ASEAN Maritime Transport Working Group

# The Study on Project Priorities to Upgrade Performance and Capacity of ASEAN Network Ports

## Final Report
## PART II
## Projects of ASEAN Network Ports

**March 2011**

Japan International Cooperation Agency

The Overseas Coastal Area Development Institute of Japan (OCDI)
Mitsubishi Research Institute, Inc. (MRI)
Ides, Inc. (Ides)

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**Contents**

**PART II PROJECTS of ASEAN NETWORK PORTS**

Projects which are examined and/or need to be examined among ASEAN 47 network ports are compiled in this report.

Projects in this report were compiled based on information/data from the study on Measure 6 and 7, the workshop in Hanoi and member countries.

It should be noted that the information/data were obtained at various times; the status and/or components of some of the projects changed, figures shown in cost estimate were calculated based on the initial data, and exchange rates of the local currency to USD were those applicable when the cost estimate was conducted and so on.

Furthermore, though the long list projects, short list projects and priority projects compiled in Measure 8 were based on the information/data in this report, contents and/or names of some of the projects were amended in the process of the study on Measure 8.

Reference

Exchange Rates (as of December 2010)

| | | |
|---|---|---|
| 1.0 US$ | = | B$1.3 |
| | = | IDR(RP)9,000 |
| | = | RM3.2 |
| | = | MMK6.4 |
| | = | PHP44 |
| | = | VND19,000 |
| | = | 84Yen |

# 1. Brunei

## 1.1 Muara Port

**Outline of Port**

<Location and Roles>

Port of Muara is located at Brunei Bay, facing the South China Sea at 05° 01'N and 115° 04'E, approximately 27 km east from Bandar Seri Begawan, the capital of Muara.

The Port of Muara is an international gateway port of Brunei Darussalam.

<Operation and Management>

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

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | ✔ | ✔ | ✔ | ✔ | | | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| A new terminal construction Plan | Terminal, Export processing zone(refineries, petro-chemical) | Planned |
| Container Terminal Construction Project (Phase 1) on Pulau Muara Besar | Construction of a container terminal | Implementation |
| Introduction of port management system | Port management information system | Implementation |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Container Terminal Construction Project (Phase 1) on Pulau Muara Besar | Construction of a new container terminal (Capacity: 800,000 TEUs/year) as part of the development of Pulau Muara Besar | No. 1-1 |

**Project No. 1-1**

| | |
|---|---|
| Country | Brunei |
| Port | Muara |
| Project Name | Container Terminal Construction Project (Phase 1) on Pulau Muara Besar |
| Purpose/Background | The Board of Economic Development Brunei (BEDB) is planning an integrated development project comprising export processing zone and manufacturing hub on Pulau Muara Besar. As part of this project, construction of a container terminal is under consideration. |
| Outline of the Project | Construction of a container terminal on Pulau Muara Besar (Great Muara Island), opposite Muara Port.<br>Quay Length (Phase 1): 700 m<br>Capacity: 800,000 TEUs/year |
| Estimated Cost | B$273,000,000.00 (Estimated cost for port construction – Phase 1 Development) |
| Fund Source | Brunei Government & Investor |
| Project Owner | BEDB |
| Project Schedule | **2008** – Q4: Appointment of Master Planner & Preferred Port Operator.<br>**2009** – Q1: Technical Investigations.<br>Q4: Complete Master Plan & Submit for Approval from High Authority.<br>**2010** – Q3: Tender open for infrastructure works, dredging, reclamation And port construction.<br>Q4: Dredging, Reclamation & Construction of Bridge, Ports and Main infrastructure target to commence.<br>**2012** – Q4: Target Commencement of Port Operations. |
| Source of Information | Fact finding of site survey in July 2009<br>Updated from BEDB dated 16 Sept 2010 (In Italic) |

Plane Map



Source: Ports Department, Minstry of Communications, Brunei Darussalam
Pulau Muara Besar Development Project

# 2. Cambodia

## 2.1 Phnom Penh Port

**Outline of Port**

<Location and Roles>

Port of Phnom Penh was developed as a gateway port to the capital of Cambodia and is located on the right bank of Tonle Sap River. Distance is 330 km from the mouth of Mekong River and 100km from the Vietnam Cambodia border. Main cargos of the port are general cargo, garments, petroleum products and construction materials. Passenger terminal serves for Mekong cruise ships call at Phnom Penh.

Water level of Mekong River rises to 10m above the datum in the rainy season and about 0.5m in dry season. Channel in the river is maintained to keep the depth of 4.2m under the datum line throughout a year, which enables the navigation of 2,000 DWT class vessels.

<Operation and Management>

Ministry of Public Works and Transport (MPWT) is responsible for maritime administration and dredging in Cambodia. Waterways Department is in charge of river channel maintenance and Inland Waterway Transport Department is responsible for river ship traffic. Merchant Marine Department administers ship entry to ports, seafarer certificate, ship registration and other maritime affairs.

Port Authority is called Phnom Penh Autonomous Port (PPAP), state owned enterprises, which is managed by the Board of Directors consists of members from MPWT, Council of Ministers, Ministry of Economy and Finance, Ministry of Commerce, Phnom Penh Municipality, PPAP employee, and General Director of PPAP.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | ✔ | ✔ | ✔ | | | | ✔ | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Construction of new Phnom Penh Container Terminal | Construction of Container berth and yard (300,000TEU) | Implementation |
| Redevelopment of Terminal in Kilometer No 6 Port Phnom Penh city and Tonle Bet Port Kampong Cham Province | Construction of Container berth and yard | Planned |
| Improvement of Phnom Penh Port | Rehabilitation and reform of the multi-purpose terminal | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Construction of new Phnom Penh Container Terminal | To develop a new modern and easily accessible container port and reduce traffic congestion around the present port area | No. 2-1 |
| Redevelopment of Terminal in Kilometer No 6 Port Phnom Penh city and Tonle Bet Port Kampong Cham Province | To increase of new terminal will be connected to the development of the following activities: Special Economic Zone, Agricultural Processing Zone and Industrial Lines. | No. 2-2 |
| Improvement of Phnom Penh Port | To increase the efficiency of container operation at the present Phnom Penh and to provide a modern and efficient general cargo port. | No. 2-3 |

**Project No. 2-1**

| | |
|---|---|
| Country | Cambodia |
| Port | Phnom Penh Autonomous Port |
| Project Name | Construction of new Phnom Penh Container Terminal |
| Purpose/Background | To develop new modern and easily accessible container port and reduce traffic congestion around the present port area |
| Outline of the Project | Quay Length : 300 m x 22 m<br>Number of berth : 1 berth<br>Yard area : 12+ ha (more than 12ha)<br>Depth along quayside : 10+m (more than 10m)<br>Maximum vessel size : 5,000 DWT<br>Major cargo : Container/General Cargo<br>Cargo Handling Capacity : 300,000 TEUs |
| Estimated Cost | USD 28 millions |
| Fund Source | Chinese Soft Loan |
| Project Owner | Phnom Penh Autonomous Port |
| Project Schedule | 30 months (Mar 2009 – Sep 2012) |
| Source of Information | - |

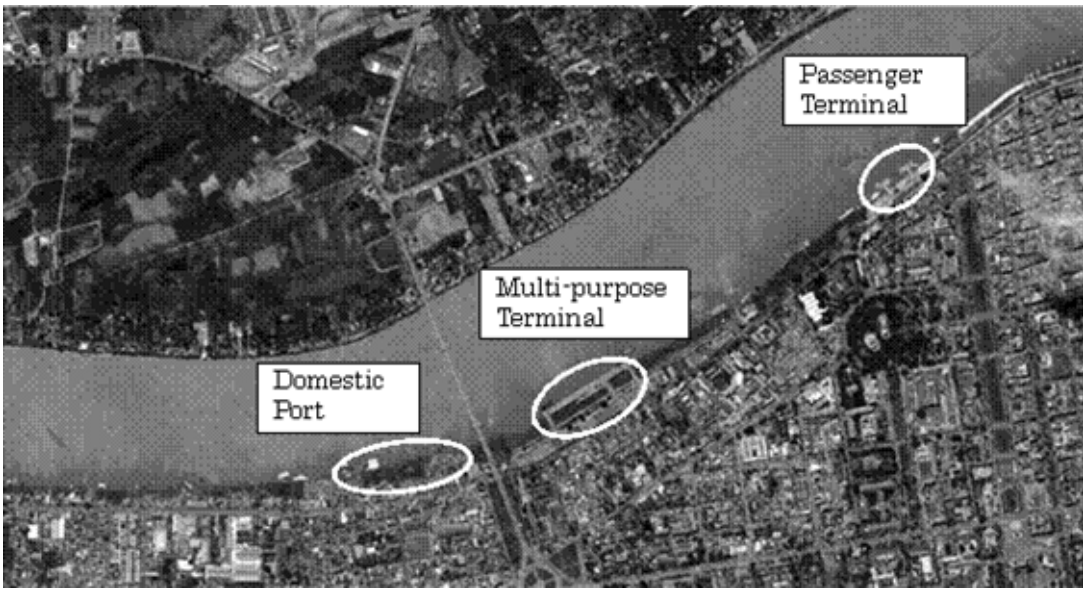
**Project No. 2-2**

| | |
|---|---|
| Country | Cambodia |
| Port | Phnom Penh |
| Project Name | Redevelopment of Terminal in Kilometer N$^{o}$ 6 Port Phnom Penh city and Tonle Bet Port Kampong Cham Province |
| Purpose/Background | To increase of new terminal will be connected to the development of the following activities: Special Economic Zone, Agricultural Processing Zone and Industrial Zone. |
| Outline of the Project | - |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | - |

**Project No. 2-3**

| | |
|---|---|
| Country | Cambodia |
| Port | Phnom Penh |
| Project Name | Improvement of Phnom Penh Port |
| Purpose/Background | To increase the efficiency of container operation at the present Phnom Penh and to provide a modern and efficient general cargo port. |
| Outline of the Project | Computerized container terminal management information system<br>Development of domestic port for general/bulk cargo |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Constructor | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in September 2009 |

Plane Map




Source: JICA Study Team based on the data by PPAP

Location of the Phnom Penh Port

## 2.2 Sihanoukville Port

**Outline of Port**

<Location and Roles>

Port of Sihanoukville is located on the east coast of Kompong Som Bay and the biggest gateway seaport to the country. Distance from Phnom Penh is 230km by the national road no.4 and 260km by Railway. Railway also connects the port to Phnom Penh, Railway is now under rehabilitation by ADB Loan.

<Operation and Management>

A port management body of Sihanoukville Port is Sihanoukville Autonomous Port (PAS), state owned enterprises. The Board of Directors consists of members form MPWT, Council of Ministers, Ministry of Economy and Finance, Ministry of Commerce, Sihanoukville City, PAS employee, and Director-General of PAS.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | | ✔ | | | ✔ | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Multi-purpose terminal development | Berth for wood chip carrier, oil supply base | Imprementation (toward 2015) |
| Continuous Construction of Sihanoukville Port Special Economic Zone Development Project | Construction of Special Economic Zone | Imprementation (Operation in Early 2012) |
| Enhancement of Container Handling Productivity | Installation of additional cargo handling equipment and quay cranes, and united IT system | Pre-Planning |
| M/P study for the development of a new container terminal | Construction of container terminal, Access road and Channel dredging | Planned |
| Transfer the old jetty to Passenger terminal | Passenger Terminal | Planned |
| SEZ Development Project (Second Stage) | Feasibility Study, Detailes Design and Construction | Planned |
| Improvement of Port and Maritime Safety | Instalation of light house, Navigation buoys…etc. | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Continuous Construction of Sihanoukville Port Special Economic Zone Development Project | Goal of SEZ is supporting Phnom Penh – Sihanoukville growth corridor. Reducing the poverty of Cambodian people. Creating the private sectors. Creating around 25,000 – 30,000 jobs in Sihanoukville. Supporting the Port Autonomous of Sihanoukville as a back up service. | No. 3-1 |
| Multi-Purpose Terminal Development | To improve the bulk cargo facilities and increase the capacity in bulk/general cargo handling and provide a wharf for oil supply base | No. 3-2 |
| Enhancement of Container Handling Productivity | To improve the productivity of container operation through the installation of additional cargo handling equipment and quay cranes, and united IT system | No. 3-3 |
| M/P study for the development of a new container terminal | M/P study for the development of a new container terminal | No. 3-4 |
| Transfer the old jetty to Passenger terminal | Maintenance and transfer the Old Jetty to be Passenger Terminal. Establish New Passenger Terminal with International Standard. Contribute to attract the International Tourisms. | |
| SEZ Development Project (Second Stage) | To gain competitive advantage and more creating jobs,<br>more supporting Sihanoukville Autonomous Port as a backing up the cargo handling and operation. | |
| Improvement of Port and Maritime Safety | To secure safety and security for calling vessels to Port Autonomous of Sihanoukville. To secure safety of Pilot who get on board of large vessels. To secure safety and security against flammable cargo and environmental pollution. To strengthen fire fighting ability for increasing hazardous cargo such as coal, oil, wood-chips, etc. | |

**Project No. 3-1**

| | |
|---|---|
| Country | Cambodia |
| Port | Sihanoukville |
| Project Name | Continuous Construction of Sihanoukville Port Special Economic Zone Development Project |
| Purpose/Background | Goal of SEZ is supporting Phnom Penh – Sihanoukville growth corridor. Reducing the poverty of Cambodian people. Creating the private sectors. Creating around 25,000 – 30,000 jobs in Sihanoukville. Supporting the Port Autonomous of Sihanoukville as a back up service. |
| Outline of the Project | Land Area: 70 ha |
| Estimated Cost | JPY 3,651,000,000 |
| Fund Source | Loan from Japan International Cooperation Agency (JICA) |
| Project Owner | Sihanoukville Autonomous Port |
| Constructor | DAIHO Corporation |
| Project Schedule | 2009 - 2011 |
| Source of Information | PAS-PMU |

**Project No. 3-2**

| | |
|---|---|
| Country | Cambodia |
| Port | Sihanoukville |
| Project Name | Multi-Purpose Terminal Development |
| Purpose/Background | To improve the bulk cargo facilities and increase the capacity in bulk/general cargo handling and provide a wharf for oil supply base |
| Outline of the Project | Quay Length : Multi-purpose berth 260m, other 200m<br>Number of berth : 2 berth<br>Yard area : 2.5 ha<br>Maximum vessel size : 50,000 DWT<br>Major cargo : Bulk carrier |
| Estimated Cost | JPY 7,176,000,000 = US$ 74,132,000 |
| Fund Source | Loan from Japan International Cooperation Agency (JICA) |
| Project Owner | Sihanoukville Autonomous Port |
| Constructor | Under Selection of Consulting Service Procedures |
| Project Schedule | 2010 - 2015 |
| Source of Information | PAS-PMU |

**Project No. 3-3**

| | |
|---|---|
| Country | Cambodia |
| Port | Sihanoukville |
| Project Name | Enhancement of Container Handling Productivity |
| Purpose/Background | To improve the productivity of container operation through the installation of additional cargo handling equipment and quay cranes, and united IT system |
| Outline of the Project | Quay Length : Container berth Extension of 400m<br>Number of berth : 02 berths<br>Yard area : Additional 3 ha<br>Maximum vessel size : 20,000 DWT<br>Major cargo : Container<br>Cargo Handling Capacity : 390,000 TEUs<br>Quay Gantry Crane : Additional quay gantry crane = 01 unit<br>Cargo Handling Equipment : Additional RTGs = 02 units |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Constructor | - |
| Project Schedule | - |
| Source of Information | - |

**Project No. 3-4**

| | |
|---|---|
| Country | Cambodia |
| Port | Sihanoukville |
| Project Name | M/P study for the development of a new container terminal |
| Purpose/Background | To identify the necessary scale and schedule for the development of a new container terminal |
| Outline of the Project | Development of new container terminal<br>- Construction Access Road Commnected from National Road No.4 into Sihanoukville Port.<br>Channel dredging |
| Estimated Cost | - |
| Fund Source | Grant Aid of JICA |
| Project Owner | MPWT(PAS) |
| Constructor | - |
| Project Schedule | 2010-2011 |
| Source of Information | PAS-PMU |

# 3. Indonesia

## 3.1 Belawan Port

**Outline of Port**

<Location and Roles>

Belawan Port is located on the bank of the Belawan River which runs to Malacca Straight. The port is about 13.5 km upstream from the mouth of the river. (03 $^{o}$ 47' 00"South, 98 $^{o}$ 42' 48"East)

Medan City, the capital of North Sumatra Province is about 30km from the port. This port is the largest port in the north part of Sumatra Island, and is the gateway for cargoes of North Sumatra Province and neighboring provinces.

<Operation and Management>

Belawan Port is under the management of PT(persero) Pelabuhan Indonesia I(PELINDO-I), whose headquarter is located in Medan. Belawan International Container Terminal (BICT), one of a branch of PELINDO-I, is the direct manager of the container terminals. Belawan Port Branch of PELINDO-I is the manager of other facilities such as the general cargo terminals and the approach channel.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | ✔ | ✔ | ✔ | ✔ | | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Expansion of Container Terminal | Extension of berth<br>New quay cranes | Implementation (toward 2013) |
| A Large Scale Port Expansion Plan at an idle site | New general cargo wharf and palm oil wharf<br>Development of industrial complex | Planned |
| Improvement of container terminal operation | Additional yard equipment, Container Crane, and rubber tyred gantry crane | Planned |
| Relocation of Passenger terminal | Relocation of passenger berth<br>New Terminal building | Planned |
| Expansion of CPO Terminal | | |

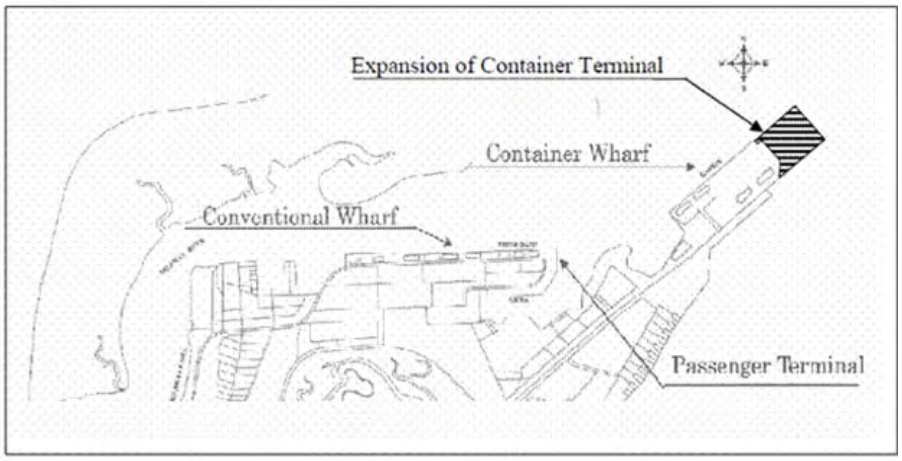
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Expansion of Container Terminal | To increase the capacity of container handling for international and domestic container | No. 4-1 |
| Relocation of Passenger Terminal | To improve the connectivity between passenger ship and railway by relocating the passenger terminal in the vicinity of the railway station | No. 4-2 |
| Improvement of container terminal operation | To improve the productivity of container handling in the container yard | No. 4-3 |
| A Large Scale Port Expansion Plan at an idle site | - | |
| Expansion of CPO Terminal | - | |

**Project No. 4-1**

| | |
|---|---|
| Country | Indonesia |
| Port | Belawan |
| Project Name | Expansion of Container Terminal |
| Purpose/Background | To increase the capacity of container handling for international and domestic container. |
| Outline of the Project | Quay: 210 m (PT. Pelindo I) + 850 m (IDB Loan)<br>Procurement of New Gantry Cranes |
| Estimated Cost | USD 90 million |
| Fund Source | Islamic Development Bank (IDB)-Loan Agreement 2010 |
| Project Owner | PT. Pelindo I and Ministry of Transport (MoT) |
| Project Schedule | Start 2011 |
| Source of Information | BICT Unit of PELINDO I<br>(Fact finding of site survey in June 2009) |

Plane Map



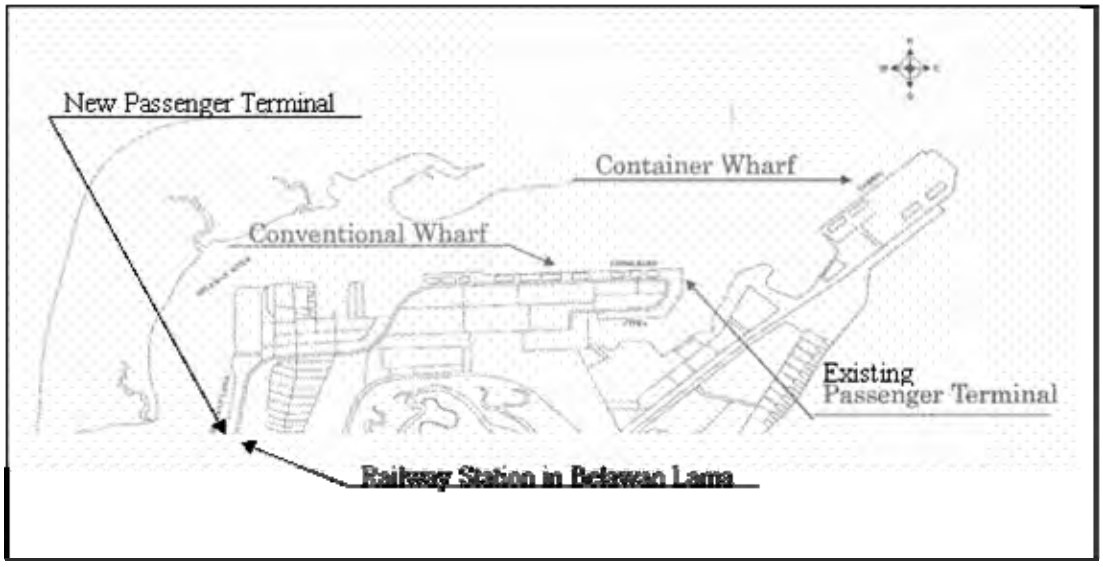

Source: JICA Study Team based on the information from PELINDO I

Location of Project Site

**Project No. 4-2**

| | |
|---|---|
| Country | Indonesia |
| Port | Belawan |
| Project Name | Relocation of Passenger Terminal |
| Purpose/Background | To improve the connectivity between passenger ship and railway by relocating the passenger terminal in the vicinity of the railway station |
| Outline of the Project | Relocation of the passenger terminal to the vicinity of the railway station in Belawan Lama. |
| Estimated Cost | - |
| Fund Source | PT. Pelindo I |
| Project Owner | PT. Pelindo I |
| Project Schedule | 2011 |
| Source of Information | Fact Finding of site survey in June 2009 |

Plane Map



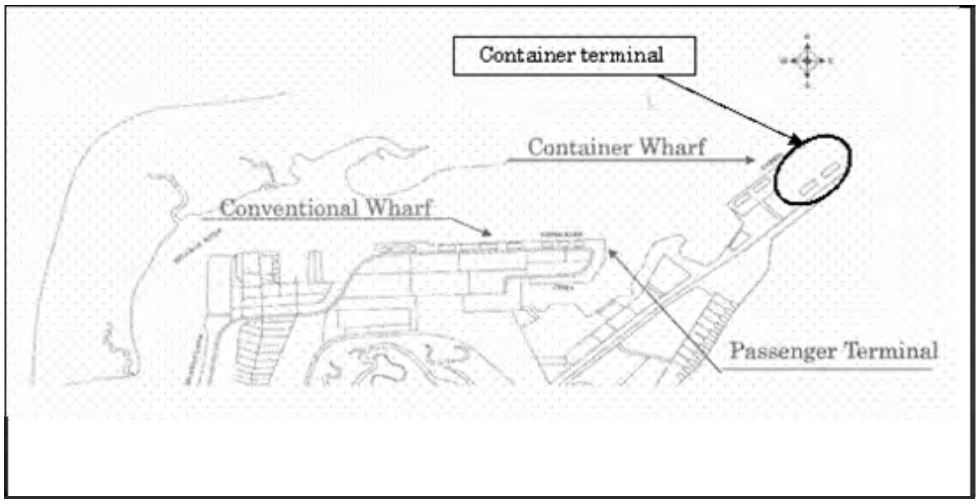

Source: JICA Study Team based on the information from PELINDO I

Location of Project Site

**Project No. 4-3**

| | |
|---|---|
| Country | Indonesia |
| Port | Belawan |
| Project Name | Improvement of container terminal operation |
| Purpose/Background | To improve the productivity of container handling in the container yard.<br>Currently, the unloaded containers are stuck in the back reach area of quayside container crane and then reloaded on the chassis. These re-handling operation may be resulted by the shortage of prime movers and chassis. Similarly, the trailers carrying containers from the outside of the terminal are forced to stay long time in the yard due to the shortage of RTGs. |
| Outline of the Project | Procure additional yard equipment:<br>Prime movers and chassis<br>RTGs<br>5 unit Container Crane, 10 unit rubber tyred gantry crane |
| Estimated Cost | - |
| Fund Source | PT. Pelindo I |
| Project Owner | PT. Pelindo I |
| Project Schedule | 2013 |
| Source of Information | Fact Finding of site survey in June 2009 |

Plane Map




Source: JICA Study Team based on the information from PELINDO I

Location of Project Site

## 3.2 Dumai Port

**Outline of Port**

<Location and Roles>

Dumai Port is located in the middle of Sumatra Island, and facing Strait of Malacca. There is a small island named 'PulauRupat' between the port and the Strait. It becomes a natural breakwater of Dumai Port.

Dumai Port is about 5 hours by vehicle from Pukanbaru City, the capital of Liau Province. Dumai Port is mainly used for Crude Oil, Crude Palm Oil (CPO) and their products which are main products of Liau Province.

Few containers are handled in Dumai Port, and no liner vessel calls on the port.

<Operation and Management>

Dumai Port is under the management of Dumai Port Branch of PT(persero) Pelabuhan Indonesia I(PELINDO-I), whose headquarter is located in Medan City in Sumatra Island.

PELINDO operates the Palm Oil Wharf, Old Wharf, New Wharf, and Passenger Jetties. It also leases lands of backyard of wharves to private companies for storage facilities for palm oil and cement.

Stevedores handle cargoes in the Old Wharf and New Wharf using their own cranes.

There are private terminals where Crude Oil, Gasoline, Crude Palm Oil are handled. They will be competitor of PELIND after new port regulation becomes effective in 2010.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | | | ✔ | | | ✔ | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Palm Oil terminal construction project IN Tanjung Buton | New pipelines | Implementation |
| Extension of wharfs | Wharf A, B and C | Planned |
| Extension of passenger terminal | | Implementation |
| Dedicated liquid cargo wharf | | Planned |
| Development of Container Terminal | New container terminal | Pre-Planning |

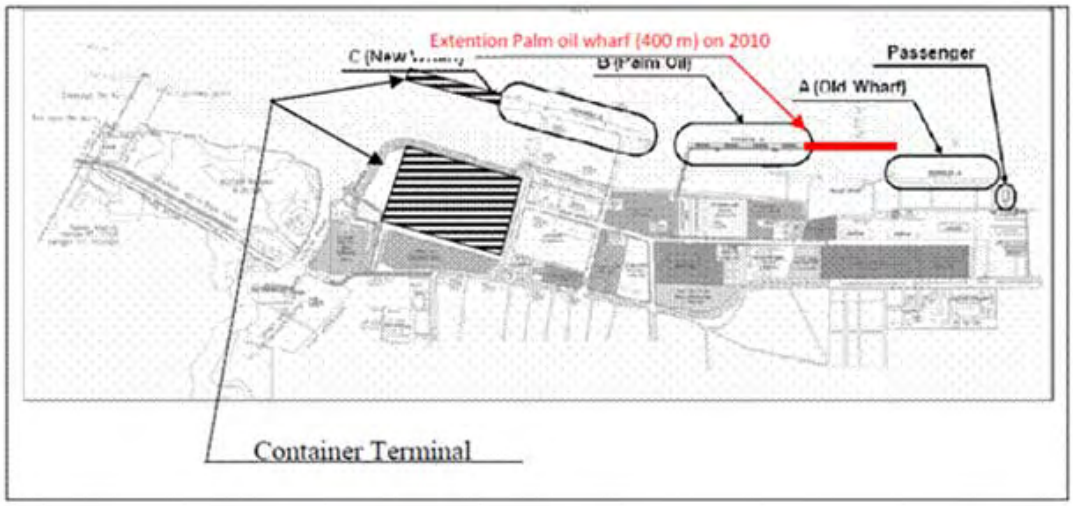
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Development of Container Terminal | To establish the capacity of container handling | No. 5-1 |
| Palm Oil terminal construction project IN Tanjung Buton | - | |
| Extension of passenger terminal | - | |

**Project No. 5-1**

| | |
|---|---|
| Country | Indonesia |
| Port | Dumai |
| Project Name | Development of Container Terminal |
| Purpose/Background | To establish the capacity of container handling |
| Outline of the Project | Quay : 200 m x 40 m<br>Gantry Crane<br>Container yard : 15 Ha |
| Estimated Cost | IDR 900 M = USD 100 million |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | ( Long term development ) |
| Source of Information | Fact finding of site survey in July 2009 |

Plane Map




Source: JICA Study Team based on the data by PELINDO I

Location of Container Terminal Development Project

## 3.3 Tanjung Priok Port

**Outline of Port**

<Location and Roles>

Tanjung Priok Port (TPP) is located in the east part of Java Island and in DKI Jakarta, the capital of Indonesia. (06° 06'00"South, 106° 53'00"East) The total area of TTP is 604ha and total length of the berths is 13,444.6m. It is reported that TTP handles half of the total cargoes in Indonesia.

<Operation and Management>

TPP is under the management of PT (persero) Pelabuhan Indonesia II(PELINDO-II), which is located within the area of TPP.

The operations of terminals in TPP are consigned to companies. This method is used only in TPP among the ports of PELINDO-II. Machines for cargo handling and warehouses belong to these companies.

PELINDO terminals are categorized into Conventional terminals, JICT terminals and KOJA terminals. Conventional terminals are under the control of TPP Branch of PELINDO-II. JICT and KOJA terminals are operated by Joint companies of PELIND-II and private enterprises.

The Car terminal which is the first car terminal in Indonesia was opened in December 2007. This terminal is used to export cars to Thailand, Vietnam, and other countries.Besides PELINDO terminals, some terminals in the area of TPP are managed by private companies.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | ✔ | ✔ | ✔ | | | | ✔ | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Channel and Basin Improvement | Relocation of breakwater,<br>Widening and deepening approach channel<br>Expanding Turning Basin | Implementation |
| Construction of New Terminals | New terminals (reclamation) | Implementation |
| Container Terminal Development Project | | |
| Development of New Access | Access Port Highway | Implementation |

| | | |
|---|---|---|
| Road | | |
| Inner Road Improvement | Reinforcing and widening of the roads | Implementation |
| Yard & Pier Improvement | Reinforcing piers and yard Demolition of warehouse etc. | Planned |
| Development of Koja Liquid Bulk Terminal & CPO Terminal | Development of liquid bulk terminal and CPO terminal | Planned |
| Car Terminal Expansion | Expansion of Car Terminal | Planned |
| Railway Extension | Extension of Railway | Planned |
| East Ancol Development | Reclamation, Extension of multipurpose quay and passenger terminal etc. | Planned |
| Kalibaru Development | Reorganization of the land , | Planned |
| *New Development in Subang* | - | *Implementaiton* |

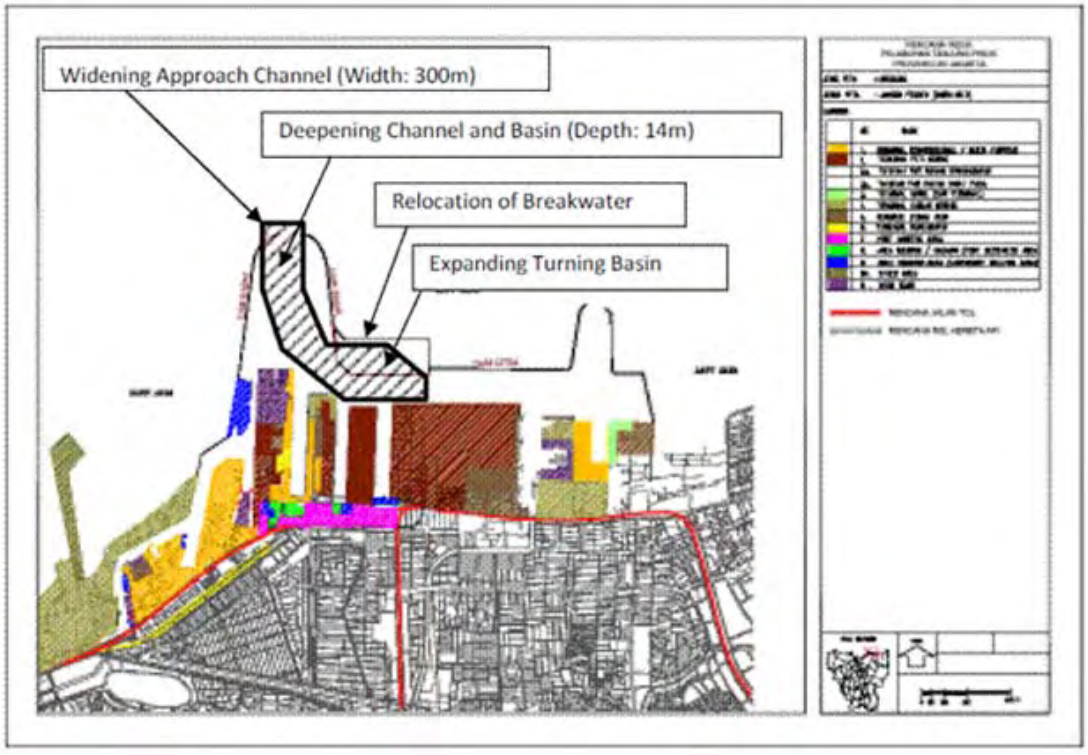
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Channel and Basin Improvement | To improve the safety and efficiency in manoeuvring vessels in the port | No. 6-1 |
| Development of New Access Road | To improve the connectivity to the expressways by directly linking the port to the roads of Jakarta Outer Ring Road / Jakarta Intra Urban Tollway / Jakarta Harbour Road. | No. 6-2 |
| Inner Road Improvement | To improve the road condition in the port | No. 6-3 |
| Yard & Pier Improvement | To improve the efficiency in cargo handling at the yard and mooring at the pier, and coping with the growing container volume | No. 6-4 |
| Development of Koja Liquid Bulk Terminal & CPO Terminal | To increase the capacity of handling liquid bulk & CPO | No. 6-5 |
| Car Terminal Expansion | To increase the capacity of handling cars | No. 6-6 |
| Railway Extension | To link the railway directly to container terminals | No. 6-7 |
| East Ancol Development | To improve the effectiveness and safety of the port function through the re-development of the western area of the port | No. 6-8 |
| Container Terminal Development Project | To develop container terminals to cope with increasing containers and to increase the capacity of container handling | |
| Kalibaru Development | To improve the effectiveness and safety of the port function through the re-development of the eastern area of the port | No. 6-9 |
| New Development in Subang | - | |

**Project No. 6-1**

| | |
|---|---|
| Country | Indonesia |
| Port | Tanjung Priok |
| Project Name | Channel and Basin Improvement |
| Purpose/Background | To improve the safety and efficiency in maneuvering vessels in the port. |
| Outline of the Project | Relocation of Breakwater (Length :1980 m)<br>Widening Approach Channel to double way (Width: 300m)<br>Expanding Turning Basin (radius : 280 m)<br>Deepening Channel and Basin (Depth: 14m)<br>Navigation aid |
| Estimated Cost | ¥ 10,65 M = Rp 1,14 T = USD 130 million |
| Fund Source | JBIC-Loan No. IP-521 (31 March 2004) for 2004 - 2013 |
| Project Owner | Directorate General of Sea Transport, Ministry of Transport |
| Project Schedule | - |
| Source of Information | 131 Tahun Pelabuhan TG Priok, JICA Website |

Plane Map



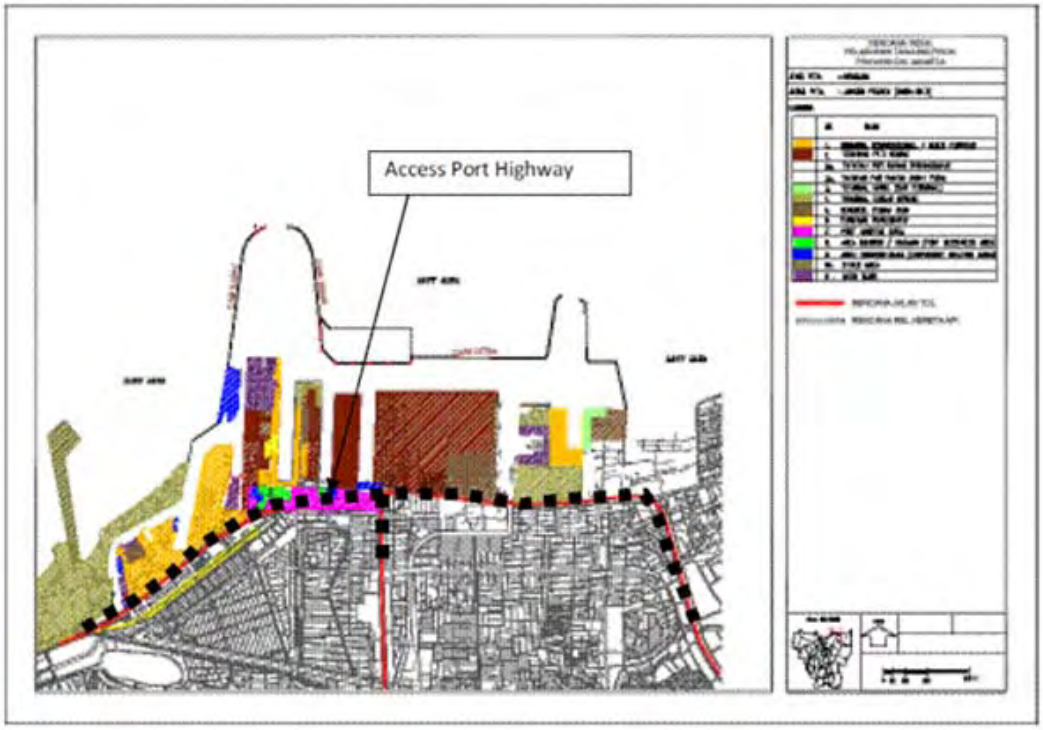

Source: JICA Study based on the data by DGST

Location of Project Site

**Project No. 6-2**

| | |
|---|---|
| Country | Indonesia |
| Port | Tanjung Priok |
| Project Name | Development of New Access Road |
| Purpose/Background | To improve the connectivity to the expressways by directly linking the port to the roads of Jakarta Outer Ring Road / Jakarta Intra Urban Tollway / Jakarta Harbour Road. |
| Outline of the Project | Access Port Highway: 12.1km |
| Estimated Cost | USD 854 million* |
| Fund Source | Japanese ODA loan* |
| Project Owner | Directorate General of Highways, Ministry of Public Works* |
| Project Schedule | - |
| Source of Information | 131 Tahun Pelabuhan TG Priok, *: JICA Website |

Plane Map



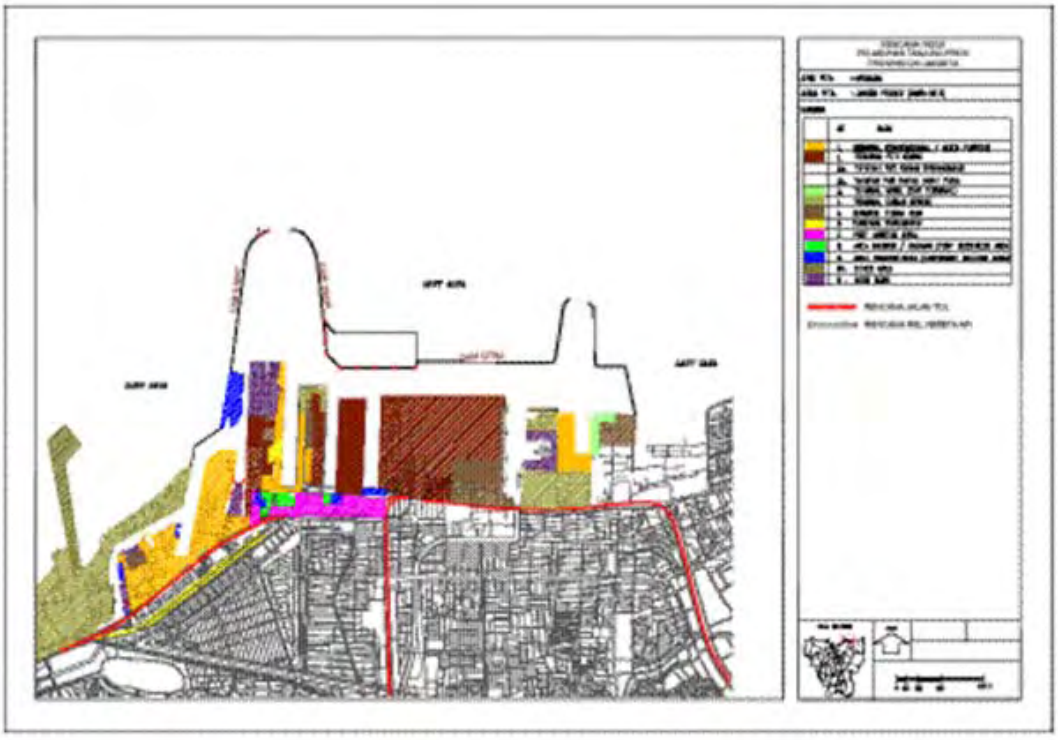

Source: JICA Study Team based on the data by DGST

Location of Project Site

**Project No. 6-3**

| | |
|---|---|
| Country | Indonesia |
| Port | Tanjung Priok |
| Project Name | Inner Road Improvement |
| Purpose/Background | To improve the road condition in the port. |
| Outline of the Project | Reinforcing the road in Line I area with concrete pavement: 70,693 m2<br>Port Inner road improvement (reinforce with concrete pavement)<br>Widening of the roads in Line II area: 5 lanes (originally 3 lanes)<br>Construction of Pasoso Flyover: 320m<br>Arrangement of roads in the port to be connected to Jakarta Outer Ring Road and Jalan Tol Ir Wiyoto Wiyono |
| Estimated Cost | ¥ 2 M = Rp 193 M = USD 21,44 Million |
| Fund Source | JBIC Loan IP-521 and PT. Pelindo II |
| Project Owner | PELINDO II |
| Project Schedule | Start 2009 |
| Source of Information | 131 Tahun Pelabuhan TG Priok<br>(fact finding of site survey in June 2009) |

Plane Map



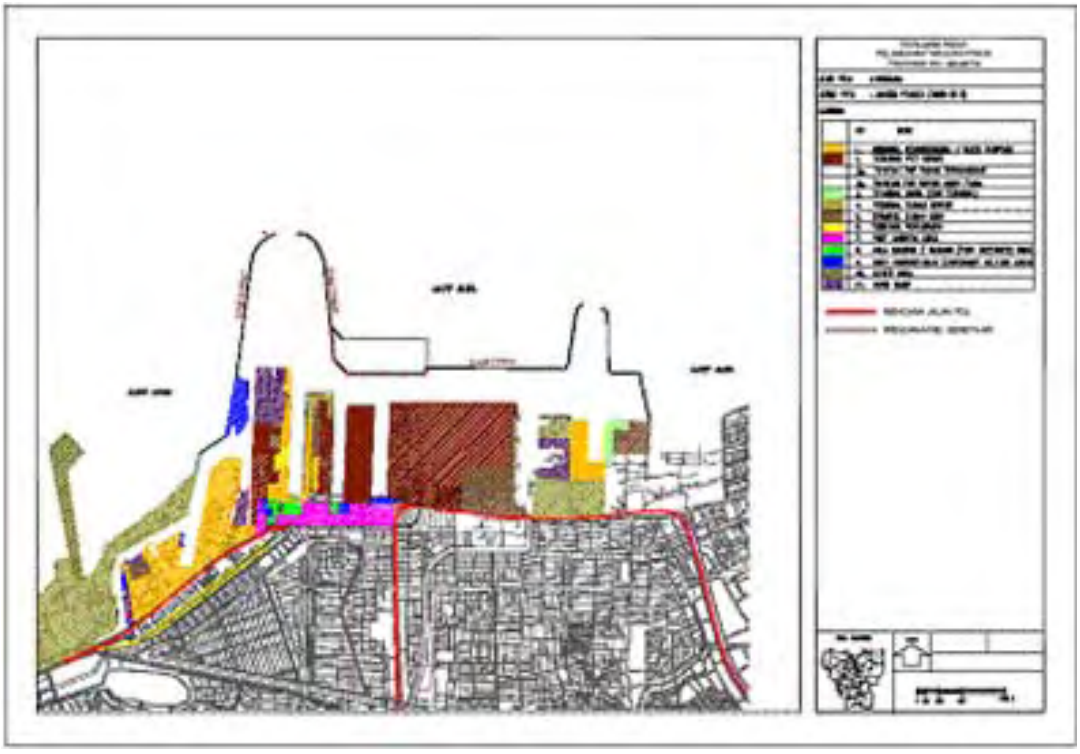
Source: JICA Study Team based on the data by DGST

Location of Project Site

**Project No. 6-4**

| | |
|---|---|
| Country | Indonesia |
| Port | Tanjung Priok |
| Project Name | Yard & Pier Improvement |
| Purpose/Background | To improve the efficiency in cargo handling at the yard and mooring at the pier, and coping with the growing container volume. |
| Outline of the Project | [Urgent Plan]<br>Reinforcement of piers and yard<br>Demolition of warehouses: 24 warehouses<br>[Short-term Plan]<br>Reorganizing the yard for multipurpose and container: 30ha<br>Development/deepening of quay: 2,541m<br>Removal of Paliat Peninsula: 4.5ha<br>Channel and Basin Improvement |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | PELINDO II |
| Project Schedule | - |
| Source of Information | 131 Tahun Pelabuhan TG Priok<br>(Fact finding of site survey in June 2009) |

Plane Map



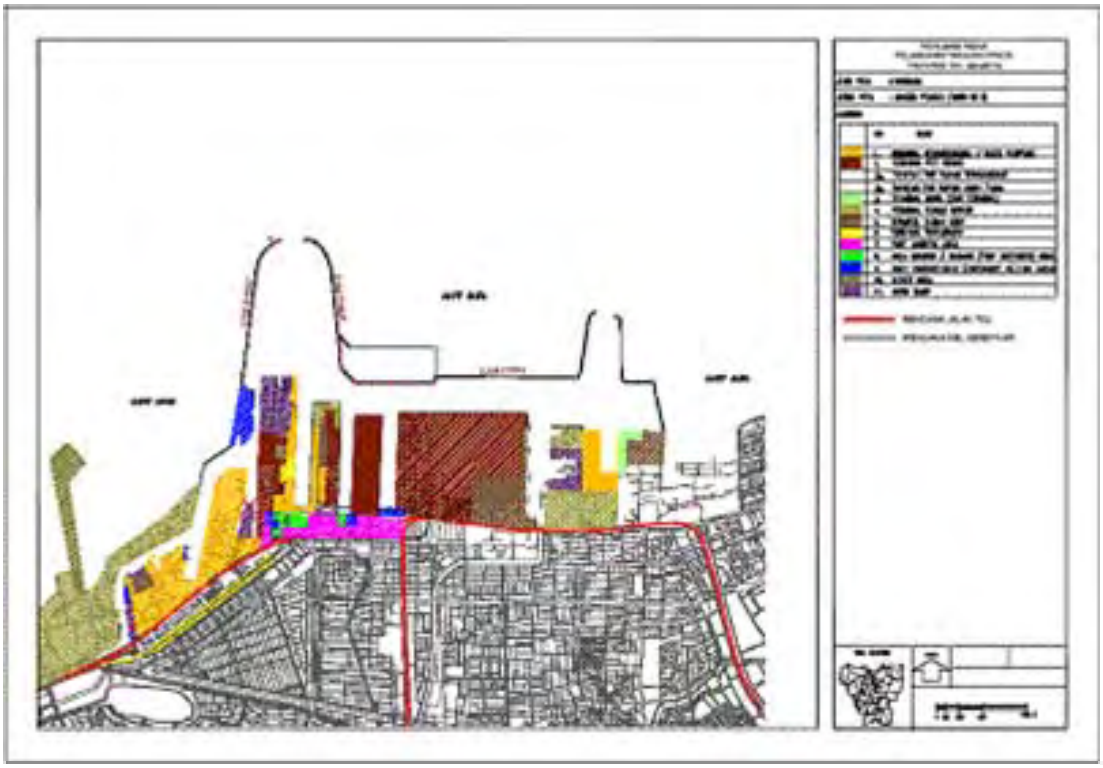
Source: JICA Study Team based on the data by DGST

Location of Project Site

**Project No. 6-5**

| | |
|---|---|
| Country | Indonesia |
| Port | Tanjung Priok |
| Project Name | Development of Koja Liquid Bulk Terminal & CPO Terminal |
| Purpose/Background | To increase the capacity of handling liquid bulk & CPO. |
| Outline of the Project | [Short-term Plan]<br>Development of Koja liquid bulk terminal: 13 ha<br>Development of CPO terminal: 4.7ha |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | 131 Tahun Pelabuhan TG Priok<br>(Fact finding of site survey in June 2009) |

Plane Map



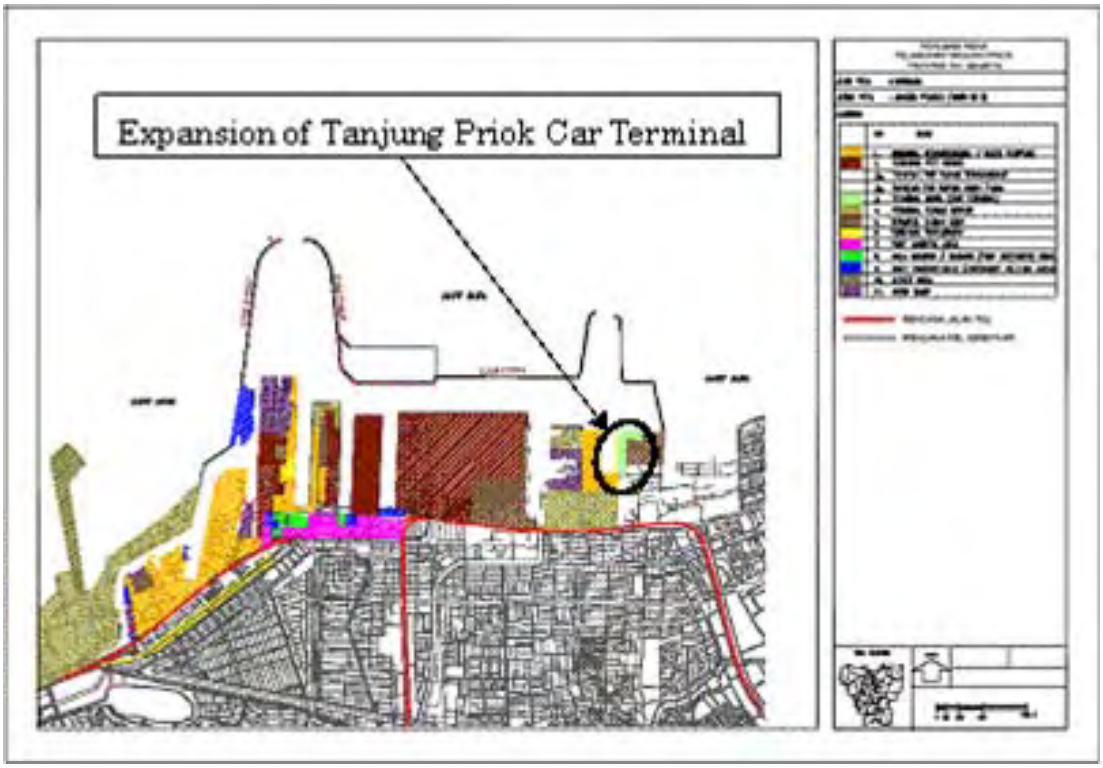
Source: JICA Study Team based on the data by DGST

Location of Project Site

**Project No. 6-6**

| | |
|---|---|
| Country | Indonesia |
| Port | Tanjung Priok |
| Project Name | Car Terminal Expansion |
| Purpose/Background | To increase the capacity of handling cars |
| Outline of the Project | [Short-term Plan]<br>Reorganizing the land of ex PT Koja Bahari Galangan III: 19.97ha<br>Expansion of Tanjung Priok Car Terminal |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | PELINDO II |
| Project Schedule | - |
| Source of Information | 131 Tahun Pelabuhan TG Priok<br>(Fact finding of site survey in June 2009) |

Plane Map



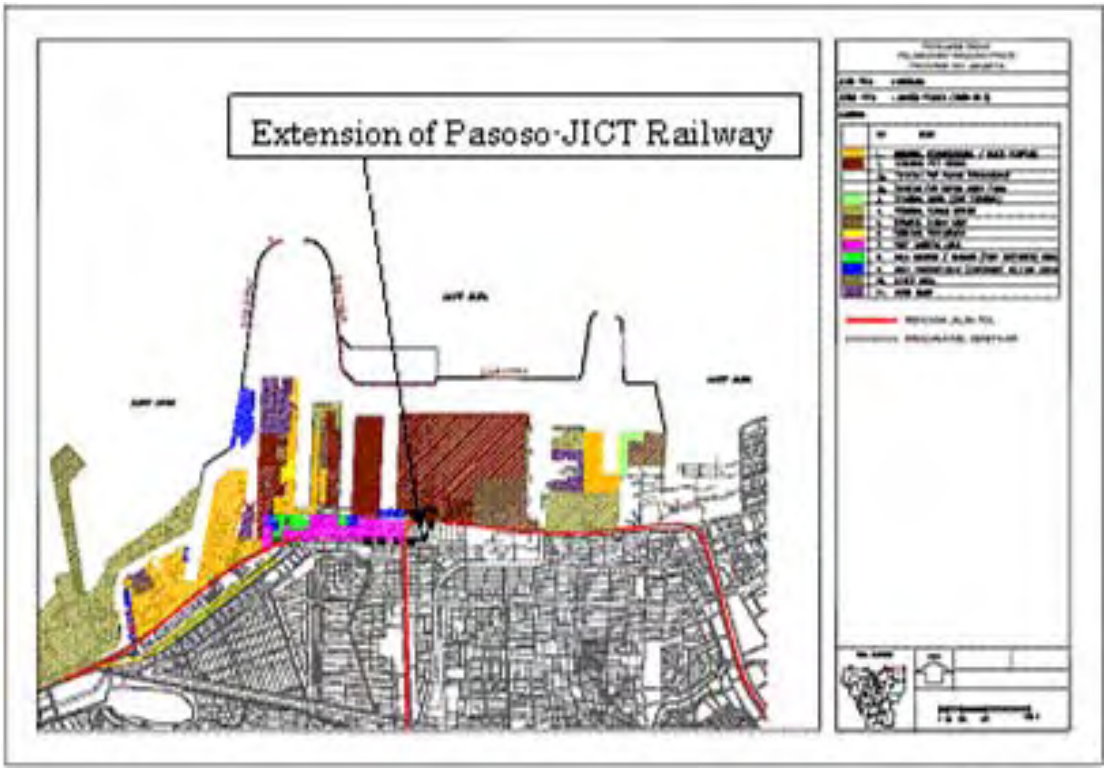

Source: JICA Study Team based on the data by DGST

Location of Project Site

**Project No. 6-7**

| | |
|---|---|
| Country | Indonesia |
| Port | Tanjung Priok |
| Project Name | Railway Extension |
| Purpose/Background | To link the railway directly to container terminals. |
| Outline of the Project | [Short-term Plan]<br>Extension of Pasoso-JICT Railway: 1package |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | 131 Tahun Pelabuhan TG Priok<br>(Fact finding of site survey in June 2009) |

Plane Map




Source: JICA Study Team based on the data by DGST

Location of Project Site

**Project No. 6-8**

| | |
|---|---|
| Country | Indonesia |
| Port | Tanjung Priok |
| Project Name | East Ancol Development |
| Purpose/Background | To improve the effectiveness and safety of the port function through the re-development of the western area of the port |
| Outline of the Project | [Medium-term Plan]<br>Reclamation in East Ancol: 125ha<br>Extension of multipurpose quay and passenger terminal: 2,200m<br>Reorganization of the land of ex PT Koja Bahari Galoangan II: 14.84ha<br>Reclamation of east and north side of breakwater: 215ha<br>Additional Quay for container and bulk: 1,625m<br>Causeway: 1,500m<br>Relocation of Navy, Army and Police: 5.80ha<br>Demolition of the existing breakwater: 9,964m<br>Development of breakwater: 1,985m<br>Dredging |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | 131 Tahun Pelabuhan TG Priok<br>(Fact finding of site survey in June 2009) |

Plane Map

Source: JICA Study Team based on the data by DGST

Location of Project Site

**Project No. 6-9**

| | |
|---|---|
| Country | Indonesia |
| Port | Tanjung Priok |
| Project Name | Kalibaru Development |
| Purpose/Background | To improve the effectiveness and safety of the port function through the re-development of the eastern area of the port |
| Outline of the Project | [Medium-term Plan]<br>Reorganization of the land of PT Sarpindo<br>Improvement of port logistic areas in Kalibaru, phase I :32ha<br>Improvement of office center: 8,000m2<br>Dredging |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | 131 Tahun Pelabuhan TG Priok<br>(Fact finding of site survey in June 2009) |

Plane Map

Source: JICA Study Team based on the data by DGST

Location of Project Site

## 3.4 Palembang Port

**Outline of Port**

<Location and Roles>

Palembang Port is located on the bank of the Musi River, which runs from the western mountain area through the central low land to the east coast in south Sumatra. (02° 59'08" South, 104°46'00"East) Its location is in Palembang city, the capital of South Sumatra Province. This port plays an important role in the economic activities of south Sumatra region. It has served the regional economy since 1924 at the current location.

Crude Oil and Coal are major natural resources in south Sumatra. Major industrial products are Plywood, Rubber, and Fertilizer. These goods are delivered from Palembang Port. Commodities for daily life are major cargoes to Palembang Port.

<Operation and Management>

Palembang Port is under the management of Palembang Port Branch of PT(persero) Pelabuhan Indonesia II(PELINDO-II), whose headquarter is located in Jakarta in Java Island.

There are many private factories of the Petroleum, Fertilizer, and Plywood industries operating at the wharves along the Musi River. Boom Baru Area (24ha) and Sei Las Area (200ha) are public harbor areas owned by PELINDO-II.

Most port activities are conducted in the Boom Baru Area because the depth of the front water area of Sei Las Area is only 1.0mLSW. Boom Baru Area has conventional, container, and passenger terminals lined in a row. Private stevedores handle cargo in the conventional terminals. PELINDO-II handles containers in the container terminal.

Channels and anchorages are operated by PELINDO-II under the control of ADPEL, which is the harbor master.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | ✔ | | | ✔ | ✔ | | | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Improvement of Approach Channel | Deepening and broadening of the approach channel | Implementation |
| Quayside Container Crane | New quay container cranes | Planned |
| Construction of Development in Tanjung Api-api | Construction of a new port | Planned |
| Api-api new coal port Development | New coal port | Planned |

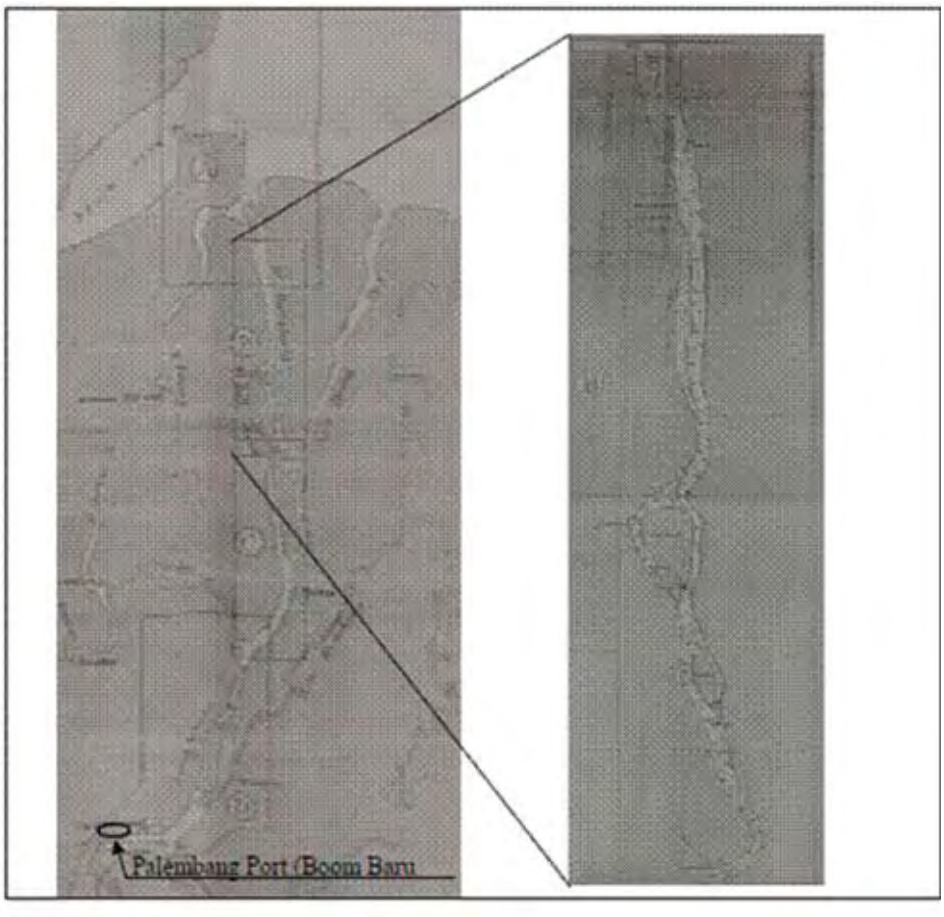
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Improvement of Approach Channel | To reduce the restriction of the shallow and narrow channel | No. 7-1 |
| Api-api new coal port Development | To develop coal loading facilities for small- and medium-size mining companies | No. 7-2 |
| Quayside Container Crane | To improve the productivity of loading/unloading at quayside | No. 7-3 |
| Construction of Development in Tanjung Api-api | - | |

**Project No. 7-1**

| | |
|---|---|
| Country | Indonesia |
| Port | Palembang |
| Project Name | Improvement of Approach Channel |
| Purpose/Background | To reduce the restriction of the shallow and narrow channel |
| Outline of the Project | Deepening and broadening of the shallow and narrow section of the approach channel (volume dredging 1 million m3) |
| Estimated Cost | IDR 28 M = USD 3,1 million |
| Fund Source | Directorate General of Sea Transportation (DGST) |
| Project Owner | Directorate General of Sea Transportation (DGST) |
| Project Schedule | 2010 |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map



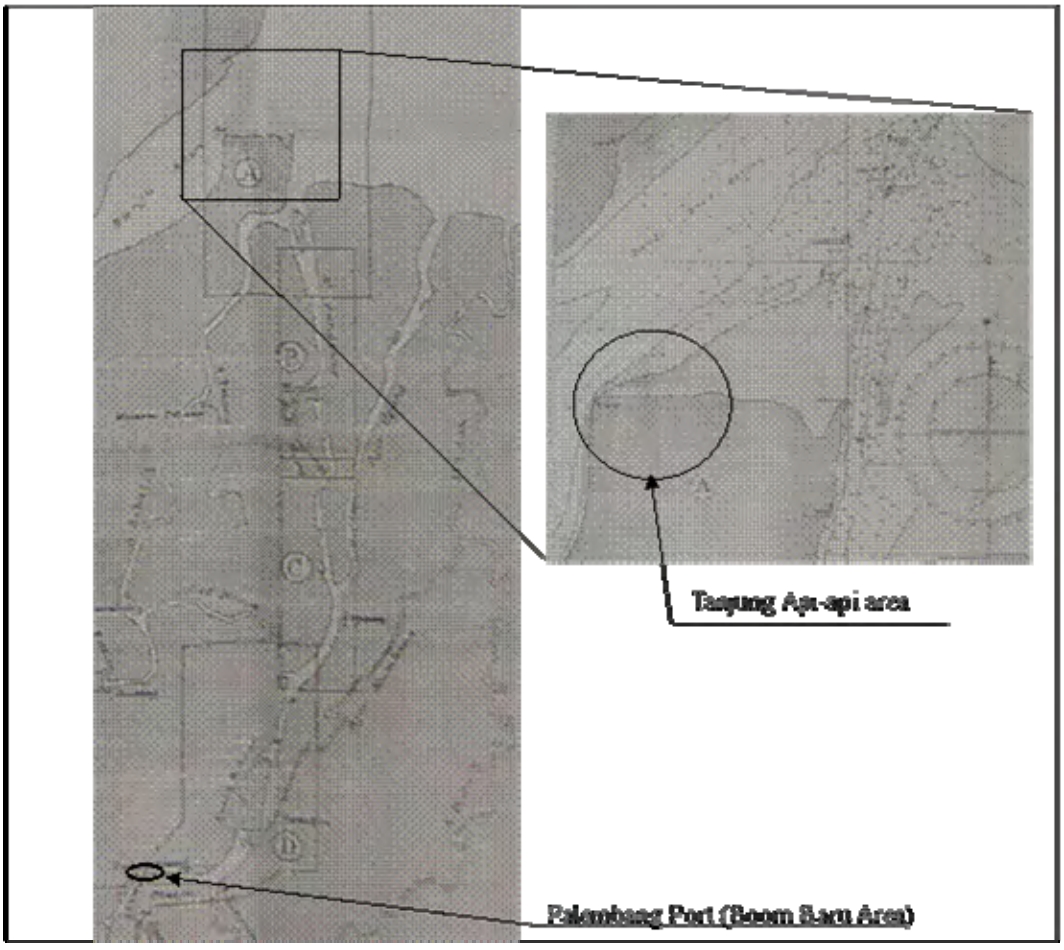

Source: JICA Study Team based on the data by PELINDO II

Approach Channel of Palembang Port

**Project No. 7-2**

| | |
|---|---|
| Country | Indonesia |
| Port | Palembang |
| Project Name | Api-api new coal port development |
| Purpose/Background | To develop coal loading facilities for small- and medium-sized mining companies. |
| Outline of the Project | Develop a new coal terminal near the mouth of Musi River (Tanjung Api-api Port) |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map



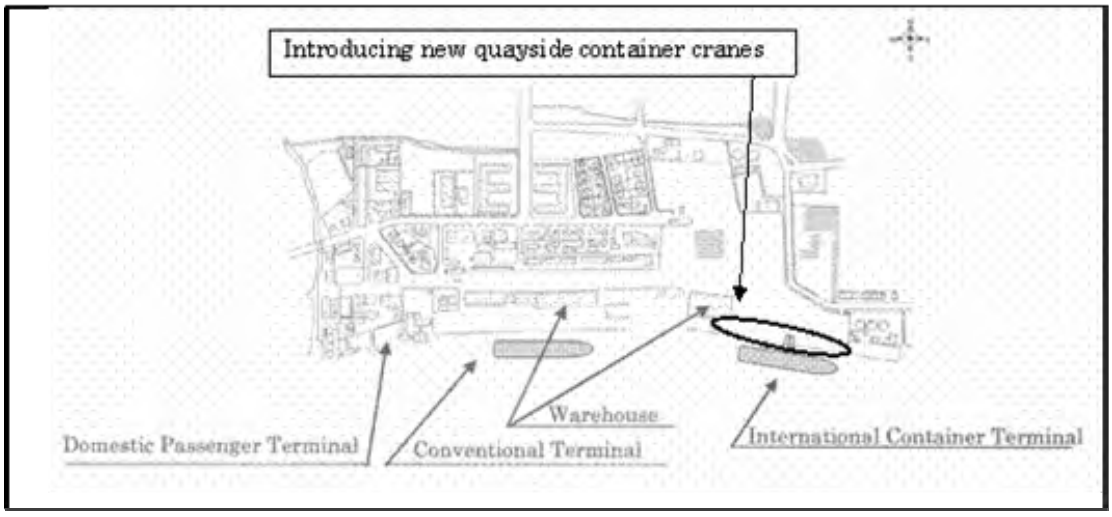

Source: JICA Study Team based on the data by PELINDO II

Possible location of a public coal terminal

**Project No. 7-3**

| | |
|---|---|
| Country | Indonesia |
| Port | Palembang |
| Project Name | Quayside Container Crane |
| Purpose/Background | To improve the productivity of loading/unloading at quayside |
| Outline of the Project | Introducing new quayside container cranes |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map




Source: JICA Study Team based on the data by PELINDO II

Location of Project Site

## 3.5 Panjang Port

**Outline of Port**

<Location and Roles>

Panjang Port is located in the interior of Lampung Bay in the east end of Sumatra Island. (05$^{o}$ 28'23"South, 105$^{o}$19'03"East) The water at the front of the wharf is deep and the port is easily accessible from the sea.

Major industries of Lampung Province are agriculture and forestry. There are factories to refine palm oil. Major goods of Panjang Port are Coffee, Palm Oil, and Pulp.

<Operation and Management>

Panjang Port is under the management of Panjan Port Branch of PT(persero) Pelabuhan Indonesia II(PELINDO-II), whose headquarter is located in Jakarta in Java Island.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | ✔ | ✔ | ✔ | | | | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Expansion of Conventional Terminal | Reclamation of liquid terminal<br>Expansion of Wharf-C | Implementation |
| Conversion of ISAB terminal | | Pre-Planning |
| Upgrading of the port management and operation system | Cobol to Oracle | Planned |

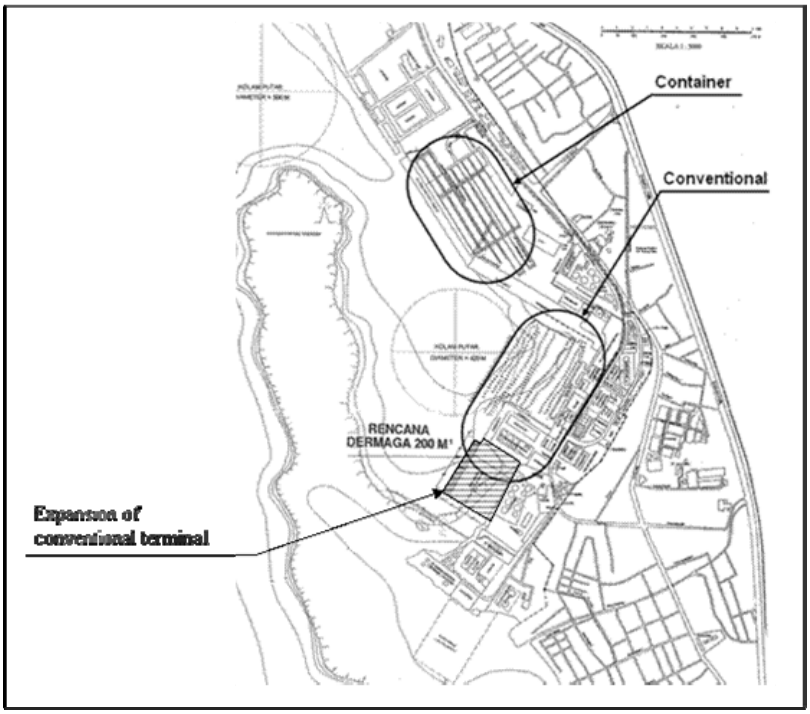
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Expansion of Conventional Terminal | To increase the capacity of handling conventional cargo | No. 8-1 |
| Conversion of ISAB Terminal | To increase the container handling capacity by converting an existing multipurpose terminal (ISAB Terminal) into a container terminal after the lease contract of the terminal will be terminated in 2017 | No. 8-2 |
| Upgrading of the port management and operation system | - | |

**Project No. 8-1**

| | |
|---|---|
| Country | Indonesia |
| Port | Panjang |
| Project Name | Expansion of Conventional Terminal |
| Purpose/Background | To increase the capacity of handling conventional cargo |
| Outline of the Project | Quay: 200m<br>Yard: - m2 |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - 2009 |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map



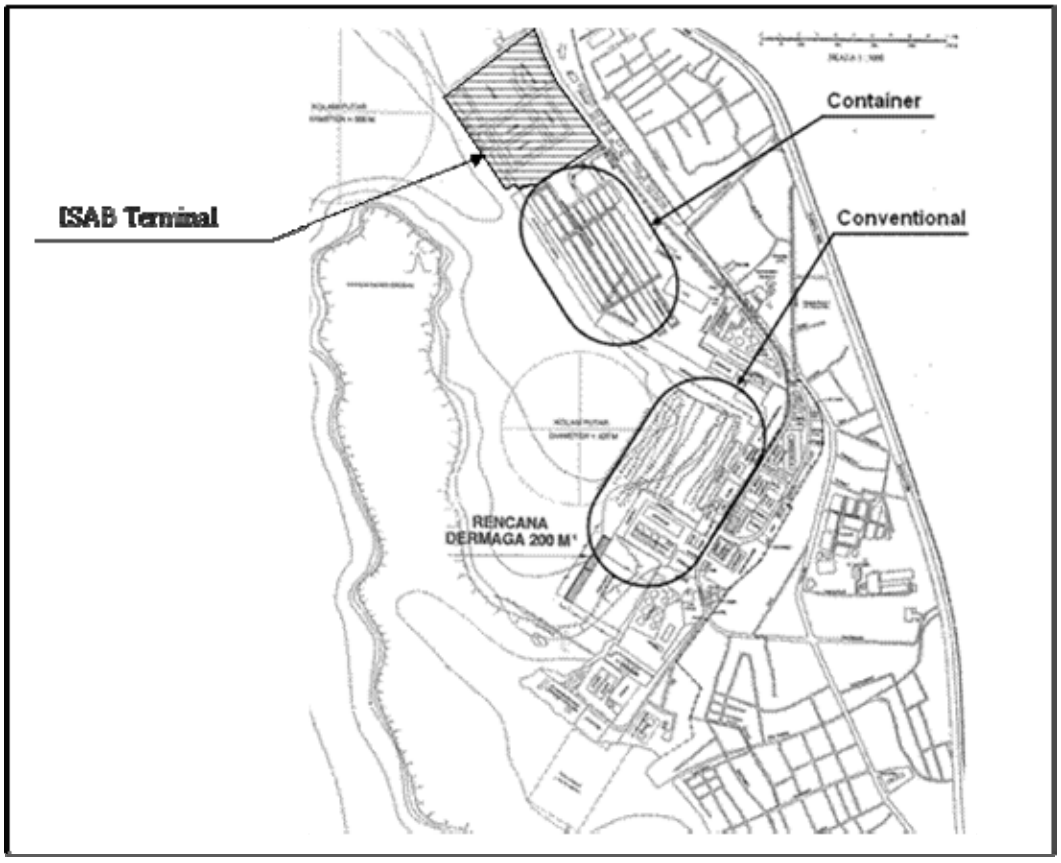

Source: JICA Study Team based on the data by PELINDO II

Location of Project Site

**Project No. 8-2**

| | |
|---|---|
| Country | 3.Indonesia |
| Port | (8) Panjang |
| Project Name | 2)Conversion of ISAB Terminal |
| Purpose/Background | To increase the capacity of container handling by converting a existing multipurpose terminal (ISAB Terminal) into a container terminal after the lease contract of the terminal will be terminated in 2017 |
| Outline of the Project | Quay: 300m<br>Yard: - m2<br>Gantry crane: 2 units |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | 2017 - |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map




Source: JICA Study Team based on the data by PELINDO II

Location of Project Site (ISAB Terminal)

## 3.6 Pontianak Port

**Outline of Port**

<Location and Roles>

Pontianak Port is located along the Kapus Kecil River, which runs through southeast Kalimantan. The port is about 17nm upstream from the mouth of the river. (00°01'00" South/ 109°20'00" East)

The port is in Pontianak City, the capital of West Kalimantan Province. This port is the largest port in Kalimantan Island. The major industries of this Province are forestry and agriculture, and lumber and rubber are major products in the region. Pontianak Port is the gateway for cargoes of West Kalimantan.

<Operation and Management>

Pontianak Port is under the management of PT(persero) Pelabuhan Indonesia II(PELINDO-II), whose headquarter is located in Jakarta in Java Island. PELINDO-II handles container cargoes directly, and private stevedores handle general cargoes under the management of PELINDO-II.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | | ✔ | ✔ | | | | | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Approach channel improvement | Deepening of the shallow section of the access channel | Implementation |
| Yard reorganization | Reorganizing / expanding the container yard and introducing RTGs | Planned |
| Temajo port development a the seacoast | CPO storage facility | Planned |
| Redevelopment of the existing port area and facilities | | |

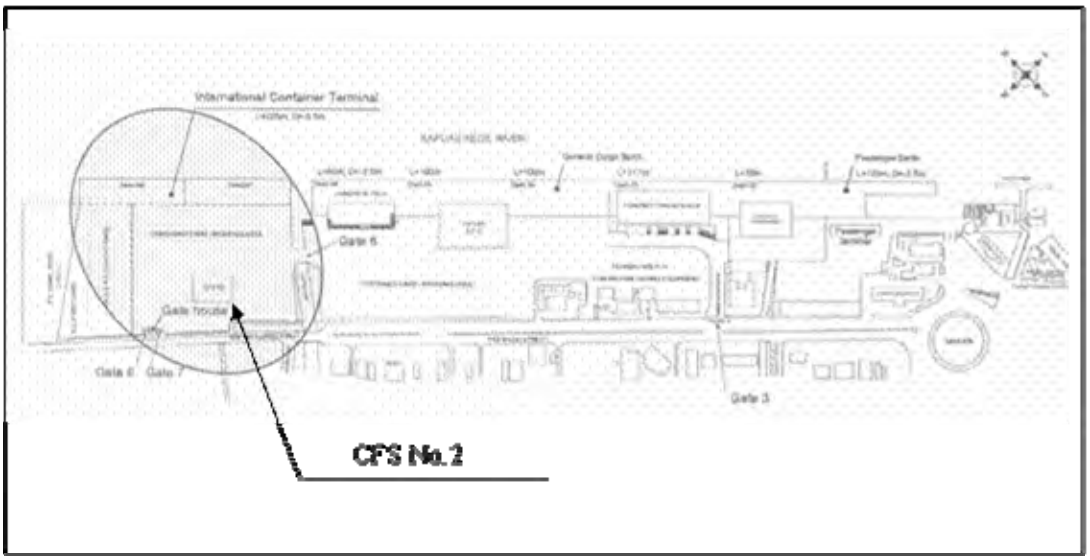
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Yard reorganization | To streamline the yard operation by reorganizing / expanding the container yard and introducing RTGs | No. 9-1 |
| Approach channel improvement | To reduce the restriction of the shallow channel | No. 9-2 |
| Temajo port development a the seacoast | - | |
| Redevelopment of the existing port area and facilities | - | |

**Project No. 9-1**

| | |
|---|---|
| Country | Indonesia |
| Port | Pontianak |
| Project Name | Yard reorganization |
| Purpose/Background | To streamline the yard operation by reorganizing / expanding the container yard and introducing RTGs |
| Outline of the Project | Demolition of CFS No.2<br>RTGs: - units |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map



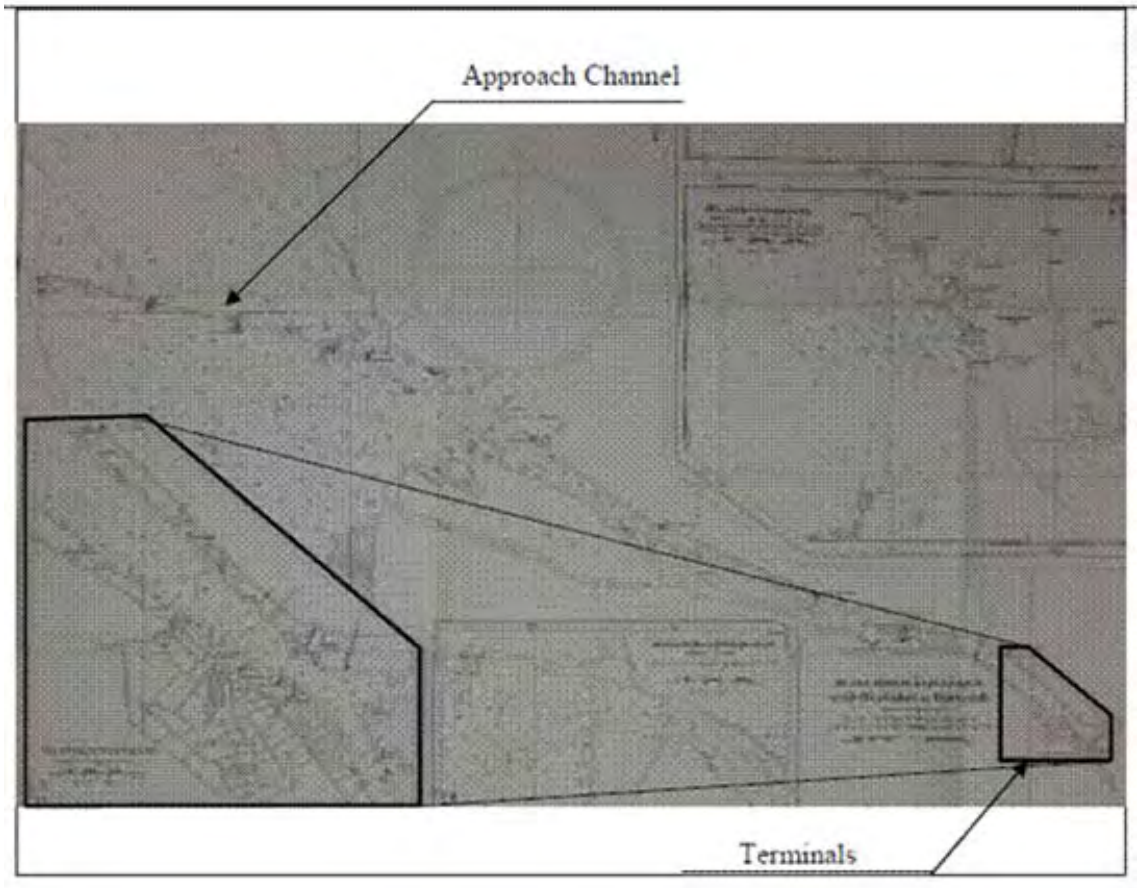

Source: JICA Study Team based on the data by PELINDO II

Location of container terminal

**Project No. 9-2**

| | |
|---|---|
| Country | Indonesia |
| Port | Pontianak |
| Project Name | Approach channel improvement |
| Purpose/Background | To reduce the restriction of the shallow channel |
| Outline of the Project | Deepening of the shallow section of the access channel (-4.5m deep currently)<br>Channel Depth: - 12 m LWS (vol of dredging : 1.500.000 m3) |
| Estimated Cost | IDR 43 M = USD 4,8 million |
| Fund Source | APBN (Government of Indonesia Budged) |
| Project Owner | DGST |
| Project Schedule | 2010 |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map




Source: JICA Study Team based on the data by PELINDO II

Location of Approach Channel

## 3.7 Tanjung Perak Port

**Outline of Port**

<Location and Roles>

The Port of Tanjung Perak is one of the main gateway ports of Indonesia, which is located in the northern part of Surabaya City facing Madura Strait (7 °15' 54" S and 112 ° 32' 22" E). It is the principal port in East Java and the maritime transportation hub for the eastern region of Indonesia servicing both international and inter-island shipping in the region. The Port of Tanjung Perak has contributed greatly to the economic development of the eastern region of Indonesia influencing the growth of trade and development in East Java.

<Operation and Management>

Berlian Terminal, Nilam Terminal, Mirah Terminal and Kalimas Terminal are operated by Tanjung Perak Port Brunch of PELINDO III itself. TPS terminal and Jamrud terminal are owned and managed by affiliated companies of PELINDO III. Pilotage for all vessels entering the Port of Tanjung Perak is executed by Tanjung Perak Port Brunch of PELINDO III.. On the other hand, ADPEL is responsible for harbor master, port security and safe navigation.

A new law entitled "Law of the Republic Indonesia, Number 17 Year 2008, Regarding Navigation" was established in 2008 for the purpose of reforming the port system. According to the law, a port authority will be established for each port and PELINDO will become one of the terminal operators.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | ✔ | ✔ | ✔ | ✔ | ✔ | | ✔ | | ✔ |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Multi-purpose terminal improvement plan | East area of NILAM terminal | Planned |
| New Multipurpose Terminal Development Project | Construction of Multipurpose Terminal at Ramong bay | Planned |
| Western Channel Deepening and Widening Project | Deepening and widening of the Channel, Replacement of the submerged pipeline | Planned |
| Effect of Mud flood new development in Probolinggo | - | Implementation |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| New Multipurpose Terminal Development Project | Development of a new terminal for multipurpose use at Lamong Bay | No. 10-1 |
| Western Channel Deepening and Widening Project | Deepening and widening of the Western Channel (depth: from 9.5 meters to 12 meters, width: from 100 meters to 200 meters) to accommodate larger vessels | No. 10-2 |
| Multi-purpose terminal improvement plan | - | |
| Effect of Mudflood new development in Probolinggo | - | |

**Project No. 10-1**

| | |
|---|---|
| Country | Indonesia |
| Port | Tanjung Perak |
| Project Name | New Multipurpose Terminal Development Project |
| Purpose/Background | Development of a new terminal for multipurpose use at Lamong Bay |
| Outline of the Project | Quay: 1,280 m-long, 40 m-wide<br>Access Bridges: 3 of 260 m-long<br>Container Yard: 36 ha (1,280 m-wide and 285 m-deep)<br>Container Freight Station: 2,500 m2<br>Causeway: 2,800 m long<br>Cargo Handling Equipment: |
| Estimated Cost | IDR 2,551.5 billion (approx. USD 282 million) (USD 1.00 = IDR 9,038.00)<br>・Survey and Land Acquisition : IDR 22.5 billion<br>・Infrastructure : IDR 1,903 billion<br>・Cargo Handling Equipment : IDR 626 billion<br>(excl. the improvement of the approach channel) |
| Fund Source | - |
| Project Owner | PT. Pelindo III |
| Project Schedule | Pending to waiting Environmental Strategis Study by Ministry of Environmental. |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map

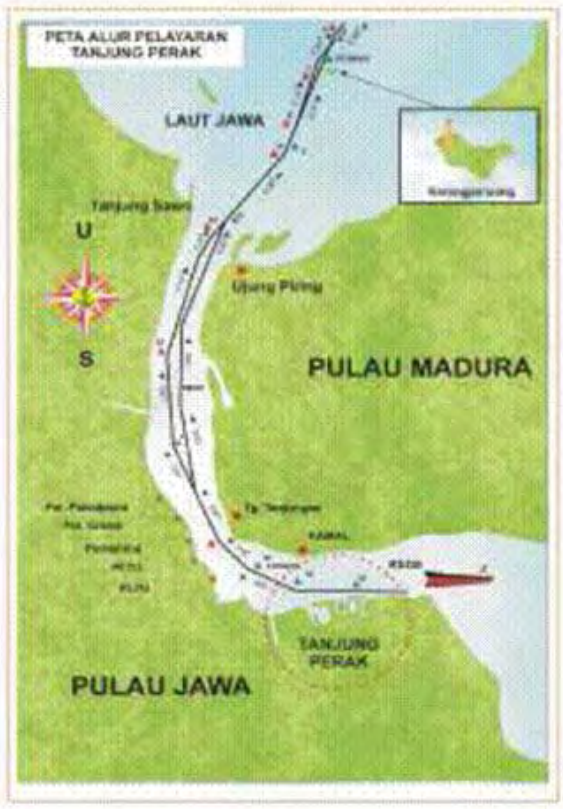

Source: Tanjung Perak Port Directory 2008

Development Plan of New Terminal at Lamong Bay

**Project No. 10-2**

| | |
|---|---|
| Country | Indonesia |
| Port | Tanjung Perak |
| Project Name | Western Channel Deepening and Widening Project |
| Purpose/Background | Deepening and widening of the Western Channel (depth: from 9.5 meters to 12 meters, width: from 100 meters to 200 meters) to accommodate larger vessels |
| Outline of the Project | Channel Dredging<br>Depth of Channel: 12 m<br>Width of Channel: 200 m<br>Length of Channel: 46 km<br>(Total volume dredging : 23.000.000 m3) |
| Estimated Cost | IDR 575 M = USD 64 million |
| Fund Source | - |
| Project Owner | DGST |
| Project Schedule | 2011 |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map




Source: PELINDO III

Deepening and Widening of the West Channel

## 3.8 Tanjung Emas Port

**Outline of Port**

<Location and Roles>

Semarang is the capital of Central Java and the fifth largest city in Indonesia with a population of 1.5 million. Port of Tanjung Emas is located on the north coast of Semarang, at 06°57'S and 110°25'E, facing Java Sea.

Port of Tanjung Emas is an international port and the gateway to Central Java. It also plays an important role as a transit port to/from Kalimantan and Sulawesi.

<Operation and Management>

Port of Tanjung Emas is under the management of PT (Persero) Pelabuhan Indonesia III (PELINDO-III), whose headquarters are located in Surabaya. The container terminal is operated by TPKS (Terminal Peti Kemas Semarang), one of the subsidiaries of PELINDO-III.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | ✔ | ✔ | ✔ | | ✔ | | ✔ | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Expansion plan of container terminal | Extension and deepening of container berth<br>Extension and deepening of multi-purpose berth | Planned<br>(up to 2032) |
| Container Terminal Expansion Project | Expansion of Container Terminal | Planned |
| New Development in Kendal | Ferry port | Implementation |

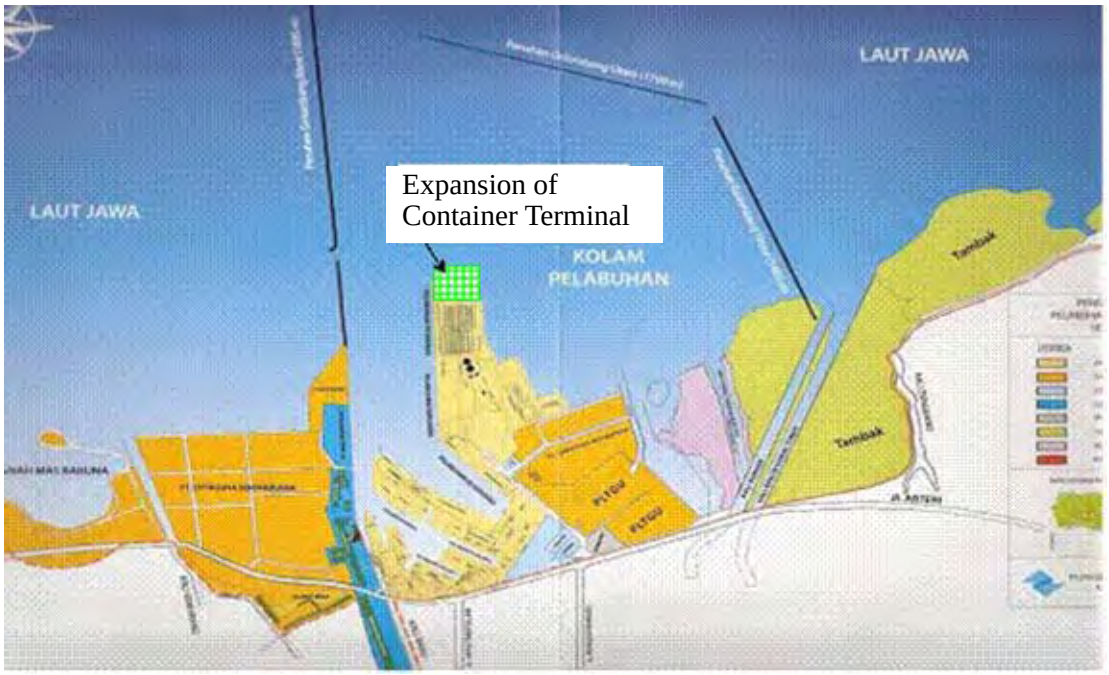
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Container Terminal Expansion Project | Expansion of the container terminal to increase the container handling capacity at Tanjung Emas Port | No. 11-1 |
| New Development in Kendal | Ferry port | |

**Project No. 11-1**

| | |
|---|---|
| Country | Indonesia |
| Port | Tanjung Emas |
| Project Name | Container Terminal Expansion Project |
| Purpose/Background | Expansion of the container terminal to increase the container handling capacity at Tanjung Emas Port |
| Outline of the Project | Quay Length : +105 m (Total quay length will be 600 m)<br>Number of Quay: : +1 berth<br>Depth along Quayside : 10 m<br>Maximum Vessel Size :<br>Major Cargo : Container<br>Cargo Handling Capacity : |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map




Source: PELINDO III

Location of Project Site

## 3.9 Banjarmasin Port

**Outline of Port**

<Location and Roles>

The Port of Banjarmasin is a principal port of South Kalimantan, on the left bank of the Balito River, 20 miles upstream from its mouth (0° 43' 00" S and 110° 41' 00"E).. Main products of South Kalimantan are wooden ships, latin, latex, leather, coal and factories of export industries are located along the Balito River. The port is vital to these industries and the economic activities and daily lives of the people in South Kalimantan.

There are three public terminals which are operated as multipurpose terminal and conventional terminal. Other than the public terminals, several private terminals for exporting coal and plywood etc are located along the Balito River.

<Operation and Management>

Public terminals such as Trisakti terminal, Marutapura baru terminal and Bashiri terminal are owned and managed by Banjarmasin Port Branch of PELINDO III. Private terminals are constructed and operated by each company. PELINDO III is responsible for providing pilotage service to all vessels calling at these public and private terminals.On the other hand, ADPEL administers the port area and is responsible for harbor master, port security and safe navigation.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | ✔ | ✔ | ✔ | | | | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Redevelopment of the existing terminal | Dedicated terminal layout | Implementation |
| Maharabang coal terminal Construction Project | Coal loading facilities (replacement from the exiting port area) | Implementation |
| Container Terminal Redevelopment Project (Phase 2) | Expansion of Container Terminal | Planned |
| New development of coal terminal in Kuala Kapuas | (west of Banjarmasin) | Planned |

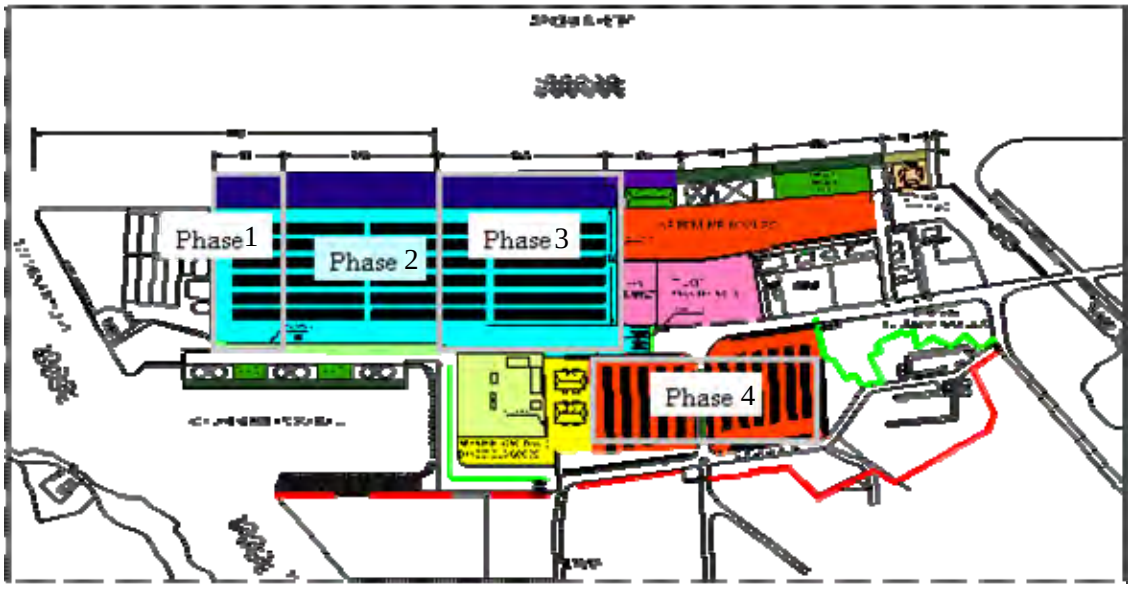
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Container Terminal Redevelopment Project (Phase 2) | Redeveloping a container terminal as Phase 2 | No. 12-1 |
| Maharabang Coal Terminal Construction Project | Construction of a new coal terminal at Maharabang, 50 km upstream from Banjarmasin in response to the new traffic regulation by the municipal administration prohibiting the transportation of coal through the city area | No. 12-2 |
| New Development of Coal Terminal in Kuala Kapuas | - | |

**Project No. 12-1**

<table>
<tr><td>Country</td><td>Indonesia</td></tr>
<tr><td>Port</td><td>Banjarmasin</td></tr>
<tr><td>Project Name</td><td>Container Terminal Redevelopment Project (Phase 2)</td></tr>
<tr><td>Purpose/Background</td><td>Redeveloping a container terminal as Phase 2</td></tr>
<tr><td>Outline of the Project</td><td>The container terminal redevelopment project has been implemented in phases; Phase I was completed in July 2009.
<table>
<tr><th></th><th>Phase I (July 2009)</th><th>Phase II (- 2013)</th><th>Phase (I + II) (2013)</th></tr>
<tr><td>Quay Length</td><td>240 m</td><td>+ 375 m</td><td>615 m</td></tr>
<tr><td>Berth</td><td>1 berth</td><td>+ 2 berths</td><td>3 berths</td></tr>
<tr><td>Container Yard</td><td>7 ha</td><td>+ 9 ha</td><td>16 ha</td></tr>
<tr><td>QGC</td><td>2 units</td><td>+ 2 units</td><td>4 units</td></tr>
<tr><td>Container Handling Capacity (/year)</td><td>246,000 TEUs</td><td>+ 219,000 TEUs</td><td>465,000 TEUs</td></tr>
</table></td></tr>
<tr><td>Estimated Cost</td><td>-</td></tr>
<tr><td>Fund Source</td><td>PELINDO III</td></tr>
<tr><td>Project Owner</td><td>PELINDO III</td></tr>
<tr><td>Project Schedule</td><td>2011 - 2013 (Phase II)</td></tr>
<tr><td>Source of Information</td><td>Fact finding of site survey in June 2009</td></tr>
</table>

Plane Map




Source: JICA Study Team based on the data by Cabang Banjarmasin

Container Terminal Redevelopment Plan at Trisakti of Banjarmasin Port

**Project No. 12-2**

| | |
|---|---|
| Country | Indonesia |
| Port | Banjarmasin |
| Project Name | Maharabang Coal Terminal Construction Project |
| Purpose/Background | Construction of a new coal terminal is now under consideration at Maharabang, 50 km upstream from Banjarmasin in response to the new traffic regulation by the municipal administration prohibiting the transportation of coal through the city area. Coal can be transported to the new terminal from the mining sites directly. Construction of an access road to the terminal has been commenced. |
| Outline of the Project | Reclamation<br>Berthing Facilities for Barge<br>Ship Loaders |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map

Planned Construction Site
for New Coal Terminal

Access Road to New Coal terminal
(under construction)

Source: JICA Study Team

Location of Project Site

## 3.10 Makassar Port

**Outline of Port**

<Location and Roles>

Port of Makassar is located on the south-west of the Island of Sulawesi, at 05° 8'S and 119° 24'E, facing Makassar Strait. It is the main port for Makassar (Ujung Pandang), the capital of South Sulawesi Province, and the gateway to Sulawesi, Maluku and Papua.

<Operation and Management>

Port of Makassar is under the management of PT (Persero) Pelabuhan Indonesia IV (PELINDO-IV), whose headquarters are located in Makassar. The container terminal was formerly operated by a branch of PELINDO-IV, but from August 2008, it has been operated by TPM (Terminal Petikemas Makassar), one of the subsidiaries of PELINDO-IV.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | ✔ | ✔ | ✔ | | | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Makassar Container Terminal Expansion Project(will be completed in 2013) | Expansion of Container Terminal | Implementation |
| Makassar New Port Project (Phase I) | Construction of a new container terminal aspart of the urban complex development project(reclamation, bulk & psssenger terminal etc.) | Planned (Phase I2012-2019,Phase II 2020-2030) |

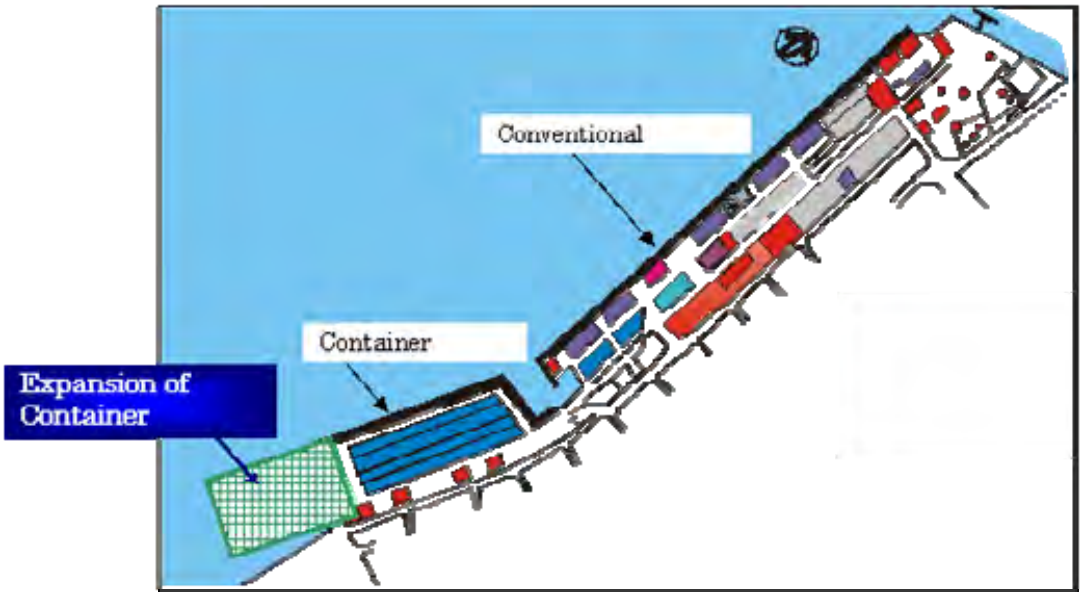
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Makassar Container Terminal Expansion Project (will be completed in **2013**) | Expansion of the container terminal to cope with the increasing container throughput at Makassar Port | No. 13-1 |
| Makassar New Port Project (Phase I) | Construction of a new container terminal as part of the urban complex development project | No. 13-2 |

**Project No. 13-1**

| | |
|---|---|
| Country | Indonesia |
| Port | Makassar |
| Project Name | Makassar Container Terminal Expansion Project |
| Purpose/Background | Expansion of the container terminal to cope with the increasing container throughput at Makassar Port |
| Outline of the Project | Quay Length: +350 m by converting the multipurpose terminal into a container terminal (Total: 850 m)<br>Depth along Quayside: 12 m<br>Container Yard: +4.0 ha (Total: 11.5 ha)<br>Quayside Gantry Crane: +2 units (Total: 5 units)<br>Estimated Cargo Handling Capacity: approx. 500,000 TEUs/year |
| Estimated Cost | - |
| Fund Source | PELINDO IV/TPM (Terminal Petikemas Makassar) |
| Project Owner | PELINDO IV/TPM (Terminal Petikemas Makassar) |
| Project Schedule | 2009 - 2011 |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map



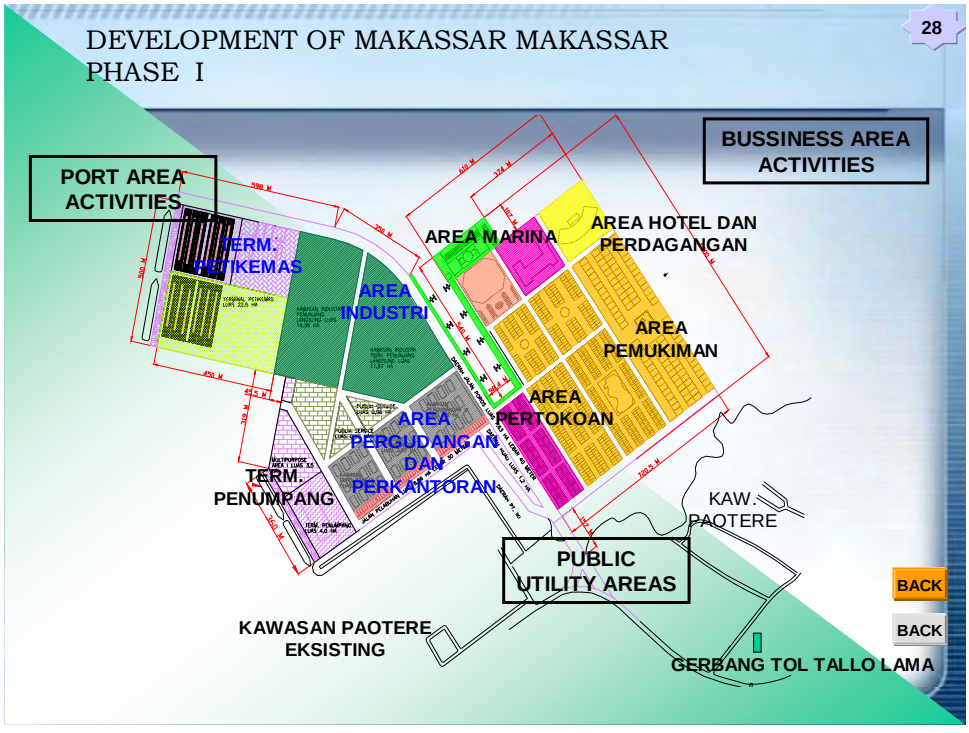

Source: PELINDO IV

Location of Project Site

**Project No. 13-2**

| | |
|---|---|
| Country | Indonesia |
| Port | Makassar |
| Project Name | Makassar New Port Project (Phase I) |
| Purpose/Background | Construction of a new container terminal as part of the urban complex development project |
| Outline of the Project | A. Land Procurement<br>a. Revetment: 5,600 m<br>b. Land reclamation: 200 ha<br>c. Access road: 2,000 m<br>B. Port Development<br>a. Container wharf: 260 m<br>b. Container yard: 6 ha<br>c. Container handling equipment |
| Estimated Cost | A. Land Procurement: IDR 800 billion (approx. USD 89 million)<br>B. Port Development: IDR 600 billion (approx. USD 66 million)<br>Sum (A + B): IDR 1,400 billion (approx. USD 155 million)<br>Source: PELINDO IV<br>(USD 1.00 = IDR 9,038.00) |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | 2013 - 2020 |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map




Source: PELINDO IV

Location of Project Site

## 3.11 Balikpapan Port

**Outline of Port**

<Location and Roles>

The Port of Balikpapan is a distribution center and a base of industry in East Kalimantan, which is located in Balikpapan Bay to the southeast of Balikpapan city (1° 17' 00" S and 116° 48' 42"E). Main products of East Kalimantan are oil, coal and plywood. The port is indispensable to these industries and other economic activities.

There are two public terminals; Semayang terminal and Kampong Baru terminal. A new container terminal is planned at Kariangau.

In addition to these public terminals, several private terminals such as PURTAMINA oil terminal, PETROSI supply base, Balikpapan Coal Terminal, Chip-mill Terminal, MBA terminal, ITCT Plywood terminal and Singalose coal terminal are located in Balikpapan Bay.

<Operation and Management>

Public terminals such as Semayang terminal and Kampong Baru terminal are owned and managed by Balikpapan Brunch of PELINDO IV. Private terminals are constructed and operated by each company. PELINDO IV is responsible for providing pilotage service to all vessels calling at these public and private terminals. On the other hand, ADPEL administers the port area and is responsible for harbor master, port security and safe navigation.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | ✔ | ✔ | ✔ | | | | ✔ | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| New container terminal construction project (will be completed in 2011) | container terminal, bridges, quay, cranes, access road, dredging | Implementation (toward 2011) |
| New Development in Penajam Pasir for mining activities | | |

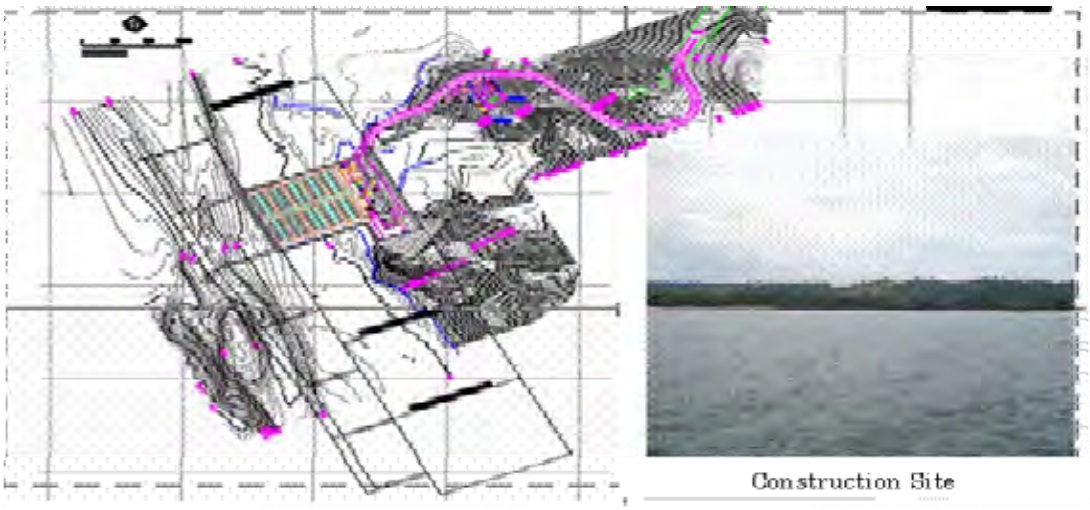
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| New Container Terminal Construction Project (will be completed in 2011) | Construction of a new container terminal at Kariangau, about 10 kilometers north of Semayang terminal, to cope with the congestion at Semayang Terminal now used as a multipurpose terminal | No. 14-1 |
| New Development in Penajam Pasir for mining activities | - | |

**Project No. 14-1**

| | |
|---|---|
| Country | Indonesia |
| Port | Balikpapan |
| Project Name | New Container Terminal Construction Project |
| Purpose/Background | Construction of a new container terminal at Kariangau, about 10 kilometers north of Semayang terminal, to cope with the congestion at Semayang Terminal now used as a multipurpose terminal. |
| Outline of the Project | Quay Length: 260 m<br>Water Depth: 14 m<br>Container yard: 56,000 m2<br>Quay-side Gantry Crane: 2 units<br>Access Bridge to Quay: 2 bridges |
| Estimated Cost | IDR 500 billion (USD 55 million)<br>Civil Works: IDR 300 billion (USD 33 million)<br>Equipment : IDR 200 billion (USD 22 million)<br>Source: Cabang Balikpapan<br>(USD 1.00 = IDR 9,038.00) |
| Fund Source | PELINDO IV, Province and City |
| Project Owner | PELINDO IV, Province and City |
| Project Schedule | 2009 - 2011 (Work at the land area has started.) |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map




Source: Cabang Balikpapan

Development Plan of New Container Terminal at Kariangau

## 3.12 Bitung Port

**Outline of Port**

<Location and Roles>

Port of Bitung is located at the north-east end of Sulawesi Island, at 01° 26'N and 125° 11'E, approximately 45 km from Manado, the capital of North Sulawesi Province. The port is protected by Lembeh Strait which shields the port from storm and swell disturbances.

Port of Bitung is the main port for Manado and North Sulawesi Province. The port is expected to assume a role as a gateway between the Pacific area and Asia.

<Operation and Management>

Port of Bitung is under the management of PT (Persero) Pelabuhan Indonesia IV (PELINDO-IV), whose headquarters are located in Makassar. The container terminal used to be operated directly by a branch of PELINDO-IV, but from May 2009, it has been operated by TPB (Terminal Petikemas Bitung), one of the subsidiaries of PELINDO-IV.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | | ✔ | ✔ | ✔ | | | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Container terminal expansion project (Phase 2) | Extension of a container terminal | Implementation (toward 2015) |
| Container Terminal Expansion Project (Phase3) | Expansion of Container Terminal | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Container Terminal Expansion Project (Phase 2) | Construction of a container terminal as Phase 2 | No. 15-1 |
| Container Terminal Expansion Project (Phase3) | Construction of container terminals as Phase 3 | No. 15-2 |

**Project No. 15-1**

| | |
|---|---|
| Country | Indonesia |
| Port | Bitung |
| Project Name | Container Terminal Expansion Project (Phase 2) |
| Purpose/Background | Construction of a container terminal as Phase 2 |
| Outline of the Project | Civil Works:<br>Quay Length : 275 m (on 2010 realization quay: (195x35)m2)<br>Number of Berth : 1 berth<br>Depth along Quayside : 10 - 14 m<br>Container Yard : 20,000 m2<br>Equipment:<br>Quay-side Gantry Crane : 2 units<br>Rubber Tyred Gantry Crane: 4 units<br>Tractor Head and Chassis: 6 units |
| Estimated Cost | USD 60 million<br>Civil Works: USD 40 million<br>Equipment: USD 20 million<br>Source: Cabang Bitung |
| Fund Source | - |
| Project Owner | DGST for quay |
| Project Schedule | 2007 - 2015 |
| Source of Information | Fact finding of site survey in July 2009 |

Plane Map


Source: Cabang Bitung

Location of Project Site

**Project No. 15-2**

| | |
|---|---|
| Country | Indonesia |
| Port | Bitung |
| Project Name | Container Terminal Expansion Project (Phase3) |
| Purpose/Background | Construction of container terminals as Phase 3 |
| Outline of the Project | Infrastructure<br>Quay Length : 625 m<br>Number of Berth : 2 berths<br>Depth along Quayside : 14 m<br>Container Yard : 60,000 m2, CFS : 2,000 m2<br>Equipment<br>Quay-side Gantry Crane : 4 units<br>Rubber Tyred Gantry Crane : 8 units<br>Tractor Head and Chassis : 20 units |
| Estimated Cost | USD 125 million<br>Infrastructure: USD 75 million<br>Equipment : USD 50 million<br>Source: Cabang Bitung |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | 2015 - 2025 |
| Source of Information | Fact finding of site survey in July 2009 |

Plane Map


Source: Cabang Bitung

Location of Project Site

## 3.13 Sorong Port

**Outline of Port**

<Location and Roles>

Sorong Port is located in the westernmost area of West Papua Province. (00° 53' South, 131° 14' East)

<Operation and Management>

Sorong Port is managed and operated by the PT (Persero) Pelabuhan Indonesia IV (PELINDO-IV). ADPEL, a local arm of the Directorate General Sea Transportation (DGST), is in charge of port entry clearance, port security, and maritime safety.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | | | | | | | ✔ | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Terminal expansion | Extension of berth<br>Expansion of yard | Planned |
| New Port Development in Arar | Multi purpose terminal, operation in 2011 | Implementation |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Terminal expansion | To increase the capacity of container handling | No. 16-1 |
| New Port Development in Arar | Construction of a Multi purpose Terminal | |

**Project No. 16-1**

| | |
|---|---|
| Country | Indonesia |
| Port | Sorong |
| Project Name | Terminal expansion |
| Purpose/Background | To increase the capacity of container handling |
| Outline of the Project | Expand the quay and container yard eastward from existing terminal.<br>Quay: 100m x 22m<br>Container yard: (85 x 80) m2 |
| Estimated Cost | USD 7,33 million (quay) + |
| Fund Source | - |
| Project Owner | PT. Pelindo IV |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map


Source: PELINDO IV

Location of Project Site

## 3.14 Jayapura Port

**Outline of Port**

<Location and Roles>

Jayapura Port is located on the northern coast of the central area of New Gunia Island facing the Pacific Ocean. (02° 32' South, 140° 42' East) The port plays a role to support the economic activities in the capital of Papua Province, Jayapura city, and its surrouding area.

<Operation and Management>

Jayapura Port is managed and operated by PT (Persero) Pelabuhan Indonesia IV (PELINDO-IV). ADPEL, a local arm of the Directorate General Sea Transportation (DGST), is in charge of port entry clearances, port security, and maritime safety.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | ✔ | ✔ | ✔ | | ✔ | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Quay Extension | Extension of berth | Planned |
| New Port Development in Depapre | Multi purpose terminal | Implementation |

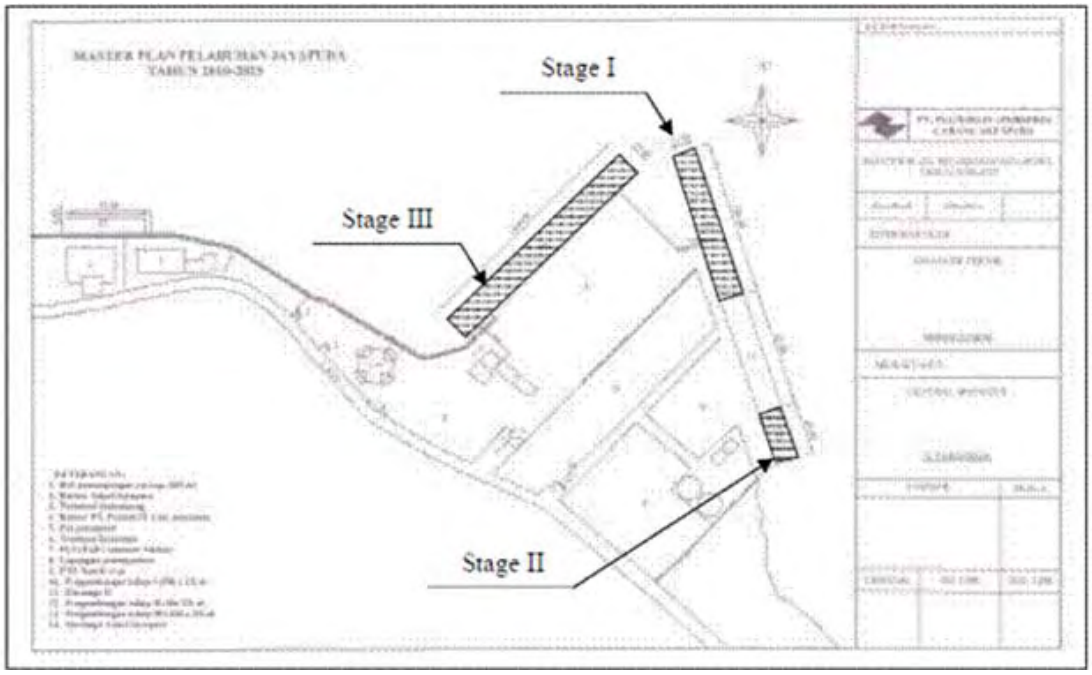
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Quay extension | To resolve the shortage of mooring facilities | No. 17-1 |
| New Port Development in Depapre | Construction of a Multi Purpose Terminal | |

**Project No. 17-1**

| | |
|---|---|
| Country | Indonesia |
| Port | Jayapura |
| Project Name | Quay extension |
| Purpose/Background | To resolve the shortage of mooring facilities |
| Outline of the Project | Extend the quay<br>Stage I: (100 x 23) m<br>Stage II: (40 x 23) m<br>Stage III: (160 x 25) m |
| Estimated Cost | USD 24 million |
| Fund Source | - |
| Project Owner | PT. Pelindo IV |
| Project Schedule | 2010- 2025 |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map




Source: JICA Study Team based on the data by PELINDO IV

Master Plan of Jayapura Port

# 4. Malaysia

## 4.1 Port Klang

**Outline of Port**

<Location and Roles>

Port Klang is located on the west coast of the Malay Peninsula and is 40km west of Kuala Lumpur. (02° 59'47" North, 101° 23'45" East) The port is the busiest port in Malaysia and a logistics center indispensable for its hinterland, i.e. the central region of Peninsular Malaysia. It also plays a strategic role as a transship hub for the Southeast Asian region.

The port is linked to the Strait of Malacca via channels shielded by islands. The major terminals in Port Klang are located at two areas, i.e. the North Port and the West Port. In addition, another terminal exists at the South Point.

<Operation and Management>

Port Klang is administrated by the Port Klang Authority (PKA). PKA was established in 1963. Privatization has been implemented since 1986 and currently the North Port and the South Point are operated by Northport (Malaysia) Bhd (referred to as 'Northport' hereinafter) and the West Port is operated by Westports Malaysia Sdn Bhd (referred to as 'Westports' hereinafter). Westports has been granted the right to develop the remaining facilities planned in Port Master Plan 1990-2010 by itself. Private port facilities for cargo handling also exist in Port Klang as well as the pier for cruise ships owned by Star Cruises.

As a result of the privatization, PKA focuses on acting as a facilitator, regulator, and landlord. Currently, the major tasks of PKA are the promotions, planning, and development of the port, the oversight of privatized facilities and services in accordance with the regulations, management of free zones, and asset management.

The maintenance dredging at approach channels is the responsibility of PKA and the harbour dues are collected by PKA as financial resources for the dredging. Meanwhile, the maintenance dredging at the area within 50 meters along quays are the responsibilities of terminal operators.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | ✔ | ✔ | ✔ | ✔ | | | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| North Port Expansion | Extension of berth | Planned |
| West Port Expansion (Development of CT6-600meter) | Extension of berth | implementation (toward 2010) |

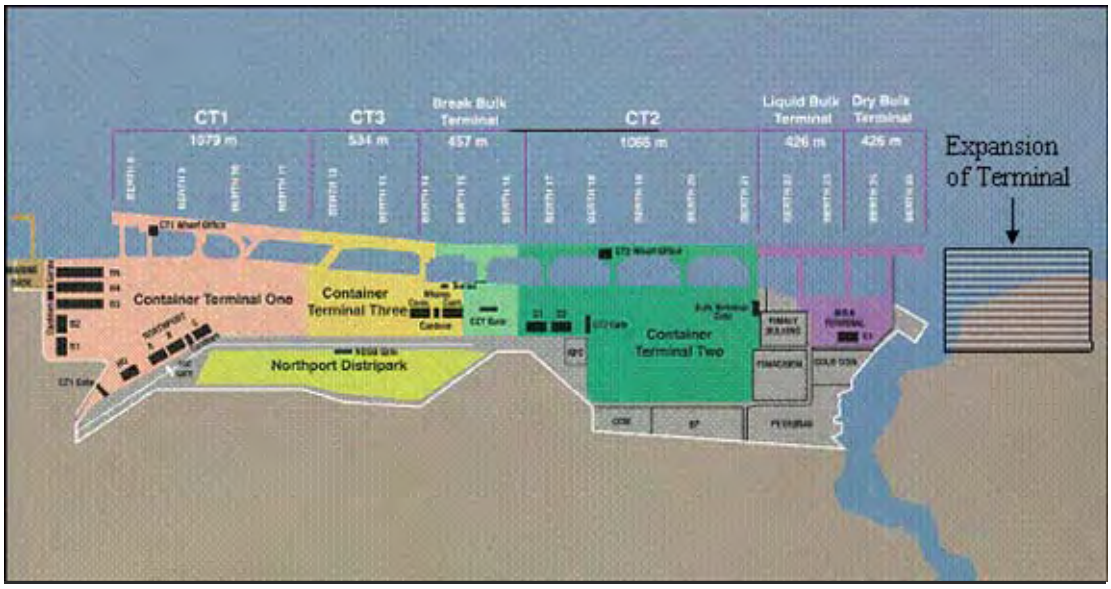
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| North Port Expansion | To increase the cargo handling capacity | No. 18-1 |
| West Ports Expansion (Development of CT6-600meter) | To increase the container handling capacity | No. 18-2 |

**Project No. 18-1**

| | |
|---|---|
| Country | Malaysia |
| Port | Port Klang |
| Project Name | North Port Expansion |
| Purpose/Background | To increase the capacity of cargo handling |
| Outline of the Project | Quay: 350 m |
| Estimated Cost | More than RM200 million |
| Fund Source | Northport |
| Project Owner | Northport |
| Project Schedule | 2010-2012 |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map



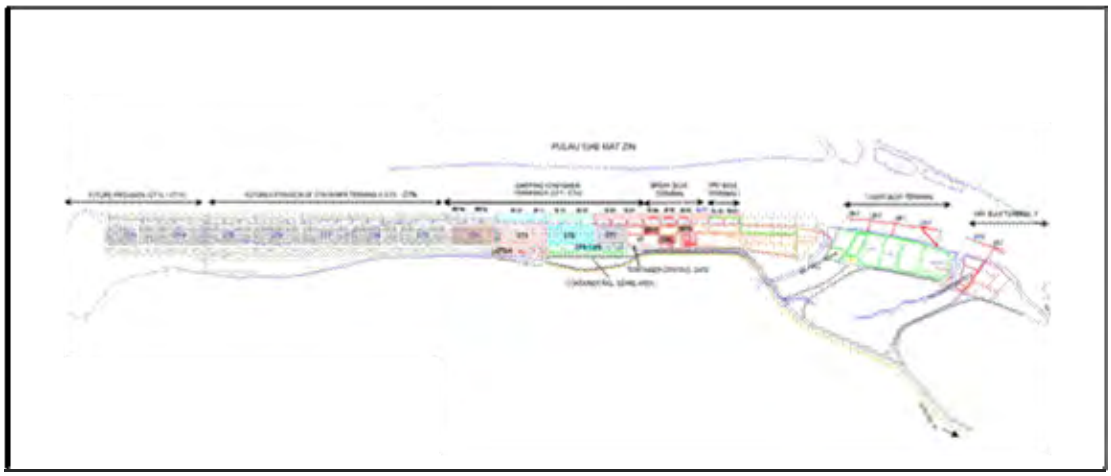

Source: JICA Study Team based on the data by the North Port

Location of Terminal Expansion Project

**Project No. 18-2**

| | |
|---|---|
| Country | Malaysia |
| Port | Port Klang |
| Project Name | West Ports Expansion (Development of CT6 – 600 meter) |
| Purpose/Background | To increase the capacity of container handling |
| Outline of the Project | Quay: 1st 300 m<br>Yard: 80940 m2 |
| Estimated Cost | RM150 million |
| Fund Source | Westports |
| Project Owner | Westports |
| Project Schedule | 2010-2011 |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map



Source: Westport

Location of Terminal Expansion Project

## 4.2 Penang Port

### Outline of Port

<Location and Roles>

Port of Penang is located along the north-west of Malay Peninsula, at 05° 34'N and 100° 12'E, facing the Malacca Straits. This port plays important roles in the economic activities of northern Malaysia and in the international trade with southern Thailand, Myanmar and northern Sumatera.

Port of Penang was opened in Georgetown on Penang Island in 1786, but now the main port facilities are situated on the mainland.

<Operation and Management>

Port of Penang is under the management of Penang Port Commission (PPC), which serves as the port authority. PPC was established in January 1956 under the Penang Port Commission Act, 1955. 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 operations of the port has been privatized to Penang Port Sdn. Bhd. (PPSB) under the Ports Privatization Act 1990. PPSB is under the Ministry of Finance.

### Fields of Issues which the port faces

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | ✔ | | ✔ | ✔ | ✔ | | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Expansion of container terminal | Extension of berth, expansion of yard | Implementation (toward 2010) |
| North Butterworth Container Terminal Expansion Project (will be completed in 2011) | Expansion of terminal | |
| Deepening of channel | Dredging | Planned |
| North Channel Deepening Project | Dredging | Planned |
| Cruise terminal development | | Planned |
| Replacement of a dangerous wharf | | Planned |
| Improvement of liquid bulk terminal | | Planned |

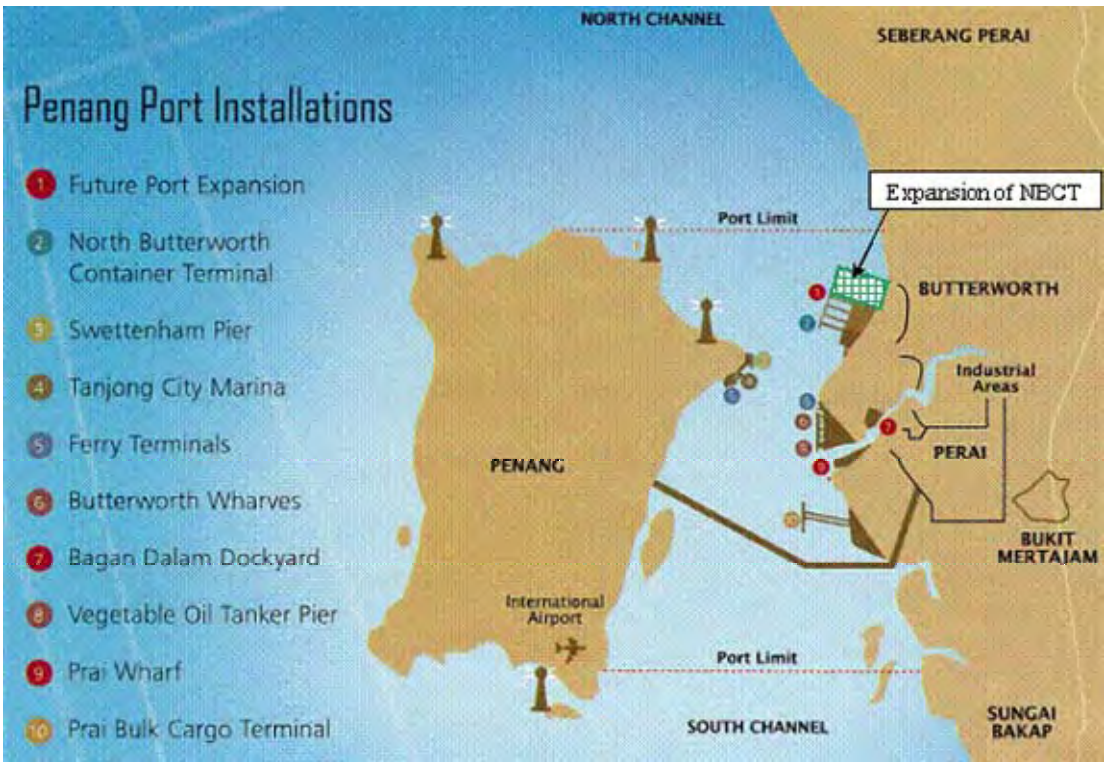
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| North Butterworth Container Terminal Expansion Project (will be completed in 2011) | Expansion of the North Butterworth Container Terminal (NBCT) to increase container handling capacity and centralise all container operations at the NBCT | No. 19-1 |
| Capital Dredging of North Channel and Approaches to North Butterworth Container Terminal and Kuala Perai Terminal | Deepening of the North Channel (depth: from 11 meters to 15 meters) to accommodate larger vessels | No. 19-2 |

**Project No. 19-1**

| | |
|---|---|
| Country | Malaysia |
| Port | Penang |
| Project Name | North Butterworth Container Terminal Expansion Project |
| Purpose/Background | Expansion of the North Butterworth Container Terminal (NBCT) to increase container handling capacity and centralise all container operations at the NBCT |
| Outline of the Project | Quay Length: +600 m<br>Stacking Yard: +9.8 ha (771.5 m x 127.6 m)<br>Cargo Handling Equipment:<br>Length of Access Bridge: 307 m (the third access bridge) |
| Estimated Cost | RM 682 million (USD 211 million) (RM 1.00 = USD 0.31)<br>Source: Penang Port Commission |
| Fund Source | - |
| Project Owner | Penang Port Commission, Penang Port Sdn. Bhd. |
| Project Schedule | 2008 - 2011 |
| Source of Information | Fact finding of site survey in July 2009 |

Plane Map



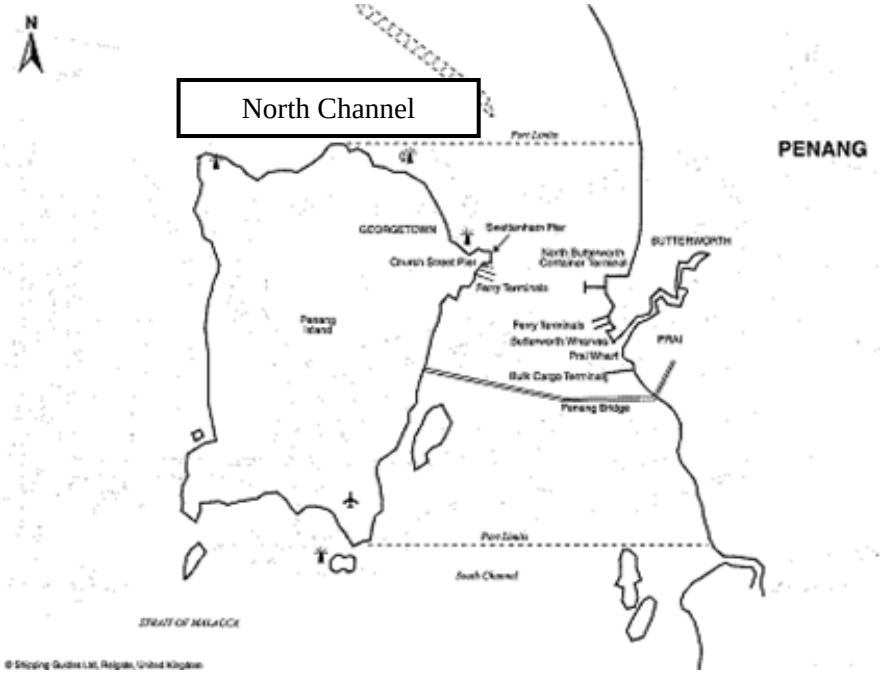

Source: JICA Study Team based on the figure by Penang Port Sdn. Bhd

Expansion of the North Butterworth Container Terminal (NBCT)

**Project No. 19-2**

| | |
|---|---|
| Country | Malaysia |
| Port | Penang |
| Project Name | Capital Dredging of North Channel and Approadhes to North Butterworth Container Terminal and Kuala Perai Terminal |
| Purpose/Background | Deepening of the North Channel (depth: from 11 meters to 14.5 meters) to accommodate larger vessels |
| Outline of the Project | Channel Dredging<br>Depth of Channel: 14.5 m<br>Length of Channel: 10 n.m. |
| Estimated Cost | RM 351,250,000.00 |
| Fund Source | The Government of Malaysia |
| Project Owner | Penang Port Commission |
| Project Schedule | 2011-2012 |
| Source of Information | Penang Port Commission |

Plane Map




Source: Guide to Port Entry, Shipping guides LTD

Location of North Channel

## 4.3 Kuching Port

**Outline of Port**

<Location and Roles>

Kuching Port is located approx. 17 mile upstream from the mouth of the Sarawak River and on the left bank of the river. (01 $^{o}$ 33'17" North, 110 $^{o}$ 23'40" East) The port is the core port of the Southern area of Sarawak State and located in Kuching, which is the capital of the state and has a population of 630 thousand. It plays an important role for supporting the economic development of the state which has a population of approx. 2.4 milion (2006).

<Operation and Management>

Kuching Port is a state port under Sarawak state government and administrated by the Kuching Port Authority (KPA) which was established in 1961 in accordance with Port Authority Ordinance of Sarawak.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | ✔ | ✔ | | | | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Tebedu Inland Port Development Plan | Inland port are and facilities | Implementation |
| Approach Channel Improvement | Deepening of the of the access channel | planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Tebedu Inland Port Development Plan | To facilitate movement of goods (transshipment) from Sarawak to Kalimantan Barat (Indonesia) and vice versa through Kuching Port Authority. | No. 20-1 |
| Approach Channel Improvement | To reduce the restriction due to shallow channel | No. 20-2 |

**Project No.20-1**

| | |
|---|---|
| Country | Malaysia |
| Port | Kuching |
| Project Name | Tebedu Inland Port Development Plan |
| Purpose/Background | To facilitate movement of goods (transshipment) from Sarawak to Kalimantan Barat (Indonesia) and vice versa through Kuching Port Authority. |
| Outline of the Project | Container yard, Open storage yard: - m2 |
| Estimated Cost | Closed-sided warehouse: - m2 |
| Fund Source | Customs, Immigration & Quarantine |
| Project Owner | Private entity |
| Project Schedule | Private funding |
| Source of Information | SM INLAND PORT SDN BHD |

Plane Map


Location of Tebedu Inland Port

Layout of Tebedu Inland Port

Source: Kuching Port Authority

Location of Project Site

**Project No.20-2**

| | |
|---|---|
| Country | Malaysia |
| Port | Kuching |
| Project Name | Approach Channel Improvement |
| Purpose/Background | To reduce the restriction of shallow channel |
| Outline of the Project | Deepening of the shallow section of the access channel<br>(Current Depth:-4.2m deep at Inner Bar, -4.9m deep at Outer Bar)<br>Channel Depth: m |
| Estimated Cost | The Coastal Hydraulic and Sedimentation Study for the Assessment of Dredging Requirements for Ports and River Mouths in Malaysia under Jabatan Laut Semenanjung Malaysia – Sungai Sarawak |
| Fund Source | Proposal for 10MP |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in July 2009 |

Plane Map


Source: Kuching Port Authority

Approach Channel of Port Kuching

## 4.4 Bintulu Port

**Outline of Port**

<Location and Roles>

Port of Bintulu is located on the north-west coast of Sarawak, facing the South China Sea at 03°16'N and 113°04'E, approximately 20 km north of the city of Bintulu.

The port commenced its operations in January 1983, initially for the export of Liquefied Natural Gas (LNG). And now it is the biggest port in Sarawak, handling various cargoes of general cargo, liquid and dry bulk and containerized cargoes.

<Operation and Management>

Port of Bintulu is under the jurisdiction of Bintulu Port Authority (BPA), established in August 1981 under the Bintulu Port Authority Act 1981. BPA is a federal statutory body under the purview of the Ministry of Transport. As a regulatory body, BPA is responsible for the overall supervision of all activities at the Port of Bintulu including the utilization of port facilities and operations by licensed operators, acts as trade facilitator, and is also responsible for planning and development of the port.

The port is operated by Bintulu Port Sdn. Bhd. (BPSB), a company set up in 1993 to take over all port facilities and services in the port as part of the government's policy on privatization.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | ✔ | ✔ | ✔ | | | ✔ | ✔ | |

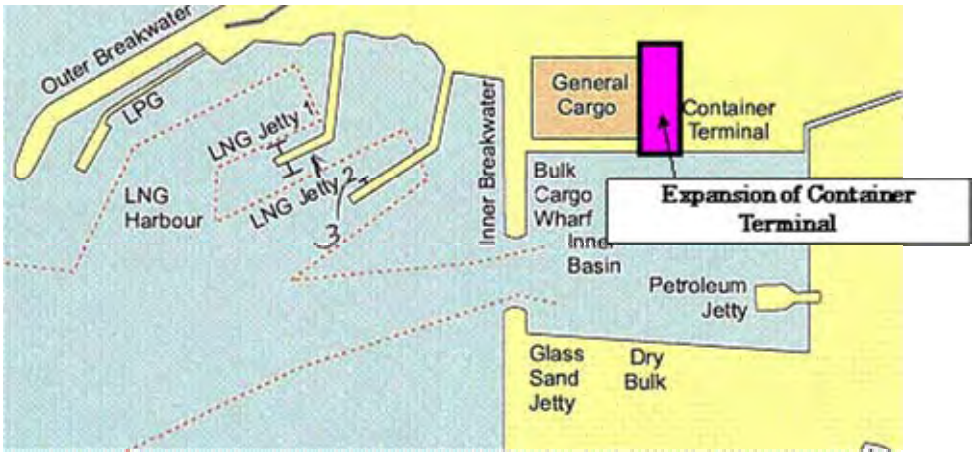
**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| LNG terminal project | Two LNG jetties | Implementation |
| Container Terminal Expansion Project (will be completed in 2011) | Replacement of general cargo wharf, extension of berth, installment of cranes | Implementation (toward 2011) |
| Development of General Cargo Wharf | Extension of berth | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Container Terminal Expansion Project<br>(will be completed in 2011) | Expansion of the container terminal to cope with the increasing container cargoes | No. 21-1 |

**Project No.21-1**

<table>
<tr><td>Country</td><td>Malaysia</td></tr>
<tr><td>Port</td><td>Bintulu</td></tr>
<tr><td>Project Name</td><td>Container Terminal Expansion Project</td></tr>
<tr><td>Purpose/Background</td><td>Expansion of the container terminal to cope with the increasing container cargoes.</td></tr>
<tr><td>Outline of the Project</td><td>
<table>
<tr><th></th><th>at Present</th><th>Expansion</th><th>Total (in 2011)</th></tr>
<tr><td>Quay Length</td><td>450 m</td><td>+ 200 m</td><td>615 m</td></tr>
<tr><td>Berth</td><td>2 berths</td><td>+ 1 berths</td><td>4 berths</td></tr>
<tr><td>Depth along Quayside</td><td>14 m</td><td>14 m</td><td>14 m</td></tr>
<tr><td>Container Yard</td><td>6.645 ha</td><td></td><td></td></tr>
<tr><td>QGC</td><td>2 units</td><td>+ 3 units</td><td>5 units</td></tr>
<tr><td>Container Handling Capacity (/year)</td><td>400,000 TEUs</td><td>+ 200,000 TEUs</td><td>600,000 TEUs</td></tr>
</table>
The expansion project has already been commenced, and will be completed in 2011.
</td></tr>
<tr><td>Estimated Cost</td><td>-</td></tr>
<tr><td>Fund Source</td><td>Bintulu Port</td></tr>
<tr><td>Project Owner</td><td>Bintulu Port</td></tr>
<tr><td>Project Schedule</td><td>2009 - 2011</td></tr>
<tr><td>Source of Information</td><td>Fact finding of site survey in July 2009</td></tr>
<tr><td colspan="2">Plane Map<br> 

Source: JICA Study Team based on the figure by Fairplay Ports and Terminals Guide<br><br>Location of Project Site</td></tr>
</table>

## 4.5 Kota Kinabalu Port

**Outline of Port**

<Location and Roles>

Kota Kinabalu Port is located on the west coast of Sabah State facing the South Chuna Sea and in Kota Kinabalua (population: approx. 470 thousand), the capital city of Sabah State. (05° 59'45" North, 116° 04'50" East)

The port currently functions as a multipurpose terminal. The function for handling container has been transferred to Sapangar Bay Container Port (SBCP): a container terminal newly constructed in the Sapangar Bay and put into operation in 2008. Sapangar Bay Oil Terminal (SBOT) is located next to the container terminal.

Kota Kinabalu Port, SBCP, and SBOP act as a logistics center for the Western area of Sabah State.

<Operation and Management>

Kota Kinabalu Port is a state port under the Sabah state government and administrated by Sabah Ports Authority (SPA) which was established in 1968 by the SPA Enactment which was repealed and replaced by the SPA Enactment 1981. This authority administrates all the state ports in Sabah including Kota Kinabalu Port, SBCP, SBOT, Sandakan Port, Tawau Port, Lahad Datu Port, Kunak Port, and Kudat Port. The operations of the state ports were privatized and transferred to a terminal operator of Sabah Ports Sdn. Bhd. (SPSB) in 2004. SPA currently administrates the state ports and acts as a landlord and regulator.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | ✔ | ✔ | | | | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Installation of RTGs and Gantry Crane at Sapangar Bay Container Port | Installment of Quay cranes and RTGs | Planned |
| SBOT liquid bulk berth improvement | | Planned |
| Jesselton waterfront Development | Redevelopment for urban activity | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Installation of RTGs and Gantry Crane at Sapangar Bay Container Port | To improve the productivity in operation at yard and quayside at Sapangar Bay Container Port | |

## 4.6 Sandakan Port

**Outline of Port**

<Location and Roles>

Sandakan Port is located in the northeastern area of Sabah State facing the Sulu Sea and in the western part of Sandakan City. (05° 48' North, 118° 04' East)

The port currently acts as a logistics center catering for economic activities in the northeastern area of Sabah: an exporting base for palm oil, palm related products, and plywood and a distribution center for petroleum.

<Operation and Management>

Sandakan Port is a state port under the Sabah state government and administrated by Sabah Ports Authority (SPA) which was established in 1968 by the SPA Enactment which was repealed and replaced by the SPA Enactment 1981. The operations of the port were privatized and transferred to a terminal operator of Sabah Ports Sdn. Bhd. (SPSB) in 2004. SPA currently administrates the state ports and acts as a landlord and regulator.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | | | ✔ | | | ✔ | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Deepening of channel | Dredging | Planned |
| Expansion of Main Wharf | Extension of wharf, installment of quay cranes, construction of fertilizer storage facilities | Planned |
| Improvement of palm oil terminal | Dolphin, conveyer, warehouse | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| | | |

## 4.7 Johore Port

**Outline of Port**

<Location and Roles>

Johor Port is located at Pasir Gudang in the southeast of Johor in Peninsula Malaysia. (1 $^{o}$ 26'06"North, 103 $^{o}$ 54' 25"East)

This port is known as a Multipurpose Port, which handles all range of cargoes including Liquid Bulk Cargo, Break Bulk Cargo, Dry Bulk Cargo and Containers.

This port is positioned in the heart of the sprawling 8,000-acre (3,200ha) Pasir Gudang Industrial Estate. The area is home to a comprehensive range of industries specializing in Petrochemicals, engineering, furniture, telecommunications, electronic goods and food products among others.

<Operation and Management>

Johor Port is under the management of JPA(Johor Port Authority), which was established in 1976 under the Port Authority Act of 1963. The first phase of the port came into full operation in the middle of 1977 under state ownership.

JPA regulates the operations of ports in Johor Port Water Limits. Covers regulation and enforcement in three locations, namely (1)the Johor Port at Pasir Gudang, (2)the Tanjung Pelepas Port at Gelang Patah, (3)the Tanjung Belungkor Ferry Terminal at Kota Tinggi and (4)the Changi Ferry Terminal in Singapore. In 1995 the port was fully privatised, and in February 1996 the port went public under the name Johor Port Berhad(JPB).

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | ✔ | ✔ | | | | | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Rehabilitation of aging facilities | | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| | | |

## 4.8 Tanjung Pelepas Port

**Outline of Port**

<Location and Roles>

Port of Tanjung Pelepas (PTP) is situated on the eastern side of the mouth of the Pulai River in South-West of Johor in Peninsula Malaysia. (1° 21'58"North, 103° 32' 54"East)

PTP officially began its operation in 2000. One of PTP's advantages is that it is a mere 45 minutes from the confluence of the world's busiest shipping lanes and easily accessible from the Straits of Malacca.

World's biggest shipping company "Mearsk Sealand" and world's second biggest shipping company "Evergreen" moved to PTP from Singapore Port in 2000, and 2002.

After opening in 2000, cargo handling by PTP has been increasing. In 2008, PTP handled an approximate 5.6million TEUs container. (18th in the World)

Development area consist of 2,000 acres (800ha) for port terminals and 1,000 acres (400ha) for Free Trade Zone. Over 30 international companies including Japanese companies have begun operations in the FTZ.

<Operation and Management>

Port of Tanjung Pelepas is under the management of JPA(Johor Port Authority), which was established in 1976 under the Port Authority Act of 1963. In 1999 Pelabuhan Tanjung Pelepas Sdn Bhd began operation of a container terminal, a transshipment hub for shipping lines and so on.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | | | | | | | | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Development of container terminal Phase II (#13 and #14) | Extension of berths | Implementation |
| Long term container terminal development plan | Construction of container terminal | Pre-Planned |
| Development of new container terminals Phase III and IV | Construction of container terminal | |

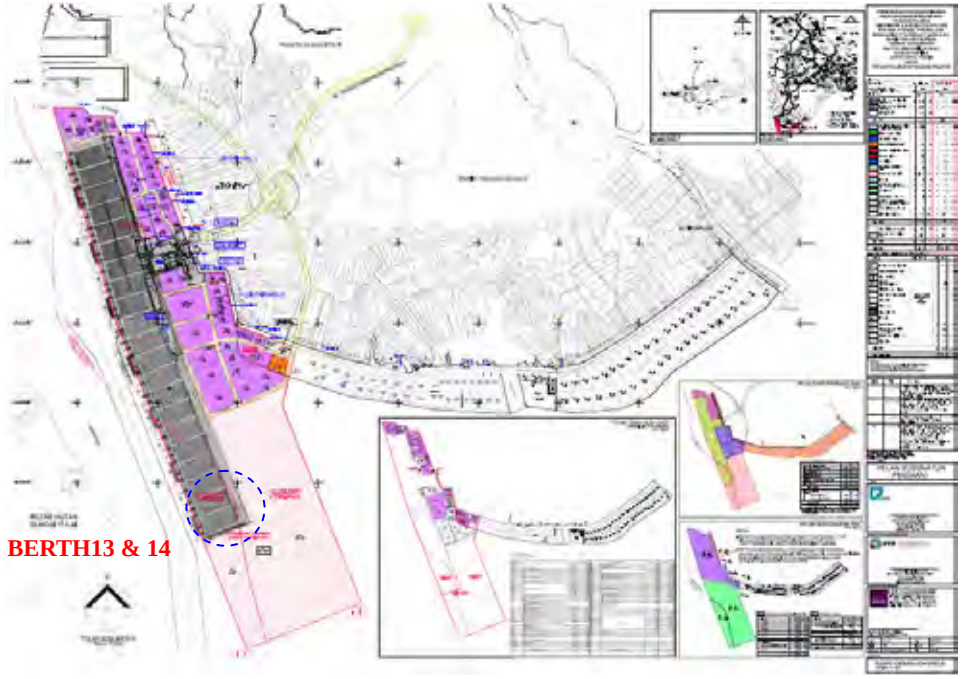
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Development of Container Terminal Phase II (#13 and #14) | To expand the capacity of container handling | No. 25-1 |
| Development of new container terminals Phase III and IV | To expand the capacity of container handling | No. 25-2 |

**Project No.25-1**

| | | | |
|---|---|---|---|
| Country | Malaysia | | |
| Port | Tanjung Pelepas | | |
| Project Name | Development of Container Terminal Phase II (No. 13 and No. 14) | | |
| Purpose/Background | To expand the container handling capacity | | |
| Main Project Components | Quay Length: 720 m<br>Number of Berth: 2 berths<br>Depth along Quayside: - 19.5 m<br>Yard Area: 30 ha<br>Quayside Gantry Crane: 8 units ( 80 tons)<br>Maximum Vessel Size: 397 m, 156,907 DWT ( 15,000 TEUs)<br>Major Cargo: Container<br>Cargo Handling Capacity: 1,247,400 TEUs/year | | |
| Estimated Cost | Civil Works | | |
| | Construction of Berths 13 & 14: | 2 berths | RM180,500,000 |
| | Construction of Container Yard Blocks 19, 20 & 21: | 3 blocks | RM145,000,000 |
| | Total | | RM325,000,000 |
| | Equipment | | |
| | Quay Side Crane (Twin Lift): | 8 | RM219,000,000 |
| | Rubber Tyres Gantry: | 26 | RM105,362,400 |
| | Prime Mover: | 78 | RM19,500,000 |
| | Trailer: | 78 | RM5,460,000 |
| | Total | | RM349,322,400 |
| Fund Source | Pelabuhan Tanjung Pelepas | | |
| Project Owner | Project Division | | |
| Project Schedule | Reclamation for No. 13 and 14 has already finished.<br>Development of terminals will be completed within 17 months | | |
| Source of Information | Project Division | | |

Layout Plan




Source:PTP

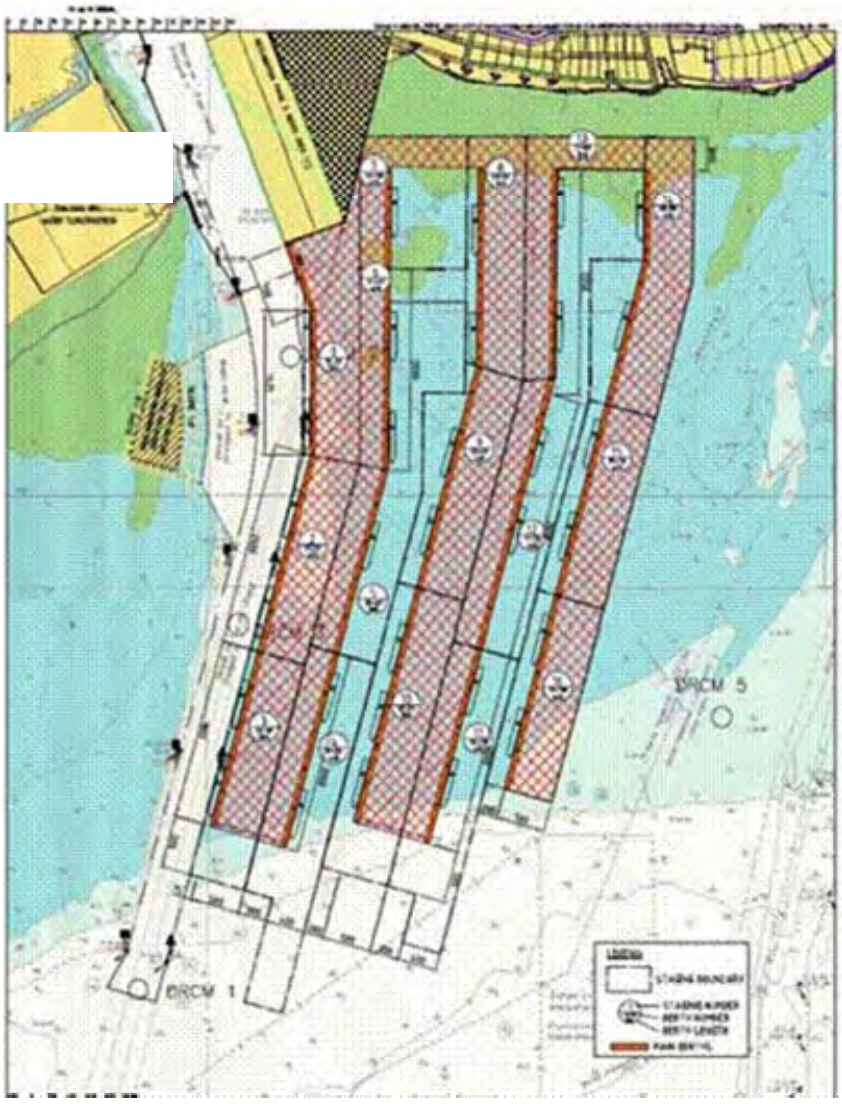
Location of Project Site

**Project No.25-2**

| | |
|---|---|
| Country | Malaysia |
| Port | Tanjung Pelepas |
| Project Name | Development of new container terminals Phase III and IV |
| Purpose/Background | To expand the capacity of container handling |
| Outline of the Project | Phase III - Phase IV (32 Berths): Capacity 33,000,000 TEUs |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | Completion of a total of 32 Berths: 2028 |
| Source of Information | Fact finding of site survey in June 2009 |

Plane Map

(Future Plan)




Source: PTP

## 4.9 Kuantan Port

### Outline of Port

<Location and Roles>

Kuantan Port is located at Tanjung Gelang on the east coast of the Penisular Malaysia. (03° 58' North, 103° 26' East). The port acts as a gateway and supports the economic activities in the Eastern Corridor which is one of the economic development corridors of Malaysia and an indispensable logistics platform for the industrial park of Gebang Industrial Estate near the port and Kertieh Industrial Area in Terengganu State.

<Operation and Management>

Kuantan Port started operation partly in 1980 and fully in 1984 under the management of Kuantan Port Authority (KPA). KPA was established in 1974 and operated the port. The operation of the port was transferred under a privatization scheme in 1998 to Kuantan Port Consortium Sdn. (KPC) which was the authorized terminal operator of the port. KPA currently administrates the port.

### Fields of Issues which the port faces

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | ✔ | | ✔ | | | | ✔ | |

### Plan/Project

| Name | Main Components | Status |
|---|---|---|
| Container terminal development | Construction of break water and berths by reclamation outside of harbor limit | Planned |
| Kuantan Port Expansion | Construction of break water and berths | |

### Projects listed in Long List

| Project Name | Purpose/Background | Note |
|---|---|---|
| Kuantan Port Expansion | To increase the container handling capacity | No. 26-1 |

**Project No.26-1**

| | |
|---|---|
| Country | Malaysia |
| Port | Kuantan |
| Project Name | Kuantan Port Expansion |
| Purpose/Background | To increase the capacity of container handling |
| Main Project Components | Breakwater: - m<br>Quay - 1st stage: 1,000 m, 2nd stage: 1,000m<br>Basin: -16.5m<br>Container Yard – 1st stage: 60ha, 2nd stage: 60ha |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in August 2009 |

Plane Map


Source: Kuantan Port Authority

Development Plan

## 4.10 Kemaman Port

**Outline of Port**

<Location and Roles>

Kemaman Port is strategically located on the east coast of Malaysia in the state of Terengganu. (4° 15'00"North, 103° 28' 00"East) The port is located right in the heart of the East Coast Economic Region about 75km from Kuantan, 90km from Kuantan Airport and 40km from Kertih Airport. It is one of the deepest seaports in Malaysia with a 16.4m multi-purpose terminal. It is capable of handling vessels up to 150,000 DWT.

Main commodities are petrochemicals, LPG, and break bulk cargo.

<Operation and Management>

Kemaman Port is under the management of KPA (Kemaman Port Authority), which was established in 1993 under the Port Authority Act of 1963. In 2007 the port was privatized to a licensed port operator, Konsortium Pelabuhan Kemaman Sdn Bhd. Kemaman Port Authority now acts as a regulator and facilitator for the development of Kemaman Port.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | | | | | | ✔ | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Access road improvement | Expansion of road | Implementation |
| New terminal development | Construction of breakwater, bulk facilities, liquid bulk facilities and general cargo facilities | Planned |
| Development of New Terminal | Construction of New Terminal | Pre-planned |

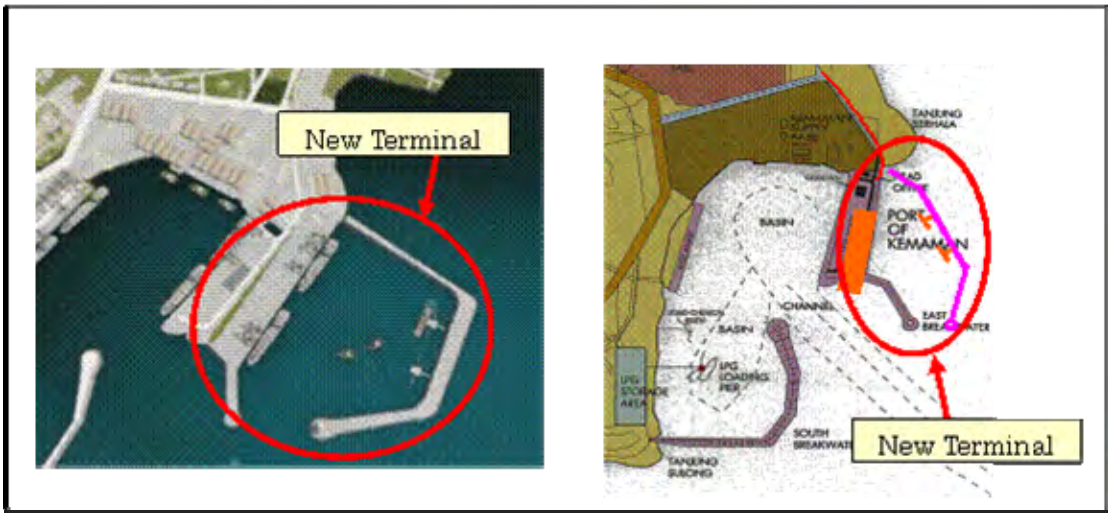
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Development of New Terminal | To increase the cargo handling capacity | No. 27-1 |

**Project No.27-1**

| | |
|---|---|
| Country | Malaysia |
| Port | Kemaman |
| Project Name | Development of New Terminal |
| Purpose/Background | To increase the capacity of cargo handling |
| Outline of the Project | Breakwater: - m<br>Dolphine: 2 units |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in August 2009 |

Plane Map




Source: JICA study team based on the data by Kemaman Port Authority and KPK

Development Plan of New Terminal

# 5. Myanmar

## 5.1 Yangon Port

**Outline of Port**

<Location and Roles>

The Port of Yangon is situated on the Yangon River about 32 km inland from the Elephant Point on the Gulf of Martaban. (16° 45'57"North, 96° 10' 12"East)

The Port of Yangon is the premier port of Myanmar and handled about 90 % of the country's exports and imports. Asia World Port Terminal (AWPT) & Myanmar Industrial Port (MIP) terminal were developed as a BOT infrastructure and operated by AWPT & MIP. Duration of concession is 25-30 years. Boaungkyaw Street Wharf (BSW), and Sule Pagoda Wharf (SPW) are operated by the Myanmar Port Authority（MPA）

<Operation and Management>

Yangon Port is under the management of MPA (Myanmar Port Authority). All the duties, functions, powers and obligations are governed by Rangoon (Yangon) Port Act, 1905 and by the Order conferring Duties and Power of the corporation issued by the Ministry of Transport and Communications. MPA has powers to allocate all the cargoes to terminals. Tariff is the same level between terminals.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Development of AWPT Wharf IV | Extension of wharf 2 | Planned |
| Yangon Port Approach Channel Deepning Project | | Planned |
| Installation of VTS | VTS | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Development of AWPT Wharf IV | To increase the capacity of container handling | No. 28-1 |
| Yangon Port Approach Channel Deepning Project | - | |

**Project No. 28-1**

| | |
|---|---|
| Country | Myanmar |
| Port | Yangon |
| Project Name | Development of AWPT Wharf IV |
| Purpose/Background | To increase the capacity of container handling |
| Outline of the Project | Quay Length: 459 m (Present) , Extension of 155 m<br>Water Depth: 9.5 m<br>(Procurement)<br>Harbour Mobile Cranes: 4<br>Rubber Tyred Gantry Cranes: 4<br>Reach Stackers (KALMAR) with 5 tiers stacking capacity: 2<br>60-ton Weigh Bridge with computerized control: 1<br>Max vessel size: LOA 167m, DWT 15,000, Draft 9m |
| Estimated Cost | US$ 1.5 million + Kyat 16.465 billions |
| Fund Source | Private investment (Local) |
| Project Owner | Asia World Port Management Co.,Ltd. |
| Project Schedule | To be completed on mid 2012. |
| Source of Information | Fact finding of site survey in August 2009 |

Plane Map


Source: MPA

Location of Project Site

## 5.2 Thilawa Port

**Outline of Port**

<Location and Roles>

Thilawa Port is located at the site some 16km downstream from Yangon Port in Yangon River. (16° 40'27"North, 96° 14' 29"East) This port was constructed because of difficulties of Yangon port expansion.

MITT (Myanmar International Terminals Thilawa) Wharves & MIPL (Myanmar Integrated Port Limited) Wharf were developed as a BOT infrastructure and operated by MITT & MIPL. Duration of concession is 25 years. MITT terminal is fully owned by Hutchison Port Holdings. MIPL is owned by Austin Navigation Co., Ltd.

<Operation and Management>

Thilawa Port is under the administration of MPA (Myanmar Port Authority). All the duties, functions, powers and obligations are governed by Rangoon (Yangon) Port Act, 1905 and by the Order conferring Duties and Power of the corporation issued by the Ministry of Transport and Communications.MPA has powers to allocate all the cargoes to terminals. Tariff is the same level between terminals. Terminal operators are MITT & MIPL.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | ✔ | | ✔ | | | | ✔ | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Thilawa Port Development Project（plot 10,11,12,13,14） | | |
| Thilawa Port Development Project(22 plots) | | |
| Thilawa Port Access Road Improvement | improving the access road | Pre-planning |
| Thilawa Port Approach Channel Deepening Project | Dredging the outer bar,<br>Procurement of a dredger for maintenance dredging,<br>Accommodate 35,000DWT class vessels | Planned |

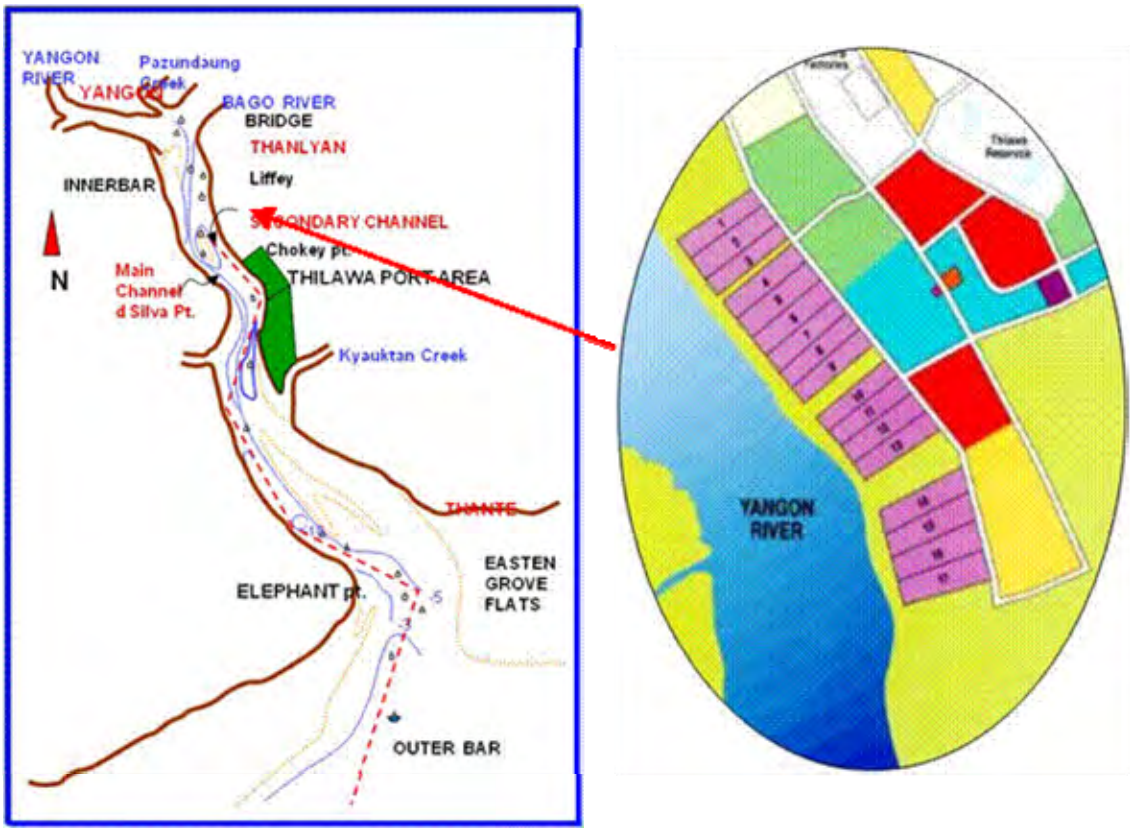
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Thilawa Port Development Project （plot 10,11,12,13,14） | - | No. 29-1 |
| Thilawa Port Development Project (22 plots) | - | No. 29-1 |
| Thilawa Port Access Road Improvement | To improve the access road from Yangon to Thilawa Port | No. 29-2 |
| Thilawa Port Approach Channel Deepening Project | To accommodate 20,000 DWT class vessels at the Port of Thilawa | No. 29-3 |

**Project No. 29-1**

| | |
|---|---|
| Country | Myanmar |
| Port | Thilawa |
| Project Name | Thilawa Port Development Project |
| Purpose/Background | -Develop modern container terminals and general/bulk cargo terminals in the outer port of Yangon<br>-Total number of Berths is 37 (Quay length 200m, Landward 750m each) and 10 berth have been constructed by BOT.<br>-MIPL was constructed by Myanmar Integrated Port Ltd. with US$18.2 million under commission since 1998, MITT was constructed by Myanmar International Terminals Thilawa Ltd. with US$101.284 million under commission since 1998. |
| Outline of the Project | Development of terminals in 27 plots |
| Estimated Cost | - |
| Fund Source | Private investment |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in August 2009 |

Plane Map




Source: MPA

Location of Project Site

**Project No. 29-2**

| | |
|---|---|
| Country | Myanmar |
| Port | Thilawa |
| Project Name | Thilawa Port Access Road Improvement |
| Purpose/Background | To improve the access road from Yangon to Thilawa Port |
| Outline of the Project | Total length of 33km and 6 km from Thilawa Port to main highways in the outskirts of Yangon. |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in August 2009 |

Plane Map

N


Source: JICA Study Team

Road between Thilawa Port and Yangon City

**Project No. 29-3**

| | |
|---|---|
| Country | Myanmar |
| Port | Thilawa |
| Project Name | Thilawa Port Approach Channel Dredging |
| Purpose/Background | To accommodate 35,000 DWT class vessels at the Port of Thilawa |
| Outline of the Project | Dredging the outer bar to a depth of 6 meters<br>Procurement of a dredger for maintenance dredging |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in August 2009 and November 2010 |

Plane Map


Source: JICA Study Team base on the information of MPA

Approach Channel

## 5.3 Kyaukphyu Port

**Outline of Port**

<Location and Roles>

Kyaukphyu Port is located in Rakhine state near Bangladesh. (19 º 22'06"North, 93 º 40' 08"East) Only 2 jetties have been developed at the present time. Kyaukphyu Port used to be a transit port to Bangladesh but now functions as a domestic port.

Kyaukphyu Port was selected for future deep sea port development of the country. (Myanmar Port Authority also selected Kalegauk, Dawei, Bokpyin as deep sea ports.)

Chinese government has an interest in the route between China's land-locked Yunnan province and Bay of Bengal. China will begin to lay parallel oil and natural gas pipelines. The port of Kyaukpyu will be the terminus for the Middle East and African tankers supplying oil to China.

<Operation and Management>

Kyaukphyu Port is under the management of MPA (Myanmar Port Authority). All the duties, functions, powers and obligations are governed by the Rangoon (Yangon) Port Act, 1905 and by the Order conferring Duties and Power of the corporation issued by the Ministry of Transport and Communications.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | ✔ | | | ✔ | | | ✔ | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Kyaukpyu Deep Seaport Project<br>Crude Oil Terminal/Jetty | Waterway, terminal<br>Mooring facilities | Planned |
| Urgent Rehabilitation of General Cargo Jetties | Rehabilitation | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Kyaukpyu Deep Seaport Project<br>Crude Oil Terminal/Jetty | To develop deep seaport for container ships, bulk carriers and crude oil tankers | No. 30-1 |
| Urgent Rehabilitation of General Cargo Jetties | To rehabilitate jetties used for loading and unloading general cargo and fishery products | No. 30-2 |

**Project No. 30-1**

| | |
|---|---|
| Country | Myanmar |
| Port | Kyaukpyu |
| Project Name | Kyaukpyu Deep Seaport Project（Crude Oil Terminal/Jetty） |
| Purpose/Background | To develop deep seaport for container ships, bulk carriers and crude oil tankers |
| Outline of the Project | - |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | - |

**Project No. 30-2**

| | |
|---|---|
| Country | Myanmar |
| Port | Kyaukpyu |
| Project Name | Urgent Rehabilitation of General Cargo Jetties |
| Purpose/Background | To rehabilitate jetties used for loading and unloading general cargo and fishery products |
| Outline of the Project | - |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | - |

# 6. Philippines

## 6.1 Manila Port

**Outline of Port**

<Location and Roles>

Port of Manila is located at the west end of the City of Manila and facing directly to Manila Bay.

The port is the Philippines' premier port, playing important roles in the economic activities as a gateway and transit port in the Philippines.

The port has a shoreline of 2 km and is protected by some 3,048 m of rock barriers enclosing approximately 600 ha of anchorage; the port is divided up into the South Harbor, Manila International Container Terminal (MICT) and North Harbor.

<Operation and Management>

Port of Manila is under the management of the Port District Office Manila/Northern Luzon of the Philippine Ports Authority (PPA). PPA is a government-owned corporation and responsible for the planning, development, financing, operation and maintenance of ports and port districts for the entire country.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | ✔ | ✔ | | | | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Manila North Harbor Redevelopment Project | Extension of Quays, Expansion of a yard, Deepening, Installation of equipment | Planned |
| MICT No.6 Container Terminal Expansion project | Container terminal | Implementation (toward 2010) |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Manila North Harbor Redevelopment Project | Manila North Harbor, having 11 piers/wharves of 5 to 6 meters deep, is the country's leading domestic port and handles more than 16 million tons of cargoes per year. This project aims to redevelop and expand the port so as to handle large vessels and supply sufficient storage areas. | No. 31-1 |
| MICT No.6 Container Terminal Expansion project | - | |

**Project No. 31-1**

| | |
|---|---|
| Country | Philippines |
| Port | Manila |
| Project Name | Manila North Harbor Redevelopment Project |
| Purpose/Background | Manila North Harbor, having 11 piers/wharves of 5 to 6 meters deep, is the country's leading domestic port and handles more than 16 million tons of cargoes per year. This project aims to redevelop and expand the port so as to handle large vessels and supply sufficient storage areas. |
| Outline of the Project | Extension of Quay<br>Quay Length = approx. 1,000 m<br>Depth along Quayside = 8-10 m<br>Reclamation = approx. 12 ha.<br>Cargo Handling Equipment |
| Estimated Cost | Php 20 B = USD 446 M ( USD 1.00 = Php 44.83)<br>Source: PPA |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site in August 2009 |
| Remarks<br>(Additional Information) | North Harbor is the largest and leading domestic port in the Philippines. It handles more than 16 M tons of purely domestic cargoes per year. Manila North Harbor proper is composed of seven (7) piers namely Pier 2, 4.6,8,10,12,14, and two (2) wharves, Terminal 16 and the Marine Slipway. All the piers have length of 220 meters and width of about 80 meters except Pier 2 which have been extended to 440 meters. The distance between piers is about 138 to 140 meters. The design depth of the piers is 6.0 meters below MLLW while Terminal 17 is 8.70 below MLLW and the Marine Slipway is 10.50 below MLLW. Length of channel is 1.5 miles and has a depth of 7 meters.<br>November 2009, PPA entered into a 25 years contract with Manila North Harbour Port Inc. for the Development, Management, Operation, and Maintenance of North Harbor. Consequently, PPA turned over the North Habor to the Contractor last April 11, 2010. In the contract, the Contractor is committed to modernize, redevelop and reconfigure the port so as to handle larger vessels and enhance the operational efficiency. |

## 6.2 Batangas Port

**Outline of Port**

<Location and Roles>

Port of Batangas is located in the south of Luzon Island at 13° 45'N and 121° 02'E, opposite the north shore of Mindoro Island, 110 km south of Manila. The hinterland is mainly in the area called CALABARZON (Cavite, Laguna, Batangas, Rizal and Quezon Provinces).

With the completion of the Batangas Port Development Project Phase I and Phase II, the port is expected to complement the Port of Manila.

<Operation and Management>

Port of Batangas is under the management of the Port Management Office-Batangas in the Port District Office-Southern Luzon of the Philippine Ports Authority (PPA).

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | | ✔ | ✔ | | | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| | | |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| | | |

## 6.3 Subic Port

**Outline of Port**

<Location and Roles>

Subic Bay Port is located in the Province of Zambales on the west coast of Central Luzon 110kms. north of Manila. It is shielded in the north by the Redondo Peninsula of Zambales Province and in the south by the mountain range of Bataan Province. South China Sea by the Redondo Peninsula. (14o 48'12" North, 120 o 15'55" East)

Subic Bay was formerly used for a US Naval base until its conversion in 1992 just after the withdrawal of US Navy to Subic Bay Freeport in accordance with the Bases Conversion and Development Act. The Subic Special Economic Zone (SSEZ) was established in Subic Freeport which has a seaport and an airport with incentives for inducing new industries. Currently industries such as electronics and shipbuilding are located at SSEZ.

Subic Bay Port has 15 wharves and piers with a cumulative berthing length of 5.4 kms., draft of 8m. to 13m., 2 new container terminals with four (4) Quay Gantry cranes, anchorage area is 25 m. deep. Fairway channel is 45m. deep. Subic Bay Port has also petroleum, oil, lubricant (POL) pier.

The Philippine government promotes the economic development of the Subic –Clark Area and is developing new container terminals in Subic Port and Subic-Tarlac-Clark Expressway, which is already in operation.

<Operation and Management>

Subic Port is administered by the Subic Bay Metropolitan Authority (SBMA). SBMA was established to attract local and foreign investment and to establish and regulate the operation and maintainance of utilities, services, and infrastructure. SBMA is autonomous in operations within SSEZ and its organization consists of various departments including Financial Planning&Budget, Planning&Development, Seaport Department, Airport, Management Information System, Locator Registration&Licensing, Law Enforcement, Fire Department, Market Research, Ecology Center. Among those departments, Seaport Department is in charge of port administration.

SBMA is under the jurisdiction of the Bases Conversion and Development Authority, while the Philippine Ports Authority and Cebu Ports Authority are under the jurisdiction of Department of Transportation and Communications.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | | × | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Const. of Road Network | NSD & Boton Road Network Project including All External Utilities such as Street Lighting, Storm Drainage System & Electrical Auxillary Systems. | Planned/For Implementation |
| Const. of Support Facilities at NSD Compound | Const. of Terminal Office Building, Gates, Public Toilets, Field Security Booths and Fencing/Subdivision of Warehousing Area & Yard Area at NSD Compound | Planned/For Implementation |
| Const. of Barreto Pier | Const. of Barreto Pier to support the operation of HHIC | Planned for Implementation |
| System Automation | On-line Filing of Gate Passes | On-going |
| Const. of NCT-3 | Similar Facilities provided under NCT 1 & 2 | Depends on Performance Status of NCT 1 & 2 |
| Port Facility Expansion/ Development | Possible port facility expansion/project/dev't. at Redondo Peninsula Area | Locators Proposed to Construct Windmill & Coal-Fired Power Plants |
| Port Facility Expansion/ Development | Feasibility Study of possible port facility expansion/project/dev't. at Access Road Area | Depending on the Cargo Volume of Port of Subic |
| Const. of Food Terminal | To develop an area of 24 Hectare inside the Industrial Park - 2 | Depending on the demand |
| Back-up Area at Cubi | Const. of Warehouses and Consolidation Area to support the operation of NCT-1 & 2 | Depends on Performance Status of NCT 1 & 2 |
| Installation of Shore Power Connection | Construction of Shore Power Connections on Seven (7) locations (2-Alava, 2-NSD, 2-NCT &1-Boton) | MARPOOL Mandate |
| Port Facility Expansion/ Development | Feasibility Study of possible port facility expansion/project/dev't. at Sattler Pier & Malawaan Area | Depending on the Cargo Volume of Port of Subic |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| | | |

## 6.4 Cebu Port

**Outline of Port**

<Location and Roles>

Cebu Port is located on the east coast of the central area of Cebu Island facing a channel between Cebu Island and Mactan Island. (10° 18' North, 123° 55' East). The Port is the second busiest port in the Philippines and strategically acts as a gateway supporting the economic activities in Cebu Island and Visayas.

<Operation and Management>

Cebu Port is administrated by the Cebu Port Authority (CPA). CPA was established in accordance with Republic Act 7621 enacted in 1992. After taking over the tasks from the Philippine Ports Authority, CPA started full operation in 1996. In addition to Cebu Port, CPA administrate all the ports in the Province of Cebu.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | ✔ | ✔ | | ✔ | | ✔ | | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Development of new Cebu port | Container terminal/Multi terminal, Road connecting to the existing port | Planned |
| Re-Development of Cebu Baseport | Build a new port and relocation | Planned |
| Upgrading/Improvement of CIP Berths & Dredging of Cebu Channel | Upgrading/Improvement of CIP Berths & Dredging of Cebu Channel | Planned |
| Construction of Fast Ferry Terminal | Repair and improvement of quay structure,Provision of pontoon,Expansion of Passenger Terminal | Planned |

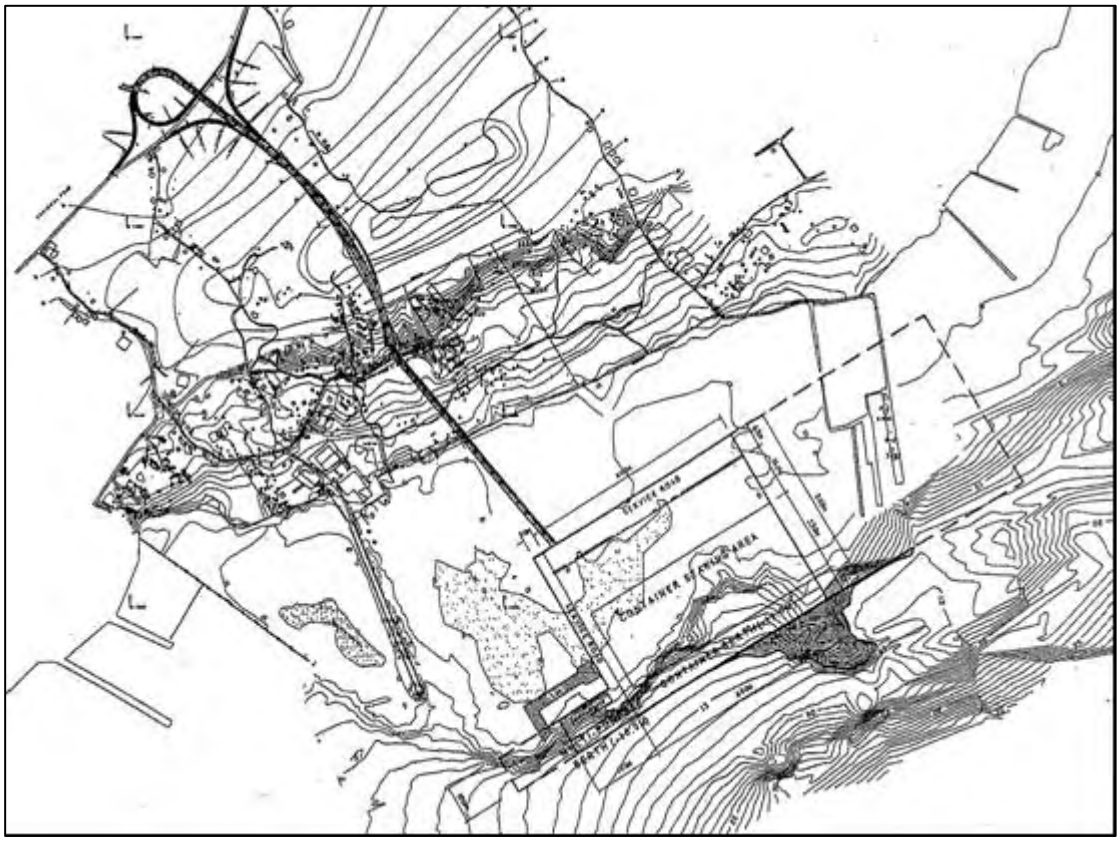
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Development of New Cebu Port | To increase the capacity of cargo handling | No. 34-1 |
| Re-Development of Cebu Baseport | 1)To exploit real estate potential of the Baseport for commercial and tourism-oriented purposes;<br>2)The port activity creates traffic congestion on the roadways leading to the Baseport with cargo trucks/vans clogging the roads<br>3)No further space available for expansion | No. 34-2 |
| Upgrading/Improvement of CIP Berths & Dredging of Cebu Channel | Upgrading/Improvement of CIP Berths & Dredging of Cebu Channel | No. 34-3 |
| Construction of Fast Ferry Terminal | To provide one terminal for all outgoing/incoming passengers of fast ferries in line with the berth rationalization of the Cebu Domestic Baseport; There are presently four (4) fast ferry passenger terminals located at different sites within the Cebu Domestic Baseport | No. 34-4 |

**Project No. 34 -1**

| | |
|---|---|
| Country | Philippines |
| Port | Cebu |
| Project Name | Development of New Cebu Port |
| Purpose/Background | To increase the capacity of cargo handling |
| Outline of the Project | Develop a new container and multipurpose terminal |
| Estimated Cost | PHP 9.3 billion<br>Source: The Study on the Cebu Integrated Port Development Plan in the Republic of the Philippines |
| Fund Source | To be determined |
| Project Owner | Cebu Port Authority |
| Project Schedule | To be determined |
| Source of Information | Fact finding of site survey in September 2009<br>The Study on the Cebu Integrated Port Development Plan in the Republic of the Philippines |

Plane Map:



Source: The Study on the Cebu Integrated Port Development Plan in the Republic of the Philippines

Development Plan of New Cebu Port

**Project No. 34 -2**

| | |
|---|---|
| Country | Philippines |
| Port | Cebu |
| Project Name | Re-Development of Cebu Baseport |
| Purpose/Background | 1)To exploit real estate potential of the Baseport for commercial and tourism-oriented purposes;<br>2)The port activity creates traffic congestion on the roadways leading to the Baseport with cargo trucks/vans clogging the roads<br>3)No further space available for expansion |
| Outline of the Project | 1)Build a new port<br>2)Relocate foreign/domestic cargo operations from the existing Baseport to the new port while improving passenger amenities in the Baseport<br>3)Study the feasibility of constructing a cruise ship terminal |
| Estimated Cost | To be determined |
| Fund Source | To be determined |
| Project Owner | Cebu Port Authority |
| Project Schedule | To be determined |
| Source of Information | Office of the General Manager, Cebu Port Authority |

**Project No. 34 -3**

| | |
|---|---|
| Country | Philippines |
| Port | Cebu |
| Project Name | Upgrading/Improvement of CIP Berths & Dredging of Cebu Channel |
| Purpose/Background | To accommodate bigger ships |
| Outline of the Project | Upgrading/Improvement of CIP Berths & Dredging of Cebu Channel |
| Estimated Cost | PhP 600 million |
| Fund Source | Local funds (Bank financing) |
| Project Owner | Cebu Port Authority |
| Project Schedule | 2011-2012 |
| Source of Information | Engineering Services Department, Cebu Port Authority |

**Project No. 34 -4**

| | |
|---|---|
| Country | Philippines |
| Port | Cebu |
| Project Name | Construction of Fast Ferry Terminal |
| Purpose/Background | To provide one terminal for all outgoing/incoming passengers of fast ferries in line with the berth rationalization of the Cebu Domestic Baseport; There are presently four (4) fast ferry passenger terminals located at different sites within the Cebu Domestic Baseport |
| Outline of the Project | 1) Repair and improvement of quay structure @ Berths 13-14<br>2) Provision of pontoon<br>3) Expansion of Passenger Terminal 3 |
| Estimated Cost | To Be Determined |
| Fund Source | Cebu Port Authority |
| Project Owner | Cebu Port Authority |
| Project Schedule | 2011 |
| Source of Information | Engineering Services Department, Cebu Port Authority |

## 6.5 Iloilo Port

### Outline of Port

<Location and Roles>

Port of Iloilo is located on the south-east coast of Panay Island, at $10^{o}$ 41'N and $122^{o}$ 35'E, opposite Guimaras Island. The port is a regional base port, supporting the economic activities of both Panay Island and Guimaras Island.

There are three terminals: Loboc, Fort San Pedro and Muelle Loney, and these terminals are located separately.

<Operation and Management>

Port of Iloilo is under the management of the Port Management Office-Iloilo in the Port District Office-Visayas of the Philippine Ports Authority (PPA).

### Fields of Issues which the port faces

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | | ✔ | ✔ | ✔ | | ✔ | | | |

### Plan/Project

| Name | Main Components | Status |
|---|---|---|
| Cargo Handling Productivity Enhancement Project | Installation of cargo handling equipment | Planned |
| Expansion of Loboc Wharf Project | - | Implementation |

### Projects listed in Long List

| Project Name | Purpose/Background | Note |
|---|---|---|
| Cargo Handling Productivity Enhancement Project | Installing cargo handling equipment to increase the productivity at the Port of Iloilo. | No. 35-1 |
| Expansion of Loboc Wharf Project | - | |

**Project No. 35 -1**

| | |
|---|---|
| Country | Philippines |
| Port | Iloilo |
| Project Name | Cargo Handling Productivity Enhancement Project |
| Purpose/Background | Installing cargo handling equipment to increase the productivity at the Port of Iloilo. |
| Outline of the Project | Cargo Handling Equipment<br>Quay-side Gantry Crane- 1 unit<br>Civil Works<br>a. Reinforcement of Crane Foundation if needed<br>b. Rail replacement |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site in August 2009 |
| Remarks (Additional Information) | The Port of Iloilo, considered the leading trade and commercial hub for Western Visayas is also one of the safest natural seaports of the world. It has been serving international and fertilizer and wheat shipments for the international market.<br>One of the ports constructed under the third IBRD Port Package is the Iloilo Commercial Port Complex(ICPC). This port is strategically in the southern coast of Panay Island, one of the country safest and natural harbor. Guimaras island protects the port from violent storms and makes it ideal for harbouring ships and cargoes.<br>The port entrance, Iloilo Strait connects with Panay Gulf and Guimaras Strait which lead to the Visayan Sea. It has a width of about 1.45 kms at its narrowest point and average depth of 22 meters.<br><br>ICPC has the following facilities:<br>1. Container marshalling yard - 8,000 sq.m<br>2. Container freight station - 2,000 sq.m<br>3. Warehouse - 450 sq.m<br>4. Back-up area - 6,000 sq.m<br>5. Wharf - 504 m<br>6. RO-RO ramp - 9m X 9M |
| (Infrastructure/Equipment Support Needed) | 1.Expansion of Wharf Including Back-up Area by 260 meters<br>2.Construction of Three(3) Warehouses. |

## 6.6 Cagayan de Oro Port

**Outline of Port**

<Location and Roles>

Cagayan de Oro Port is located in the northern area of Mindanao Island facing the Macajalar Bay. (08° 32' North, 124° 40' East) The Port is the largest port in northern Mindanao and acts as a gateway and supports the economic activities in Cagayande Oro City and Provinces of Misamis Oriental, Bukidnon, Camiguin, and Agusan del Norte.

<Operation and Management>

Cagayan de Oro Port is administrated by PPA-PMO Cagayan de Oro. Cargo handling is implemented by a cargo handling operator (CHO) commisoned by PPA.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | ✔ | | | | | ✔ | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Expansion of Terminal | Installation of equipment and a RO-RO ramp | Planned |
| Expansion of the Berth Length and Container Yard (Phividec) | Phividic's project | Planned |
| Modernization of Equipment (Phividec) | Phividic's project | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Expansion of Terminal | To increase the capacity of cargo handling | No. 36-1 |
| Expansion of the Berth Length and Container Yard (Phividec) | - | |
| Modernization of Equipment(Phividec) | - | |

**Project No. 36-1**

| | |
|---|---|
| Country | Philippines |
| Port | Cagayan de Oro |
| Project Name | Expansion of Terminal |
| Purpose/Background | To increase the capacity of cargo handling |
| Outline of the Project | Expand the multipurpose terminal (Qua/Yard) |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in September 2009 |
| Remarks (Additional Information) | Located at the northern portion of the island of Mindanao at Macajalar Bay near the mouth of Cagayan River, it serves as the entry and exit point of products for the cities of Cagayan de Oro, Gingoog and the provinces of Misamis Oreintal, Bukidnon, Camiguin and part of Lanao del Sur and Davao. The port's strategic location and large open bay has made it the principal distribution center in Mindanao.<br>The port has a wide basin with an estimated diameter of 12 km and very deep water. |
| (Infrastructure/Equipment Support Needed) | 1. Immediate installation of Quay Crane Rail and its additional structural support<br>2, Provision of Gantry crane- one (1) unit<br>3. Construction of Passenger Terminal Building<br>4. Construction of Open Transit Shed<br>5. Extension of Wharf including back-up Area - 1,009 meters<br>6. Construction of Warehouse |

## 6.7 Davao Port

### Outline of Port

<Location and Roles>

Port of Davao is located on the south-east coast of Mindanao Island, at 7° 07'N and 125° 40'E, opposite Samal Island across Pakiputan Strait. The port is the largest port in Mindanao Island, supporting the economic activities of Southern Mindanao.

The wharf of the port is called Sasa Wharf, comprised of the Old Quay and New Quay.

<Operation and Management>

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).

### Fields of Issues which the port faces

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | ✔ | ✔ | ✔ | | | ✔ | | |

### Plan/Project

| Name | Main Components | Status |
|---|---|---|
| Davao Container Terminal Construction Project | Extension of Sasa wharf, Installation of quay cranes, Expansion of a container yard | Planned |
| Extension of container terminal (Phase 2) | Additional extension of berth | Planned |

### Projects listed in Long List

| Project Name | Purpose/Background | Note |
|---|---|---|
| Davao Container Terminal Construction Project | Construction of a container terminal to cope with the increasing container cargoes of 349,000 TEUs in 2008. (PPA 2000-2009 Port Traffic Statistics as 395, 828 TEUs in 2009). | No. 37-1 |

**Project No. 37-1**

| | |
|---|---|
| Country | Philippines |
| Port | Davao |
| Project Name | Davao Container Terminal Construction Project |
| Purpose/Background | Construction of a container terminal to cope with the increasing container cargoes of 349,000 TEUs in 2008. (PPA 2000-2009 Port Traffic Statistics as 395, 828 TEUs in 2009). |
| Outline of the Project | Application/Capacity<br>Cargo: Container<br>Cargo Handling Capacity: 220,000 TEUs/year<br>Infrastructure<br>Quay length: 250 meters<br>Number of Berth: 1 berth<br>Depth along the Quayside: 13 meters<br>Maximum Vessel Size: 30,000 DWT<br>Cargo Handling Equipment<br>Quay-side Gantry Crane: 2 units |
| Estimated Cost | Php 3.8 B = USD 85 M ( USD 1.00 = Php 44.83)<br>(Estimated using the inflation rate of consumer price from 2003 to 2010 = 45.7% by IMF base on the result of the Study on the Master Plan for the Strategic Development of the National Port System in the Philippines, JICA, Jan. 2004. The cost during the 2004 study is PHP 2.6B) |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in September 2009. The Study on the Master Plan for the Strategic Development of the National Port System in the Philippines, JICA, Jan. 2004. |
| Remarks<br>(Additional Information) | The Port of Davao, Sasa is situated on the south-western coast of Mindanao. The entrance channel is through the Davao Gulf along the Pakiputan Strait. The water depth of the strait is 36 meters and with clearance is about 0.40 sea miles.<br>PPA recently constructed an extension of the wharf by 113.50 meters including 13,180 sq.m. back-up area with a cost Php 398.50 million. The design depth of this wharf is -15.00 m below MLLW.<br>PPA had also finished the detailed plans for the construction and installation of crane rail along the existing 518.50 meters wharf but no funds yet available for this purpose. |
| (Infrastructure/Equipment Support Needed) | 1.The immediate installation of crane rail including reinforcement along the existing 518.50m wharf.<br>2.The immediate installation of three (3) gantry crane along the 518.50 meters wharf.<br>3.The immediate expansion of the container berth at the north end of the wharf.<br>4.Paving of the newly reclaimed area and rehabilitation and repair of the pavement of the existing container yard.<br>5.Passenger Terminal Building and RO-RO berth at the south end side of the port. |

## 6.8 General Santos Port

**Outline of Port**

<Location and Roles>

Port of General Santos is located on the north of Sarangani bay, in the south of Mindanao Island, at 06° 06'N and 125° 09'E, approximately 2 km from General Santos City. The port is a regional base port, supporting the economic activities of South Cotabato Province.

<Operation and Management>

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

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | ✔ | ✔ | ✔ | | | ✔ | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Cargo Handling Productivity Enhancement Project | Installation of a quay –side crane | Pre-planning |
| Passenger Terminal Development Project(ABD) | - | Implementation |
| Makar port expansion project (RCwharf) | Reclamation, terminal | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Cargo Handling Productivity Enhancement Project | Installing cargo handling equipment on Berth No. 9 to increase productivity and alleviate the congestion (present berth occupancy rate: 88%) | No. 38-1 |
| Passenger Terminal Development Project(ABD) | - | |
| Makar port expansion project (RCwharf) | - | |

**Project No. 38-1**

| | |
|---|---|
| Country | Philippines |
| Port | General Santos |
| Project Name | Cargo Handling Productivity Enhancement Project |
| Purpose/Background | Installing cargo handling equipment on Berth 9 to increase productivity alleviate the congestion( present berth occupancy rate: 88%) General Santos Port. |
| Outline of the Project | Equipment: Quay-side Gantry Crane- 1 unit<br>Civil Works: Laying of Rails for Quay-side Gantry Crane |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site in August 2009 |
| Remarks<br>(Additional Information) | Situated at the end of the Saranggani Bay in the southern coast of Mindanao, the Makar Wharf in the Port of General Santos serves as the gateway to the national and international markets of the agriculture and marine products of South Cotabato, Sultan Kudarat, Saranngani, General Santos (SOCKSARGEN Area) and the neighboring provinces of Davao del Sur and North Cotabato. It serves as a general purpose terminal handling domestic and international containerized, general bulk and RO-RO cargo as well as domestic passenger traffic. Major local products in the area such as pineapple, banana and tuna are exported mainly to Europe, Japan and USA.<br><br>The port is divided as follows:<br>1. Western Section - 288 meters wharf supported on piles with open storage area.<br>2. Eastern Section - 300 meters wharf supported on piles with 3 transit shed and container yard area of 10.62 and 144 reefer plugs.<br>3. Expansion Area 1- 152 meters wharf on piles with container yard 1.90 hectares<br>4. Expansion Area 2 - 111 meters wharf on piles with container yard of 11.10 hectares. |
| (Infrastructure/Equipment Support Needed) | 1.Port Reclamation for additional back-up area ( container yard and open storage)<br>2.Immediate repair of Existing Wharf Superstructure<br>3.Immediate installation of Quay Crane Rail and Additional Structural Support<br>4.Immediate provision of Gantry Crane ( one unit) |

## 6.9 Zamboanga Port

**Outline of Port**

<Location and Roles>

Port of Zamboanga is located on the southernmost tip of the Zamboanga Peninsula, in south-west Mindanao at 06° 54'N and 122° 04'E, facing the Strait of Basilan. It is 460 nautical miles south of Manila, 365 nautical miles northwest of Kota Kinabaru, 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.

<Operation and Management>

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).

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | ✔ | ✔ | ✔ | ✔ | ✔ | | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| New Passenger Terminal Project | Passenger terminal, Improvement of CIQ services | Planned |
| Installation of Equipment | | planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| New Passenger Terminal Project | The passenger terminal is very congested because more than 2 million domestic passengers and more than 20 thousand international passengers use it in a year. This project is aim to separate international passengers from domestic passengers from the view point of security control and improvement of CIQ services. | No. 39-1 |
| Installation of Equipment | - | |

**Project No. 39-1**

| | |
|---|---|
| Country | Philippines |
| Port | Zamboanga |
| Project Name | New Passenger Terminal Project |
| Purpose/Background | The passenger terminal is very congested because more than 2 million domestic passengers and more than 20 thousand international passengers use it in a year. This project is aim to separate international passengers from domestic passengers from the view point of security control and improvement of CIQ services. |
| Outline of the Project | New International Passenger Terminal<br>Sea Traveller's Center |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site in August 2009 |
| Remarks<br>(Additional Information) | Port of Zamboanga is one of the principal ports of call for the main inter-island ships on the Manila-Cebu-Davao route. Situated at the southern extremity of the Zamboanga peninsula, it is the only port of significance for general cargo trade in the area. |
| (Infrastructure/Equipment Support Needed) | 1.Installation of Quay Crane Rail and Structural Support<br>2.Provision of Quay Crane one (1) unit<br>3.Construction of Traveller's Hub Building<br>4.Paving of Newly Constructed Back-up Area<br>5.Port Expansion for Fast craft Ferry Terminal<br>6.Construction of Passenger Terminal Buiding<br>7.Extension of Wharf by 170 meter |

# 7. Singapore

## 7.1 Singapore Port

**Outline of Port**

<Location and Roles>

Port of Singapore is the world number one container port handling about 30 million TEUs in 2008. The port plays a key role in container transshipment with services of around 200 shipping companies calling at Singapore. Besides container terminals, the port has industrial area where oil jetties and bulk wharves are located for the use of private industrial companies.

Port of Singapore consists of terminals of the PSA Singapore Corporation, Jurong Port and private facilities in the industrial area. Maritime and Port Authority (MPA) is the port authority for all port areas in Singapore. In a narrow sense, Port of Singapore means the terminals of PSA Singapore Corporation.

<Operation and Management>

MPA is responsible for maritime administration in Singapore including ship entry to the port, navigation safety, order in port, port development planning, and port promotion. MPA was established in 1996 succeeding National Maritime Board and some divisions of former Port of Singapore Authority.

Main four container terminals of Singapore Port are managed and operated by PSA Singapore Corporation and Jurong port is by Jurong Port Pte Ltd. Monthly report of the Containerisation International deals Jurong Port as another port from Singapore Port. Private port facilities are directly under the supervision of MPA.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | | | | | | | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Development of Pasir Panjang Terminal Phase III and IV | Reclamation, quays | Implementation |

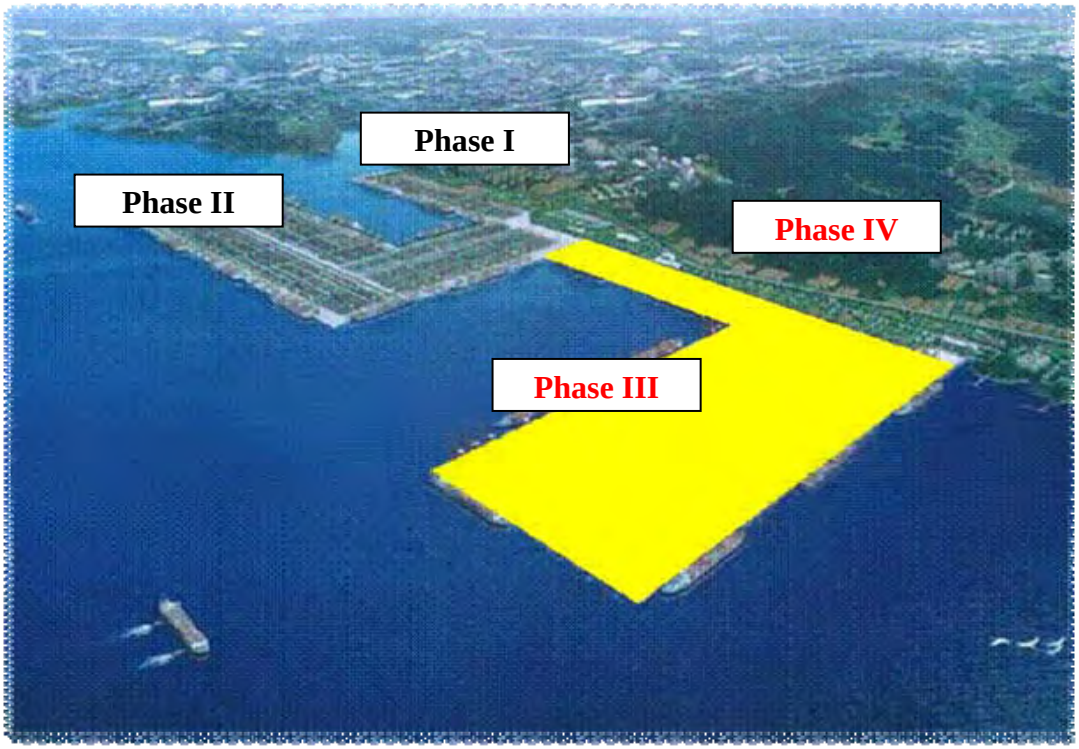
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Development of Pasir Panjang Terminal Phase III and IV | To expand the container port capacity. | No. 40-1 |

**Project No. 40-1**

| | |
|---|---|
| Country | Singapore |
| Port | Singapore |
| Project Name | Development of Pasir Panjang Terminal Phase III and IV |
| Purpose/Background | To expand the container port capacity. |
| Outline of the Project | Total number of Berths: 16<br>Capacity: 14,000,000 TEUs<br>(Present Berths and Capacity)<br>Tanjong Pagar (8), Keppel (14), Brani (9,) Pasir Panjang I & II (23) with a total capacity of 35,000,000 TEUs<br>Jurong (5), with a capacity of 1,800,000 TEUs |
| Estimated Cost | - |
| Fund Source | Government (land reclamation), Terminal operator (to develop and equip the ports). |
| Project Owner | Government ( for land reclamation) |
| Project Schedule | 2007-2014( for land reclamation) |
| Source of Information | - |

Plane Map




Source: PSA

Location of Project Site

# 8. Thailand

## 8.1 Bangkok Port

**Outline of Port**

<Location and Roles>

Bangkok Port is located on the left side of the Chao Phraya River between km +26.5 and km. +28.5 Klongtoey District, Bangkok.

The construction and dredging work began in 1938. The construction was interrupted during World War Ⅱ and was completed after the war ended. In 1951, the government obtained a loan from the World Bank for dredging the sand bar, deeping the river course to Bangkok Port, and purchasing loading/ unloading equipment.

Bangkok Port is so close to downtown Bangkok that traffic congestion became a big problem as cargo throughput increased.

AS Bangkok Port was unable to accommodate large vessels, in 1982, the government accelerated the Port Authority of Thailand to design the construction of Laem Chabang Commercial Port to accommodate large container ships and agri-bulk ships.

Bangkok Port is second biggest port in Thailand next to Laem Chabang Port.

<Operation and Management>

Bangkok Port is under the management of PAT(Port Authority of Thailand). PAT is responsible for modernization of the cargo transportation system. PAT is also obliged to maintain the depth of the channel.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | | | | ✔ | | ✔ | ✔ | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Asset Development Project | | |
| Expansion of railroads to link to Laem Chabang port | | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Asset Development Project | To develop in to Logistics and Port-rerated activities. | |

## 8.2 Laem Chabang Port

**Outline of Port**

<Location and Roles>

Port of Laem Chabang is located at 130km southeast of Bangkok and it takes about two hours from Bangkok owing to good expressway. The port was developed as a deep water gateway port to Thailand and inaugurated in 1991. At the early stage of development, the port played a role of complementary port to Bangkok Port. However, it became the main gateway port to Thailand handling more than 5 million TEUs in 2008 compared with 1.5 million TEUs in Bangkok Port.

Phase I area of Laem Chabang Port was developed for container cargos and conventional cargos. Wharf A was originally designed for conventional cargo, bulk cargo and passengers. Wharf B designed for container terminals. Some terminals of Wharf A were transformed to container terminal or Ro/Ro terminal.

Phase II development of Laem Chabang Port started following the Phase I, and first terminal C3 opened in 2004. Terminals C1 and C3 were inaugurated in 2008. Development of terminals D1-D3 is undertaken by Hutchison Port Holdings and D1 may be completed in the near future.

The nature of Laem Chabang Port is origin/destination port and therefore transshipment containers are very small, about 0.5% of the total container throughput.

<Operation and Management>

Port Authority of Laem Chabang Port is PAT (Port Authority of Thailand). PAT manages the port as landlord and terminal operations are conceded to private terminal operators. Marine Department of Ministry of Transport is responsible for ship entry, navigation safety and other maritime services.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | | | ✔ | ✔ | | ✔ | ✔ | ✔ | |

**Plan/Project**

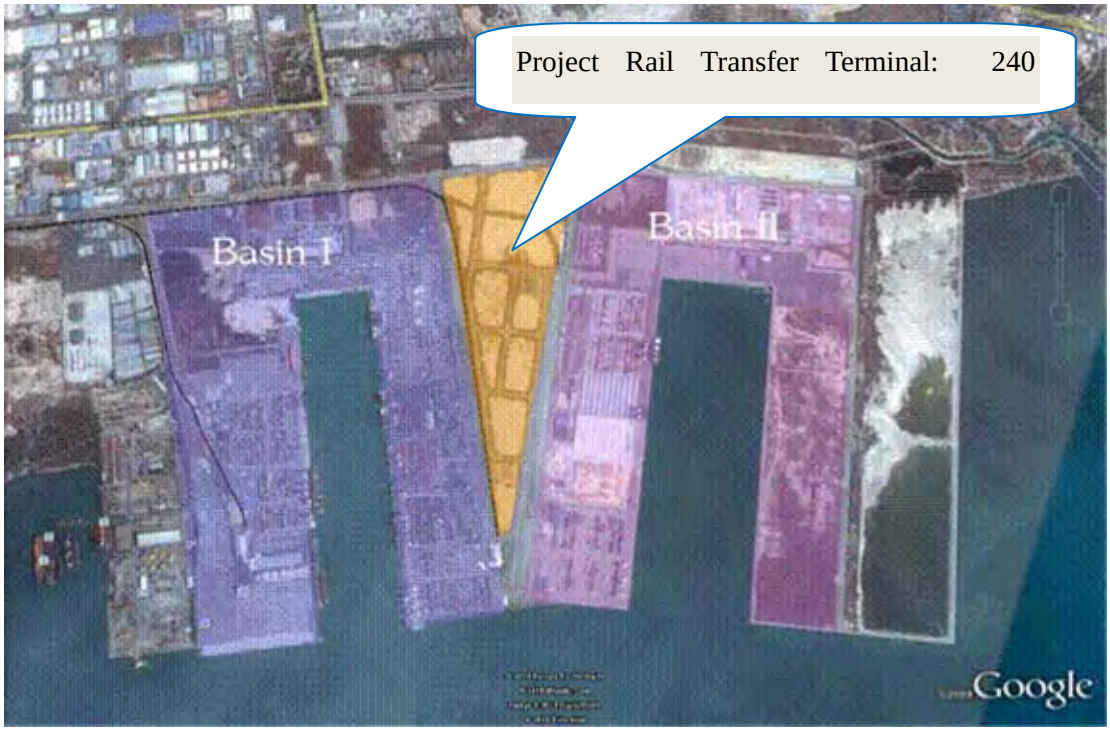
| Name | Main Components | Status |
|---|---|---|
| Rail Transfer Terminal (RST) | Marshalling yard, Renovation of the railway | Planned |
| Coastal Terminal | Berth and back-up area | Implementation |
| LCP Phase 3 Development | Reclamation, container terminal | Planned |
| Introduction of IT system | BY CUSTOMS | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Rail Transfer Terminal (RST) | To increase the efficiency of rail transfer in LCP, and subsequently make the operation faster and safer. | No. 42-1 |
| Coastal Terminal | To develop the coastal terminal for serving containers transported from/to LCP by coastal ship from southern part of Thailand or barge from inland waterway. | No. 42-2 |
| LCP Phase 3 Development | To serve the increasing throughput in the future | No. 42-3 |

**Project No. 42-1**

| | |
|---|---|
| Country | Thailand |
| Port | Laem Chabang |
| Project Name | Rail Transfer Terminal (RST) |
| Purpose/Background | **Background**<br>The present situation of the transport from Laem Chabang Port (LCP) to hinterland has been mostly done via road system approximately 88%, whereas movement by rail and waterway are 9.5% and 2.5% respectively.<br>In order to enhance logistics networks system in the country, the government's policy has been focused on shifting the LCP-linked transport of containerized cargo from road to rail and waterway. Therefore, LCP Rail transfer terminal project has been originated at the reserved area situated between Basin I and Basin II to enlarge the rail transport up to 20% of the total throughput accommodated LCP in the long run. A modern and efficient rail transfer Terminal will significantly decrease transportation costs incurred through trucking services.<br><br>**Purpose**<br>- To develop infrastructure and necessary facilities for serving the discharging/loading containers transported by rail within the port area. The project would largely help facilitate rail transfer in the future in response to the completion of double track construction project of State Railway Authority of Thailand (SRT). It would increase the handling capacity of rail transport in LCP from the existing of 500,000 TEUs/year to 1-2 million TEUs/year.<br>- To increase the efficiency of rail transfer in LCP, and subsequently make the operation faster and safer.<br>- To support the SRT's double tracking system project linking from Chachoengsao Province to Laem Chabang Railway Station.<br>- To reduce the logistics cost of the country in compliance with the government's policy, Ministry of Transport and Port Authority of Thailand. |
| Outline of the Project | The project's area is located between Basin I and Basin II (240 acres). The project is aimed at servicing container, transported by rail between LCP and Lad Krabang ICD, handling and lifting services by a single operator. The project is divided into two phases with a maximum capacity of 2 million TEUs per year. The infrastructure development is aimed to build 6-8 rail roads, which can be operated by special handling equipment; Rail mouthed Gantry Crane (RMG). This kind of facilities can provide services for at least 12 trains at the same time.<br>LCP will provide the infrastructure and invest in major equipments such as RMG and RTG, whereas the private sector would be the operator and invest in minor equipment including IT system. |
| Estimated Cost | Approximately 82 million USD (2,570 million Bath), divided to 65 million USD (2,025 million Bath) for LCP and 17 million USD (545 million Bath) for private sectors. |
| Fund Source | Port Authority of Thailand |
| Project Owner | Port Authority of Thailand |
| Project Schedule | The completion of engineering detail design is expected at the early of the year 2011. Then, the construction and handling equipment installation period will cover about 17 months. Therefore, the project should be operational by the end of the year 2012. |
| Source of Information | LCP, cooperate with project consultant. |
| Plane Map | |




Source: PAT

Location of Project Site

**Project No. 42 -2**

| | |
|---|---|
| Country | Thailand |
| Port | Laem Chabang |
| Project Name | Coastal Terminal |
| Purpose/Background | **Background**<br>To compliance with the government's policy on shifting mode of transport from road to rail and waterway, and to strengthen the role of primary seaport in Thailand, Laem Chabang Port (LCP) is striving to develop transportation links towards a coastal terminal.<br>This project would decrease the logistics costs for exporters/importers and logistics providers as well. The Coastal Terminal will serve domestic waterway transport linked to LCP. It can reduce traffic congestion and offer the port users a cost-effective mode of transport. Moreover, This project will enhance Thailand' role competitiveness according to the lower logistics cost as well.<br><br>**Purpose**<br>- To develop the coastal terminal for serving containers transported from/to LCP by coastal ship from southern part of Thailand or barge from inland waterway.<br>- To reduce the logistics cost of the country in compliance with the government's policy, Ministry of Transport and Port Authority of Thailand.<br>- To reduce traffic congestion and offer the port users a cost-effective mode of transport. |
| Outline of the Project | To develop coastal a berth of 150 meters quay length, -10 MSL dept and 17.2 acres of its back-up area utilization. Now, it is under the process of hiring the consultant to conduct a study on the detail design and port tariffs. The project is expected to complete and can be operated by 2013. It would generate the maximum handling capacity of 300,000 TEUs/year. LCP will invest on the infrastructure and invest in major equipments, whereas the private sector would be the operator and invest in minor equipment including IT system. |
| Estimated Cost | Approximately 35 million USD (1,802 million Bath), exclusive minor equipments investment of private sector. |
| Fund Source | Laem Chabang Port, Port Authority of Thailand |
| Project Owner | Port Authority of Thailand |
| Project Schedule | The completion of engineering detail design is expected at the early of the year 2011. Then, the construction and handling equipment installation period will cover about 18 months. Therefore, the project should be operational by the early of the year 2013. |
| Source of Information | LCP, cooperate with project consultant. |

Plane Map


Source: PAT

Location of Project Site

**Project No. 42-3**

| | |
|---|---|
| Country | Thailand |
| Port | Laem Chabang |
| Project Name | LCP Phase 3 Development |
| Purpose/Background | **Background**<br>According to the throughput forecasting demonstrate that the total containers accommodated in Basin I and Basin II would exceed 10 million TEUs per year by 2018, while the maximum capacity of Basin I and Basin II is only 10.8 million TEUs/year.<br>Due to the above mentioned capacity, the new port Basin, Basin III development, is needed to be completed and operated by the year 2019. In this project, the LCP will invest on the main infrastructures such as dredging, land reclamation, breakwater, and so on. Then, private sectors participation on investing in superstructures and operating terminals would be opened to both local and foreign investors.<br><br>**Purpose**<br>-To serve the increasing throughput in the future<br>-To strengthen the LCP's role as a Gateway Port of the Mekong Sub-Region. |
| Outline of the Project | -To conduct the engineering detail design for the construction work, Financial and Economic feasibility study, Environmental and Health impact Assessment Report.<br>-To construct the main super infrastructures for instance, dredging, land reclamation, breakwater and so on in order to getting a total capacity of at least 8.0 million TEUs per year.<br>-To open the Bidding for private sectors for investing and operating. |
| Estimated Cost | Approximately 1,920 million USD (60,000 million Bath), divided to 480 million USD (15,000 million Bath) for LCP and 1,440 million USD (45,000 million Bath) for private sectors |
| Fund Source | Laem Chabang Port, Port Authority of Thailand |
| Project Owner | Port Authority of Thailand |
| Project Schedule | - Presently, phase III now undergoes the hiring consultant to conduct the engineering detail design for the construction work, Financial and Economic feasibility study, Environmental and Health impact Assessment Report. |
| Source of Information | LCP |

Plane Map


Source: PAT

Location of Project Site

## 8.3 Songhkla Port

**Outline of Port**

<Location and Roles>

Port of Songkhla is located on the coast of Gulf of Thailand and plays the role of gateway port to the south region. Distance from Bangkok is 950km by road or by railway. Distance to Hat Yai Airport is about 50km and Hat Yai railway station is about 30km. Major imports are general goods and frozen tuna, and exports are processed marine products and limestone.

<Operation and Management>

Songkhla Port was developed by Ministry of Transport and is operated by Chaophaya Terminal International Co., Ltd. Port Authority of the port is Marine Department, MOT. The operating company was conceded, through bidding, the right of operation for 10 years from Treasury Department, Ministry of Finance, in 1989 and the right is renewed every five years. While ship crane and mobile crane are used for cargo loading and unloading operations, mobile crane is prepared by a shipping company.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | | ✔ | ✔ | | | ✔ | | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Expansion of terminal | | Planned |
| Access road expansion plan | Road with four lanes | Planned |
| Development of the Second Songkhla Port | Construction of container terminals | Planned |
| Development of the Songkhla port | - | Planned |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Development of the Second Songkhla Port | To cope with future demand for the Songkhla Port | No. 43-1 |
| Development of the Songkhla Port | To enhance the potential connectivity between Thailand, Northern Sumatra and Malaysia via IMT-GT corridors. | |

**Project No. 43-1**

| | |
|---|---|
| Country | Thailand |
| Port | Songkhla |
| Project Name | Development of the Second Songkhla Port |
| Purpose/Background | To cope with future demand for the Songkhla Port |
| Outline of the Project | First phase:<br>container terminal (two berths for 1,500 TEUs vessels) 54m x 500m<br>general cargo terminal (two berths for 30,000 DWT conventional vessels) 84m x 250m<br>Second Phase:<br>container terminal (two berths for 7,000 TEUs vessels) 84m x 660m<br>general cargo terminal (two berths for 30,000 DWT conventional vessels) 84m x 250m |
| Estimated Cost | 10,978 million baht<br>Phase1: 5,675 million baht<br>Phase2: 5,303 million baht |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | First phase:3 years<br>Second Phase:2 years |
| Source of Information | Feasibility Study on the Development of a Deep Sea Port in the Lower Gulf of Thailand |
| Remarks<br>(Additional Information) | In order to achieve successful operation of Songkla Port 2, Thai government should grant concession to the private sector. Effective transport system should be built, connecting the sea transport and other modes of transport which are road transport and rail transport. Export industrial estates as well as special economic zone should be established in southern provinces between Songkla and Pak Bara Ports. A petroleum terminal at Pak Bara port within the land bridge project, in order to link with the Songkla Port 2 might be invested. An industry cluster, such as refinery industry, petrochemical industry, pipe system, and other related industries that will use the raw material imports from Middle East might be created. Suitable port tariff should be specified and implemented. Effective organizational management structure should be set up. Marketing strategies should be done via incentives program. Environment issue should be emphasized on the prevention of maritime accidents, including measures to protect marine environment. Finally the development of Songkla Port 2 will enhance international trade not only for Thailand but also for the ASEAN countries. |

# 9. Vietnam

## 9.1 Ho Chi Minh Port

**Outline of Port**

<Location and Roles>

Ho Chi Minh Port is located in Ho Chi Minh City, the largest city in Vietnam and act as an indispensable logistics platform for the economic activities in the Southern Focal Economic Zone of the country. Ho Chi Minh Port consists of many terminals developed on the banks of the rivers streaming in Ho Chi Minh City including the Sai Gon River, Dong Nai River, Nha Be River, Soai Rap River, and Long Tau River.

<Operation and Management>

The Maritime Administration of Ho Chi Minh City, a local arm of Vietnam Maritime Administration (Vinamarine) is in charge of port entry clearance and administration &maintenance of approach channels. Development, operation, and maintenance of terminals are implemented by respective terminal companies based on the investment licenses approved by the Vietnamese government.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | ✔ | ✔ | ✔ | | | ✔ | ✔ | | ✔ |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Development of Access Roads (will be completed in 2015) | Connecting SPCT and Cat Lai | Implementation |
| Improvement of Approach Channel in Cai Mep area and Vung Tau area | Deepening of the channel | Planned |
| Terminal Development Project in Cai Mep, Thi-Vai and Vung Tau | Container and Multi purpose Terminals | Implementation |
| Saigon Terminal Relocation Project | - | Planned |
| Relocation project (Saigon - HiepPhuoc Port) | | |
| Cat Lai Container Terminal Expansion Project(relocation of petroleum facilities) | Yard and berth expansion | Planned |
| SPCT Extension Project | Extension of berth | Planned |
| Rehabilitation of improvement of Approach channel (Soai Rap) | - | - |
| Conversion of the existing port area to the complex of passenger port, maritime and commercial center | - | - |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Development of Access Roads (will be completed in 2015) | To improve the connectivity between the port and the hinterland | No. 44-1 |
| Improvement of Approach Channel in Cai Mep area and Vung Tau area | To accommodate larger vessels which will call the deep-water terminals at Cai Mep area | No. 44-2 |
| Rehabilitation of improvement of Approach channel (Soai Rap) | - | |
| Conversion of the existing port area to the complex of passenger port, maritime and commercial center | - | |
| Relocation project (Saigon - HiepPhuoc Port) | - | |

**Project No. 44-1**

| | |
|---|---|
| Country | Vietnam |
| Port | Ho Chi Minh |
| Project Name | Development of Access Roads |
| Purpose/Background | To improve the connectivity between the port and the hinterland |
| Outline of the Project | Develop a new access road to container terminals of SPCT and Cat Lai |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in August 2009 |
| Remarks (Comment from Saigon Port, Vietnam) | Recently, the entrance to Saigon − Hie Phuoc Ports on the province linking road No. 25B also belongs to this project, we are going to complete 200 meters of the Wharf No. 1 in September 2010, and 400 meters of the Wharf No.2 and No. 3 in the first section. But, there will be no entrance to the ports. |

Plane Map

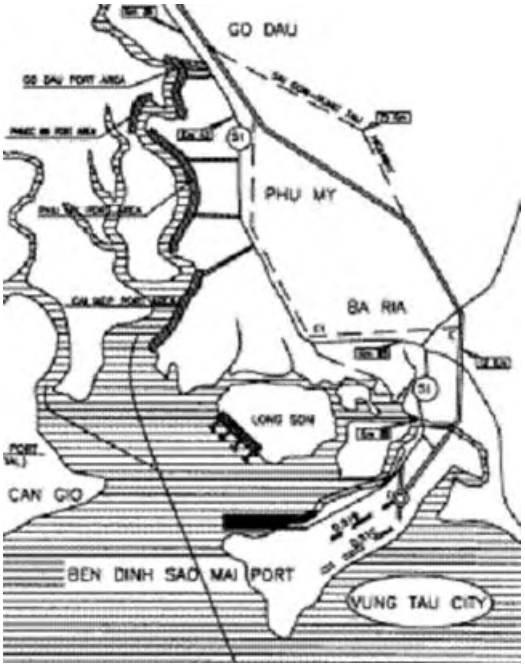

Source: SPCT

Map of Access Road to SPCT

**Project No. 44-2**

| | |
|---|---|
| Country | Vietnam |
| Port | Ho Chi Minh |
| Project Name | Improvement of Approach Channel in Cai Mep area and Vung Tau area |
| Purpose/Background | To accommodate larger vessels which will call the deep-water terminals at Cai Mep area. |
| Outline of the Project | Maximum vessel size: 100,000 DWT or 8,000 TEU<br>Channel depth: 15-16m<br>Dredging at the mouth of Cai Mep River: - m3<br>Dredging in the bay of Vung Tau: - m3 |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in August 2009 |
| Remarks<br>(Comment from Saigon Port, Vietnam | Recently, we have 3 international co-operated projects at Cai Mep – Thi Vai area. The costs of dredging the entrance flow to Cai Mep – Thi Vai area was counted in 2005. Please propose Japanese partner for co-operating with Vietnamese competence agencies to deploy this project soon<br>Besides these, there are some more projects of making road, or railway, or entrance flow and so on. Pertaining to the project of Saigon port and maritime port group No. 5, such as: the project of enlarging the Highway No.5, and the project of making the road No. 965 and the project of making the Bien Hoa – Vung Tau high speed railway, which all need to be deployed soon. |

Plane Map




Source: JICA study team

Location of approach channel improvement in Cai Mep area and Vung Tau area

## 9.2 Haiphong Port

**Outline of Port**

<Location and Roles>

Port of Hai Phong, opened in 1876, is located in the downstream of Cam River, and distance from Hanoi is about 100km by national road no.5. The port is also connected to Hanoi by the road no.18 through north route and to Thai Binh province by the road no.10. Necessary travel time from Hanoi to the port is about 2.5 hours by passenger car and 4-6 hours.

<Operation and Management>

Local office of VINAMARINE (Vietnam Maritime Administration), Ministry of Transport, is responsible for ship entry, navigation safety, channel maintenance and regulations on port waters. The local office is called Hai Phong Maritime Administration and plays a role of port authority. Terminals are developed and managed by private operating company or state owned company. Bulk cargo handling facilities are built and operated by private industrial companies.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| ✔ | ✔ | ✔ | | ✔ | | | ✔ | | ✔ |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Development of the Hai Phong International Gateway Port(former Lach Huyen Gateway Port) | Development of a deep outer port(container and multi purpose terminal) | Implementation |
| Deepening and Widening of Hai Phong Approach Channel | Deepening /widening of the channel | Planned |
| Dinh Vu area Development Project | Development of container/bulk terminals | Implementation |
| Highway Development Project | Hai Phong to Hanoi | Implementation |

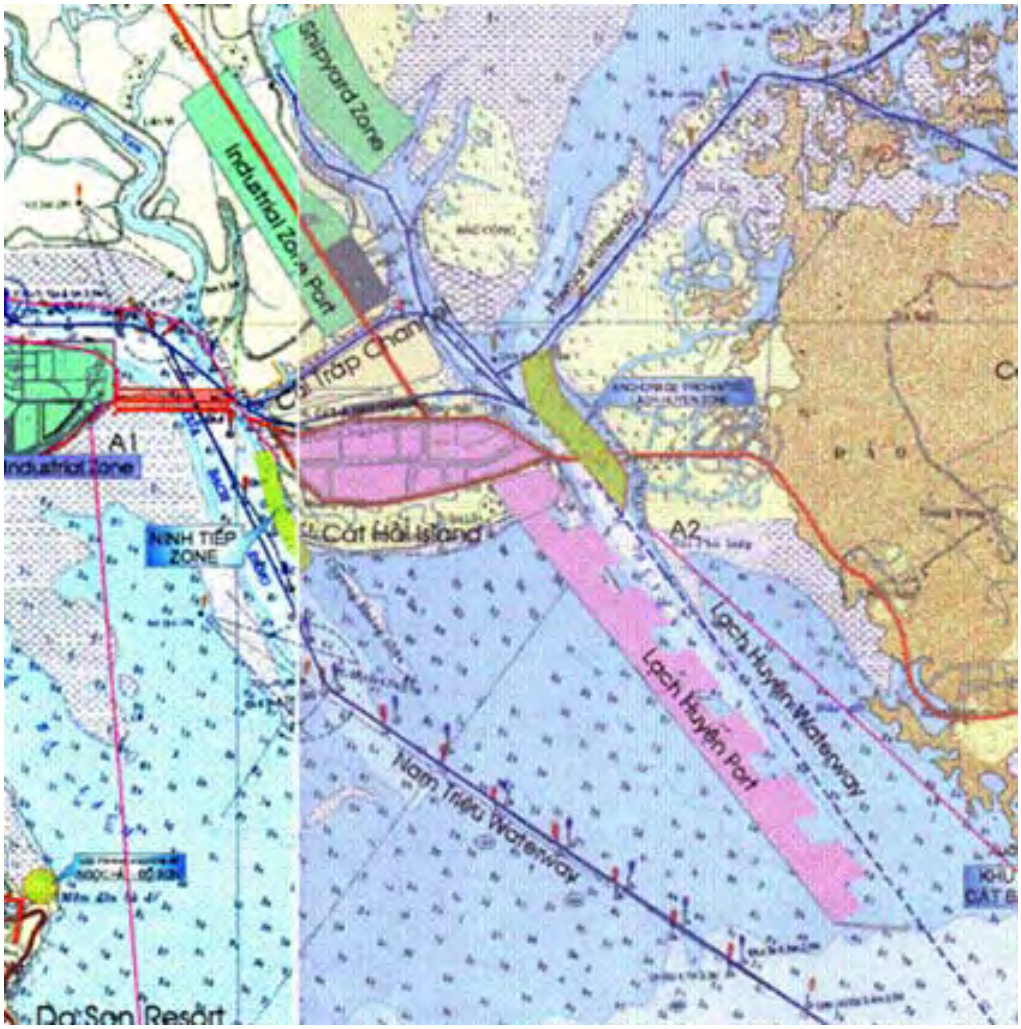
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Development of the Hai Phong International Gateway Port (former Lach Huyen Gateway port) | Development of a deep sea outer port of Hai Phong | No. 45-1 |
| Deepening and Widening of Hai Phong Approach Channel | To improve the approach channel with two way lanes and reduce waiting time for navigation | No. 45-2 |

**Project No. 45-1**

| | |
|---|---|
| Country | Vietnam |
| Port | Hai Phong |
| Project Name | Development of the Hai Phong International Gateway Port (former Lach Huyen Gateway port) |
| Purpose/Background | Development of a deep sea outer port of Hai Phong |
| Outline of the Project | Phase I (2010-2015)<br>Two container terminals: L= 600m, Max 50,000DWT (4000TEUs)<br>Liquid cargo terminal: 30,000 DWT to 50,000 DWT<br>Navigation channel: 30,000 DWT (full) 50,000 DWT (partially laden)<br>Others<br>Source: Decision 501/QD-BGTVT, 29/February/2008 |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | (Phase I) 2010-2015, Phase II (2020), Phase III (2030) |
| Source of Information | Fact finding of site survey in August 2009 |

Plane Map

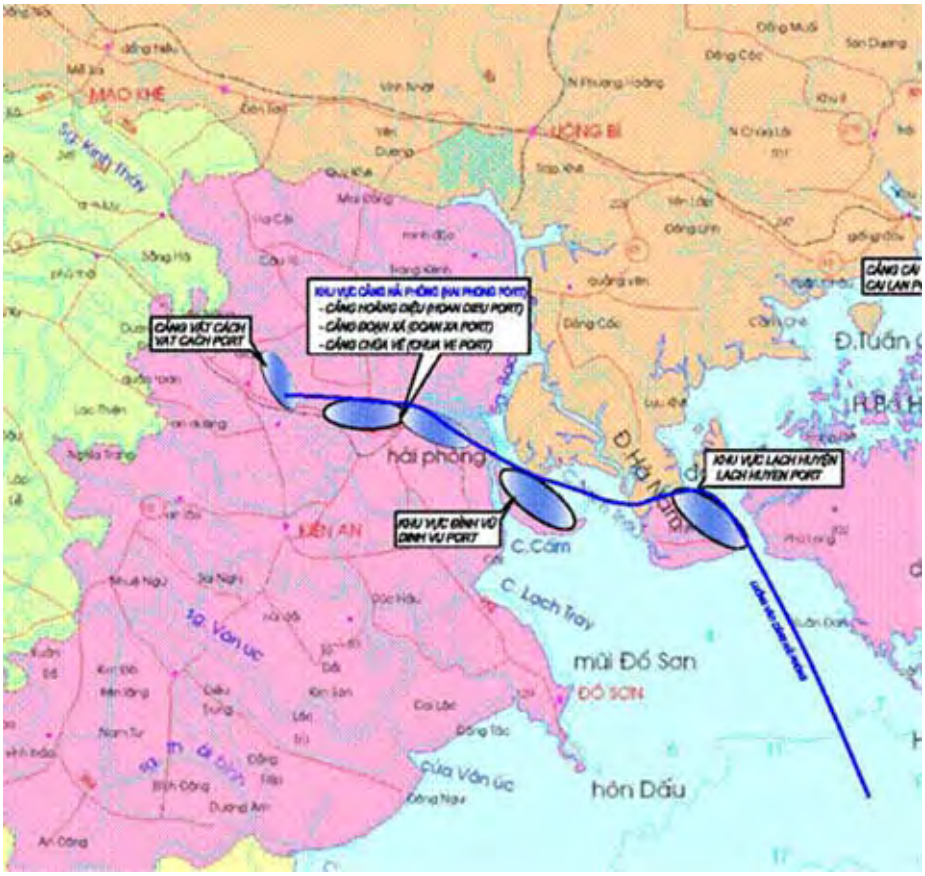



Source: VINAMARINE Study

**Project No. 45-2**

| | |
|---|---|
| Country | Vietnam |
| Port | Hai Phong |
| Project Name | Deepening and Widening of Hai Phong Approach Channel |
| Purpose/Background | To improve the approach channel with two way lanes and reduce waiting time for navigation |
| Outline of the Project | Channel Dredging and Widening<br>Lach Huyen Section: L=15km, D=-10m, W=150m<br>Ha Nam Canal: L=6.3km, D=-7.3m, W=150m<br>Dinh Vu-Chua Ve Channel: L=16km, D=-7.3m |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | Vietnam National Maritime Administration |
| Project Schedule | - |
| Source of Information | Fact finding of site survey in August 2009 |

Plane Map




Source: VINAMARINE Study

Deepening & Widening of the Haiphong Channel

## 9.3 Da Nang Port

**Outline of Port**

<Location and Roles>

Port of Da Nang is located along the east coast of Central Vietnam, at 16° 07'N and 108° 12'E, facing Pacific Ocean.

It is the largest port in Central Vietnam, supporting the economic activities of the region. The port also plays a role as the gateway to Laos and Thailand, connected by the East-West Economic Corridor.

<Operation and Management>

Port of Da Nang is under the management of the Maritime Administration of Da Nang (MA-Da Nang) of Vietnam Maritime Administration (VINAMARINE), and operated by Danang port Holding Liability Company.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | ✔ | ✔ | | ✔ | | ✔ | | | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| The Quang Terminal Project | Developmentof a general cargo terminal as a substitute for Han river terminal | Planned |
| Tien Sa Terminal Expansion Project | Expansion of container/general terminal | Pre-Planning |
| The Lien Chieu Port Construction Project | Alternate function of the existing Facilities | Pre-planning |

**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Tho Quang Terminal Project | Development of terminal for general cargo at Tho Quang at Da Nang Port as a substitute for Han River Terminals | No. 46-1 |
| Tien Sa Terminal Expansion Project | Expansion of the terminal for container/general cargo at Da Nang Port | No. 46-2 |
| The Lien Chieu Port Construction Project | This is a project made for receiving ships and goods arrived in Da Nang port when both of Tien Sa port and Son Tea port will excess their capacities. So, the investigation for construction has recently been made and appealing investors to use priority capital. | No. 46-3 |

**Project No. 46-1**

| | |
|---|---|
| Country | Vietnam |
| Port | Da Nang |
| Project Name | Tho Quang Terminal Project |
| Purpose/Background | Development of terminal for general cargo at Tho Quang at Da Nang Port as a substitute for Han River Terminals |
| Outline of the Project | Quay Length : 400m<br>Number of Berth : 2 berths<br>Depth along Quayside : 10m<br>Maximum Vessel Size : 10,000 DWT<br>Major Cargo : General Cargo<br>Cargo Handling Capacity : 1.5 million tons |
| Estimated Cost | 454,116,046,000 VND |
| Fund Source | Equity: 30%, Commercial Loans: 35%, Mobilization of Other Capital: 35% |
| Project Owner | Da Nang Port |
| Project Schedule | 2009-2013 |
| Source of Information | Fact finding of site survey in August 2009 |

Plane Map

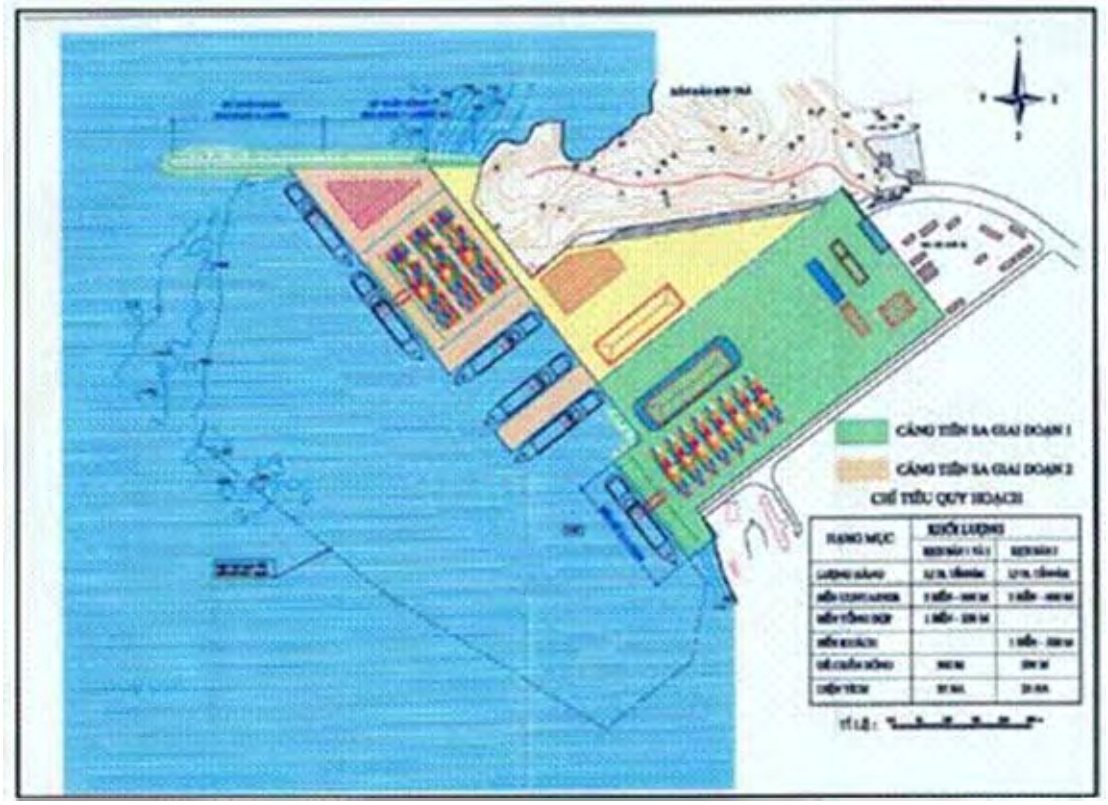

Source: http://www.danangportvn.com

Location of Project Site

**Project No. 46-2**

| | |
|---|---|
| Country | Vietnam |
| Port | Da Nang |
| Project Name | Tien Sa Terminal Expansion Project |
| Purpose/Background | Expansion of the terminal for container/general cargo at Da Nang Port |
| Outline of the Project | Quay Length : 500 m<br>Number of Berth : 2 berths<br>Depth along Quayside : 14 m<br>Maximum Vessel Size : 50,000 DWT、60,000DWT<br>Major Cargo : Container / General Cargo<br>Cargo Handling Capacity : 2.0 million tons |
| Estimated Cost | 494,038,476,000 VND |
| Fund Source | Called on investors to contribute capital |
| Project Owner | Da Nang Port |
| Project Schedule | 2011-2015 |
| Source of Information | Fact finding of site survey in August 2009 |

Plane Map




Source: http://www.danangportvn.com

Location of Project Site

**Project No. 46-3**

| | |
|---|---|
| Country | Vietnam |
| Port | Da Nang |
| Project Name | The Lien Chieu Port Construction Project |
| Purpose/Background | This is a project made for receiving ships and goods arrived in Da Nang port when both of Tien Sa port and Son Tea port will excess their capacities. So, the investigation for construction has recently been made and appealing investors to use priority capital. |
| Outline of the Project | - |
| Estimated Cost | - |
| Fund Source | - |
| Project Owner | - |
| Project Schedule | - |
| Source of Information | Da Nang Port Office, Vientnam |

## 9.4 Cai Lan Port

**Outline of Port**

<Location and Roles>

Port of Cai Lan is located in Quang Ninh Province and part of Hon Gai Seaport stipulated by Vietnamese port system which is shown in Prime Minister Decision No.16/2008, Declaration of Classification List of Vietnam Seaports. Distance is 160km from Hanoi and 60km from Hai Phong. National road no.18 connects the port to Hanoi, through which it takes about 3 hours and half by passenger car. Tracks travel time from Cai Lan to Hanoi is about 5-6 hours. The port was developed and opened in 2004 to cope with larger vessels which cannot be accommodated in Hai Phong Port.

<Operation and Management>

Local office of VINAMARINE, Maritime Administration of Quang Ninh, is responsible for ship entry, navigation safety, channel maintenance and regulations on port waters. Container terminal is developed by Ministry of Transport and operated by Quang Ninh Port Limited Liability Company.

**Fields of Issues which the port faces**

| Channel | | Container Terminal | | Other Terminal | | Transport | | Management | |
|---|---|---|---|---|---|---|---|---|---|
| Facility | Navigation | Facility | Operation | Facility | Operation | Vicinity | Hinterland | Management | Procedure |
| | ✔ | ✔ | ✔ | | ✔ | | | ✔ | |

**Plan/Project**

| Name | Main Components | Status |
|---|---|---|
| Container Terminal Development Berth No.2-4 | Three container terminals | Implementation |

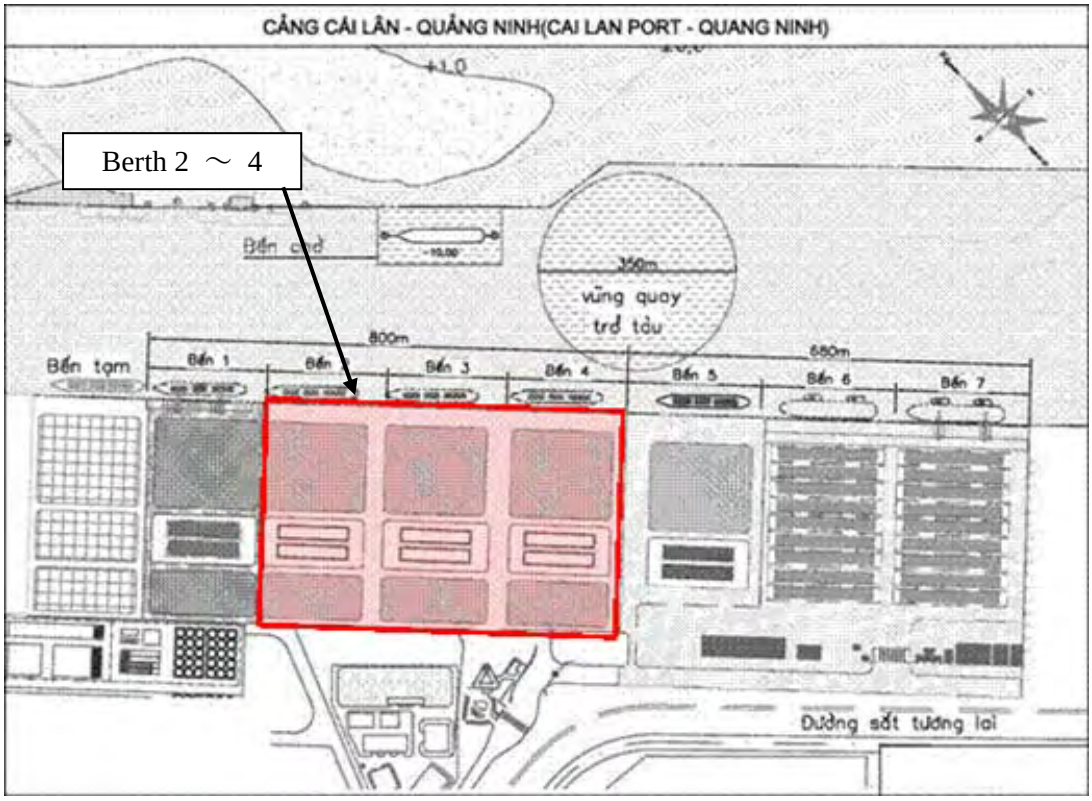
**Projects listed in Long List**

| Project Name | Purpose/Background | Note |
|---|---|---|
| Container Terminal Development Berths No.2-4 | To develop a new container terminal | No. 47-1 |

**Project No. 47-1**

| | |
|---|---|
| Country | Vietnam |
| Port | Cai Lan |
| Project Name | Container Terminal Development Berths No.2-4 |
| Purpose/Background | To develop a new container terminal |
| Outline of the Project | Three container berths: total length of 600m |
| Estimated Cost | 170 million USD |
| Fund Source | - |
| Project Owner | Cai Lan port Investment Joint Stock Co., (JV of the SSA Marine and Vietnamese company) |
| Project Schedule | From 2010 to 2012 |
| Source of Information | Fact finding of site survey in August 2009 |

Plane Map




Source: VINAMARINE Study

Location of Project Site