CHAPTER 3
Performance of Indian Ports – Stakeholders view

3.1 Discussions with Expert Group: An Introduction

One of the major ways of eliciting information for a particular research problem is to meet the stakeholders. In a personal interview/mail questionnaire/telephonic surveys the assumption is that the respondents are knowledgeable enough to respond to structured questions. Many enquires require frank and candid opinion from the respondents regarding the problem at hand. The respondents may not be aware about which information to divulge in order to respond to the query correctly. In such cases more than definite answers the enquirer wants to extract opinion on a complex subject to reach a conclusion. A group of people well versed on the subject of enquiry is selected for a discussion on issues related to the problem at hand. It is seen that the group participates voluntarily, gives frank opinion on the issues raised in the discussion.

Discussions with major shipping lines (or their representatives), Shipping Agents, Container-Agents, representatives of Dry Ports (ICD & CFS), Exporters and Importers were organized at IIFT, Kolkata for capturing their views about their perception of the performance of containerized cargo handling at KoPT in respect of the other container handling ports of India.

For the project the names of probable participants had been discussed with the Port Authorities. On receiving the list mails were sent and telephonic follow-ups were done to ensure participation. Port Authorities on their part sent feelers to the probable participants about the importance of the meeting. This resulted in critical number of participants required for the discussion. The role of the moderator who guides the discussion is of paramount importance. Project leader well versed in port operations served as the moderator for the discussion since it was expected that the deliberations would be quite technical.

A group of people well versed on the subject of enquiry was selected for the discussions on issues related to the problem at hand. It was seen that the group participated voluntarily. Gives frank opinion on the issues raised in the discussion.

Few points that were kept in mind for organizing the discussion are
The groups were not too big. Restricted to around 20 persons.

People with adequate knowledge of port operations were involved

Time kept was limited to 1.30 hrs.

While the participants responded the moderator neither endorsed nor opposed the views

It was ensured that the participants gave as frank opinions as possible

Towards the end a consensus on critical issues was attempted.

3.2 The Study Port: The Kolkata Port Trust

Kolkata Port Trust is one of the twelve major ports of India. It is a riverine port in the city of Kolkata. The Port has two dock systems - Kolkata Dock System at Kolkata and Haldia Dock Complex, at Haldia.

3.2.1 Kolkata Dock System (KDS)

Kolkata Dock System is situated on the left bank of the Hooghly River about 203 km upstream from the sea. Its pilotage station is at Gasper/ Saugor roads, 145 Kilometres south of the KDS (around 58 km from the sea). The system consists of:

- Kidderpore Docks (K.P. Docks) : 18 Berths, 6 Buoys / Moorings and 3 Dry Docks
- Netaji Subhas Docks (N.S. Docks): 10 Berths, 2 Buoys / Moorings and 3 Dry Docks
- Budge Budge River Moorings : 6 Petroleum Wharves
- Anchorages : Diamond Harbour, Saugor Road, Sandheads

Apart from this, there are around 80 major riverine jetties, and many minor jetties, and a large number of ship breaking berths.

3.2.2 Haldia Dock Complex (HDC)

It is situated around 60 kilometres away from the pilotage station. The complex consists of:

- Impounded Dock. System with 12 Berths
- 3 Oil Jetties in the River
3 Barge Jetties in the River for handling Oil carried by Barges.
- Haldia Anchorage for lash vessels.

All the docks are impounded dock systems with locks from river.

### 3.2.3 Dry Dock

KoPT has the largest dry dock facility in India. These dry docks cater to the diverse repair and maintenance needs of the vessels calling on the Eastern Ports of India. In addition, shipbuilding facilities are also available in these dry docks. All the dry docks are inside the impounded dock system. There are five dry docks of which three are in Kidderpore Dock and two are in Netaji Subhas Dock.

There is a full-fledged repair workshop including Diesel Engine Overhauling Unit, Structural Shop, Heavy and Light Machine Shop, Forging Shop, Electrical Shop and a Chain Testing/Repair Shop with 2500 KN capacity Tensile Compression Testing Machine to support various activities in the dry dock. Kolkata Dry Dock & Workshop facilities have been awarded ISO 9001:2000 certificate in recognition of their excellence in quality.

### 3.2.4 Pilotage

Due to the constraints of the river (like silting, sandbars etc.) no seagoing vessel above 200 GRT is allowed to navigate without a qualified pilot of the Kolkata Port Trust. The total pilotage distance to KDS is 221 kilometres, comprising 148 kilometres in river and 75 kilometres in sea, and for HDC is 121 kilometres, comprising 46 kilometres in river and 75 kilometres in sea.

### 3.2.5 Navigational Aids

#### 3.2.5.1 Lighthouse

- Sagar Lighthouse is situated at Middleton Point on the Sagar Island 1.5 kilometres (0.93 mi) inshore. It is visible from a distance of 28 kilometres in clear weather.
- Dariapur Lighthouse is situated on the right bank of Hooghly River south of Rasulpur River and about 2.7 kilometres inshore. It is visible from a distance of 35 kilometres in clear weather.
3.2.5.2 Light Vessels
There are four unmanned light vessels to aid in navigation.

- U.G.L.F. located at 21°29′57″N 88°06′37.5″E
- L.G.L.F. located at 21°21′57″N 88°10′05″E
- Talent WK L.V. located at 21°17′21″N 88°11′17″E
- Eastern Channel L.V. located at 21°04′19″N 88°11′07″E

3.2.5.3 Automatic Tide Gauges
These are maintained at Tribeni, Garden Reach, Diamond Harbour and Haldia for round-the-clock recording of tidal data, which is used for the prediction of tides and preparation of tide tables by Survey of India.

3.2.5.4 Semaphores
These are maintained at Akra, Moyapur, Hooghly Point, Balari, Gangra and Sagar for displaying rises of tide for the convenience of various vessels navigating, dredging and surveying in the River Hooghly. The semaphores used to display the tide level at these localities on a mast by the position of the meter and decimeter arms which were manually rotated with the rise and fall of every decimeter of tidal level. However these semaphores are no longer functional and instead, tidal levels are broadcast over VHF radio every half an hour from all the above stations except at Balari.

3.2.5.5 River Marks and Buoys
A total of 500 (of which 140 are lighted) River Marks and Buoys are maintained by the KoPT. These are extremely useful in facilitating night navigation, pilotage and dredging. These lights are operated either by electricity, battery or by dissolved Marine Acetylene Gas. There is also 1 boat buoy, 30 lighted buoys and 72 unlit buoys marking the navigational channel from Sandheads to Kolkata.

3.2.5.6 Differential Global Positioning System (Differential GPS)
In the wide estuary, position fixing with reference to shore objects to be viewed from the deck of a vessel, is very difficult. In 1983 KoPT introduced the Electronic Position Fixing System "Syledis" for position fixing of the vessels plying in the wide estuary of the Hooghly River. The Shore-based Syledis Position Fixing System was functioning round the clock with the help of the Syledis Stations located at Haldia, Raichak, Dadanpatra Bar and Frazergunj. The system was effectively utilized for the purpose of hydrographic survey and dredging.
KoPT has now replaced the Syledis Position Fixing System by Differential GPS (Differential Global Position Fixing System). This latest state-of-the-art technology provides improved location accuracy of up to 10 cm.

3.2.6 Traffic Handled at KoPT

In the year 2012-13, Kolkata port handled 39928 thousand tonnes of cargo. This is significantly less than 57329 thousand tonnes of cargo it handled in 2007-08. In fact, the traffic through KoPT gradually declined from 2007-08 after experiencing continuous increase since 2002-03 (Table 3.1). The principal commodities handled by KoPT during 2012-13 are given in Table 3.2.

Table 3.1 Traffic Handled at KoPT during 2003-04 to 2012-13

<table>
<thead>
<tr>
<th>YEAR</th>
<th>KDS</th>
<th>HDC</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>8693</td>
<td>32567</td>
<td>41260</td>
</tr>
<tr>
<td>2004-05</td>
<td>9945</td>
<td>36262</td>
<td>46207</td>
</tr>
<tr>
<td>2005-06</td>
<td>10806</td>
<td>42337</td>
<td>53143</td>
</tr>
<tr>
<td>2006-07</td>
<td>12596</td>
<td>42454</td>
<td>55050</td>
</tr>
<tr>
<td>2007-08</td>
<td>13741</td>
<td>43588</td>
<td>57329</td>
</tr>
<tr>
<td>2008-09</td>
<td>12428</td>
<td>41791</td>
<td>54219</td>
</tr>
<tr>
<td>2009-10</td>
<td>13045</td>
<td>33378</td>
<td>46423</td>
</tr>
<tr>
<td>2010-11</td>
<td>12540</td>
<td>35005</td>
<td>47545</td>
</tr>
<tr>
<td>2011-12</td>
<td>12233</td>
<td>31015</td>
<td>43248</td>
</tr>
<tr>
<td>2012-13</td>
<td>11844</td>
<td>28084</td>
<td>39928</td>
</tr>
</tbody>
</table>

Source: Major Ports of India, A Profile: 2012-13, IPA

Table 3.2 Traffic in terms of Principal Commodities at KoPT during 2012-13

<table>
<thead>
<tr>
<th>POL, Crude + Other Product</th>
<th>Iron Ore</th>
<th>Fertilizer Finished</th>
<th>Raw Material</th>
<th>Coal Thermal</th>
<th>Coking</th>
<th>Container Tonnage In 000 TEUs</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>KDS</td>
<td>708</td>
<td>-</td>
<td>37</td>
<td>5</td>
<td>-</td>
<td>9</td>
<td>6960</td>
<td>463</td>
</tr>
<tr>
<td>HDC</td>
<td>6195</td>
<td>1715</td>
<td>109</td>
<td>277</td>
<td>1976</td>
<td>4503</td>
<td>2869</td>
<td>137</td>
</tr>
</tbody>
</table>
A Computational Framework for Assessing Impact of Port Efficiency on Maritime Logistics, Mrinal Kumar Dasgupta, IIFT

It is evident from Table 3.2 the traffic of containerized cargo constitutes a significant amount of total cargo traffic of KDS (58.76 percent), whereas POL and Coal have the major share in total cargo traffic.

Table 3.3 below give the details of container traffic handled at KDS and HDC in 2012-13.

Table 3.3 Container Traffic at KDS and HDC IN 2012-13

<table>
<thead>
<tr>
<th>Dock System</th>
<th>Unloaded</th>
<th>Loaded</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>KDS</td>
<td>232</td>
<td>231</td>
<td>463</td>
</tr>
<tr>
<td>HDC</td>
<td>68</td>
<td>69</td>
<td>137</td>
</tr>
</tbody>
</table>

Source: Major Ports of India, A Profile: 2012-13, IPA

3.2.6.1 Container Handling facilities at KoPT

Table 3.4 Container Handling Facilities at KoPT

<table>
<thead>
<tr>
<th>Dock System</th>
<th>No. Of Berths</th>
<th>Vessel Size (In DWT)</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yard Gantry Crane</td>
<td>Toplift Trucks/Reach Stackers</td>
</tr>
<tr>
<td>KDS</td>
<td>4</td>
<td>21,000</td>
<td>2 x 35.5 t</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 x 40 t</td>
</tr>
<tr>
<td>HDC</td>
<td>2</td>
<td>40,000</td>
<td>1 X 30 t</td>
</tr>
</tbody>
</table>

* In addition 4 no. RST of 45 t capacity each have been hired by Port

Source: Major Ports of India, A Profile: 2012-13, IPA
3.2.7 Average Turn Round Time of ships at KoPT

Table 3.5 Average Turn Round Time of ships (Category wise) (In Days)

<table>
<thead>
<tr>
<th>Dock System</th>
<th>Dry Bulk</th>
<th>Liquid Bulk</th>
<th>Break Bulk</th>
<th>Container</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>KDS</td>
<td>6.76</td>
<td>3.47</td>
<td>6.76</td>
<td>3.93</td>
<td>4.49</td>
</tr>
<tr>
<td>HDC</td>
<td>5.68</td>
<td>3.30</td>
<td>7.44</td>
<td>2.20</td>
<td>3.99</td>
</tr>
</tbody>
</table>

Source: Major Ports of India, A Profile: 2012-13, IPA

3.3 Analysis of the discussion

The analysis of the discussion with the stakeholders gave us the following feedbacks which are relevant to our study.

- More professionalism is required for improving the clearance of cargo (TRT should be reduced and return of empty container should take less time) at KoPT.

- The main problems faced by KoPT are
  - Low draft (only around 6 meters)
  - Inconsistent draft (variance to the extent of around 1 meter)
  - No night navigation
  - Poor infrastructural facilities
  - Slow movement of cargo in and around Dock
  - Cost plus basis of pricing leading to incorporation of in-efficiency in to the tariff component leading to increase in tariff.
  - Recovering Pension costs from port customers rather than arranging from different sources such as estate utilization, cost reduction, making organization learn.
  - Lack of comprehensive and holistic planning.
In case, the cost which has gone up by 50-100% due to low draft, surcharges, TRT etc. can be reduced, the additional benefit for that could also be passed on to the exporters and importers in that case.

An integrated approach wherein ports, CFSs, operators, exporters, importers should be transparent about various charges by different agencies and the reasons for such charges, is required rather than having an isolated approach.

Ports should play the role of some kind of intermediaries and should see that their CFSs are used only for emergency purposes and most of the containers should be passed out to outside CFSs.

From the Discussions with the expert group the following input and output variables are identified for carrying out DEA for measuring port efficiency. Inputs identified are Draft, Infrastructural facilities, road connectivity, night navigation. Output identified is turn round time of ships.

3.4 Chapter Summary

The expert group discussion held with the major stakeholders (shipping companies, importers, exporters and freight forwarders) led to the following inferences:

1. Stay at port also depends on same day sailing, which might not be possible due to non-availability of night navigation as observed in ports such as Kolkata and Haldia.
2. Port efficiency also includes the evacuation of cargo through effective connectivity with the hinterland. Adequate infrastructure supporting rail, road and inland water ways is a key to faster movement of cargo to and from ports.
3. A container port should be supported by ancillary services such as container freight stations, equipment, manpower and other service providers.
4. Navigable draft plays an important role in attracting ships. Ports with low draft reduce the parcel load resulting in increase in cost per tonne or per container.
5. Experienced pilot service is expected to result in lower clearance on the forward draft\(^1\). (In port of Kolkata the vessels need to have 0.2 meters trim\(^2\) aft between
6. Low draft results in congestion and low-water surcharges to be levied from the shipper resulting in increase in cost.

7. Availability of Customs clearances on round the clock basis reduces the dwell time of cargo and vessels and hence the maritime logistics cost.

8. Port management efficiency determines the productivity and hence ships’ cost at ports.