Sub-regional Cooperation to enhance Inland Waterway Transport

Inland Waterway Transport in Cambodia

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Cambodia National Mekong Committee
Country Overview

- Cambodia (capital: Phnom Penh) is located in the southeast of Indo-China Peninsula in Southeast Asia, with a total area of 181,035 km².
- Cambodia features superior location and is the important transport hub of “Maritime Silk Road” and Asian Highway Network. Located on the rich and populous zone of Mekong Delta, it is the key node for ASEAN “connectivity”, Mekong Subregion Economic Cooperation, and other strategies, with stronger functions for receiving influence and transferring strategy.
- Economy in Cambodia is integrated with that in South-East Asia, forming an integration tendency of complementary advantages and industrial connection.
- According to the data from World Bank, Cambodia’s GDP in 2017 was USD 22.18 billion, ranking 8th among ten ASEAN members.

- Trade Volume, Maritime Transport volume
- Container port traffic
- Modal split for container (recent 3-5 Years)
Inland Waterway Transport
Bilateral Agreement on Navigation between Cambodia and Vietnam

- The purpose of the present Agreement is:
  (1) to establish a legal framework for the effective implementation of freedom of navigation in the Mekong river system, thereby implementing Article 9 of the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, done at Chiang Rai on 5 April 1995;
  (2) to create favorable conditions for transit and cross-border navigation within the regulated waterways.

- This agreement have:
  6 chapters
  39 articles
MRC Master Plan for Regional waterborne transport in the LMB

- Developed in Dec 2015 by MRCS later on endorsed by MCs during 2020.
- Explain about the various dimension of the waterborne transports in the LMB’s countries
- Focusing on the short-, medium- and long-term master plan for regional and each national levels priorities including task plannings for each member countries
- Prepared investment plan and budget for various regional, national and joint-bilateral projects
Inland Waterway Transport

Background
Historically, inland water transport (IWT) has been the most reliable and conventional form of transport in Cambodia. Although it was thought before the 1970s that road and rail transport might replace it, it is now clear that IWT still remains the most important traditional and most useful mode of transport in Cambodia.
## Maximum navigable vessel size in the Mekong River basin by section

<table>
<thead>
<tr>
<th>River</th>
<th>River Section</th>
<th>Length (km)</th>
<th>Year-round navigation possible?</th>
<th>Vessel Size Restriction (DWT)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low Water</td>
</tr>
<tr>
<td>Vessel Size Restriction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low Water</td>
</tr>
<tr>
<td>River</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golden Triangle - Luang Prabang</td>
<td>362</td>
<td>Yes - but is limited by rocky passages and strong currents</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Luang Prabang - Vientiane</td>
<td>425</td>
<td>Yes - but requires small boats and skilled pilots during dry season</td>
<td>15, 50</td>
<td></td>
</tr>
<tr>
<td>Vientiane- Savannakhet</td>
<td>459</td>
<td>Yes</td>
<td>200</td>
<td>500</td>
</tr>
<tr>
<td>Savannakhet - Pakse</td>
<td>261</td>
<td>No &quot;high water&quot; only navigation possible</td>
<td>Less than 10</td>
<td>50</td>
</tr>
<tr>
<td>Pakse - Khinak</td>
<td>151</td>
<td>Yes</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Khinak - Veune Kham</td>
<td>14</td>
<td>No - navigation not possible at any time due to Khone Falls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veune Kham - Stung Treng</td>
<td>30</td>
<td>Yes - with size limitations at low water</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>Stung Treng - Kratie</td>
<td>128</td>
<td>Yes - with size limitations at low water</td>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>Kratie - Kampong Cham</td>
<td>121</td>
<td>Yes</td>
<td>80</td>
<td>400</td>
</tr>
<tr>
<td>Kampong Cham – Phnom Penh</td>
<td>106</td>
<td>Yes - navigable by sea-going ships</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>Phnom Penh- Junction of Vam Nao Pass</td>
<td>154</td>
<td>Yes - navigable by sea-going ships</td>
<td>3,000-4,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Vam Nao pass – South China sea</td>
<td>194</td>
<td>Yes - navigable by sea-going ships</td>
<td>3,000-4,000</td>
<td>3,000-4,000</td>
</tr>
</tbody>
</table>
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<th>Vessel Size Restriction (DWT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bassac River</td>
<td>Phnom Penh - Junction of Vam Nao Pass</td>
<td></td>
<td>Yes - but not possible by sea-going ships</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Vam Nao Pass – South China Sea</td>
<td>188</td>
<td>Yes - navigable sea-going ships</td>
<td>5,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5,000-6,000</td>
</tr>
<tr>
<td>Tonle Sap River</td>
<td>Phnom Penh - 5km South of Kampong Chhnang</td>
<td>94</td>
<td>Yes - navigable by sea-going ships</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>Kampong Chhnang - Chhnok Trou</td>
<td>46</td>
<td>Yes - with size limitations at low water</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Chhnok Trou - Chong Kneas</td>
<td>109</td>
<td>Yes - with size limitations at low water</td>
<td>20</td>
</tr>
<tr>
<td>Mekong Delta Waterways</td>
<td>Dense network of man-made canals, natural creeks and tributaries, with a total navigable length of 4,785 km</td>
<td>4,785</td>
<td>Yes - Vessel size restrictions within this network vary from 10-300DWT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Se-kong - Mekong tributary (Lao PDR and Cambodia)</td>
<td></td>
<td>Yes - this waterway is navigable between the Lao PDR and, providing an alternative international transit corridor to the Mekong which is non-navigable through the Khone Falls</td>
<td></td>
</tr>
</tbody>
</table>
Regulated Waterway in Cambodia

Phnom Penh port is on the Mekong River so access is through the delta in Vietnam and through Ho Chi Minh City. In regard condition, to get access to the sea, Cambodia has to negotiate with the Vietnamese. The negotiation on regulated waterways and transit routes started in late 90’s and it was on 17th December 2009 that the Agreement had been signed in Phnom Penh.

The critical section for the Mekong route which is preferred by Cambodia is the river mouth with a depth of only 2.4 m during low tide and 4.5 m during the average high tide (allowing vessels up to 2,000 and 4,000 dwt respectively).

Regulated waterways’ means the waterways and stretches of waterways belonging to the Mekong river system within the respective territories of Cambodia and Vietnam, which are listed in the table bellow or any other waterway jointly designated by Cambodia and Vietnam. ‘Transit routes’ means those parts of the regulated waterways which are open to maritime vessels engaged in transit transportation.

<table>
<thead>
<tr>
<th>Name of Waterway</th>
<th>Starting Point – End Point</th>
<th>Length (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tonle Sap Lake</td>
<td>From Chong Kneas to Kampong Chhnang</td>
<td>152 km</td>
</tr>
<tr>
<td>Tonle Sap River</td>
<td>From Kampong Chhnang to Phnom Penh</td>
<td>100 km</td>
</tr>
<tr>
<td>Mekong River</td>
<td>From Phnom Penh to Kaom Samnor/Vinh Xuong border gate</td>
<td>102 km</td>
</tr>
<tr>
<td>Mekong River</td>
<td>From Kampong Cham to Phnom Penh</td>
<td>106 km</td>
</tr>
</tbody>
</table>
National policy on Waterway-Maritime Transport and Port development

1. Develop ports infrastructure to serve ships operations in domestic and international waters
2. Promote the establishment of special economic zones in port areas
3. Develop Master Plan on Port to ensure sustainable port management and development
4. Develop, protect, and maintain waterway infrastructures, install and improve aids navigation in rivers and coastal for safety of navigations and transportations
5. Establish legislative documents related to maritime and inland waterway transport, and port
6. Promote the establishment of maritime education, training and develop capacity building programs for strengthening the government official capacity
7. Promote the participation of private sectors in development of shipping industry, ship building and maintainances, port facilities setup, development and operation
8. Develop port data and information management and sharing system and adopt other modern technologies to facilitate port’s shipping processes
9. Establish maritime management and operations centre and other necessary maritime infrastructures for safety of ship and naval operations
10. Establish national shipping line to ensure sustainable transportation.
Government Management Structure related to waterway, maritime and port in Cambodia

Ministry of Public Works and Transport (MPWT)

- General Department of Administration and Finance
- General Department of Planning and Policy
- General Department of Technique
- General Department of Public Works
- General Department of Waterway-Maritime Transport and Port
- General Department of Waterway-Maritime Transport and Port
- General Department of Land Transport
- General Department of Logistics
- General Inspectorate

- Inland Waterways Transport Department
- Waterways Infrastructure and Port Construction Department
- Merchant Marine Department
- Port Administration Department

- General Affair Office
- Waterways Management Office
- Aid Navigation Office
- Planning and Legislation Office
- Waterways Construction and Ports Office
- Geo-Navigation Office
In Cambodia there are two modes of waterways transportation:

- Inland waterways
- Coastal and Marine waterways (Maritime)
Current status of waterways in Cambodia cont.

1- Inland waterways

- Mekong River System is the main area for inland waterways and ports development.
- The inland waterway in Cambodia is 1,750Km. However, ship can only be operated in 780Km of the inland waterways.
- The entire waterway in Cambodia, Mekong river makes up 30%, Tonle Sap and Bassac rivers make up 15% and 5% respectively, and all other rivers make up the remaining 50%.

2- Coastal and Marinetime waterways

- The coastline of Cambodia consists of 435Km long extends from Thailand to Vietnam boarder
<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>Petroleum</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>Containers</td>
<td>Barges/Vessels 1,900 DWT (120 TEU), 3.8m – 4.2m draught</td>
<td></td>
<td>Barges 1200DWT(120TEU), 3.2m draught</td>
</tr>
<tr>
<td>General Cargo</td>
<td>Barges/vessels 1,500-5,000 DWT, 4.0m - 4.50m 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>Tourist Cruise Vessels</td>
<td>50-120 passengers, 1.5m draught</td>
<td>50-120 passengers, 1.5m draught</td>
<td>50-120 passengers, 1.5m draught</td>
</tr>
<tr>
<td>Speedboats</td>
<td>25 passengers shallow draught</td>
<td>25 passengers shallow draught</td>
<td></td>
</tr>
</tbody>
</table>

Maximum sizes of vessels currently operating on inland waterway
Mekong River stretch from Kampong Cham to Phnom Penh Chaktomuk, 100Km

The fleet along this stretch is vessel of 1,500 DWT can navigate for whole year. However, the vessel of 2,000 DWT can navigate seasonal.

General cargo export from the Tonle Bet port (2015-2020) mainly are animal feed, corn/maiz, feed wheat and soya bean meal. (Source: PPAP)
Tanker and feeder ships are on the Mekong River
The river stretch (Tonle Sap) started from Phnom Penh Chaktomuk to Kampong Chhnang about 122 km.

The Tonle Sap river from Kampong Chhnag to Phnom Penh is passable for most of the vessels in full year (365 days).
Funding Sources for inland Waterway development in Cambodia

There are three difference sources of fund to support waterways infrastructure development in Cambodia.

• National Annual Budget Allocation
• Other development partners fund support (Ex: JICA, Korea/KOICA)
• Private sectors
Future Waterways development Plans in Cambodia

Waterway

• Seek financial support for development partners to develop the technical standard for waterway development and operation in Cambodia including Waterway construction, maintenance and survey facilities

• Cooperate with other regional and international partners on capacity development and strengthening for our staff on waterways infrastructure and port development

• Cooperate with development partners and private sector as well as utilization of the national budget to continue the Implementation of the Rehabilitation Plan of waterways infrastructure and ports

• Conduct waterways dredging for improvement the Mekong river, Bassac and Tonle Sap rivers system to revitalize inland waterways transportation and port logistics.

• Preparation the waterway classification based on vessel classification and current situation of river stretch.
Future Waterways development Plans in Cambodia

Port Planning
- Phnom Penh domestic port development (Greentrade)
- Kampong Chhnang domestic port development
- Kampong Cham domestic port development
- Kratie domestic port development
- Stung Treng domestic port development

Waterway Safety
- Framework for rules and procedures supporting the safe navigation of vessels
- Framework for the introduction of a technical regime for approval of plans and construction of Cambodian domestic and cross-border vessels
- Framework for reporting marine accidents in Cambodia
- Framework of regulations and training standards to deal with prevention of oil pollution from ships
- Framework of regulations and training standards to deal existing and future carriage of dangerous goods
- Framework for domestic search and rescue
- Framework for sharing the Mekong river by all users (consultation with fisheries department)
- Provide a basic aids to navigation on the Kampong Cham - Stung Treng section and Tonle Sap and Bassac Rivers
Future Waterways development Plans in Cambodia

The list of anticipated project priority for the future implementation

- Construct Tonlesap River port in Kampong Tralach Commune, Kampong Tralach District of Kampong Chhnang Province
- Construct Tonlesap River port in Choukiri District of Kampong Chhnange Province
- Install and maintain aid navigation along inland waterways
- Study on hydrography and produce ENC
- Study and construct the coastal tourist port in Dang Tong Commune of Koh Kong Province
- Study and construct the Mekong river local port in Chhlong District of Kratie Province
- Study and construct the Mekong river local port in Pres Bath Commune, Strung Treng Municipality of Stung Treng Province
- Study and construct tourist port in Tonlesap Great Lake in Kampong Pluk Commune of Siem Reap Province
- Study and construct the tourist port in Sangke Stream in Koh Chivaing Commune of Battambang Province
Issues and challenges

- Many of significant inland waterways navigation channels are shallower. Mostly the navigation can be operated smoothly only in rainy season.
- The utilization of waterways transportation in Cambodia is still limited and at minimum level, it is due to insufficient investment on facilities for waterways infrastructure development.
- Limited of national funding for investment on waterway infrastructures and port development
- Lack of law, regulation, and technical guidelines to support on waterways infrastructure management and operations.
- Limited of resources persons, skills, knowledge, and experiences on waterways infrastructure management and development.
- Limited of financial support for waterways development and operations.
Issues and challenges

For private ports management

- Lack of technical guideline (or standard) for guiding the private port construction and operation. Currently, the private port construction and operation are implemented basing on their own concept, available funding and resources of each port owner.
- Many private ports (esp. River port) are operating without using turning basin area’s map within the port operation area.
- Many of the private ports are still operated without official registration (or permission) from MPWT.
Thank You!

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