Challenges & Opportunities of Coastal Shipping in Southeast Asia

Workshop on Strengthening transport connectivity among Cambodia, Lao PDR, Myanmar, Viet Nam and Thailand (CLMV-T) and archipelagic countries.
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1. Objectives of research
1. Objectives of research*

- Objectives:
  - To strengthen the capacity of selected member countries in planning, developing and implementing efficient coastal shipping for sustainable transport connectivity
  - Identify main obstacles to coastal shipping development
  - Provide recommendations and guidelines on coastal shipping development
  - Share knowledge, understanding and experiences of coastal shipping in the region

- Study Methodology:
  - Study to identify current situation of Coastal shipping for selected countries
    - Literature survey
    - Capacity building workshop
    - Cooperation with research institute: Korea Maritime Institute (KMI)
    - Run container forecasting model: Integrated Transport Planning Model (ITPM)
    - Expert advice
  - Identification of shared issues

* A study report is being prepared in parallel to this workshop
2. Status and trend on coastal shipping
2.1 Global GDP growth

- World seaborne trade remains largely determined by world economy and trade growth.
- ESCAP ITPM model is forecasting container throughput in the future using simple regression analysis on economic growth rate of major countries and regions and container throughput volume.

Global Growth Forecast to Reach 2.9 Percent in 2019.
Average annual GDP growth rate (percent %)

2.2 Annual GDP growth of selected countries (in%)
2.3 Container throughput trends

- Over the past 30 years, sea borne container throughput continued to expand. Except for 2009, shortly after the economic crisis.

- Container trade, which has shown relatively high growth rates over the past several decades, is expected to show a 8.3% growth rate until 2020. It is a reflection of the prospect that economic growth in the near future should stay consistent.

- Cargo flows are expected to be developed on all segments, with rapid growth anticipated on containerized and major dry bulk commodities.

Container throughput trend (average growth rate %)

Source: ESCAP, 2018.
### Container port throughput in selected countries

![Container port throughput, annual, 2010-2017](image)

**Source:** UNCTAD, [http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx](http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx)

Accessed 02/10/2018.
2.5 Fleet analysis(1)

Merchant fleet by flag of registration and by total fleet, annual, 2011-2018

DWT in thousands (Number of ships)

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<tr>
<td>Cambodia</td>
<td>2 755 (836)</td>
<td>2 144 (754)</td>
<td>2 075 (740)</td>
<td>2 052 (699)</td>
<td>1 818 (606)</td>
<td>1 652 (580)</td>
<td>645 (351)</td>
<td>652 (364)</td>
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<td>Indonesia</td>
<td>14 529 (5960)</td>
<td>13 050 (6341)</td>
<td>14 446 (6768)</td>
<td>16 558 (7542)</td>
<td>18 224 (8132)</td>
<td>18 932 (8472)</td>
<td>20 263 (8974)</td>
<td>22 313 (9053)</td>
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<td>Lao PDR</td>
<td>2 (1)</td>
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<td>2 (1)</td>
<td>2 (1)</td>
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<tr>
<td>Malaysia</td>
<td>10 793 (1405)</td>
<td>11 031 (1456)</td>
<td>10 353 (1525)</td>
<td>9 361 (1561)</td>
<td>9 474 (1617)</td>
<td>9 523 (1658)</td>
<td>9 841 (1682)</td>
<td>10 321 (1704)</td>
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<td>Myanmar</td>
<td>193 (83)</td>
<td>182 (86)</td>
<td>182 (86)</td>
<td>264 (88)</td>
<td>286 (98)</td>
<td>218 (98)</td>
<td>192 (96)</td>
<td>272 (95)</td>
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<td>Philippines</td>
<td>6 513 (1407)</td>
<td>7 114 (1403)</td>
<td>6 546 (1390)</td>
<td>5 977 (1436)</td>
<td>6 058 (1461)</td>
<td>6 407 (1534)</td>
<td>6 235 (1565)</td>
<td>5 684 (1615)</td>
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<tr>
<td>Thailand</td>
<td>5 110 (769)</td>
<td>4 427 (746)</td>
<td>4 634 (747)</td>
<td>5 036 (767)</td>
<td>5 328 (776)</td>
<td>5 400 (795)</td>
<td>5 402 (795)</td>
<td>6 213 (807)</td>
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<td>Viet Nam</td>
<td>6 979 (1756)</td>
<td>7 170 (1774)</td>
<td>7 294 (1776)</td>
<td>7 11 (1752)</td>
<td>7 315 (1761)</td>
<td>7 697 (1798)</td>
<td>8 014 (1836)</td>
<td>8 177 (1863)</td>
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## 2.5 Fleet analysis (2)

### By Ownership

**MERCHANT FLEETS OF THE WORLD - BY NATIONALITY OF OWNER, 1,000 GT AND ABOVE**

<table>
<thead>
<tr>
<th>NATIONALITY</th>
<th>TOTALS</th>
<th>CARGO CARRYING SHIPS</th>
<th>SHIPS OF MISCELLANEOUS ACTIVITIES</th>
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<tr>
<td></td>
<td>No.</td>
<td>GT</td>
<td>Age</td>
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<tr>
<td>INDONESIA</td>
<td>1,350</td>
<td>11,168,830</td>
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<tr>
<td>MALAYSIA</td>
<td>541</td>
<td>11,223,037</td>
<td>13</td>
</tr>
<tr>
<td>MYANMAR</td>
<td>29</td>
<td>138,657</td>
<td>25</td>
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<tr>
<td>PHILIPPINES</td>
<td>352</td>
<td>1,274,235</td>
<td>26</td>
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<tr>
<td>THAILAND</td>
<td>383</td>
<td>4,510,249</td>
<td>22</td>
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<tr>
<td>VIETNAM</td>
<td>602</td>
<td>4,128,697</td>
<td>13</td>
</tr>
<tr>
<td>WORLD TOTALS</td>
<td>51,380</td>
<td>1,227,923,530</td>
<td>20</td>
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</table>

3. Challenges of CS
3.1 Ship size increasing and its impact

- Scale-up still ongoing

- Require additional investment for ports as well as hinterland transport connectivity

- Changing calling strategies following M&A

- Cascading effect: severe competition

3.2 Increasing competition among ports

- Facing fierce competition to be hub port and gateway

- Fierce competition to attract transshipment cargo
  - Transshipment cargo is attractive but volatile
  - Integrated transportation connectivity becomes crucial

*Keihin Port is Japan’s super port hub on Tokyo Bay and includes Yokohama, Kawasaki, and Tokyo.

3.3 Digital divide & new technologies gap

- **Automation**:
  - Improve port productivity, help labor issues, prevent human errors, build eco-friendly ports and etc.
  - Different circumstances in different countries, a careful approach is needed

- **Applying information and communication technologies**
  - The emergence of new and powerful new technologies: IoT, Big data, Block Chain and ITS
  - Existing technology land system: EDI, RFID, Single Window, Container monitoring/tracking system, port community system, logistics information system and etc.
  - How to apply and harmonize among technologies considering port status and strategies
3.4 Heavily rely on road transport

- **Advantages** of shipping
  - Most environmental friendly transport mode
  - Long distance (ex, over 400km) and large volumes
  - Most efficient mode

- **Disadvantage** of shipping
  - Slow and time consuming process: whole supply chain (shipper – port – port – shipper) take more time
  - Multimodal required: need inland transport mode

- Coastal shipping has big potential, but less utilized in the region
  - Insufficient port infrastructure & hinterland connectivity: limit to provide door-to-door service
  - Business practices based on road-oriented transport systems
  - Lack of policies and incentives to promote coastal shipping
  - Strengthen environment regulations including GHGs and Emission
  - High operating cost: depends on oil price
3.5 Maritime safety issues

- **Ports & coastal shipping exposed various natural disasters**
  - Natural disasters: earthquakes, tsunamis, flooding, sea level rise, typhoons, dense fog, strong winds and etc.
  - Earthquakes (including tsunamis) and typhoons are more critical
  - Typhoons and sea level rise due to extreme weather and global warming are becoming serious risk
  - Recent typhoons tend to be more difficult to predict and more damaging

- **Various social risks also became serious**
  - Fire, blackout, explosion and chemical leaks
  - Cyber attacks are evolving and damage is growing
  - Transport industry damaged a lot: ex: Maersk Line

- **Maritime safety**
  - Fatal large-scale marine accidents occurred in ASEAN
  - Reasons: Human error, weather, overloading/overcrowding, poor quality of crew, old vessel
  - Marine accidents cause enormous damage including loss of life/property and environmental pollution
3.6 Worsening business environment

**Port Congestion vs less utilization**
- Congestion occurs in some countries or ports
  - Impact on all stakeholders
  - Not only congestion costs but also social costs such as air pollution*
    * Where ships can not berth and wait outside the port
- Reasons of congestion
  - Handling capacity of port/terminal
  - Weather: fog, heavy rain, tidal, winds
  - Hinterland network congestion (Road, rail)
  - CIQ process and accidents (strike, sabotage, cyber attack)
- Some ports, however, are not yet fully utilizing their potential

**Micro, small and medium sized business**
- Increasing aged ships
- Lack of professional manpower & increasing elderly seafarers
- Low profit due to less demand and severe competition
4. Opportunities of CS
4.1 Increasing awareness on coastal shipping

- **Environmental friendly transport mode** for mitigating greenhouse gases
  - Greenhouse Gases (CO\(_2\)) : CO\(_2\) emissions of shipping is 1/6 compared to that of road transport

- **Suitable for bulk/large cargo**: Energy, Natural resources and others

- **Lifeline**: connect mainland and islands

- **Great potential**
  - Establishes emergency logistics network
  - Contribute to create jobs and business
4.2 SDG and Coastal shipping

**Global**
- Transformer our world: the 2030 Agenda for Sustainable Development (Adopted by General Assembly, September 2015)
  - Transport contribute to the SDG and Targets (1, 2, 3, 7, 9, 11, 13 16 & 17)

**ESCAP**
- Regional Action Programme for Sustainable Transport Connectivity in Asia and the Pacific Phase, 1(2017-2021)
  - Facilitate international maritime transport, enhance maritime operational connectivity, enhance maritime connectivity for small island developing States

**ASEAN**
- ASEAN transport strategic plan for 2016-2025(Kuala Lumpur Transport Strategic Plan)
  - ASEAN Single Shipping Market (ASSM)
4.3 ASEAN initiative

- **Relevant geography**: countries in the region have long coastlines or numerous islands
- **Improve connectivity** (domestic/international)
  - Offers an alternative to rail, road or air transport - Alleviate road congestions
  - Enhance Hinterland connectivity
- **Leverage and unlock** new economic opportunities
  - Cold chain business
- **Promote Safe and sustainable** mode of transport, for cargo & passenger
  - Key enabler of green and intermodal transport - reduce environmental impact
- **Strengthen relationship among ESCAP** member states (and archipelagic countries)
- **Foster coastal shipping strategy in the region**:
  - ASEAN Single Shipping Market (ASSM)
  - ASEAN RO-RO concept
- **Meet current and future economic growth demands**
4.4 Increasing Container volume: World & Regional

- In 2020, the global port traffic volume is estimated at **728 million TEU** and ESCAP estimated at **594 million TEU**.

- During the same period, the average annual growth rate of ESCAP ports is estimated to be **8.2%**, which is higher than the global growth rate of **4.3%**.

**Global & ESCAP total container traffic in 2015 & 2020 (million TEU)**

**Intra-regional container trade in 2016 (‘000 TEU)**

Unit: ‘MillionTeu
Source: Data from Drewry, Container Forecast & Annual Review 2016/2017.
4.5 Increasing Passenger and Cruise

Increasing demand for passenger and Cruise Terminals

- Increase in the development of passenger and cruise terminals in Asia and the Pacific
- Cruise and maritime tourism industry in Asia heavily influenced by China

Top Destinations in Asia-Pacific by total calls, 2016

- Indonesia
- Thailand
- Singapore
- Malaysia
- Viet Nam
- Rep. Korea
- China
- Japan

Source: 2016 Asia Cruise Trends Study by Cruise Lines International Association (CLIA)

- Additional investment required for calling of large cruise ships
4.6 Strengthening Maritime connectivity Initiatives

- Maritime connectivity is an important enabling factor to promote trade and economic development
- **Survival lifelines** for islands, specially remote and small islands
- **Strengthening** regional cooperation on integrated transport for sustainable development in Asia and the Pacific
- **Facilitate** inter island shipping for small island developing States
- **Expand** network of regional and global supply chains
- Improving Maritime Transport and **Related Services** in the Pacific
- Investment for port development and integrated transport networks contribute to **Trade, transport, Logistics and Business**
5. Recommendations
Recommendation

- **Strengthen Sustainable transport development Plan**
  - Sustainable, Smart & Green connectivity
  - High efficiency, low cost
  - Long-term transport development plan
    - Utilize all initiatives such as BRI, Southern policy etc. as opportunities
    - Harmonize regional and sub-regional initiatives and programme

- **Continuous investment** for maritime transport as well as integrated transport connectivity

- **Strengthen cooperation** to facilitate seamless logistics and transit transport among ESCAP member countries and beyond
  - Improve cooperation and understanding among stakeholders
Action plan

**Sustaining the Growth of Coastal Shipping Service**

- **Improving the level of Coastal Shipping Service**
  - Development of ships to meet the maritime transport needs of the region
  - Invest in coastal shipping infrastructures (i.e., terminals)
  - Improving the service quality of whole supply chain

- **Providing demand-driven shipping service**
  - Developing express cargo service
  - Developing eco-friendly marine tourism

- **Enhancing competitiveness of coastal shipping**
  - Developing green ships (LNG fueled ship, Eco ship)
  - Developing smart and sustainable operation
  - Improving business environments (tax, incentive, subsidy)
6. Future working plan

- Collect additional data and information
- Benchmark on good practices (ROK, Japan and EU)
- Consultation on establishment of Master plan for maritime transport in individual country
- Identify future studies (ex, Evaluating ASSM and future Development Plan)
- Strengthen cooperation ASEAN and Member countries
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