

# **The Study on the Master Plan for Maritime and Port Sectors in the Kingdom of Cambodia**

**Main Report**

**August 2007**

**JAPAN INTERNATIONAL COOPERATION AGENCY**

**The Overseas Coastal Area Development Institute of Japan (OCDI)  
Japan Marine Science Inc. (JMS)**

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## **PREFACE**

In response to the request from the Royal Government of Cambodia, the Government of Japan decided to conduct the Study on Master Plan for Maritime and Port Sectors in the Kingdom of Cambodia and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA dispatched a Study Team headed by Mr. Sumio Suzuki and composed of members from Overseas Coastal Area Development Institute of Japan (OCDI) and Japan Marine Science Inc. (JMS) to the Kingdom of Cambodia between November 2006 and July 2007.

The Study Team held discussions with the concerned officials of the Royal Government of Cambodia and conducted the field surveys in the study area. Upon returning to Japan, the Study Team prepared this report.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relationship between our two countries.

Finally, I wish to express my sincere appreciation to the concerned officials of the Royal Government of Cambodia for their close cooperation extended to the Study.

August 2007

Kazuhisa MATSUOKA  
Vice President  
Japan International Cooperation Agency

## LETTER OF TRANSMITTAL

August 2007

Mr. Kazuhisa Matsuoka  
Vice President  
Japan International Cooperation Agency

Dear Mr. Matsuoka,

It is my great pleasure to submit herewith the Final Report of the Study on Master Plan for Maritime and Port Sectors in the Kingdom of Cambodia.

The study team composed of the Overseas Coastal Area Development Institute of Japan (OCDI) and Japan Marine Science Inc. (JMS) conducted surveys in the Kingdom of Cambodia over the period between November 2006 and July 2007 according to the contract with the Japan International Cooperation Agency (JICA).

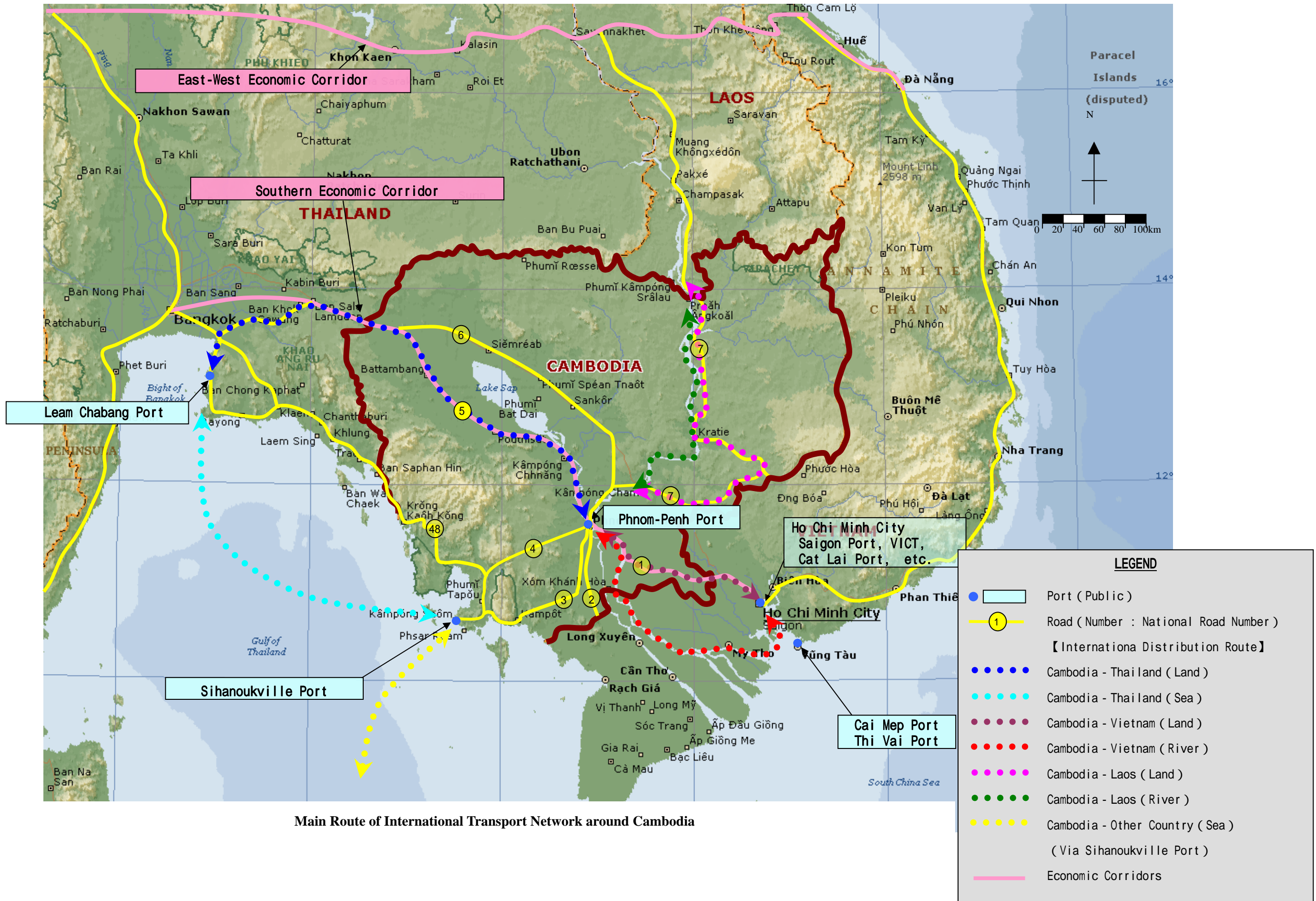
The study team compiled this report, which proposes a master plan for strengthening the international competitiveness of the maritime and port sectors targeting the year of 2020, and a short-term action plan for priority projects, through close consultation with officials of the Royal Government of Cambodia and other authorities concerned.

On behalf of the study team, I would like to express my sincere appreciation to the Ministry of Public Works and Transport and other authorities for their diligent cooperation and assistance and for the heartfelt hospitality, which they extended to the study team during our stay in Cambodia.

I am also very grateful to the Japan International Cooperation Agency, the Ministry of Foreign Affairs of Japan, the Ministry of Land, Infrastructure and Transport of Japan, and the Embassy of Japan in the Kingdom of Cambodia for giving us valuable suggestions and assistance during the course of the study.

Yours faithfully,

Sumio Suzuki  
Team Leader  
The Study on the Master Plan for  
Maritime and Port Sectors in the  
Kingdom of Cambodia



**Main Route of International Transport Network around Cambodia**

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**LIST OF ABBREVIATIONS**

ADB	Asian Development Bank
AFTA	ASEAN Free Trade Agreement
APEC	Asia-Pacific Economic Cooperation Conference
ARPA	Automatic Radar Plotting Aids
ASEAN	Association of Southeast Nations
BAF	Bunker Adjustment Factor
BIMCO	Baltic and International Maritime Council
B/L	Bill of Lading
BOT	Build Operate Transfer
BRM	Bridge Resource Management
CAMTA	Cambodia Trucking Association
CBTA	Cross-Border Transportation Agreement
CEPT	Common Effective Preferential Tariff
CCSEZ	Cambodian Commission for Special Economic Zone
CDC	Council for the Development of Cambodia
CFS	Container Freight Station
CIF	Cost, Insurance and Freight
CIQ	Customs, Immigration and Quarantine
CMDG	Cambodia Millennium Development Goal Report
CMI	Committee Maritime International
CNMC	Cambodia National Mekong Committee
COC	Carrier's Own Containers
COLREG	Convention on the International Regulations for Preventing Collisions at Sea
COM	Council of Ministers
CSC	Convention for Safe Containers
CSD	Center for Social Development
CSEZB	Cambodian Special Economic Zone Board
CY	Container Yard
DA	Designated Authority
DPWT	Department of Public Works and Transport
DWT	Deadweight Tonnage
ECD	Empty Container Depot
EDI	Electronic Data Interchange
EPZ	Export Processing Zone
ESCAP	Economic and Social Commission for Asia and the Pacific
FAL	Convention on Facilitation for International Maritime Traffic
FEFC	Far Eastern Freight Conference
FDI	Foreign Direct Investment
FOB	Free On Board
FOC	Flag of Convenience
FTA	Free Trade Agreement
GC	General Cargo
GIZ	General Industrial Zone
GMAC	Garment Manufactures' Association of Cambodia
GMDSS	Global Maritime Distress Satellite System
GMS	Greater Mekong Sub-region
GRT	Gross Register Tonnage
GSP	General System of Preferences
GT	Gross Tonnage
HNS	Hazardous and Noxious Substance

IACS	International Association of Classification Societies
IIFG	Inter-Institutional Facilitating Group
ILO	International Labor Organization
IMO	International Maritime Organization
ISF	International Shipping Federation
ISM	International Safety Management Code
ISPS	International Ship and Port facility Security Code
ISROC	International Shipping Registry of Cambodia
IWD	Inland Water Department
IWT	Inland Waterway Transport
JETRO	Japan External Trade Organization
JICA	Japan International Cooperation Agency
JMS	Japan Marine Science inc.
KAMSAB	Kampuchea Shipping Agency and Brokers
LLMC	Convention on Limitation of Liability for Maritime Claims
LNGC	Liquefied Natural Gas Carrier
MARPOL	International Convention for the Prevention of Pollution from Ships
MEF	Ministry of Economy and Finance
MET	Maritime Education and Training
MMD	Merchant Marine Department
MOAFF	Ministry of Agriculture, Forestry, and Fishery
MOC	Ministry of Commerce
MOI	Ministry of Interior
MOIME	Ministry of Mines, Industry and Energy
MOH	Ministry of Health
MOP	Ministry of Planning
MOU	Memorandum of Understanding on Port State Control
MPC	Maritime Promotion Commission
MPWT	Ministry of Public Works and Transport
MRC	Mekong River Commission
MRD	Ministry of Rural Development
NAP	Navigation Program
NCCOSR	National Coordinating Center for Oil Spill Response
NCP	National Contact Point
NGO	Nongovernmental Organizations
NIS	National Institute of Statistics
NOSC	National On-Scene Coordinator
NOSCP	National Oil Spill Contingency Plan
NOSRC	National Oil Spill Response Center
NPRS	National Poverty Reduction Strategy
NRT	Net Register Tonnage
NSDP	National Strategic Development Plan
OCDI	The Overseas Coastal Area Development Institute of Japan
OECD	Organisation for Economic Co-operation and Development
OPRC	The International Convention on Oil Pollution Preparedness, Response and Co-Operation
OSIMT	Oil Spill Incident Management Team
OSPAR	Project on the Oil Spill Preparedness and Response in the Asean Region
PFA	Port Facility Security Assessment
PFSO	Port Facility Security Officer
PFSP	Port Facility Security Plan
PMIS	Sub-Committee on Investment of the Provinces Municipalities
POLREP	Pollution Report

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PPAP	Phnom Penh Autonomous Port
PSC	Port State Control
QGC	Quay Gantry Crane
QIP	Qualified Investment Project
RCC	Regional Coordination Centers
ReCAAP	Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia
RGC	Royal Government of Cambodia
SAP	Sihanoukville Autonomous Port
SAR	Search and Rescue / International Convention on Maritime Search and Rescue
SCM	Supply Chain Management
SEZ	Special Economic Zone
SEZTSC	Special Economic Zones Trouble Shooting Committee
SOC	Shippers' Own Containers
SOLAS	International Convention for the Safety of Life at Sea
SPZ	Special Promotion Zone
STCW	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
SUA	Convention for the Suppression of Unlawful Act against the Safety Maritime Navigation
TAP	Technical Assistance Project
TEU	Twenty-foot Equivalent Unit
THC	Terminal Handling Charge
TONNAGE	International Convention on Tonnage Measurement of Ship
TSS	Transport Sector Strategy
TSSS	Transport Sector Strategy Study
UNCLOS	The U.N. Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNTAC	United Nations Transitional Authority in Cambodia
USWC	United States West Coast
VAT	Value Added Tax
VLCC	Very Large Crude Carrier
WTO	World Trade Organization

## **Executive Summary**

### **1. Background and Objectives of the Study**

#### **1.1 Background**

In the globalization of economic activities, it becomes very important for every country to participate in the global market by means of import and export to achieve national economic growth. Competitive maritime transportation is therefore indispensable for the economic development of every country.

Cambodia has participated in ASEAN since April 1999. Economically, the fundamentals have been restored with the help of international aid and Cambodia has acceded WTO membership in October 2004. However Cambodia is still facing various problems such as a small export industry, a lack of funds, and a lack of human resources as a result of the civil war. In particular, a lack of economic infrastructure and legal institutions are thought to be the main reasons for the insufficient FDI in Cambodia.

In order to accelerate economic development through strengthening the competitiveness of maritime and port sectors, the Royal Government of Cambodia requested JICA to formulate a Master Plan for the Maritime and Port Sectors, and to implement the study on the administrative and legislative development in these sectors.

#### **1.2 Scope of the Study**

Considering the modernization of Cambodian maritime and port sectors is indispensable for Cambodian economic development, this study aims at strengthening the international competitiveness of the maritime and port sectors in Cambodia. The study also aims at assisting in the compliance with international conventions related to maritime transportation, seafarer's certificate, ship safety, maritime pollution and others.

Since there is no national ocean-going shipping industry in Cambodia, the study highlights the need to nurture maritime services, seafarers and ship related business as well as to increase the productivity of ports. Besides maritime transportation via Cambodian seaports, it is also important to improve the efficiency of international cargo transport utilizing the Mekong river water transport and cross-border road transport through the Second East-west Corridor.

The scope of the study is to formulate a master plan for the maritime and port sectors in Cambodia and propose a short-term action for the priority projects identified in the master plan. This master plan (target year: 2020) includes the development strategies in three fields; namely, the maritime sector, the port sector and the maritime and port administration.

### **2. Situation of the Cambodian Economy**

GDP per capita of Cambodia is USD448 in 2005, showed an increase rate of 15.3%, but remains about two-third of the level of Vietnam and a quarter of China. Among Asian countries, Nepal, Afghanistan and Myanmar are ranked behind Cambodia. Population in 2005 is estimated at about 13.8 million and 15.3 million in 2010. Cambodian population estimates show a considerable increase in each province. Population of Phnom Penh area will increase to 1.6 million in 2010 and that of Sihanoukville to 278 thousand.



### **3. Situation of Maritime Sector**

#### **3.1 Shipping Service**

Container vessels of six shipping lines called at the Port of Sihanoukville in 2005. Ocean freight has been negotiated in Hong Kong or Singapore and has not been disclosed in Cambodia. Also feeder freight has been decided in a more complicated manner in connection with the trunk lines. According to reliable market source information, it is reasonable to assume that the ocean freight ranges from \$600-\$650/20', \$1200-\$1300/40' for COC from Hong Kong to Sihanoukville, and \$250-\$300/20', \$500-\$600/40' for SOC from Singapore to Sihanoukville.

Freight rates of inland waterway feeder service have also been negotiated in Vietnam, Hong Kong or Taiwan between shippers and carriers, therefore, Cambodia is placed outside of the negotiation. Agents in Cambodia are only concerned with container operation and have no interest in marketing or sales. According to reliable market source information, freight rate is \$250/40' for an empty container, \$500/40' for a laden container one way between Phnom Penh and HCMC.

#### **3.2 Open Registry System**

Cambodia started its open registry system in 1993 to promote Cambodian shipping industries by increasing the number of Cambodian flag vessels. The number of Cambodian flag vessels was increased through a simple and easy system without any strict regulation. The number of detentions by world MOU has increased year by year due to an increasing number of sub standard ships. Responsible Authority for ship registration has changed from MPWT to the National Committee for the management of the Registration of Cambodian Flag ships, Council of Ministers, on 28 February 2003.

In three years from 2003 to 2005, TOKYO MOU inspected 3,170 Cambodian flag vessels and detained 621 ships, which mean 20% of inspected ships. The number of Cambodian flag ships is the highest among the detained ships by Tokyo MOU. Reduction in the number of detentions is an urgent issue of world maritime society.

#### **3.3 International Conventions**

Cambodia has already ratified 17 important conventions related to maritime activity; following conventions shall be taken into consideration and ratified in due course.

- 1) United Nations Conventions on the Law of the Sea 1982 (UNCLOS 82)
- 2) London Convention on the Prevention of Marine Pollution by Dumping of Wastes and other matters 1972 (LC 72)
- 3) International Convention on Maritime Search and Rescue 1979 (SAR79)
- 4) International Convention on Standards of Training, Certification and Watch keeping for Seafarers 1995 (STCW 95)
- 5) Convention on Facilitation of International Maritime Traffic 1965 (FAL 65)
- 6) International Convention for Safe Containers 1972 (CSC 72)
- 7) International Convention on Limitation of Liability for Maritime Claims 1976 (LLMC 76)
- 8) Convention Concerning Minimum Standards in Merchant Ships 1976 (ILO Convention)

Three steps for the ratification may be practical for Cambodia. Firstly, UNCLOS, LC72, LLMC, and IMO Convention 1993 will be important for the country. Secondly, ILO Convention and FAL65 will become necessary. Thirdly, SAR79 shall be ratified.

### **3.4 Seafarers**

Cambodia had operated a maritime education and training institute before the civil conflict, however, it was closed because of the policy to discontinue educational institutes. The number of seafarers in Cambodia is estimated at about 500 while there are estimated to be about 4,500-5,500 fishermen.

Cambodian government endorsed foreign seafarers on the Cambodian flag vessels under the mutual recognition system of certificate of competency with the following 11 countries: Philippines, South Korea, North Korea, Russia, Ukraine, Estonia, Egypt, Rumania, Singapore, Latvia and Georgia. The registration system of seafarers shall be established as well as the certification system of seafarers.

### **3.5 Search and Rescue**

The maritime safety system in Cambodia is not established yet. Navy, Air Force, MPWT and Marine Police are taking individual measures respectively for search and rescue. The role of regional coordination center is played by both the Navy and Air Force. Navy SAR team represents the nation in ASEAN. The related agencies are now cooperating for the task of search and rescue through the drafting of National Contingency Plan for maritime safety. When a national committee or agency is organized, MPWT shall play the role of the focal agency for regional cooperation.

### **3.6 Marine Pollution Prevention**

Cambodia has already ratified major MARPOL related conventions, and is now going to organize domestic implementation schemes including the National Oil Spill Contingency Plan and the National Oil Spill Response Center. Cambodia made an agreement with Thailand and Vietnam to protect the coastal and marine environment of the Gulf of Thailand in the form of "Joint Statement of Cambodia, Thailand and Vietnam on Partnerships in Oil Spill Preparedness and Response in the Gulf of Thailand" in January 2006. The Joint Statement contains a tripartite intergovernmental agreement on combating oil spills.

In order to meet the requirements of the International Convention on Oil Pollution Preparedness Response and Co-operation (OPRC), efforts shall be made to establish the National Oil Spill Response Center to provide a national framework for responding to oil spills.

## **4. Situation of Port Sector**

### **4.1 Cambodian Ports**

Ports of Phnom Penh and Sihanoukville are two major international ports serving as national gateway ports. Both ports have autonomous status based on the Sub Decrees on the establishment of the Sihanoukville autonomous port and Phnom Penh autonomous port promulgated in July 1998.

Based on the Open-Sea-Strait Policy of the government, the development of private ports was approved and the Port of Sre Ambel and the Port of Oknha Mong were opened in 2003 and 2004 respectively. Two oil jetties were developed by private oil companies in the north of Sihanoukville Port, which replaced the old oil jetty of SAP.

Besides autonomous and private ports, there are local ports developed by provincial authorities mostly in the 1970's. Provincial/municipal offices and Waterways Department, MPWT, are responsible for the construction and maintenance of these facilities. However, construction of local ports has been reported since 1990. Many jetties for fishing vessels are observed in Sihanoukville

Port and Stueng Hav Port, however, official approval for the construction was not accorded to those facilities.

#### **4.2 Sihanoukville Port**

Sihanoukville Port is the only deep sea port on the coast of Cambodia. The depth of the entrance channel is 10 m. The port is located 230 km from Phnom Penh and has a container berth of 400 m with an alongside depth of 9 m, which shall be dredged to 11 m in the near future as will the entrance channel. Container throughput in 2006 was 231,000 TEUs. Total cargo throughput was 1,587,000 tons and operating income was USD 21 million in 2006. Net income after tax was reported at USD 873,000 in 2006. Total number of employees is 1,080 as of January 2007.

#### **4.3 Phnom Penh Port**

Phnom Penh Port is located in the Tonle Sap River, about 3.5 km from its junction with the Mekong River. Distance to the border is about 110 km and 330 km to Cua Tieu, River Mouth, in Vietnam. The minimum water level at the port is about 5.2 m above the chart datum (LLW) and shallow points in the Mekong River are about 4.0-4.5 m. The difference in water level between the dry and rainy season is about 9 m. Maximum size of navigable vessels is about 2,000DWT in the dry season. Phnom Penh Port handled 38,233 TEUs in 2006. A total cargo throughput of 737,500 tons and operating income of USD3.4 million were reported in 2005. Net income after tax was reported at USD 380,000 in 2005. Total number of employees is 458 as of January 2007.

#### **4.4 Private Ports**

The Oknha Mong Port is located in Keo Phos Village, Sre Ambel District, Koh Kong Province and is 75 km from Sihanoukville, 185 km from Phnom Penh. Port construction was started in 2003 and operations were commenced in August 2004. Total berth length is 1,111m with a width of 200 m and a water depth of 5.5 m, possibly 3-4 m above the chart datum. Customs, KAMSAB, Immigration, and CAMCONTROL have an office at the port. Major cargo is cement, fruit, sugar, food products and other conventional cargo. Statistics of cargo handling are not available due to a lack of port statistic regulation on private ports.

Sre Ambel Port is located in Rondaochhor Village, Sre Ambel District, Koh Kong Province and is 100 km from Sihanoukville City, about 160 km from Phnom Penh. Port construction was started in 2001 and the port opened in 2003 by MDH Trading Company. The port lies along the channel about 12 km from the open sea. Total berth length is 500 m with a width of 30 m and a reported water depth of 5 m, though it may be shallower above the chart datum. Only boats of a maximum of 180 tons can navigate the channel. Related government agency offices are Customs, KAMSAB, Immigration and CAMCONTROL.

### **5. SEZs in Cambodia**

Special Economic Zone scheme was introduced in December 2005, and 14 candidates are listed by CDC. Most of the SEZs are planned near the border with Vietnam or Thai or at a coastal area, which are suitable for export oriented industries. Six SEZs are allegedly planned around the Port of Sihanoukville, but some of them seem to be planned without any study. As of May 2007, only one SEZ, the Manhattan SEZ, has started operations.

Sihanoukville Port SEZ is planned by the SAP and a feasibility study is ongoing. The SEZ shall be planned as part of the Sihanoukville Port and enjoy full privilege of the location. Export and import containers from/to the Port SEZ shall be handled just like containers in the stacking yard of the port.

## 6. Development of Deep Seaport in Ho Chi Minh and Laem Chabang

Cambodia is located between two large container ports, the Port of Laem Chabang in Thailand and Ports of Ho Chi Minh in Vietnam. In addition, a new deep sea container port is now being built in Cai Mep-Thi Vai area on the southeast coast of Ho Chi Minh and will enter into service after 2009. The port is designed to accommodate trunk line container vessels, so a North America and Europe service will call at the port after its completion. The improvement of Route No.1 is also being carried out with international aid, therefore, import and export cargo of Cambodia may divert to this new port for transshipment.

## 7. Demand Forecast

Ministry of Economy and Finance predicted a GDP growth rate of 6.0% per year in 2009-10, 6.9% in 2014-15, and 7.8% in 2019-20. While the annual growth rate of GDP reached 17.7% in 2005, the study adopts the prediction of the Ministry. Based on these growth rates, the study estimates future demand for seaborne container cargo of all Cambodia.

The future demand is allocated to Sihanoukville Port and Ho Chi Minh Port by using the Logit Model. The volume of container cargo to Ho Chi Minh is allocated to river transport and road transport by also using the Logit Model. The volume of river transport is the same as cargo throughput of Phnom Penh Port.

Container Throughput Forecast in 2010 and 2020					(TEUs)
Year	2005	2006	2010	2020	
Case				Low - High	Low - High
Sihanoukville Port	211,141	231,036	270,000 - 349,000	479,000 - 1,124,000	
Phnom Penh Port	30,281	38,233	43,000 - 74,000	112,000 - 393,000	
Road No.1	-	-	9,000 - 15,000	48,000 - 169,000	
Total	241,422	269,269	345,000 - 410,000	799,000 - 1,405,000	

Besides container cargo, the study estimates future demand for bulk, break bulk, liquid bulk cargo. Cement consumption will increase in line with GDP growth. As the new cement factories will have a capacity of 2 million tons per year, cement handling at the ports of Oknha Mong and Sihanoukville will not increase in 2020. However, the import of coal will increase for the use of cement production and power generation. The import of oil products is estimated to increase by 2.7 times in 2020. Wood chips and pulp will be produced in Cambodia after 2010, so their export will be handled at the port of Sihanoukville. Imports of wheat, other grain and vehicles will also increase in 2020. International passenger cruisers are expected to increase considerably and assumed to reach a certain level.

## 8. Master Plan for Maritime Sector

### 8.1 Port Expenses

Port expenses of a typical ship calling at Sihanoukville is calculated at about US\$ 42,500 assuming a container ship of 9,800 GRT with container loading of 300 TEUs and discharging of 300 TEUs. Those of Laem Chabang and Ho Chi Minh are about US\$ 30,700 and US\$ 31,500 respectively. Port expenses paid by ship operators are approximately US\$ 71 per TEU at Sihanoukville, US\$ 53 at Ho Chi Minh City and US\$ 51 at Laem Chabang. Port expenses consist of port dues, pilotage, tug boat service, wharfage, mooring fee, container handling charge, shipping agency fee and other ship related expenses paid by shipping companies.

## **8.2 Domestic Transportation Cost**

Supposing a factory in Phnom Penh area exports a 40' container with garments of \$100,000 in value, the FOB Charge payable by Cambodian shippers is estimated at about US\$ 620 to Sihanoukville Port and US\$ 260 to Phnom Penh Port, in which US\$ 100 is the survey fee of CAMCONROL. Truck transportation fee from Phnom Penh to Ho Chi Minh City is about US\$ 600-650 per box including container lift on/off charge US\$ 60 (40' container) at Bavet. However, additional unofficial cost is required at the border, which is about US\$150-US\$180 on the Vietnamese side and US\$250-US\$280 on the Cambodian side. Freight rate of river transportation between Phnom Penh and Ho Chi Minh City is about US\$ 500 for a 40' container. However, additional unofficial cost is also required at the border. River transportation needs FOB charge of about US\$ 260 to Phnom Penh Port.

## **8.3 Ocean Freight Rates**

The port of Laem Chabang in Thailand handled 3.8 million TEUs in 2005 and the Ports of Ho Chi Minh City handled 1.9 million TEUs. While the Port of Sihanoukville handled 230,000 TEUs in 2006, the port remains as a feeder port and the ocean freight rates are much higher than those of Laem Chabang and Ho Chi Minh City. The recent ocean freight rate of a 40' container to the US west coast is about US\$ 2,600 from Sihanoukville but it is about US\$ 2,000 from Ho Chi Minh City and US\$ 2,100 from Laem Chabang.

Taking into account all transportation cost from a factory in Phnom Penh to a port on the US West Coast, the total cost via Sihanoukville port is fairly higher than the cost via Ho Chi Minh City. In case of import of 40' containers, scanning fee of US\$ 80 is charged to consignees. Toll on the route No.4 and the scanning fee makes the Port of Sihanoukville less competitive.

## **8.4 Ship Registration and Ship Inspection**

Improvement in the open registry system is required to satisfy the world standard. Cambodia must tighten the control over the ship registration companies and related ship classification societies. Technical and systematic supervision is required to effectively control the ship registration company and related ship classification societies. MPWT shall cover the technical administration of ship registration in cooperation with the Council of Ministers.

The competent authority should collect all the inspection records and introduce an appropriate system to confirm and maintain the records. Additional reports must be compulsory when detention information arrives from world MOU organizations. The report must include counter measures for the detained ship, which the competent authority confirms and approves. The authority shall give a strict instruction to their ship registration company and related ship classification societies including the annual target to decrease the number of detentions. Modification of the open registry system is also necessary in the future.

## **8.5 Maritime Education and Training**

Human resources development in the field of maritime and port sectors is a priority issue in Cambodia. Maritime education and training has just started at the Maritime Training Center located in Phnom Penh Autonomous Port since 2006. However it is difficult to complete all necessary practical trainings at the center because of the lack of facilities and equipment that meet international standards. Education and training in the port sector is not carried out in a consistent manner.

MET is also necessary to ensure that Cambodia remains on the "White List" of STCW Convention

when it is re-examined 2010. Since no facilities and equipment for implementing the practical training are available in Cambodia, it will be necessary to make use of the practical trainings at the Vietnam Maritime University for the time being. Practical training is stipulated in the STCW Convention.

### **8.6 Port State Control**

Port State Control is the inspection of foreign ships in ports to verify that the condition of the ship and its equipment comply with the requirements of international regulations and that the ship is manned and operated in compliance with these rules. These inspections were originally intended to be a back up to flag state implementation, but experience has shown that they can be effective, if organized on a regional basis and closely coordinated.

However, unnecessary ship inspections might delay ship departure and reduce the ship calls. Efforts should be made to implement the flag state control on Cambodian registered vessels and reduce the detention of Cambodian flag vessels.

### **8.7 Maritime Safety and Marine Pollution Prevention**

SAR Convention has not been ratified yet due to the lack of a maritime safety organization in Cambodia. As the communication system plays a vital role in securing maritime safety, the establishment of a Regional Coordination Center which satisfies both the GMDSS requirements of SAR and requirements in case of oil spill accidents and other emergency cases is required. The center will become the general information and communication center for Maritime Safety, Marine Pollution Prevention, and SAR. Since the length of the Cambodian coastal line is 433 km, one capable communication center will suffice for the task.

## 9. Master Plan for Port Sector

### 9.1 National Port Policy

In order to enhance international competitiveness of Cambodian ports and in turn to achieve economic growth and land development of Cambodia, it is necessary for the port sector of Cambodia to set a clear target. National Port Policy shall aim at:

- 1) Strengthening the function of ports as the center for Cambodian trade;
- 2) Providing efficient port service;
- 3) Development of ports which support national and regional development;
- 4) Securing port safety/security and preservation of environment;
- 5) Compliance with the concept of coastal zone management;
- 6) Ensuring efficient and effective investment in port development;
- 7) Private and public partnership; and
- 8) Strategic development of main ports

### 9.2 Efficient Terminal Operation at Sihanoukville Port

A new container terminal with computer system for terminal operation will open fully in 2009. For effective operation of the new terminal, it is necessary to establish a new operation system and increase the skill level of staff members through technical training at the early phase.

Port promotion activities are important to strengthen the connection with shipping lines. EDI system is an effective measure to improve port productivity and reduce complicated documentation. Granting a concession of terminal operation to private terminal operators may be a means to operate SAP's container terminal. However, it shall be carefully examined whether a concession or lease contract could improve the productivity of port, increase cargo throughput, encourage ship calls, or increase the port revenue.

### 9.3 Future Development of Sihanoukville Port

Taking into account that the Sihanoukville Port shall continue to play its leading role as the only deep sea port in Cambodia, its proper development is essential for Cambodian trade and industry. It is also strongly expected that the Sihanoukville Port will develop/provide industrial zones which have easy access to the port and encourage the location of export-oriented industry.

Facility Type	Short-term Action Plan	Middle/Long Term Plan
Container	Container terminal (-11m) Terminal system and cargo handling equipment	Container terminal (-12 to -14m)
Bulk	Multi-purpose terminal (-5 to -7m) Yard for bulk cargo and oil supply base	Bulk Terminal (-12m)
Passenger	-	Passenger Terminal (-9m)
SEZ	Container yard for SEZ, Dedicated gate to SEZ	Expansion Area
Transportation to hinterland	Inland container depot Access to railway terminal	-
Other	Port security system	-

Sihanoukville Port needs 1) to enhance the function of container port, 2) to cope with increasing

container cargo handling, 3) to achieve efficient operation, to receive larger container vessels, 4) to increase bulk cargo handling capacity for coal, wood chip, pulp, wheat and automobile, 5) to provide facilities for oil supply base, 6) to improve passenger terminal function, 7) to develop SEZ in combination with container terminal, 8) prepare for future expansion of SEZ, and 9) to enhance the transportation to hinterland by road and railway. Coping with the above mentioned demands, future development of Sihanoukville Port shall encompass the above listed facilities

Taking into consideration the stage plan for port improvement and future expansion, the long term development plan of Sihanoukville Port is proposed as shown in Figure 12.2.2. Detailed layout and design of the terminal shall be decided considering future demands for bulk cargo and SEZ, natural conditions, environmental impacts, and financial feasibility.

Function of container port shall be strengthened under a phasing plan depending on future demand of container cargo. The container terminal with a length of 400 m was constructed in phase 1. In phase 2, a multi-purpose terminal will be built inside the west breakwater, which will be used for bulk cargo in the short term stage and be converted to container use in the future. In phase 3, a deep water container terminal can be developed outside of the west breakwater.

#### **9.4 Development of Phnom Penh Port**

The function of Phnom Penh Port shall be enhanced by maximizing its advantageous location in Phnom Penh city and overcoming disadvantages of navigation restraints and conflict with urban activities.

It is difficult to find sufficient space for port development in/near the present site of Phnom Penh Port, therefore, a new terminal at a new site shall be developed taking into consideration river conditions, water depth, stability of its bed, erosion of banks, access to Road No.1, access to Phnom Penh City, distance to the border between Vietnam, site conditions, land use of surrounding area, and environmental conditions. Feasibility study on new sites is expected urgently.

#### **9.5 Potential Analysis of Seaport Location**

Potential of seaport location was estimated by a mesh analysis method. Situation of each mesh was analyzed from the viewpoint of natural conditions, existing infrastructure, economic cluster of each 4km by 4km mesh.

Potential of port development was evaluated based on the possibility of construction of a berth with a depth of 12m, distance from the national park, coastal conditions of mangrove/sand, principal wind-directions, access to main road, and the location of present container terminal.

Highest potential zone for a deep water container terminal and bulk terminal is the Sihanoukville Port zone. Next potential zones are East Port planning area, present oil terminals and their neighboring zones. For coastal shipping, possible zones are widely seen along the coast. Zones of Oknha Mong Port and planned Stueng Hav Port have low potential for a deep sea port.



## 10 Recommendations

### 10.1 Priority Issues

Issues and measures/tasks for the Short-term Action Plan were selected from all issues listed in the long-term plan. Priority issues were chosen from the viewpoint of strengthening the competitiveness of maritime services and the compliance with the international maritime scheme. Issues and measures/tasks are as follows;

Issues	Measures/Tasks
1. Upgrading the Sihanoukville Port as a major gateway port	1-1) To increase liner services and strengthen the connection with SEZs 1-2) To improve management and operation of container terminal 1-3) To develop multipurpose berth and terminal 1-4) To encourage the use of dry ports 1-5) To minimize port security levy on shippers and consignees
2. Enhancement of container handling capacity of Phnom Penh Port	2-1) To develop a new container terminal and ICD 2-2) To improve the convenience of container transportation through the Mekong River
3. Improvement of Flag State Control	3) Improvement of ship registration administration and ship inspection
4. Maritime Education and Training	4) To establish Maritime Practical Training Center
5. Maritime Safety	5) To improve the system for maritime safety and establish Coastal Communication Center
6. Port Security	6) To improve port security management and scheme
7. Strengthening of Maritime Administration	7) To enact Maritime Code and establish related regulations
8. Appropriate Port Management and Operation Scheme	8) To establish national port policy, port law, and administration on the development and management of private ports
9. Improvement of Maritime and Port Organization	9) To improve the organization of maritime and port administration and operation

### 10.2 Diversification of Liner Services and Close Connection with SEZs

Sihanoukville Port should make intensive effort to induce many loops through enhancing its international competitiveness in cooperation with SEZ activities. Since the Port of Laem Chabang has 65 loops connecting USA, EU and all major Asian ports, it is important to attract some of these loops to call at Sihanoukville Port. If the port has sufficient container cargo for a loop and could offer cheaper port charge, it will be possible to attract additional calls to Sihanoukville.

Benchmarking with neighboring ports, especially HCMC and Laem Chabang, will suggest the weakness of Sihanoukville Port to become a gateway. In particular, the port charge is too expensive to attract a new loop for the cargo of SEZs, so that some special incentives must be considered to the target shipping line for inducement.

### **10.3 Improvement of Management and Operation of Container Terminal**

Terminal operation system shall be carefully examined in consultation with RCL, MMC and other major users before the procurement. Intensive training is urgent for quay crane operators, forklift trucks, gate operation, yard planning, storage planning and other jobs in container yard.

One stop service is also essential to improve the import export procedure. Sihanoukville Port should provide one stop service in collaboration with competent authorities through EDI system. While customs inspection of export container cargo is usually cleared at factory and sealed container is carried to the port, EDI service and one stop service by Customs, SAP, CAMCOMTROL, KAMSAB, Quarantine, and Immigration shall be introduced in due course.

Introduction of private terminal operators will be necessary for new terminals to be developed together with the growth of ports. It may be also effective to establish JV with international terminal operators. Since the private terminal operation has advantages and disadvantages, it shall be fully examined from wide-scope viewpoints and be carefully prepared through discussions to formulate a national port policy.

### **10.4 Development of Multi-purpose Berth and Terminal**

To cope with the demand for bulk cargo handling and project cargo, it is necessary to develop a bulk terminal for coal, wood chip, pulp, wheat, automobile and others. The terminal can be used for the expansion of the present container terminal in the future and the bulk terminal can be shifted to another location.

Multi-purpose terminal will be built along the revetment between the general berth and the west breakwater with a water depth of 5-7 meters. If the seabed of basin has rock at a shallower level than 7 meters, it will be difficult to dredge the basin. Therefore, boring survey is strongly recommended at earliest convenience of SAP. New berth and yard will be utilized for bulk cargo and project cargo of oil supply base.

### **10.5 Development of Inland Container Depot**

Sihanoukville port is located 230 km from Phnom Penh. Transportation cost to/from the port is a heavy burden to shippers/consignees. In the way that Lat Krabang ICD plays a very important role for Laem Chabang Port as a distribution and collection center, ICD in Phnom Penh can encourage the use of Sihanoukville Port through reducing land transportation cost. If rehabilitation of the national railway is completed, rail transportation between ICD and Sihanoukville Port will provide regular service with container transportation. However, the road transportation will have larger share in land transportation as the capacity of rail transportation may be limited due to the single track.

### **10.6 Port Security Levy**

The Port Security Levy is already introduced in some ports of Europe and USA to maintain their security system. Some European ports impose 5 Euro to 9 Euro per container and some US ports charge 2 USD, some Canadian ports 1.75 C\$, some Mexican ports 10USD, while China tentatively charges 20 Yuan on 20 footer and 30 Yuan on 40 footer.

Since Sihanoukville Port Customs charges 40 USD on 20' container and 80 USD on 40', charges are a heavy burden to Cambodian consignees. When the new X ray system is introduced, these charges should be reduced to the international level.

### **10.7 Development of a New Container Terminal in Phnom Penh Area**

Demand forecast analysis predicts a cargo throughput at Phnom Penh Port of about 62,000 TEUs in 2010 and 224,000-295,000 TEUs in 2020. Since the present berth with a length of 300m has a narrow backyard and cannot handle such a volume, new terminal will be necessary in the near future. Location of the new terminal will be down stream of Phnom Penh and must be adjacent to the Road No.1 to have easy access to Phnom Penh City.

As the plan of a new terminal is not formulated, planning and feasibility study should be conducted at the earliest convenience of PPAP. As it might be possible to invite private investment in a new terminal, basic plan shall be prepared for invitation, which includes approximate location, size of berth and terminal, predicted cargo throughput, channel maintenance, and terms of concession.

### **10.8 Improvement of container transportation through Mekong River**

Inland waterway transportation has to face several formalities/authorities at the border, such as harbor master, customs officer and immigration police. It takes about 2 hours for processing formalities and hampers the efficiency of inland waterway transportation. Business hours are only from 7am to 5pm. If ship arrival is after 5pm, ships have to wait until next morning to complete formalities, except passenger boat.

According to the draft protocol to implement the Hanoi Agreement 1998, it is discussed to abolish the border stop, and to carry out formality at Vung Tau or final destination only. Therefore, simplified formality will bring efficient container transportation through the Mekong River. This negotiation is expected to conclude in 2007.

### **10.9 Improvement of Ship Registration and Ship Inspection**

Flag State Control is an obligation of the government prescribed by SOLAS and MARPOL Conventions. Cambodia is requested to place the first priority to improve the present situation of the open registry system and reduce the detention ratio of Cambodian flag vessels.

Necessary actions are 1) to establish a strategy to implement the Flag State Control in cooperation with Council of Ministers and MPWT, 2) to strengthen the control over the open registry company, and 3) to tighten the controls over the ship classification societies. Training of MMD staff members on ship inspection is also an important means to improve the open registry of Cambodia.

### **10.10 Establishment of Maritime Practical Training Center**

The present Maritime Training Center (MTC) in Phnom Penh Port was opened in 2006 in cooperation with Belgium. PPAP and SAP manage the center for training of their staff members. Number of trainees is limited due to the lack of training facilities and the fact that the center is operated only for port staff members.

Taking into account that MTC will become the training center for officers and have no function of the training of rating crews, Maritime Practical Training Center (MPTC) will focus on the training of rating crews and will be operated by PPAP under the control of MPWT. Most of proposed facilities for MPTC can be shared with MTC. The aim of MPTC is to supply a significant number of Cambodian rating crews into the global seafarers' market providing Cambodian young generation with good job opportunities. Training period will be one year and 100 graduates are expected in 2010.

### **10.11 Establishment of Coastal Communication Center**

In the event of marine accident or pollution incident, Coastal Communication Center will receive signals from ships and information from relevant agencies and neighboring countries. CCC will work under proposed National Maritime Search and Rescue Committee and also proposed National Committee for Oil Spill Preparedness and Response.

MMD will be the focal point of each committee and CCC will become the information center for each committee. CCC shall be developed in due course and have communication equipment, such as Medium-wave (MF) radio telephone, Short-wave (HF) radio telephone, VHF radio telephone, DSC (Digital Selective Calling), NBDP (Narrow Band Direct Printing) and others.

### **10.12 Port Security Management**

Amendment of the SOLAS Convention entered into force in mid 2004 and ports are requested to make the port facility security plan. Cambodia promulgated the Sub-decree on the Management of Ship and Port Facility Security on May 9, 2006. However, detailed provisions for the implementation of port security control have not been issued yet. Port facility security plan was therefore not reported to IMO because of the lack of the detailed provisions. To meet the request from shipping lines, port facility security plan shall be approved as soon as possible.

MMD is requested to organize and examine formalities to assign duties related with:

1) Port facility security assessment, 2) Creation of port facility security plan, 3) Modification of port facility security plan, 4) Recommendation on port facility security assessment

### **10.13 Establishment of Maritime Code and related Regulations**

One of the most urgent issues for the Cambodian maritime sector is to establish a law enforcement regime based on the Maritime Code and its subordinated regulations. In the first place, the draft should be re-examined taking the opportunities to introduce newly ratified Conventions into the Code.

Secondly, the domestic ship safety regulation is urgently required. Thirdly, domestic regulations related to the Code shall be drafted in due course. Together with the establishment of Code and regulations, capacity development program will be necessary to upgrade the technical capabilities and to increase the number of ship inspectors and other technical staff members. Continuous advisory service is expected to formulate the proper Maritime Code and related regulations.

### **10.14 National Port Policy, Port Law and Administration on Private Ports**

The most urgent issue faced by the Cambodian port sector is establishing the necessary legal scheme for private ports. Accordingly, policy on private ports shall be prepared prior to the establishment of the basic law on port and regulations.

National port policy shall include private public partnership, responsibility of port development, management and operation, future demand for port facilities and services, and other important and urgent issues.

Cambodian Port Law shall cover provisions on 1) port management body and its legal status, establishment, organization, finance, powers and obligations; 2) the limit of port area, control and regulation on the port area; 3) port development, port planning, construction and maintenance of facilities; 4) control and supervision of port activities, services; 5) port statistics collection; 6) port tariff and charges; 7) port security, environmental protection and other important issues.

Prior to drafting the Cambodian port law, it will be necessary to enact sub-decree on the development and management of private ports. The sub-decree may include the provisions on legal status of private ports, duty of government, and obligations of private ports.

### **10.15 Improvement of Maritime and Port Organization**

Coping with the administrative blank area, it will be necessary to improve the Merchant Marine Department and set up Ports Department. MMD will take responsibilities for 1) improving the management of ship registration and seafarer's certificate, and issuing mariner's pocket-ledger to crew members on Cambodian flag vessels; 2) stipulating the rule on shipping agency activities, and giving an approval to private shipping agents; 3) undertaking maritime education and ratings' training in collaboration with Maritime Training Center in Phnom Penh Port, in addition to the present assignment.

Ports Department will be responsible for 1) drafting port policy to coordinate private and public ports; 2) preparing regulations and protocol on the entry and clearance of foreign vessels; 3) assigning a harbor master at each private port to watch ships' navigation and maintain port's order; 4) preparing statistics of cargo throughputs and ship calls, and other necessary work.

It will be an effective means to assign "Harbor Master" to each private port and to establish "Ports Department" under the General Department of Transport to take charge of the harbor master and to prepare port law and national port policy.

Establishment of Cambodian maritime education institute and a training center, the latter is provisionally entitled "Maritime Practical Training Center", is required at the earliest possible stage.

# **Final Report**

## **The Study on the Master Plan for Maritime and Port Sectors in Cambodia**

## **Chapter 1 Background, Objectives and Framework of the Study**

### **1.1 Background**

Cambodia is located in the southwest part of the Indochina peninsula, and relies on Sihanoukville seaport facing the Gulf of Thailand, and Phnom Penh riverside port via Ho Chi Minh City as its gateways to the world. The development of the export industry, which is identified as a key factor for the growth of the Cambodian economy in future, depends on competitive maritime transportation costs.

Politically, the 20 year civil war ended in 1991 and Cambodia has participated in ASEAN since April 1999. Economically, the fundamentals have been restored with the help of international aid and Cambodia acceded WTO membership in October 2004. However Cambodia is still facing various problems such as a small export industry (with the exception of garments), a lack of funds, and a lack of human resources as a result of the civil war. In particular, a lack of economic infrastructure and legal institutions are thought to be the main reasons for the insufficient FDI in Cambodia.

In order to assist economic development, JICA implemented “The study on regional development of the Phnom Penh-Sihanoukville growth corridor in the Kingdom of Cambodia” in 2003. The study proposed the establishment of the Sihanoukville EPZ as a means to attract FDI, promote domestic industry and export diversification in the Phnom Penh, Sihanoukville growth corridor and five provinces. As the core infrastructure for realizing this proposal, improvement and development in the maritime and port sectors is urgently required.

In this connection, the Royal Government of Cambodia requested the preparatory study team to formulate a Master Plan for the Maritime and Port Sector, and to implement the study on the administrative organization and legislative development in these sectors. Based on the S/W agreement, the formation of a Master Plan for the Maritime and Port Sector has commenced; in addition, assistance with organizational and legislative aspects as well as technology transfer will be given through the course of the Study.

### **1.2 Objectives of the Study**

The objectives of the Study are to formulate a master plan for strengthening the international competitiveness of the maritime and port sector in Cambodia. This master plan (target year: 2020) will include the development strategies in three fields; namely, maritime sector, port sector and enhancement of administrative capabilities. In addition, a short-term action (target year: 2010) for the priority projects identified in the master plan will be formulated in the Study. Moreover, proposals on administrative reforms and improvement of the legal system, as well as technology transfer of experience and survey methods in maritime and port sector will be made throughout the course of the Study.

### **1.3 Framework of the Study**

#### **1.3.1 Outline of the Study**

To carry out its objective of proposing a master plan for the development of the maritime and port sector, as well as the improvement of administrative and regulation systems, the Study team will gather information and exchange opinions with all relevant bodies including its counterparts, related ministries, local government and public and private companies.

The study team will thoroughly examine the background and contents of the “Needs Assessment

Mission on Maritime Legislation and Administration of Cambodia” carried out by International Maritime Organization (IMO) in 2001 and the 2006 Belgian “Master Plan for Waterborne Transport on Mekong River System in Cambodia”, and incorporate their findings into the master plan to the extent possible.

In Phase I, the Study team will analyze the present conditions and identify any problems. The Study team will then draft a skeleton master plan which addresses the problems mentioned previously as well as the study objectives. The counterpart will work closely with the Study team to ensure mutual consent on the discussion of the master plan.

In Phase II, more substantial and concrete programs will be added to the Master Plan, and the Short Term Action Plan corresponding to urgent and high priority issues will be proposed.

The work methodology for each phase is as follows. The study team will support the Ministry of Public Works and Transport (MPWT) in preparing regulations for the maritime and port sector, and in improving their organizational systems throughout the course of the Study.

[Phase I] Investigation and analysis of the present condition and preparation of the draft Master Plan

International cargo movements and the shipping and port services will be investigated and analyzed. The administrative and legislative system will be investigated and analyzed. The skeleton of the Master Plan will be drafted after identifying issues to be resolved.

[Phase II] Finalization of the Master Plan and preparation of the Short-Term Action Plan

The Master Plan will be drawn up through formulating concrete strategies to solve problems in the maritime sector, port sector and in the development of administrative capability. A practical and effective Short Term Action Plan will be developed by identifying urgent and high priority issues from the Master Plan.

(1) Study on the present situation

In order to recognize current issues, and to forecast future maritime demand, the following items will be analyzed;

- a) Socio-economic framework
- b) Transport sector’s performance
- c) Current Administrative and legislative framework in the maritime and port sector
- d) National Development Plan and the role of the maritime and port sector in the plan
- e) Past studies, development plans and projects related to the maritime and port sector
- f) Existing studies on port infrastructure
- g) Maritime and port development policies
- h) Port administration and port management/operation
- i) Port related industries
- j) Shipping, shipbuilding and maritime related industries
- k) Seafarers training system and certification
- l) Comparison of the maritime and port sector in neighboring countries
- m) Cargo flow of regional trade
- n) Promotion of industry and Economic Zone

(2) Social and economic framework and future demand for transportation

(a) Socio-economic framework

Socio-economic framework at the target year is formulated based on that already identified in a previous JICA study, “The Study on the Road Network Development in the Kingdom of Cambodia”, after confirming applicability to the present circumstances.



(b) Demand forecast

Demand forecast is conducted to grasp the international maritime trade volume in 2020 as well as the cargo distribution by ports, road, railway and inland waterway respectively. Ports in Sihanoukville, Phnom Penh, Laem Chabang, and Ho Chi Minh City will be used in the forecast. Three scenarios are prepared for cross-border transportation between Thailand and Vietnam, namely, low, medium and high cases. Formulation of scenarios and role sharing by road are also extracted from “The Study on the Road Network Development in the Kingdom of Cambodia”.

(3) Identification of current issues in maritime and port sectors

(a) General issues

The issues facing both the maritime and port sector such as increasing the efficiency of international maritime transport service, increasing competitiveness of maritime transport competitiveness to promote industrial growth, rational role-sharing of international cargo transport by reflecting cross-border transport trends, clarification of public and private roles in the port sector, development of laws, regulations and institution, and greater compliance with international conventions, are to be examined and summarized especially from the capacity development perspective.

In addition, the identified issues will be analyzed and prioritized according to their urgency, importance, impact and feasibility.

(b) Identification of issues so as to enhance international competitiveness in maritime and port sectors

Necessary issues to be resolved are identified in order to enhance international competitiveness in maritime transport service as well as in port service. In regards to maritime transport service, not only freight charge but also convenience, reliability and other factors are to be taken into consideration, meanwhile, in regard to the port service, not only port charge but also the convenience of related industry, such as warehousing and others, transport to the hinterland, port security measures, safety of sailing passage and anchorage are also to be taken into consideration.

(c) Priority issues

A further comprehensive examination will be made of the issues identified above. The issues are then prioritized based on the surrounding situation of maritime and port sectors in Cambodia, neighboring circumstances and the international situation. These prioritized issues will be highlighted and a process to resolve them will be indicated in the Master Plan. Subsequent studies will be executed based on this process.

(4) Draft Master Plan for the enhancement of maritime and port sectors (target year: 2020)

(a) Investigation of the long-term strategy based on future demand

A port, which is a staging ground for both logistics and tourism, is an important economic and social infrastructure that supports the national economy, industrial activities and the daily lives of people. Moreover, the port and neighboring coastal area are also expected to be utilized as industrial areas. Under such circumstances, the long-term strategy incorporating the following objectives is to be formulated (a) establishment of a logistics system to support both international competitiveness of the industry and the activities of citizens and (b) creation of a port space to be the base of national sustainability.

(b) Examination of the Draft Master Plan

The draft Master Plan targeting the year of 2020 is to be examined so as to solve the issues which require urgent action based on survey findings and priority and importance in the long-term.

As with the Master Plan, the draft Master Plan will include (i) Strategy for maritime sector, (ii) Strategy for port sector, (iii) Strategy for enhancement of the administrative capabilities and (iv) Short-term action plan. This draft plan is to be examined in collaboration with the counterpart

personnel of the Cambodian side.

### 1.3.2 Study Schedule

Preparatory work in Japan	Nov 2006
First work in Cambodia, Inception report, Interim report	Nov 2006 ~ Mar 2007
Second work in Cambodia, Draft final report	May 2007 ~ July 2007
Final report	Aug 2007

Relation between each Study item, scope of the Study and its schedule is on the next page.

### 1.3.3 Study Team Members

Formation of the study team is as follows.

Sumio Suzuki	Team Leader
Tatsuyuki Shishido	Port Administration and Development
Masaya Omae	Maritime Administration and Development
Tetsuji Kohara	Shipping Management
Hirokazu Nishimura	Ship Inspection and Registration
Takeo Koyama	Seafarers' Education and Training
Masayuki Fujiki	Port Management and Operation
Eiji Hasebe	Port Security
Isao Sakai	Economic Zone Promotion
Akira Moriki	Demand Analysis and Maritime Trend
Shintaro Saito	Coordination
Hironobu Shiratsuchi	Coordination

## 1.4 Related Parties

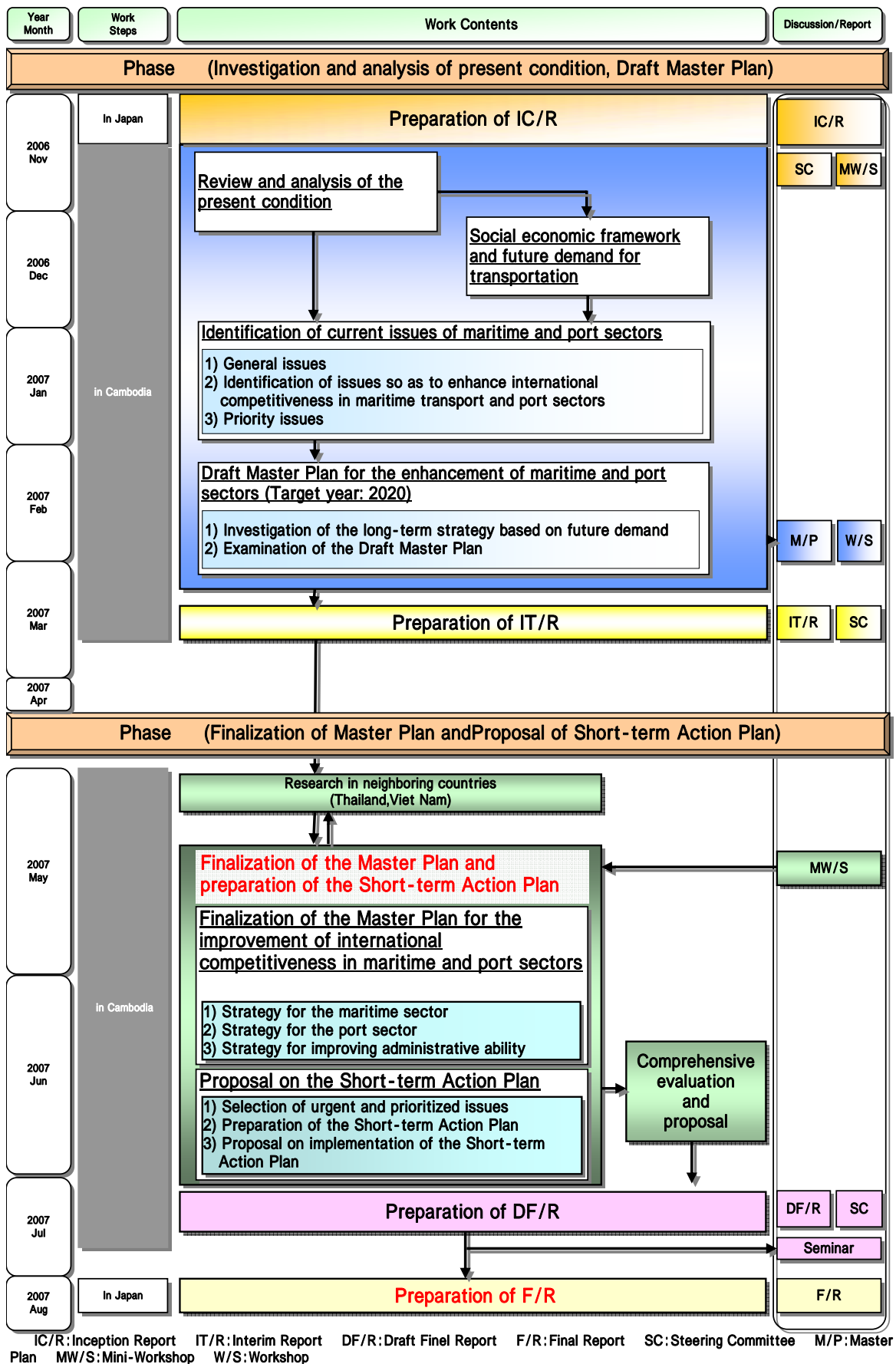
### 1.4.1 Steering Committee and Counterparts

The Committee is chaired by the Minister of MPWT, and is comprised of representatives from the following ministries and organizations.

H.E. Sun Chanthol, Minister of MPWT  
 H.E. Chum Iek, Secretary of State  
 H.E. Ung Chun Hour, Director General, General Department of Transport, MPWT  
 Mr. Chan Dara, Deputy Director General, General Department of Transport, MPWT  
 H.E. Lu Kim Chhun, Chairman, Sihanoukville Autonomous Port (SAP), MPWT  
 H.E. Hei Bavy, Chairman, Phnom Penh Autonomous Port (PPAP), MPWT  
 H.E. Ros Vanna, Director General, Kampuchea Shipping Agency and Brokers (KAMSAB), MPWT  
 Mr. Vann Sam Nang, Chief Officer of Department of National Asset, MEF  
 Dr. Hang Moeun, Deputy Director, CAMCONTROL, MOC

### 1.4.2 Counterparts

Mr. Chan Dara, Deputy Director General, General Department of Transport, MPWT  
 Mr. Mak Sideth, Director, Merchant Marine Department, MPWT  
 Mr. Nhem Savong, Deputy Chief, Office of Ship Inspection, MMD, MPWT  
 Dr. Katry Phung, Director, Waterways Department, MPWT  
 Mr. Ma Sun Hout, Deputy Director General, SAP  
 Mr. Peng Hok, Harbor Department, SAP  
 Mr. Chea Sambath, Director of Planning and Statistics, SAP



IC/R: Inception Report IT/R: Interim Report DF/R: Draft Final Report F/R: Final Report SC: Steering Committee M/P: Master Plan MW/S: Mini-Workshop W/S: Workshop

Figure 1.3.1 Study schedule

Mr. Chhun Hong, Director of Stevedoring Department, SAP  
Mr. Thay Rithy, Manager of Billing Office, SAP  
Mr. Eang Ven Sun, Deputy Director General, PPAP  
Mr. An Sam Ol, Deputy Director General, PPAP  
Mr. Kim Sann, Chief of Design Office, PPAP  
Mr. Hang Hary, Director of Business, KAMSAB  
Mr. Deth Veasna, Deputy Chief of Department of National Asset, MEF

#### **1.4.3 Related Organization and Companies**

The Study team visited the following organizations and companies for discussion and information.

(1) Governmental organization related to the Study  
Council for the Development of Cambodia (CDC)  
Ministry of Commerce (MOC)  
Cambodia National Mekong Committee (CNMC)  
Mekong River Commission  
IMO Study Team

(2) Private companies  
(Private ports)  
Okna Mong Port Co., Ltd.  
MDH Trading Co., Ltd. (Sre Ambel Port)  
Attwood Investment Group Co., Ltd. (Stueng Hav Port)  
Kampot Port  
Kourn So Khorn Company (Tomnop Rolok Port)

(Shipping companies)  
MCC Transport Pte Ltd.  
China Shipping (Cambodia) Agency Co., Ltd.  
Feeder Shipping Agency Co., Ltd. (RCL: Regional Container Lines)  
Sovereign Base Logistics Holdings Co., Ltd  
New Great Asia Shipping Co., Ltd.

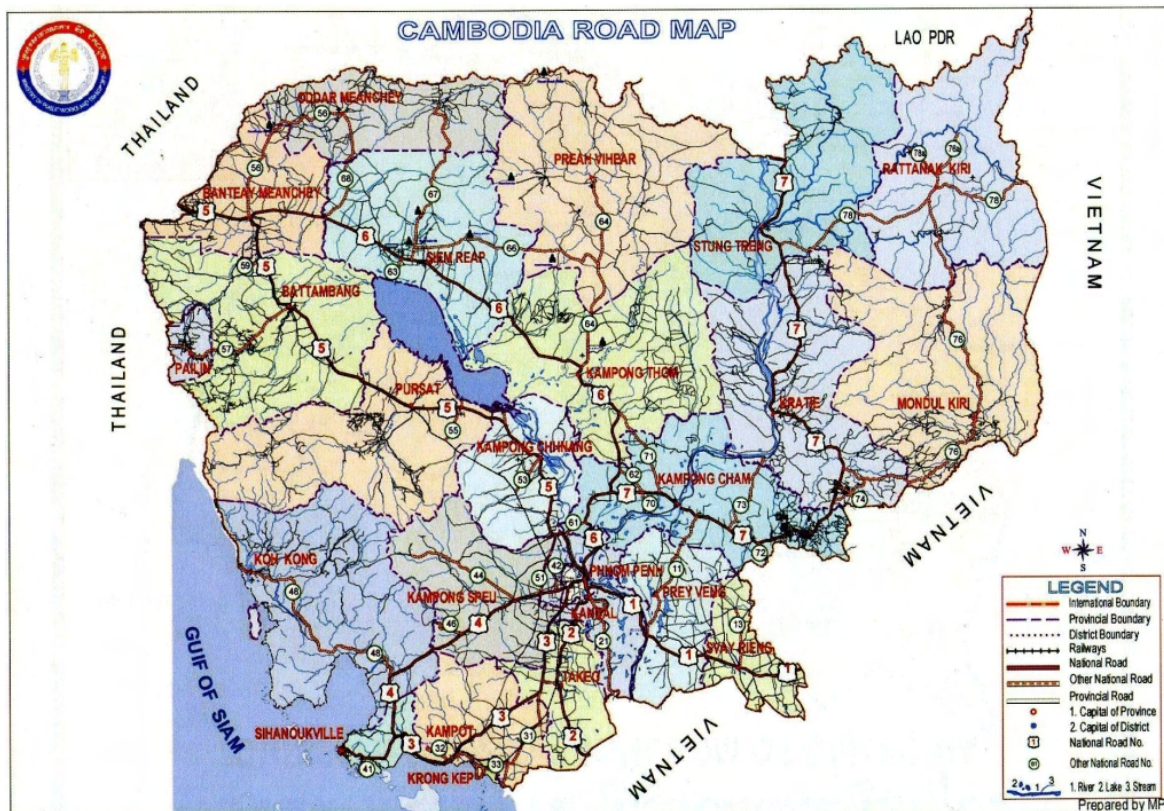
(Others)  
Manhattan Development Co., Ltd.  
Phnom Penh SEZ Co., Ltd.  
Mitsui & Co., Ltd.  
Sokinex Co., Ltd.  
Tec Srun Import Export & Transport Co., Ltd.  
KAM Transport Co., Ltd.

(3) Others  
JBIC Study Team for the Sihanoukville Port SEZ Development Project  
Cambodia Trucking Association (CAMTA)  
Garment Manufacturers' Association in Cambodia (GMAC)

## Chapter 2 Cambodian Geography and Economy

### 2.1 Geography and Population

#### 2.1.1 Geography



Source: Prime Investment Information in Cambodia

**Figure 2.1.1 Cambodian Map**

Cambodia is located in the southwestern part of the Indochina peninsula and the land area is 181,035km<sup>2</sup>. The maximum length of the land is 575km in the east and west direction and 446 km in north and south direction. The country is bordered by Laos and Thailand to the north and west and by Vietnam to southeast. The southwest border of the land faces the Gulf of Thailand and the length of the coastline is 435km.

The Central Plain lies central of the land and great river system, Tonle Sap, the Bassac River and the Mekong River system flows north to south in the midst of the Central Plain. The other parts of the land are highlands which are densely forested and sparsely populated.

## 2.1.2 Population

According to the “First Revision Population Projection for Cambodia 1998-2020” by National Institute of Statistics and Royal University of Phnom Penh, population of Cambodia in 2006 is estimated as 14.1 million and estimated growth rate is 2.10% per annum. The distribution of the population is highly focused towards provinces located in the Central Plain and around the capital, which are around 50% of total.

**Table 2.1.1 Population Projection of Cambodia**

Year	Population (million)	Average annual growth (%)
2000	12.6	1.81
2001	12.8	1.86
2002	13.0	1.91
2003	13.3	1.96
2004	13.5	2.01
2005	13.8	2.06
2006	14.1	2.10
2007	14.4	2.15
2008	14.7	2.19
2009	15.0	2.23
2010	15.3	2.26
2011	15.6	2.29
2012	15.9	2.31
2013	16.2	2.33
2014	16.6	2.34
2015	16.9	2.34
2016	17.3	2.35
2017	17.6	2.34
2018	18.0	2.32
2019	18.4	2.28
2020	18.7	2.25

Source: Cambodian Statistical Year Book 2005

**Table 2.1.2 Land Area and Population of Provinces/Cities Based on General Population Census of Cambodia 1998 (GPCC98)**

Province/City		Land Area (km <sup>2</sup> )	Population	
			GPCC 1998	Estimated for 2010
Cambodia Total		181,035	11,437,656	15,685,000
Plain Region	Sub-total	25,069	5,898,305	7,531,000
	Phnom Penh	290	999,804	1,656,000
	Kandal	3,568	1,075,125	1,445,000
	Kampong Cham	9,799	1,608,914	2,146,000
	Svay Rieng	2,699	478,252	620,000
	Prey Veng	4,883	946,042	1,192,000
	Takeo	3,563	790,168	1,030,000
Tonle Sap	Sub-total	67,668	3,505,448	5,142,000
Lake Region	Banteay Meanchey	6,679	577,772	915,000
	Battambang	11,702	793,129	1,156,000
	Kampong Chhnang	5,521	417,693	596,000
	Kampong Thom	13,814	569,060	784,000
	Siem Reap	10,299	696,164	1,009,000
	Oddar Meanchey	6,158	68,279	122,000
	Krong Pailin	803	22,906	43,000
	Pursat	12,692	360,445	517,000
Coastal Region	Sub-total	17,237	844,861	1,259,000
	Kampot	7,873	528,405	691,000
	Koh Kong	11,160	132,106	249,000
	Krong Kep	336	28,660	51,000
	Sihanoukville	868	155,690	268,000
Plateau and Mountain Region	Sub-total	68,061	1,189,042	1,753,000
	Kampong Speu	7,017	598,882	851,000
	Kratie	11,094	263,175	383,000
	Mondul Kiri	14,288	32,407	53,000
	Preah Vihear	13,788	119,261	188,000
	Ratana Kiri	10,782	94,243	151,000
	Stung Treng	11,092	81,074	127,000

Source: Cambodian Statistical Year Book 2005

Prime Investment Information in Cambodia (for estimated population 2010)

## 2.2 Socio-Economic Situation

### 2.2.1 Gross Domestic Product

Gross Domestic Product (GDP) in 2005 is 6,195 million USD and a per capita GDP is 448 USD. The average growth rate 2000-2005 is 11.2%.

**Table 2.2.1 GDP and Per Capita GDP at Current Prices**

Year	GDP (million USD)	Per Capita GDP (USD)	
		Growth rate (%)	Growth rate (%)
1993	2,473	-	261
1994	2,760	11.6	277
1995	3,420	23.9	327
1996	3,481	1.8	316
1997	3,387	-2.7	291
1998	3,105	-8.3	255
1999	3,515	13.2	282
2000	3,651	3.9	288
2001	3,970	8.7	308
2002	4,276	7.7	326
2003	4,591	7.4	345
2004	5,265	14.7	389
2005	6,195	17.7	448

Source: Cambodian Statistical Year Book 2006

The share of agriculture, fisheries and forestry sector in GDP, which is 34%, had been decreasing but grew rapidly in 2005. The industry sector, with a share a 27%, is growing strongly. The textiles, garments and footwear industries account for 49% of this sector but the growth rate decreased in 2005. It is possible that the decrease is due to the end of the GSP program in USA. The garment factories are concentrated in the capital area. The service sector is the largest sector with a share of 39% and the growth is driven by trade, transport & communications and hotel & restaurants.

**Table 2.2.2 GDP by Sectors at Current Prices (million USD)**

Year	Sectors Total	Agriculture, Fisheries and Forestry		Industry		Services				
		Share	Growth	Share	Growth	Share	Growth			
1993	2,407.7	1,116.2	46.4%	-	313.7	13.0%	977.8	40.6%		
1994	2,636.2	1,254.5	47.6%	12.4%	379.4	14.4%	20.9%	1,002.3	38.0%	2.5%
1995	3,289.5	1,633.1	49.6%	30.2%	487.6	14.8%	28.5%	1,168.9	35.5%	16.6%
1996	3,322.1	1,545.6	46.5%	-5.4%	522.4	15.7%	7.1%	1,254.1	37.8%	7.3%
1997	3,248.3	1,502.3	46.2%	-2.8%	555.8	17.1%	6.4%	1,190.2	36.6%	-5.1%
1998	2,980.7	1,380.9	46.3%	-8.1%	518.9	17.4%	-6.6%	1,080.8	36.3%	-9.2%
1999	3,318.4	1,442.8	43.5%	4.5%	632.7	19.1%	21.9%	1,243.0	37.5%	15.0%
2000	3,465.6	1,312.5	37.9%	-9.0%	797.6	23.0%	26.1%	1,355.5	39.1%	9.1%
2001	3,770.9	1,382.1	36.7%	5.3%	891.3	23.6%	11.7%	1,497.6	39.7%	10.5%
2002	4,049.7	1,377.7	34.0%	-0.3%	1,044.7	25.8%	17.2%	1,627.3	40.2%	8.7%
2003	4,365.3	1,496.8	34.3%	8.6%	1,173.6	26.9%	12.3%	1,694.9	38.8%	4.2%
2004	4,978.8	1,628.1	32.7%	8.8%	1,378.5	27.7%	17.5%	1,972.2	39.6%	16.4%
2005	5,866.4	2,005.8	34.2%	23.2%	1,567.0	26.7%	13.7%	2,293.6	39.1%	16.3%

Source: Cambodian Statistical Year Book 2006

Note: Riels in original data are converted to US dollars at official exchange rate for each year.



**Table 2.2.3 GDP in Agriculture, Fisheries and Forestry Sector at Current Prices (million USD)**

Year	Sector Total	Crops		Livestock & Poultry			Fisheries		Forestry & Logging				
		Share	Growth	Share	Growth	Share	Growth	Share	Growth				
1993	1,116.2	425.5	38.1%	-	174.4	15.6%	-	412.5	37.0%	-	103.7	9.3%	-
1994	1,254.5	510.9	40.7%	20.1%	169.7	13.5%	-2.7%	370.9	29.6%	-10.1%	203.0	16.2%	95.8%
1995	1,633.1	808.4	49.5%	58.2%	202.8	12.4%	19.5%	419.3	25.7%	13.0%	202.6	12.4%	-0.2%
1996	1,545.6	735.3	47.6%	-9.0%	213.5	13.8%	5.3%	445.3	28.8%	6.2%	151.4	9.8%	-25.3%
1997	1,502.3	687.5	45.8%	-6.5%	192.4	12.8%	-9.9%	410.9	27.4%	-7.7%	211.5	14.1%	39.7%
1998	1,380.9	642.1	46.5%	-6.6%	184.0	13.3%	-4.4%	389.7	28.2%	-5.2%	165.2	12.0%	-21.9%
1999	1,442.8	666.3	46.2%	3.8%	221.3	15.3%	20.3%	413.1	28.6%	6.0%	142.0	9.8%	-14.0%
2000	1,312.5	603.2	46.0%	-9.5%	196.2	14.9%	-11.3%	392.8	29.9%	-4.9%	120.3	9.2%	-15.3%
2001	1,382.1	602.4	43.6%	-0.1%	209.6	15.2%	6.8%	445.2	32.2%	13.3%	124.8	9.0%	3.7%
2002	1,377.7	580.7	42.1%	-3.6%	218.9	15.9%	4.4%	454.5	33.0%	2.1%	123.7	9.0%	-0.9%
2003	1,496.8	724.4	48.4%	24.7%	221.4	14.8%	1.1%	433.3	28.9%	-4.7%	117.8	7.9%	-4.8%
2004	1,628.1	835.7	51.3%	15.4%	234.1	14.4%	5.7%	436.7	26.8%	0.8%	121.6	7.5%	3.2%
2005	2,005.8	1,108.8	55.3%	32.7%	291.3	14.5%	24.4%	462.4	23.1%	5.9%	143.3	7.1%	17.8%

Source: Cambodian Statistical Year Book 2006

Note: Riels in original data are converted to US dollars at official exchange rate for each year.

**Table 2.2.4 GDP in Industry Sector at Current Prices (million USD)**

Year	Sector Total	Textile, Wearing & Footwear		Electricity, Gas & Water		Construction				
		Share	Growth	Share	Growth	Share	Growth			
1993	313.7	25.8	8.2%	-	8.8	2.8%	-	99.5	31.7%	-
1994	379.4	31.0	8.2%	20.2%	12.0	3.2%	36.4%	116.4	30.7%	17.0%
1995	487.6	49.9	10.2%	61.0%	14.6	3.0%	21.7%	152.5	31.3%	31.0%
1996	522.4	74.9	14.3%	50.1%	16.7	3.2%	14.4%	146.5	28.0%	-3.9%
1997	555.8	126.8	22.8%	69.3%	16.4	3.0%	-1.8%	137.7	24.8%	-6.0%
1998	518.9	154.8	29.8%	22.1%	15.7	3.0%	-4.3%	104.9	20.2%	-23.8%
1999	632.7	207.2	32.7%	33.9%	14.9	2.4%	-5.1%	148.0	23.4%	41.1%
2000	797.6	336.1	42.1%	62.2%	15.1	1.9%	1.3%	189.6	23.8%	28.1%
2001	891.3	428.4	48.1%	27.5%	17.7	2.0%	17.2%	191.2	21.5%	0.8%
2002	1,044.7	503.2	48.2%	17.5%	21.8	2.1%	23.2%	251.3	24.1%	31.4%
2003	1,173.6	577.0	49.2%	14.7%	26.1	2.2%	19.7%	278.3	23.7%	10.7%
2004	1,378.5	709.0	51.4%	22.9%	30.0	2.2%	14.9%	320.6	23.3%	15.2%
2005	1,567.0	771.8	49.3%	8.9%	31.5	2.0%	5.0%	392.2	25.0%	22.3%

Source: Cambodian Statistical Year Book 2006

Note: Riels in original data are converted to US dollars at official exchange rate for each year.

Table 2.2.5 GDP in Services Sector at Current Prices (million USD)

Year	Sector Total	Trade		Hotel & Restaurants			Transport & Communications			
		Share	Growth	Share	Growth	Share	Growth			
1993	977.8	361.5	37.0%	-	56.3	5.8%	-	135.9	13.9%	-
1994	1,002.3	359.2	35.8%	-0.6%	76.0	7.6%	35.0%	153.6	15.3%	13.0%
1995	1,168.9	406.3	34.8%	13.1%	94.7	8.1%	24.6%	178.8	15.3%	16.4%
1996	1,254.1	432.5	34.5%	6.4%	94.8	7.6%	0.1%	197.7	15.8%	10.6%
1997	1,190.2	411.4	34.6%	-4.9%	97.4	8.2%	2.7%	188.1	15.8%	-4.9%
1998	1,080.8	360.7	33.4%	-12.3%	85.8	7.9%	-11.9%	173.1	16.0%	-8.0%
1999	1,243.0	387.0	31.1%	7.3%	109.9	8.8%	28.1%	212.6	17.1%	22.8%
2000	1,355.5	391.8	28.9%	1.2%	135.0	10.0%	22.8%	241.0	17.8%	13.4%
2001	1,497.6	405.2	27.1%	3.4%	174.9	11.7%	29.6%	254.5	17.0%	5.6%
2002	1,627.3	412.5	25.3%	1.8%	218.6	13.4%	25.0%	276.9	17.0%	8.8%
2003	1,694.9	423.8	25.0%	2.7%	181.1	10.7%	-17.2%	287.5	17.0%	3.8%
2004	1,972.2	478.1	24.2%	12.8%	222.4	11.3%	22.8%	339.7	17.2%	18.2%
2005	2,403.6	552.1	23.0%	15.5%	262.0	10.9%	17.8%	413.0	17.2%	21.6%

Source: Cambodian Statistical Year Book 2006

Note: Riels in original data are converted to US dollars at official exchange rate for each year.

### 2.2.2 Foreign Trade

According to IMF statistics, total export value is 2,910 million USD and total import value is 4,254 million USD at year 2005. Main export commodities are garment, footwear and agricultural products. Main import commodities are petroleum products, cement, steel, construction materials and clothing. (See Section 10.1.3 for details.)

### 2.2.3 Government Finance

Total government revenue for 2005 is 641 million USD, which is 12.0% of GDP. Total government expenditure for 2005 is 835 million USD, which is 15.7% of GDP.

**Table 2.2.6 Central Government Operations (\*1)**

(Unit: million USD)

	2004		2005		Growth
		In GDP		In GDP	
Total Revenue	530	11.1%	641	12.0%	20.9%
Tax Revenue	393	8.2%	467	8.8%	18.8%
Direct Taxes	39	0.8%	54	1.0%	38.5%
Indirect Taxes	226	4.7%	273	5.1%	20.8%
Trade Taxes	128	2.7%	140	2.6%	9.4%
Nontax Revenue	132	2.8%	138	2.6%	4.5%
Capital Revenue	5	0.1%	37	0.7%	640.0%
Total Expenditure (*2)	740	15.4%	835	15.7%	12.8%
Current Expenditure	435	9.1%	481	9.0%	10.6%
Wage	159	3.3%	174	3.3%	9.4%
Non-Wage	275	5.7%	307	5.8%	11.6%
Capital Expenditure	305	6.4%	354	6.6%	16.1%
Current Balance	90	1.9%	115	2.2%	27.8%
Overall Balance	-210	4.4%	-202	3.8%	3.8%
Financing	215	4.5%	202	3.8%	-6.0%
Foreign Financing (net)	230	4.8%	305	5.7%	32.6%
Project Aid	225	4.7%	285	5.3%	26.7%
Budget Support	11	0.2%	29	0.5%	163.6%
Domestic Financing	-27	0.6%	-98	1.8%	-263.0%
Outstanding Operation (*3)	1	0.0%	-6	0.1%	-700.0%

Source: Cambodian Statistical Year Book 2006, MEF

Note: Riels in original data are converted to US dollars at official exchange rate for each year.

\*1 Excludes provincial revenue and expenditure data.

\*2 Total expenditure is based on a mixture of cash and accrual data.

\*3 Includes expenditure committed but not allocated to the accounts of the government agencies that execute the budget.

### 2.2.4 Poverty Reduction

According to the “National Strategic Development Plan 2006-2010” (NSDP) population under the poverty line is 34.7% in 2004. Although the poverty rate has declined since 1993/1994, it is still high, especially in rural areas. Therefore one of the important issues in NSDP is how to share the fruit of economic growth with rural peoples.

**Table 2.2.7 Poverty Head-Count Ratios in Cambodia**

		Poverty line		Food poverty line	
		1993/94	2004	1993/94	2004
a) Entire Cambodia	Phnom Penh	N.A.	4.6	N.A.	2.6
	Other urban areas	N.A.	24.6	N.A.	14.2
	Rural areas	N.A.	39.2	N.A.	22.2
	Cambodia	N.A.	34.7	N.A.	19.7
b) Geographical areas included in SESC 1993/94	Phnom Penh	11.4	4.6	6.2	2.6
	Other urban areas	36.6	20.5	19.6	12.5
	Rural areas	43.1	33.7	22.0	16.7
	Cambodia	39.0	28.0	20.0	14.2
c) Geographical areas excluded in SESC 1993/94		N.A.	45.6	N.A.	28.7

Source: National Strategic Development Plan 2006-2010

Note:

- 1) Poverty line is based on food poverty line (providing 2,100 calories per capita per day) and a minimal non-food allowance.
- 2) 1993/94 data is based on Socio-Economic Survey of Cambodia (SESC) in 1993/94 which covers 59% of country's area and 68% of households.
- 3) 2004 data is based on Cambodia Socio-Economic Surveys (CSES) in 2004 which covers the entire country.

### **2.3 Natural Conditions**

Cambodia is situated in Southeast Asia in the Southern part of Indochina, between 10 to 15 degrees North latitude and 102 to 108 degrees East longitude. It covers an area of 181,035 km<sup>2</sup>. The length of Cambodia is approximately 440 km from North to South and width is approximately 560 km from East to West. Cambodia borders the Lao People's Democratic Republic in Eastern half of the North, the Socialist Republic of Vietnam in the East/Southeast, the Gulf of Siam in the Southwest and the Kingdom of Thailand in the West/Western half of North. The land border is approximately 2,600 km in length, and the coastline is around 435 km long.

The central geographical feature of Cambodia is the Tonle Sap Lake, and the Bassac and the Mekong River systems. The Tonle Sap Lake and lower basin of the Bassac and Mekong Rivers form the basis of the lowlands region with elevations generally less than 100 m.

To the South of the central lowlands, the elevation increases to form the Cardamom Mountains which are originated generally in a Northwest – Southeast direction. The Elephant Range extends southeast of the Cardamom Mountains to the coastal province of Kampot.

Located on the Southwest of the Cardamom Mountains and the Elephant Range is a fairly narrow coastal plain extending from Koh Kong, through Sihanoukville and Kampot to Kep.

In the North of the central lowlands, the elevation averages 50 to 100 m above sea level with some small areas rising to 500 m above sea level.

The highland region occupies the Northeastern part of the country in the East merging with the Central highland of Vietnam. This area is mostly covered with fertile volcanic soil.

The water network in Cambodia is divided into three systems, the Mekong River system, the Tonle Sap Lake system and the Coastal zone. The Mekong River system includes the Mekong River, Bassac River and their tributaries, with a length of 500 km crossing Cambodia's territory from Northern to Southern border. The Mekong River has two distinct seasons, the season of flooding from June to October and the season of subsidence from November to May.

The Tonle Sap system includes the Tonle Sap Lake, the Tonle Sap River and their tributaries. This region floods annually with the lake covering approximately 10,000 km<sup>2</sup> in the wet season and only 3,000 km<sup>2</sup> in the dry season.

Cambodia's climate is governed by monsoons and is characterized by two distinct seasons: from mid-May to early October, strong prevailing winds from the Southwest bring heavy rains and high humidity, and from early November to mid-March, winds and humidity are low.

The rainfall patterns change with elevation. It is heaviest in the mountains along the coast which receive from 2,500 mm to more than 5,000 mm of precipitation annually. The average annual rainfall is 1,400 mm in the central lowland and reaches 5,000 mm in certain coastal zones or in highland areas.

The relative humidity is high at night throughout the year, usually exceeding 90%. During the daytime in the dry season, humidity averages about 50% or slight lower, but it may remain at about 60% in the rainy period.

Temperatures can approach 40 °C in April, while the coldest temperatures can be as low as 17 °C in January. The annual average temperature is 28 °C.

## Chapter 3 Overview of International and Domestic Transportation

### 3.1 Trade and International Transportation

#### 3.1.1 Trade

According to Cambodia Customs statistics, the trade value has been increasing (see following table); namely, the import value reached \$2,548 million and the value of exports reached \$3,014 million in 2005, respective increases of 80% and 120% over 2000 values.

**Table 3.1.1 Trade Statistics by Cambodia Customs**

	2000	2001	2002	2003	2004	2005
Import	1,418	1,504	1,664	1,771	2,060	2,548
Export	1,369	1,496	1,488	2,114	2,794	3,014

Source: Cambodia Customs

Unit: million US\$

The table shows that garment exports have soared sharply and there has been a surplus balance of payments since 2003. However statistics from 10 overseas trading partners suggests that the statistics of Cambodia Customs are consistently undervalued, especially for imports. For example, in 2005, the total import volume from the 10 countries listed in the following table reaches \$3,072 million, significantly higher than the figure given by Cambodia Customs. In fact, the balance of payments seems to be in the red.

**Table 3.1.2 Import Value by 10 Major Partners**

	2000	2001	2002	2003	2004	2005
Thailand	345	465	512	685	719	909
China	164	206	252	295	452	536
Hong Kong	275	256	339	374	452	498
Taiwan	196	182	194	208	273	330
Singapore	426	370	352	307	349	303
S. Korea	96	102	115	106	126	144
Malaysia	71	60	55	65	84	109
Indonesia	n.a.	72	69	80	72	94
Japan	52	50	70	54	80	79
USA	32	29	29	58	59	70
Total	1,657	1,792	1,987	2,232	2,666	3,072

Source: World Trade Atlas

Unit: million US\$

In order to accurately analyze Cambodian trade, the Study team deems it wise to adopt ADB indicators as well as commodity statistics from major trade partners rather than the statistics of Cambodia Customs.

**Table 3.1.3 Trade Statistics by ADB**

	2000	2001	2002	2003	2004	2005
Import	1,935	2,094	2,318	2,560	3,193	3,678
Export	1,397	1,571	1,755	2,027	2,476	2,695

Source: ADB Indicator

Unit: million US\$

According to the Asian Development Bank statistics, import value totalled \$3,678 million in 2005, and main trade partners were Thailand (\$909 million), China (\$536 million), Hong Kong (\$498 million), Taiwan (\$330 million) and Singapore (\$303 million). By far the largest import commodity was fabric and garment material amounting to \$970 million, equivalent to 26% of the total import

value. The second major commodity was fuel oil and petroleum product imported from Thailand (\$150 million) and Singapore (\$100 million).

Export value totalled \$2,695 million in 2005, with garments accounting for the bulk of that value. The major trade partner was the USA (\$1,703 million), followed by Germany (\$282 million), UK (\$155 million), Canada (\$106 million) and France (\$35 million). Value of garment exports to major 7 countries totalled \$2,337 million, equivalent to 87% of total export value.

**Table 3.1.4 Garment Export by Country**

	2000	2001	2002	2003	2004	2005
USA	802	920	1,027	1,229	1,418	1,703
Germany	76	112	132	182	272	282
UK	98	153	160	177	210	155
Canada	11	14	12	60	104	106
France	23	30	33	38	39	35
Singapore	30	16	43	20	25	31
Netherlands	16	26	26	28	35	25
<b>Total</b>	<b>1,056</b>	<b>1,271</b>	<b>1,433</b>	<b>1,734</b>	<b>2,103</b>	<b>2,337</b>

Source: World Trade Atlas

Unit: million US\$

In Cambodia's trade pattern, fabric and materials are imported from East Asian countries, processed to garments in Cambodia, then exported to the United States and to European countries, (the American market accounted for 73% of Cambodian garment exports). No materials for garments are produced in Cambodia.

### 3.1.2 International Transportation

All the import and export cargo is carried by ocean going ship at Sihanoukville port, by Inland Water Transportation at Phnom Penh port, by aircraft at Phnom Penh international airport, and by truck crossing border between Thailand, Laos and Vietnam.

#### (1) International Shipping

At Sihanoukville port, a total of 686 vessels called in 2005, including 433 container ships, 132 tankers and 121 general cargo ships.

**Table 3.1.5 Sihanoukville Port (Ship Calls)**

	2000	2001	2002	2003	2004	2005
Container	493	471	487	481	460	433
Tanker	142	136	128	149	114	132
GC Ship	179	218	202	258	156	121
<b>Total</b>	<b>814</b>	<b>825</b>	<b>817</b>	<b>878</b>	<b>730</b>	<b>686</b>

Source: SAP

Unit: number of ship calls

The number of ship calls to Sihanoukville port seems to be gradually decreasing; 878 vessels called in 2003 compared to only 730 in 2004 and 686 in 2005. This trend is due to the opening of new ports such as Oknha Mong port and others, which has resulted in general cargo ships carrying cement or coil shifting to these new ports. However container ships or tankers continue to call Sihanoukville port and will not shift to the new ports due to the shallow draft limitation.

#### (2) Inland Water Transportation

Inland Water Transportation between Cambodia and Vietnam is facilitated by small ships propelled by its own engine (so-called barges) calling mainly at Phnom Penh port, while tanker barges are calling small oil terminals at the riverside of Mekong, Tonlesap and Bassac River. The draft of the

Mekong River changes from –5.5m in the rainy season to –4.5m in the dry season, and the draft is always restricted to –4.5m at the river mouth to the South China Sea. This is the main reason for size restrictions on ships transiting the river. Import cargo to Phnom Penh port is mainly fuel oil or container cargo, which are transshipped at Ho Chi Minh City ports. Container cargo to/from Phnom Penh port is mainly construction materials or fabrics from China and returning empty containers, as well as some wood products shipped from Kampong Cham, but nowadays this cargo has shifted to truck transportation through route No.7. IWT barge and its cargo are inspected at the border gate by Customs and Immigration of both countries.

**Table 3.1.6 Phnom Penh Port Barge Calls**

	2000	2001	2002	2003	2004	2005
Container			13	75	165	254
Tanker	524	573	522	592	639	708
GC Ship	281	247	116	101	68	114
Total	805	820	650	768	872	1,076

Source: PPAP

Unit: number of ship calls

The number of vessel calls to Phnom Penh port was 1,076 in 2005, including 254 container barges, 708 tanker barges, and 114 general cargo barges. Among these three types, tanker barge transits the river most frequently, discharging fuel oil at three oil terminals on the Mekong River and four oil terminals on the Tonle Sap River. Container service, just starting from 2002, is now carried out with 7 barges ranging from 48 TEU to 160 TEU capacity.

### (3) International Air Transportation

Flight service to Phnom Penh International Airport is now offered 151 times per week including Inchong (8 flights), Bangkok (35), Ho Chi Minh City (21), Hanoi (7), Vientiane (14), Kuala Lumpur (17), Singapore (19), Hong Kong (8), Guang Zhou (7), Shanghai (3) and Taipei (12). All of the flight service is by passenger aircraft; there is no service by cargo freighter to Cambodia.

Import volume in 2005 was 6,260 tons while export volume reached 10,260 tons. There is no direct service between USA or EC, so that these destinations are connected at Bangkok or Singapore. Cargo space is too small in the passenger aircraft to meet airfreight requirement and most cargo consists of small packages.

According to the Civil Aviation statistics, the biggest route for airfreight is between Bangkok, where imports registered at 2,558 tons and exports at 4,028 tons, followed by Taipei (imports of 1,338 tons and exports of 2,657 tons).

**Table 3.1.7 Airfreight at Phnom Penh International Airport**

	2000	2001	2002	2003	2004	2005
Inbound	3,551	4,142	7,672	5,332	6,598	6,260
Outbound	6,662	5,680	9,847	7,704	11,192	10,648
Total	10,213	9,822	17,519	13,036	17,789	16,908

Source: State Secretariat of Civil Aviation

Unit: metric tons

These statistics show only airfreight volume by directly flight at Phnom Penh International Airport, and do not include road feeder service by truck into Bangkok International Airport for connection to the USA or EU. During the peak export season for garments in Cambodia, some garments are transported by truck to Bangkok due to space problems. Therefore Cross-Border Transport Agreement between Thailand will support the airfreight arrangement in Cambodia. Now Cambodia has bilateral agreements with 17 countries such as Brunei, China, Hong Kong, India, Indonesia, South Korea, Laos, Macao, Malaysia, Myanmar, Philippines, Qatar, Singapore, Switzerland, Taiwan, Thailand and Vietnam, and is currently negotiating agreements with Bangladesh, Germany



and Russia.

#### (4) Cross border Transportation

Cross-border transportation between Cambodia, Thailand and Vietnam is very popular, especially between Poipet and Kohkong and Thailand, and between Bavet and Vietnam. All the cross-border cargo is transported by truck and cargo is trans-loaded at border points. Cargo imported from Thailand is once discharged at a bonded warehouse at Poipet, and after Customs inspection as well as CAMCONTROL survey, cargo is loaded again onto another truck operated by Cambodia. Same manner was requested at Bavet for cross-border traffic with Vietnam. According to the Cambodia Customs statistics, cross-border import cargo volume was 1,057 thousands tons at Poipet, 423 thousands ton at Kohkong and 14 thousands tons at Bavet in 2005.

Cross-Border Transport Agreement with Vietnam came into effect on September 30, 2006 and now 40 vehicles, including 20 buses and 20 trucks, can pass through the gate without trans-load on a daily basis. Also the gate is now operational from 6am until 10pm, an increase of 4 hours, and more container traffic, which currently averages 120 150 units, is expected. At present cross-border transport with Thailand without trans-loading is limited to provincial areas only; a bilateral agreement is still under the negotiation.

Alternatively, railway has not been linked with Thailand for cross border transportation. Now it is under rehabilitating by the ADB, the Southern Line 254km and the Northern Line 388km of the Cambodian Railway and the last 48km of damaged track to Poipet is expected to be completed by December 2009 connecting with the State Railway of Thailand. At that time the cross border transportation by railway will be inaugurating export and import commodities between Thailand, such as empty container, fuel oils and cement.

### 3.2 Share of Shipping, Road, Railway, Air and IWT

#### 3.2.1 Analysis by Customs check point

The volume of import and export cargo, by 8 Customs clearance points, is shown in the following table. "Other" includes private ports, at fuel tanks and factories. Among total import volume of 3,484 thousands tons in 2005, Poipet ranked first with 1,057 thousands tons, followed by Other (919 thousands tons, Sihanoukville port (752 thousands tons) and so on. Of the total export volume of 370 thousands tons of export volume in 2005, 273 thousands tons fell into the Other category, followed by Sihanoukville port (37 thousands tons), Phnom Penh port (27 thousands tons) and so on. The largest cargo volume was cleared at Other Customs points (26% of all import cargo and 74% of all export cargo) in Cambodia.

**Table 3.2.1 Cargo Volume at Check Points of Cambodia Customs**

Import	PP Port	Dry Port	SHV Port	PPIAP	Poipet	Bavet	Kohkong	Other	Total
2005	208	104	752	7	1,057	14	423	919	3,484
Export	PP Port	Dry Port	SHV Port	PPIAP	Poipet	Bavet	Kohkong	Other	Total
2005	27	10	37	11	6	1	5	273	370

Source: Cambodia Customs

Unit: thousand tons

IWT barges usually carry the cargo cleared at Phnom Penh port customs, while the cargo cleared at dry ports and Sihanoukville port is carried by ocean going ships. Cargo at Phnom Penh international airport is transported by air, while cargo at Poipet, Bavet and Kohkong is transported by truck. In the case of Other, it is assumed to be carried by ocean going ships and by IWT barges, and estimated volume of fuel oil carried by IWT tanker barge was 460 thousands tons in 2005. Therefore it is also assumed that remaining cargo at other customs was carried by ocean going ships.

### 3.2.2 Analysis by Transport Mode

Based on such assumptions as above, the cargo volume by Customs statistics is allocated to transportation modes, which are by ship, by IWT, by air and by road. But there is no international railway service available in Cambodia, and no cargo volume is allocated to rail.

**Table 3.2.2 Cargo Volume by Transport Mode**

Import	By Sea	By IWT	By Air	By Road	By Rail	Total
2005	1,311	672	7	1,493	0	3,484
Export	By Sea	By IWT	By Air	By Road	By Rail	Total
2005	319	27	11	12	0	370
Total	By Sea	By IWT	By Air	By Road	By Rail	Total
2005	1,630	700	19	1,505	0	3,854

Source: Analysis by JICA study team based on Customs Statistics

Unit: thousand tons

From the above table, of all the import and export cargo in 2005, 1,630 thousands tons was estimated to be carried by ocean going ship, 700 thousands tons by IWT barge, 19 thousands tons by air and 1,505 thousands tons by road. By transportation mode, 42% was carried by ship, 18% by IWT, 0.5% by air, 39% by road and 0% by rail.

**Table 3.2.3 Share of Each Transportation Mode**

	By Sea	By IWT	By Air	By Road	By Rail	Total
2005	42%	18%	0.5%	39%	0%	100%

Source: Analysis by JICA study team

### 3.3 Transportation on Road, Railway and Inland Waterway

#### 3.3.1 Transportation on Road and Railway

##### (1) Road

Cambodian road network consists of 4 categories, 1-digit National Roads (2,052km,) 2-digit National Roads (2,643km) and Provincial Roads (6,615km) managed by MPWT, Rural Road (18,948km) managed by MRD (total 30,258km.)

##### 1-digit National Road and 2-digit National Road

National trunk line as cross border corridor

Connecting provincial capitals and main border checkpoints

##### Provincial Road

Provincial trunk line

Connecting provincial capitals and main regions, districts

##### Rural Road

Regional network

**Table 3.3.1 Pavement Ratio and Permanent Bridge Ratio**

Category	Pavement Ratio (%)	Permanent Bridge Ratio (%)
1-digit National Road	73.5%	90.3%
2-digit National Road	19.9%	22.5%
Provincial Road	1.6%	1.3%
Rural Road	N.A.	N.A.

Source: The Study on the Road Network Development in the Kingdom of Cambodia (2006)

Road was damaged during the civil war. 1-digit National Roads were almost completely rehabilitated by 2005. 2-digit National Roads suffer from poor pavement and 1-line temporary bridge. Development level of Provincial Roads and Rural Roads is very poor.

A JICA study team made a field traffic intensity survey in the year 2005. Traffic intensity of 1-digit National Road is 5,100-39,700 cars/day at city area, 1,500-8,000 cars/day at local area and 100-8,500 cars/day at border area.

**Table 3.3.2 Traffic Intensity of 1-digit National Roads**

Road No.	City Area		Local Area	Border Area	
	Location	cars/day	cars/day	Location	cars/day
1	P.P. Border (*1)	39,700	3,600-8,000	Vietnam	8,500
2	P.P. Border (*1)	12,100	3,800	Vietnam	3,600
3	P.P. Border (*1)	10,000	4,300-5,500	-	-
4	Sihanoukville	5,100	2,100-2,800	-	-
5	P.P. Border (*1)	13,900	3,300-4,400	Thailand	8,000
	Battambang	18,500	5,800 (*2)		
6	P.P. Border (*1)	26,200	1,500-3,700	-	-
	Siemreap	6,200-8,600			
7	Kampong Cham	8,800	1,800	Laos	100
	Kratie	5,100			

Source: The Study on the Road Network Development in the Kingdom of Cambodia (2006)

\*1: Phnom Penh-Kandal

\*2: Inner Province

## (2) Railway

Routes of Royal Railways of Cambodia consists of two lines, the North Line (385km) which connects Phnom Penh and Poipet, and the South Line (265km) which connects Phnom Penh and Sihanoukville (total 650km.)

### Main Stations

North Line: Phnom Penh, Pursat, Battambang, Sisophon, Poipet

South Line: Phnom Penh, Takeo, Kampot, Sihanoukville

Both lines were seriously damaged during civil war. Rehabilitation work started in 1980 and minor repairs using ADB assistance were finished in 1996. But status of infrastructure is still not good and service level is low. Sisophon—Poipet section has not yet been rehabilitated.

**Table 3.3.3 Railway Transport Statistics (1980, 1985-2005)**

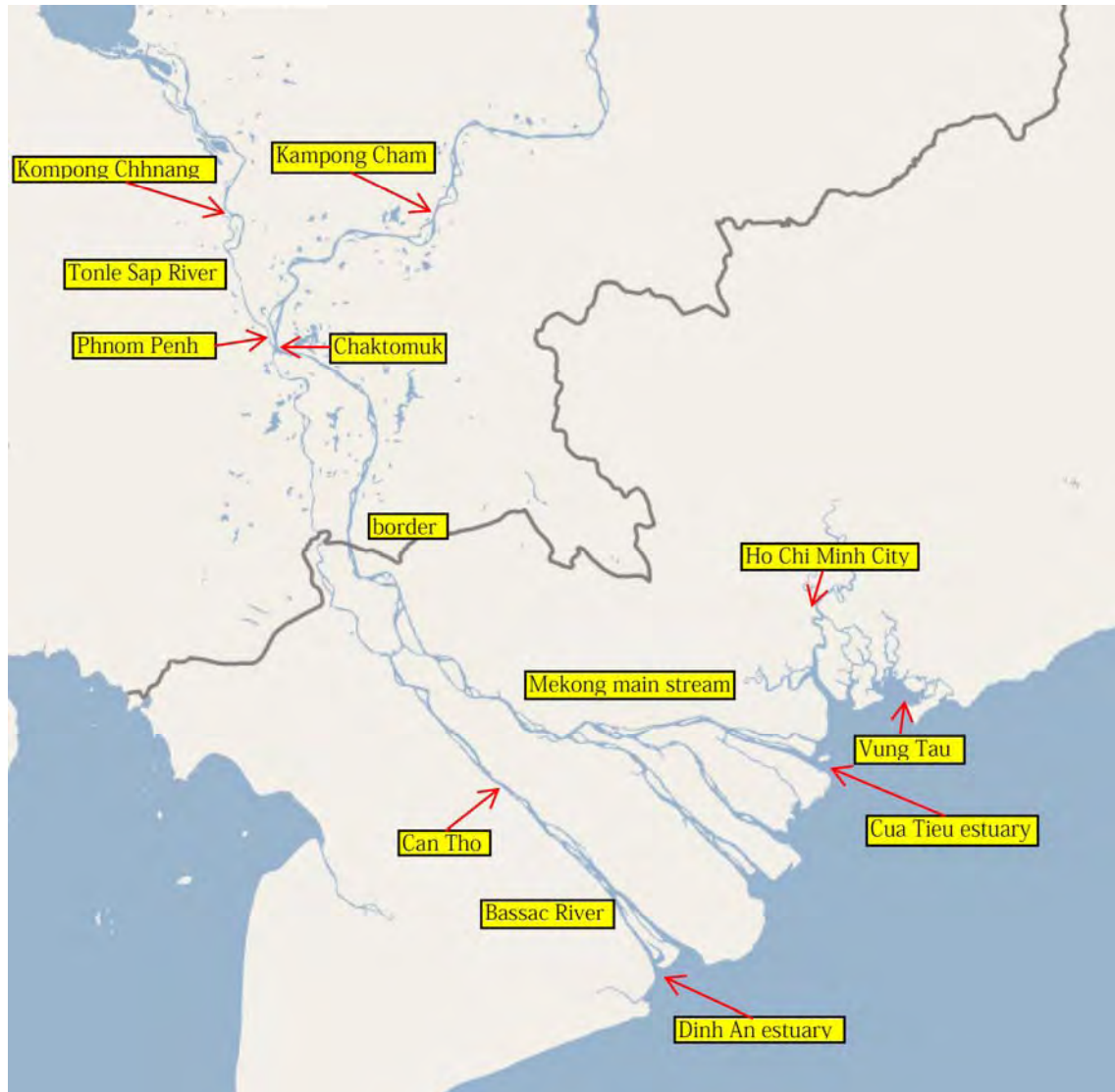
Year	Goods (in thousand tons)	Passenger (in thousand)	Luggage (tons)
1980	175	-	-
1985	148	711	-
1986	136	964	-
1987	150	905	-
1988	188	1,087	-
1989	139	827	-
1990	116	464	-
1991	64	617	-
1992	114	1,384	-
1993	130	881	-
1994	61	514	-
1995	48	523	-
1996	76	568	-
1997	170	530	15,261
1998	294	438	8,380
1999	268	429	4,150
2000	340	336	3,283
2001	410	223	1,827
2002	557	133	1,170
2003	433	93	713
2004	297	81	523
2005	268	47	350

Source: Statistical Year Book 2006

The railway transported 268,000 tons of freight in 2005, down 9.8% compared to 297,000 tons of freight 2004. A total of 350 tons of luggage was transported in 2005, down 33.1% compared to 523 tons of 2004. The number of passengers transported by rail was 47,000, down 42.0% compared to 81,000 passengers in 2004.

### 3.3.2 Inland Water Transportation

The length of the inland waterway from Vung Tau fairway buoy to Phnom Penh at the split point between the Mekong River and Tonle Sap River is 348km, passing the border at the 251km point. Accordingly, only 100km area between Vung Tau and Phnom Penh is in Cambodian territory. In case of IWT, it would take about 27 hours for small barges traveling at 10 knots to go from Vung Tau to Phnom Penh, but only about 15 hours in the reverse direction due to the faster current, in the absence of any restriction of Customs formality at the border; however actually it takes 2 to 3 days for Cambodian flag barges because night sailing is prohibited in the Vietnamese territory



Source: JICA Study Team

**Figure 3.3.2 Mekong River**

Navigation in the Mekong River is severely restricted; namely, there is a 4.5m draft limitation at the river mouth called Cua Tieu and 37.5m air draft limitation under bridge clearance of My Thuan Bridge. These restrictions impose ship size and capacity limitation of 160TEU for container barges as well as 1000DWT for tanker barges through the Mekong mainstream between Vietnam and Phnom Penh.

In order to eliminate such restrictions, the Vietnamese government is planning to secure a

maximum draft of 6-7m along the Bassac River. According to Prime ministerial decree promulgated in January 2007, a feasibility study on dredging the “Quan Chanh Bo bypass canal” in order to avoid shallow draft by sand bar at Dinh An estuary will be carried out. Details of the project are not yet disclosed, however it is said the feasibility study will be completed in 2010. By means of dredging the Quan Chanh Bo bypass canal and improving the Van Nao Pass, the new inland water transportation route through the Bassac River connecting to the upper Mekong River will provide 6.5m draft passages to Phnom Penh. These works are of course under the territory of Vietnamese Government including high voltage cable replacement, but Cambodian government should cooperate as these projects will benefit the Cambodian maritime sector.

## Chapter 4 Present Situation of Maritime Sector

### 4.1 Waterborne Transport, Shipping Companies, Operating Route and IWT

#### 4.1.1 Waterborne transport

International freight in Cambodia has been transported by ocean going ship through the gateway of Sihanoukville port, as well as by IWT barge through the gateway of Phnom Penh port. In 2005, import volume of 1,809 thousand tons and export volume of 309 thousands tons were carried by ship through these two gateways, and shipping service is an indivisible tool to Cambodian trade and economy. Recently some cargo, cement, coil and general cargo, has been shifting to private ports such as Okhna Mong port and Sre Ambel port, and which resulted in the import volume at Sihanoukville port falling from 1,595 thousands tons in 2001 to 1,129 thousands tons in 2005. Therefore since 2004, when private ports were developed, the statistics of these two gateways does not cover all the international freight in Cambodia.

**Table 4.1.1 Shipping Cargo Statistics (Overall)**

	2000	2001	2002	2003	2004	2005
Import	1,894	2,057	1,899	2,085	1,845	1,809
To PNP	407	462	404	496	560	680
To SNV	1,487	1,595	1,495	1,589	1,285	1,129
Export	206	202	192	210	251	309
From PNP	51	34	12	27	33	57
From SNV	155	168	180	183	218	252

Source: SAP/PPAP

Unit: thousand tons

Fuel oil is the major import item in Cambodia, transported by tanker from Thailand and Singapore via Vietnam. Import volume in 2005 totaled 713,514 tons: 464,366 tons to Phnom Penh port and 249,148 tons to Sihanoukville port, which is sharing 39% of all the import cargo. According to the Customs statistics in 2005, a total of 760 thousand tons of fuel oil was imported, and the balance of 50 thousands tons between 710 thousands tons by tankers, seems to be transported by road.

**Table 4.1.2 Shipping Cargo Statistics (Fuel)**

	2000	2001	2002	2003	2004	2005
Import	655,634	763,572	691,328	736,781	721,691	713,514
To PNP	354,032	401,050	368,775	419,276	460,652	464,366
To SNV	301,602	362,522	322,553	317,505	261,039	249,148

Source: SAP/PPAP

Unit: metric tons

Fuel oil is imported to Phnom Penh and discharged to tank yards located at the riverside of the Mekong and Tonlesap rivers. Almost all fuel oil is transported by IWT (small tanker barges, ranging from 600-1000DWT registered and operated in Vietnam), while some LPG is imported from Thailand. Seven fuel distributors operate their own tank yards and transport fuel oil to their gas stations or power generators in Phnom Penh. In 2005, 464 thousands tons of fuel oil was discharged at Phnom Penh port, which shares 68% of overall import cargo handled there. Also fuel oil has been imported to Sihanoukville port from Thailand and Singapore, and discharged at Oil terminals operated by SOKIMEX or PTT. In SOKIMEX terminal, SHELL and CALTEX have their own tanks independently and jointly operate with SOKIMEX. The draft of SOKIMEX terminal is 9.5m and 5000-13,000DWT tankers can be accommodated there. In 2005, 248 thousands tons of fuel oil was discharged at Sihanoukville port, which shares 22% of the total import cargo handled there.

According to the Cambodia Customs Statistics, the value of fuel imports totaled \$187 million in 2005: \$104 million from Vietnam, \$53 million from Thailand and \$29 million from Singapore. On the other hand, Thai Customs reports fuel exports to Cambodia valued at \$154 million in 2005, and Singapore Customs reports \$101 million in exports. There is a great discrepancy between the statistics of Cambodia Customs and these two countries (\$187 million vs. \$255 million). Cambodian Customs levies a 35% duty on fuel oil import as well as 10% VAT.

Cement import is the next largest commodity for the shipping cargo.

**Table 4.1.3 Shipping Cargo Statistics (Cement)**

	2000	2001	2002	2003	2004	2005
Import	553,250	554,754	411,472	564,906	218,618	65,618
To PNP						
To SNV	553,250	554,754	411,472	564,906	218,618	65,618

Source: SAP/PPAP

Unit: metric tons

Cement has been imported from Thailand and discharged at Sihanoukville port and Okhna Mong port, although cross-border imports by truck also make up a portion of the import volume. According to the Cambodia Customs Statistics, 690 thousands tons of cement was imported in 2000, 740 thousands tons in 2001, 890 thousands tons in 2002 and 780 thousands in 2003. Therefore the cross-border import volume by truck can be estimated from the difference between total import volume by Customs and discharging volume at Sihanoukville port (see above table), which yields a cross-border import volume of 120 thousands tons in 2000, 190 thousands tons in 2001, 480 thousands tons in 2002 and 210 thousands tons in 2003. But after 2004, cement-discharging port shifted to Okhna Mong port, where there are no available statistics, so that the volume of cement carried by ship is not clear in Cambodia. However, Thailand Customs reports cement exports to Cambodia of 1,350 tons in 2004 and 1,680 tons in 2005. Assuming that the volume of cement imported by truck in 2004 and 2005 was 480 thousands tons, the same as in 2002, the volume of cement carried by ship can be estimated as 880 thousand tons in 2004 and 1,200 thousands tons in 2005.

New cement factory with a daily production capacity of 3,000 tons is now under construction by Kampot Cement Co. Ltd and expected to start operation in 2007. When this factory is in its full operation, yearly production of 1,000 thousands tons will eliminate the need for cement imports. Cement volume at Sihanoukville and Okhna Mong port will be affected in the near future. Instead, thermal coal for cement factory will be imported by ship.



Table 4.1.4 Shipping Cargo Statistics (Container)

	2000	2001	2002	2003	2004	2005
Import	65,811	72,741	84,338	95,194	115,604	120,799
To PNP	0	0	342	4,440	8,039	14,944
Laden	0	0	242	4,134	7,054	14,077
Empty	0	0	100	306	985	867
To SNV	65,811	72,741	83,996	90,754	107,565	105,855
Laden	57,303	60,181	72,630	74,700	87,281	86,034
Empty	85,508	12,560	11,366	16,054	20,284	19,821
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Export	64,624	72,551	83,046	93,722	113,838	120,623
To PNP	0	0	404	3,190	7,487	15,337
Laden	0	0	237	2,072	3,237	3,767
Empty	0	0	167	1,118	4,250	11,570
To SNV	64,624	72,551	82,642	90,532	106,351	105,286
Laden	26,287	33,391	37,343	42,324	51,105	52,814
Empty	38,337	39,160	45,299	48,208	55,250	52,472
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Total	130,435	145,292	167,384	188,916	229,422	241,422
To PNP	0	0	746	7,630	15,526	30,281
To SNV	130,435	145,292	166,638	181,286	213,916	211,141

Source: SAP/PPAP

Unit: TEU

Container cargo is handled now not only at Sihanoukville port but also at Phnom Penh port, which started container operations in 2002. Container cargo exports consist mainly of garments and shoes to the USA and EU countries, while imports consist mainly of fabrics and various materials from East Asian countries such as China, Taiwan and Hong Kong. From the table of 2005 throughput, it is understood that the container imports exceeded exports by 43,530 TEUs; namely, import laden was 100,111 TEUs and export laden was only 56,581 TEUs. However, 20,688 TEUs was imported as empty container from Singapore and HCMC.

#### 4.1.2 Container Transportation and Service Routes

At Sihanoukville port, container volume of 211,141 TEUs was handled in 2005, including imports of 105,855 TEUs (Laden 86,034 TEUs/ Empty 19,821 TEUs) and exports of 105,286 TEUs (Laden 52,814 TEUs/ Empty 52,472 TEUs). Five shipping companies made 433 calls with gear-equipped container ships regularly on the fixed day of the week schedule. Container cargo consists of their own Intra Asia cargo, feeder cargo to the US or EU countries via Singapore and empty containers.

**Table 4.1.5 Container Service at Sihanoukville**

Shipping Lines	Calls 2005	Agent	Ship's Name	Turn Round	Routing
RCL	157	Feeder Shipping	Siri Bhum	7 days	Kuantan/ <b>SAP(Thu)</b> / Songkhla/ SIN/ Kuantan
			Ratha Bhum	7 days	Kuantan/ <b>SAP(Sat)</b> / Songkhla/ SIN/ Kuantan
			Supa Bhum Ora Bhum Pira Bhum	21 days	HKG/ <b>SAP(Fri)</b> / Songkhla/ HKG/ HPH/ HKG/ KEE/ Taichung/ HKG
MCC	147	Maersk (Cambodia)	MEKONG VISION	7 days	Songkhla/ <b>SAP(Sat)</b> / TJP/ SIN/ Songkhla
			EPONYMA	7 days	SIN/ <b>SAP(Tue)</b> / Songkhla/ SIN
			MEKONG CAYENNE MEKONG CHAIYO	14 days	HCMC/ <b>SAP(Sun)</b> / LCB/ HCMC/ KHH/ HCMC
ACL	55	Int'l Trade Logistics	Kota Tegap	7 days	SIN/ <b>SAP(Sat)</b> / Kuantan/ SIN
HUB	50	Hub International (Cambodia)	Saipan Skipper Hub Explorer	14 days	Shekou/ HKG/ <b>SAP(Wed)</b> / Bangpakong
COTS	25	KAMSAB	Chiang Mai	By week	LCB/SAP/BKK/LCB

Source: JICA study team

Ocean Freight has been negotiated outside Cambodia such as in Hong Kong or in Singapore with volume discount, and has not been disclosed in Cambodia. Also feeder freight has been decided more complicatedly with the trunk lines as entire feeder matrix. According to reliable market source information, it is reasonable to assume that the ocean freight ranges from \$600-\$650/20', \$1200-\$1300/40' for COC from Hong Kong to Sihanoukville, and \$250-\$300/20', \$500-\$600/40' for SOC from Singapore to Sihanoukville.

At Phnom Penh port, container volume of 30,281 TEUs was handled in 2005, including imports of 14,944 TEUs (Laden 14,077 TEUs/ Empty 867 TEUs) and exports of 15,337 TEUs (Laden 3,767 TEUs/ Empty 11,570 TEUs). Four shipping companies, including SOVEREIGN, CHINA SHIPPING, GEMADEPT and SONG DAO, have deployed IWT small container barges, which made 254 calls as shuttle service between Ho Chi Minh City port. Container cargo is mainly import fabrics and construction material from Intra Asia service via HCMC and some export garment or processed wood to East Asia countries or Vietnam. This service has just started since 2002, and the volume of traffic has soared every year.

**Table 4.1.6 Container Service at Phnom Penh**

Shipping Lines	Agent	Deployed	Ship's Name	Flag	Capacity TEU
SOVEREIGN	SOVEREIN	104	G. Fortune 1	Cambodia	120(6x4x5)
			G. Fortune 2	Cambodia	120(6x4x5)
			G. Fortune 8	Cambodia	150(6x5x5)
CHINA SHIPPING	CHINA SHIPPING	53	Mekong Express	Cambodia	160
GEMADEPT	GEMADEPT	91	Phuoc Long 4	Vietnam	48(3x6x3)
			Phuoc Long 6	Vietnam	48(3x6x3)
SONG DAO	KAMSAB	6	Song Dao	Vietnam	n.a.
Total		254			

Source: JICA study team

### 4.1.3 Fuel Import and IWT

Fuel oil is transported from Vietnam by IWT tanker barges and is discharged at tank yards operated by the following fuel distributors: PETRONAS terminal and TOTAL terminal are located at the riverside of Lower Mekong, MEKONG terminal alongside Upper Mekong, and SOKIMEX terminal, SAVIMEX terminal, TELA terminal and MITTAPHEAP terminal are located at the riverside of Tonlesap. According to the statistics by PPAP, total of 708 tanker barges entered these terminals and discharged 464 thousands tons of fuel in 2005. Fuel oil has been imported from Singapore by products tankers to Vietnam, and transshipped to IWT small tanker barges at storage tanks or lightened from product tanker to IWT small tanker barges directly.

IWT tanker barges range from 600-1,000DWT in capacity and all are registered in Vietnam, except one LPG tanker by Thailand flag. VITACO, a subsidiary company of Vietnam National Petroleum Corporation, is the biggest sharer of IWT tanker barges operation, transporting almost all fuel oil from Vietnam to Phnom Penh. Fuel oil is purchased from a Singapore or Thailand supplier, who then arranges transportation on a CIF contracts basis.

SOKIMEX, the biggest fuel distributor in Cambodia, has established tanker operator in Vietnam, named SONG KIM CO. LTD, and owns IWT tanker barges of Vietnamese flag. SOKIMEX arranges its own fuel transportation using their own IWT tanker barges between Vietnam and Phnom Penh.

**Table 4.1.7 Fuel Import at Phnom Penh**

Phnom Penh	2000	2001	2002	2003	2004	2005
Fuel Import (Ton)	354,032	401,050	368,775	419,276	460,652	464,366
Tanker (Calling)	524	573	522	592	639	708

Source: PPAP

## **4.2 Maritime Administration, Organization, and Maritime Regulations**

From 1973 to 1993, the Kingdom of Cambodia was engaged in a civil war. During this period, the management of maritime transport activities was interrupted and the legal and administrative framework inherited from the French colonial period disappeared.

In 1994, however, the Merchant Marine Service was set up again, and later promoted to a Department. The Royal Government of Cambodia established the Department of Merchant Marine (MMD) on 5 April 1999. The MMD is under the direct responsibility of the General Department of Transport of the Ministry of Public Works and Transport. This Department consists of five offices including the General Affairs, Planning and Legal Affairs, Ship Registration, Seaman Affairs and Certificates, Ports and Flag State Implementation, and Coastal State Control and Search and Rescue.

### **4.2.1 Merchant Marine Department (MMD)**

The MMD is under the direct responsibility of the General Department of Transport of the Ministry of Public Works and Transport. Two Deputy Directors and the following five offices are founded under the Director. Tasks of each office are described below.

#### (1) Office of General Affairs ( Number of staff: 4 )

- Supervise the general administrative works and department's staff.
- Provide training to the staff of the department and other seafarers
- Cooperate with the port authorities on the management of ship navigation within the port areas;
- Supervise coastal ports in terms of loading and unloading techniques of goods, passengers, and ship navigation within the port areas;
- Review all kinds of forms of permission for operation of shipping companies and their agents; and other seagoing ships such as fishing vessel, merchant ship, cruise ship, and search and rescue ship
- Supervise shipyards of any kind, in terms of techniques for ship construction and repairs
- Review and advise on requests for entry permits, and loading and unloading of goods of all types of merchant ships
- Collect revenues derived from shipping and transfer such income to the national coffers;

#### (2) Office of Ship Registration, Seamen Affairs and Certificates ( Number of staff: 5 )

- Study and develop registration fees of all kind of ship, and review the documents for such registration
- Review and tackle all conflicts related to ship registration
- Supervise all affairs of seafarers such as discipline, safety and welfare. Review and make an arrangement related to the issuance of seamen's book, certificates, and other necessary documents
- Survey ships of any kind and other facilities equipped with the ship. Review documents related to the issuance of ship cards, ship certificates and equipment certificates

#### (3) Planning and Legal Office ( Number of staff: 5 )

- Develop, promote and monitor the implementation of plans and options for maritime transport development with respect to the government's defined policy;
- Cooperate, in terms of economic and technical aspects of maritime transport, with local and international organizations;
- Develop material and technical base for maritime transport in order to ensure the safety of sea and avoid environmental pollution;
- Conduct research and compile statistics, and sum up activities of maritime transport;

- Establish and enforce laws and standards related to the management of maritime transport.
  - Tackle all conflicts related to maritime transport.
- (4) Office of Ship inspection ( Number of staff: 4 )
- Inspect technical characteristics of all ships calling the maritime ports of the Kingdom of Cambodia and other facilities on-board.
  - Inspect necessary documents of ships and their seafarers
  - Take necessary measures for ships not in compliance with national and international legislation.
- (5) Office of Coastal State Control, and Search & Rescue ( Number of staff: 4 )
- Control over ship navigation in Cambodian coastal waters, and conduct search and rescue of all maritime accidents/incidents, in cooperation with relevant institutions
  - Research and develop methodology for search and rescue operations
  - Conduct maritime investigation for all maritime accidents/incidents

The MMD has an office called “Office of Coastal State Control, and Search & Rescue”. A unique concept called “Coastal State Control” is similar to the concept of “Search & Rescue”. Cambodia is the least developed country in shipping along the Gulf of Thailand. Its coastline is rather short (about 435 km) compared to Thailand (about 3,219km) and Vietnam (about 3,444km). The activities of Cambodian coastal shipping lag behind Thailand and Vietnam. The concept of “Coastal State Control” seems to have similar meaning to “Coastal State Management”, and is brought about to realize its maritime independence and maritime safety under these conditions.

#### District Offices

There are four municipality offices (Department of Public Works and Transport) as the implementation agencies of MMD along the coast of Gulf of Thailand (Sihanoukville, Kampot, Kep, Koh Kong). They officially belong to the Regional Department of Public Works and Transport, but MMD controls these district offices through the department. The number of staff members in charge of maritime affairs in the District Offices is 12 in Sihanoukville, 21 in Kampot, and 3 in Kep and Koh Kong.

#### 4.2.2 Related Ministries

Four other Ministries collaborate with the Ministry of Public Works and Transport on maritime and inland water issues:

- (1) The Ministry of Environment, established on 24 January 1994 holds the full responsibility for protection and management of the natural - including marine - resources. In such matters, it appears that the competence of the Ministry of Public Works and Transport is limited to technical support.
- (2) The Ministry of National Defense, through the Royal Cambodian Navy, is in charge to "develop an enhanced capacity to protect Cambodia's interests in surrounding marine areas"; pursuant to this objective, the Ministry of Defense will mainly contribute, on behalf of the competent civil Ministries, to the effective enforcement of regulations relating to activities in sea and inland waters under the national jurisdiction.
- (3) The Ministry of Agriculture, Forests and Fisheries shares the responsibilities with the Ministry of Transport as it concerns the control of fishing vessels. Registration and safety survey of these vessels are the responsibility of the Merchant Marine Department. Control of fishing activities is the sole responsibility of the Fishery Department which is responsible for the natural sea resource management and issuing fishing licenses.
- (4) The Ministry of Interior exercises a general security control on all transport activities. As such,

the agents of the Water Police will perform controls on board the sea and river vessels (registration document of ships and seamen books, checking the certificates, etc.) at any Cambodian port. As it concerns the sea vessels, it seems that such practice is not in compliance with the provisions of the Convention on the Facilitation of the International Maritime Traffic (FAL 65).

(5) Other Ministries - such as the Ministry of Foreign Affairs and International Cooperation (responsible for international convention ratifications) and the Ministry of Social Affairs (employees working conditions) - are also involved in maritime issues.

Generally speaking it appears that the communication and cooperation between these different Ministries on maritime issues has not yet been sufficiently developed.

#### **4.2.3 Maritime Legislation**

The hierarchy of legislation in Cambodia is as follows:

1. The constitution
2. Laws (CHBOPP) issued by the National assembly
3. Decrees / Sub – Decrees / Implementing regulations issued by the Council of Ministers
4. Implementing Legislation (PRAKAS) issued by the Ministries
5. Decree Laws, legal instruments issued prior to the 1992 Constitution

The maritime legislation system in Cambodia is in the middle of developing stage still now. But substantial progress has been achieved since the restart in 1999, mainly through the activities of MMD.

The draft maritime code is composed of the Public Laws and Private Laws and constituted by 523 articles. It seems that most of the fundamental items for the modern maritime basic law are stipulated, but the regulations for Ship Agents and Forwarders are not included in the Private Law Section. The article for Ship Agents and Forwarders should be added to the draft as they are fundamental stipulations in the world standard maritime code.

#### **4.2.4 Cambodian Maritime Code**

Cambodian Maritime Code is drafted as the basic law for all the maritime affairs, whereas the Maritime Code or the Merchant Shipping Acts of other countries are generally treated as one of the maritime laws collaterally bundled with other maritime laws such as the Ship Safety Law, the Prevention of Marine Pollution Law, and the Maritime Transport Law. The Code stipulates territorial seas, ship registration, marine safety/ship safety, collision prevention, ports, pilot, search and rescue, seafarers, prevention of marine pollution, marine accidents inquiry as the Public Law, and merchant shipping as the Private Law. The Public Law is constituted to make all the other maritime rules and regulations under the umbrella of the Code. The penalty articles are introduced to most of the regulations in the Public Law. As for the international cargo transport, Cambodia is going to employ the Hamburg Rule (“Maritime Cargo Transport Convention 1978, United Nation”) preserving the rights of shippers.

(1) Outline of the draft Maritime Code

1) Maritime areas

Draft articles employ all the regulations of UN Convention on the Law of the Sea (UNCLOS 1982), such as territorial sea, Contiguous zone, 200 mile exclusive economic zone and continental shelf.

2) Ship registration and certification

Requirements for ship registration and certification for ocean going vessels as well as small ships navigating coastal area and inland water way are stipulated.

Draft seems to declare the open registry system in Cambodia, stipulating the requirements of ship safety and prevention measures for marine pollution.

### 3) Ship safety and Marine Safety

Draft stipulates that the Cambodian Ship Safety Regulation based on the SOLAS Convention be made. The ship inspectors shall be appointed by Minister. The issue of safety certificates, obligation of ship inspectors, responsibilities of ship owners including observance of ISM Code is stipulated. The ground article for Port State Control and its penalty is stipulated.

Draft stipulates the ground of Load Line Regulation including penalty clause, the transport of bulk cargo and the transport of dangerous cargo based on IMO regulations, and the detention of sub standard vessels.

Draft stipulates marine security, including the death penalty for piracy. Observation of ISPS Code is also stipulated in this chapter.

### 4) Safety of navigation, Port, Inland waterway

Collision regulations, navigational aids, port safety and security, pilot, search and rescue, and wreck recovery are stipulated in this part. It is stipulated that the Port Authorities, which own and manage the ports, nominate the harbor masters, and make regulations for management and also for the safety of ports, be nominated by the government.

### 5) Masters, crew, passengers and stowaways

The right, duties, and licenses of seafarers based on the STCW Convention are stipulated.

### 6) Prevention of marine pollution

The ground articles for Prevention of Marine Pollution Regulation, responsibilities of related Ministries, and penalties for polluting the marine environment are stipulated.

### 7) Enforcement, investigations and legal proceedings

The nomination of ship inspectors, rights of ship inspectors, and investigations and legal proceedings for marine accidents are stipulated.

### 8) Ship owners, maritime liens and mortgages

The registration of ship owners, mortgages and liens for the ship owners are stipulated.

### 9) Liability of ship owners

The liability of ship owners for general accidents and marine pollution accidents is stipulated.

### 10) Contract of carriage of cargo by sea

The liabilities of carriers and shippers, the bill of lading, carriage of passengers by sea, time charter, and bare boat charter are stipulated. The Hamburg Rules (United Nations Convention on the Carriage of the goods by sea 1978) is employed to the international cargo transport, protecting the rights of shippers instead of carriers. (Unique in ASEAN)

### 11) Accidents

Collisions salvage, and procedures for claims and actions against accidents are stipulated.

### 12) Marine insurance

Contracts for marine insurance, obligations of the insured, and liability of the insurer are stipulated.

### 13) Procedure, time bars and conflict of laws

Establishment of Maritime Court, time bars (limitation period for claims), and Priority of

international treaties to the Private Law are stipulated.

14) Government owned vessels

Special regulations for the government owned vessels are stipulated.

(2) Major regulations required by the Code

The Maritime Code lodge power with the subordinate regulations to enforce the requirements of the Code itself. Those subordinate Regulations are entrusted to the government, Counsel of Ministers, and MPWT as the competent authority for the Code.

Those subordinate regulations are as follows; [(Major regulations are listed. Although the Code stipulate with the expression “The government may make regulations as for ---”, regulations seems to implement or enforce the contents of the Code are listed.)] MMD (MPWT) plays the key role to make the regulations.

1) Regulations applicable to the maritime areas of the Kingdom of Cambodia

2) Ship Registration Regulations

3) Regulation for registration of small sea-going ships operating along the coast or on inland waterways

4) Regulations for safety of ships and in order to comply with the SOLAS Convention and its related annexes, codes, instructions and other instruments

5) Load Lines Regulations

6) Bulk cargo regulations

7) Dangerous Goods regulations

8) Collision Regulations

9) Regulations in respect of navigational aids

10) Legal status, organization, direction, management, functioning and finances of the port authorities

11) Pilot Regulations

12) Regulations for establishment of search and rescue centers

13) Regulations for distress and accident response and maritime contingency planning

14) Regulations for the management of waterways and the powers of competent waterway authorities and their officers

15) Regulations for the establishment and operation of privately owned or managed port facilities

16) Regulations with respect to recruitment and placement of seafarers, and with respect to crew agreements

17) Safe Manning Regulations

18) Marine Environment Protection Regulations

19) Maritime Enforcement Regulations

20) Rules relating to inquiries and investigations

(3) Characteristics of Cambodian Maritime Code

1) Implementation of UNCLOS 1982

“Maritime areas of the Kingdom of Cambodia” are the complete implementation of UN Convention on the Law of the Sea (UNCLOS 1982). This is to show the role of the Code as the basic maritime law which put all the other maritime regulations under the umbrella of the Code.

2) Open Registry

Draft stipulates that Cambodia employs an open registry system for ship registration. (They will make another registration regulation for small ships of domestic voyage.)

Qualifications for owning Cambodian ships

Draft may make registration of ships owned by non-Cambodian individuals or corporations



dependent on the location of their principal place of business or at least affiliated offices within the Kingdom of Cambodia.

### 3) Hamburg Rules

The Hamburg Rules (United Nations Convention on the Carriage of the goods by sea 1978) is employed to the international cargo transport, protecting the rights of shippers instead of carriers. This is rather unique in ASEAN countries. Most ASEAN countries follow the world trend and employ Hague/Visby Rules.

### (4) Possible modification to the Code

We benchmarked the draft Maritime Code with the existing Vietnam Maritime Code (as the neighboring country) and the Merchant Shipping Act of Malta (as the leading country for international shipping activities), to determine if the draft included all modern shipping regulations. The following items may require further modifications;

1) Both the Vietnam Maritime Code and Merchant Shipping Act of Malta contain the priority article to the international convention. Cambodian draft also contains the priority article. The priority article is very effective when the International Convention contains detailed stipulations, but the national regulation does not implement the stipulations. It is also effective when the Convention is revised, but the national regulation has not yet been prepared.

2) Both the Vietnam Maritime Code and Merchant Shipping Act of Malta stipulate “Shipping Agency”, but the Cambodian draft does not. Modification for the draft is recommended.

### 3) Multimodal Transport

Vietnam Maritime Code regulates multimodal transport, stipulating liability and limitation of liabilities of forwarders (multimodal transport dealer) and consignee. Modifications for the stipulation may be considered to meet the requirements of modern transport.

### 4) New Conventions to be ratified and preferably added in the Code

The draft Maritime Code has already included the basic regulations for already ratified Conventions, but following new Conventions seems better to be added in the Code after new ratifications.

- United Nations Conventions on the Law of the Sea 1982 (UNCLOS 82) (ratification only)
- London Convention on the Prevention of Marine Pollution by Dumping of Wastes and other matters 1972
- International Convention on Limitation of Liability for Maritime Claims 1976 (LLMC 76)
- ILO Convention 147 “Merchant Shipping (minimum standards) Convention, 1976” :
- Convention on Facilitation of International Maritime Traffic 1965 (FAL 65)
- The ratifications should be arranged in line with the examination of the draft Code.

## **4.2.5 The Standard for ship safety, established regulations, and regulations under drafting**

### (1) Ministry Instruction No.006 on Administrative management and technical survey of Cambodian coastal ships

The regulation was established in 1999 as the registration and safety standard for Cambodian coastal ships. The standard is applied solely to Cambodian coastal ships, and does not cover ocean going vessels and inland water way ships. The standard was established by MPWT as a guideline to the inspection and registration of coastal ships. The Contents are introduced in “Section 4.4 Ship Inspection”.

Previously, Cambodia had an old ship registration system based on the French regime (“1954 Preah Reachkrom No. 901 NS and 902 NS”, “1969 Preah Reachkrom No. 403 BR”), but that has been abolished.

(2) Ministry Instruction No. 003 on “Circular on the Management Work of Water Transportation” This regulation was issued in 2000 for the registration and safety standard of inland water ships.

(3) Sub-Decree on Ship and Port Facility Securities (40SD/PK) The regulation was established in May 2006 to implement the ISPS Code. Cambodia already announced that it was implementing the ISPS Code as an instrument of accession.

(4) Environment Protection

For environment protection, a general legal framework exists. The main texts in force are:

- a) The law on Environmental Protection and Natural Resource Management, done on 24 December 1996
- b) The Sub-Decree of August 1999 on Environmental Impact Assessment process
- c) The Sub-Decree of April 1999 on Solid Waste Management
- d) The Sub-Decree of April 1999 on Water Pollution Control.

These text are of very general-effect. The Sub-Decree on Water pollution Control establishes quality standards for the whole "public water areas", as well as general conditions for effluent discharge permits (issued by the Ministry of Environment) and process for monitoring the water quality

(5) Regulations under drafting and future plan

MPWT (MMD) have finalized the “Notification on the Entry of Ship navigating internationally at the Ports of the Kingdom of Cambodia” and “Declaration on Port Facility of the Kingdom of Cambodia” as the operational regulations for ISPS Code. The drafts are now being circulated among relevant ministries and will come into effect soon.

MPWT (MMD) are now working on the drafting of “Sub-decree on The Establishment of a National Committee for Oil Spill Response” as well as preparation of “Establishment of National Oil Spill Contingency Committee” and “National Oil Spill Contingency Plan”, in order to accede OPRC Convention. “Sub-decree on the Establishment of PSC for the Kingdom of Cambodia” is now in draft to implement Port State Control in Cambodia.

Thus, the administrative works to catch up with world standards are in progress at a fast pace. The most important task at present is the completion of the “Cambodian Maritime Code” and the implementation of ratified Conventions such as SOLAS and MARPOL into the domestic regulatory system.

### 4.3 International Conventions

#### 4.3.1 Present State of International Conventions Ratification and Regional Cooperation

Cambodia has already ratified many international maritime conventions, but still has remaining fundamental international conventions to be ratified to catch up with world maritime standards.

##### (1) Already ratified Conventions

###### SOLAS related Conventions

- 1) International Convention on Tonnage Measurement of Ships 1969 (Tonnage 69)
- 2) International Convention on Load Lines 1966 (Load Lines 66)
- 3) Protocol of 1988 (Harmonisation 88) relating to the International Convention on Load Lines 1966 (Load Lines Protocol 88)
- 4) International Convention on Safety of Life at Sea 1974 (SOLAS 74)
- 5) Protocol of 1978 (TSPP 78) relating to the International Convention on Safety of Life at Sea 1974 (SOLAS Protocol 78)
- 6) Protocol of 1988 (Harmonisation 88) relating to the International Convention on Safety of Life at Sea 1974 (SOLAS Protocol 88)
- 7) Convention on the International Regulations for Preventing Collisions at Sea 1972 (COLREG 72)
- 8) International Convention relating to the Carriage of Passengers and their Luggage on board Ships 1974 (PAL 74)

###### MARPOL related Conventions

- 9) International Convention for the Prevention of Pollution from Ships 1973/78 (MARPOL 73/78)
- 10) International Convention relating to Intervention on the High Seas in cases of Oil Pollution Casualties 1969 (Intervention 69)

The Convention affirms the right of a coastal State to take such measures on the high seas as maybe necessary to prevent, mitigate or eliminate danger to its coastline or related interests from pollution by oil or the threat thereof, following upon a maritime casualty.

The Protocol extended the regime of the 1969 Intervention Convention to substances which are either listed in the Annex to the Protocol or which have characteristics substantially similar to those substances.

- 11) International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) 1990

IMO summarizes the Convention as follows;

Ships are required to report incidents of pollution to coastal authorities and the convention details the actions that are then to be taken. The convention calls for the establishment of stockpiles of oil spill combating equipment, the holding of oil spill combating exercises and the development of detailed plans for dealing with pollution incidents. Parties to the convention are required to provide assistance to others in the event of a pollution emergency and provision is made for the reimbursement of any assistance provided. The Convention provides for IMO to play an important coordinating role. The Protocol on Preparedness, Response and Co-operation to pollution Incidents by Hazardous and Noxious Substances, 2000 (HNS Protocol) follows the principles of the International Convention on Oil Pollution Preparedness,

- 12) International Convention on Civil Liability for Oil Pollution Damage 1969 (CLC 69) - 19 June 1975; Protocol relating to International Convention on Civil Liability for Oil Pollution Damage

1992 (CLC (Protocol) 92), 2000 Amendments

IMO summarizes the Convention as follows;

The 1992 Protocol allows for States Party to issue certificates to ships registered in States which are not Party to the 1992 Protocol, so that a ship owner can obtain certificates to both the 1969 and 1992 CLC, even when the ship is registered in a country which has not yet ratified the 1992 Protocol. This is important because a ship which has only a 1969 CLC may find it difficult to trade to a country which has ratified the 1992 Protocol, since it establishes higher limits of liability.

The 2000 amendments raised the compensation limits by 50 percent compared to the limits set in the 1992 Protocol, as follows:

For a ship not exceeding 5,000 gross tonnage, liability is limited to 4.51 million SDR (US\$5.78 million)

For a ship 5,000 to 140,000 gross tonnage: liability is limited to 4.51 million SDR (US\$5.78 million) plus 631 SDR (US\$807) for each additional gross tonne over 5,000

For a ship over 140,000 gross tonnage: liability is limited to 89.77 million SDR (US\$115 million)

13) International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971 (Fund 71)

The total amount of compensation payable for any one incident will be limited to a combined total of 750 million Special Drawing Rights (SDR) (just over US\$1,000 million) including the amount of compensation paid under the existing CLC/Fund Convention.

Application of Protocol: The supplementary fund will apply to damage in the territory, including the territorial sea, of a Contracting State and in the exclusive economic zone of a Contracting State.

Contributions to the supplementary fund: Annual contributions to the Fund will be made in respect of each Contracting State by any person who, in any calendar year, has received total quantities of oil exceeding 150,000 tons. However, for the purposes of the Protocol, there is a minimum aggregate receipt of 1,000,000 tons of contributing oil in each Contracting State.

Assessment of annual contributions: The Assembly of the Supplementary Fund will assess the level of contributions based on estimates of expenditure (including administrative costs and payments to be made under the Fund as a result of claims) and income (including surplus funds from previous years, annual contributions and any other income).

14) Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and their Disposal (Basel Convention)

15) International Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation 1988 (SUA Protocol 88)

The main purpose of the convention is to ensure that appropriate action is taken against persons committing unlawful acts against ships.

These include

- the seizure of ships by force;
- acts of violence against persons on board ships; and
- the placing of devices on board a ship which are likely to destroy or damage it.

The convention obliges Contracting Governments either to extradite or prosecute alleged offenders. The Protocol extends the requirements of the Convention to fixed platforms such as those engaged in the exploitation of offshore oil and gas.

STCW related Convention

16) International Convention on Standards of Training, Certification and Watch keeping for Seafarers 1978 (STCW 78)

(2) Not Ratified Conventions

Thus Cambodia has already ratified major Conventions related to SOLAS and MARPOL. Following Conventions are considered to be important but which Cambodia has yet not ratified.

1) United Nations Conventions on the Law of the Sea 1982 (UNCLOS 82)

Effective on Nov 1994

Cambodia signed the Convention at the adoption conference, and introduced the basic concepts into the draft Maritime Code, but still needs to follow the official procedure for declaration of implementation.

2) London Convention on the Prevention of Marine Pollution by Dumping of Wastes and other matters 1972 (LC 72)

Entry into force on August 1975 (LC Protocol 96; on March 2006);

IMO summarizes the Convention as follows;

The Convention has a global character, and contributes to the international control and prevention of marine pollution. It prohibits the dumping of certain hazardous materials, requires a prior special permit for the dumping of a number of other identified materials and a prior general permit for other wastes or matter. "Dumping" has been defined as the deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures, as well as the deliberate disposal of these vessels or platforms themselves. Wastes derived from the exploration and exploitation of sea-bed mineral resources are, however, excluded from the definition. The provision of the Convention shall also not apply when it is necessary to secure the safety of human life or of vessels in cases of force majeure. Among other requirements, Contracting Parties undertake to designate an authority to deal with permits, keep records, and monitor the condition of the sea. Other articles are designed to promote regional co-operation, particularly in the fields of monitoring and scientific research.

3) Protocol of 1997 (Prevention of Air Pollution from Ships) relating to the International Convention for the Prevention of Pollution from Ships 1973/78 (Annex VI) (MARPOL Protocol 97)

Entry into force on May 2005

4) International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS)

OPRC HNS Protocol 1996 (not yet in force); not yet ratified

OPRC HNS Protocol 2000 (not yet in force); not yet ratified

The Protocol follows the principles of the International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 (OPRC) and was formally adopted by States already Party to the OPRC Convention at a Diplomatic Conference held at IMO headquarters in London in March 2000.

Like the OPRC Convention, the HNS Protocol aims to provide a global framework for international co-operation in combating major incidents or threats of marine pollution. Parties to the HNS Protocol will be required to establish measures for dealing with pollution incidents, either nationally or in co-operation with other countries. Ships will be required to carry a shipboard pollution emergency plan to deal specifically with incidents involving HNS.

SAR related Conventions

5) International Convention on Maritime Search and Rescue 1979 (SAR79)

Entry into force on June 1985, 1998 Amendment (SAR98) on Jan 2000

IMO explains the Amendment (SAR98) as follows;

The 1979 SAR Convention imposed considerable obligations on Parties - such as setting up the shore installations required - and as a result the Convention was not being ratified by as many countries as some other treaties. Equally important, many of the world's coastal States had not accepted the Convention and the obligations it imposed. It was generally agreed that one reason for the small number of acceptances and the slow pace of implementation was due to problems with the SAR Convention itself and that these could best be overcome by amending the Convention.

The 1998 Amendment (SAR98) clarifies the responsibilities of Governments and puts greater emphasis on the regional approach and co-ordination between maritime and aeronautical SAR operations.

The revised Annex includes following key factors:

Chapter 2 - Organization and Co-ordination;

The Chapter has been re-drafted to make the responsibilities of Governments clearer. It requires Parties, either individually or in co-operation with other States, to establish basic elements of a search and rescue service, to include:

1. Legal framework;
2. Assignment of a responsible authority;
3. Organization of available resources;
4. Communication facilities;
5. Coordination and operational functions; and
6. Processes to improve the service including planning, domestic and international co-operative relationships and training.

Parties should establish search and rescue regions within each sea area - with the agreement of the Parties concerned. Parties then accept responsibility for providing search and rescue services for a specified area. The Chapter also describes how SAR services should be arranged and national capabilities be developed. Parties are required to establish rescue co-ordination centers and to operate them on a 24-hour basis with trained staff that has a working knowledge of English. Parties are also required to "ensure the closest practicable co-ordination between maritime and aeronautical services".

Chapter 3 - Co-operation between States;

Requires Parties to co-ordinate search and rescue organizations, and, where necessary, search and rescue operations with those of neighboring States. The Chapter states that unless otherwise agreed between the States concerned, a Party should authorize, subject to applicable national laws, rules and regulations, immediate entry into or over its territorial sea or territory for rescue units of other Parties solely for the purpose of search and rescue.

Chapter 4 - Operating Procedures;

The Chapter says that each RCC (Rescue Co-ordination Centre) and RSC (Rescue Sub-Centre) should have up-to-date information on search and rescue facilities and communications in the area and should have detailed plans for conduct of search and rescue operations. Parties - individually or in co-operation with others should be capable of receiving distress alerts on a 24-hour basis. The regulations include procedures to be followed during an emergency and state that search and rescue activities should be coordinated on scene for the most effective results. The Chapter says that "Search and rescue operations shall continue, when practicable, until all reasonable hope of rescuing survivors has passed".

Chapter 5 - Ship reporting systems;

The Chapter includes recommendations on establishing ship reporting systems for search and rescue purposes, noting that existing ship reporting systems could provide adequate information for search and rescue purposes in a given area.

#### STCW related Conventions

6) International Convention on Standards of Training, Certification and Watch keeping for Seafarers 1995 (STCW 95)

Entry into force on February 2002

#### Other important Conventions

7) Convention on Facilitation of International Maritime Traffic 1965 (FAL 65)

Entry into force on March 1967

The 2005 amendments: Entry into force on November 2006;

IMO explains that the main objectives are to prevent unnecessary delays in maritime traffic, to aid co-operation between Governments, and to secure the highest practicable degree of uniformity in formalities and other procedures.

The amendments are intended to modernize the Convention in order to enhance the facilitation of international maritime traffic.

The amendments include the following:

- A Recommended Practice for public authorities to develop the necessary procedures in order to use pre-arrival and pre-departure information to facilitate the processing of information, and thus expedite release and clearance of cargo and persons;
- A Recommended Practice that all information should be submitted to a single point to avoid duplication;
- Encouragement of electronic transmission of information; and
- The addition of references to the International Ship and Port Facility Security (ISPS) Code and SOLAS chapter XI-2 in the Standards and Recommended Practices which mention security measures; and
- Amendments to the IMO Standardized FAL Forms (1 to 7).

8) International Convention for Safe Containers 1972 (CSC 72)

Entry into force on September 1977

9) International Convention on Limitation of Liability for Maritime Claims 1976 (LLMC 76)

Entry into force on December 1986 ,Protocol of 1996 Entry into force on May 2004;

Under the Protocol the amount of compensation payable in the event of an incident being substantially increased.

Under the 1996 LLMC Protocol, the limit of liability for claims for loss of life or personal injury for ships not exceeding 2,000 gross tonnage is 2 million SDR (US\$3 million). For larger ships, the following additional amounts are used in calculating the limitation amount:

- For each ton from 2,001 to 30,000 tons, 800 SDR (US\$1200)
- For each ton from 30,001 to 70,000 tons, 600 SDR (US\$900)
- For each ton in excess of 70,000, 400 SDR (US\$600).

The limit of liability for property claims for ships not exceeding 2,000 gross tonnage is 1 million SDR (US\$1.5 million). For larger ships, the following additional amounts are used in calculating the limitation amount:

- For each ton from 2,001 to 30,000 tons, 400 SDR (US\$600)
- For each ton from 30,001 to 70,000 tons, 300 SDR (US\$450)
- For each ton in excess of 70,000, 200 SDR (US\$300)

#### ILO Conventions

10) Convention Concerning Minimum Standards in Merchant Ships 1976 (ILO Convention No. 147) ratified by 55 countries by June 2006

IMO explains that the implicit in this Convention is the desire to bring about international compliance with its general scope and intent through the impetus of Port State Control. Recent international developments indicate this desire is being realized. The PSC Committee adopted amendments to the Paris MOU, effective on February 1992, which made the substantive provisions of ILO Convention No. 147 applicable to Paris MOU members. The Asia-Pacific Agreement on PSC (Tokyo MOU), on December 1993, included the Convention as one of its relevant instruments. The Convention may also be used to detain vessels of non-party states as long as the deficiencies are serious enough to pose a threat to navigation, vessel safety, and the environment. Vessels registered to non-party states may be the subject of port state control, but not by the standards of the Convention. The general goals of ILO 147 may be used as a reference to measure the threat to the port.

### (3) Regional Cooperation (Measures to ASEAN )

Cambodia became a full member of ASEAN in 1999. After joining to the AFTA in 1999 and to WTO on September 2003, Cambodia has been promoting maritime industries through activities in the international free trade regime. In this regard, it is important to secure its position in ASEAN. Cambodia hosted the 10<sup>th</sup> ASEAN Transport Ministers Meeting (2004, Phnom Penh). An important Action Plan for ASEAN transport sector was adopted at the meeting. Cambodia is now making its best effort to carry out the Action Plan.

### ASEAN TRANSPORT SECTORAL ACTION PLAN 2005-2010

#### 1) Goals

- Creating a more efficient and competitive regional maritime transport sector
- Achieving globally-acceptable standards in maritime safety and security and protection of marine environment

#### 2) Strategic Thrusts

- Formulating and implementing a common regional shipping policy
- Improving maritime safety and security and protection of the marine environment by enhancing cooperation amongst ASEAN Member Countries to facilitate the acceptance and implementation of IMO conventions

#### 3) Actions

- a) Identify and designate the important maritime trade corridors/seaways for regional seaborne trade that are vital for the success of ASEAN Economic Community (AEC)
- b) Promote effective and competitive intra-ASEAN shipping in those trade corridors / seaways through;
  - Rationalization / synchronization of shipping services;
  - Expanded shipping services linking the 47 designated regional ports and secondary ports; and
  - Greater cooperation within ASEAN sub-regions, through improved sea linkages and in near-coastal shipping, including the implementation of the relevant recommendations of the ASEAN Maritime Transport Development Study
- c) Achieve significant liberalization of intra-ASEAN maritime transport services
- d) Support and promote the development of ASEAN-based shipping fleet for intra-ASEAN and international trade
- e) Further study on expanding the agreement on common ASEAN near coastal voyage limits
- f) Conduct studies on introduction of high-speed cargo and passenger vessels and intra-regional feeder services servicing the regional gateway and secondary ports
- g) Enhance the activities of the ASEAN Forum on IMO Conventions to facilitate the accession and implementation of relevant IMO conventions by ASEAN Member Countries
- h) Strengthen the institutional capacity, human resource base and cooperation linkages of ASEAN Member Countries for achieving improved maritime safety, security and preventing marine



pollution (e.g., ISPS Code, STCW trainers' training, etc)

i) Pursue the "ASEAN Clean Seas Strategy"

j) Intensify maritime transport security through capacity building and IT-based programs

k) Pursue the Handling of Dangerous Goods in ASEAN Ports' Project and other APA-initiated mutually beneficial projects

l) Enhance regional capacity for maritime search and rescue (SAR) operations

m) Strengthen maritime transport human resource capacity

n) Regular exchange of information and best practices in maritime transport policy and development programs

### **4.3.2 STCW Convention**

The Cambodian government has decided to ratify the International Convention on Standards of Training Certification and Watchkeeping for Seafarers revised in 1995 (STCW95) in June 2001, and put it in force in September 2001; therefore the Cambodian government is requested to fulfill the conditions stipulated by the Convention, such as “the minimum requirement to issue the certificate” and “the minimum requirement for qualification and competency”. This task is the responsibility of the Merchant Marine Department, the Ministry of Public Works and Transport (MMD, MPWT) as the competent authority of maritime affairs.

However, there has been a delay in taking the necessary measures to meet such conditions. This situation was inspected by the IMO mission team in June 2001 and reported by “Needs Assessment on Maritime Legislation and Administration of Cambodia”. According to this report, appropriate measures to be taken were pointed out and the following subjects were highlighted as the first priority:

- 1) The ships registration
- 2) The relationship between the Maritime Administration and the Classification Societies
- 3) The process of survey of the national ships
- 4) The seafarers certification conditions and system
- 5) The Search and Rescue (SAR) organization
- 6) The marine environment protection
- 7) The labor conditions of the seamen

In order to respond to such matters with high priority, measures to improve the legal and regulatory framework relating to maritime transport have been taken. “Cambodian Maritime Code” was drafted with the assistance of a Belgian maritime lawyer and is under reviews.

The subjects above will be enshrined into law; then other subjects related to the classification society, certificate of competency for seafarer, labors conditions at sea, and so on, will be regulated by sub-decree. Subjects related to educational institutes, examination system, control of certification of competency and quality assurance have been instructed both by IMO consultants and the Project Leader of the Maritime Training Center Project assisted by EU and Belgian government. The provision in MET and its administration had not been adequately secured in Cambodia; however “White List” of STCW Convention has included Cambodia as one of the approved parties owing to the shortage of time to assess the implementation in 2001. However, it is strongly expected that the party should submit the report, which states the existing situation on all matters relating to the certification system of seafarers correctly for the reexamination in 2010. (IMO: Maritime Safety Committee: Circular on 11<sup>th</sup> November, 2006)

### **4.3.3 Marine Pollution Prevention**

Cambodia has already ratified the major MARPOL related Conventions such as MARPOL 73/78 and OPRC Conventions, and now is going to organize various domestic implementation scheme such as the National Oil Spill Contingency Plan (NOSCP) and the National Oil Spill Response Center (NOSRC). They are going to employ the National Committee and Focal Point System for organizing national implementation agencies. This system is also employed in many ASEAN countries. Cambodia is preparing the pollution prevention scheme in cooperation with Vietnam and Thailand.

#### **(1) Joint Statement of Cambodia, Thailand and Vietnam on Partnerships in Oil Spill Preparedness and Response in the Gulf of Thailand**

Facing the Gulf of Thailand, which is a semi-closed area, regional cooperation plays a vital role in preventing marine pollution. In this respect, Cambodia made an agreement with Thailand and Vietnam to protect the coastal and marine environment of the Gulf of Thailand in the form of “Joint Statement of Cambodia, Thailand and Vietnam on Partnerships in Oil Spill Preparedness and Response in the Gulf of Thailand” on January 2006. The Joint Statement contains a tripartite intergovernmental agreement on combating oil spills, and endorses a Framework Program for Joint Oil Spill Preparedness and Response in the Gulf of Thailand. The mission of the partnership is to enhance national and regional capabilities concerning oil pollution prevention, preparedness and response through a Gulf-wide exchange of information, joint research and development projects, training, oil spill response exercises, and mutual assistance in response, collaborative arrangements, partnership building and implementation.

##### **1) Abstract of the Frame Work Program**

The participating countries shall develop and strengthen integrated environment and resource management systems, training of personnel, research and development, environmental monitoring and risk assessment and other capacity building activities in order to prevent and minimize the incidence of oil spills and their adverse impacts.

##### **2) Objective Area and Responsibility**

In the event of a major oil spill threatening the Gulf of Thailand (the Sub region), the participating country in whose zone of responsibility the spill occurs should assume the lead role, and be initially responsible for all the actions taken related to both tracking the spill and any other necessary response.

In the event that an oil spill occurs in the jurisdictional waters of one participating country and drifts toward the jurisdictional waters of any of the other participating countries, the Participating Country where the spill occurs shall report the said incident, using the Pollution Report Format, promptly to the National Oil Spill Response Center (NOSRC) of other Participating Countries possibly being affected by the incident.

In the event of a response from a Participating Country, at the request of the affected country, the Responding Country shall only act with the mutual consent of both or all parties.

Each participating country shall maintain individual records of action taken, equipment and other resources used to respond to the incident. These records will be utilized for cost accounting purposes, reimbursements and in subsequent analysis of actions taken during the spill incident.

### 3) National Oil Spill Response Center (NOSRC)

All participating countries shall designate a National Oil Spill Response Center (NOSRC) or an assigned Oil Spill Response Center. The designated NOSRC of each Participating Country shall be the designated national oil spill preparedness and response organization as specified in the adopted national contingency plan. NOSRC of each country is General Transport Department, Ministry of Public Works and Transport, Cambodia, Marine Department, Ministry of Transport, Thailand and National Search and Rescue Committee, Vietnam.

At the activation of a participating country's national oil spill contingency plan, that participating country should nominate a National On-Scene Coordinator (NOSC) who will exercise operational control over the response activities of that country, including control of personnel, equipment, vessels and aircrafts.

### 4) National Contact Point (NCP).

Each Participating Country shall designate a National Contact Point (NCP). The NCP shall be the agency and its designated officers responsible for coordinating the flow of information for all activities in the event of a major oil spill occurring when:

- The spill threatens the jurisdictional waters of other Participating Countries;
- An affected Participating Country requests assistance from other Participating Countries; and
- A request for assistance is made by any of the Participating Countries.

### 5) Information and Report

A Participating Country in whose zone a spill or a serious spill threat occurs shall immediately inform any of the other Participating Countries if a spill threatens the jurisdictional waters and coastlines of other Participating Countries giving as much detail as possible of the incident using the standard Pollution Report (POLREP) format. The Participating Country receiving the message shall acknowledge such receipt at the first instance.

The pollution report given to the Participating Country shall be updated at least every 24 hours giving also the results of observation and prediction of the spill movement. The flow of such information shall continue until the spill no longer threatens the Participating Country concerned.

### 6) Joint Exercise and Information System

In order to facilitate an effective prevention and response operation, Participating Countries shall jointly develop and implement an information sharing system:

- a) The designated National Contact Point and National Oil Spill Response Center (NOSRC);
- b) Sensitive Resource Index;
- c) Response strategy for different types of resources and habitats;
- d) Likely sources of oil spills and vulnerable resources;
- e) Inventory of pollution response equipment and materials;
- f) Directories of local experts, trained personnel and strike teams
- g) Rules concerning the use of dispersants;
- h) Maps showing the main environmentally sensitive areas
- i) Logistics support available within the participating country.

Joint oil spill response exercises involving two or three Participating Countries should be conducted every two years on a specified date agreed by the Participating Countries. Each Participating Country on a rotational basis should host the joint exercises.

#### 7) Lend Out of Equipment

In the event of an oil spill incident, the affected participating country may seek assistance from other Participating Countries, the private sector or industry. Assistance includes information on response strategies and other relevant information and the engagement of specialist personnel, equipment, material and consumable items, vessels, aircrafts and other vehicles.

The requesting Participating Country shall be fully responsible for the use and maintenance of the equipment and materials belonging to any of the other participating countries, the private sector or industry providing these equipment and materials, while in its custody.

Rental charges for the use of vessels, vehicles and aircraft shall be reimbursed based on mutually agreed rates between the Participating Countries. The Requesting Participating Country shall reimburse the responding Participating Country for all labor costs incurred from the time any employee is released to the Requesting Party until his direct return to the Participating Party. Costing shall follow the provisions mutually agreed or set forth in the Local/Domestic Laws of the Requesting Participating Country.

#### 8) Convenience

The requesting Participating Country shall facilitate entry and exit of personnel, crafts and equipment, and expedite all diplomatic, customs and immigration formalities. Details of incoming personnel, crafts and equipment such as number, identification, country of origin, proposed routes shall be communicated through the NOSRC.

The requesting Participating Country shall provide such personnel, amenities and facilities that may be required to sustain a prolonged operation.

The NCP of the requesting participating country shall coordinate with the NCP of the responding country regarding movements of personnel, equipment and vessels of the responding country and they shall abide by reasonable instructions mutually agreed upon by both or all of the Participating Countries.

The requesting participating country shall undertake measures to ensure the safety of personnel and provide for the necessary medical treatment for the injured or sick personnel in the event that any personnel is injured or become ill as a result of an oil spill response.

#### 9) Monitoring

Participating Countries should jointly identify environmental monitoring, data and risk assessment requirements and should jointly develop an information resource and a common oil spill trajectory model for the Gulf of Thailand in order to aid cooperation in oil spill response.

#### 10) Meeting

Each Participating Country on a rotational basis should host the annual session of the NCPs Meeting. The NOSRC of the host country for the annual session of the NCPs Meeting should serve the function of the Secretariat for the NCP Meeting. It shall continue its role of the secretariat, during the intercessional period, to follow up with the implementation of the decisions made by the session of the NPC Meeting, in consultation with the Participating Countries. The Participating Countries may invite participants to the annual meeting representing the other stakeholders including the Nongovernmental Organizations (NGOs), private sector, industry, media and civil society.

### (2) National system for Oil Spill Prevention in Thailand and Vietnam

#### 1) Thailand

The Prime Ministers Order in 1995 "National Oil Spill Response Plan" is the basis of the country's

oil spill response regime. The role of major responsible agencies is:

- .Marine Department (MOT) : Role of Coordinating Center
- .Marine Department of Navy: Role of Command Center
- .Provincial Administration, Bangkok Metropolitan Administration, Oil Industry Environmental Safety Group Association. : Role of Operation Unit

). Twenty Other agencies such as Air Force, Army, and Marine Police play the role of Support Unit

Each responsible agency is facilitated with individual facilities and apparatus. In the case of Marine Department (MOT), facilitation has progressed with the cooperation scheme of Japan (OSPER Project). The national oil spill response regime is mainly organized by the Marine Department of MOT and Navy. A special coordinating committee is established between the two agencies.

## 2) Vietnam

Ministry of National Environment (reorganized from the Ministry of Science & Technology) is the national responsible authority controlling all the implementing agencies in the country.

The main executing agency for marine pollution prevention is the Vietnam Maritime Administration (VINAMARINE). MARPOL Inspection is implemented by the Register of Ship and Seafarers Dept and Marine Inspection Dept. Reception Facilities, Oil Pollution Prevention Equipments are implemented by Port Authorities, Oil Companies. Vessel administration is implemented by Maritime Search and Rescue Coordination Center. (RCC: Hanoi, Sub-Centers: Hai Phong, Da Nang, Vung Tau, SAR vessels: 41m \* 3 vessels, 27m\* 4 vessels, High Speed Boats)

## (3) National system for Oil Spill Prevention in Cambodia

MPWT is working on the establishment of National Oil Spill Contingency Plan (NOSCP) and National Oil Spill Response Center (NOSRC) coordinating with other responsible Ministries and Agencies. The outline of the plan is as follows.

1) To establish the National Committee for overall control of national oil spill prevention system in Cambodia, arranging National Oil Spill Contingency Plan (NOSCP) and National Oil Spill Response Center (NOSRC). The MPWT minister chairs the Committee.

Main members of the Committee: Ministry of Public Works and Transport, Ministry of Environment, Ministry of Interior, Ministry of Defense, and Ministry of Finance and Economy.

2) To establish National Oil Spill Response Center (NOSRC) in MPWT employing MMD as the National Focal Point (National Coordinator)

3) To establish National Oil Spill Accident Onsite Team under the National Oil Spill Response Center (NOSRC)

## 4) Facilities and Equipment for the National Oil Spill Response Center (NOSRC)

MPWT has no facilities and equipment at all for oil spill response measures. The NOSRC employs the Navy (SAR Team) and Marine Police for the practical operations for the oil spill recovery. The Navy and Marine Police have no dedicated oil spill recovery vessels, and they are obliged to use ordinary patrol vessels for operations. They are also obliged to utilize the oil spill combating apparatuses owned by individual port or probate oil companies.

The oil spill combating apparatuses owned by private oil company are enlisted on the tripartite intergovernmental agreement in combating oil spills. Compared with Thailand and Vietnam, Cambodia has few apparatuses, and no anti-pollution vessels are enlisted in the agreement.

**Table 4.3.1 Oil spill combating apparatuses and vessels listed on the three nation's agreement**

Oil Spill Equipment	Thailand	Vietnam	Cambodia
Oil Contaminant Boom	29,300m	1,600m	637m
Dispersant	na	na	27drams
Oil Dispersant Sprayer	na	na	2unit
Skimmer	12units	na	1unit
Storage Tank	38sets	na	No
Anti - Pollution Vessel	41m * 1 31m * 1 15m * 1	80m * 1 60~80m * 11 40~60m * 8	No
Work Boat	2 units	23units	No

#### 4.3.4 SAR Convention

##### (1) Present state of SAR Regime in ASEAN Area

The SAR Convention was revised in 1998 to make it easier for developing countries to ratify by adopting a regional cooperation scheme. The requirements for facilitations especially for GMDSS are eased for individual countries provided that the total capabilities for SAR management were satisfied in the region.

##### (Present state of SAR Regime in ASEAN Area)

As for the SAR Regime in ASEAN area, regional ratification of SAR convention has been discussed in ASEAN Regional Forum. But, the regional ratification has been stagnated because of unclear backgrounds such as territorial borders. The condition that only Singapore ratified continued for a long time. Recently on March 2007, Vietnam ratified the Convention independently, satisfying all the requirements conditions.

SAR agreements have been concluded between the SAR authorities of Brunei, Indonesia, Philippines, Singapore and Thailand. These agreements provide for mutual assistance in the conduct of the SAR operations within each other's Search and Rescue Regions and approval for entry of SAR aircraft, vessels and personnel of one state into the SRR of the other state, with prior permission, for the purpose of conducting SAR operations or rendering SAR assistance and for direct communications between the SAR authorities or agencies on all common SAR matters.

As for the Gulf of Thailand Sub-region, all the surrounding countries except Cambodia are prepared to ratify the Convention. The preparation for the regional ratification in the Gulf of Thailand would be completed, if Cambodia were prepared for the regional ratification.

##### (SAR Regime in Thailand)

The SAR regime in Thailand, as well as Prevention of Marine Pollution Regime, is under the Responsibility of National SAR Committee, which was created by Prime Minister's order. The Civil aviation department controls over one Regional Coordination Center in Bangkok and 5 Local user units along the Gulf of Thailand and 3 Local user units along the Andaman Sea. Fitted with GMDSS and Satellite communication systems, Thailand has already prepared for SAR convention implementation. The Marine Department plays the role of Focal Point for international cooperation as well as responsible domestic implementation bodies. The Marine Department also plays the role of secretary to the National SAR Committee.

Major members of the National SAR Committee are Marine Department (MOT) (Focal Point,) Civil Aviation Department (MOT) (Regional Coordination Center,) Naval Operation Center of Navy and Marine Police.

(SAR Regime in Vietnam)

As recently as March 2007, Vietnam ratified the SAR Convention. It took around five years to prepare for domestic SAR regime, after the domestic SAR facilitations had been finalized in 2002 utilizing Japanese international cooperation scheme (JBIC, 32 million US\$ )

VINASARCOM (Vietnam National Committee on Search and Rescue), established by Prime Minister's order, is the responsible authority for all the maritime SAR activities in Vietnam. VINASARCOM controls over most of the domestic SAR implementing agencies such as Marine Police, Ministry of Transport (VINAMARINE, Civil Aviation Dept. Maritime Search and Rescue Center), Ministry of Fishery, National Petroleum Company, except the National Defense Force (Army, Navy, Air Force).

Marine Police of Vietnam is under the control of Ministry of Defense, a separate and independent organization from the National Defense Force. There exists no single body which can be called as the Coast Guard in Vietnam. In Vietnam, the Coast guard regime is composed of the Navy and Air Force (for guarding 200mile Economic Zone), Marine Police ( corresponding to roughly 12 mile zone ) , Custom & Immigration Office (corresponding to the border areas).

The major implementation bodies for SAR activities are the Marine Police and the VINAMARINE (Vietnam Maritime Administrations,) under the umbrella of Ministry of Transport, plays the major role for maritime administration including Port Security, Ship Safety, and SAR.

The SAR related Agencies in VINAMARINE are Vietnam Maritime Search and Rescue Coordination Center (Focal Point, Regional Coordination Center,) Vietnam Maritime Communication and Electronics Company (Shore based GMDSS Facilities, Local User Units, and Land Earth Stations,) and Vietnam Maritime Safety Agency (Lighthouses, Aids to Navigation.)

(SAR Regime in Malaysia)

The Marine Department in Ministry of Transport is the responsible authority for all the maritime SAR activities in Malaysia.

Responsibility of Marine Department for SAR

- a) Overall co-ordination of Maritime SAR organizations
- b) Co-ordination with other Malaysia SAR organization and authorities
- c) Liaison with international SAR organizations
- d) Establishment of standards for facilities, equipment, staffing, training operation and procedures
- e) Financial arrangements, budget estimate, procurement and disposition of stores and equipment

The Marine Department operates the two Regional Coordination Centers in PORT KLANG and LABUAN, and five Sub- Regional Coordination Centers, completing communications among international and domestic SAR agencies.

Following domestic organizations implement SAR operations under the control of Marine Department.

a) Vessels (Marine Department, Royal Malaysia Navy, Royal Malaysia Police, Port Authorities, Royal Custom and Excise, Fishery Department, Merchant Ships, Fishing Vessels)

b) Aircraft (Royal Malaysia Air Force, Royal Malaysia Police, Royal Malaysia Navy, Department of Civil Aviation)

(2) Present condition of maritime safety in Cambodia

The maritime safety system in Cambodia is not readily arranged yet, and each related agency such as Navy – Defense Ministry, MPWT, and Marine Police are taking individual measures respectively. The role of regional coordination center is played by both Navy and Air Force. In the case of maritime search and rescue, the Navy SAR team represents the nation in ASEAN. The related



agencies are now cooperating to harmonize the situation through the drafting of National Contingency Plan for maritime safety; so that single National Committee or Agency could be organized and MPWT could play the role of the Focal Agency to the regional cooperation. (In the case of marine pollution prevention, the National Contingency Plan with MPWT playing the role of Focal Agency has already drafted and waiting the deliberation in the National Assembly.)

#### 1) Organization of Defense Ministry SAR team

There are three SAR teams (Army, Navy, and Air Force) under the command of Defense Ministry. SAR Teams in Navy and Army are organically integrated, and cooperating each other mainly in time of flood rescue. Number of servicemen in Navy SAR are 500 persons, among them 239 servicemen are for Maritime SAR.

#### 2) Fleet Formation

40mType Patrol Ship \* 2 ships ( L:39.5m \* B:7.5m, Speed : 18kt )

20mType High Speed Patrol Boat \* 3 ships ( L:20m, Speed : 30kt )

Those vessels station in Siem island Navy Base near Sihanoukville, engaging on coastal patrol.

15mType High Speed Boat \* 20 boats ( Speed: 20kt )

Most of them belong to Navy Headquarter in Phnom Penh, engaging on river patrol

#### 3) Communication Facilities

Communication facilities for SAR are composed of VHF band equipment. They don't have Satellite facilities. Such as the Global Maritime Distress Satellite System (GMDSS)

#### 4) International Cooperation

ASEAN has a SAR Regional Cooperation Program, and they meet together once in two years.

A Flood Rescue Joint Training was held in 29 September 2006 hosted by Cambodia.

Participating Countries:

Philippine, Brunei, Malaysia, Thailand, Indonesia, Singapore

Each one unit from Navy and Army (1,469 servicemen) participated to the flood rescue training in Mekong Delta. 181 trucks and high speed boats are employed.

Cambodia and Vietnam have had historical waters under joint management since 1982. They have joint patrol system in the area. There exist no joint patrol system between Cambodia and Thailand.

#### (Maritime Security and Coastal State Control)

MPWT (MMD) considers that combination of "Coastal State Control" in domestic system and "ASEAN Action Plan" in regional system is an important strategy to keep maritime security and maritime safety in Cambodia. It is crucial, to establish a Regional Coordination Center corresponding to the GMDSS in this regards.

As shown in 4.2, MPWT has an office called "Coastal State Control" to control over ship navigation in Cambodian coastal waters, as well as to conduct SAR and maritime accidents investigation. The idea of "Coastal State Control" is a broad concept including Flag State / Port State Control and Maritime Security.

As shown in 4.3, ASEAN has a program called "ASEAN TRANSPORT SECTORAL ACTION PLAN 2005-2010", in which the key strategy is "Improving maritime safety and security and protection of the marine environment by enhancing cooperation amongst ASEAN Member Countries to facilitate the acceptance and implementation of IMO conventions". Corresponding actions are "strengthening the institutional capacity, human resource base and cooperation linkages of ASEAN Member Countries for achieving improved maritime safety, security and preventing marine pollution " and "enhancing regional capacity for maritime search and rescue (SAR) operations". The strategy and action plan is in line with the subjects of ASEAN Regional Forum.

Cambodia already has a strategy to enhance its maritime safety and security through regional cooperation. Cambodia became one of the first members to the “Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP)”, which was made in Tokyo in November 2004 with the leadership of Japan and came into force on Sept. 2006. MMD plays the role of Domestic Focal Point in the agreement. Regarding oil pollution prevention measures, Cambodia entered a joint agreement with Thailand and Vietnam by “Joint Statement of Three Countries on Partnerships in Oil Spill Preparedness and Response in the Gulf of Thailand” on January 2006.

#### **4.3.5 Flag State Control and Port State Control**

##### **(1) The Activities of IMO**

In the 1950s, each shipping nation had its own maritime law. Compared with today, there were only a few international treaties and they were not accepted or implemented by all maritime states. On the basis of these different national laws, the standards and requirements varied and in some cases they were conflicting with each other. IMO, as a specialised agency of the United Nations, started to develop international treaties and other legislation concerning safety and marine pollution prevention.

During the 1960s IMO started to deal with basic safety structures under the SOLAS 64 Conventions. In 1967 IMO started its work in the legal field on regulations concerning pollution. Following this incident IMO adopted the 1969 Intervention Convention enabling a government to take action if an accident in international waters threatened its coastline with pollution. It also developed a two-tier system, the 1969 Civil Liability Convention-the 1971 Fund Convention, for compensating victims of pollution. From this point onwards, the protection of the marine environment became a major objective for IMO.

In 1973 the International Convention for the Prevention of Pollution from Ships (MARPOL) was adopted to cover pollution by oil, chemicals, harmful substances in packaged for, sewage and garbage. In 1974, SOLAS 74 Convention was adopted introducing the new requirements after the adoption of SOLAS 64. In 1977, a series of tanker accidents led to changes being made to the SOLAS and MARPOL Conventions. Over a year later a series of amendments to SOLAS 1974 were adopted and entered into force on 22 October 1989. A second group of amendments was adopted in October 1988 and entered into force in April 1990. In 1994, three new chapters were added to the SOLAS Convention. One of them made the International Safety Management (ISM) Code mandatory. In 1995 major changes were made to the 1978 STCW Convention. Under the amendments parties to the Convention were required to submit information to IMO concerning their training, certification and other procedures so that their ability to implement the Convention could be assessed.

The problem is as follows;

Despite the fact that the majority of countries are members of these conventions, it is still possible to find ship-owners, managers or manning agents who find ships which are unsafe, and do not comply with the required technical conditions under the international conventions.

Concerning IMO developed international treaties, the vast majority of countries are parties and even the major flags of convenience countries are parties to these conventions but the problem is still unsolved. Shipping is not failing in ratifying new conventions or the international community is not failing in adopting necessary litigation but shipping is failing in application and enforcement of international regulations especially the ones on safety, pollution and crew welfare.

## (2) Flag State Control

IMO is to adopt legislation; it does not have any powers to implement it. Governments are responsible for implementing legislation. When a government accepts an IMO Convention it agrees to make it part of its own national law and enforce it just like any other law and also set the penalties for infringements, where these are applicable. It is the flag state not the IMO which is supposed to enforce the standards that are set in the international maritime conventions. The obligation on Contracting States is not only to incorporate convention provisions into their legislative system. To meet their responsibilities flag States must have the means and the will to implement the requirements of international conventions. They must have an adequate legislative and regulatory apparatus and also a maritime authority with enough staff in order to control the enforcement of standards on board the ships.

Open registers are less than rigorous in their application of standards and their monitoring of conditions on board the ship despite their participation in the STCW. Most of these countries do not have their own training establishments and many of them will accept certificates of competency, which meet very low standards. In general there are many ships owned by non-ship owners and managed by separate companies and they operate by providing the cheapest service rather than safest one. As a result the primary safety control by owners diminished, the training standards are not proper and on-board management ability is not a success at all.

IMO's Sub-Committee on Flag State Implementation (FSI) was established in 1992 to assist Governments in implementing conventions and other instruments which they have ratified. It also aims to consider the difficulties faced by developing countries. Since its first meeting in 1993 the FSI Sub-Committee has examined the port state control issues and it became possible both for flag and port states to meet and discuss issues relating the implementation of IMO instruments.

## (3) Port State Control

Port state control is not a new concept. It was stated in many international conventions. However, the international conventions do not explicitly impose on contracting governments the obligation of port state control, but leave this to the discretion of contracting governments. By participating in the relevant port state control agreements the member states commit themselves to specified enforcement efforts regarding port state control. Under port state control the primary responsibility for compliance with the provisions of the relevant instruments lies with the ship owner/operator. The responsibility for ensuring that such compliance remains with the flag state. The primary responsibility for ensuring that a ship maintains a standard at least equivalent to that specified in international conventions rests with the flag State. The intention of the port state control is not to enforce on foreign merchant shipping any requirement which goes beyond convention requirements.

At present there are eight regional Port State Control agreements are in operation:

- the Paris Memorandum of Understanding on Port State Control (Paris MOU), adopted in Paris (France) on July 1982;
- the Acuerdo de Vina del Mar (Vina del Mar or Latin America Agreement), signed in Vina del Mar (Chile) on November 1992;
- the Memorandum of Understanding on Port State Control in the Asia-Pacific Region (Tokyo MOU), signed in Tokyo (Japan) on December 1993;
- the Memorandum of Understanding on Port State Control in the Caribbean Region (Caribbean MOU), signed in Christchurch (Barbados) on February 1996;
- the Memorandum of Understanding on Port State Control in the Mediterranean Region (Mediterranean MOU), signed in Valletta (Malta) on July 1997;
- the Indian Ocean Memorandum of Understanding on Port State Control (Indian Ocean MOU), signed in Pretoria (South Africa) on June 1998;
- the Memorandum of Understanding for the West and Central African Region (Abuja MOU),

- signed in Abuja (Nigeria) on October 1999; and
- the Memorandum of Understanding on Port State Control in the Black Sea Region (the Black Sea MOU), signed in Istanbul (Turkey) April 2000.

The recitals of these agreements emphasise that the main responsibility for the effective enforcement of international conventions lies with the owner and the flag states but recognise the “need for effective action of Port States in order to prevent the operation of deficient ships.” With its monitoring function it imposes international standards on the vessels which do not follow them voluntarily. The authority exercising port state control is the national law based on relevant conventions. Flag state control cannot be readily replaced by port state control it only adds to the efforts of flag states to improve maritime safety and to prevent maritime pollution. Recently, port state control is gaining more momentum;

1) The revised STCW Convention and the ISM Code which provides an international standard for the safe management and operation of ships and for pollution prevention give port states real powers to infringe the sovereignty of the flags if they do not comply with the necessary legislation.

2) The Convention on Wreck Removal, which was adopted as recently as May 2007, stipulates the responsibilities of ship owners to ensure the prompt and effective removal of wrecks and payment of compensation for the cost involved when the ship sunk in the foreign territorial sea. All the ship owners are obliged to have insurance upon anticipation on the sunken accidents. World Port State Control MOU will adopt the insurance obligation as one of their check items on the PSC inspection.

#### **4.4 Ocean Transportation, Shipping Agent and Shipbroker**

##### **4.4.1 Ocean transportation**

There is no container ship operator in Cambodia. All container ships calling Sihanoukville and Phnom Penh are operated by foreign companies. At Sihanoukville, there are 5 companies deploying their container ships: RCL is Thailand, MCC is Singapore, ACL is Singapore, HUB is Malaysia, and COTS is Thailand respectively registered in their headquarters. At Phnom Penh, there are 4 companies deploying their IWT container barges: SOVEREIGN in Taiwan, China Shipping in China, GEMADEPT in Vietnam, and Song Dao in Vietnam as their head offices.

There is also no tanker operator in Cambodia. Fuel oil is purchased on a CIF contracts basis; foreign suppliers arrange product tankers, for example Singapore, Thai and Vietnam flagged vessels. Also cement is imported by ships arranged by Thailand suppliers, that is, Camel, Diamond, TPI, Pegasus, Mountain, Lotus, Eagle and so on.

In this regard, ocean transport to/from Cambodian ports is almost completely dependent on foreign carriers, except coastal transport between Thailand by small wooden vessels of Cambodia.

##### **4.4.2 Shipping Agents**

Shipping Agent provides service not only for ship operation but also sales activities on behalf of owner, ship management, and operator, who are called the “Principal”. And Shipping Agent also functions as a husbanding agency and sales agency. Husbanding agent, so called boarding agent in Cambodia, carries out all the procedures and arrangements for the smooth operation of ship and crew during channel navigating and port stay, and submits necessary data and documents to Customs, Immigration, Quarantine, Port Authority, Pilot, Tuggage, Stevedoring company and all other related parties. Sales agent carries out sales activity to cargo owners on behalf of the principal, namely, canvassing, ocean freight receipt, B/L issue, delivery order, container inventory, and so on.

In Cambodia, there are 9 liner-shipping companies providing container services such as RCL, MCC, ACL, HUB, COTS calling at Sihanoukville port, and SOVEREIGN, China Shipping, GEMADEPT and Song Dao calling at Phnom Penh port. And they have appointed shipping agents for their ship operation as well as sales activities.

**Table 4.4.1 Shipping Agents**

Shipping Lines	Nationality	Shipping Agent
RCL	Thailand	Feeder Shipping Agency Co Ltd
MCC	Singapore	Maersk (Cambodia)
ACL	Singapore	International Trade Logistics (Cambodia)
HUB	Malaysia	Hub International (Cambodia) Pte Ltd
COTS	Thailand	KAMSAB
SOVEREIGN	Taiwan	SOVEREIGN Base Logistics Holdings Co Ltd
CHINA SHIPPING	China	China Shipping (Cambodia) Agency Co Ltd
GEMADEPT	Vietnam	Gemadep Corporation
SONG DAO	Vietnam	KAMSAB

Source: JICA study team

There are many examples of the shipping agents which were established as a local company invested by Foreign shipping lines, and KAMSAB was just appointed by COTS and Song Dao. But in Cambodia, husbanding agency activities is permitted only to KAMSAB by the sub-decree and these shipping agents can do sales activities only.

#### 4.4.3 Shipbroker

Shipbroker's main function is to negotiate between ship owner and ship charterer, and to produce a fixture note and to prepare signing on a charter party by both sides for time charter, voyage charter and charter by demise. Shipbroker also prepares contract of ship sales or contract of affreightment.

In Cambodia, KAMSAB is entitled to act as an agent for chartering and ship sales, and it is understood that KAMSAB also has the right of ship brokering activity. However there is seldom activity by ship owner or charterer as internationally practiced, and actually it seems that no brokering capacity is necessary in Cambodia.

#### 4.4.4 KAMSAB

KAMSAB was established as a state company in 1979, and is now under the technical administration of MPWT and financial supervision of MOEF. By the Sub-Decree No.81 SD/PK promulgated in August 1996, KAMSAB was entitled the rights of 13 agency and brokerage services on behalf of the owner or charterer as follows.

- 1) Attending to local procedures for vessel's entry into and exit from ports of Cambodia
- 2) Applying for pilotage and ship's berth.
- 3) Arranging for loading, unloading, reception, delivery, tallying, weighing and measuring of cargo storage in warehouse, shipyard or port; reconditioning of goods from damaged or torn out bags, packages, cases; and arranging to settlement of claims for damaged, lost or mixed cargo.
- 4) Acting as agent for chartering, purchase, sale of vessel, attending to delivery reception and taking over of vessels' signing on behalf of Owners or Charterers all kinds of contracts relating to transport, loading, unloading, forwarding, receiving, and booking space
- 5) Arranging for repairs and technical inspection of vessels and applying for inspection of ship's holds, spraying insecticide, decimating rats, and cleaning and sweeping of ship's holds
- 6) Booking services and arranging embarkation and disembarkation formalities for passengers and

their luggage

- 7) Attending to procedures for landing of crew members for business contact with competent authorities or ministries for sightseeing and medical treatment purposes, arranging repatriation, transferring ship's crew members and mailing by air, land and water
- 8) Arranging supplies of food, freshwater, fuel, mate, plywood, bamboo, dunnages, wood ventilators and material and equipment to vessel in case of need
- 9) Collecting and transferring freight, indemnities and attending to settlement of dispatch/demurrage money
- 10) Arranging salvage to vessels in distress and attending to settlement of salvage remuneration
- 11) Arranging all business contacts between vessel and port, shippers and consignees during vessel's stay at port to resolve matters and proposals of vessel owner and to provide information regarding vessel's activities at port for entrusting party
- 12) Administering temporary dockworker, performing water, land and air transportation work and working as operating agency, cargo transportation agency, and vessel protection agency
- 13) Conducting import and export work and managing hotel which is aimed solely at renting rooms to vessel owners, vessel charterers and crews

And also the Sub-Decree No.81 SD/PK requests vessel owners or charterers to provide information to KAMSAB; that is, through telegram or letter, vessel characteristics, vessel arrival information, bank deposit, and river and sea vessel transportation documents.

In addition, the Board of Directors of KAMSAB, which is composed of 7 representatives such as MPWT, Council of Minister, MEF, MOI, MOC, KAMSAB Employee and KAMSAB General Director, makes the following decisions; 1) Approving of enterprise project, 2) Regularly assessing estimated results and taking corrective measures, 3) Approving of balance of fiscal account and reports on KAMSAB activities, 4) Approving, as requested from general director, of organizational structure and internal regulation of the enterprise, as well as statute and salary ladder, reward, and allowance for personnel 5) Approving of contract and convention which KAMSAB is a signatory consistent with terms and formalities set out in the regulation in effect, 6) Approving of creating, opening or closing all offices and agencies of KAMSAB, 7) Determining fee and business and services of KAMSAB.

There is no other shipping agent to be entitled such rights as agency and brokerage services on behalf of owner or charterer than KAMSAB, and consequently KAMSAB has been regarded as the sole agent in Cambodia.

## 4.5 Ships

### 4.5.1 Domestic Registered Ships

Number of vessels registered in Merchant Marine Department (MMD) is 290 as of the beginning of 2007.

Passenger vessels

30 - 49seats	50-99seats	100-149seats	150-199seats	Total
3	1	3	4	11

Cargo vessels

Below 50GT	50-100GT	100-200GT	200-500GT	500-1000GT	Total
30	40	41	11	4	117

Fishing vessels

Below 100HP	100-200HP	200-300HP	300-500HP	500-1000HP	Total
11	56	50	43	2	162

MMD has been making efforts to grasp the Cambodian fleet scale through Department of Public Works and Transport of municipality offices (Sihanoukville, Kampot, Kep, Koh Kong). The results are shown above, but there seems to exist more vessels which have not yet been registered. Especially in the case of fishing vessels, an unofficial investigation by municipality offices in 2007 counted 477 fishing vessels. It is said that there exist from 5,000 to 10 thousand fishing vessels in the Cambodian coastal area of the Gulf of Thailand.

### 4.5.2 Ship Inspection

Ministry of Public Works and Transport (MPWT) issued a standard regulation concerned with registration, and safety standards for Cambodian coastal ships in 1999. (SARACHOR on Sea Shipping Management, Ministry Instruction No.006, 1999 )

This is a guideline for ship inspection, registration, construction, and maintenance, and has no legal binding.

Summary of Contents:

Chapter 1 : VESSEL LICENSE

Ships of more than 20GT, Passenger vessels carrying 20 persons and more, and ships with 75 HP of engine shall be registered in MMD. All the ships below the previous criteria shall be registered in municipality offices in Sihanoukville, Kampot, Kep, or Koh Kong.

Chapter 2 : VESSEL CONSTRUCTION AND REPAIRS

All the new ship buildings and repairs shall be informed to MPWT with the site of repair or construction.

Chapter 3 : VESSEL INSPECTIONS

- All vessels shall have their inspection book. The mechanic shall keep the engine log book for the purpose of monitoring the engine history. Wooden vessels shall be inspected each six months. Steel vessels shall be inspected once a year.
  - The inspections are composed of initial inspection at the construction or major repair, periodical inspections, and special inspections. Inspections shall be held by MPWT or municipality offices
  - Safety Standards
- All ships shall have appropriate seaworthiness.

- Engine system shall be protected from fire or explosion. The engine shall be insulated by a shield to protect it from danger.
- The steering system shall be maintained effectively for left or right steering. The pilot's seat shall have enough space and be in a position to allow the pilot to see clearly everything from every side.
- Ships of more than 25m in length shall be equipped with roof and shall have open deck of more than 3m length in the stern.
- All vessels shall have a horn for emergency use.
- Signal lights: detailed requirements for signal lights are stipulated for various kinds of vessels. Special requirements for ships carrying dangerous goods, ferry boats, and towing vessels.
- Safety measures: detailed requirements for safety measures are stipulated for various kinds of vessels (Floating rings, life vests, life boats, bridge to shore, fire extinguishing equipment, bilge pumps, safety side buffers, emergency exits, anchor, toilets for passengers, communication radio, and depth indicator)

#### Chapter 4 : CREW BOOK, LICENSE, AND VISA BOOKS

- All crew, including the captain, assistant to captain, mechanic, and workers shall have their crew book
- A captain license shall be issued to a captain of a vessel with a capacity of 30 horse power or more.
- Every vessel shall maintain their travel visa books.

#### Chapter 5 : CONDUCT OF BUSINESS

- Every vessel shall have a business license.
- Any businessman, vessel owner, or shipping company conducting foreign or cross border shipping business shall have a business license issued by the Department of Commercial Vessel.

#### 4.5.3 Open Registry System

Cambodia started its open registry system in 1993. The original objective was to promote Cambodian shipping industries by increasing the number of Cambodian flag vessels. A private company called CSC (Cambodian Shipping Corp.) was employed to take care of all the business for ship registration as the government had no experience. CSC had no obligations from the government to restrict the conditions of ship registered such as ship age. They increased the number of Cambodian flag vessels through simple and easy systems such as Internet registration. The number of Cambodian flag vessel has increased from 249 ships (842 thousand GT) in 1999 to 817 ships (1.99 million GT) in 2007. The average age of registered vessels is 28 years old in 2001. (Figures from Lloyd Statistics)

On the other hand, number of detentions by world MOU such as Paris MOU and Tokyo MOU increased year by year as the number of Sub-standard ships increased. In 2002, EU suspended calls at European ports for 66 ships, including 9 Cambodian ships. After France detained a Cambodian flag vessel under suspicion of drug trafficking, Cambodian government abrogated the contract with CSC. Through an open bid by Cambodian government, a new private company called ISROC (International Shipping Registry of Cambodia) substituted the open registry system. At the same time, the responsible Authority in Cambodia changed from MPWT, to the National Committee for Management of Registration of Cambodian Flag Ships, Council of Ministers. ISROC took the same registration system and expansion strategy as CSC, and increased the number of registered ships.



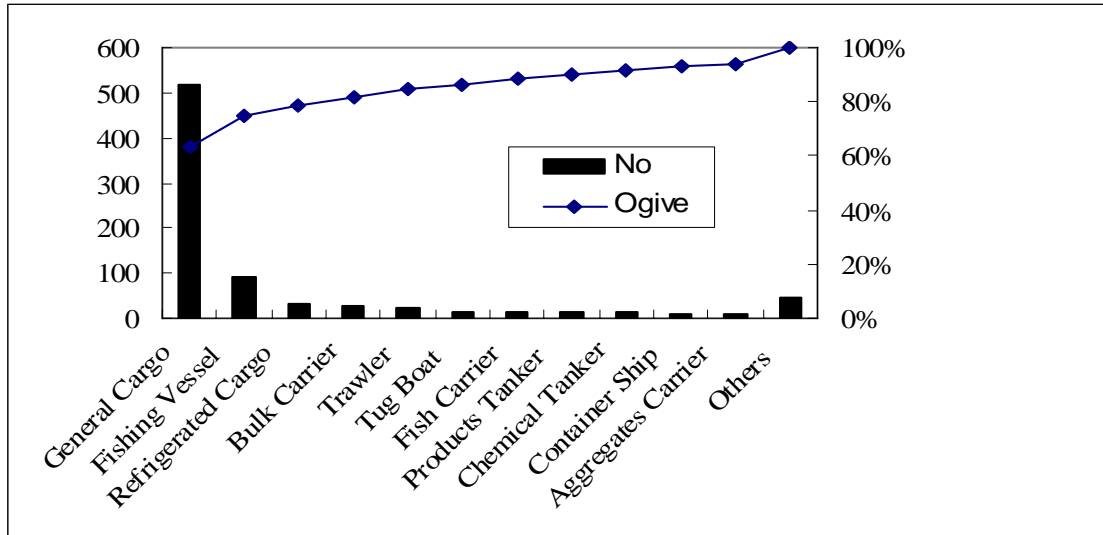
(1) Outline of Cambodian flag vessels

(a) Analysis from Lloyd Statistics (2007)

In the beginning of 2007, the number of Cambodian flag vessels is 817 ships, amounting to 1.99million G/T according to the Lloyd Statistics.

(i) Ship Types

**Fig 4.5.1 Kinds of Ships**



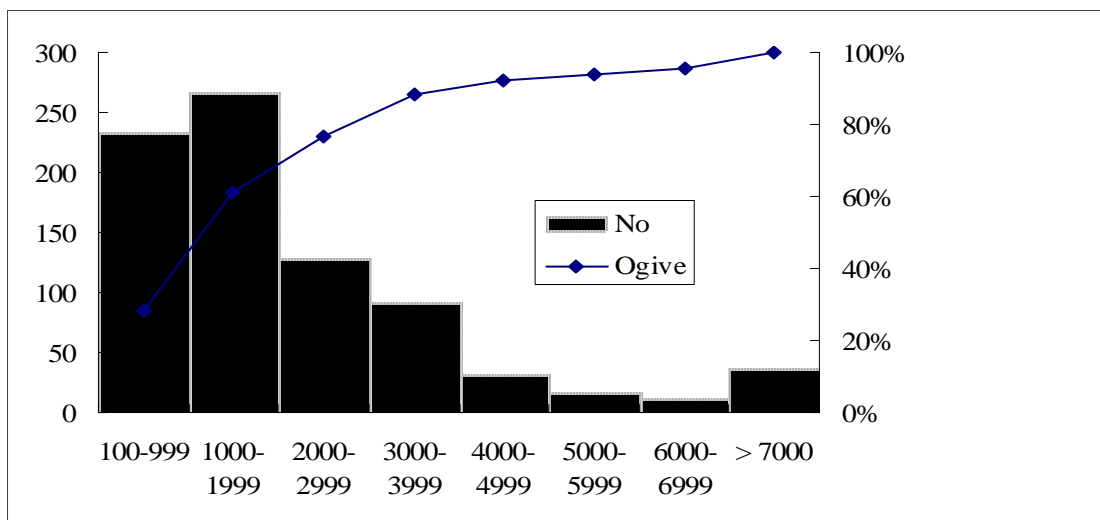
Source: Lloyd Register 2007

Almost 64% are General Cargo ships. General Cargo plus Fishing Vessels constitute 75% of total registered vessels. There is no crude oil tanker at all. Ship types shown in this graph constitute 95% of total.

(ii) G/T Distribution

Among 817 registered ships, the biggest ship is 33 thousand G/T and smallest is 102 G/T. Average size is 2.44 thousand G/T. Ships less than 7 thousand G/T constitute 96% of the total fleet, and ships less than 5 thousand G/T constitute 92%. The number of ships larger than 7 thousand G/T is 37 in total, and distributed evenly from 7 thousand G/T up to 33 thousand G/T. This means that Cambodian open registry ships are composed of small size vessels.

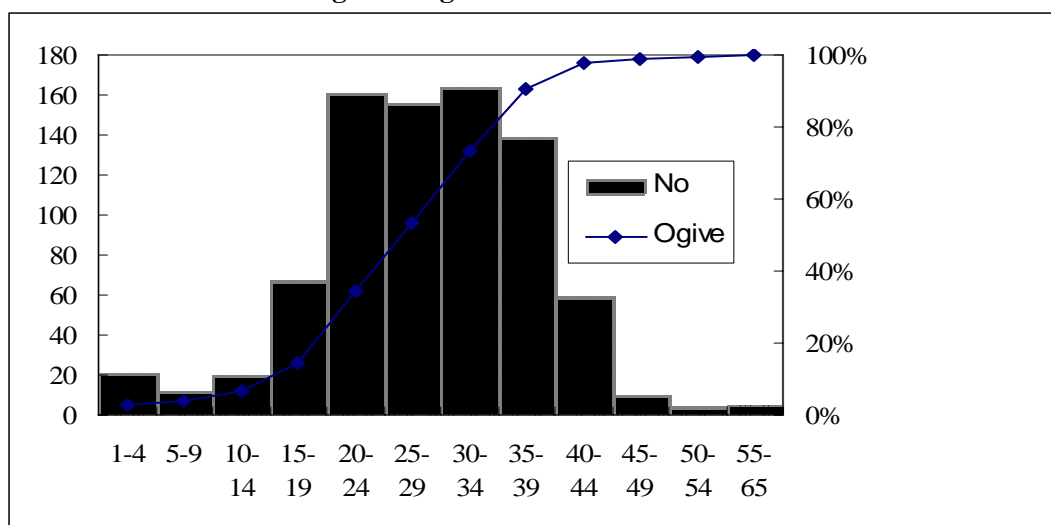
**Fig 4.5.2 GT Distribution**



Source: Lloyd Register 2007

(iii) Age Distribution

Fig 4.5.3 Age Distribution



Source: Lloyd Register 2007

Cambodian open registry ships are characterized by super aged vessels. Average Age is 28 years old. Ships of more than 15 years old constitute 93.5% of the total fleet. The distribution peak is from 20 to 40 years, and ships older than 20 years constitute 85% of the total. In general conditions, IACS members do not accept ships older than 16 years old. When they accept those ships, they add special restrictions on navigation area or add special survey conditions on next survey. Sometimes, they add additional notices on issuing ISM Certificates for those ships. IACS members very rarely accept ships older than 25 years.

(b) Detention rate by Tokyo MOU

(i) General

Cambodian open registry ships are now the focus of all the world port state control organizations. TOKYO MOU Annual Report 2005 is adopted as an example.

In three years from 2003 to 2005, TOKYO MOU inspected 3,170 Cambodian flag vessels and detained 621 ships, which means exactly 20% of inspected ships were detained as sub-standard vessels. Among the 18 black listed countries in Tokyo MOU, Cambodian open registry is listed on 7th worst registry after North Korea, Honduras, Mongolia, Bolivia, Indonesia, and Dominica. According the annual report, 11,430 ships were inspected in 2005, and nearly 600 ships were detained. The average detention rate was 5.21%. In the case of Cambodian open registry, 1,148 ships were inspected, 8,478 deficiencies were found and 169 ships were detained. Deficiency Rate, which means the number of identified deficiencies per ship, was 7.4. Detention rate was 15%. Among 169 detained vessels, 24 ships were detained twice in one year, 3 ships detained three times, and one ship detained four times in one year.

These figures show that;

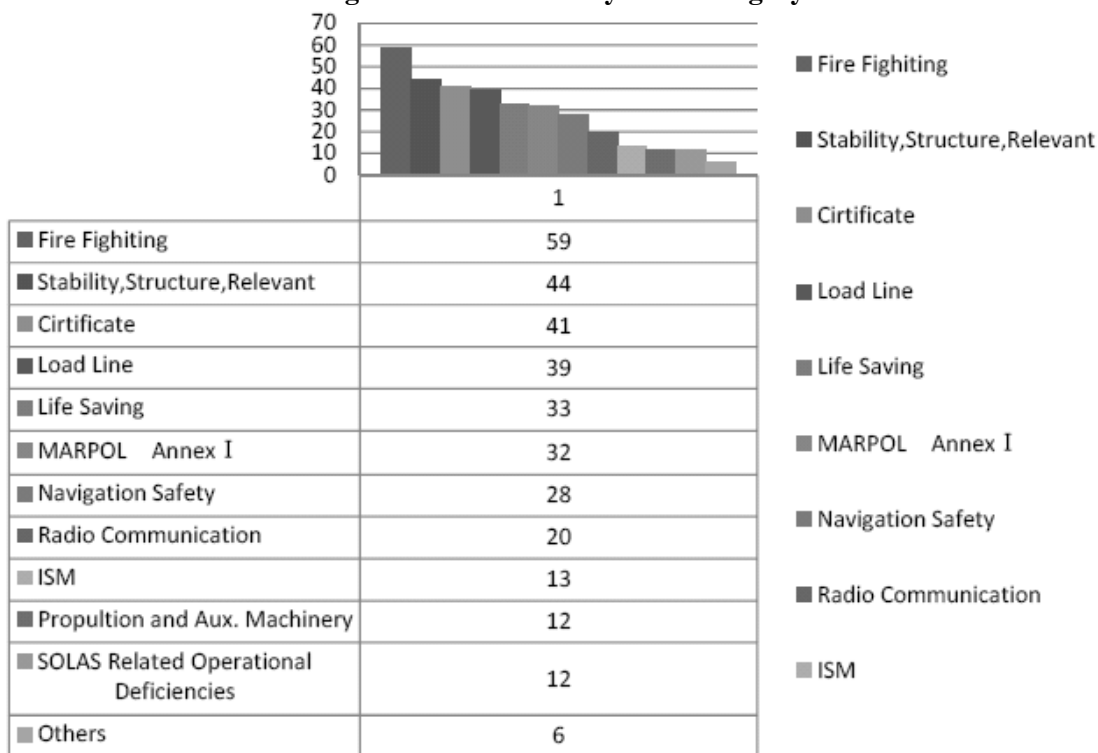
- Deficiency rate is extremely high compared to the average. More than 2 times higher than average.
- Detention rate is also extremely high compared to the average. More than 3 times higher than average.
- Number of Inspection 1,148 is also extremely high compared with total No. of inspection by Tokyo MOU. This means that Tokyo MOU member countries are making an example of

Cambodian flag as substandard vessels, and made frequent PSC inspections.

(ii) Deficiencies by main category

These are the number of main deficiency categories of detained Cambodian flag vessels in the TOKYO MOU record. Deficiencies of “Fire Fighting measure”, “Stability, Structure and Relevant”, “Certificates deficiencies”, are the top three main deficiency categories. This trend is rather different from the general trend of other flag vessels. In usual cases, “Fire Fighting measure”, “Safety of Navigation”, and “Life Saving Appliance” are the top three main deficiency categories.

**Fig 4.5.4 Deficiencies by main category**



Source: TOKYO MOU 2006

The top deficiency category, “Fire Fighting” is the same as other flags, but the second “Stability, Structure and Relevant”, and the third “Certificates” deficiencies are unique to the Cambodian Flag.

Most “Stability, Structure and Relevant” deficiencies are composed of serious structure related deficiencies such as lack of water-tightness of Bulkheads, Hatch Cover, and Shell Plates. It seems that those ships had no periodical maintenance to the fundamental structure of ships. It is suspected that those ships had no or insufficient inspections at annual surveys of classification societies, because such structural deficiencies are easily found by surveyors at the annual inspections.

“Certificates” deficiencies are mainly composed of “lack of qualifications by competent authorities for captains and officers”, “SOLAS and MALPOL related certificates deficiencies”, and “Expiration of Certificates”. Those are also easily found by surveyors at the annual inspections.

iii) ISROC and Classification Societies

According to the ISROC website, they accept more than 15 classification societies including all the IACS members, but only three classification societies are listed in the Tokyo MOU detention list. (UNIVERSAL MARITIME BUREAU LTD (Hong Kong), Global Maritime Bureau Inc (Busan), Union Bureau of Shipping (Darian, Shanghai))

#### iv) General Consideration

Present condition is a vicious circle of “Bad Maintenance by Ship owner”, “No Control by Open Registry Company”, and “Insufficient Inspection by relevant Classification Societies”. It is like asking which comes first, the chicken or the egg.

The owners employ old vessels without sufficient maintenance provided that his ship can have cargo without strict transportation contract. He chooses open registry company and ship class who has no strict restrictions on safety measures just for saving maintenance cost. He doesn't care about ship maintenance (again as far as he can have cargo transportation contract), because the ship price is cheap enough for him to lose. The insurance is partly maintained, though sometimes there is no insurance at all.

The open registry company knows the owner's situation, and loosens control over classification societies and ship itself. He is afraid of losing customers by strict registry systems. He is not worried about his reputation as long as he is able to manage the registry.

The circumstances for the classification societies are similar to the open registry company. They are afraid that ship owners will change class if rules and regulations are strictly observed. They don't care about the safety level of ships as far as he can keep the class.

This situation stems from the lack of Flag State Control over the open registry system. No control over the open registry system permits irresponsible management of the open registry company and relevant ship classification societies, and thus bad maintenance of ships by ship owners.

## **4.6 Seafarers**

### **4.6.1 Number of Seafarers in Cambodia**

In Cambodia, although the maritime education and training institute existed before the civil conflict, it has been closed because of the policy of disorganization of educational institutes. In the maritime field, the candidates for seafarers have been educated and trained in ex-socialist countries, such as former Soviet Union and Vietnam; then they have been working as officers of passenger boats or pilots at both ports of Phnom Penh and Sihanoukville. The proper statistics of seafarers has never been developed due to the delay of improvement of registration system of seafarers. The number of seafarers in Cambodia is estimated in line with the number of seamen's book.

The following reports have stated that the number of seafarers in Cambodia has been about 500 and from 5,000 to 6,000 including fishermen:

(1) “Needs Assessment Mission on Maritime Legislation and Administration of Cambodia” by IMO in 2001

(2) “Country Report of Cambodia, Report of the Second Regional Forum on Maritime Manpower Planning, Training, Utilization and Networking of Centres of Excellence”, organized by the Economic and Social Commission for Asia and the Pacific (APEC) in 2003

The registration system of seafarers will be established after the development of qualification requirement and certification system of seafarers; therefore such estimated number of seafarers may be used as the present statistics provisionally.

In addition, the Cambodian government endorsed foreign seafarers who are working on the Cambodian flag vessels since July, 2002, according to “No.002 MPWT Circular on Procedure of Issuance of Certificates of Endorsement for Seafarers, 22<sup>nd</sup> July, 2002. Also for this system, the endorsed record of issue has not been provided. The foreign countries to which the Cambodian government issues the endorsement under the mutual recognition system of certificate of competency are the following 11 countries: Philippines, South Korea, North Korea, Russia, Ukraine, Estonia, Egypt, Rumania, Singapore, Latvia and Georgia.

#### 4.6.2 Supply and Demand of Seafarers

Without any limitation as for the Cambodian seafarers, the global supply and demand analysis of the seafarers engaging on the international voyage ships for the year of 2015 is as on the Table 4.6.2. This analysis is from BIMCO/MANPOWER 2005 which has been getting published every 5 years periodically. In the Far East countries other than OECD countries, it is expected 70,000 surplus officers; however it does not mean there is enough allowance of supply of officers because there are the leading seafarers export countries, such as Philippines, Vietnam and Indonesia which export the officers to OECD countries and Panama in the Africa/Latin America region. In 2015, the industry will face the shortage of officers amounting 25,000, on the other hand, surplus of ratings amounting 447,000 globally. For this reason, mainly in OECD countries, the sharp competition to obtain the officers has already been getting in motion. For example of the leading Japanese Shipping Companies, they have established their own MET institutes in Philippines, Main Land China and Vietnam. Furthermore, they have been investing to the existing MET institutions and providing the scholarships for efficient students to secure the efficient officers. It is said that the officers for tankers, such as VLCC and LNGC, will have a critical shortage according to the result of questionnaires survey in BIMCO/ISF MANPOWER 2005.

Meanwhile, although it is estimated the surplus number of rating in the future according to BIMCO/ISF MANPOWER 2005, the exact situation may not proof this estimation. In the case of the Maritime Secondary School 2 in Ho Chi Ming City has been preparing to start the short-term classes only for the ratings because the request from the shipping companies to catch up with the increasing demand in the market.

**Table 4.6.2 Supply and Demand Difference by Broad National Group for 2015**

Flag	Supply: 2005 Stock less net inflow		Forecast Demand		Difference (Supply-Demand)	
	Officers	Ratings	Officers	Ratings	Officers	Ratings
OECD countries	102	183	208	227	-106	-43
Eastern Europe	108	181	37	30	71	151
Africa / Latin America	56	166	178	169	-122	-4
Far East	215	299	145	156	70	143
Indian sub-continent	83	224	21	24	62	200
All national groups	564	1,053	589	607	-25	447

Source: BIMCO/ISF MANPOWER 2005 UPDATE: December 2005: unit (Thousand)

Presently, the Cambodian seafarers have not worked on foreign vessels and the situation of Cambodian Flag vessels has not been controlled well according to the Country Report of ESCAP mentioned above. However, it is possible that some Cambodian seafarers possess the certificate of competency issued by the country which is approved as an adapted party to the STCW Convention. In such a case, the Cambodian seafarer may work on board the foreign vessel although the Cambodian certificate of competency is not approved to meet the international standard stipulated in STCW Convention. The disciplined, skillful and cheap seafarer is always in demand on the international seafarers market. When Cambodia is approved as an adapted party to the STCW Convention, the Cambodian seafarers may have a chance to sell their services on the international market. The shipping lines who provide container barge service between Phnom Penh and Ho Chi Minh have stated that they are willing to employ the Cambodian seafarer as a statutory seafarer at the same level of payment as other nationalities, around 1,000 USD per month, if they hold the certificate of competency which satisfies the STCW Convention. It would be an appealing job since average monthly payment of laborers with more than 10-years experience is under 2,000,000 Riel, or 500USD. (Source: Statistical Yearbook 2005, Table 15. Distribution of Employees 10 Years

& Over by Industry and Average Monthly Wages in Cash, 2001 : National Institute of Statistic, Ministry of Planning).

#### **4.6.3 Seafarer Education System**

As stated in “4.3 Response to the International Convention”, the Cambodian government has been introducing legislation toward the seafarer education system; however it will take time to complete the legislation because the Cambodian Maritime Code (draft) does not stipulate the seafarer education system in detail and some sub-decrees are necessary so as to make it in force.

However, the actual present seafarer education system may to be the system of the Maritime Training Center which is operated by “Phnom Penh Autonomous Port” and “Sihanoukville Autonomous Port” under the control of MPWT. The Center was inaugurated in January, 2006 assisted by EU.

Initially, the Center started with the Operational Level of Navigation Course, then expanded to offer the Operational Level of Marine Engineering Course, the Management Level of Navigation and Marine Engineering Courses.

Present seafarer education system outline is as follows: -

##### (1) Student selection system

Students of the Center were selected from the staff of both Phnom Penh and Sihanoukville Autonomous Ports. The Center may become a higher educational institute and issue a diploma to graduates. The student selection system and criterion for selection will be discussed and confirmed by MPWT and the Ministry of Education when the Center is approved.

##### (2) Course

The Navigation Course involves one year of class lectures and a half year of practical training; it will be upgraded to a two year Operational Course and two year Management Course both of Navigation and Marine Engineering respectively when the Center is approved as a higher educational institute.

##### (3) Curriculum

The Curriculum was discussed, examined and completed based on the curriculum of Vietnam Maritime University whose curriculum meets international standards of IMO; therefore it covers all necessary mandatory matters and recommendations.

##### (4) Obtain the certificate of competency

The academic transcript is prepared and submitted by the Center to MPWT to be examined for the student who passed the final examination of the Center. Then the successful applicant receive the certificate of competency as a seafarer.

## 4.7 The Other Related Industry

### 4.7.1 Pilot Service

The vessel of 300 gross tons and over and the vessel carrying dangerous goods of 100 gross tons and over should take the Pilot assistance for entering and leaving (and passing river for Phnom Penh Port) in both international ports of Phnom Penh and Sihanoukville in Cambodia. In the case of Phnom Penh, the relevant vessel should be assisted to maneuver during 220km in the Mekong River between the Vietnam boarder and Phnom Penh Port. The Pilot fees are as follows:

**Table 4.7.1.1 Pilot fees at Phnom Penh Port and Sihanoukville Port**

Item	Phnom Penh Port	Sihanoukville Port
Enter & Leave	Commercial Port	\$0.003 x GRT x 90 miles
	Oil Terminal	\$0.03 x GRT x 90 miles
	Minimum Charge	\$100.00
Shifting	\$0.017 x GRT/hour	\$0.022 x GRT/hour

Source: PPAP and SAP

At Present, the statistics of port due have never divided into the annual turn over of pilot service and the other income for both Phnom Penh and Sihanoukville Ports. Then here as a reference, the annual turn over estimation of Pilot Service by the model cases using the number of in and out vessels in both Ports in 2005 was done as follows:

**Table 4.7.1.2 Estimation of annual turn over of Pilot Services in Phnom Penh Port**

Kind of Vessel	Model GRT	Fee in and out	Number	Total
Container	800GRT	\$432	254	\$109,728
Tanker	700GRT	\$3,780	708	\$2,676,240
General Cargo	500GRT	\$270	114	\$30,780
Total			872	\$2,816,748

Source: Estimation by JICA study team

**Table 4.7.1.3 Estimation of annual turn over of Pilot Services in Phnom Penh Port**

Kind of Vessel	Model GRT	Fee in and out	Number	Total
Container	8,000GRT	\$2,400	433	\$1,039,200
Tanker	5,000GRT	\$1,750	132	\$231,000
General Cargo	2,000GRT	\$600	121	\$72,600
Total			686	\$1,342,800

NB : Pilot engaged hours is 5 hours x 2 ( In and Out)

Source: Estimation by JICA study team

### Tug Boat Service

The Tug Boats in Phnom Penh Port are one each with the powers of 380HP and 550HP. They in Sihanoukville are two with 1,600HP and one with 1,800HP. The fees per hour are as follows:

**Table 4.7.2.1 Tug Boat Service Fee in Phnom Penh and Sihanoukville Ports**

Size of Vessel	Phnom Penh Port	Sihanoukville Port
~1,000GRT	\$83.00	\$105.00
1,001~4,000GRT	\$149.00	\$178.00
4,001~10,000GRT	\$165.50	\$190.00
10,001~15,000GRT	\$215.00	\$237.00
15,000GRT and over	Every excess of GRT \$18.00	Every excess of GRT \$20.00

Source: PPAP and SAP

The annual turn over estimation of Tug Boat Service same as both Ports in 2005 was done as follows:

**Table 4.7.2.2 Estimation of annual turn over of Tug Boat Services in Phnom Penh Port**

Kind of Vessel	Model GRT	Fee in and out	Number	Total
Container	800GRT	\$83 x 5hour	254	\$105,410
Tanker	700GRT	\$83 x 5hour	708	\$117,528
General Cargo	500GRT	\$83 x 5hour	114	\$47,310
Total			872	\$270,248

Source: Estimation by JICA study team

**Table 4.7.2.3 Estimation of annual turn over of Tug Boat Services in Sihanoukville Port**

Kind of Vessel	Model GRT	Fee in and out	Number	Total
Container	8,000GRT	\$190 x 10hour	433	\$822,700
Tanker	5,000GRT	\$190 x 10hour	132	\$250,800
General Cargo	2,000GRT	\$178 x 10hour	121	\$215,380
Total			686	\$1,288,880

Source: Estimation by JICA study team



### **4.7.3 Ship Repairing Industries**

There is no modern type of shipyard in Cambodia. There exists one ship repair yard in Neak Loeng district (near scheduled Second Mekong Bridge) but no modern type of ship repair yard along the Gulf of Thailand. Vessels in inland water way are landed on the shore utilizing the difference of ebb and flow of Mekong and Tonlesap Rivers for maintenance. New ships are also built utilizing this system.

There are four small scale landing yards along the coastal line of Gulf of Thailand (Steung Hav, Koh Kong, Sre Ambel, and Sihaneukville). All of them are very small scale, and mainly for wooden fishing vessel of 10 GT and under. There is also a landing yard in Sihanoukville Autonomous Port, but it is dedicated to the ships belong to the port. The biggest scale among the four is the Steung Hav shipyard, but the capacity is for 50 GT in maximum.

All the Cambodian vessels greater than 50 GT are obliged to go to Thailand or Vietnam for dry docking.

Steung Hav is situated along the coast line of Kampong Som Bay near Sihaneukville, around 30 minutes by car from National Road No.4 utilizing bypass road.

It is said that there are more than 5,000 fishing vessels along the Cambodian coast line of Gulf of Thailand. 95% of 5,000 families in Steung Hav municipality earn their living partially or totally by fishing. Most of fishing vessels of 10 GT and over utilize this shipyard. Thus the shipyard plays a vital role for fishing industries along the Cambodian coast line of Gulf of Thailand, but the activities of the shipyard is declining year by year because of deficiencies of facilities.

(Outline of Steung Hav shipyard)

The yard has an area of around 4 ha (3 ha are utilized for building site)

**Dry-docking facility:** A rail and truck system with 4m breadth rail. Equipped with three Lifting Cradle (Length 6m, Breadth 5m). The lifting capacity of the winch is 30~40 tons. Guide rails are distributed from the winch up to the shore (around 150m). The guide rail is stretched into the sea for 200m to keep the depth up to 4m. The guide rail system is also stretched around the building site so that 10~15 ships can be dry docked at the same time.

**New Shipbuilding:** They are capable of new wooden shipbuilding up to 50 GT. They are capable of building 10 GT type of wooden fishing vessel within 1.5 months. The FRP vessel construction seems to be premature. They tried it three years ago up to design stage, but gave up the construction because the material cost was three times compared to wood. The situation will likely continue for the time being.

**Ship Repair:** The main facilities are composed of building sites, a machinery factory, a electric generator, and a winch. All facilities are badly maintained. The original capacity of the winch was 100 ton. At the original capacity, they could build and repair up to 400 GT wooden and steel vessels. But now they can cater to the ships up to 50 GT mainly because of winch lifting capacity. In usual case, 2 ships are dry-docked every day and 10 ships are on the building site at the same time. 95% of the users are fishing vessels; others are cargo vessels and passenger vessels. The number of repairing ships amount to 500 vessels and more in one year.

**Engineer:** 10 ship carpenters are stationed in the building site. They employ welders, electric engineers, and machinery engineers on a temporary basis from Steung Hav municipality. The salary is from 30 US\$ to 50US\$ per month.

**Docking Charge:** Below 10 GT, 66 HP: 25 US\$/ship/month, Larger Vessel: 50 US\$/ship/month

#### **4.7.4 Inland Container Depot, Van Pool & Container Repair, Trucking Service and Warehouse**

##### (1) Inland Container Depot

There are 4(four) Inland Depots, where import and export cargo can be received or delivered, so-called "Dry Ports". There are 10(ten) Van Pools including 1(one) located in Sihanoukville, which are used for storing empty containers only. Dry ports are substitute facilities supporting the function of Sihanoukville Port; therefore there is Customs and Excise office stationed as well as a branch office of CAMCONTROL, and it is necessary to be approved by both MPWT and MOEF for setting up such facilities. The dry ports are listed now 1) Cambodia Cwt Dry Port, 2) SO NGUON Land Transportation, 3) Tec Srun Transport and Dry Port and 4) MSE KPM INLAND PORT.

The Cambodia Cwt Dry Port, established in 1998, is now 100% owned by the Sihanoukville Autonomous Port. This dry port has been operated mainly as CFS service to shipping companies, and consolidation service of small packages. The other three (3) dry ports have been invested and established by the private trucking companies. The biggest Dry Port among these four (4) is MSE KPM INLAND PORT, which handles all the buyers' consolidation service provided by MAERSK Logistics on behalf of consignees in the USA or European Countries. The SO NGUON Land Transportation and Tec Srun Transport and Dry Port handle the buyers' consolidation cargoes provided by APL Logistics. These Dry Ports are located at a convenient site in Phnom Penh for connection to Sihanoukville Port through Route 4. Furthermore, the Cambodia Cwt Dry Port is located alongside the railway and is mapping out an idea of rail transportation to/from Sihanoukville Port in the future. Also rail transportation will be available container between Laem Chabang port connecting to Thailand Railway.

##### (2) Van Pool & Container Repair

The vanpool's only purpose is to store empty containers without any function for cargo handling. There are nine (9) vanpools in Phnom Penh and one (1) in Sihanoukville, which are invested and managed by trucking companies. They make a contract with shipping lines for storing empty containers; however storage charge is usually waived for shipping lines because of the excessive capacity of vanpool in Cambodia. They charge only for lift on (\$15.00/20': \$20.00/40') operation.

Although to repair damaged containers in Dry Port or Vanpools might be an auxiliary works in their overall functions, there is no capacity inside to repair in Cambodia, and work is usually ordered to outside two (2) companies. Mechanics with tools and materials are dispatched to Dry Port or Vanpool and work on repairs inside Dry Port or Vanpools, which is the usual practice when such repair works are necessary in Cambodia. Therefore vessels are likely to be repaired in Singapore or Thailand except in case of small damage due to the lack of skills and spare parts. This business of container repairing seems to be still at a premature stage in Cambodia, and shipping companies have no choice but to take heavily damaged containers outside Cambodia.

##### (3) Trucking Service

The trucking industry seems to be developing as container handling increases in Cambodia. There are five (5) major trucking companies, who have both trailer and chassis, operating totally about 500 units. The Cambodian Trucking Association (CAMTA) is comprised of 16 trucking companies, with 650 units of truck in total. The Association has announced their official tariff for laden container as \$210/box from Sihanoukville to Phnom Penh, \$130/20' and \$160/40' from Phnom Penh to Sihanoukville, and for empty container \$90/20' and \$150/40' for one way between Phnom Penh and Sihanoukville. Apart from these tariffs, the truckage is negotiable between trucker and big customers such as shipping lines or forwarder. Other published tariffs of CAMTA are \$600/box between Phnom Penh and Poipet (about 410km), \$280/box between Phnom Penh and Bavet (about 150km), \$350/box between Bavet and Ho Chi Ming City (about 70km) and consequently \$630/box

between Phnom Penh and Ho-Chi Ming City. The municipality of Phnom Penh prohibits container trailers passing through the city center except in the case of traveling to their own factory.

(4) Warehouse

There is no bonded warehousing business in Cambodia that controls the inventory of import-export cargoes for a long time. For short time bonded storage purpose, cargoes are placed in the storage shed located at the international port or the material storage in the factory. There is also a bonded shed at the inland depot, which provides the consolidation service by the major international forwarders. Customs and CAMCONTROL offices are always located at such bonded sheds. Excess inventory is sometimes a burden for the processing or assembling industry and just in time is the best system for the logistics, but low material or foods need long time stock in warehouse or cold storage. For such purposes, the creation of warehouses will have to be considered at some point, but as far as import-export cargoes is concerned, shed at port or dry port and container yard with reefer plug equipped now seems to be enough space for warehousing.

## **4.8 Customs, Immigration and CAMCONTROL**

### **4.8.1 Customs**

In Cambodia, the Customs and Excise office is under administration of MOEF and is ruled by the Law on Tax 1989 and Customs Code. Now total staff of 1,315 persons is assigned at International seaports, International airports, Dry ports, cross border checking points and SEZs. In Phnom Penh the staff is belonging to MOEF, and in local areas they are belonging to the local government. The scope of administrative work includes the examination of declaration, inspection of cargo and charging customs duty and excise of VAT. All import goods are taxable according to the Tariff, for example fuel is levied with a 35% customs duty and 10% VAT, but garment materials for export processing are exempted customs duty and VAT. For export goods, only five items are taxable such as livestock, farm products, fisheries, rubber and jewelry.

The working hours of Customs are 24 hours a day, and at Kaam Samnor at Mekong River checking point between Vietnam staff are always on duty. And at cross border checking point at Bavet, office hours have been extended until 22:00 instead of 18:00 from September 2006, after the CBTA (Cross Border Transportation Agreement) came into effect. Customs Inspection is now carried out as sampling and is going to inspect all laden container both import and export by introducing x-ray scanner at Sihanoukville port as well as Phnom Penh port mainly purpose for security. Gamma scanner has already been installed at Sihanoukville port and has been used to inspect import laden container by private company on behalf of MOEF; inspection fee is \$50 per 20 feet container and \$80 per 40 feet container respectively.

### **4.8.2 CAMCONTROL**

In Cambodia, CAMCONTROL is under administration of MOC and is established by the Law on the Management of Quality and Safety of Products and Services as ratified by the National Assembly on 29 May 2000. Now total staff of 466 persons is assigned at International seaports, International airports, Dry ports, cross border checking points and SEZs. This allocation is just same as the Customs and Excise office.

The purpose of this Law is to stipulate 1) Consumers' rights and economic operator' obligations, 2) Quality label and formalities, 3) Repression of commercial fraud, 4) Actions against products or services to induce grave or imminent danger, 5) Inspection procedures for cargo quantity and quality, and safety of products, goods and services.

Inspection is carried out using the manifest submitted by cargo owner; in addition, risk assessment in which risk is classified as low risk, medium risk and high risk, is carried out. At International seaports or Dry ports, laden container is inspected by CAMCONTROL. And cargo owner pays a survey fee of 0.10% of the invoice value to CAMCONTROL.

Sub-decree on the Trade Facilitation through the Risk Management was promulgated in March 2006, and An Inter-Institutional Facilitating Group (IIFG) shall be established to stimulate the effectiveness of managing and executing the imports and exports of goods through applying the Risk Management (Article 1) Major objective duties are; 1) to achieve the balance of the effective risk management between the provision intervention and trade facilitation among the ministries and institutions, 2) Reviewing the Legal Procedure for exporting and inspecting the goods of international trade and the electronic goods delivery system. IIFG members are comprised of representative of Customs and Excise Office, the Cambodian Import Export Inspection and Fraud Repression Department (CAMCONTROL), MOC, MOH, MOAFF, MOIME, and the Cambodian Commission for Special Economic Zone (CCSEZ). This is expected to bring new trade system in Cambodia, namely for Customs clearance to become paperless (electronic) system (Article 4), for

the risk found case a joint inspection by the Customs and Excise Office and another institution (Article 5), for the verification by classifying goods in the level of 8 digits (Article 12), for trade document to be filed only one time (Article 15), and for executive procedure to reduce the compulsory inspective tasks (Article 17). Now Cambodia is going to ratify FAL65 (the Convention on the Facilitation of the International Maritime Traffic) and FAL65 shall effect synergically on this sub-decree.

#### 4.8.3 Immigration

In Cambodia, the Immigration police are under administration of MOI and total staff of 1,200 persons is stationed at International seaports, International airports and cross border checking points for entry procedure as well as inspection for passengers and crews. Cross border checking points are classified into three categories such as 1) International Gate, 2) Bilateral Gate and 3) Regional Gate. 17 International Gates are now arranged: 12 checking points at Border, 3 checking points at Waterborne Gate and 2 Airborne Gates as follows.

**Table 4.8.3 Checking Points and Gates**

Country	Vietnam	Thailand	Laos
Border Gates	Phnom Den Kaam Samnor Bavet Trapeang Srae Trapeang Plong	Koh Kong Poipet Doung Kamrieng Prum Ou Smach Choam	Dom
Waterborne Gates		Sihanoukville port Oknha Mong port Phnom Penh port	
Airborne Gates		Phnom Penh International airport Siem Reap International airport	

Inspection of arriving vessel to Phnom Penh port is carried out at Ka Om Samnor of Mekong River checking point between Vietnam, where 40 immigration officers are assigned and on duty 24 hours a day, the same as Customs officer.