Roles of Dry Ports in Economic Corridors

Transport Division, UNESCAP
Outline

• Definition of Dry Ports

• Roles of dry port
  • Economic benefits
  • Environmental benefits
  • Social benefits

• Selected Example of Dry Ports
  • CONCOR, India
  • Lat Krabang, Thailand
  • Viet Nam
  • Indonesia

• Challenges faced

• Way forward
Intermodal Transport and Integration (Goods)

Dry Ports

**Working Definition**
A dry port provides services for the handling and temporary storage of containers, general and/or bulk cargoes that enters or leaves the dry port by any mode of transport such as road, railways, inland waterways or airports.

A **dry port of international importance** shall refer to a secure inland location for handling, temporary storage, inspection and customs clearance of freight moving in international trade.

Other names: Inland Port, Dry Port, Inland Clearance Depot, Inland Container Terminal, Inland Customs Depot, and Inland Cargo Centre
**Asian Highway Network**
- 142,000 km
- Intergovernmental Agreement entered into force on 4 July 2005

**Trans-Asian Railway Network**
- 114,000 km
- Intergovernmental Agreement entered into force on 11 June 2009

**Sea Ports in Asia**
- Out of the 2009 top 30 container ports in the world, 19 are from Asia

**Modal shift through Dry Ports**

**Development of Intergovernmental Agreement on Dry Ports**
Intermodal Transport and Integration (Dry Ports)
Economic benefits

- **Help bring economic development from coastal area to hinterland (particularly for LLCDs)**
  - Dry ports can grow to SEZs

- **Reconciliation of between transport infrastructure and supply chain management**
  - Improving supply chain, logistics
  - Reducing transportation cost

- **Shifting distribution function from seaport terminals**
  - Coping with capacity constraints at seaport

- **Adding value to market players**

- **Modal shift to a more efficient mode of transport**

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**Regional Vision: International Integrated Intermodal transport and logistics system**

Source: The Transport and Communications Bulletin for Asia and the Pacific
Environmental and Social benefits

Reduction in GHG emission through modal shift at dry ports

By Road
1 liter of gasoline can move 25 Tons* of cargo for 1 kilometer
Average CO2 emission factor is 62g CO2 /ton-km**

By Rail
1 liter of gasoline can move 85 Tons* of cargo for 1 kilometer
Average CO2 emission factor is 22g CO2 /ton-km**

Example:
Birgunj ICD in Nepal (Rail-link ICD)
(ESCAP calculation) through dry port operation and rail connection has resulted in the reduction of CO2 emission of almost 58,000 tonnes equivalent in 2008/2009

Environmental and Social benefits

- **Reduce road congestion (Free up cars from roads)**
  Example: (Sweden) 70 trains daily service to Port of Göteborg free up 2,400 trucks from road daily, (USA) 25% of transport to Port of Virginia via double-stack container trains free up up to 2,000 trucks on road daily.

- **Long queue at port cold lead to anxiety of truck drivers, thus increased risk of accidents**
  Example: At the Port of Göteborg gates there are several hours of long queues at peak times (Roso, 2007) Dry port connecting to Port of Gotenborg trucks in and out in just 30 minutes; truck drivers never have to leave their vehicles

- **Employment Opportunities**

Source: The Transport and Communications Bulletin for Asia and the Pacific
Selected Example of Dry Ports in Asia

Status of Development of Dry Ports in Asia

- Stage of Development of dry ports in Asian countries is very different.

- Some countries such as India, Thailand, China and Republic of Korea have established fully-fledged dry ports whilst in some other countries dry port development is still at very early stage.

Selected Examples

- India
- Thailand
- Viet Nam
- Cambodia
- Indonesia
## Some Initiatives by European and North American Port Authorities to Develop Inland Links

<table>
<thead>
<tr>
<th>Port authority</th>
<th>Project</th>
<th>Aim</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Europe</strong></td>
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<tr>
<td>Antwerp</td>
<td>Trilogiport – Liège</td>
<td>Joint development of a 100 ha logistics platform along the Albert Canal. Status: Joint entity under the legal status of an ‘economic interest grouping’</td>
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<td>Other planned locations</td>
<td></td>
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<td>Rotterdam</td>
<td>EIT – European Inland Terminals</td>
<td>Minority shareholding in inland terminals in immediate hinterland via separate holding. Status: abandoned</td>
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<tr>
<td>Barcelona</td>
<td>tm-concept (Terminal Maritima)</td>
<td>Joint partnerships to set up dry ports / logistics zones in hinterland. Status: tmT (Toulouse), tmZ (Zaragoza), tmM (Madrid) are operational. New projects in Perpignan, Montpellier and Lyon</td>
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<tr>
<td>Marseille</td>
<td>Inland port Lyon</td>
<td>Development of Lyon as a multimodal satellite port of Marseille. Status: Société d’économie mixte founded in 1997. Port authority is one of shareholders. Joint barge and rail services between Lyon and Marseille</td>
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<tr>
<td>HHLA - Hamburg</td>
<td>Rail terminals</td>
<td>HHLA ha participations in rail terminals (Melnik, Budapest, etc.) to support its rail products via Potzug, Metrans and HHCE</td>
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<tr>
<td><strong>North America</strong></td>
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<tr>
<td>New York / New Jersey</td>
<td>Port Inland Distribution Network</td>
<td>Network of rail and barge services to inland and port terminals. Status: barge service to Albany abandoned in 2006.</td>
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<td>Virginia</td>
<td>Virginia Inland Port</td>
<td>Setting of an inland rail terminal at Front Royal. Status: Virginia Inland port operational</td>
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<td>Los Angeles &amp; Long Beach</td>
<td>Alameda corridor</td>
<td>Joint governance of the Alameda Corridor Transport Authority. Rail link between the satellite rail terminals of downtown Los Angeles (BNSF, UP) and on-dock and near dock rail facilities. Status: operational with more than 10,000 TEU per day</td>
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Lat Krabang ICD, Thailand

- One of the most developed and advanced dry port in Asia
- 27 Km East of Bangkok, 118 Km from Laem Chabang port
- Developed on Concession in 1993
- Operated by 6 private companies
- Design capacity 500,000 TEU but handled >1.7m TEU(2008)
- High speed rail connection to port
- Current share is 25%:75% -rail: road (decreasing)
- Planning to expand capacity of ICD and rail link
- Capacity 26 trains/day- 60 TEU/train

Photo Credit: Siam Shoreside
CONCOR, India

- CONCOR-59 ICDs, 49 EXIM
- Road and rail links
- Modernizing operations; ICT Growth of int. Containers 60%-81%
- Dedicated freight corridors

- Landlord model
- Activities are outsourced
- Flexible and wide range of services
- Flagship terminal: Tughlakabad (handles 24% of total throughput)
Ho Chi Minh City, Viet Nam

- 6-7 dry ports in Ho Chi Minh City
- Small size with basic equipment
- The main function of these dry ports is for the storage of empty containers from liner shipping companies
Cikarang, Indonesia

- Proposed location in Cikarang-Cibitung Industrial Zone, 50 km from the Port of Tanjung Priok (obtained approvals from local, provincial and national government)
- Project originally proposed by a private sector.
- The industrial zone and the surrounding generate more than half of the total container throughput at the Port of Tanjung Priok
Common challenges in developing Dry Ports

- Trade supports
- Developed rail and road network
- Increased cargo volumes carried by railway
- Finance
- Balanced market mechanism and political commitment
- Multi-sectoral coordination and communications
- Under context of regional transport development

Needs for Intergovernmental Agreement on Dry Ports
Intergovernmental Agreement on Dry Ports

**Regional Level**

- Development of Dry Ports together with AH and TAR are essential to achieve regional vision

- The agreement will enable member states to recognize dry ports in other countries (to capture business and investment opportunities)

**National Level**

- The agreement will provide useful guideline and enable countries to understand minimum requirement of dry ports

- Able to make relevant policies to promote the strategically importance dry port