1st PIANC–MPWT Cambodia Seminar

on Waterway Transport Infrastructure Development

National Waterborne Transport system in Cambodia

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National Waterborne Transport System in Cambodia

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<th><strong>The Current Social Situation Cambodia</strong></th>
<th></th>
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<tr>
<td><strong>Population</strong></td>
<td>16,556,629 mil</td>
</tr>
<tr>
<td><strong>Area</strong></td>
<td>181,035 km²</td>
</tr>
<tr>
<td><strong>Population Density</strong></td>
<td>82/km² (212/sq mi)</td>
</tr>
<tr>
<td><strong>Capital</strong></td>
<td>Phnom Penh</td>
</tr>
<tr>
<td><strong>Largest City</strong></td>
<td>Phnom Penh – 2,014,015 mil</td>
</tr>
<tr>
<td><strong>Government</strong></td>
<td>Unitary parliamentary constitutional monarchy</td>
</tr>
<tr>
<td><strong>Official language</strong></td>
<td>Khmer</td>
</tr>
<tr>
<td><strong>Main religions</strong></td>
<td>96.4% Buddhism, 2.1% Islam, 1.3% Christianity, 0.3% Other</td>
</tr>
<tr>
<td><strong>Ethnic groups</strong></td>
<td>90% Khmer, 5% Vietnamese, 1% Chinese, 4% Other</td>
</tr>
<tr>
<td><strong>GDP (PPP)</strong></td>
<td>$3,870.30 per capita</td>
</tr>
<tr>
<td><strong>GDP (nominal)</strong></td>
<td>$1,559 per capita</td>
</tr>
</tbody>
</table>
1. Activities Waterway Transport and Waterway infrastructure in Cambodia

- The Cambodian inland waterway network along the Mekong River and its tributaries, the Tonle Sap system, and the Bassac River- has a total navigable length of 1,750km.

- The Mekong River accounts for about 30% of the navigable length, Tonle Sap 15%, Bassac 5%, and the remaining waterways - restricted to shallow draught vessels of 100-150 tonne capacity - 50%.

- At low water levels, the presence of rocks between Kratie and Stung Treng restricts passage to small vessels of up to 20 tonne.

- In dry season at some area along the Tonle Sap Lake is shallow approximately 1m.
The operation of waterway transportation between PP and other provinces in Cambodia:

- Speedboat for passenger services and Cruise ships navigate between Phnom Penh, kompong Chhnang and Chong Kneas (Siem Reap) Port;

- Barges used for carrying containers and general cargo goods from Vietnamese Port through Kaom Samnor (Cambodia) – Vinh Xuong (Vietnam) waterway border gate.

- Vessels had transport petroleum and gas from Vietnam port to petroleum port in Phnom Penh along Mekong and Sap Rivers.

- Cargo boat services operated between the Phnom Penh Domestic Port and provincial ports at Chong Kneas, Kratie and Stung Treng;

- Operation of cargo boats to transport goods, agricultural products and construction materials between various locations on the Mekong and Tonle Sap rivers and Chong Kneas
Waterway distance between Phnom Penh and provincial ports

- Phnom Penh – Kompong Cham, **105Km**
- Phnom Penh – Kaorm Samnor, **102Km**
- Phnom Penh – Kratie, **214Km**
- Phnom Penh – Stung Treng, **349km**
- Phnom Penh – Kompong Chnnang, **100km**
- Phnom Penh – Battambang, **340km**
- Phnom Penh – Chong Kneas, **251km**
## Maximum sizes of vessels currently operating on inland waterway

<table>
<thead>
<tr>
<th>Kind of ship</th>
<th>Mekong Mainstream up to Phnom Penh</th>
<th>Tonle Sap, Phnom Penh to Siem Reap</th>
<th>Mekong River, Phnom Penh to Kampong Cham</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Petroleum</strong></td>
<td>Tanker barges 1,000 DWT, 4.0m draught</td>
<td>Tanker barges less than 1000 DWT, 2.50m draught</td>
<td>Tanker barges less than 1000 DWT, 2.50m draught</td>
</tr>
<tr>
<td><strong>Containers</strong></td>
<td>Barges 1,900 DWT (120 TEU), 3.8m draught</td>
<td></td>
<td>Barges 1200 DWT (120 TEU), 3.2m draught</td>
</tr>
<tr>
<td><strong>General Cargo</strong></td>
<td>Barges 1,500 DWT, 4.0m draught</td>
<td>Domestic boats less than 1000 DWT, 2.50m</td>
<td>Domestic boats less than 1000 DWT, 2.50m</td>
</tr>
<tr>
<td><strong>Tourist Cruise Vessels</strong></td>
<td>50-65 passengers, 1.5m draught</td>
<td>50-65 passengers, 1.5m draught</td>
<td>50-65 passengers, 1.5m draught</td>
</tr>
<tr>
<td><strong>Speedboats</strong></td>
<td>25 passengers, shallow draught</td>
<td>25 passengers, shallow draught</td>
<td></td>
</tr>
</tbody>
</table>
International Port and Domestic Port

Phnom Penh Autonomous Port is an international river port:

- 3 berths (300mx22m Wharf platform) of dry cargo (container) terminal and only sea going ship of 2,500 DWT (4.5m to 5m draft) can navigate and transit all year round.
- 348km far from Vung Tau, Vietnam by passing through Mekong river about 2-3 days (34 hours) of sailing time.
Phnom Penh Autonomous Port
Local River Ports:

- Along the Mekong River system has some ports:
  - Stung Treng Port (349 km up) and
  - Kratie Port (214 km up),
  - Kampong Cham Port (105 km up of Phnom Penh),
  - Kampong Chhnang Port (100 km from Phnom Penh)
  - Siem Reap (Chong Kneas Port)(251 km from Phnom Penh)
- The boats ranging from 70 to 500 DWT capacity can pass these ports accordance with water level of the season (Rainy/Dry).
Petroleum Port
Shipyard

All shipyard are located along the Mekong River, Basac and Sap River, most of shipyard are family business and they constructed or repaired some kind of ships such as cargo vessel, passenger ships and barges for local business operators.
Waterway Infrastructure Development (Aids to Navigation)

A. Recommended Aids to Navigation System on the Upper Mekong River:

This system recommends the uniform fixed and floating marks (other than lighthouses, sector lights and marks, lightships and large navigational buoys) on the upper Mekong River in China, Lao People’s Democratic Republic, Myanmar and Thailand, servicing to indicate:

• the lateral limits of navigable channels;
• natural dangers and other obstructions;
• other areas or features of importance to the navigator.

Definition of “Left” and “Right” (A)

On rivers, the terms “left” and “right” shall respectively mean to the left and to the right of an observer facing downstream.

On canals and lakes, the competent authorities shall decide the matter in the light of local conditions. However, the sides decided must be consistent with that of the connected rivers.
B. Recommendation Aids to Navigation System on the Lower Mekong River

This system recommends the uniform fixed and floating marks (other than lighthouses, sector lights and marks, lightships and large navigational buoys) on the Lower Mekong River system in Cambodia and Vietnam, serving to indicate:

- The lateral limit of navigable channels;
- Natural dangers and other obstructions;
- Other areas or features of importance to the navigator.

Definition of “Left” and “Right” (B)

On rivers, the terms “left” and “right” shall respectively mean to the left and to the right of an observer facing downstream.

On canals and lakes, the component authorities shall decide the matter in the light of local conditions. However, the sides decided must be consistent with that of the connect
Lanteral Marks

The left side buoy is green color and green light

The right side buoy is red color and red light
Official buoys installing aids to navigation
The buoys installing for aids to navigation along Low Mekong River
Beacon at the Sap Lake
Under the MRC-Belgian navigation program, a study on the feasibility of dredging a channel in the Tonlé Sap and the Great Lake has been carried out since September 2008.
2. Advantage of Waterway Transport

- The low cost and big volume transportation
- Reduce traffic jam (congestion) avoid road accident and reduce land road damaged
- Increase international and local tourist
- The used less energy is compared with another mode of transport
- Low cost of investment on waterway (Cost investment 1km on the waterway equal to 1/12 road investment)
- Low environment impact: it emits Co2 is less than other mode of transport.
ការនិយាយអំពីសមត្តភាពយន្តរៀន (Energy Efficiency)

• សមត្តភាពយន្តរៀនជាមួយនឹងប្រវត្តិសាស្ត្រនិងសមតាមរៀនពោះងត្តនប់ប្រវត្តិសាស្ត្រនិងភាពយន្តរៀន

(Source: 3rd World Water Forum- Water and Transport- MTS, US Dep’t of Transportation)
បញ្ហាមុខងារក្នុងការដឹកជញ្ជូន CO2 (CO2 in g- t/km)

ការដឹកជញ្ជូនរវាគ្រាប់អំពីផ្លូវទឹកនិងមានប្រយោជន៍ច្រើនជាងគេ។

- 207 g-t/km
- 41 g-t/km
- 42 g-t/km

- បញ្ហាមុខងារក្នុងការដឹកជញ្ជូន CO2

- ការដឹកជញ្ជូនរវាគ្រាប់អំពីផ្លូវទឹក

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3. Vessels Registration and Administration

The ministry in charge of public works and transport shall have its competence to register a ship/vessel, to issue a ship card, determine a ship number plate and name, to every ship of any kind.

A ship card shall be permanently valid except as a case of transfer of ownership, change of residents between the capital city and provinces or provinces and provinces, as well as the loss of the ship.
In accordance to

- The Circular 003 SRNN.SK, dated 27th September 2000, on the **Management of Waterway Transport**.

- The establishment of three Technical Committees to manage and control the work of waterway transport as follows:
  - Registration Committee for ship Piloting License and Mechanic License
  - Technical Inspection Committee
  - The above-mentioned technical committees are obliged to inspect at site and manage all documents, applications related to respective technical skills so as to conduct ship registration, provide ship number plate, ship piloting license, and mechanic license and ship technical inspection book.
The Ministry of Public Works and Transport has issued any license and certificate related to Vessel card, Skipper License…

- Any vessel/boat with a loading capacity of 40 tons or more and an engine of 90HP or more;
- Any oil tanker;
- Any passenger boat with loading capacity of 50 seats or more;
- Any tourist boat;
- Any boat or ferry;
- Any boat navigating across provincial/municipal boundaries;
- Boat trailer with an engine capacity of 90HP or more;
- Any fishing boat;
- Any boat used for conducting business across borders;
- All kinds of foreigner boats which have been authorized to temporarily or permanently stay in Cambodia
- All kinds of power boats regardless of engine power;

**Provincial/city public works and transport office**

- All kinds of boats with a loading capacity below 40 tons or engine capacity less than 90HP;
- A passenger boat with a loading capacity less than 50 seats;
Files Required for Application of Vessel / ship Identity Card

1. Application form with a proper stamp

2. Contract of sale recognized by the competent authority

3. Applicant’s certified letter of residence or identity card and photocopied family book

4. Administrative letter certifying that the ship does not belong to the state if an applicant is a civil servant

5. Director’s certified letter if such ship belongs to the state

6. A proper import invoice, if it is an imported ship

7. A certified letter from the Ministry of Public Works and Transport if the ship is constructed or reformed

8. The construction plan approved by the Ministry of Public Works and Transport

9. A bibliography of the ship certified by a Director of Department.
Category of Vessel / ship

PP1  Dry goods ship
PP2  Passenger ship
PP3  Oil tanker
PP4  Trailer ship
PP5  Non-motor ship
PP6  Ship, ferry ship, ferry, dredge, gravel / sand dredge, poling ship
PP7  Specialized or personal ship
PP8  Fishing ship
PP9  Foreigner’s ship
PP10 Tourist ship or power ship
PP11 Rescue ship
Ship Document

A boat owner shall have the file his/her navigable document with the Department of Inland Waterway Transport or provincial/city public work and transport office on the date of inspection.

Navigable document its shall be has on board of ship:

1. Boat identity card;
2. Skipper/Engine Operational license;
3. Technical inspection book;
4. Boat log book;
5. Business Operational license;
6. Traffic visa book;
7. Receipt of tax payment.
Ship Card
(Front site)
Ship Card
(in site part)
A . Boat Skipper License

There are three types of piloting licenses:

1) Piloting license class 1: A person who holds a piloting license class 1 shall be at least twenty five years of age and is entitled to pilot a vessel/boat with a capacity of 301 tons or more or a trailer boat with a capacity of 301 tons or more;

2) Piloting license class 2: A person who holds a piloting license class 2 shall be at least twenty five years of age and is entitled to pilot a vessel/boat with a capacity from 51 to 300 tons or a trailer boat with a capacity of 25 to 300 tons;

3) Piloting license class 3: A person who holds a piloting license class 3 shall be at least 22 years of age and is entitled to pilot a boat with a capacity of 50 tons or below or a trailer boat with a capacity of 50 tons or below.
There are three types of mechanist Certificate:

1) Mechanic Certificate class 1: A person who holds a mechanic license class 1 shall be at least twenty-two years of age and shall be qualified to work on board a vessel/boat with a capacity of 151HP or more;

2) Mechanic Certificate class 2: A person who holds a mechanic license class 2 shall be at least twenty-two years of age and shall be qualified to work on board the boat with a capacity of 91HP to 150HP;

3) Mechanic Certificate class 3: A person who holds a mechanic license class 3 shall be at least twenty year of age and shall be qualified to work on board the boat with a capacity of 30HP to 90HP.

B. Mechanic Certification

Any boat shall have one mechanic who is in charge of the boat engine. Each mechanic shall bear his/her mechanic license.
Technical Inspection of Vessels/Boats

The purpose of technical inspection is to guarantee that a vessel or boat meets adequate technical conditions, to ensure safety, comfort, security, traffic, traffic order, and protect the State as well as private property and lives of citizens and passengers who travel on waterways of the. Vessels/boats shall meet technical conditions.
Procedure of Vessel inspection

- Initial survey
- Annual survey
- Special survey
- Ship Survey at ship yard.
Technical conditions of vessels/boats authorized for business or commercial transactions:

(a) Body of Boat:
The body, whether constructed of iron, wood or fibre glass/plastic, shall be of sufficient quality to ensure safety;

(b) Engine system:
Each part of the engine shall be installed in a well-running manner with a metal encasement to protect passengers or other persons from danger from touching the engine.

(c) Steering system and piloting:
The pilot's seat shall have enough space and be in proper order to allow the pilot full visibility.

(d) Roof of Boat:
- Any boat 25 meters long or more may be fully covered by a roof;
- For any boat 21 to 24 meters long, 3 meters at the stern shall be left uncovered;
- For any boat 8 to 20 meters long, half of the stern shall be left uncovered;

(e) Horn and bell:
All vessels/boats shall be equipped with a horn for sending emergency blasts when necessary. The horn's sound shall be audible for a distance of 1,500 meters at least. In addition to a horn, all boats shall have bells with a 0.20m-diameter bottom for use in emergency or bad weather.

(f) Lights and signals:
- Various boats and trailer boats, passenger boats, cargo boats, oil tankers, and trailer boats shall have the following lights:
g. Safety equipment

- Buoy, Ring Buoy, Life vest
- The bridge
- Fire equipment and water pump
- Reserved medicines and Toilet
- Tarpaulin, wood, pushing pole, rope, anchor
- Water surveillance tool
- Cargo loading scale
- Communication radio
4. The Draft of Law on Waterway Transportation

The Master Plan on Waterborne Transport in the Mekong River System in Cambodia was developed in 2006, by Government of Flanders Kingdom of Belgium. The Master Plan set out **60 action plans** for the development of inland waterway transport in Cambodia. It had setting out a strategy of short, medium and long-term investments and other activities, is needed as the basis for increasing the efficiency of waterborne transport, and managing the sector effectively, in order to realize its potential to contribute to achieving the country’s economic and social development goals.
The Master Plan Waterborne Transport in Cambodia has established several actions as follow:

- Environmental Actions
- Port planning Actions
- Waterway safety Actions
- Legal Frameworks
- Training and education Actions
- Institutional Actions
- Promotional Actions
• The Draft of Law on Waterway Transport has been drafted by General Department of Transport is former of the GDWMP (Inland Waterway Transport Department).

• Navigation Coordination Committee was established and Mr. Freddy Wens, as a **International Technical Counsel** and some Cambodian staff.

* ក្លាយជាចំនួនអនកជំនាញចាេ់ការសម្រាប់កម្ពុជាដែលមានចំនួនជាងមីរ។

* មានអនកជំនាញក្នុងការសិក្សានឹងប្រការដែលមានចំនួនទីទីប្រសិនបើកនឹងអនកជំនាញចាេ់ការសម្រាប់កម្ពុជា

* អនកជំនាញក្នុងការសិក្សានឹងប្រការដែលមានចំនួនទីទីប្រសិនបើកនឹងអនកជំនាញចាេ់ការសម្រាប់កម្ពុជា
The Legal Frameworks for Waterway Transport and Port

- **THE DRAFT LAW ON INLAND WATERWAY TRANSPORT**
  There is 99 Articles and 15 Chapters. Its has discussed in GDWMP, MPWT and it will be send to Council Minister again and then to National Assembly.

- **THE DRAFT “CAMBODIAN PORT LAW”**
  There is 40 Articles and 12 Chapters. It has been finalized waiting for discussion in MPWT and it will be send to council minister and National Assembly.
Minister has signed Declaration on Port Facility and Safety of Kingdom of Cambodia.

The Draft Declaration on “The technical details for the carriage of dangerous goods by inland waterway ship”.

The Draft of National Spill Contingency Plan (NSCP) for Mekong and tributaries is would be formulated as Committee.

The Draft of Declaration on Ship’s Waste Management Plan for the Inland Waterways in the Kingdom of Cambodia.
Agreement waterway Transportation between Cambodia and Vietnam

- Legal framework for cross-border navigation 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin


- Cambodia has been formulated of Cambodian Mekong Navigation Facilitation Committee (CMNFC), Board, Working Group and Waterway Transport Consultation Group.
The ministry of mobility and public works of Flanders, Belgium has also given the scholarship to **55 officials** at the Inland Waterway Transport Department of the General Department Of Waterway-Maritime Transport and Port and PPAP who have attended the International Seminar at APEC - Anwerp / Flanders Port Training Center Belgium, as well as financial support and give the scholarship to study Master Degree of Marine Transportation and Port Management **2 officials** MPWT from Inland Waterway Transport Department and **2 staff** from PPAP.
This is the fourth MOU between the ministry of public works and transport of Cambodia and ministry of mobility and public works of Flanders. The implementation of the MOU since 2013-2016, we have received the financial support for training to the officers on the technical inspection and ship registration, training to the skippers (ship navigator) - mechanic (Engine Operator) as well as the training course on carriage, handling and storage of dangerous goods and also

- Organized 21 times of training on ship technical inspection and inland waterway management with 324 participants.

- Organized 15 times of skipper level 3 training with 328 participants.

- Organized 3 times of transportation, handling and storage of dangerous goods with 54 participants.

* Totally, we had conducted 35 times of training course with 706 participants
CURRENT PROBLEMS

- Shallow draught channel during drying season
- Absence of laws and regulations for IWT management
- Needed of human resources on IWT
- Lack of Waterway Transport Investors
- Weak of environmental protection management on IWT.
- Challenge with road transport competition.
Thank you very much for your kind attention!