and domestic vessels in external trade are quite different, 6,000 – 16,000 GRT for foreign vessels and 200 – 600 GRT for domestic vessels. The former may be engaged in bulk shipping to export oil and forestry products while the latter in the short strait crossing trade.
- It is difficult to estimate the number of Indonesian wooden-hull vessels that engage in the Riau – Malacca trade. PELINDO Dumai Port does not accommodate all the

wooden-hull vessels for the strait crossing trade. Many may avoid paying port duties and they thus prefer to moor at riverside or other places. Malacca State does not have a general port to accommodate those vessels. They must enter into other ports or alternative sites.

Table 6.8 Ship Calls at PELINDO Dumai Port, 2007-2011

		2007	2008	2009	2010	2011
Foreign Vessels	Call	1,202	946	944	894	974
	GRT	15,840,913	10,668,121	5,890,753	5,863,684	15,357,030
	Ave. GRT	13,179	11,277	6,240	6,559	15,767
Domestic Vessels	Call	1,066	1,208	852	995	986
	GRT	213,748	248,330	196,788	288,710	536,820
	Ave. GRT	210	206	231	290	544

Source: PT. PELINDO I, Dumai Branch

6.3 Port Operation and Infrastructure

1) Port of Dumai

(1) Overview of the Port

Dumai port is located in the middle of Sumatra Island and about 5 hours by vehicle from Pekanbaru, the capital city of Riau Province. The port is connected with Malacca Strait through the waterway between Sumatra Island and Rupert Island. Dumai Port provides several services, such as cargo and passenger terminals. The main commodities are CPO, crude oil and their products, which are main products of Riau Province.



Figure 6.6 Location of Dumai Port

(2) Natural Conditions

There is a small island named Rupert Island between the port and the strait and it forms a natural breakwater for Dumai Port. However, some port users point out problems caused by wave conditions. In February 2012, one vessel destined to Port Kelang canceled its voyage (before departing out from Rupert Island area, they come back to Dumai Port) due to the severe weather condition and waves up to 2 or 3 m. In 2011, one vessel from Malacca to Dumai was canceled due to the same reason. The port experiences the highest wave of about 2 to 3 m during December to January.

(3) Port Facilities/Layout

The port has a 55 mile long channel, which consists of 22 miles through the Strait of Bengkalis and 33 miles through the Strait of Rupert, with depth of more than 10 m LWS, width of about 255 up to 1,700 m. The area of the Port Basin is about 64,060,200 m² with minimum depth of 6 m LWS and maximum depth of 10 m LWS.

The area of Dumai Port is 785,161 m² with port facilities, such as office, warehouse, container yard, passenger terminal and also a commercial area. The layout is shown in Figure 6.7. Most of the commercial area is used for storage, such as CPO storage.



Figure 6.7 Layout of Dumai Port

Table 6.9 Main Port Facilities

Name		Dimension	Depth LSW	Apron
Wharf A	General Cargo Wharf(Old Wharf)	348 m	9 m	16 m
Wharf B	Palm Oil	400 m	11 m	18 m
Wharf C	Multi-purpose Wharf(New Wharf)	500 m	10 m	25 m
Wharf D	Traditional Shipping Wharf			
Passenger Terminal		10m×2	10 m	10 m

(4) Management and Operation

Dumai Port is under the operation of PELINDO I whose headquarter is located in Medan City in Sumatera Island. Permission to enter the port is under control of Port Authority which is a harbor master. The procedure to obtain port service is same as that in other ports in Indonesia. Several problems related to CIQS exist in Dumai Port, such as limited capacity of Customs and Immigration inspections in passenger room and unseparated domestic and international passengers line, shortage of facility, such as X-Ray machines, Cargo Detector, etc

(5) Connection with Hinterland

The existing access road from Pekanbaru to Dumai is still not adequate to support cargo and passenger movement both from Riau Province and outside Riau. In several spots, the damaged condition of the road obstructs transport activity. The traffic volume is about 12,492 passenger-car unit daily, which mainly consists of transportation of CPO products and forestry plantation as well as public transportation.

Those conditions of access and transportation networks cannot adequately support and accommodate the fast growing economy and business activities which require the availability of smooth and fast transportation facilities to provide a trouble-free

and efficient link between Pekanbaru, as the capital city of Riau Province, and other centers of growth in Riau mainland.

The development of Pekanbaru – Dumai toll road is one of the local Government policies in supporting and optimizing Dumai as Petroleum Port City, Industrial Zone and as the gateway for the eastern coast of Sumatra Island. According to the Ministry of Public Works Indonesia, the Pekanbaru – Dumai toll road will be regarded as a part of the ASEAN Highway No. 25 as well as the designated transit transport route. Therefore, there may be no issue to connect the ASEAN RO-RO route of Dumai – Malacca to the ASEAN Highway in Sumatra. The proposed “Pekanbaru – Dumai Toll Road” is about 135.34 km in length, consisting of 2 sections; Pekanbaru Kandis (46.20 km) and Kandis – Dumai (89.14 km) as depicted in Figure 6.8.



Figure 6.8 Proposed Pekanbaru-Dumai Toll Road Plan, PT Jasa Marga

The existing road networks connecting Pekanbaru-Dumai is 199.45 km long. Traversing such a distance normally takes 3.5-5 hours driving time. However, with the Toll Road with a length of only 135.34 km, and with the speed average ranging from 90-100 km per hour, the expected driving time will be reduced to only 1.5 hours.

Dumai has no specific regulation to control truck movement in the city. All kinds of trucks are allowed to access major roads from/to port and city area.

(6) Future Development

PELINDO I has already prepared the master plan to expand Dumai Port such as extending the wharf, providing more cargo handling equipment and developing a commercial warehouse.

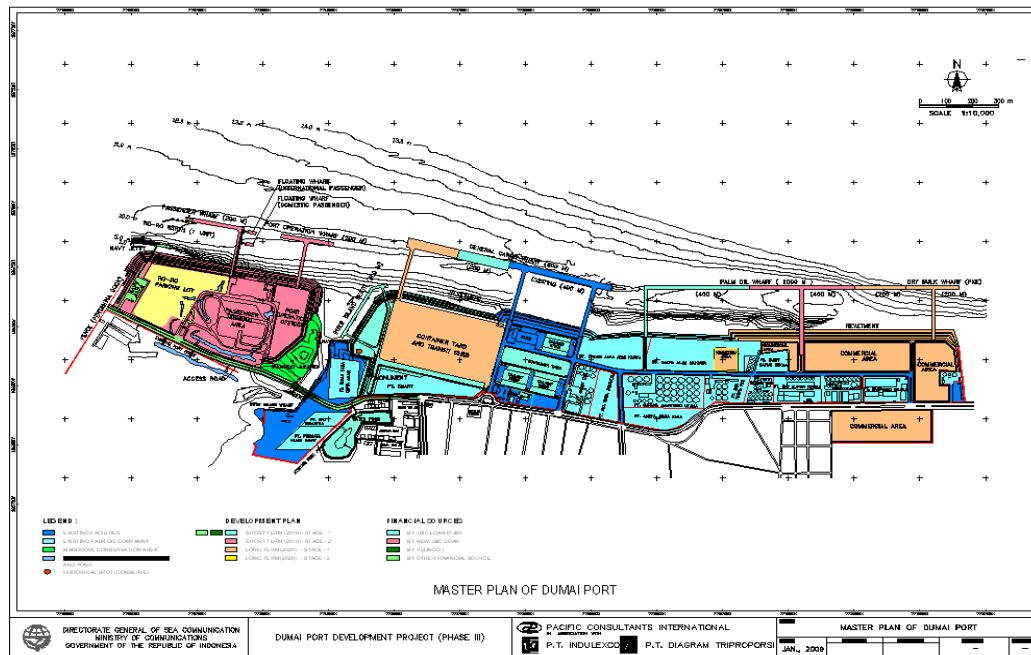


Figure 6.9 Master plan of Dumai Port by PELINDO I Dumai Branch

(7) Topics related to RO-RO Terminal

Currently, there are two (2) terminals that handle passengers in Dumai.

One is the terminal for Dumai / Malacca passenger service. The terminal is located within Dumai port adjacent to the general cargo terminal. This is not a RO-RO terminal but a normal pontoon type berth for mooring speed boat type passenger ship.

The other passenger terminal is dedicated to ASDP RO-RO ferry service. It is located in the western part of Dumai Port, 20 minutes from the city center by car. This RO-RO route connects Dumai with Rupa Island. It takes 30-45 minutes for the crossing. The City Government of Dumai provided the land and Riau Provincial Government provided the terminal facilities. The construction of facilities started in 2005 and was completed in 2009.

The terminal consists of:

- L-shaped Jetty with RO-RO Ramp at the end;
- Connecting bridge: length of about 600 m, width about 4 m (for one-way traffic plus pedestrian walkway on one-side); and
- RO-RO Ramp: Adjustable shore-side ramp connecting ship's fore ramp

The shore ramp is suitable for the ship currently employed, but it seems not suitable for larger size RO-RO ships. Water depth on ramp area is -7 to -10 m.

Adjacent to, but separate from, the RO-RO Terminal Facility, there is a passenger ship facility to be used for speed-boat type passenger service equipped with two (2) mooring spots. The facility is completed but not yet used for actual operation. There is a plan to induce passenger ferry service (domestic and international) to this facility.



Figure 6.10 Passenger Terminal of Dumai Port



Figure 6.11 RO-RO Terminal of ASDP Port

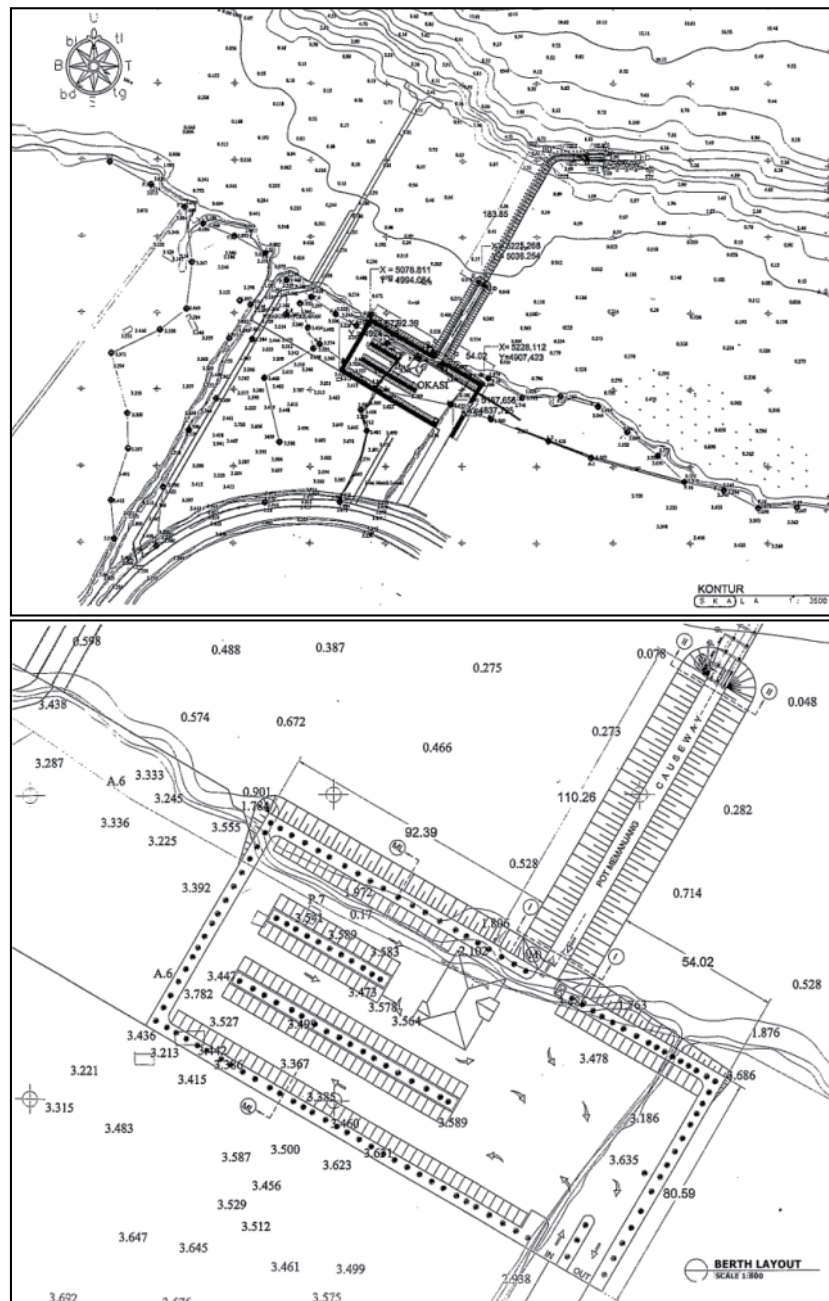


Figure 6.12 Berth Layout of ASDP RO-RO Terminal at Dumai

2) Port of Tanjung Bruas

(1) Overview of the Port

There are two minor ports in Malacca: Tanjung Bruas Port and the City Wharf. Tanjung Bruas is located in Tanjung Kling area about 12 km from the city center to the west and takes a role as the main cargo-handling port of Malacca State. The City Wharf is located at the mouth of the Malacca River. It is currently used as a passenger boat terminal connecting Dumai and Bengkalis, Indonesia. Tanjung Bruas Port was built in 1980 with facilities for direct loading/unloading of local products.

(2) Natural Conditions

The port faces the Straits of Malacca. Occasional strong NW wind occurs during the 3rd /4th quarter of the year, which lasts for 3-4 days. The tidal range of the port waters is about 2 m in average. The depth of the port waters is -9m.

(3) Port Facilities/Layout

The port operator, SPPG, informed the Study Team of the major port facilities including Office Building, Petronas Base Oil Depot (onshore), Parking Area (for several vehicles only), T-shaped Jetty (170 m long and 9 m deep), Connecting Bridge (400 m long and 7 m wide), Warehouse (3,000 m²), Private Godown (storage, 24,722 m²), and Tide Measurement Station.



Figure 6.13 Tanjung Bruas Port

(4) Management and Operation

Klang Port Authority takes the role of a port management body. The port was privatized to SPPG, a Malaysian company, in 1992 under 21 years concession contract with the Central Government (through the Malaysian Ministry of Transportation). The current contract comes to an end in 2013, however SPPG is willing to renew their contract and continue port operation.

The port is supported by limited CIQS infrastructure, such as 1) Security Posts, 2) Police Station, 3) Customs Office, and 4) Quarantine Office (with warehouse). Inspection tools were prepared but unutilized yet by the operator. There are X-Ray Machine, Walkthrough Metal Detector, and a set of CCTV.

(5) Connection with Hinterland

The state capital, Malacca City, is located between the two busiest cities: Kuala Lumpur and Singapore, and well connected to roads and highways. To support economic activities and investments in the State of Malacca, there are some transport infrastructures, such as Inter-City Highway (connecting Johor, Kuala Lumpur, and other big cities in Malaysia with Malacca), Malacca Airport, Kuala

Linggih Port, and Tanjung Bruas Port. Most of the ports are supported by good road infrastructure.

The North-South Expressway is regarded as the ASEAN Highway Route No.2 as well as the designated transit transport route. Malacca city center is located some 20 km from the Ayer Keroh exit of the North-South Expressway. A good local road network ensures a smooth traffic between Tanjung Bruas Port and the North-South Highway and the highway network provides relatively large hinterland area.

There is no specific regulation to control truck movement in the city. All kind of trucks are allowed to access major roads from/to the port and city area. In the case of Tanjung Bruas Port, the road access is about 9 meters wide, fit for two medium size cars passing each other. During the site visit period, traffic condition was low, and the types of vehicle using the road are, among others, small cars, motorcycles, small buses, and small to medium trucks.

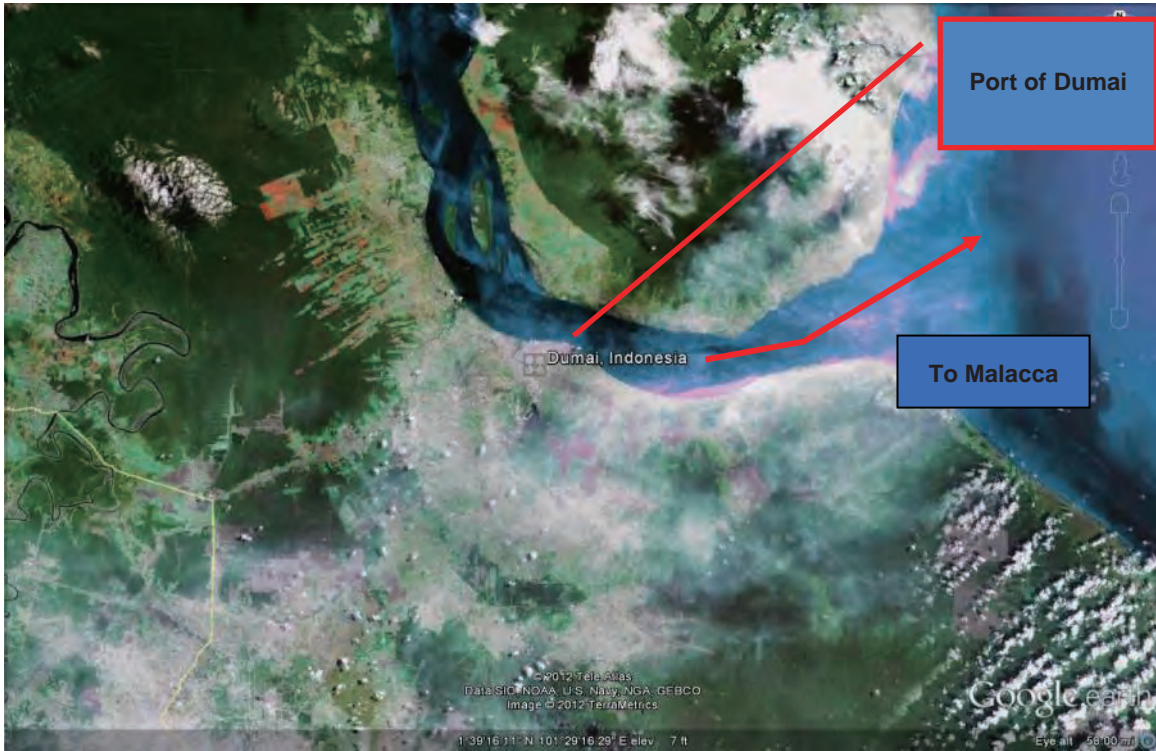
6.4 Shipping Routes

The Dumai – Malacca route is just a short sailing of about sixty (60) nautical miles, crossing the Malacca Strait. This route connects two traditional trading partners on both sides of the strait. Dumai is an important trade center, as the area is rich in fuel oil and palm oil.

The Port of Dumai is well-protected sea port situated along the north central shores of Sumatra Island facing Malacca Strait. The port can be reached by deep draft vessels by proceeding from Malacca Strait into Bengkalis and following a buoyed channel on a Southerly course of 22 miles to the junction of the Rumat Strait. The approach channel has a length of thirty-three (33) nautical miles, and it is wide enough even for a Very Large Crude Carrier (VLCC) to enter the port. The depth at the port basin varies from 7.0 m to 18.6 m depending on the terminal. Pilotage is compulsory for vessels more than 105 GT. For some years, the Rumat-Bengkalis Strait area has been designated as a Restricted Maritime Zone by decree of the Government of Indonesia. A partial exemption from the requirement to secure special Indonesian Consular Clearance before entering this Zone has been granted by the Indonesian Navy to tanker vessels proceeding to Dumai from any port in the world except Singapore. Please see Figure 6.14.

The Port of Malacca is a small port located in an open-sea area, along Malacca Strait. It is located in the southern part of the Malay Peninsula. Since it is situated in the open sea, it can be approached from all directions from the sea. It has a T-shaped jetty, with a length of 170 m and can accommodate vessels of 12,000 DWT. The depth of water at the seaward side is 9 m. Pilotage is compulsory for vessels entering or leaving port limits and during berthing/unberthing. Please see Figure 6.15.

See Annex 6.1 for more details.



Source: Google Earth

Figure 6.14 Port Channel at Dumai



Source: Google Earth

Figure 6.15 Port Channel at Malacca

6.5 CIQS Services

The Port of Dumai (Dumai PELINDO Port) has more CIQS facilities than the Port of Malacca (Tanjung Bruas Port). This could be so because Dumai has traditionally been a center distribution point for Riau Province and hinterland areas in border provinces such as West Sumatera, Jambi, and Bengkulu. Most of the exporters from those areas deliver their products via Dumai Port.

The Port of Dumai has existing office buildings for Customs, Immigration, Quarantine, and Police Station. It has a Passenger Waiting Room for the comfort of its passengers. The operation system adopts the “Single-window” system wherein customs, immigration, quarantine and security checks are done in a single corridor and a more integrated area. However, the room used for such activities is small, and would need further improvements. The operating hours are irregular, maybe in response to the demand, but it is usually from 7:00 a.m. till 4:00 p.m. To facilitate movement, the port uses the “Green Line and Red Line” system. Those who have their documents complete can expect to have their documents processed in just a few minutes.

The Port of Malacca has a multi-function building, which they plan to use as a passenger terminal building and for CIQS offices in the future.

Both ports have X-Ray Machines and Walkthrough Metal Detectors. The Port of Dumai has CCTV cameras to augment its security system.

The major issue confronting the route, if a RO-RO service is developed, would be the differences in the treatment of in-transit vehicles between the Indonesian side and Malaysian side. To prevent smuggling, the Customs at the Indonesian side would require cash or custom bond, which is about 40% to 50% of the value of the vehicle, issued by an insurance company or bank guarantee, as a safety guarantee, which will be released back at the time when the vehicle returns back to the origin country. At the Malaysian side, there are two requirements for cross border vehicles: (1) international circulation permit issued by Road Transport Agency of Malaysia (valid for 90 days, free of charge and 1 day processing); and (2) safety insurance for the vehicle. In this case, Malaysia recognizes Malaysian and Singaporean insurance. Therefore, Indonesian, Thai or cross border vehicle from other countries that want to enter Malaysian gate, should pay for these insurance from the third party, which is usually located in the Immigration Office/gates

There is also the operational issue on vessel and vehicle queuing for loading and unloading, as well as waiting for customs inspection.

In support of the ASEAN RO-RO project, the Port of Malacca intends to develop the required onshore CIQS infrastructure. The Port of Dumai plans to improve and add supporting facilities for CIQS. Additionally, they would seek clarifications on how to further improve the CIQS system.

Table 6.10 shows the CIQS facilities and systems at the Ports of Dumai and Malacca.

Table 6.10 CIQS Facility Condition in Dumai and Malacca Port

Item	Dumai	Malacca
Port Name	Dumai Pelindo Port	Tanjung Bruas Port
<i>CIQS Facility</i>		
Building	Security Post and Gates Police Station Customs Office Immigration Office Quarantine Office Passenger Waiting Room	Security Post and Gates Multifunction Building (for future passenger terminal and CIQS)
Facility	X-Ray Machine Walkthrough Metal Detector Handheld Metal Detector CCTV CCTV Monitor Room Permanent Fence Temporary Fence Street Poles and Lights	X-Ray Machine Walkthrough Metal Detector Permanent Fence Temporary Fence
<i>CIQS Service</i>		
Service Hours	Irregular (Mostly 07:00 – 16:00)	Irregular
Operational System	<ul style="list-style-type: none"> The operation system adopts Single window system with custom, immigration and security checks are done in a single corridor and more integrated area. However, the room used for such activities is too small. Basically, Dumai Port follows the national standard by implementing two types of import lanes used, namely, Green Line and Red Line. Green Line, trusted line, is measured by reliability of shipper. It usually took about 2 minutes process with the latest is 1 hour. One hour scenario would happen if a technical problem occurred such as broken computer, off electricity etc. in this kind of line, there is no need to do physical inspection. The second line is Red Line, this line will take maximum 3 days process including physical inspection, but in fact as long as shipper document complete, it usually take 1 day only. However, In Dumai cases, since the CIQS does not operate 24 hours, many vessels wait for more than three days for cargo inspection process. 	No specific information
Major Issues	<ul style="list-style-type: none"> Unofficial import products Cross border vehicle treatment differences between Indonesian side and Malaysian side Vessel queuing for loading and unloading (as well as waiting for customs inspection) 	Preparation of RO-RO Malacca - Dumai
<i>Coordination with other country</i>		
Cross-border Agreement	<ul style="list-style-type: none"> There is no specific agreement between Dumai and other foreign border cities (such as Malacca or Penang). However, In case of Dumai – Malacca, both local governments have conducted several meetings and coordinations to realize the implementation of RO-RO Dumai-Malacca (including the topic to synchronize the CIQS regulation) Coordination between Indonesian government and Malaysian government were taken several times to solve the treatment differences between Indonesian side and Malaysian side So far, Indonesia government follows Ministry of 	Same as Penang, Malacca has not engaged to any agreement in government to government (G to G) concept with neighboring countries regarding cross border vehicle. However, Malaysia government stipulated two requirements for cross border vehicle, which among others: (1) one international circulation permit issued by Road Transport Agency of Malaysia (valid for 90 days free of charge and 1 day process), and (2) safety insurance for vehicle. In this case, Malaysia recognize Malaysian and Singaporean insurance. Therefore, Indonesian, Thailand or other countries cross border vehicle want to enter Malaysia gate,

	<p>Finance Regulation Number 142/2011 regarding Temporary Import, where cross-border vehicles will be treated as temporary import product which given free import duty. However, the regulation mentions if in order to prevent smuggling, customs will ask for cash or custom bond that is released by insurance company or bank guarantee as a safety guarantee. This safety guarantee will be released back at the time when the vehicle going back to origin country</p> <ul style="list-style-type: none"> • According to regulation, the amount of money released for safety guarantee is equivalent with the price of import duty for its vehicle, usually about 40% to 50% of its vehicle price 	<p>they should pay for these insurance from the third party, usually informed in the Immigration Office/gates.</p>
Export-Import	<p>Dumai is a center distribution point for Riau Province area and hinterland areas in border provinces such as West Sumatera, Jambi, and Bengkulu. Most of exporter from those areas deliver their products via Dumai Port.</p>	<p>If RO-RO Malacca – Dumai opened, there are several potential commodities will be served according to Malacca Port Administrator which among others: Maize, Corn, Animal, Steel Coil, Ion, Gases (by pipe).</p>
<i>Other related matters</i>		
Regulation for Truck and Port	<p>No specific regulation provided by the government to control truck movement</p>	<p>No specific regulation provided by the government to control truck movement</p>
Future CIQS Improvement Plan	<p>Customs Office concerned on several aspects that should be solved before ASEAN RO-RO service operated, which among others:</p> <ul style="list-style-type: none"> • Regulation to treat passenger cars from foreign country must be clear • Reconsidering the implementation and price of guarantee for temporary import products • Possibility to conduct local government to local government agreement for customs policy in RO-RO service area • Additional supporting facility number should be improved, such as X-Ray, Cargo Detector, etc 	<p>There is no existing CIQS infrastructure and implementation in Tanjung Bruas Port. However, the port is planned to implement the onshore CIQS infrastructure in order to support future plan of RO-RO operation as follows:</p> <ul style="list-style-type: none"> • Office Building: (a) for customs, immigration, quarantine, police, and JPJ for RO-RO operation with praying room and toilets, (b) single storey covered steel structure: 4.5 m width x 43.6 m length x 3.3 m height, (c) office Size: 2.80 m width x 2.65 m height x 3.30 m length. • Inspection Posts: (a) 2 NOS Immigration, 1 NO each customs, JPJ and Police, (b) metal roof, half brick, tinted glass with sliding window in both sides, (c) posts size: 1.20 m width x 2.55 m height x 2 m length. • Inspection Parking Bays and Vehicle Lay-by • 4 m Lane Width • All other related infrastructure like lighting, drainage, sewerage, concrete road barriers, building M&E, etc

6.6 Stakeholders' Views

Plans to open RO-RO services between Malacca and Dumai have been discussed since many years ago. The Riau side sent a couple of missions to Malacca to identify RO-RO shipping business environments, including a counterpart port of Dumai.

Malacca State took an action to appoint Invest Melaka as a potential RO-RO operator. Two companies, Kemajuan Amoy Sdn. Bhd. and Melewar Integrated Engineering Sdn. Bhd., with support from Invest Malacca, made engineering preparations (e.g., contracts, development and expansion of RO-RO terminal and support facilities, RO-RO ship designing of 500 GT) to operate RO-RO services at Tanjung Bruas Port. The report was submitted to the Chief Minister of Malacca State in December 2011.

The current terminal operator of Tanjung Bruas, SPPG, with a concession period of 21 years since 1992, considered the project unrealistic due to difficulty of traffic control between existing operation and additional RO-RO operation in the port. Some of the possible obstacles are the narrow jetty and limited land space for vehicles/ passengers' holding area. In addition, no demand forecast study had been conducted by the Malaysian side related to this plan.

In July 2012, the Ministry of Transport decided not to accept the Malacca proposal.

As in the case of Penang, Malacca has not made any government to government agreement with neighboring countries regarding cross-border vehicles. Malaysia only recognizes Malaysian and Singaporean insurance. Therefore, vehicles crossing the Malaysian border from Indonesia, Thailand or other countries should get third party insurance coverage, usually informed in the Immigration Office or border gates.

The Indonesian side might be better prepared to connect to the Malaysian side, since the former already operates domestic RO-RO services in Dumai. During the stakeholders' meetings, several operators showed an interest to participate in the Dumai – Malacca RO-RO operation, including SOEs and private operators. They shared similar concerns such as available RO-RO terminal at Malacca and institutional arrangements including Malaysian transit vehicles by Indonesian customs.

One of the infrastructure projects being discussed by the Governments of Malaysia and Indonesia is the Malacca Strait Bridge on the same corridor between Malacca and Dumai. Once completed, the 50 km long bridge would be the longest sea-crossing bridge in the world. There is a private-sector initiated project proposal. The Government of Malaysia currently appraises the proposal. Many stakeholders consider the project irrelevant and too expensive.

7 THE SULU SEA CROSSINGS AMONG BRUNEI DARUSSALAM, MALAYSIA AND PHILIPPINES

This section analyzes two route candidates: (i) Muara – Labuan – Brooke's Point, and (ii) Muara – Zamboanga.

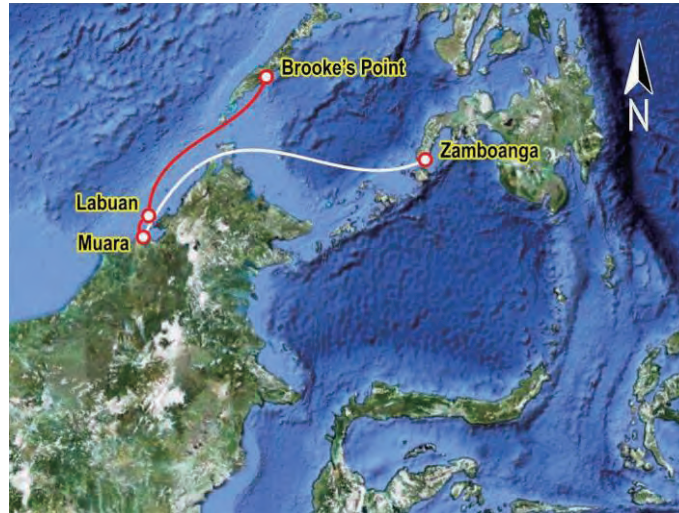


Figure 7.1 Surveied Routes

7.1 Economy and Trade

1) Muara, Brunei Darussalam

Brunei-Muara is one of the four districts of Brunei Darussalam. Located in the northernmost part of the sultanate, Brunei-Muara is the most important district because it covers the state capital, Bandar Seri Begawan, which is the center of the country's commerce, finance and government. Another major town in the district is Muara town. Brunei Darussalam (which means "Brunei, the Abode of Peace") is a small Islamic sultanate which became an independent sovereign country on 1 January 1984. It is situated on the northwest coast of the island of Borneo. It is bounded on the north by the South China Sea, and on all other sides by the Malaysian State of Sarawak. It has a total land area of 5,765 km², with a coastline of about 161 km along the South China Sea. Brunei's population in 2010 was around 415,000, growing at an average of 2% a year, and composed mostly of Malay, Chinese and other indigenous groups. About 67% of the population is Muslim, the rest being Christians, Buddhists, and others.

Brunei's economy has been dominated by oil and gas since their discovery in 1929. As such, the oil and gas sector is the main source of the nation's revenue, constituting about 90% of its exports and about 60% of its GDP. It is the fourth-largest oil producer in Southeast Asia, averaging about 167,000 barrels a day in 2009. It also is the ninth-largest exporter of liquefied natural gas in the world. Its oil reserves are expected to last 25 years, and natural gas reserves 40 years. However, new technology and potential onshore and deep sea fields are expected to add to the lifespan of the reserves. Like many oil-producing countries, Brunei's economy has followed the swings of the world oil market. After enjoying moderate growth in the mid-2000s, primarily due to high world oil and gas prices, this growth has fallen sharply in recent years. In 2009, GDP shrank from BND20.4 billion

(USD15.6 billion) to BND15.6 billion (USD12.0 billion), but recovered to BND16.9 billion (2.6% growth) in 2010 (see Table 7.1). While Brunei continues to have one of the lowest GDP growth rates of any ASEAN nation, it is also ranked as having one of the highest rates of macroeconomic stability in the world and the highest in Asia. At USD29,915 Brunei's per capita GDP is the second highest in ASEAN next to Singapore and one of the highest in the world.

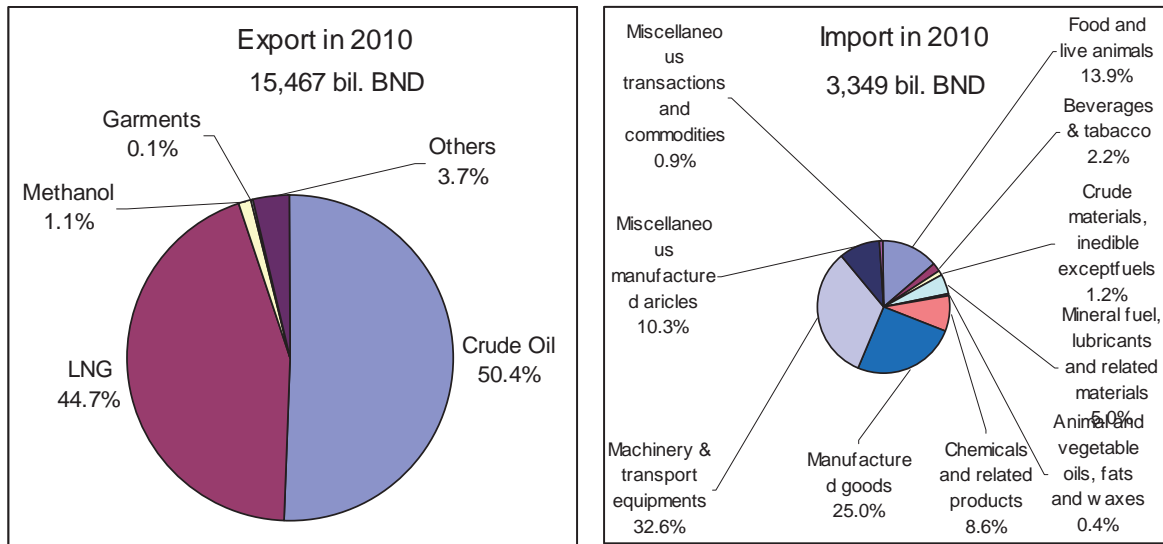
Table 7.1 Socioeconomic Indicators of Brunei Darussalam, 2006-2010

Year	Population	GDP at Current Prices (BND Million)	Per Capita GDP at Current Prices (USD)
2006	383,000	18,226	29,922
2007	390,000	18,458	31,582
2008	397,000	20,398	35,623
2009	400,000	15,611	26,385
2010	415,000	16,867	29,915

Source: Department of Economic Planning and Development, Prime Minister's Office; ASEAN Community in Figures 2011; UN World Statistics Pocketbook.

Despite Brunei's high dependence on oil and gas, this sector employs only 3% of the workforce. The public sector is by far the largest employer of Brunei's population, providing employment for over half the workforce. The government regulates the immigration of foreign labor out of concern that it might disrupt Brunei's society. Work permits for foreigners are issued only for periods of two years or less and must be repeatedly renewed. Despite these restrictions, the estimated 100,000 foreign temporary residents of Brunei make up a significant portion of the work force. Many foreign workers come from Indonesia, Malaysia, the Philippines, Thailand, and South Asia.

In 2010, Brunei exported a total of BND12.1 billion worth of products, mainly crude oil and LNG (see Figure 7.2). Brunei's non-petroleum industries include agriculture, forestry, fishing, aquaculture, and banking. The garment-for-export industry has been shrinking since the USA eliminated its garment quota system at the end of 2004. Nevertheless, with 75% of total garment exports valued at USD66 million, the USA remains the largest export market for garments. Since only a few products other than petroleum are produced locally, a wide variety of items must be imported including machinery and transport equipments, various manufactured items, food and animals, chemicals, mineral fuels, beverages and tobacco, inedible crude materials, and vegetable oils. The country imported a total of BND3.4 billion worth of these products in 2010. Nonetheless, Brunei has had a significant trade surplus throughout the past decade. Singapore, Malaysia, the USA, and China are the leading suppliers of imports in 2009.



Source: Brunei Darussalam International Merchandise Trade Statistics, 2010

Figure 7.2 Exports and Imports of Brunei Darussalam, 2010

Brunei's major export trade partner is Japan, which absorbed 44% of the sultanate's exports, while the ASEAN countries are its main import trade partners with a 51% share of imports (see Table 7.2). Malaysia is the biggest source of Brunei's imports from ASEAN, as they share a common border although the shares of Sabah and Sarawak in Malaysian exports to Brunei were only 6% and 10%, respectively. Major imports from Malaysia include refined petroleum products, edible products, medicines, manufactured tobacco, plastic products, machinery and equipment, cereals, animal feeds, cleansing products, and paper products. Most of this trade is with Peninsula Malaysia, but many food and live animals are imported from neighboring Sabah and Sarawak (see Table 7.3 for details of Brunei-Malaysia trade). Singapore is a close second as Brunei's import partner, followed more distantly by Thailand and Indonesia.

Table 7.2 Trade of Brunei Darussalam with ASEAN, 2010 (in BND Million)

Country	Export To	Import From
Cambodia	0.07	0.01
Indonesia	859.94	69.01
Laos	0.01	0.06
Malaysia Peninsular	156.90	649.85
Sabah	1.92	56.33
Sarawak	21.24	77.11
Myanmar	0.06	0.15
Philippines	8.31	7.95
Singapore	341.69	649.74
Thailand	106.28	178.75
Vietnam	8.97	7.45

Source: Department of Economic Planning and Development, Prime Minister's Office

Table 7.3 Trade of Brunei Darussalam with Malaysia, 2010 (in MYR 000)

	From Brunei Darussalam to Malaysia	MYR 000	From Malaysia to Brunei Darussalam	MYR 000
1	Petroleum oils, crude and crude oils	86,437	Petroleum products, refined	153,070
2	Alcohols, phenols, phenol- alcohols, and their derivatives	25,973	Edible products and preparations, n.e.s	101,618
3	Ferrous waste and scrap; remelting ingots of iron or steel	9,389	Medicaments (including veterinary medicaments)	78,507
4	Non-ferrous base metal waste and scrap, not elsewhere specified (n.e.s)	6,812	Tobacco, manufactured (whether or not containing tobacco substitutes)	50,337
5	Civil engineering and contractors' plant and equipment	5,227	Articles, n.e.s. of plastics	47,587
6	Telecommunications equipments, n.e.s, their parts and accessories used in Division 76	2,794	Civil engineering and contractors' plant and equipment	43,800
7	Special transactions and commodities	1,837	Cereal preparations and preparation of flour or starch of fruits or vegetables	38,522
8	Other machinery and equipment specialized for particular industries, and parts thereof, n.e.s	1,569	Feeding stuff for animals (not including unmilled cereals)	37,916
9	Tubes, pipes and hollow profiles, and tubes or pipe fittings, of iron or steel	1,092	Soap, cleansing and polishing preparations	34,918
10	Natural rubber, natural gums, In primary forms	1,090	Paper and paperboard, cut to size or shape, and articles of paper or paperboard	31,273

Source: Department of Statistics Malaysia

Brunei is a net importer of agricultural products. Its imports of crops, livestock, processed agricultural commodities, and food are much larger than its exports of the same (see Table 7.4). This presents opportunities for such imports via a RO-RO shipping route, though the reverse movement (that is, exports from Brunei) might not be expected.

Table 7.4 Major Agricultural Exports and Imports of Brunei Darussalam, 2009 (in USD 000)

	Item	Export	Item	Import
	Total Merchandise Trade	7,203,000	Total Merchandise Trade	2,454,000
1	Agricultural Products	1,216	Agricultural Products	291,312
2	Food and Animals	610	Food and Animals	235,151
3	Crude Materials	498	Cereals and Prep	86,663
4	Coffee,Tea,Cocoa	350	Beverages,Tobacco	44,391
5	Hides and Skins	158	Fruit,Vegetables	35,931
6	Meat and Meat Prep	93	Miscellaneous Food	32,711
7	Miscellaneous Food	59	Beverages	28,038
8	Cereals and Prep	35	Meat and Meat Prep	17,884
9	Fruit,Vegetables	29	Coffee,Tea,Cocoa	17,349
10	Beverages,Tobacco	27	Tobacco	16,353

Source: FAO, FAOSTAT: Trade Sheets

Looking at the trend of trade between Brunei and Malaysia and the Philippines, which are covered by the target RO-RO routes, there is a demand for imports from Sabah, but the exports to Sabah is small (see Table 7.5). Trade with the Philippines is even smaller.

Table 7.5 Trend of Trade of Brunei Darussalam with Malaysia and the Philippines
(in BND Million)

	Destination/ Source	2006	2007	2008	2009	2010
Export	Malaysia (Peninsular)	54.65	72.79	30.06	75.96	156.91
	Malaysia (Sabah)	0.92	7.15	1.56	0.45	1.92
	Malaysia (Sarawak)	8.15	12.08	11.64	87.28	21.24
	Philippines	1.07	1.42	215.31	33.21	8.31
Import	Malaysia (Peninsular)	505.13	517.8	588.88	572.17	649.86
	Malaysia (Sabah)	18.81	24.42	27.31	32.2	56.33
	Malaysia (Sarawak)	51.26	56.43	65.08	72.67	77.11
	Philippines	8.95	9.89	24.91	9.04	7.95

Source: Department of Economic Planning and Development, Prime Minister's Office

Tourism has become an important industry in Brunei. In the last five years, the government has mounted an aggressive tourism promotion campaign to attract more tourists. This campaign has so far paid off, as evidenced by the increasing number (except in 2009 at the height of the H1N1 scare and global financial crisis) of foreign visitors to the country, from 178,540 in 2007 to 225,029 in 2011. Half of this total came from the ASEAN region, mostly from Malaysia, Indonesia, Philippines and Singapore. Others mainly came from China, United Kingdom/ Ireland, Australia and New Zealand. About 60% of tourists come to Brunei either for work or to visit relatives/ friends while the rest go for holiday. An increasing share of leisure/ holiday visitors has been observed in recent years. Visitors arrive either through the Bandar Seri Begawan International Airport, Muara Port, Serasa Ferry Terminal, or by land. In 2011, nineteen (19) cruise ships called on Muara Port.

Muara Port, Brunei's main port and the gateway for trade, is 20 minutes away from Bandar Seri Begawan. Its dedicated container terminal, the Muara Container Terminal, is equipped with modern facilities, up-to-date machinery and equipment to handle large volumes of domestic and international container cargo traffic. The Muara Conventional Terminal handles general and other non-containerized cargoes. In 2009, Muara Port handled 85,060 TEUs equivalent to 928,000 MT of cargo. That year 1,726 vessels called on the port from seventeen (17) international and domestic port destinations. Its quay cranes can move 25 TEUs per hour and average vessel turnaround time was 22 hours. Its average occupancy rates for its local warehouses and its export zone are 49% and 69%, respectively.¹

Passenger ferry services are handled at the Serasa Passenger Ferry Terminal beside Muara Port. The terminal started operations in 2009, mainly to provide an alternative mode of transportation to nearby international destinations such as Labuan and Lawas (Sarawak). The average road travel from Brunei to Kota Kinabalu in Sabah, Malaysia takes six to nine hours, crossing three immigration checkpoints and two rivers using a small car ferry. During peak periods such as school holidays or long weekends, the queue for car ferries and customs checkpoints becomes even longer and more time-consuming.

2) Labuan, Malaysia

Labuan is a small island located between Brunei Darussalam and Kota Kinabalu, the capital city of the Malaysian state of Sabah. Labuan was proclaimed a Malaysian Federal Territory in 1984, which means that it is administered as part of the Federal Territory under the Central Government, and not as part of any Malaysian state. It became an International

¹ Source: Brunei Darussalam Ports Department, www.ports.gov.bn

Offshore Financial Centre (IOFC) in 1990. Today, Labuan has become a thriving free port, offshore oil and gas industry base, tourist destination, and a leading IOFC. The Federal Territory consists of Labuan Island (with a land area of 75 km²) and six other smaller islands, with a combined area of 91 km².

In 2010, it had a population of 83,920 which was growing at an average rate of 1.3% a year (see Table 7.6). Labuan's GRDP at current market prices was about MYR2,275 million in 2010, a growth of 6% over its year-ago level. The Per Capita GRDP for the same year was USD9,215.

Table 7.6 Socioeconomic Indicators of Labuan, 2008-2010

Year	Population	GRDP at Current Prices (MYR Million)	Per Capita GRDP at Current Prices (USD)
2008	nd	2,150	nd
2009	nd	2,147	nd
2010	83,920	2,275	9,215

Source: Department of Statistics, Malaysia

All major products such as agricultural products, construction materials, etc. come from outside of Labuan Island, such as from Sabah or Sarawak through land transport and then shipped in from Menumbok Port. Visitor arrivals to Labuan have been growing at a healthy average rate of almost 8% a year, to 733,053 by 2008. Most are domestic visitors, with only about 12% from other countries including Brunei, Indonesia, Vietnam and the Philippines.

Labuan Liberty Port is the main port of entry for vessels carrying general cargo, bulk cargo and containers in Labuan. It is a feeder port with oil and gas activity and also serves as a supply point between Malaysia and Brunei. Labuan is a free port and almost all facilities are owned by private sector, especially oil and gas companies such as Petronas, etc. The port has a cargo handling capacity of 100,000 TEUs annually. Despite its small size, the port has its own unique strengths compared to neighbouring ports because customs procedures are much more relaxed. By using the appropriate import-export customs declaration forms, goods can be cleared more speedily and without hassle. Average waiting time for berthing is less than half an hour, and maximum vessel waiting time at the port is only 1-2 hours. In 2011, the port handled 6,023 domestic ship calls and 2,330 international ship calls and had a cargo throughput of 3.8 million MT of imports and 8.8 million MT of exports (see Table 7.7). The port has a dedicated RO-RO terminal with a single berth.

Table 7.7 Cargo Movement and Ship Calls at Labuan Port, 2009-2011

Year	Ship Call		Import (MT)				Export (MT)			
	Domestic	International	Dry Bulk	General Cargo	Dangerous Cargo	Container (TEUs)	Dry Bulk	General Cargo	Dangerous Cargo	Container (TEUs)
2009	4,674	2,024	336,079	286,517	631,914	10,479	470,714	251,961	9,044,156	6,665
2010	5,588	2,028	1,040,430	269,892	892,042	2,505	778,645	233,305	9,921,521	1,315
2011	6,023	2,330	2,282,623	194,904	1,327,879	0	680,559	258,555	7,841,541	0

Source: Labuan Port Authority

Located just next to Labuan Liberty Port is the Labuan International Ferry Terminal, which was opened to the public in 2006. Labuan Development Authority (LDA) Labuan Holdings Sdn. Bhd. was appointed by Labuan Corporation to manage and operate the terminal. A centralized ticketing system, where customers can book and buy their tickets in advance to all destinations, is located at the ground floor of the terminal building. Five passenger ferries currently operate in Labuan; two are registered in Brunei Darussalam and three are registered in Malaysia. There is also one RO-RO ferry, the "MV Shuttle Hope" registered in Brunei. Labuan has several passenger shipping routes, namely Labuan-Kota Kinabalu and vice-versa (2 trips daily); Labuan - Menumbok (2 trips); Labuan - Sipitang (2 trips); Labuan - Lawas (1 trip); Labuan - Limbang (2 trips); and Labuan - Brunei, the only international passenger ferry (5 trips).

In 2011, more than 677,000 passengers passed through Labuan Port, including 332,000 to/from Menumbok (49% share) and 155,000 to/from Brunei (23%). The RO-RO service ferried over 40,000 passengers and 8,000 vehicles across Labuan and Muara, Brunei.

As a duty free port, Labuan can be a gateway to distribute products to Brunei, Indonesia, Malaysia and the Philippines. Manufactured goods can be produced specifically for export from imported raw materials, components, packaging materials, plant and equipment without taxes. These imports can be sourced from neighboring areas like Sabah and Sarawak.

Table 7.8 Passenger Movement at Labuan Port, 2005 and 2011

Destination	2005			2011		
	Arrival	Departure	Total	Arrival	Departure	Total
Menumbok	69,819	70,196	140,015	163,145	168,746	331,891
Sipitang	8,033	8,601	16,634	7,821	11,029	18,850
Kota Kinabalu	86,766	75,019	161,785	67,856	64,210	132,066
Limbang	13,740	14,229	27,969	16,098	19,083	35,181
Lawas	2,153	1,930	4,083	1,932	2,191	4,123
Brunei Darussalam	153,223	162,996	316,219	75,976	78,982	154,958
Total	333,734	332,971	666,705	332,828	344,241	677,069

Source: Labuan Port Authority

3) Brooke's Point, Palawan

Brooke's Point is one of the municipalities of Palawan Province, Philippines. Palawan is an archipelago of 1,768 islands, the southernmost of which are closer to Malaysia than to the rest of the Philippines. It is bounded on the west by the West Philippine Sea and on the

east by the Sulu Sea. Consisting of 23 municipalities and one component city, Puerto Princesa, the province has a total land area of 14,896 km². Palawan is part of Administrative Region IV-B or MIMAROPA (Mindoro, Marinduque, Romblon, Palawan).

In 2010, the MIMAROPA region had a population of 2.7 million. Palawan's population then was 893,000 (including Puerto Princesa), growing at an average of 2.4% a year (see Table 7.9). The region had a GRDP at current prices of PHP162 billion, translated to a Per Capita GRDP of USD1,188.

Table 7.9 Socioeconomic Indicators of MIMAROPA Region, Palawan and Brooke's Point, 2000 and 2010

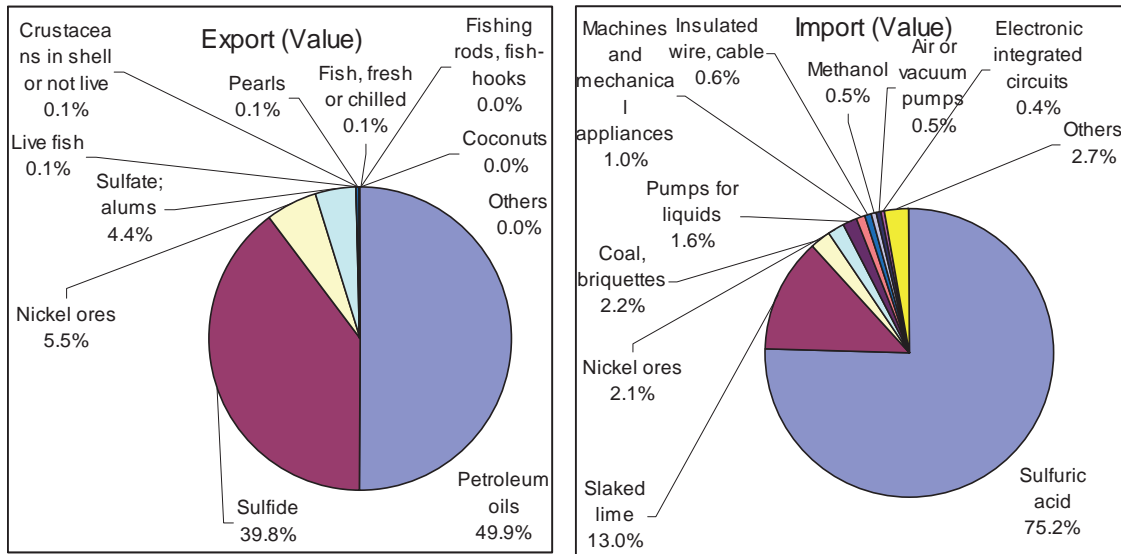
Year	Region/ Province/ Municipality	Population	GRDP at Current Prices (PHP Million)	Per Capita GRDP at Current Prices (USD)
2000	Region IV-B (MIMAROPA)	2,299,229	32,400 ^b	nd
	Palawan ^a	593,500	nd	nd
	Brooke's Point	48,928	nd	nd
2010	Region IVB-MIMAROPA	2,744,671	161,986 ^c	1,188 ^d
	Palawan ^a	771,667	nd	nd
	Brooke's Point	61,300	nd	nd

Notes: a-Palawan population data excludes Puerto Princesa City; b-2005 GRDP; c-2009 GRDP; d-2009 per capita GRDP converted to end-2009 dollar-peso rate

Source: National Statistics Office/ National Statistical Coordination Board, Philippines.

Agriculture and fisheries form the backbone of Palawan's economy. Its total production of major agricultural products in 2011 includes coconut (289,000 MT), rice (238,000 MT), cashew (125,000 MT), fruits (33,000 MT), and corn (22,000 MT). It is also a major producer of livestock including chickens, swine, ducks, cattle, goats and carabao, among others. The province's 176 fishing grounds supply 65% of Manila's consumption of fish including sardines, scads, anchovies, groupers, snappers, squid, mackerel, tuna, crevalle and siganid. In 2010, its commercial fishing sector produced 36,000 MT of fish, municipal fishing sector 187,000 MT, and aquaculture sector 457,000 MT. That year, Palawan exported a total of USD665 million worth of products while importing commodities valued at USD168 million (see Figure 7.3).

Palawan is also rich in natural gas and oil deposits (the largest in the country) and mineral resources such as nickel, chromite, copper, silica, marble, quicksilver, manganese, cement, uranium, limestone, barite, feldspar, sand, gravel, and guano. Aside from the Malampaya offshore natural gas-to-power project and a few mining concessions, much of the province's mineral deposits remain untapped due to the environmental protection and sustainability policy of local governments. Half of total export value is contributed by petroleum oils. Sulfuric acid and sulfide are also major import/ export items as they are raw materials and byproducts of the nickel and cobalt mining plant in Rio Tuba in Southern Palawan. Because nickel is exported to Japan and China, trade volume with those countries is high. The Philippines is the 8th biggest nickel producer in the world.



Source: National Statistics Office, Philippines

Figure 7.3 Exports and Imports of Palawan, 2010

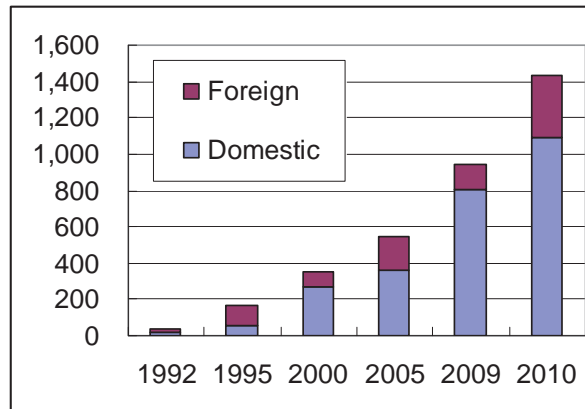
Japan, Korea, China, Thailand and Singapore are the top 5 trade partners of Palawan for exports (see 7.10). For imports, Japan, Malaysia, Korea, Indonesia and Taiwan are the major sources.

Table 7.10 Major Trading Partners of Palawan, 2010
 (FOB Value in USD 000)

Country	Export	Import
Indonesia	0	4,579
Malaysia	1	21,531
Singapore	7,902	1,886
Thailand	14,778	831
Others	642,685	138,753

Source: National Statistics Office (NSO)

Tourism is another major driver of Palawan's economy. About 524,000 tourists visited Puerto Princesa and the municipalities of the province, a substantial 52% growth from the year-ago level (see Figure 7.4). These consisted of 397,000 domestic (76% share) and 127,000 foreign visitors (24%). In the campaign for the Puerto Princesa Underground River (PPUR) as one of the final candidates in the "New 7 Wonders of Nature" worldwide competition, which culminated in its final declaration as one of the seven in March 2012, an even more dramatic surge in visitor arrivals to Palawan was registered in 2011 until the first quarter of 2012. From only a few flights until two years ago, there are now 22 Manila-Puerto Princesa flights everyday. Aside from the PPUR, Palawan's major tourist attractions, among many, include a wildlife sanctuary, wildlife parks, world-class dive sites and beaches, natural lakes, lagoons, cliffs and rock formations, and historical and cultural landmarks.



Source: Provincial Tourism Office, Palawan

Figure 7.4 Average Daily Tourist Arrivals in Palawan, 1992-2010

Brooke's Point occupies a total land area of 85.1 km², or almost 6% of Palawan's area. In 2010, the municipality had an estimated population of 61,300 with an average annual growth rate of 2.5%.

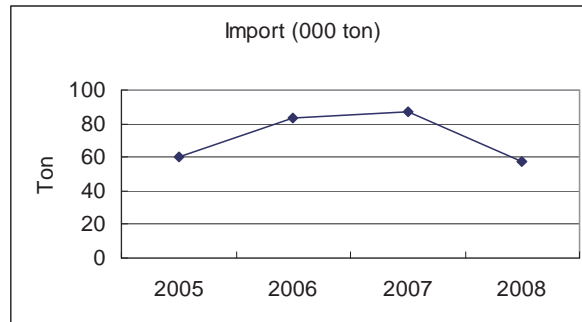
Agriculture and fishing activities are the main sources of income of most residents in the municipality. The principal products are copra, rice, corn, coffee, seaweeds and livestock like carabao, cattle and goat. The new product is palm oil which is developed in increasing hectareage of plantations.

As of 2008, there were 1,218 business establishments in the municipality, involved in wholesale and retail trade (62%), agricultural trading activities (13%), and hotels and restaurants (6%). Local tourism attractions include natural waterfalls and springs, mountains, nature resorts, parks and gardens. A total of 11,342 visitors, mostly domestic, were registered in 2011. The travel time between Puerto Princesa and Brooke's Point by private vehicle is about 3.5 to 4 hours on mostly asphalted and concrete paved road. The paving of many segments of this highway is ongoing.

There are 39 functional sea ports in Palawan. Only the ports of Puerto Princesa, Brooke's Point, Balabac, Coron and Cuyo are capable of berthing at least small inter-island vessels. The Puerto Princesa Port is the base port utilized for berthing passenger vessels, RO-RO/ containerized and general cargo vessels.

The Port of Brooke's Point is 192 km southwest of Puerto Princesa. The major commodities handled at the port are coconut and byproducts, corn, general and bottled cargoes, other consumer goods, chemicals and, until a few years ago, crude minerals. Incoming cargoes are cement, bottled cargoes, grains, machines and electrical equipment. Port linkages include Cagayan de Tawi-Tawi, General Santos, Dipolog, Balabac, Puerto Princesa, and Manila. The current import trade at Brooke's Point is very small, and export is not reported (see Figure 7.5).

There are 15 airports and airstrips in Palawan, including 3 national, 1 provincial, 1 military, and 10 private airports/ airstrips. Only the Puerto Princesa Airport can accommodate medium-range international airplanes. The rest are classified as feeder airports with substandard landing aids but can accommodate light to medium aircraft.



Source: National Statistics Office (NSO)

Figure 7.5 Foreign Trade at Port of Brooke's Point, 2005-2008

4) Zamboanga, Philippines

Zamboanga City is located at the southernmost tip of the Zamboanga Peninsula (Region IX) in Mindanao, Philippines. In terms of land area, Zamboanga is the third largest city in the country with a total land area of 1,483 km². In 2010, it had a population of 807,129 with an average growth of 3.5% a year (see Table 7.11). It is the only highly urbanized and independent city of Region IX.

Table 7.11 Socioeconomic Indicators of Zamboanga Peninsula Region and Zamboanga City, 2000 and 2010

Year	Region/ City	Population	GRDP at Current Prices (PHP Million)	Per Capita GRDP at Current Prices (USD)
2000	Region IX (Zamboanga Peninsula)	2,831,142	83,770 ^a	1,004 ^c
	Zamboanga City	601,794	nd	nd
2010	Region IX (Zamboanga Peninsula)	3,407,353	186,433 ^b	1,180 ^d
	Zamboanga City	807,129	nd	nd

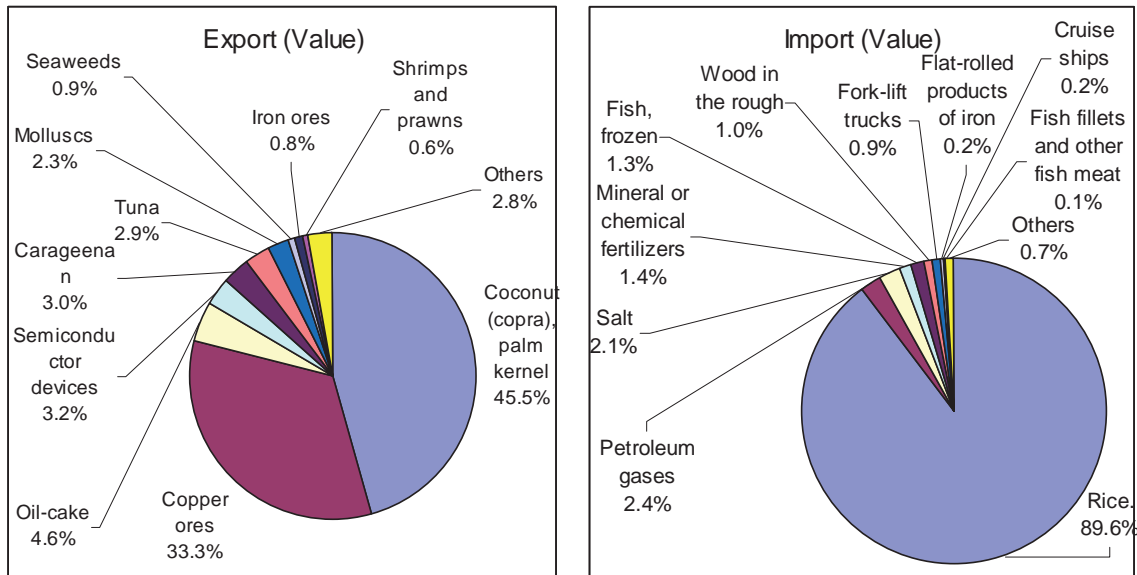
Notes: a-2001 GRDP; b-2009 GRDP; c-2001 per capita GRDP converted to end-2001 dollar-peso rate; d-2009 per capita GRDP converted to end-2009 dollar-peso rate

Source: National Statistics Office/ National Statistical Coordination Board, Philippines.

Zamboanga City's primary source of income is agriculture and aquaculture. It is a producer of rice, banana, coconut, mango, cassava, seaweeds, abaca, sweet potato, coffee, sugar cane, and rubber. It is also the home of all sardines processing plants in the Philippines, namely Permex, Mega, Universal Canning, and Columbus Canning (Century Pacific Group) which all export canned sardines to Europe and the USA.

The Zamboanga Peninsula is composed of three (3) provinces, namely Zamboanga del Norte, Zamboanga del Sur, and Zamboanga Sibugay; the four (4) component cities of Dipolog, Dapitan, Isabel, and Pagadian; and the lone chartered city of Zamboanga. The region has a total land area of 14,811 km² and a population of 2.8 million. Total exports from the region in 2010 were valued at USD177.2 million, with its top 10 exports consisting of crude and refined coconut oil, copper ore and concentrates, oil-cake and other solid residues, semiconductor devices, carrageenan, prepared and preserved tuna, mollusks, seaweeds and other algae, iron ores and concentrates, and shrimps and prawns (see Figure 7.6).

The principal export markets are China (39% share of total exports), USA (27%), the Netherlands (13%), South Korea (5%), Singapore (4%), Japan (4%), France (3%), Spain (2%), Malaysia (2%), and Mexico (1%) (see Figure 7.6). Some exports to Indonesia were also recorded but none to Brunei. Rice from Vietnam and Thailand is the premier import, making up 90% of total import value.



Source: National Statistics Office (NSO)

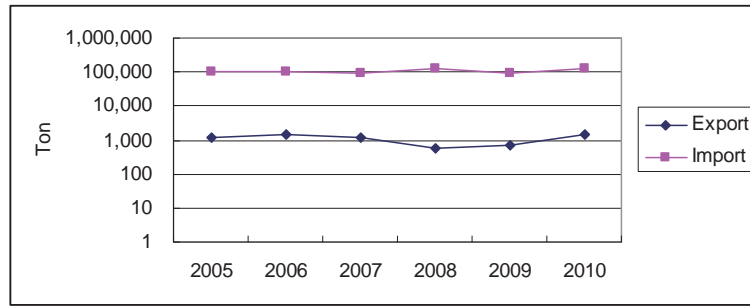
Figure 7.6 Exports and Imports in Zamboanga Peninsula Region, 2010

Table 7.12 Trading Partners of Zamboanga Peninsula Region in ASEAN, 2010 (by FOB 000 USD)

Country	Export	Import
Indonesia	53	9
Malaysia	3,266	882
Singapore	6,313	836
Others	167,534	74,318

Source: National Statistics Office (NSO)

The cargo trade volume handled at Zamboanga Port is relatively small, ranging from 200-300 MT daily (see Figure 7.7). Average annual growth of this volume is rather flat. Imports are about 100 times the volume of exports. The major commodities handled at the port are grains, crude minerals and other general cargo (see Table 7.13).



Source: National Statistics Office (NSO)

Figure 7.7 Trade at the Zamboanga Port, 2005-2010

Table 7.13 Export/ Import Commodities at Zamboanga Port, 2010 (in MT)

Products	Export			Import		
	Break Bulk	Bulk	Container	Break Bulk	Bulk	Container
Total	1,436			109,983	12,000	
Chemicals and related products	17					
Crude minerals					12,000	
Fish and fish preparations	12			25		
Fruits and vegetables and products	327			84		
Grains				108,803		
Other general cargo	1,059			1,071		
Sugarcane and by-products	21					

Source: National Statistics Office (NSO)

While there are many sea passengers going through the Zamboanga Port, over 10,000 daily, almost all of them come from domestic regions. Only about 1% of the total passengers are foreigners (see Table 7.14).

Mainly due to its physical attribute of having many proximate islands with significant populations and active inter-island commerce, the Zamboanga City Port has the highest passenger traffic, at 3.5 million annually, among the Mindanao ports. It is third nationwide, next only to Batangas and Tacloban Ports. It used to be the first in passenger throughput but volumes have declined over the years due mainly to the improved roads linking Zamboanga City to surrounding areas (which make overland travel and trucking more convenient and cheaper) and to competition from the new flights by budget airlines to surrounding islands.

The Zamboanga City Port's direct links include terminal ports to the island provinces of the Autonomous Region in Muslim Mindanao (ARMM) and to Sandakan. There are five homeported shipping lines in Zamboanga, namely Ever Lines Inc., Aleson Shipping Lines Inc., Sing Shipping Lines, Inc., Magnolia Shipping Corporation and Ibnerizam Shipping Lines Inc.

Table 7.14 Average Daily Sea Passenger Traffic at Zamboanga Port, 2008-2011

	2008	2009	2010	2011
Disembarking	4,473	4,806	5,523	5,103
Embarking	4,590	4,911	5,540	5,150
Foreigners: Disembarking				55
Embarking				49

Source: Zamboanga Port Management Office

Based on visitor arrivals in Mindanao, however, Region IX is the least visited region in 2010, garnering a total of 338,000 visitors (9% share in Mindanao) consisting of 317,000 domestic and 21,000 foreign/*balikbayan*² visitors. This comes up to about 930 visitors per day.

Three domestic airlines currently operate flights to Zamboanga City, through the Zamboanga City International Airport, from Manila (twice daily), Cebu (once a day), Davao (thrice weekly), Tawi-Tawi (once a day), and Jolo (thrice weekly).

² "Balikbayan" means either a Filipino citizen who has been continuously out of the Philippines for a period of at least one year, a Filipino overseas worker, or a former Filipino citizen and his or her family.

7.2 Corridor-wide Traffic

1) Muara - Labuan

The ferry services from Muara to Labuan (1.5 hours travel) onwards to Kota Kinabalu (3 hours) provides an alternative and more convenient route. At present, six (6) passenger ferries with 100-220 passenger capacities go to Labuan from Muara daily. Two (2) more ferry vessels service the Muara-Sundar/ Lawas routes.

The only passenger RO-RO vessel to Labuan, the "MV Shuttle Hope (482 GT)", can accommodate 200 passengers and 35 cars. Registered in Brunei, this RO-RO vessel is owned and operated by PKL Jaya Sdn. Bhd.

The vessel is a second-hand, 10-year old (considered relatively young) vessel from Japan. The vessel used to service the Muara-Menumbok (Sabah) route but this stopped several years ago due to low load factor. The company is planning to increase its Muara-Labuan trips to twice daily due to encouraging operational volumes. It is currently awaiting approval of the additional trip from the Malaysian Government.

The major cargos from Muara to Labuan are construction materials and daily commodities. The backload cargo from Labuan is fish or the vessels are sometimes empty. About 50% of passengers are Malaysian, about 20 – 30 % are Filipinos and about 10% are Indonesian. There are not so many tourists, and most of the passengers are laborers due to its lower tariff setting compared with that of the pure passenger craft.



Figure 7.8 Muara – Labuan Route



Figure 7.9 MV Shuttle Hope

Table 7.15 Muara- Labuan ROPAX Traffic

	Muara-Labuan		Labuan-Muara		Average per Day	
	Passenger	Vehicle	Passenger	Vehicle	Passenger	Vehicle
2010 Oct.	861	139	700	157	50	10
2010 Nov.	1165	206	1106	249	76	15
2010 Dec.	3690	585	3153	606	221	38
2011 Jan.	1336	283	1629	359	96	21
2011 Feb.	1721	348	1522	365	116	25
2011 Mar.	1614	275	1534	310	102	19
2011 Apr.	1038	262	1051	265	70	18
2011 May	1479	228	1698	368	102	19
2011 Jun.	2354	413	2000	423	145	28
2011 Jul.	1309	257	1434	298	88	18
2011 Aug.	1455	296	1456	364	94	21
2011 Spt.	2016	388	1958	396	132	26

Source: Marine Department, Labuan, Malaysia

The announced one-way fare from Labuan to Muara includes: (as of July 2012)

- Bicycle: RM 15
- Motorcycle: RM 70
- Sedan/MPV: RM 120
- VAN (Ford Transit type): RM 200
- Truck/Trailer/Lorry: (to be inquired to the administration office)
- Vehicle Driver: (free)
- Adult Passenger: RM 30
- Child Passenger (3-12 years): RM 15

2) Muara/ Labuan – Brooke’s Point

There is no shipping traffic record on the route. During the field survey, it was reported that unofficial/illegal trade was done along the shorter routes between Kudat, Sabah State, and the southern edge of Palawan Island by small traditional vessels.

For Brooke’s Point, live and fresh fish is a major export commodity. Part of the local products may be shipped out southwards through the "backdoor" on board traditional "kumpits" or motorized launches to nearby Kudat.

In order to promote tourism development in Palawan, Montenegro Lines, a Batangas-based passenger shipping company, has already opened passenger ferry services from Iloilo-Cuyo (Eastern Palawan) and Coron-El Nido (Northern Palawan) using 50-passenger RO-RO vessels. It is reported that Montenegro Lines is interested to service the Brooke’s Point-Labuan route.

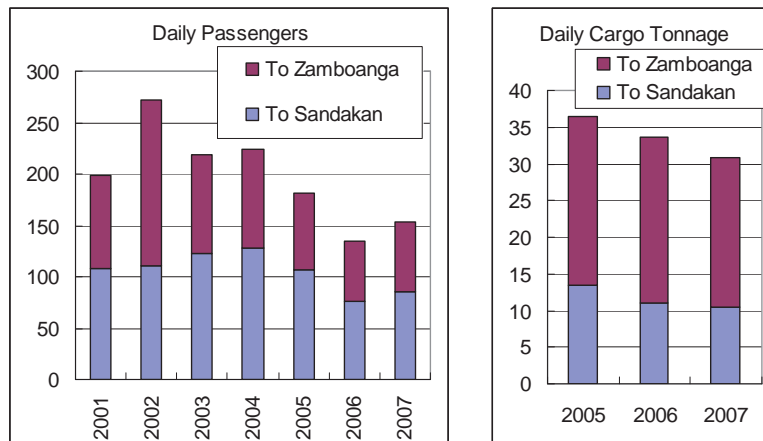
3) Muara – Zamboanga

The route is the longest at 537 nautical miles among the surveyed route. But the field survey did not find any shipping service.

However, between Zamboanga and Sandakan which is located in Sabah State at the midpoint on the Muara – Zamboanga route, there is a liner cargo passenger shipping service.

Aleson Shipping is the only shipping company plying the Zamboanga to Sandakan route (twice a week, every Monday and Thursday). A Malaysian shipping company, counterpart of Aleson Shipping, started to service the Sandakan-Zamboanga route some years ago but stopped after its initial trip. The main reason was the high CIQS fees charged at the Zamboanga side.

The shipping traffic, available up to the year 2007 only, shows that the traffic was stagnant in the mid of 2000s. The shipping service transported more Malaysian cargo than Philippine cargo while more passengers from Zamboanga. Such unbalanced passenger movement implies the continuous flow of Filipino immigrants to Sabah through Sandakan Port.



Source: Sabah Ports Sdn. Bhd.

Figure 7.10 Average Daily Traffic between Sandakan and Zamboanga

Like on the Muara/Labuan – Brooke’s Point corridor, barter trade/unofficial trade seems active partially. Minor traders/fishermen in the Sulu islands use Semporna, Sandakan as trading ports in Sabah. It is not realistic for them to extend their business trips to Muara on the west coast of Borneo Island by their non-convention vessels (NCVs).

7.3 Port Operation and Infrastructure

1) Port of Muara

(1) Overview of the Port

The port of Muara is located at Brunei Bay, facing the South China Sea, approximately 27 km east from Bandar Seri Begawan, the capital of Muara. The Port of Muara is an international and gateway port of Brunei Darussalam. Port waters are sheltered by Pual Muara Besar.



Source: ezilon.com

Figure 7.11 Location of the port of Muara

(2) Natural Conditions

The quays of the port are located behind Pual Muara Besar Island and wave conditions do not affect use of the port almost. The tidal range is 2 m on average.

(3) Port Facilities/Layout

The vessels enter the port through the Muara Channel. The length of the approach channel is 4.8 km, the width is 180 m. The minimum depth of the channel is 13 m.

Several quays and jetties are located in the port. The Port of Muara means these container terminal and conventional terminal in general. Total length of the terminals is 861 m and the depth is 12.5 m. Serasa ferry terminal is located at the southwest of the container terminal. The location of these terminals is shown in Figure 7.12.



Figure 7.12 Location of Terminals

(4) Management and Operation

The port is under the management of the Ministry of Communications. The Ports Department is responsible for providing and managing port services and facilities.

The port is supported by several CIQS facility such as security posts, police station, custom office, immigration office, quarantine office, and passenger waiting room. It is also equipped with facilities for port security.

(5) Connection with Hinterland

Brunei Darussalam participates in the ASEAN Highway Project with two sections totaling 168 km. Due to separated territories within the country, there are 140 km-long and 28 km-long sections on ASEAN Highway No. 150. The first is the Muara-Jerudong-Tutong coastal road, which links the gateway port city of Muara and the oil-producing district of Belait. The second is the Pan Borneo Highway links among Brunei Darussalam and Malaysian cities from Kuching, Sarawak to Tawau, Sabah.

Muara –Tutong Highway, a 6-lane road with a median provides a convenient access between Bandar Seri Begawan and Muara. There is a truck ban regulation for some areas in the city center.

Access roads Muara Port and Serasa Ferry Terminal:

- Road width : > 21 m (including median)
- Number of lane : 6 lanes
- Pavement type : flexible pavement
- Weight limit : 8 tons (max. axle load)
- Freight vehicle type observed on site : Truck, articulated truck, car carrier trailer

- Passage of heavy vehicle : Prohibited in any regulated area, certificate of fitness issued by Brunei Road/Land Transport Department should be necessary
- Time/distance to the nearest city : ± 25 km, 30 min (to Bandar Seri Begawan)
- Future plan related to road infrastructure : -

(6) Future Development

There is a development project being planned, namely the Muara Export Zone at Pulau Muara Desal Island. In relation to the project, a container terminal with a capacity of 800,000TEU's is under consideration.

(7) Topics of RO-RO terminal

One passenger/RO-RO cargo vessel, MV Shuttle Hope, with a draught of 2.65 m is Shuttle Hope is deployed to the route between the Port of Labuan and the Port of Muara. At the Port of Muara, the vessel uses the Passenger and Vehicle Ferry Terminal. The terminal was designed as a RO-RO terminal and the project began in November 28, 2005 and completed in October 17, 2008 at a cost of B\$4.88 million.

The layout plan of the terminal is shown in the figure below and the situation at boarding can be understood from the pictures.

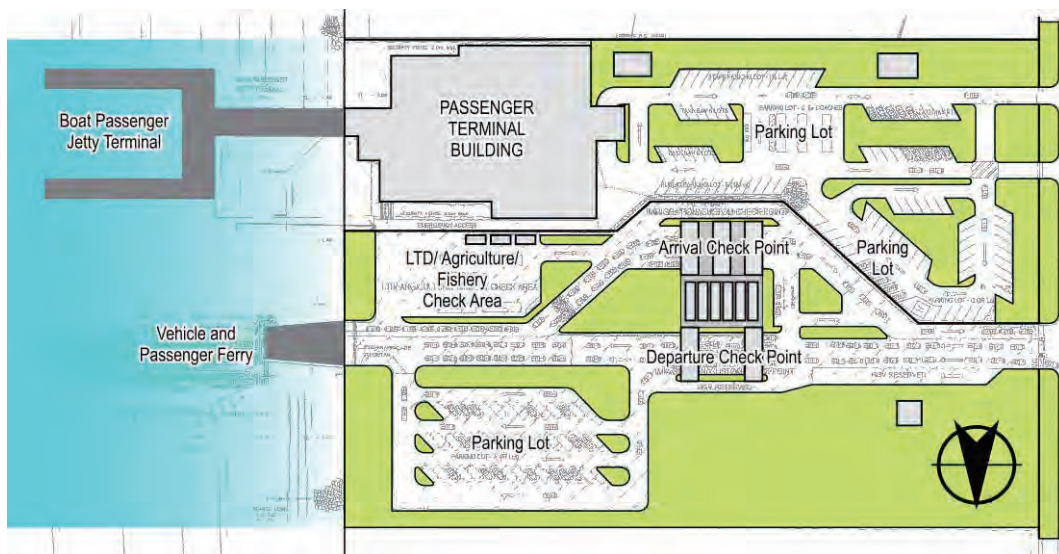


Figure 7.13 Layout Plan of Serasa Ferry Terminal



Figure 7.14 Boarding to Shuttle Hope at Serasa Terminal (Muara Port)

2) Labuan Liberty Port

(1) Overview of the Port

The port of Labuan is located in the Labuan Bay of the Labuan Island of East Malaysia. The public terminal which is named as Labuan Liberty Port is the main port of entry for vessels carrying general cargo, bulk cargo and containers in Labuan. A public wharf, ferry terminal, fishery port base, jetties of water taxi, marina and private dedicated wharves exist in the bay. The public wharf is named as Labuan Liberty Port. On the other hand, there are several private cargo terminals which are dedicated for specific cargo.

The port takes the important role in transshipment for Brunei, northern Sarawak and western Sabah and passenger traffic between Labuan Island and Kalimantan Island.



Figure 7.15 Layout the port of Labuan

(2) Natural Conditions

The port facilities are located in the bay area and they are free from typhoon and other bad weather conditions. There are deep anchorage areas of about 11-21 meter draft in the bay.

(3) Port Facilities/Layout

The layout of terminals for public use is shown in Figure 7.16. The main wharf has two outer berths and two inner berths and is 19.5 m wide and 244 m in length. Dolphins are 30.5 m from each end. It can accommodate vessels up to 16,000 DWT. The recommended arrival draft is 8.68 m. Next to the wharf, a ferry terminal with three-story-passenger building is located. (see Figure 7.16).

It has a 244-meter long jetty with a draft of 8.54 meter and the capacity to handle vessels of up to 16,000 DWT. Outline of the terminals are shown in Table 7.16.



Figure 7.16 Port Layout

Table 7.16 Outline of Main Wharfs

Wharf	Length (m)	Depth (m)	Vessel Size (DWT)	Note
New Liberty Wharf	244.0	10	16,000	
Labuan Passenger Terminal	20.0	-	-	
Terminal (pontoon)	8.0	-	-	
Victoria Wharf	83.6	4.6	-	
Shell Jetty	213	9.4	6,000	Petroleum
Iron Ore Jetty	220	18	150,000	Iron Ore
Methanol Jetty	650	13	35,000	Methanol
Asian Supply Base Jetty	120	8	6,000	Offshore
Sabah Flour Mill Jetty				Wheat & maize

Source: www.llpm.com.my

(4) Management and Operation

The port of Labuan falls under purview of the Marine Department of the Central Government. Labuan Liberty Port Management Sdn. Bhd. is the operator of Labuan Liberty Port and provides port and port-related services including cargo handling services, container services, storage services, transportation, and fresh water supply.

Regarding passenger terminal, LDA (Labuan Development Authority) Labuan (Holdings) Sdn. Bhd. was appointed by Labuan Corporation to manage and operate the terminal.

Related to CIQS agencies, the key agencies involved in the Customs, Immigration, Quarantine and Security (CIQS) processes are stationed in the port.

(5) Connection with Hinterland

The road networks in Labuan Island are generally in a good condition with asphalt pavement. This condition is one way to support the transport system of oil companies that develop in Labuan Island. The Labuan Port is in a 5-minute drive from the downtown area. Streets around the port are maintained well with 4 lanes and a median but traffic congestion near the port is expected to be getting worse in the coming decade. Hence, it is planned to consolidate all wharves and port functions at the opposite (western) side of the bay.

Being a small island, Labuan does not directly connect with the ASEAN Highway but the existing RO-RO service acts as a bridge between the island and Muara where ASEAN Highway No. 150 passes.

Access roads to Labuan Port:

- Road width : 10 m
- Number of lane : 2 lanes
- Pavement type : n.d.
- Weight limit : 10 tons (max. axle rating for single axle with 4 wheels)
based on Weight Restriction Order (Amendment) 2003 for Sabah & Sarawak area
- Freight vehicle type observed on site : n.d.
- Passage of heavy vehicle : n.d.
- Time/distance to the nearest city : Less than 15 minutes (to city center)
- Future plan related to road infrastructure : n.d.

(6) Future Development

The Malaysian Government conducted the feasibility study on the development of a new terminal aiming to provide better and bigger facilities and avoiding any congestion in the downtown area. The site of a new port is approximately 210 ha at the opposite side of the bay. In the study, the project will be completed within five years but the fund of the project is not yet arranged. (See Figure 7.17)

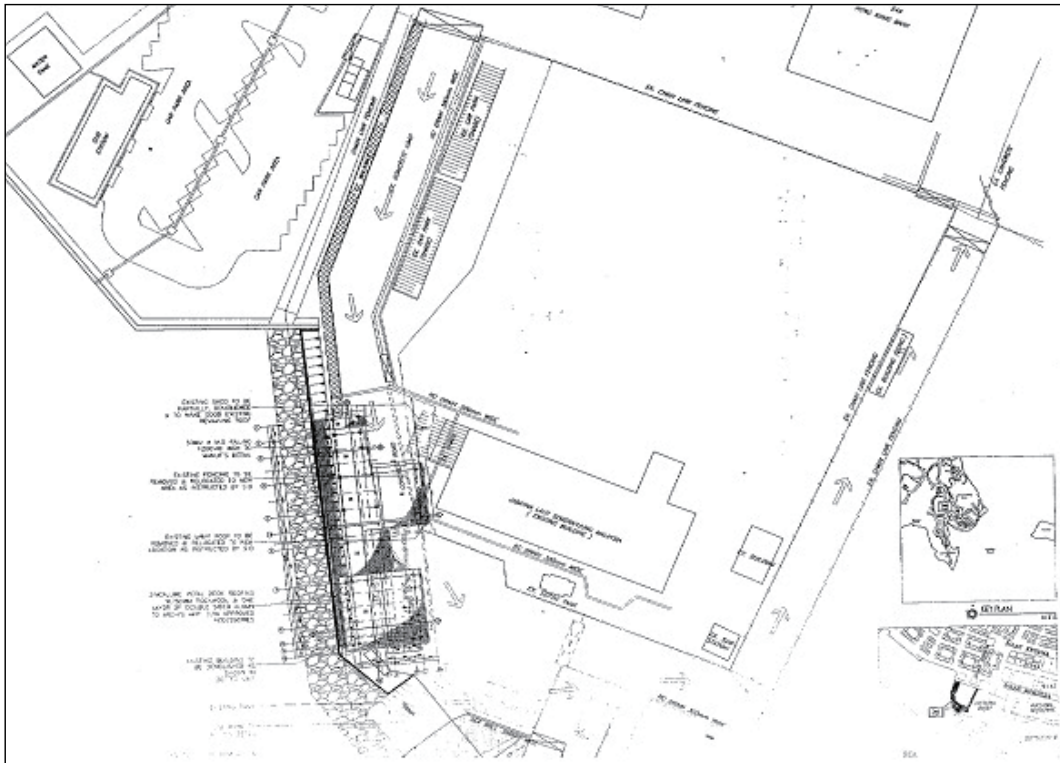


Figure 7.17 Port Site Development Plan

(7) Topics of RO-RO terminal

MV Shuttle Hope, a small RO-RO vessel plying between Muara and Labuan, arrives at the terminal which is located between Ferry Terminal and Labuan Liberty Port. The terminal is operated under poor conditions for vessels, vehicles and passengers. Only a slope is prepared for vessel arrival and vehicles and passengers get of the vessel using the ramp with the vessel. Transit place and clearance area is small and traffic lines of passengers and vehicles are not divided clearly.



Figure 7.18 Shuttle Hope at Labuan RO-RO Terminal

3) Brooke's Point Port

(1) Overview of the Port

The port of Brooke's Point is located 192 kilometers south of Puerto Princesa. The port linkages include Cagayan de Tawi-Tawi, General Santos, Dipolog, Balabac, Puerto Princesa and Manila. Brooke's Point is accessible by land and sea.

The port waters are shallow and only barges with a shallow draft can be accommodated at berth. A vessel with a deep draft has to stay at the sea of a distance of 400 m from the rock causeway pier and drop its anchor there.



Source: DPWH

Figure 7.19 Location of Brooke's Point

(2) Natural Conditions

The pier is exposed to northeast and southwest monsoons. Sea condition in the area varies accordingly to prevailing wind. Tidal range is 0.75 m between MHHW and MLLW.

The depth of the port waters is shallow but the sea area of 700 m from the shoreline has sufficient depth of 9 to 10 m.

(3) Port Facilities/Layout

The entrance channel starts three miles northeast from the lighthouse to avoid the coral reef.

The port area of 18,153.69 m² is composed of commercial area (2,329.51 m²) and operational area (15,823.18 m²). The layout of facilities and their outline are shown in Table 7.17.

Table 7.17 Main Port Facilities

Facilities	Outline
Quay	RC Pier of 12m wide x 60m long connected to an approach jetty of 6 m x 190 m.
Depth	-3.0 to -3.5 meters
Breakwater	4.5 meters x 150 meters
RO-RO Facilities	One RO-RO facility of 15 m x 25.00 m
Vehicle Parking Area	1,180 square meters
Passenger Terminal Building	375 square meters

(4) Management and Operation

The port is managed by the Philippine Ports Authority (PPA). Cargo handling and port service are carried by Prudential Customs Brokerage Service, Inc. (PCBSI).

Regarding port security, the Port Police Division (PPD) implements the ISPS Code. The PPA through the PPD ensures order and safety inside the port through the control of vehicles and pedestrians.

(5) Connection with Hinterland

The Port of Brooke's Point is 192 km southwest of the capital city of Palawan Province, Puerto Princesa. The average travel time between Puerto Princesa and Brooke's Point is 3.5 to 4 hours on mostly asphalted and concrete paved National Highway with 2 lanes. The paving of many segments of this highway and the reconstruction of decrepit bridges are ongoing. The travel time between the cities will be decreased by at least 30 minutes after the completion of the improvements. Land transport can be much better if road alignments would be improved in some sections going over hills. Furthermore, it would be encouraged to raise the load limit of the bridges from the existing limit of 10 or 20 tons to accommodate container trailers.

The Port of Brooke's Point is accessible by a two-lane concrete road only a kilometer away from the town center. Since the port is located at the edge of the downtown area and vehicles entering or exiting the port do not have to go through the busy areas to gain access to the National Highway, freight vehicles may not affect local traffic. If bigger trucks (around 10 tons or above) and trailers need to be used in Brooke's Point, road expansion is necessary because the existing access road is only 6 m wide and big vehicles cannot turn corners.

Palawan Island is not included in the ASEAN Highway network.

Port access roads:

- Road width : 6 m
- Number of lane : 2 lanes
- Pavement type : Rigid pavement
- Weight limit : 13.5 tons (max. axle load based on RA No. 8794)
45 tons (gross vehicle weight limit)
- Freight vehicle type observed on site : n.d.
- Passage of heavy vehicle : n.d.
- Time/distance to the nearest city : ± 192 km (to Puerto Princesa)
- Future plan (road infrastructure) : (Refer to Palawan 2nd DEO)

(6) Future Development

No information is available.

(7) Topics of RO-RO terminal

A RO-RO ramp facility of 15 m x 25.00 m is available at the port.

4) Port of Zamboanga

(1) Overview of the Port

The Port of Zamboanga is located on the southernmost tip of the Zamboanga Peninsula, in south-west Mindanao facing the Strait of Basilan. It is 460 nautical miles south of Manila, 365 nautical miles northwest of Kota Kinabalu, Malaysia and 345 nautical miles away from Manado, Indonesia.

The port plays a role not only as a shipping port of local products like copra and rubber, but also as a gateway to the neighboring countries called BIM.

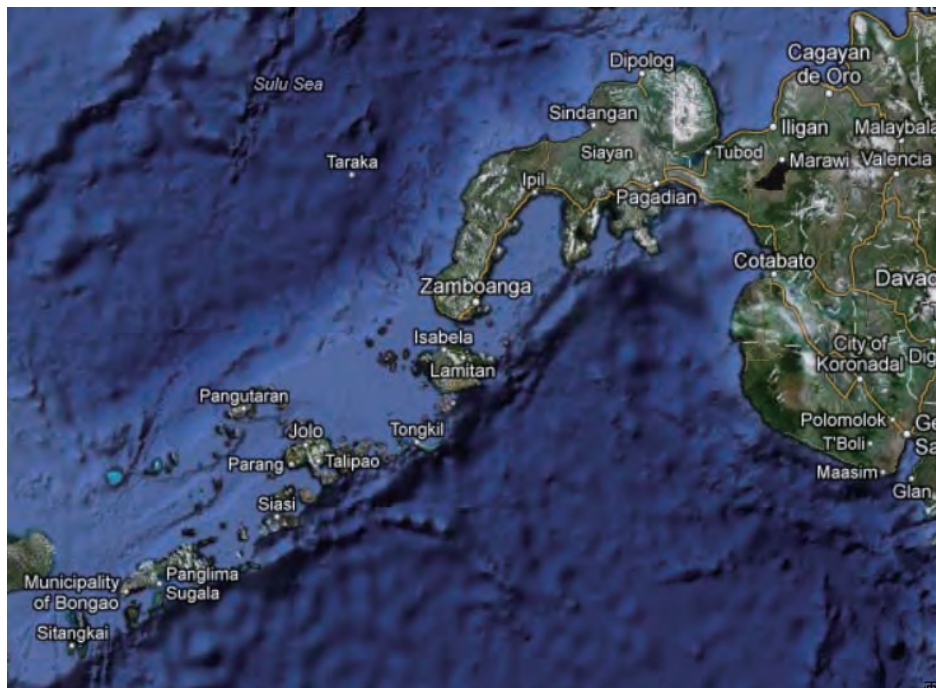


Figure 7.20 Location of Zamboanga

(2) Natural Conditions

No information available so far.

(3) Port Facilities/Layout

It has 9 berths totaling 1,536 m (without RO-RO ramps) including outer and inner berths (13 m deep), T-head pier, finger pier, 2 RO-RO ramps, and a marginal wharf. It has wide container yards and open storage areas, cargo handling gears and equipment, reefer facilities, container freight station, 1,300-seat capacity passenger

terminal, and a halfway house (operated by the Visayan Forum Foundation Inc. 24/7 to assist trafficking-in-persons victims³).

The layout of port facilities is shown in Figure 7.21. The outline of main facilities is shown in Table 7.18.

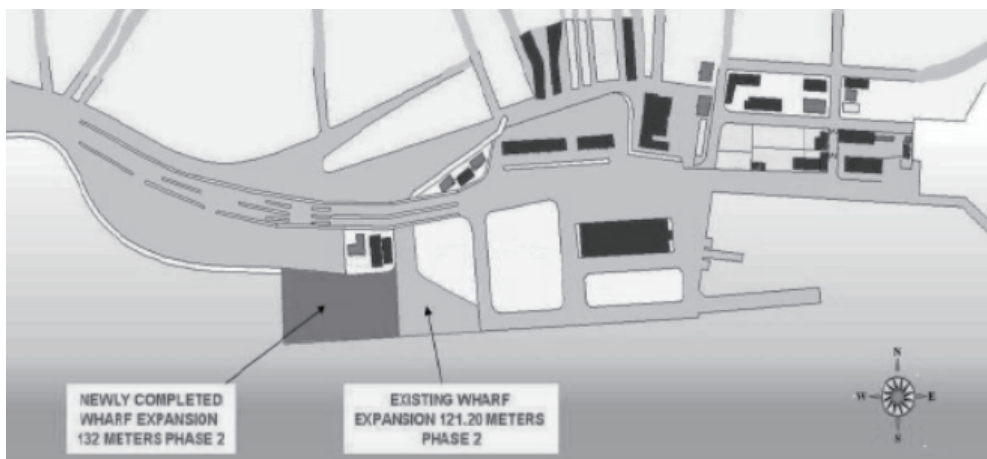


Figure 7.21 Layout of Terminal

Table 7.18 Outline of Main Facilities

Facilities	Outline
Berth	9 Berths, 1,536.5 m
Anchorage	Latitude 06° 53'40"N, Longitude 122°03'43"E
Container Yards	18,435 sq m (Phase I and II Expansion)
Marshaling Area	13, 700 sq. m.
Reefer facilities	12 outlets
Storage Spaces	Open Storage – 6200 sq m Paved Area – 5386 sq m
Transit Sheds	Container Freight Station 5,040 sq m
Passenger Terminal	PTB 1 – 1620 sq m (850 seats) PTB 2 – 960 sq m (450 seats)

Source: Port of Zamboanga

(4) Management and Operation

Port of Zamboanga is under the management of the Port Management Office-Zamboanga in the Port District Office-Southern Mindanao of the Philippine Ports Authority (PPA). There are plans for the port operation to be privatized.

(5) Connection with Hinterland

The hinterland road network of the port and city is linked to the main road traversing the eastern side of the Peninsula to Misamis Province and the rest of Mindanao. It is able to access the Pan Philippine Highway or ASEAN Highway No. 26 from

³ The Visayan Forum Foundation, Inc. is a non-government organization (NGO) under authority of the Department of Justice and supported by the City Government, National Bureau of Investigation, Philippine National Police, Department of Social Welfare and Development, and Task Force Zamboanga. It is reported that the NGO is also being financially supported by the US Agency for International Development.

Zamboanga Port in a few minutes. However, ASEAN Highway No. 26 has some sections to be repaired in rural areas.

The Zamboanga City Port is only 15 minutes away from the city center. The city road leading to the port is four-lanes (about 12 m wide) and is paved by concrete. Although most of road sections in the city center are two-lanes and they become congested during peak hours, trucks can use a truck corridor to avoid the city center.

Port access roads:

- Road width : 15 m
- Number of lane : 4 lanes
- Pavement type : Rigid pavement
260 lineal meters from national road (9 m wide with asphalt overlay)
- Weight limit : 13.5 tons (max. axle load based on RA No. 8794)
45 tons (gross vehicle weight limit)
- Freight vehicle type observed on site :
- Passage of heavy vehicle : There is no truck ban but trucks are restricted in certain areas during rush hours (7-9 am and 5-6 pm)
- Time/distance to the nearest city : ± 25 km, 30 minutes (to Zamboanga City)
- Future plan related to road infrastructure : Widening, extension or construction of toll road

(6) Future Development

The port has an expansion plan which aims at meeting the international standards and becoming an attractive port for private investors.

The 1st phase of the port expansion was done in 2005 covering 131.5 m in length with project cost of P300 million. The 2nd phase was completed in 2007, covering 149 m in length with P400 million total project cost. The quay of the port will be further expanded covering 150 m in length with the cost of P200 million from PPA funds.

Additionally, the port's ongoing program includes renovation of the passenger terminal, and possible privatization (one of the three Mindanao ports being eyed for privatization, together with Davao and General Santos).

(7) Topics of RO-RO terminal

No information is so far available.

7.4 Shipping Routes

1) Muara – Labuan – Brooke’s Point Route

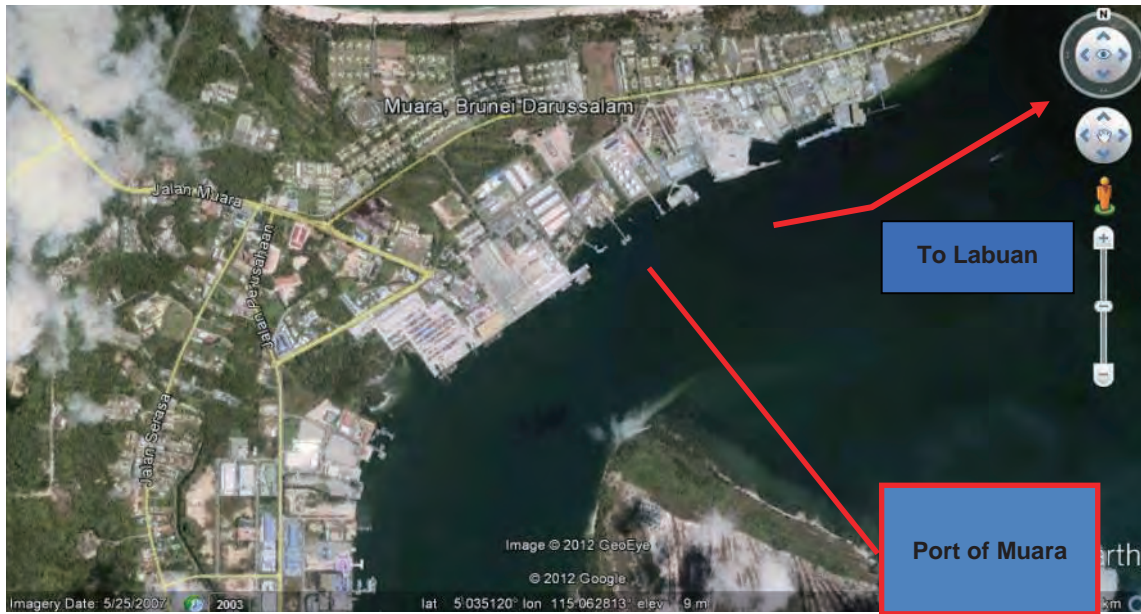
The Muara – Labuan link is a short crossing across Brunei Bay with a distance of about twenty (20) nautical miles, while that of the Labuan – Brooke’s Point link is more than 260 nautical miles sailing along the coast of Sabah and traversing on to the eastern coastline of the Island of Palawan. There is an existing daily RO-RO service between Muara-Labuan, which is being planned to be increased to twice daily. Presently, there are no scheduled services at Brooke’s Point.

The Port of Muara is the main port for Brunei Darussalam and its main city of Bandar Seri Begawan. It is located on the west coast of Brunei Darussalam, facing Pulau Muara Besar. The main entrance channel with a length of more than two and a half kilometers is dredged to 12.5 m. The Main Berth is maintained with a maximum depth of 13.5 m, while the RO-RO berth has a depth of depth 6-10 m. Pilotage and tug services are available and under the jurisdiction of the Marine Department. Application should be made at least 24 hours in advance to avail of these services. Please see Figure 7.22.

The Port of Labuan serves as the gateway port for the Federal Territory of Labuan, Malaysia, which is best known as an offshore financial center and a free trade zone. It has also become a tourist destination. The Port of Labuan is a naturally sheltered port within the Bay of Labuan. Pilotage is not compulsory, although a Pilot would be available if adequate notice is given. Vessels normally berth from 06.00-18.00 hrs, unberthing is possible throughout 24 hours, provided that notice of such movements is received from 08.00-16.00 hrs. Please see Figure 7.23.

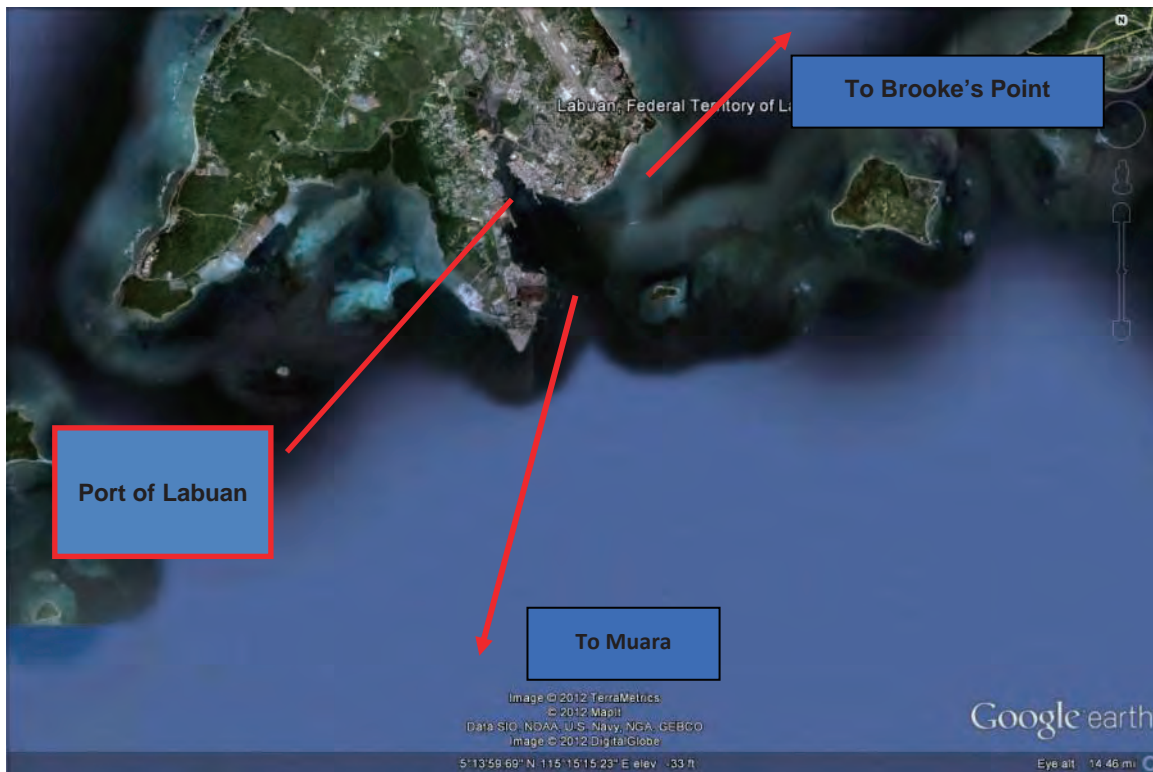
Brooke’s Point is a small town in the southern portion of the Island of Palawan. The Port of Brooke’s is a terminal Port under the administrative jurisdiction of the Port Management Office of Puerto Princesa of the Philippine Ports Authority. The port has a breakwater to shelter it from wave and wind actions, although it is situated very near the port itself. The entrance channel of the port starts three miles northeast from the lighthouse to avoid the channel coral reef. The pier exposed to northeast and southwest monsoons. The sea condition in the area varies accordingly to prevailing wind. Please see Figure 7.24.

See Annex 7.1 for more details.



Source: Google Earth

Figure 7.22 Port Channel at Muara



Source: Google Earth

Figure 7.23 Port Channel at Labuan



Source: Google Earth

Figure 7.24 Port Channel at Brooke's Point

2) Muara – Zamboanga Route

The Muara – Zamboanga route is the longest route in the proposed ASEAN RO-RO Network, covering 534 nautical miles. The voyage will follow the northwestern and northeastern coastline of Sabah and along Sulu Archipelago up to the Port of Zamboanga. Presently, there is no trading done between Muara and Zamboanga. There is an existing RO-RO service between Muara and Labuan, while for Zamboanga, its current trading partner is Sandakan.

The particulars of the Port of Muara were discussed in the preceding section.

The Port of Zamboanga is the primary port in the Zamboanga Peninsula in Western Mindanao. The port is located at the southern tip of the peninsula and is very close to the Central Business District of Zamboanga City. Vessels may approach the port from the west via Caldera Bay, from the south via the Isabela Channel and from the east via the Tictaoan Channel. The controlling depth of the water is 5-12 m depending on the berth to be used. Pilotage is compulsory for foreign-going vessels and domestic trade vessels over 500 GT. A 24-hours' notice required to avail of the service. Vessels approaching the port use international code signals for calling the pilot. The Pilot station is operational 24/7. Vessels must always berth against the tidal current because of the very strong current experienced at the port. Please see Figure 7.25.

See Annex 7.1 for more details.



Source: Google Earth

Figure 7.25 Port Channel at Zamboanga

7.5 CIQS Services

The CIQS services and facilities vary considerably among the four ports. The Ports of Muara (Brunei) and Labuan (Malaysia) have frequent international RO-RO service. The Port of Zamboanga has a scheduled international shipping route to Sandakan (Sabah). The Port of Brooke's Point is a small port at the tip of Palawan Island with no scheduled international shipping service, but only wooden hull, non-convention size ships plying informal trade with Kudat (Sabah) at an intermittent frequency.

The Ports of Muara and Labuan have extensive CIQS facilities and equipment to take care of the growing influx of people and goods using the RO-RO service. They have X-Ray Machines, Walkthrough Metal Detectors, Handheld Metal Detector, and CCTV cameras, among others. Both ports implement the "Single-window" system for ease and convenience of transactions. The CIQS service operates on a 24-hour basis.

Presently, an International Circulation Permit (ICP)⁴ is not necessary for vehicles from Brunei to enter Labuan territory. However, the Malaysian Ministry of Transportation will coordinate with Brunei Darussalam Ministry of Transportation for any possible change of ICP policy in the future.

The Port of Zamboanga is ISPS Code compliant. This is important considering that it handles international cargo bound for other countries other than just the Zamboanga-Sandakan route. For this reason, the international operation is physically separate from the domestic operation. It has complete CIQS facilities and services. It also uses the "Single-window" system. The problem is that there is an additional layer of screening being done by a non-government organization (NGO) prior to the CIQS procedures. This NGO focuses on anti-trafficking activities at the port. This additional layer of scrutiny causes numerous delays to passengers and to the vessel itself, forcing the vessel to delay its departure.

The Port of Brooke's Point has allocated offices for CIQS. However, there is not much international traffic at this port, hence the CIQS facilities and equipment are very limited.

Table 7.19 shows the CIQS facilities and systems at the Ports of Muara, Labuan, Zamboanga and Brooke's Point.

⁴ Currently, international transport vehicles entering Malaysia are required to secure International Circulation Permit (ICP) for private vehicles and for freight transport to obtain a vehicle entry permit from Public Land Transport Commission (PLTC) in Peninsular Malaysia or from Commercial Vehicle Licensing Board (CVLB) in East Malaysia.

Table 7.19 CIQS Facility Condition in Muara, Labuan, Brooke's Point, and Zamboanga Port

Item	Muara (Brunei)	Labuan (Malaysia)	Brooke's Point (Philippines)	Zamboanga (Philippines)
Port Name	Muara Port	Labuan Port	Brooke's Point Port	Zamboanga Port
<i>CIQS Facility</i>				
Building	Security Post Police Station Customs Office Immigration Office Quarantine Office Passenger Waiting Room Secure Parking	Security Post and Gates Police Station Customs Office Immigration Office Quarantine Office Passenger Waiting Room Secure Parking Health Emergency Room	No specific information	No specific information
Facility	X-Ray Machine Walkthrough Metal Detector Handheld Metal Detector CCTV CCTV Monitor Room Permanent Fence Temporary Fence Access Card Gate with Access Card Mirror Inspection for Vehicle Street Poles and Lights	X-Ray Machine Walkthrough Metal Detector Handheld Metal Detector CCTV CCTV Monitor Room Permanent Fence Temporary Fence Access Card Gate with Access Card Mirror Inspection for Vehicle Street Poles and Lights	No specific information	No specific information
<i>CIQS Service</i>				
Service Hours	24 Hours	24 Hours	No specific information	No specific information
Operational System	<p>The operation system adopts Single window system with custom, immigration and security checks are done in a single corridor and more integrated area.</p> <p>This Muara Port Custom Office concerned with the use of manifest especially for cargo handling by forwarding agents. According to the port regulation, consignee or forwarding agent should process their manifest to Shipping Agency. If the Bill Of Lading has already been endorsed "Freight Prepaid" then the consignee would not have to pay the freight to the local shipping agency. If the Bill Of Lading has been endorsed "Freight payable at port of discharge" the consignee would have to pay the freight at the local shipping office. The Shipping agency will issue the "Delivery Order" to the consignee or forwarding agent in exchange for the Bill Of Lading. (Alternatively the consignee or forwarding agent could produce the non-negotiable copy of the Bill of Lading for endorsement by the shipping agency to serve as a Delivery Order)</p> <p>The Consignee or forwarding agent with the Delivery Order or the endorsed copy of the Bill Of lading shall proceed to the Customs Office for endorsement by Customs. The types</p>	<p>Basically, Labuan Port already implement single window system for CIQS. Related to Customs Office, as a duty-free port, imports and exports from Labuan are not taxable. Thus, the role of the Customs Office in Labuan is to ensure that there are no export and imports of illicit goods. In addition, the Office also issues the final clearance for imports and exports that require special permits, such as pharmaceuticals, food, meat, fish and livestock.</p> <p>The most common Customs Forms used in Labuan are the following: K1 – Import K2 – Export K3 – Movement of goods within Malaysia K4 – Inward Manifest K5 – Outward Manifest K8 – Transshipment K10 – Port Clearance (clearance for last port of call for vessel)</p> <p>The forms indicate that Labuan Port is an international port and that the Customs Department, as is normal, plays a critical role in regulating port activities.</p> <p>Related to Immigration Department, The Immigration Department is involved in both Labuan Liberty Port and the adjacent International Ferry</p>	No specific information	No specific information

	<p>of Customs forms are commonly in use for import traffic and are obtainable from the offices of the shipping and forwarding agencies.</p> <p>The following documents required to be processed in Customs Office:</p> <ul style="list-style-type: none"> • Duly filled Customs Declaration forms • Delivery Order • A copy of non-negotiable Bill of lading • Supplier's Invoices <p>In case of Immigration, so far, not really much problem faced by Muara Port. The only problem is about visa on arrival. Not all country are free from visa on arrival. Country like Bahrain, Australia need to complete visa on arrival when they enter Brunei through Serasa Port. For employee coming from outside Brunei they impose employee visa. Among passenger come from Indonesia, Malaysia and Philipine, the most having problem related to immigration matter is come from Philipine passenger.</p>	<p>Terminal. Its task within Labuan Liberty Port is to check and clear the crew list of cargo and other vessels leaving and entering the Port.</p> <p>The Immigration Department, however, plays a central role at the Labuan International Ferry Terminal which is adjacent to Labuan Liberty Port.</p> <p>This is because the Terminal is an international gateway, with ferries connecting Labuan with Brunei Darussalam.</p> <p>The Immigration Department therefore checks all the international travel documents of passengers arriving from Brunei and vice versa.</p> <p>Unlike Sabah and Sarawak, where quarantine matters are under the purview of the state, quarantine agencies are under the control of Federal authorities in Putrajaya. In addition, there is also in place a policy to place all quarantine matters, except for Health, under a one-stop agency.</p> <p>While importers/exporters still have to apply for the respective import and export permits from the Fisheries, Veterinary or Plant Quarantine departments, physical checks of these imports and exports are carried by the Malaysian Quarantine and Inspection Services (MAQIS) established in July, 2008. MAQIS currently has the final say as to whether a consignment meets the requirements for export or import. It is only after MAQIS gives the nod that Customs can give the final release for the goods.</p>		
Major Issues	No specific information	No specific information	No specific information	No specific information
<i>Coordination with other country</i>				
Cross-border Agreement	<p>Muara Port engaged to a bilateral agreement with Labuan Port (Malaysia) under MoU on Establishment and Promoting Efficient and Integrated Sea Linkage which signed by Transport Ministries of BIMP-EAGA countries (Brunei Darussalam, Indonesia, Malaysia, and Philippines – East Asia Growth Area) on 2 November 2007 and Government Reference Letter: PC Conf.32/3/2005 (B) Pt. VI, dated on 29 September 2010. The agreement points are as follows:</p> <ul style="list-style-type: none"> • Roll-on/Roll-off (RO-RO) Ferry Service Operation for Wilayah Persekutuan Labuan, Malaysia - 	<p>Labuan Port engaged to a bilateral agreement with Muara Port (Brunei Darussalam) under MoU on Establishment and Promoting Efficient and Integrated Sea Linkage which signed by Transport Ministries of BIMP-EAGA countries (Brunei Darussalam, Indonesia, Malaysia, and Philippines – East Asia Growth Area) on 2 November 2007 and Government Reference Letter: PC Conf.32/3/2005 (B) Pt. VI, dated on 29 September 2010. The agreement points are as follows:</p> <ul style="list-style-type: none"> • Roll-on/Roll-off (RO-RO) Ferry Service Operation for Wilayah Persekutuan Labuan, Malaysia - 	No specific information	No specific information

	<p>Serasa Muara, Negara Brunei Darussalam route will be started on 4 October 2010 (Monday);</p> <ul style="list-style-type: none"> • The operator, Syarikat PKL Jaya Sdn. Bhd. which appointed by Brunei Darussalam Ministry of Transportation, will control the operation using RO-RO Ferry MV "Shuttle Hope," Brunei Flag; • Syarikat PKL Jaya Sdn. Bhd was approved to provide ferry service with two trips frequency from Labuan Regional Terminal in 1100 HRS and 1600 HRS • Syarikat PKL Jaya Sdn. Bhd should take on insurance for passengers in order to deal with any damage claim and compensation that may be happened during the ferry operation; • Syarikat PKL Jaya Sdn. Bhd should report to Jabatan Laut Wilayah Persekutuan Labuan not more than 60 days if they want to stop the ferry operation by temporary or permanent; • Any costs related to the operation of ferry service between Wilayah Persekutuan Labuan, Malaysia – Serasa, Muara, Negara Brunei Darussalam will be covered by Syarikat PKL jaya Sdn. Bhd, and no claim shall be addressed to Kerajaan Malaysia and Kerajaan Negara Brunei Darussalam; • Malaysia Ministry of Transportation and Brunei Darussalam Ministry of Transportation will grant an exemption of marine charges and terminal tariff to Syarikat Pengusaha Ferry as mentioned in the clause number 4.2. MoU on Establishing and Promoting Efficient and Integrated Sea Linkage which signed by Ministries of Transportation of BIMP-EAGA; • If there is any amendment to the sailing schedule or application of increasing the service frequency, the ferry operators should give an advance notice at least a week before to Jabatan Laut Wilayah Persekutuan Labuan, Malaysia for the purpose of berthing at Labuan Ferry Terminal; • At this time, International Circulation Permit (ICP) is not necessary for vehicles from Brunei to entry Labuan territory. However, Malaysian Ministry of Transportation will coordinate with Brunei Darussalam Ministry of Transportation for any change possibility of ICP policy in the future. • Ferry operator must comply with all applicable laws and regulations which provided and strengthened 	<p>Serasa Muara, Negara Brunei Darussalam route will be started on 4 October 2010 (Monday);</p> <ul style="list-style-type: none"> • The operator, Syarikat PKL Jaya Sdn. Bhd. which appointed by Brunei Darussalam Ministry of Transportation, will control the operation using RO-RO Ferry MV "Shuttle Hope," Brunei Flag; • Syarikat PKL Jaya Sdn. Bhd was approved to provide ferry service with two trips frequency from Labuan Regional Terminal in 1100 HRS and 1600 HRS • Syarikat PKL Jaya Sdn. Bhd should take on insurance for passengers in order to deal with any damage claim and compensation that may be happened during the ferry operation; • Syarikat PKL Jaya Sdn. Bhd should report to Jabatan Laut Wilayah Persekutuan Labuan not more than 60 days if they want to stop the ferry operation by temporary or permanent; • Any costs related to the operation of ferry service between Wilayah Persekutuan Labuan, Malaysia – Serasa, Muara, Negara Brunei Darussalam will be covered by Syarikat PKL jaya Sdn. Bhd, and no claim shall be addressed to Kerajaan Malaysia and Kerajaan Negara Brunei Darussalam; • Malaysia Ministry of Transportation and Brunei Darussalam Ministry of Transportation will grant an exemption of marine charges and terminal tariff to Syarikat Pengusaha Ferry as mentioned in the clause number 4.2. MoU on Establishing and Promoting Efficient and Integrated Sea Linkage which signed by Ministries of Transportation of BIMP-EAGA; • If there is any amendment to the sailing schedule or application of increasing the service frequency, the ferry operators should give an advance notice at least a week before to Jabatan Laut Wilayah Persekutuan Labuan, Malaysia for the purpose of berthing at Labuan Ferry Terminal; • At this time, International Circulation Permit (ICP) is not necessary for vehicles from Brunei to entry Labuan territory. However, Malaysian Ministry of Transportation will coordinate with Brunei Darussalam Ministry of Transportation for any change possibility of ICP policy in the future. 		
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	<p>from time to time by Kerajaan Malaysia and Kerajaan Negara Brunei Darussalam and comply with all applicable technical, operational, safety, and security requirements which set by Jabatan Laut in both countries and International Maritime Organization (IMO) and follow the Standard Operating Procedure (SOP) that provided by related agencies in both countries.</p> <p>In additions, as a part of ASEAN, this port which located under BIMP-EAGA and ASEAN agreements, will follow those agreement points which mainly regulate integration of cross border trade, immigration, and vehicle. The specific aspects related are as follows:</p> <ul style="list-style-type: none"> • Recognition of country domestic driving license and vehicle inspection • Handling on left hand driving and right hand driving • Tax and Insurance for cross border vehicle 	<ul style="list-style-type: none"> • Ferry operator must comply with all applicable laws and regulations which provided and strengthened from time to time by Kerajaan Malaysia and Kerajaan Negara Brunei Darussalam and comply with all applicable technical, operational, safety, and security requirements which set by Jabatan Laut in both countries and International Maritime Organization (IMO) and follow the Standard Operating Procedure (SOP) that provided by related agencies in both countries. <p>In additions, as a part of ASEAN, this port which located under BIMP-EAGA and ASEAN agreements, will follow those agreement points which mainly regulate integration of cross border trade, immigration, and vehicle. The specific aspects related are as follows:</p> <ul style="list-style-type: none"> • Recognition of country domestic driving license and vehicle inspection • Handling on left hand driving and right hand driving • Tax and Insurance for cross border vehicle 		
Export-Import	Muara Port handles livestocks, beverages, and general cargo, especially between Muara and Malaysia (Labuan)	No specific information	<ul style="list-style-type: none"> • No specific information 	No specific information
<i>Other related matters</i>				
Regulation for Truck and Port	No specific regulation provided by the government to control truck movement	No specific regulation provided by the government to control truck movement	No specific information	No specific information
Future CIQS Improvement Plan	No specific information	CIQS Facility will be moved if Labuan Port finally moved to the other side of bay, approximately 210 Ha area. So far, Malaysian government already have the Feasibility Study and now waiting for the funding.	No specific information	No specific information

7.6 Stakeholders' Views

1) Muara – Labuan – Brooke's Point

The local stakeholders in Brunei and Labuan seem to favor the existing Muara-Labuan passenger and RO-RO services, as evidenced by the sustainable operations of the ferry and RO-RO operators plying this route. These provide Brunei-based residents, workers (including foreign workers such as Filipinos, Indonesians and Malaysians) and tourists with a convenient mode of travel between Brunei and Malaysia.

The local stakeholders in Brunei are keen on better connection with Sabah and Sarawak through RO-RO ship to transport vehicles and containers at cheaper price. They appreciate recent highway improvement up to Kota Kinabalu.

It is difficult for Brunei stakeholders to pay attention to the Philippines, both Palawan and Zamboanga. Although they receive some Philippine local products and overseas workers, there is no direct route by sea and air. Brunei stakeholders do not have export commodity to those areas. They consider that they have a market in the country while they are not interested in local Philippine markets. Therefore, they did not show any business ideas if a new RO-RO shipping route is opened with either Brooke's Point or Zamboanga, during the stakeholders' meeting.

The local stakeholders in Brooke's Point are interested, and in fact have been waiting and working on it since 1998, to establish formal trade relations with Malaysia and/or Brunei. More recently, in 2005 and 2011, public-private delegations from Palawan conducted business missions to Brunei and Labuan and Sandakan, respectively, to explore possible linkages.

They feel that the Kudat connection will not prosper mainly because it is a small port and seems to be having difficulty (or may not be interested perhaps due to the thriving illegal trade of fish) in putting in the necessary CIQS facilities at the port, and the potential market in Kudat for Palawan's products is small. This is the main reason why they mounted the exploratory missions to Brunei, Labuan and Sandakan.

The Palawan stakeholders are now more interested to develop trade with Labuan and Brunei with the following considerations: (i) Brunei is a consumption nation that can absorb many products from Palawan, though it can send only oil and fuel in return; (ii) Brunei can be a source of investments for priority business projects in Brooke's Point and Palawan (e.g., coco oil mill, fish processing, livestock production and processing, tourism development); (iii) Labuan can be an entry point for Palawan's products, for onward distribution to nearby Malaysian markets (and, thus, possibly solve the constraint in directly exporting to Sabah due to pending territorial issues); and (iv) Labuan is a traditional trading partner and source of cheaper (duty free) consumer goods. For these reasons, the stakeholders welcome the JICA study to develop RO-RO connections between Brooke's Point, Labuan and Brunei and hope that the project will soon be realized.

2) Muara – Zamboanga

The Labuan Port operator thinks that if traffic demand from Muara or other places continues to increase, there may be a need to expand existing port facilities. The Labuan-Zamboanga route, however, seems quite far and there may not be enough demand to merit RO-RO services along that route.

As in other survey areas in the Philippines, local stakeholders in Zamboanga generally welcome the possibility of establishing direct international links to its ASEAN neighbors. However, a common reaction to the ASEAN RO-RO study is why Zamboanga is being directly linked to Muara and skipping Sandakan, its traditional trading partner and international destination port for many years. Muara seems to be very far and its trading and business opportunities are unknown to the Zamboanga stakeholders.

For years now, the business stakeholders in the processed sardines sector, a major industry in Zamboanga, have been exploring ways to establish more direct shipping routes to their existing and potential export markets. Currently, canned sardines on container vans are shipped from Zamboanga to Manila where they are transhipped to export markets. Local canning companies want to tap the big markets in Malaysia and Indonesia, where

canned sardines are up to 30% more expensive.⁵ However, they are looking for ways to avoid the circuitous Zamboanga-Manila-Malaysia or Indonesia routes and believe it would be more competitive to ship them out directly from Zamboanga to these countries. Canned sardines alone can fill up cargo vessels, RO-RO or containerized.

In addition to the political issues, a possible problem with Sandakan as a partner port for Zamboanga is that the former does not currently handle containerized cargo and also does not have RO-RO facilities. Muara, if ever, may be a limited market for canned sardines. A possible route that the Zamboanga fish canners would like to explore is Zamboanga-Labuan-Muara. This could open opportunities for supplying the Malaysian market, using Labuan as an entry/exit point and possibly circumventing the Sabah political issue. Local exporters and shipping companies are also interested to explore possible Zamboanga connections to Bitung (to tap the Indonesian market) and Singapore.

The Zamboanga stakeholders inquired if the shipping route should be limited only to RO-RO vessels. They believe that because RO-RO shipping is more expensive (due to the limited cargo space) than conventional containerized cargo shipping, there is only a limited radius/ distance where the former can be viable. Most ports also do not have the necessary RO-RO facilities. To convince shipping companies to invest in servicing the potential routes, either by RO-RO or conventional vessels, they need to see if there are enough cargo/ passenger volumes.

One problem is that most of the exports from Zamboanga are not recorded as such since they go to Manila as domestic cargo from where they are exported to foreign destinations. To guide shipping companies in their investment decisions, there is a need for government, perhaps the Department of Trade and Industry, to start gathering data on actual exports from the area. The government may also consider providing incentives (e.g., subsidies, reduced government fees, concessional loans) to shipping investors in the new routes.

Passenger traffic at Zamboanga Port to/from Sandakan is rather high. Zamboanga City is a popular jump off point for Filipinos working in Sabah, Labuan and Brunei. An interesting fact is that most of the passengers returning from Sandakan are Filipinos being deported/ repatriated to the Philippines either as illegal entrants/migrants or as victims of trafficking of persons. The presence of the Visayan Forum Foundation in Zamboanga has contributed to stricter monitoring, apprehensions and repatriation of illegal migrants and trafficking victims from Malaysia.

At the same time, however, the very tedious and stringent processing/ clearing of passengers at the Zamboanga City Port are causing delays and inconvenience to the timely schedule of vessel trips. In the case of MV Danica Joy, Aleson Shipping's 600-passenger capacity ferry service to Sandakan, the scheduled departure at 2:00pm sometimes leave as late as 7:00pm. The situation is made worse by the existence of unscrupulous groups that are "smuggling" illegal entrants to Malaysia hidden in compartments on small motorized bancas.

Aleson's vessels are semi-RO-RO but they do not load vehicles due to inadequate RO-RO facilities in Zamboanga Port. If the movement of passengers across the Zamboanga-Sandakan route continues to be affected by market forces and administrative delays, the company may stop servicing the route. They are exploring the opening of a Cagayan de

⁵ For example, according to one fish processor in Zamboanga, they are currently discussing with a Malaysian partner to supply canned sardines to Malaysia.

Oro-Camiguin service in Northern Mindanao, possibly a more lucrative route. None of the three domestic shipping companies covered in the field survey was interested to consider investing in RO-RO shipping services to any of the routes from Zamboanga Port. They are not sure of the viability of the operations due to the lack of demand and high cost of operations, including the change from domestic to international shipping licenses.

8 THE PHILIPPINE SEA CROSSING BETWEEN INDONESIA AND PHILIPPINES

This chapter reports the results of the field survey covering the Davao/General Santos – Bitung route.



Figure 8.1 Location of Surveyed Route

8.1 Economy and Trade

1) Davao City, Philippines

Davao City is the regional center of the Davao Region (Region XI) as well as the premier city in the whole of Mindanao Island of the Philippines. Region XI, located in the southeastern portion of Mindanao, consists of four provinces, namely Davao del Norte, Davao del Sur, Davao Oriental, and Compostela Valley, six (6) cities and 44 municipalities. The region encloses the Davao Gulf.

At 20,244 km², Davao Region is one of the largest in the country. As of 2010, the region's population was placed at 4.5 million, growing by an average of 2.5% a year (see Table 8.1).

Davao Region's GRDP in current prices in 2009 was PhP367.9 billion, the second highest in Mindanao (next to Region X). The regional economy has consistently grown through the years at an average of 5.3% per year. The Per Capita GRDP was placed at USD1,891.

The region's major agricultural products include bananas, coconut, palay, sugarcane, livestock, corn, fish and other tropical fruits (e.g., durian, mango). Although it is agriculture-based, the services sector contributes the biggest to its growth, followed by the industry sector. The trade subsector, which is largely agriculture-based, is the prime booster of the services sector. The region has a sizeable financial base. With over 270 bank branches and over 650 non-bank financial intermediaries, the region is considered a hub of financial services in Mindanao.

The region is a growing tourism destination, with tourist arrivals in 2011 recording a 2.5% annual increase to around 700,000, generating tourism receipts of almost to PhP10 billion. It has a wide array of tourism facilities such as hotels, resorts, restaurants, cafes, malls, medical facilities, as well as land, sea and air transport.

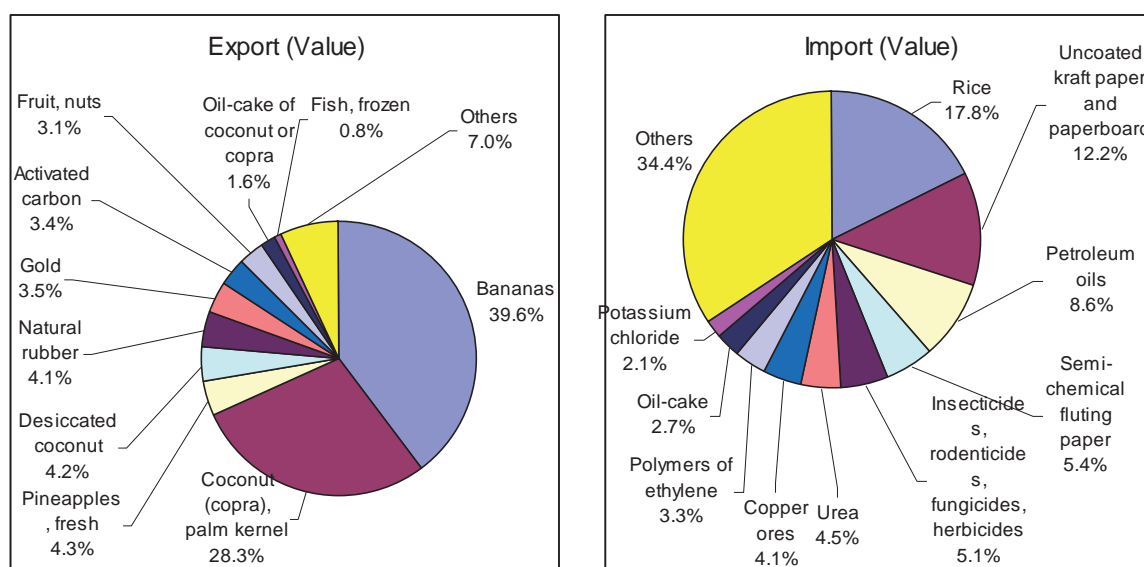
Table 8.1 Socioeconomic Indicators of Davao Region and Davao City, 2000 and 2010

Year	Region/ City	Population	GRDP at Current Prices (PHP Million)	Per Capita GRDP at Current Prices (USD)
2000	Region XI (Davao Region)	3,676,163	203,876 ^a	1,274 ^c
	Davao City	1,147,116	nd	nd
2010	Region XI (Davao Region)	4,468,563	367,903 ^b	1,891 ^d
	Davao City	1,449,296	nd	nd

Notes: a-2001 GRDP; b-2009 GRDP; c-2001 per capita GRDP converted to end-2001 dollar-peso rate; d-2009 per capita GRDP converted to end-2009 dollar-peso rate

Source: National Statistics Office/ National Statistical Coordination Board, Philippines.

In 2010, Davao Region's exports were valued at USD785 million. The major export products were banana, copra and pineapples which together account for 72% of total export sales (see Figure 8.2). The main imports were rice, kraft paper and petroleum oils. The value of import was USD702 million, resulting in a trade surplus.



Source: National Statistics Office (NSO)

Figure 8.2 Exports and Imports of Davao Region, 2010 (by Value)

Davao Region's top five (5) export trading partners are Japan, USA, Netherlands, China and Korea. Its major import sources are the USA, Vietnam, China, Thailand and Singapore. In ASEAN, Davao's significant trading partners are Singapore, Malaysia and Indonesia (see Table 8.2).

Table 8.2 Trading Partners of Davao Region in ASEAN, 2010 (by FOB 000 USD)

Country	Export	Import
Brunei Darussalam	0	11
Indonesia	3,690	30,297
Malaysia	20,479	14,945
Singapore	42,450	64,917
Others	718,267	591,704

Source: National Statistics Office (NSO)

Davao Port (also called Sasa Wharf) is an international container port, with around 90% of its cargo throughput containerized. The rest are either break bulk or bulk cargo (see Table 8.3).

Table 8.3 Export/ Import Commodities in Davao City, 2010 (in MT)

Products	Export			Import		
	Break Bulk	Bulk	Container	Break Bulk	Bulk	Container
Total		17,271	1,948,631	10,451	94,685	896,141
Abaca			1,427			
Animal feeds			777			49,471
Cement			508			
Chemicals and related products			32,867			44,499
Coconut and by-products			75,447			
Crude minerals						194
Fertilizer					49,966	52,006
Fish and fish preparations			3,836			5,280
Fruits and vegetables and products			1,257,014			10,838
Fuel and by-products					4,867	3,575
Furniture			523			4,414
Grains					34,629	32,013
Machinery and electrical equipment				647		14,684
Meat, dairy products and eggs						1,069
Metal ores, products and scrap		17,271	25,054		5,223	20,316
Other general cargo			483,456			395,974
Pulp and paper products			92			234,918
Sugar Cane & By-products			278			3,889
Textile and products						1,988
Transport equipment, parts and accessories				9,804		4,590
Wood and by-products			67,352			16,423

Source: National Statistics Office (NSO)

There has been a tremendous increase in domestic and international cargo being handled at the port over the last few years, making Davao Port among the busiest ports in the Philippines, next to Manila and Cebu. Operating 24/7, Davao Port handles about 50% of the total cargo volume in Davao including those at the 24 private ports in the area. Bananas constitute 80-90% of cargo going out of Davao Port, loaded in reefer vans for the export market and in boxes/ crates for the Manila market. Other outgoing cargo includes other fruits, rice, corn, plywood and lumber. Imports through the port include fertilizer, plastics, steel products, hardware items, and sometimes cement, though Davao-made cement is also a major export to Manila.

According to the Bureau of Immigration officials, about five foreign vessels (e.g., Russian, Vietnamese, etc.) call at Davao Port daily.

With its focus on cargo operations, passenger vessels no longer call at Davao Port. The existing passenger ferry terminal is now underutilized. There is no RO-RO facility at Davao Port. A private shipping company, Mae Wess, built its own RO-RO wharf in Sasa in 1994 to service its four RO-RO vessels currently plying the Davao City-Samal Island route.¹

The Davao International Airport is the busiest airport in Mindanao, with around 860 outgoing and 850 incoming flights per month, on the average, carrying close to 100,000 passengers (per way) monthly.

2) General Santos City, Philippines

General Santos City (or Gensan for short) is a chartered city in the SOCCSKSARGEN Region (Region XII). The region, located in central Mindanao, occupies a total land area of 19,166 km² and has an extensive coastline of 320 km. It is composed of four provinces (Cotabato, South Cotabato, Sultan Kudarat and Sarangani), five cities (Cotabato, General Santos, Kidapawan, Koronadal and Tacurong), and 45 municipalities. General Santos is the largest and most urbanized among the cities.

The SOCCSKSARGEN Region had a population of 4.1 million in 2010, growing by an average of 1.3% a year (see Table 8.4). Over the years, the region's GRDP exhibited irregular trends and recorded a slight shift in structure which remains predominantly agricultural.

Table 8.4 Socioeconomic Indicators of SOCCSKSARGEN Region and General Santos City, 2000 and 2010

Year	Region/ City	Population	GRDP at Current Prices (PHP Million)	Per Capita GRDP at Current Prices (USD)
2000	Region XII (SOCCSKSARGEN Region)	3,638,919	91,065 ^a	855 ^c
	General Santos City	411,822	nd	nd
2010	Region XII (SOCCSKSARGEN Region)	4,109,571	258,936 ^b	1,362 ^d
	General Santos City	538,086	nd	nd

Notes: a-2001 GRDP; b-2009 GRDP; c-2001 per capita GRDP converted to end-2001 dollar-peso rate; d-2009 per capita GRDP converted to end-2009 dollar-peso rate

Source: National Statistics Office/ National Statistical Coordination Board, Philippines.

From 2004 to 2009, GRDP grew by an annual average of 4.6%, lower than the targeted growth range of 5.8-6.4% in 2009. At Php258.9 billion in 2009, the region was the third largest economy in Mindanao, next to the Northern Mindanao and Davao regions. The Per Capita GRDP was placed at USD1,362 that year. The agriculture, fishery and forestry (AFF) sector contributed the biggest share to GRDP, though it slightly decreased from 43.6% in 2004 to 41.5% in 2009. Major AFF products include cultured and marine fish including high-value tuna, corn, coconut, fruits and vegetables.

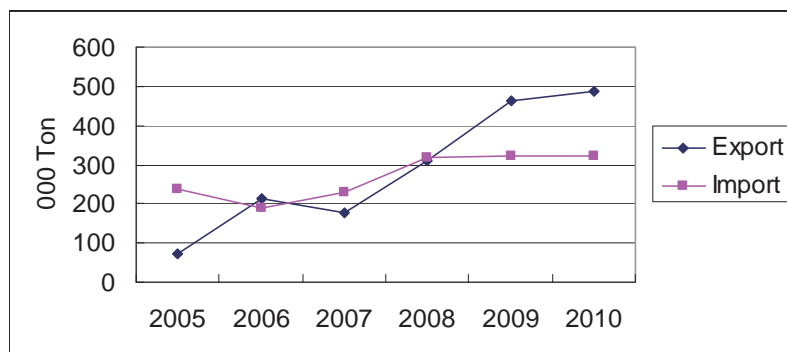
The decline in fishery production was attributed to the decline in commercial fishing due to the closure of Indonesian waters to foreign fishing, the ban on tuna fishing in parts of the Pacific Ocean (to allow fish re-stocking), and rising oil and fuel prices. On the other hand,

¹ The RO-RO vessels operate from 5:00 am to 11:00 pm. The trip across only takes 15 minutes.

the share of industry increased to 31.8% due to more intensive agro-industrial processing and manufacturing. The share of the services sector remained constant at around 27%. The tourism services subsector posted a sluggish growth.

Most of the region's agri-based manufactures are exported out of General Santos, where the major airport, seaports and logistics facilities are located. Exports have been growing by a robust average rate of 11% a year, to USD541 million in 2009. The marine sector dominates regional export trade accounting for 50% of aggregate exports with canned and fresh tuna taking up a combined share of 45%.²

The USA remains as the region's biggest export destination, followed by the European Union and Japan. The volume of trade (in terms of tonnage) in General Santos has been growing by an average of more than 20% a year. After 2008, exports have overtaken imports (see Figure 8.3).



Source: General Santos Port Management Office

Figure 8.3 Trade in General Santos City, 2005-2010 (in MT)

The major export commodities from the General Santos Port are fruits, vegetables, fish and their products, which are loaded on containers. The main import commodities are general cargo, metal ores and their products, crude minerals, pulp and paper products, fish and fish preparations, animal feeds, fruits and vegetables, and grains (see Table 8.5).

² The General Santos City Fish Port Complex is a large, modern fish port that yields a total daily capacity of 750 MT of fish catch and employs about 7,800 workers.

Table 8.5 Export/Import Commodities at General Santos Port, 2010

Products	Export			Import		
	Break Bulk	Bulk	Container	Break Bulk	Bulk	Container
Total	-	12,571	476,029	60,906	26,681	236,328
Abaca						36
Animal feeds			4,526			14,346
Chemicals and related products			72			3,258
Coconut and by-products			738			
Crude minerals			144		26,681	
Fertilizer						936
Fish and fish preparations			144,929			18,458
Fruits and vegetables and products		3,593	289,229			12,402
Fuel and by-products						360
Furniture			72			288
Grains			1,152	58,136		11,285
Live animals				1,241		
Machinery and electrical equipment						11,484
Metal ores, products and scrap		8,978	4,135	1,529		35,073
Other general cargo			25,776			90,691
Pulp and paper products						25,533
Sugarcane and by-products						1,854
Transport equipment, parts and accessories			108			10,324
Wood and by-products			5,148			

Source: PMO General Santos

An average of 400 passengers go through the General Santos Port daily (see Table 8.6). These come from other domestic ports in the Philippines.

Table 8.6 Average Daily Passenger Traffic at General Santos Port, 2008-2011

	2008	2009	2010	2011
Disembarking	166	148	141	196
Embarking	160	165	155	199

Source: General Santos Port Management Office

Most, about 80%, of the total export/ import cargo in General Santos is carried by container. This might mean that the market for RO-RO shipping should expect the shift from container.

3) Bitung, North Sulawesi, Indonesia

Manado is the capital city of and the main gateway by air to North Sulawesi province in the Republic of Indonesia. It is connected by good roads to the city of Bitung, located 55 km to the north. Bitung is the province's main sea gateway. North Sulawesi is located at the northernmost tip of Sulawesi Island. With a total land area of 13,930 km² and a population of 2.2 million (2009) growing by 1.2% yearly, the province is administratively divided into eleven (11) regencies and four (4) cities.

North Sulawesi's GRDP in current prices in 2009 was IDR33.0 trillion (see Table 8.7). The Per Capita GRDP amounted to USD1,613 growing by a steady 15% yearly. The biggest share of economic output was from the agriculture sector (20% of total GRDP), followed by the building sector (16%), and the trading sector (15%). The biggest contributor to the agriculture sector was the plantation subsector (36% share), and crops (31%).

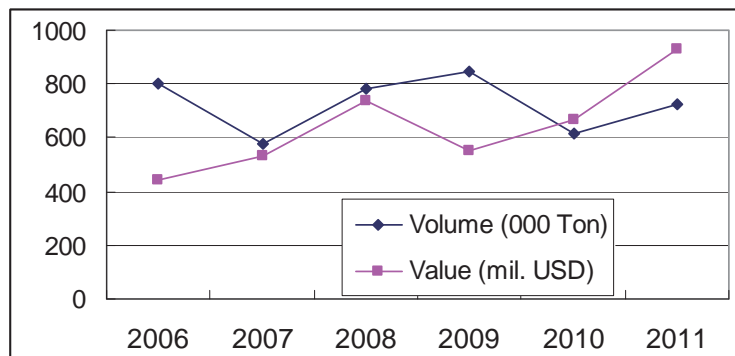
For the services sector, the biggest share was from large trading and retail subsector (80%), hotels (11%), and restaurants (5%). Tourism, mainly cultural and nature-based tourism especially marine tourism, is a major driver of the services sector.

Table 8.7 Socioeconomic Indicators of North Sulawesi, 2006-2009

Year	Population	GRDP at Current Prices (IDR Billion)	Per Capita GRDP at Current Prices (USD)
2006	2,160,641	21,216	1,068
2007	2,186,810	24,081	1,198
2008	2,208,012	28,698	1,414
2009	2,228,856	33,034	1,613

Source: Statistics of North Sulawesi

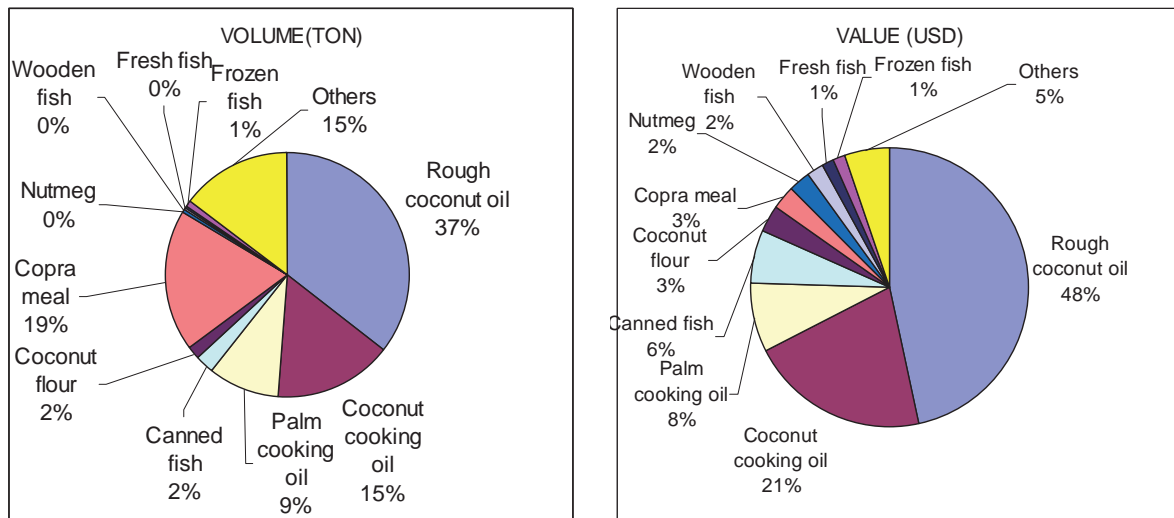
In 2011, the province exported 725,000 MT of products worth USD929 million. Both the volume and value of exports have exhibited fluctuating growth trends in the last six years (see Figure 8.4).



Source: Industry and Trade Agency, North Sulawesi Province

Figure 8.4 Exports of North Sulawesi, 2006-2011

The major export products of North Sulawesi are coconut oil, palm oil, coconut flour, copra and copra meal, canned fish, fresh and frozen fish, charcoal shell, and nutmeg (see Figure 8.5). These are exported mainly to the Netherlands, USA, China, South Korea, Japan, Germany and the Philippines (see Table 8.8). Most of these products, except perhaps the fish products, are not potential cargoes for RO-RO shipping.



Source: Industry and Trade Agency, North Sulawesi Province

Figure 8.5 Major Export Commodities of North Sulawesi, 2011

Table 8.8 Major Export Destinations of North Sulawesi, 2011

	Destination	Volume (000 MT)	Value (USD Million)
1	Dutch	164.19	269.58
2	USA	141.18	233.15
3	China	123.47	136.95
4	South Korea	142.68	106.94
5	Japan	5.88	33.78
6	Germany	6.77	21.20
7	Philippines	31.36	19.15
8	Singapore	5.61	11.84
9	Italy	1.01	11.29
10	Mexico	5.00	11.10
11	Others	97.65	73.58
TOTAL		724.81	928.57

Source: Industry and Trade Agency, North Sulawesi Province

Bitung Port, operated by PELINDO, is a port that handles mainly exports of coconut oil (30,000 MT/month, 90% of which are by special tankers) and desiccated coconut/copra (20,000 MT/month) to Korea, USA and Europe via Jakarta and/or Surabaya. Four (4) vessels regularly call on the port, namely Argo (2 calls/month), Cargill (2 calls), MNS (4.5 calls), and Bimoli (2 calls). Coconut raw materials come mainly from North Sulawesi, Makassar, Kalimantan, Gorontalo and Papua and are processed into coco oil in Bitung for onward export. Coconut oil accounts for about 80% of exported cargo from Bitung Port.

The major imports are rice from Vietnam and Thailand, capital goods (equipment and machineries) from China, Japan, South Korea and Singapore, and auxiliary raw materials from various countries. Currently, 90% of imports through the port consist of steel roll from China used for roofing materials and explosives for the local mining industry. Although a car carrier vessel comes to this port thrice weekly, this is not the demand for international RO-RO shipping.

An important development that is expected to further stimulate the province's economy is the planned development of a 600-hectare special economic zone near Bitung. The zone will include a 22-ha industrial park (Bitung Intransa Industrial Estate) to host coconut processing, fish/aquaculture processing, and other high value processing plants; warehouses; container yards; and mixed use areas, among others. The new zone is only 6 km away and will be connected by toll road to Bitung Port, which will be expanded and further modernized as an international hub port for exports and imports. Other planned development projects are the Bitung Fishing Port and the Manado Tourism Harbor.

4) Tahuna, Sangihe Regency, Indonesia

There are three ports in Sangihe currently doing domestic and international operations, namely Tahuna Port (for passengers), Petta Port (cargo to the Philippines and fishing activities), and Tamako Port (RO-RO services to Bitung). Tahuna is a small town dominated by agricultural and fishing activities. From Manado, it can be reached in 10 hours by medium-sized ferry or 6 hours by a fast craft. The 300-capacity passenger boat plies the Manado-Tahuna route everyday, except during bad weather. The travel time by sea takes longer during bad weather.³ Many people in Sangihe live or have relatives in Southern Philippines. A small airplane (Wings Air, 45 minutes flight time) also services the Manado-Tahuna route twice a week, operating in a rather distant airport about an hour's travel from downtown Tahuna.

The outbound commodities from Tahuna Port were dominated by copra (9,900 MT) and nutmeg (1,346 MT) in 2011 (see Table 8.9). Most of them were sent to Singapore and the Philippines via Surabaya. The major imports were premium oil, cement, rice and white sugar (see Table 8.10). Nowadays, cargo trading between Tahuna and Southern Philippines are done through the Petta Port, about an hour drive from Tahuna. A small cargo vessel carries around 1,000 MT of copra per month to Southern Philippines via Petta Port. There is also a lot of traditional trading, considered "illegal" as they are unregulated by government authorities, going on across this route. Traders from Tahuna carry marine products, soap, cigarettes, empty coca-cola cans, etc. on small wooden-hulled boats and in return, bring back consumer goods (e.g., groceries, soft drinks and Tanduay rum, accessories, cooking equipment, etc.) and even fighting cocks. However, accurate data on the informal trading volumes are difficult to get.

Table 8.9 Major Export Commodities of Sangihe Regency, 2009-2011

Product	Volume (MT)			Average Price (IDR)
	2009	2010	2011	
Nutmeg	2,287	2,474	1,346	58,350
Mace (Fuli)	228	247	135	123,850
Copra	20,000	7,612	9,900	4,150
Clove	191	568	17	71,900

Note: The destination of copra is the Philippines through Surabaya, nutmeg is Singapore also through Surabaya. Clove is mostly for domestic destinations.

Source: Industry and Trade Agency of Tahuna

³ For example, the travel of the survey team member from Manado to Tahuna took 24 hours as the vessel had to go very slow and sought refuge in the smaller islands due to bad weather and sea conditions.

Table 8.10 Major Import Commodities in Sangihe Regency, 2009-2011

Product	Volume (MT)			Average Price (IDR)
	2009	2010	2011	
Rice	5,969	3,807	4,140	15,000
White Sugar	1,206	1,794	2,700	15,000
Wheat	449	445	613	60,000
Salt	5	50	101	45,000
Butter	78	75	73	15,000
Cooking Oil	120	64	128	15,000
Egg	1,572	13,363	250	10,000
Milk	768	827	960	10,000
Vegetable	0	0	0	2,875
Cement	18	20	4,900	
Zinc	85	94	90	
Iron	768	827	960	
Triplex	768	827	960	
Premium Oil	6,475	6,600	5,869	
Lubricant Oil	0	0	0	
Kerosene	7,980	8,825	6,625	

Source: Industry and Trade Agency of Tahuna

8.2 Corridor-wide Traffic

1) Bitung – General Santos/Davao


The field survey observes that there is no liner shipping service on the route.

There have been past attempts to open liner shipping services from North Sulawesi to Southern Mindanao, particularly Davao and General Santos, as part of overall efforts to improve connectivity under the BIMP-EAGA subregional cooperation initiative as follows:

- In 1996, KM Aru, an Indonesian shipping company, started operating a cargo vessel plying the Bitung-Davao route. It was reported that up to eight vessels of less than 1,000 GRT used to ply the Bitung/ Davao route three times a week.
- In 2004, another Indonesian shipping company started operating a 200-TEU container vessel between Bitung and General Santos. It carried mostly frozen and canned fish to General Santos but had not much backload to Bitung. In both instances, the Bitung-Davao and Bitung-General Santos services were short-lived due to the commercial non-viability of their operations. (Refer to Table 8.11)

The corridor has similar experiences in air transport which opened and suspended direct air services between Davao and Manado repeatedly. In the past, several airlines started servicing the Manado-Davao-Manado route, including Bouraq Airlines, Wings and Sriwijaya Air. These flights, however, have already stopped in 2008 mainly due to internal organizational issues (in the case of Bouraq) and low load factor in the case of the other airlines. Just recently, Mid-Sea Travel Express, a new Philippine carrier, started operating chartered flights from Davao to Manado on a 19-seater Jetstream plane. It has been reported that Jakarta-based Lion Air and Manila-based Zest Air are also working on the necessary documentary and administrative requirements to start servicing this route under the BIMP-EAGA open skies policy for selected priority airports.

Table 8.11 Container Shipping Experience Between Bitung and General Santos

	Container Shipping Experience between Bitung and General Santos
Operation	<p>The first Bitung – General Santos (Gensan) container service started in March 2004 but it was soon suspended after three months’ operation due to insufficient cargo demand.</p> <p>It was provided by an Indonesian shipping company, PT Humpus Intermoda Transportasi, using MV Rimba Tujuh, semi-container vessel accommodating up to 200 TEU, both dry and refrigerated containers, with a gross tonnage of 5,495 tons. The vessel plied between the two ports in 36 hours and took 10 days for one round trip.</p>
Vessel	<div style="text-align: center;">  </div> <p><i>MV Rimba Tujuh</i></p>
Expectations and Lessons	<p>The local economies of North Sulawesi and South Mindanao had sought for such services with the following expectations:</p> <ul style="list-style-type: none"> (i) To offer additional opportunities for cross-border trade between the two focus areas of the BIMP-EAGA; (ii) To reduce freight cost and sailing time for East Indonesian exports to East Asia and the US west coast by avoiding of going down to Jakarta or Surabaya; (iii) To improve subregional competitiveness in global markets, for example, making use of North Sulawesi’s strength in fishery products for General Santos City’s developed canning industry. <p>Thus, the Memorandum Agreement was made between North Sulawesi Chamber of Commerce and General Santos City Chamber of Commerce in 2001.</p> <p>The operation suspension of MV Rimba Tujuh demonstrated limited containerizable cargo demand between the two economies although traditional general cargo shipping is still active through small islands’ ports such as Tahuna. There is another opinion that three months’ pioneering operation was too short to root a new sea link taking account of much larger container vessels like 500 TEU plying between Bitung and Jakarta/Surabaya.</p>

2) Tahuna – Talaud - Glan

Aside from the Manado/ Bitung-Davao/ General Santos route, another potential route that can be developed in conjunction with the former is the Glan/ Sarangani Province-General Santos-Miangas/ Talaud/ Tahuna (Sangihe Regency in Indonesia) route. This group of islands between Southern Mindanao and Bitung are rich fishing grounds and coconut producers. It takes 25 hours to bring fresh fish, copra and coconut shells from Talaud to Bitung but only 8-10 hours to General Santos.

Especially since there is no cold storage facility in the islands, it would be more practical and cheaper to bring these products to General Santos. KADIN is currently discussing with the Indonesia Minister of Fisheries to "open a window" allowing Filipino-Indonesian joint venture fishing operators to do limited area fishing around the islands and bring the fish to General Santos for processing.⁴

In March 2009, a passenger and cargo ship named KM Sunlia (with maximum capacity of 100 MT and 100 pax) started serving the Tahuna-Petta-Marore Island-Glan (Sarangani Province) route once a month. This shipping service was initiated by the local government of Tahuna in cooperation with the local government of Sarangani. The Tahuna government gave a 50% fuel subsidy. After almost two years of operation, the service stopped in December 2010.

Other than lack of demand, shipping operation was beset by problems of too many bureaucratic requirements and procedures, including customs, immigration, quarantine and security (CIQS), especially at the Indonesian side. Plans are afoot to revive this cargo service. Both the Tahuna Government and the Philippine Government are exploring opportunities to re-open this route, possibly providing incentives to KM Sunlia Express or another company.

In Sarangani Province, there are local shipping operators currently operating RO-RO vessels along domestic routes. One is servicing the General Santos-Balut Island (south of Glan) route with a small, 30-passenger vessel. The company⁵ plans to invest PhP80-100 million to operate a bigger vessel to either Bitung, or between Malaysia and PNG. However, they need to carefully study the sustainability of operations in terms of market volumes, administrative arrangements (e.g., conversion from domestic to international franchise, registration, insurance coverage), competition (including from informal trade), and financial considerations. It would help if government can provide them incentives such as fuel subsidies. It was also reported that the winning bidder⁶ for port services operation in the Glan Port is also interested in operating a vessel to service the Glan-Tahuna route.

⁴ A Manado-based businessman is exploring with potential JV partners in Southern Mindanao to develop abaca plantations in Tahuna as well as to export up to 10,000 MT of fresh coconuts from Tahuna/ Talaud.

⁵ Sarangani Transport Corporation.

⁶ PTM Brokerage and Port Services Inc.

8.3 Port Operation and Infrastructure

1) Port of Davao

(1) Overview of the Port

The Port of Davao is located in Davao Bay at Barangay Sasa about 10 km north-east from the center of Davao City in the south-east of Mindanao Island. The port faces Samal Island across Pakiputan Strait. The port is the largest port in Mindanao Island supporting the economic activities of Southern Mindanao. Vital export activities from this port make it the third ranked port nationwide, in terms of foreign container traffic. The main commodities are fresh bananas to be exported to China, Hong Kong, Japan, Korea, Singapore, and Middle East Countries.

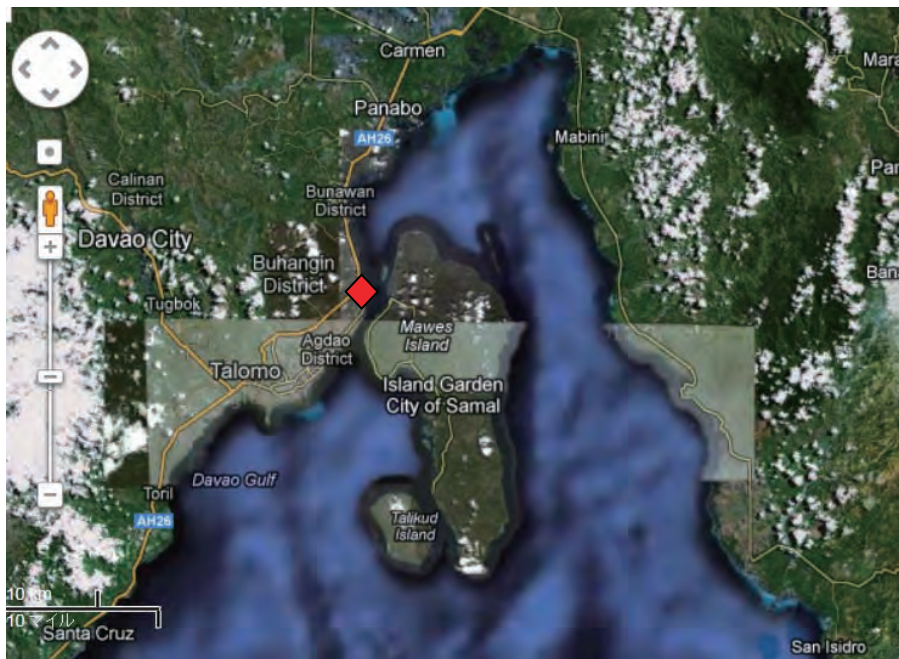


Figure 8.6 Location of Davao Port (Sasa Wharf)

(2) Natural Conditions

The port does not face severe wave situation due to its location, being sheltered by Samal Island. The tidal range of the port waters is 1.0 m.

(3) Port Facilities/Layout

The main wharf of the port is called Sasa Wharf and it is comprised of the Old Quay and New Quay. The layout of Sasa Wharf and the outline of its main facilities are shown in Figure 8.7 and Table 8.12.

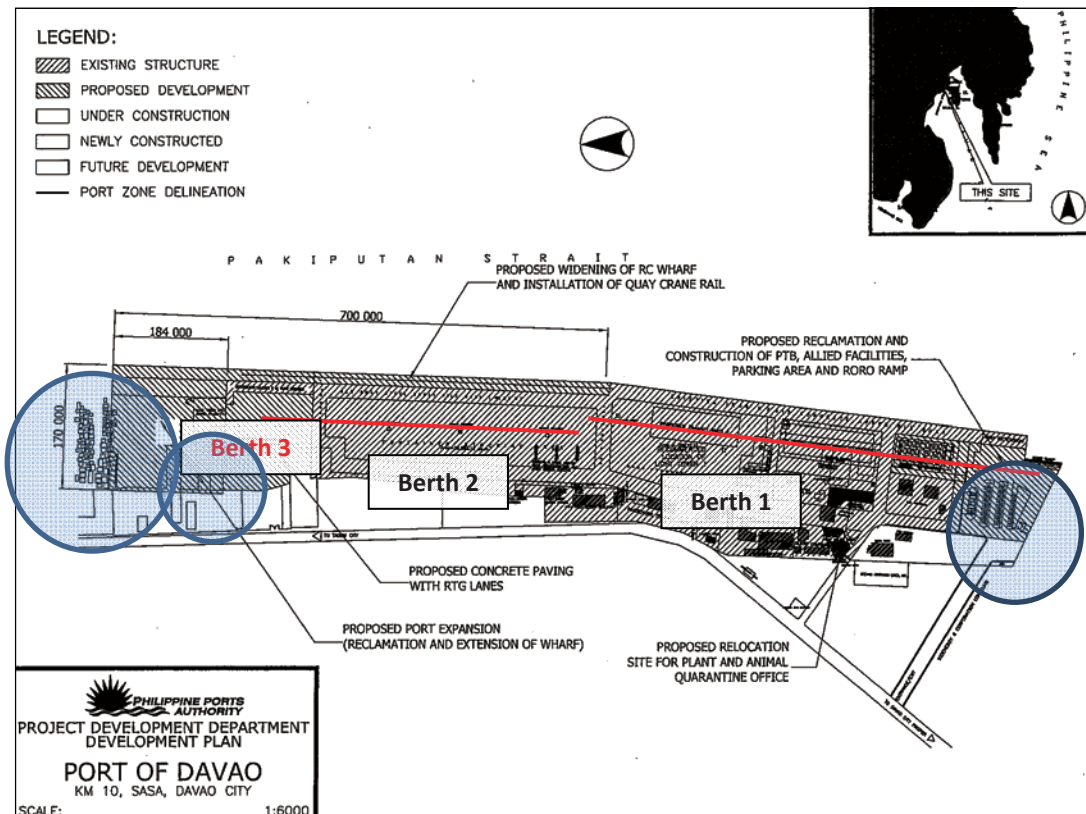


Figure 8.7 Layout of Davao Port and Improvement Plan

Table 8.12 Main Port facilities of Davao Port

Facility Name	Volume
Berth 1	1 – 5 (575 m x 18 m) – 10 m
Berth 2	6 – 9 (405 m x 35 m) – 10 m
Berth 3	10 (113 m x 25 m) – 10
Container yard	41,490 m ²
Marshalling area	11,700 m ²
Storage space	19,737 m ²
Transit shed	6,250 m ²
Passenger terminal	613 m ²

Source: Meeting Record with Port Operator, 18 April 2012

(4) Management and Operation

The Port of Davao is under the management of the Port Management Office-Davao in the Port District Office-Southern Mindanao of the Philippine Ports Authority (PPA).

The port has several CIQS infrastructure such as police/security post, customs building, passenger room with supporting CCTV and X-Ray machine.

The substantial activity in the Davao Port, however, has continued to take its toll on port facilities. The port is now very congested. Worse, the heavy traffic in the port has seriously degraded port infrastructure, particularly the concrete pavement of the wharf which is now full of holes that pose danger to both vehicles and people. The PPA-Davao continues to implement massive rehabilitation work on the eastern side of the wharf but such repair work is not enough to catch up with the fast deteriorating middle and western parts.

The delay in the planned privatization of the port in 2012, wherein the winning private sector bidder is expected to take over port improvements and modernization, adds to the degradation of the port's operational efficiency. Aside from ongoing port repairs, the port expansion plan will focus on expanding container handling facilities, acquiring additional cranes, etc. The foundation in the expansion area in the western side of the wharf needs to be reinforced and the informal settlers need to be relocated.

(5) Connection with Hinterland

The accessibility of Davao Port is in a good condition. It can be reached by 25-minutes driving from the downtown. The access road to the port can accommodate big size trucks however, according to the local regulation trucks are prohibited to enter the city roads during peak hours (5:00 – 9:00 AM), which is a big issue for logistics. Traffic congestions are also induced by many low-speed vehicles such as tricycles while the city has a certain road density with some 4-lane streets. Introducing LRT (light rail transit) or other mass transit system is one option of the city's urban transport plan. Mass transit system might be feasible in Davao thanks to a high population density in the limited habitable areas.

The Davao Port is only 2 km away from the Pan Philippine Highway (ASEAN Highway No. 26) and trucks from the other cities can easily access the port. A well-maintained regional road network is necessary for the development of Mindanao. Especially, the linkage between Davao and General Santos, the nearest big city, will be strengthened by pavement maintenance, road expansion, improvement of road alignments, prevention of rock falls and landslides, and so on.

Access roads to Davao Port:

- Road width : 12 m
- Number of lane : 4 lanes
- Pavement type : Rigid pavements
- Weight limit : 13.5 tons (max. axle load)
45 tons (gross vehicle weight limit)
- Freight vehicle type observed on site : n.d.
- Passage of heavy vehicle : Trucks are not allowed to enter city roads during peak hour 05:00 – 09:00
- Time/distance to the nearest city : ± 28 km, 25 minutes (to Davao City)
- Future plan related to road and land infrastructure : - 23 km coastal road development, connecting Toril to Cabaguio
- Light rail, Panabo-Cruz line

(6) Future Development

In order to anticipate future demand of the port and to introduce RO-RO service operation, the port has a plan to expand their infrastructure and services. The plan includes the components outlined in Table 8.13.

(7) Topics of RO-RO Terminal

The port has a plan for RO-RO terminal improvement project. The project includes construction of passenger terminal building, allied facilities, parking area and RO-RO ramp at the south end of the port as well as reclamation. In the plan, the period of the

project is scheduled from 2012 to 2014. However, the site is currently crowded with informal settlers.

Table 8.13 Project Components of Davao Port

Project Components	Size	period
-Concrete paving with RTG lanes of newly completed back-up area	1.30 ha	2011-2012
-Widening of RC Wharf -Installation of Quay Crane Rail	700 m x 15 m 500 m	2011-2013
-Reclamation -Construction of RO-RO facilities	Passenger terminal building, allied facilities, parking area and RO-RO ramp	2012-2014
-Expansion at the north end	Container yard and 184-m-long wharf extension	2016-2018
-Relocation of plants and animal quarantine office -Development of vacated area,	-	2011-2012
-Procurement Quay Cranes	3 units,	2013-2014
-Procurement RTG Cranes	6 units,	2013-2014

2) Port of General Santos

(1) Overview of the Port

The Port of General Santos is located on the north of Sarangani Bay, in the southern Mindanao, approximately 2 km from General Santos City. The port is a regional base port and marketed as a multi-use port which caters seamlessly to both domestic and international shipping as the hub of the South Cotabato, Cotabato, Sultan Kudarat, Sarangani, General Santos (SOCCSKSARGEN) economic zone of Region XII. It is also the gateway for passenger ships bound for inter-island routes, especially the Visayas and Luzon islands, and vice versa.



Figure 8.8 Location of General Santos Port

(2) Natural Conditions

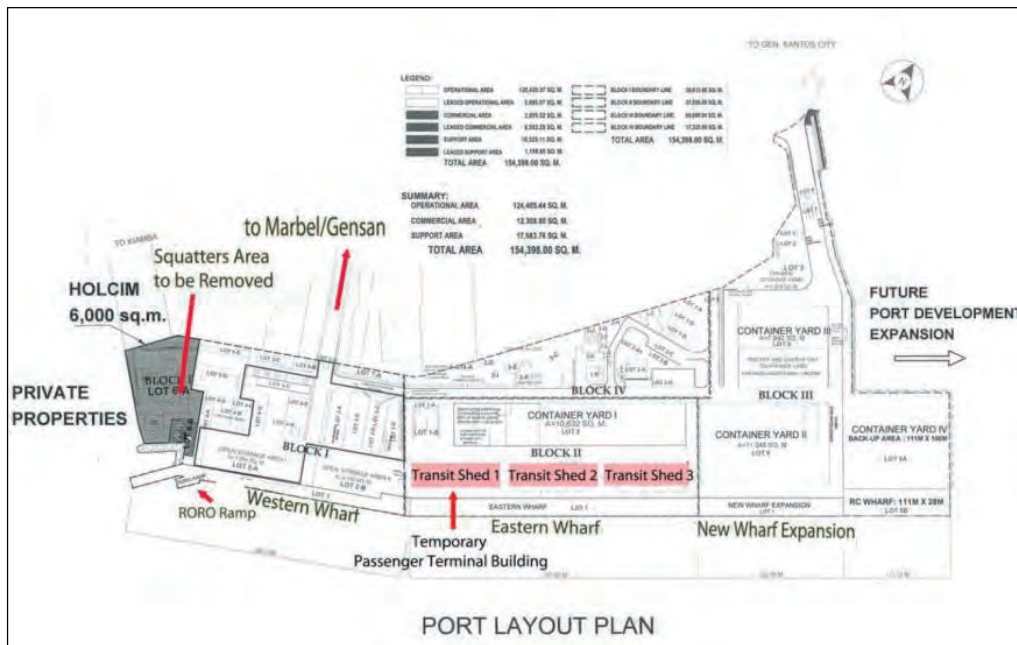
The tidal range at the port waters is 0.741 m on average.

(3) Port Facilities/Layout

The port is approached from the south south-west and entered between Tampuan Point and Sumbang Point. The length of the channel is 33 km and the maximum width is 16 km. The maximum vessel size is 32,774 DWT. There are five anchorages to the south of the port.

The main terminal of the port is named as Makar Wharf and its layout is shown in Figure 8.9.

Gensan Port has nine (9) berths that can accommodate up to six (6) ships of 120m average LOA at a time. It has container yards, marshalling area, reefer structures, storage spaces, transit sheds, and a 1,200-seat passenger terminal. Bagging operations can be done along the apron, however, this becomes slow when there are more than 2 vessels. Its facilities are shown in Table 8.14.



Source: Philippine Ports Authority-PMO General Santos

Figure 8.9 Layout of Makar Wharf

Table 8.14 Main Port Facilities at Makar Wharf

Facilities	Remarks
Berths 1 to 3:	Berth 1 to 3 (8 m. MLLW) Berths 4 to 6: 10 m. MLLW Berths 7 to 9: 12 m. MLLW
Container Yards:	41,692 sq.m.
Storage Spaces: (Open Type);	6,399 sq.m; 1,682 sq.m (for chassis) 368 sq.m (for general cargoes) 670 sq.m (for dangerous goods)
Transit Sheds	Three(3) buildings with 2,160 sq.m. each
Passenger Terminal Building	2,160 sq.m Inside Transit Shed (1200)

Source: Philippine Ports Authority-PMO General Santos

Makar Wharf is about the same size as Sasa Wharf but its current cargo throughput is much less than the latter's. It receives fewer domestic and international ship calls, although the big domestic ROPAX ships (e.g., 2GO/SuperFerry) regularly calls on the port twice a week.

(4) Management and Operation

The port is under the management of the Port Management Office-General Santos in the Port District Office-Southern Mindanao of the Philippine Ports Authority (PPA).

The port is supported by adequate CIQS facility such as security posts, police station, custom office, quarantine office, and temporary passenger waiting room. Immigration Office is available outside the port. In additions to those facilities, the port is also equipped by adequate inspection tools, such as X-Ray machines, metal detector, and basic inspection tools.

(5) Connection with Hinterland

General Santos is connected by good roads to the neighboring provinces of Sarangani, Cotabato and Sultan Kudarat and their component cities. The distance between General Santos and Davao is around 161 km, which takes about 3 hours of driving on the Pan Philippine Highway, a part of ASEAN Highway No. 26. There is an increasing volume of truck traffic along this route, carrying container vans that either enter or exit the Davao and General Santos Ports. From Cotabato City, the distance to General Santos is about 195 km or equivalent to 3.5 hours driving.

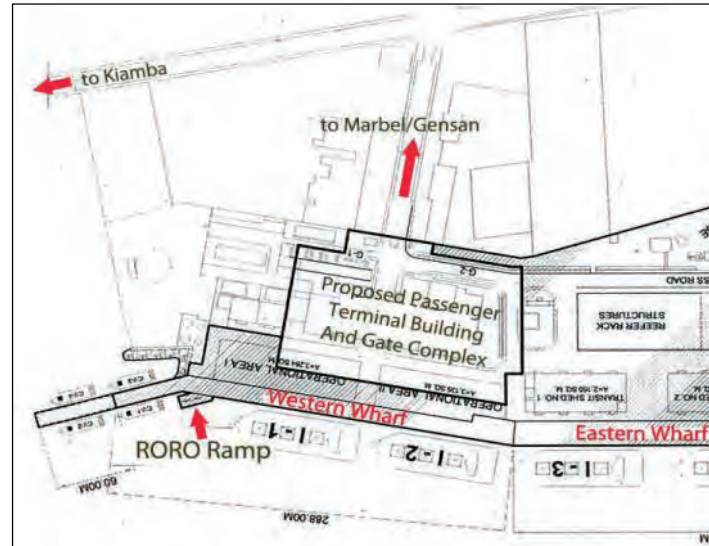
General Santos City has no specific regulation to control truck movement in the city. All kinds of trucks are allowed to access major roads from/to port and city area. However in near future, urban transport can affect logistics along with the development of the city. The road density of General Santos is not sufficient and traffic congestions are observed in the city center during the morning and evening peak hours. Especially in the east-west direction, there are only two main streets, the Pan Philippine Highway (4 lanes) and P. Acharon Blvd (2 lanes or 4-6 lanes in limited sections in the city center). Expansion of P. Acharon Blvd and/or construction of another east-west trunk road are highly encouraged.

Access roads to General Santos Port:

- Road width : 14 m
- Number of lane : 4 lanes
- Pavement type : Rigid pavement
- Weight limit : 13.5 tons (max. axle load
45 tons (gross vehicle weight limit))
- Freight vehicle type observed on site : n.d.
- Passage of heavy vehicle : Allowed
- Time/distance to the nearest city : ± 199 km, 3.5 hours (to Cotabato City)
- Future plan related to road infrastructure : Improvement of Davao – General Santos road, etc.

(6) Future Development

The port has plans for the construction of a new passenger terminal building and a gate complex at the Western side of the port area. The layout plan of the passenger terminal building and the gate complex is shown in Figure 8.10.



Source: Philippine Ports Authority-PMO General Santos

Figure 8.10 Makar Wharf – RO-RO Passenger Terminal Building After Development

(7) Topics of RO-RO Terminal

Makar Wharf has one RO-RO ramp facility which is located at the Western Wharf. The ramp size is 9x11 m. The current passenger terminal has a vast area of 2,160 m².

While the port has a RO-RO ramp, it has no marshalling yard for RO-RO vehicles. This poses no problem to the side-ramp RO-RO ships that currently call on the port. Port development plans by 2013, at an estimated cost of PhP175 million, include rehabilitation work (retrofitting, reinforcement of below deck with carbon fiber, etc.) and expansion of the eastern side of the wharf.

3) Port of Bitung

(1) Overview of the Port

Port of Bitung is located in Bitung Regency about 45 km from Manado City, the capital of North Sulawesi Province. It is one of the most important ports in eastern Indonesia. The port is expected to assume a role as a gateway between the Pacific area and Asia.



Figure 8.11 Location of Bitung Port

(2) Natural Conditions

The port waters are protected by Lembeh Island which shields the port from storm and swell disturbances. Tidal range is about 1.8 m.

(3) Port Facilities/Layout

The length of the approach channel is approximately 9 miles and the width is about 800 m. Vessel can approach from the north and south.

The port is composed of two terminals: a conventional terminal and a container terminal. The conventional terminal consists of seven berths and the container terminal has a 357-m-long berth. (see Table 8.15) The layout of the port is shown in Figure 8.12.

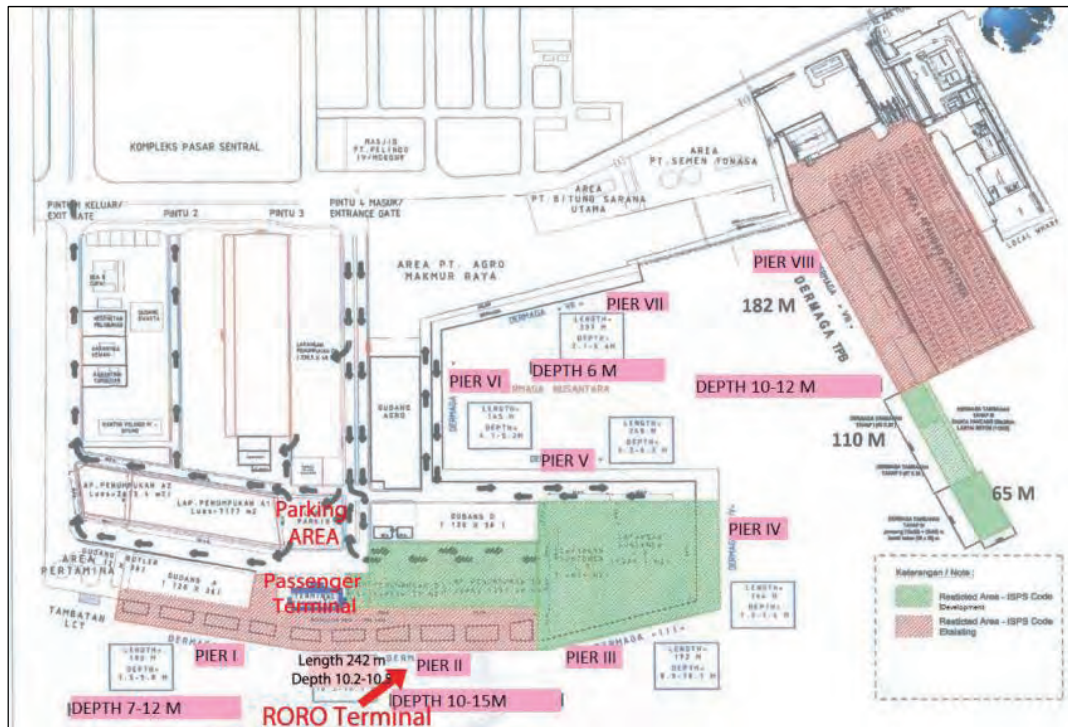


Figure 8.12 Layout Terminal of Bitung Port

Table 8.15 Profile of Bitung Port

Terminal	Name of Pier	Length	Depth (m)
Conventional Terminal	International pier 1	190 m	7 m – 12 m
	International pier 2	242 m	10.2 m-10.5 m
	International pier 2	175 m	10 m -15 m
	International pier 4	146 m	10 m -15 m
	Domestic pier 5	251 m	6 m
	Domestic pier 6	148 m	6 m
	Jetty Nusantara 7	205 m	6 m
Container Terminal	Container Wharf	357 m	10 m – 12 m

The current port facilities are considered adequate for current container vessel calls, although during peak season (Christmas and Lebaran holidays) conventional vessels require up to about three days of berthing due to limited space. It has enough parking spaces for up to 200 cars for RO-RO shipping.

(4) Management and Operation

There are three key organizations related to management and operation of the Port of Bitung: Port Authority of the Port of Bitung and ADPEL of state agencies and Container Terminal Bitung (TPB) of PELINDO IV. PELINDO IV is an operator which was privatized according to the provisions of the Shipping Act in 2008. PELINDO IV takes the role of port management and operation, substantially, and construction and improvement of port facilities.

Bitung Port is supported by adequate CIQS facility such as security posts, police station, customs office, immigration office and quarantine office.

(5) Connection with Hinterland

Sulawesi Island is not included in ASEAN Highway Network. Bitung is connected to Manado by a two-lane paved road only but a toll road project from Bitung to Manado, and the widening of roads to the hinterlands (especially those to the industrial sites) are ongoing. The government is currently acquiring land for the right-of-way and hopes to complete the road projects within two years. Since Bitung is located at the northeastern edge of Sulawesi Island, it would take a quite long time to develop a better road network in Sulawesi to link Bitung and every city in the province. Currently, a road-based hinterland of Bitung stretches to Manado and Gorontalo, which are linked by relatively better roads. Therefore, it is better to focus on gathering export cargoes by domestic shipping from other cities in Sulawesi and Papua.

The access road to Bitung Port is maintained well but vehicles from/to outside Bitung have to pass through the downtown of Bitung because of a ribbon development of the downtown extended about 8 km long along the Manado – Bitung road. There used to be a ban against big trucks and container vans passing through the city roads but this was lifted after 2011. Truck bans would affect logistics network centered on Bitung and it would be also against the national policy of Bitung as a global hub port. It is encouraged to develop bypass roads to lead the traffic flow of freight vehicles from/to the port if they really disturb urban transport. The location of an exit of the planned toll road should be considered carefully not to affect traffic in the city. Existing road networks in Belawan and Penang will show good examples for the road network planning.

Access roads to Bitung Port:

- Road width : Port entrance area: >14 m
Main road access: 6-7 m
- Number of lane : Port entrance area: 6 lanes
Main road access: 2 lanes
- Pavement type : Flexible pavement
- Weight limit : 8 tons (max. axle load)
Indonesia road classification: Class III A
- Freight vehicle type observed on site : Truck, container truck
- Passage of heavy vehicle : Currently allowed, but there used to be prohibited
- Time/distance to the nearest city : ±16 km, 45 minutes (to Manado)
- Future plan related to road infrastructure : - Road widening between Manado and Tomohon.
- Construction of 49 km (approx.) long toll road connecting Bitung and Manado with target completion date is year 2014.

(6) Future Development

The container terminal development project has been carried out under phased plan. Now it is at the stage of phase II.

(7) Topics of RO-RO Terminal

Pier 2 of 242 m in length and 10.2 to 10.5 m in depth is used by a RO-RO vessel whose name is Alexa. The vessel calls at the port every two or three weeks and discharges hundreds of cars which are loaded at the port of Jakarta. The terminal is also used by PELNI ship and a passenger building is located behind the quay. The building consists of two floors with an area of 2,554 m² on each floor. It is equipped with 680 seats and has a capacity of 2,120 persons. The parking area of 2,394 m² can accommodate up to 400 vehicles.

8.4 Shipping Route

This route connects the two major cities of Southern Mindanao, Davao City and General Santos with the Manado, Capital City of North Sulawesi, via the Port of Bitung. The sea distance from Bitung to Davao is approximately 350 nautical miles; from Bitung to General Santos is 302 nautical miles; From Davao to General Santos is 154 nautical miles. The voyage from Bitung to General Santos will involve navigating the Lembeh Strait, crossing the Celebes Sea and on to Sarangani Bay, where the Port of General Santos (Makar Wharf) is located. The voyage from General Santos to Davao will involve going out of Sarangani Bay, following the coastline of eastern Sarangani Province and up the coastline of Davao del Sur up to Pakiputan Strait and to the Port of Davao (Sasa Wharf).

The access to the Port of Bitung is marked by approach buoys at Tanjung Patete and Tanjung Lembeh (Please see Figure 8.13). The port basin has a depth of 7.0 m (min.) with available turning basin. Pilotage is compulsory at the port. The port is open 24/7, but night-time approach is discouraged due to many activities on the waters at that time. Port activities are not affected by the tidal variations. The maximum draft of vessel that can be serviced by the port is 12.0 m.

Vessels approaching the Port of Sasa (Davao) enter through the southern entrance of Pkiputan Strait. (Please see Figure 8.14) The depth at the port basin varies from 4.0 m to 13.0 m, depending on the wharf. Pilotage is compulsory at the port. When an application for berthing permit is lodged 36 hours before the vessel's arrival, the pilot is given a notice to meet the incoming vessel. The port is open 24/7 and there are no restrictions (night-time or tidal) as to entry to the harbor as long as prior notice is given and the prescribed permit is secured from the Port Authority. The maximum size of vessel that may use the port is in the 30,000 DWT class.

The Port of General Santos is accessed through the mouth of Sarangani Bay, from where vessels are guided to the port by means of aids to navigation located at the port. (Please see Figure 8.15) The depth at the port basin varies from 8.5 m to 13.5 m, depending on the wharf. Pilotage at the port is compulsory for all foreign flag vessels of 500 GT and over, and for all domestic ships 1,000 GT and above. The port is open 24/7 and there are no night-time or tidal restrictions. The maximum draft of vessel that can be serviced by the port is 12.0 m.

See Annex 8.1 for more details.



Source: Google Earth

Figure 8.13 Port Channel at Bitung



Source: Google Earth

Figure 8.14 Port Channel at Davao



Source: Google Earth

Figure 8.15 Port Channel at General Santos

8.5 CIQS

All three (3) ports are international ports, but with domestic operations too. As such, the domestic operations must be separated from international operations.

The Ports of Davao and General Santos handle international cargo, and seldom, if ever, handle international passenger traffic. It is for this reason that both ports do not yet implement the “Single-window” system and the active CIQS implementation is only for cargo. The Port of Davao has Security Post and Gates, Police Station, Customs Office, Immigration Office, Quarantine Office, and Passenger Waiting Room. The last facility is no longer used since there are no more passengers using the Port of Davao. The Port of General Santos has Security Post and gates, Police Station and a Multi-function Room. Notwithstanding these differences, both ports have X-Ray Machines, Walkthrough Metal Detectors, Handheld Metal Detectors, and CCTV cameras to augment their security system.

The Port of Bitung has Security Post and Gates, Police Station, Customs Office, Immigration Office, Quarantine Office, Passenger Waiting Room, Secure Parking, and a Health Emergency Room. To ensure security at the port premises, the Port of Bitung has X-Ray Machines, Walkthrough Metal Detector, and Handheld Metal Detector. The port adopts the “Single-window” system where customs, immigration and security checks are done in a single corridor and integrated area. However, there are some aspects that need to be improved, especially the number of security officers, additional security gates, and CCTV system.

The major issue confronting this route is the existing informal trade using wooden hull vessels between the Bitung/Manado area (including Tahuna Port) and the General Santos/Glan area.

Davao City prohibits the big trucks in entering the Central Business District (CBD) but the trucks can use the diversion road that skirts the city center. Bitung and General Santos do not have regulations regarding big trucks entering the city. For Bitung, a toll road is being planned to connect it with the City of Manado.

In response to the possibility of developing the ASEAN RO-RO Network that would include the Port of Bitung, the port officials plan to improve CIQS implementation. This is also in accordance with government policy to upgrade the status of Bitung Port from Domestic into International Hub Port. Several aspect to be improved are the extension of the service hours to 24 hours; expansion of the Passenger waiting room; expansion of the Immigration and Customs rooms, with more secure and integrated design, and to continue coordination with the Philippine Government in smoothing the agreement of friendly cross border trade.

For the Port of Davao, the plans include providing an integrated inspection room for CIQS services; the development of a better system for immigration, such as passenger manifest; and a careful consideration on how to treat vehicles and the drivers.

For General Santos, the port authority plans to implement the single window system in the future. They have plans to construct a Passenger waiting room building and Immigration and Customs offices.

Table 8.16 shows the CIQS facilities and systems at the Ports of Bitung, Davao and General Santos.

Table 8.16 CIQS Facility Condition in Bitung, Davao, General Santos Port

Item	Bitung (Indonesia)	Davao (Philippines)	General Santos (Philippines)
Port Name	Bitung Port	Sasa Davao Port	Makar Port
<i>CIQS Facility</i>			
Building	Security Post and Gates Police Station Customs Office Immigration Office Quarantine Office Passenger Waiting Room Secure Parking Health Emergency Room	Security Post and gates Police Station Customs Office Immigration Office Quarantine Office Passenger Waiting Room	Security Post and Gates Police Station Multifunction Room
Facility	X-Ray Machine Walkthrough Metal Detector Handheld Metal Detector Security Fence Street Poles and Lights	X-Ray Machine Walkthrough Metal Detector Handheld Metal Detector CCTV CCTV Monitor Room Permanent Fence Temporary Fence Access Card Gate with Access Card Mirror Inspection for Vehicle Street Poles and Lights	X-Ray Machine Walkthrough Metal Detector Handheld Metal Detector CCTV CCTV Monitor Room Permanent Fence Temporary Fence Street Poles and Lights
<i>CIQS Service</i>			
Service Hours	07:00 – 22:00	No specific information	No specific information
Operational System	<ul style="list-style-type: none"> The operation system adopts single window system with custom, immigration and security checks are done in a single corridor and integrated area, but there are some aspects need to be improved, especially number of security officers, additional security gates, and CCTV system. 	The operation system has not yet adopted single window system. The active CIQS implementation is only for cargo since passengers vessels have not come regularly	The operation system has not yet adopted single window system. The active CIQS implementation is only for cargo since passengers vessels have not come regularly
Major Issues	Unofficial trades along Bitung – Manado (with Tahuna) – General Santos (including illegal fishing)	<ul style="list-style-type: none"> Many informal trades happened so far, especially between Davao – General Santos (and Glan) – Tahuna – Bitung. There is a lack coordination between Philippines Government (Davao and General Santos) with Indonesian Government (Tahuna and Manado/Bitung) regarding customs tariff. 	Many informal trades happened so far, especially between Davao – General Santos (and Glan) – Tahuna – Bitung.
<i>Coordination with other country</i>			
Cross-border Agreement	<p>Bitung has not implemented any Govt to Govt agreement or cooperation with neighboring countries. At this time, Bitung Port is still concentrating on internal improvement, such as CIQS area design improvement, integrated passenger and goods database system, port regulation, and personnel capacity building.</p> <p>However, in terms of region, as a part of ASEAN, this port and several ports in Brunei, Malaysia, Indonesia and Philippines are working on the</p>	<p>Davao has not engaged to any Govt to Govt agreement or cooperation with neighboring countries. At this time, Davao Port is still concentrating on internal improvement towards RO-RO International operation, such as CIQS area design improvement, integrated passenger and goods database system, port regulation, and personnel capacity building.</p> <p>However, in terms of region, as a part of ASEAN, this port and several ports in Brunei, Malaysia, Indonesia and Philippines are working on the</p>	<p>General Santos has not engaged to any Govt to Govt agreement or cooperation with neighboring countries. At this time, Davao Port is still concentrating on internal improvement towards RO-RO International operation, such as CIQS area design improvement, integrated passenger and goods database system, port regulation, and personnel capacity building.</p> <p>However, in terms of region, as a part of ASEAN, this port and several ports in Brunei, Malaysia, Indonesia and</p>

	implementation of integration policies under BIMP-EAGA and ASEAN agreements, which mainly regulate cross border trade, immigration, and vehicle	implementation of integration policies under BIMP-EAGA and ASEAN agreements, which mainly regulate cross border trade, immigration, and vehicle	Philippines are working on the implementation of integration policies under BIMP-EAGA and ASEAN agreements, which mainly regulate cross border trade, immigration, and vehicle
Export-Import	<p>Most of the export commodities passing through Bitung Port and checked by Customs Office are vegetables, coconut oil, and fishery products.</p> <p>As mentioned above, fishery products are the most type of trade that carried on by informal way and usually done in the middle of sea. Such matter interferes the registration and tax collection activities from Customs and disrupts the business existence of local fish traders and forwarding companies.</p>	The main commodities handled by Davao Customs are banana, coconut, durian, and cacao. Those commodities are exported to Japan, China, Hongkong, Malaysia and Singapore.	The main commodity handled by General Santos Customs are fishery products with Tuna as the largest one
<i>Other related matters</i>			
Regulation for Truck and Port	No specific regulation provided by the government to control truck movement since the demonstration rejecting such regulation happened in 2010	No specific regulation provided by the government to control truck movement	No specific regulation provided by the government to control truck movement
Future CIQS Improvement Plan	<p>CIQS implementation will be improved in accordance with government policy to upgrade the status of Bitung Port from Domestic into International Hub Port. Several aspect to be improved are:</p> <ul style="list-style-type: none"> • Service hours from 07:00 -22:00 become 24 hours • Passenger waiting room expansion with larger capacity of international terminal • Immigration and Custom room expansion, with more secure and integrated design, and number of supporting tools increase • Continue coordination with Philippines Government in smoothing the agreement of friendly cross border vehicle and import duty regulations 	<p>Several concerns are found in the current status of CIQS implementation, which among others:</p> <ul style="list-style-type: none"> • It is necessary to provide an integrated inspection room for immigration, customs, as well as quarantine. • In case of future RO-RO connection to Manado (Indonesia), both governments should consider how to threat passenger vehicle and truck (and its driver), especially from Indonesia to Philippines area, and vice versa. In this sense, both vehicles have a different driving position, where Philippines is left driving and Indonesia is right driving. • It is predicted, if RO-RO operation started, there would be so many immigrants from border countries especially from Malaysia come to Southern Mindanao, to enter Philippines. Therefore, better system for immigration, such as passenger manifest and record, security guard must be achieved. In this sense, formal documents such as input manifest and output manifest should be clearly imposed by port authority to support the immigration and customs activities. 	<p>CIQS implementation will be realized by constructing single window system in the future RO-RO port location. Such constructions include:</p> <ul style="list-style-type: none"> • Passenger waiting room building • Immigration and Custom room

8.6 Stakeholders' Views

1) Davao

The Davao government and private sector stakeholders welcome the sea transport link with Manado/ Bitung as this would stimulate increased cargo and passenger traffic across the route. Among the main products currently exported by the Davao region are banana, cocoa, durian, and coconut oil. These products are shipped to China, Hong Kong, Japan, Korea, Singapore and the Middle East. The Davao City Government is pushing for export-oriented but sustainable agribusiness development, with careful implementation of local laws on water conservation that prevent monocrop development (e.g., palm oil, banana). The local government is also positioning the Davao region as a major tourism destination and Business Processing Outsourcing (BPO) host location.

Because of its highly containerized operations, officials of the Philippine Ports Authority (PPA) think that there may be no need for RO-RO connections with Indonesia in the near future. The DavTug Multipurpose Cooperative⁷ shares the view that RO-RO services might not yet be viable considering the imbalanced trade and lack of cargo volume between Davao and Indonesia.

However, Davao business people are keenly interested to promote greater trade between the Davao region and Eastern Indonesia. Aside from the traditional exports of banana, coco oil and other agricultural products, Davao can also supply industrial products such as packaging materials and plastics as well as consumer items ranging from food and beverage products to clothing and accessories. Cargo consolidation will be a key to stimulating this cross-border trade.

While aware that the region has similar tourism products with Sulawesi particularly beach and diving resorts, tourism stakeholders in the Davao region would still like to explore greater cross-border tourism exchange to offer its islands-to-highlands and festival-oriented tourism resources. Davao City is positioning itself as a shopping, educational and medical tourism destination. Aside from marine cargo and passenger transport, local stakeholders are lobbying for more airline flights to Davao including connections to Manado.

2) General Santos

Like in Davao, the government and private sector stakeholders in General Santos City and other influence areas in the SOCCSKSARGEN region (provinces of South Cotabato, Cotabato, Sultan Kudarat and Sarangani, and the cities of General Santos and Cotabato) welcome the development of the transport link between Southern Mindanao and Eastern Indonesia. The General Santos City Mayor related that in April 2012, a government-private sector delegation from Bitung visited General Santos City to discuss continuing efforts to revive the General Santos-Bitung connection. The strengthening of this cross-border transport link is in line with the local government's positioning itself as the trade, investment and tourism gateway to the region and other surrounding areas. For this purpose, the city continues to strengthen its agro-industrial, commercial, financial, educational and medical sectors. The Philippine-Indonesian trade and social linkages have been so historically close that there are many Indonesians living in General Santos and many Filipinos living in Tahuna.

⁷ The DavTug Multipurpose Cooperative operates 4 tug boats in 3 ports in Davao.

Representatives from the fishing sector have already studied the logistics of their industry and believe that it would be 40% cheaper to ship out canned fish from the Bitung canneries, a few of which are joint ventures between General Santos and North Sulawesi business partners, through the General Santos Port to Singapore rather than through Jakarta.

Other local business people want to learn more about what their potential trading counterparts in Eastern Indonesia need, and what the former can offer them to increase trade. They also want to know what surplus products there are in Bitung that General Santos can use or re-process and what the freight rates are. Food products, such as meat from the only slaughterhouse in the Mindanao (located in Polomolok, South Cotabato) permitted to export, can be shipped through the General Santos Port.

The Indonesian Consul-General in Davao is reported to be open to either hosting a livestock industry in Indonesia or sending feeds to Mindanao. As part of their sister chamber agreement, the General Santos City Chamber can sit down with their North Sulawesi Chamber counterparts to discuss potential trading prospects. Local private sector should also participate more in BIMP-EAGA forums and planning activities. Local tourism stakeholders also look forward to promote stronger tourism exchange across the border.

Due to the long distance, a big RO-RO vessel will be needed for the General Santos-Bitung route, which will also need a large volume of cargo and passenger traffic to sustain viable operations. To attract investors in servicing the developmental/ missionary route, incentives such as lower licensing fees, lower port tariffs and CIQS fees, fuel subsidies, and facilitation/ promotion of shippers' patronage may be considered by government.

While most local business people welcome the opportunity to increase trade linkages with Indonesia, there are some who are wary of it. They did not like it when the General Santos-Bitung route was opened because cheap Indonesian products (e.g., tiles, corn, etc.) directly competed with local products. They opined that government should set clear policies on this potential competition once the trade links are revived.

3) Manado and Bitung

Local stakeholders in Manado/ Bitung also welcome opportunities to develop more trade connections with Southern Philippines. The RO-RO study can contribute to reducing logistics costs in Bitung and improve the local economy. However, the study should be synchronized with the provincial and national plans. PT PELINDO IV Bitung Branch is also ready to support the RO-RO project's implementation. PELRA, one of the operators of traditional wooden vessels, is interested to see the Bitung-General Santos route developed as there are many commodities already being traded along this route, albeit informally.

The shipping agent in Manado/ Bitung thinks it is possible to develop containerized cargo trade between Bitung and General Santos/Davao, using a small RO-RO vessel, but the service may have to be subsidized by the government or Official Development Assistance (ODA) because a private shipping operator would probably be losing money in the first two years of operation.

Bitung could be an exit port for the agricultural and fisheries products as well as processed food products (e.g., noodles) from North Sulawesi, Gorontalo, Maluku and Papua to Southern Mindanao. Industrial and consumer products, many imported from China, are currently shipped to Bitung/Manado through Jakarta and/or Surabaya, thus making them up to three times more expensive. Being at least a third of the distance of this current route,

Southern Mindanao stands to become a potentially more competitive supplier of these products, including clothes, shoes, accessories, dishware, kitchenware, cosmetic products (such as those of Davao-based RDL Company), ice cream, soft drinks and liquor, fishing nets, epoxy, nylon rope, etc.

As these products required by Bitung/Manado and the rest of Eastern Indonesia are diverse and not in very big volumes individually, consolidation from Davao/General Santos may be necessary to fill up the vessels. There is also a need for business people, with support of the appropriate private and government organizations (e.g., Chambers, Industry Associations, Ministry of Trade and Industry, Ministry of Agriculture, etc.) at both sides to sit down and identify more specific products and volumes they need from and can supply to each other.

A critical legal and policy issue that needs to be addressed to open up Eastern Indonesia to greater trade with its neighbors is the declaration of Bitung Port as an international hub port. This can position Bitung as the international entry/ exit port for mother vessels carrying goods going to/ coming from Eastern Indonesia including the Sulawesi provinces, Gorontalo, Maluku, Papua and as far as Papua New Guinea.

North Sulawesi stakeholders have been lobbying for this for many years but the Indonesian central government has not been very keen and is slow to respond, probably because it would compete with the Jakarta and Surabaya ports which today, ironically, have become congested with burgeoning cargo traffic. A bit of good news is that the proposed designation of Bitung Port as an international hub port is already included in the Government's development master plan (MP3EI). Local business people are awaiting this development which stands to increase the number of international mother vessels calling on Bitung. They believe that "the cargo/ trade follows the ship" and they will not have any problem in filling up the vessels. This sentiment is shared by the Bitung Port Authority officials. Bitung is also a sister-city of General Santos and Davao so the regional governments are supportive of the trade linkages. The local stakeholders expressed hope that this RO-RO shipping study can support moves to have Bitung declared as an international hub port.

North Sulawesi's tourism resources and products are mostly marine-based, such as dive and beach resorts. There is some apprehension that local tourism stakeholders may not be as supportive as the other industry sectors of having Bitung declared as a hub port since opening the province and surrounding areas to greater vessel traffic may adversely affect the quality of these natural tourism resources.