TPM Asia – Why Should the Indian Sub-continent be on a Shipper’s Radar Screen?

*Future Trends in Trade, Port Development and Transhipment*

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India - Key Trade Partners

EU & NE Asia dominate, but pattern is changing.....

North America:
+US$26 bn
-US$20 bn

C & S America:
+US$6 bn
-US$5 bn

Europe:
+US$42 bn
-US$70 bn

Other Africa:
+US$12 bn
-US$8 bn

NE Asia:
+US$36 bn
-US$75 bn

ASEAN:
+US$19 bn
-US$23 bn

WANA*:
+US$49 bn
-US$35 bn

Notes:
1) India fiscal year April 2010-March 2011.
2) Merchandise trade, excluding energy (i.e. not including trade relating to mineral fuels such as oil, petroleum and relevant products).
3) WANA: West Asia and North Africa
Source: GHK analysis, 2012
Rise of the regional: EU and N America shares decline, whilst NE Asia and Africa / W Asia continue to rise

- NE Asia and West Asia / North Africa are India’s fastest growing trading regions for both import and export.
- Trade with WANA (especially UAE which is currently India’s largest trade partner) is mainly high value jewelry, coin, gold and precious stones trade (after oil and gas are excluded), but in value term is just 75% of NE Asia in total and only 46% in import.

**Note:** Merchandise trade (excluding energy).

**Source:** GHK analysis, 2012.
India Port Sector Demand-Supply Dynamics

- Overall utilisation of ~70% masks considerable variation, with congestion at main gateway.

  - Congestion at JNP has led to imposition of surcharges (e.g. congestion surcharge levied in JNP) and volume diversion to rival ports.
    - e.g. JNP losing mkt share to private ports Mundra and Pipavav. 1H2011, JNP share of NW India decline 72% to 67% y-o-y; Pipavav & Mundra increased mkt share from 24% to 29%.

- Available capacity at efficient private ports to win volume from congested or inefficient government ports.

- Medium to long-term demand growth will be strong: Indian ports handled 10 million TEU in 2011, top ten China ports handled 130 million. Build ahead of demand.

<table>
<thead>
<tr>
<th>'000 TEU in 2011 Throughput</th>
<th>Capacity</th>
<th>Utilisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>KOLKATA (incl. HALDIA)</td>
<td>551</td>
<td>791</td>
</tr>
<tr>
<td>PARADIP</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>VIZAG</td>
<td>234</td>
<td>208</td>
</tr>
<tr>
<td>CHENNAI</td>
<td>1,558</td>
<td>3,500</td>
</tr>
<tr>
<td>ENNORE</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TUTICORIN</td>
<td>477</td>
<td>417</td>
</tr>
<tr>
<td>COCHIN*</td>
<td>328</td>
<td>1,000</td>
</tr>
<tr>
<td>NEW MANGALORE</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MORMUGAO</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MUMBAI</td>
<td>58</td>
<td>83</td>
</tr>
<tr>
<td>KANDLA</td>
<td>166</td>
<td>600</td>
</tr>
<tr>
<td>J.N.P</td>
<td>4,321</td>
<td>4,550</td>
</tr>
<tr>
<td>PIPAVAV</td>
<td>610</td>
<td>600</td>
</tr>
<tr>
<td>MUNDRA</td>
<td>1,377</td>
<td>2,200</td>
</tr>
<tr>
<td>TOTAL</td>
<td>9,680</td>
<td>13,949</td>
</tr>
</tbody>
</table>

Note: Blue texts indicate private ports. *Substantial increase in capacity 2011 @ ICTT

Source: ICF GHK research & analysis, 2012.
Indian Sub-Continent (ISC)

Non-ISC hubs at risk as ISC port capacity & services develop?

...increased direct calls at India Ports

...potential for transhipment at India Ports?

Notes:
1) Indian fiscal year ends on 31 March (i.e. 1994 = Apr 1993 - Mar 1994).
2) Old refers to Mumbai Old Port; New refers to Mumbai New Port (i.e. JNPT).
3) JNPT (Jawaharlal Nehru Port Trust) = JNPT + NSICT + GTIPL
4) JNPT, JNP Container terminal.
5) NSICT, Nhava Sheva International Container Terminal.
6) GTIPL, Gateway Terminals India Pvt Ltd.

Source: ICF GHK analysis based on Ministry of Shipping, Indian Port Trusts, and Indian Ports Association.
Rise of “India Direct”

Outside main gateway, vast majority of containers come in feeders, but changing…

- Traditionally no transhipment at ISC ports and 15 years ago few direct calls:
  - Import/Export (I/E) cargo volumes too small to entice shipping line diversion from main deep-sea trunk routes between Far East and Europe/US.
  - ISC ports were inefficient state monopolies: very low handling speeds and a deterrent to shipping line calls
- Most containers carried to / from Indian ports by feeders, mainly from Colombo, Singapore and Dubai.
- End of 1990s, increase in volumes and introduction of private sector operators (starting with Nhava Sheva at JNPT). Faster ship turnarounds accelerate move to direct calls, but lack of draft at several ports has limited benefits from economies of size
- 2008 now only ~8% of Nhava Sheva traffic in feeders – the rest being direct services. Outside, Nhava Sheva, the vast majority of containers still come in feeders, but changing….
## Far East – ISC Market Segment

*Increased direct calls and increased economies of scale via larger vessels*

- Last three years number of carriers on dedicated FE-ISC trade increased to 24 (+14%) and services to 18 (+29%).
- Average size of vessel increased from 2,000TEU+ to 3,000TEU+.
- Weekly direct calls at ISC have grown almost 100%
  - West coast still dominated by JNPT (but losing market share to Mundra & Pipavav)
  - East coast saw significant growth with recently 6 direct calls @ Chennai and 5 @ Vizag (three years ago, feeder was the only option)
- Share of Colombo in ISC declined from 43% in 2007 to 31% end 2010…*but this is still a substantial share, especially in absolute terms*

<table>
<thead>
<tr>
<th>Dedicated FE-ISC Services</th>
<th>Oct-07</th>
<th>Oct-10</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of Services</td>
<td>14</td>
<td>18</td>
<td>29%</td>
</tr>
<tr>
<td>No of Carriers</td>
<td>21</td>
<td>24</td>
<td>14%</td>
</tr>
<tr>
<td>Avg Size of Vessel (TEU)</td>
<td>2,101</td>
<td>3,023</td>
<td>44%</td>
</tr>
<tr>
<td>Of which Smallest</td>
<td>1,048</td>
<td>1,207</td>
<td>15%</td>
</tr>
<tr>
<td>Largest</td>
<td>3,728</td>
<td>5,518</td>
<td>48%</td>
</tr>
<tr>
<td>Total Weekly Calls in ISC</td>
<td>28</td>
<td>54</td>
<td>93%</td>
</tr>
<tr>
<td>Weekly Calls @ West Coast Ports</td>
<td>16</td>
<td>30</td>
<td>88%</td>
</tr>
<tr>
<td>Of which @ Nhava Sheva</td>
<td>13</td>
<td>19</td>
<td>46%</td>
</tr>
<tr>
<td>Weekly Calls @ East Coast Ports</td>
<td>0</td>
<td>7</td>
<td>n.a.</td>
</tr>
<tr>
<td>Of which @ Chennai</td>
<td>0</td>
<td>5</td>
<td>n.a.</td>
</tr>
<tr>
<td>Weekly Calls @ Colombo</td>
<td>12</td>
<td>17</td>
<td>42%</td>
</tr>
</tbody>
</table>

**Notes:**

1) Subsidiary and mother company are counted as one carrier.
2) Carriers in jointly service are counted separately
3) Number of weekly call includes double calls
4) Not including Pakistan ports (i.e. excluding Karachi and Port Qasim)

**Source:** ICF GHK research
Potential for Transhipment @ ISC Ports

Draft addressed but challenges remain

Lack of adequate draft for mother vessels now being addressed, but other challenges remain:

- Main ports too far away from main east-west trunk routes, specifically, Nhava Sheva, which handles over 60% of India’s traffic.
- India Customs regime - guarantee against cargo not being shipped from next port (not less than 25% of the cargo value).
- Indian port dues are high.
- ODs of ISC cargo concentrated 1,000-1,500 km inland, rather than coastal areas served by ships. Nhava Sheva and NW ports of Mundra & Pipavav positioned to handle 2/3 of national traffic without need for transhipment.
- Long detour round Sri Lanka for any single port to tranship to both coasts until the Sethsamudran Canal is completed.
- Indian legislation does not permit feeder services between Indian ports in foreign flag vessels: cabotage restrictions.....pace of reform is slow – failure of Vallarpadam finally leading to change? relaxed cabotage for ICTT for 3 yrs.
ISC Regional Transhipment – Wrap

Regional demand is strong, but growth and network patterns likely to change

- Changing market dynamics but against a strong background of overall growth
- ISC direct will increasingly compete with Transhipment (TS) at traditional hubs: Colombo, Dubai, Singapore, Klang, PTP
- But transhipment at ISC ports unlikely to be significant in short to medium term

**Colombo**
- Most exposed to rise of ISC / India direct services
- Strategically placed to feed both coats of ISC, but as volumes increase and direct services become widespread, will TS at Colombo be competitive?
- China Merchants a large PRC operator with global aspirations – strong incentive to develop Colombo, especially given restrictions on access to India market
- I/E handling charges are healthy, but are TS rates of ~USD30-40/20’ sustainable?
- Can Colombo develop critical mass and "lock in", before India direct achieves scale?

**Dubai**
- Less dependent on ISC related TS, less exposed to rise of ISC / India direct
- Continued key role for regional TS (Gulf related) until feeder ports develop critical mass for direct services
- Development of I/E hinterland: UAE (free trade zones / ind. parks); multimodal TS

…and remember the risks associated with this market…..
Transhipment Market - Postscript

Double the volume but not double the revenue - do the rewards justify the investment?

- Generally lower revenue per lift than O/D;
- Market is footloose / lines can switch;
- Capex requirements may be substantial (accommodate the biggest vessels);
- Good as top-up, but risky as a core market

ICTSI versus PSA as a Proxy for “OD Versus Transhipment”
Yield per TEU (USD)

Notes: *International Container Terminal Services Inc.
Source: ICTSI; PSA; UBS Research
ECONOMIC BENEFITS FROM TS ARE LOWER THAN IMPORT / EXPORT (IE)...

.....but it is often additional activity that would otherwise be lost

Example from Malaysia, Port Klang:

- Value added per TEU of Import / export (IE) cargo at least 1.5 times higher than transhipment cargo; employment impact at least 2 times
- But benefits from transhipment are net additions (i.e. would likely be lost without port). Imp/Exp: significant portion of benefits (e.g. trucking, freight forwarding, etc.) would remain, even without port.

Hong Kong: Imp/Exp is slightly different, given the vast majority is S China Mainland multimodal TS (i.e. additional cargo for Hong Kong)

Imp/Exp subsidising TS versus TS supporting connectivity that might not otherwise be possible?

<table>
<thead>
<tr>
<th>Klang, Malaysia</th>
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</thead>
<tbody>
<tr>
<td>Value Added (RM) per TEU</td>
</tr>
<tr>
<td>Imp / Exp</td>
</tr>
<tr>
<td>2002</td>
</tr>
<tr>
<td>2003</td>
</tr>
<tr>
<td>2004</td>
</tr>
<tr>
<td>2005</td>
</tr>
<tr>
<td>2006</td>
</tr>
<tr>
<td>2008</td>
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<table>
<thead>
<tr>
<th>Hong Kong Containerised, 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Tonnage Value Added (HK$/tonne)</td>
</tr>
<tr>
<td>Ocean</td>
</tr>
<tr>
<td>186</td>
</tr>
<tr>
<td>Imp / Export</td>
</tr>
<tr>
<td>193</td>
</tr>
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</table>
## ICF GHK Services & Client Groups

<table>
<thead>
<tr>
<th>Services</th>
<th>Sector</th>
<th>Government, Regulators &amp; (Air)Port Authorities</th>
<th>Operator / Service Providers: Container Terminal Operators, Shipping Lines, Airlines, Rail Operator, 3PLs, etc.</th>
<th>Finance: Project Financiers, Multilateral Finance Institutions, Asset Managers, Private Equity, Hedge Funds, Sovereign Funds, etc.</th>
<th>Other Consultants: Engineers, PR, Marketing, Property, Legal, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic &amp; Master Planning</td>
<td>Mainly Public</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
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<tr>
<td>Forecasting &amp; Scenario Planning</td>
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<tr>
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<td>Independent Market Assessment</td>
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<td>Feasibility Studies &amp; Investment Appraisal</td>
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<tr>
<td>Asset Disposal &amp; Investor / Partner Search</td>
<td>Private</td>
<td>◆</td>
<td>◆</td>
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<tr>
<td>Cost Benefit / Impact Assessment</td>
<td>Mainly Private</td>
<td>◆</td>
<td>◆</td>
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<tr>
<td>Environmental Planning &amp; Mitigation</td>
<td>Mainly Private</td>
<td>◆</td>
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<tr>
<td>Environmental Compliance, Monitoring &amp; Evaluation</td>
<td>Mainly Private</td>
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<td>◆</td>
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<tr>
<td>Public-Private Partnership (PPP)</td>
<td>Mainly Private</td>
<td>◆</td>
<td>◆</td>
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<tr>
<td>Regulatory Advice, Pricing, Tariff, Concessions</td>
<td>Mainly Private</td>
<td>◆</td>
<td>◆</td>
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<tr>
<td>Listed Equity – Growth Strategy Assessment</td>
<td>Private</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
<td>◆</td>
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<tr>
<td>Economic Development</td>
<td>Private</td>
<td>◆</td>
<td>◆</td>
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</tr>
</tbody>
</table>
Thank You – Any Questions?

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