Regional Connectivity in South Asia Prospects and Challenges for Shipping Business: Indian Perspective

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ABSTRACT

The shipping sector plays an important role in Indian economy. Almost 90 percent of the country’s trade by volume is conducted via sea and the country boasts of having the largest merchant shipping fleet among the developing nations. The Indian shipping industry not only transport national and international cargoes, but also provides various others facilities such as ship building, ship repairing, lighthouse facilities freight forwarding etc. with Globalization and liberalization the Indian shipping industry is all set to acquire new dimensions in terms of demand and infrastructural development. In order to resist stiff competition posed by foreign companies, the Indian shipping companies are striving to bring about rapid transformation. Therefore, the present paper examines measures initiated by the Indian Govt. to improve ports and Shipping Industry. The paper also focuses on the Key challenges faced by the Industry.

Key Words: - Global Trade, Transport, Shipping, Port, Terminals, Industry, Infrastructure.

INTRODUCTION

The availability of transport infrastructure is crucial in providing and impetus for economic activities of any countries. The transport infrastructure has immensely helped the Europe union to grow fast. Over the years a number of initiative have been taken by south Asian countries at the bilateral sub-regional and regional level, but trade is yet to grow at the expected rate. There is a need to strengthen trade such as transport linkage among the members. The current level of trade can be doubled if appropriate regional agreement on shipping is put in place. The South Asian Region is strategically situated at the cross roads of Asia between the Oil rich countries in west and central Asia and the dynamic economics of Southeast Asia. Thus the region should make full use of its geographic advantage.

The shipping sector plays an important role in Indian economy. Almost 90 percent of the country’s trade by volume is conducted via sea and the country boasts of having the largest merchant shipping fleet among the developing nations. The Indian shipping industry not only transport national and international cargoes, but also provides various others facilities such as ship building, ship repairing, lighthouse facilities freight forwarding etc.

With Globalization and liberalization the Indian shipping industry is all set to acquire new dimensions in terms of demand and infrastructural development. In order to resist stiff competition posed by foreign companies, the Indian shipping companies are striving to bring about rapid transformation. India has a coastline of 7,500 km dotted with 13 federal and over 180 non federal ports out of 13 federal ports Chennai, Ennore, Tuticorin, Visakhapatnam, Paradip, Haldia and Kolkata lie on East coast. The remaining six ports on the west are Kochi, Mangalore, Mumbai, JNP (New Mumbai) Mormngao and Kandla. Federal
ports are those which are called major ports and are managed by the Board of trustees constituted for each federal port and are governed by major port Trust Act 1963 which deals with the management of major ports. Non federal ports are governed by the respective state government. In some states there are statutory maritime boards and in other state the department of state government administrate the port federal ports are service ports. In 2007 federal ports had a capacity of about 510 millions tones. At times the federal ports operate at high levels of capacity utilization going up to 90 percent. Non federal ports had a capacity of 228 million tones and they operate normally at 75 percent of their capacity. This is not surprising as the demand for the port services has been constantly growing at a compounded annual growth rate of ten percent, over the last 10 years

GLOBAL SCENARIO
Japan has been topping the list of countries controlling fleets in terms of dwt with 173.2 million dwt and 3720 ships; followed by Greece, with 3064 ships and 169.4 million dwt; and Germany, with 3522 ships and 104.9 million dwt. India was ranked at the 15th position with 963 ships and 15.5 million dwt, a share of 1.4% in terms of dwt. In terms of value of trade, USA is the major country engaged in maritime transport generating 10.68% of world trade in 2008. Other major countries include Germany (8.22%), China (7.91%), and Japan (4.78%). Among the Asian countries, China is the largest trader with large container port traffic and fleet. China International Marine Containers (CIMC) and Singamas is the two largest container manufacturers, which make China dominate in this field also. India is placed at eighteenth position in the world (with a share of 1.45%), and seventh position amongst Asian countries.

Global Trends
Effects of the Global Slowdown
Shipping Industry has been widely impacted given the economic slowdown of 2008 and 2009. Since the demand for ships / vessels is a derived demand of commodities, the slowdown affected the demand for ships / vessels during this period. This has been evident from the movement of Baltic Dry Index (BDI), which is a daily weighted average of prices of shipping raw materials, and is one of the leading indicators of global economic activity. BDI measures the demand to move raw materials, which indicates production, planning and industrial activity worldwide. BDI reflects the freight cost to transport dry bulk cargoes around the world, mainly raw materials such as iron ore, coal, and grains. The index excludes wet cargoes (such as crude oil carried by tankers) and container business (used mainly to carry manufactured products).

Regulators Plan to Monitor Shipping Rates
As the global trade shrunk by over 10%, many shipping lines found themselves in a situation of excess capacity (many liners ordered new ships during the economic boom period). Some analysts predicted that at least few shipping lines would go out of business to match with the supply demand situation. However, it is believed that shipping lines, in an informal arrangement, collectively reduced the capacity through 'slow steaming' (spending more days in sea, which helped them to save on fuel and reduce capacity). It is estimated that slow-steaming could cut a liner’s capacity by around 5%. It is also believed that some shipping lines have teamed up to levy a voluntary surcharge of US $ 400 per container. Both the Federal Maritime Commission (USA) and the European Monitoring Agency are closely monitoring the developments to see any evidence of price fixing by shipping liners.

Maritime Transport and Climate Change Challenge
Like other economic sectors, maritime transport, which by volume carries over 80% of global trade, has a role to play in addressing formidable challenge of climate change. International
maritime transport is playing a part in contributing to climate change, but more importantly, it is also likely to be directly and indirectly impacted by the various climate change factors, such as rising sea levels, extreme weather events and rising temperatures. The wide-ranging impacts of climate change, including that from maritime transport, and their potential implications for trade, economic growth and development, underscore the need to integrate climate considerations into strategies for transport planning and development. Increasingly, it is being recognized that considered and concerted actions are urgently required to ensure effective control of greenhouse gas emissions and to establish the requisite adaptive capacity in the shipping industry, especially in developing countries. Recognizing the importance forth maritime transport sector of contributing to global efforts at reducing emissions of greenhouse gases, IMO’s Marine Environment Protection Committee (MEPC) is considering a number of mitigation measures aimed at reducing emissions of greenhouse gases from international shipping.

Integration of Shipping Industry with Global Logistics and Supply Chains
Global shipping majors, like other segments of the conventional transport industry, are increasingly getting integrated with the emerging global logistics and supply chain activities, owing to both external and internal dynamics. Many firms are entering into the enhanced canvas of offering logistics solutions, such as door-to-door delivery systems, integrating with rail/road haulage movements of cargo, customs brokerage, cargo consolidation, packaging/ re-packaging, and distribution services, thereby substantially consolidating their market position, and supplementing their ocean freight income. The global shipping industry is thus going through a major redefinition by undertaking logistic integration of their cargo operations.

Change in Directions in Trade Volume
Multi-polarity of trade flows, and the growth in trade volumes of Asian region is expected to impact the world shipping, as profoundly done by liner shipping and containerised cargo some decades ago. One may recall that the earlier phase of trade volume witnessed shipping growth in Transatlantic and Transpacific routes, and the growing volume of world trade, especially from Asia, is likely to position the Pacific Rim and Indian Ocean Rim routes in the lime light.

Common Port to Specialist Port
Ports have been conventionally viewed as provider of omnibus solution to all types of cargo on a common basis. However, the global trend is veering into development of freight specialized ports – such as LNG terminals, container terminals - that involve high capital costs and intensive deployment of cargo handling equipment. Also, there has been a global trend in the port sector towards growing separation of port authority from port operator. The balance of power in the maritime trade, which was traditionally in favor of shipping lines, has been shifting in favor of shipper, whose cargo is being moved. With such emerging trends in port development in the world, shipping companies are expected to change their strategies and offer solutions to suit such trends.

Liner Shipping Connectivity of LDCs
UNCTAD publishes an annual index called the ‘Liner Shipping Connectivity Index’ (LSCI) that aims at capturing trends and differences in countries’ liner shipping connectivity. The index covers 162 coastal countries and comprises five components: (a) the number of ships, (b) their container carrying capacity, (c) the number of companies, (d) the number of services provided, and (e) the size of the largest vessels that provide services from, and to each country’s seaports. Most LDCs are also among the least connected countries. The average ranking of LDCs in 2009 was 109, compared to an average ranking of 76 for other developing countries and 68 for developed countries.
Growth in Establishment of Transshipment Terminals

Growth in long distance and containerized trade has led to the growth in establishment of transshipment hubs. It is not possible to establish direct shipping connections between every country because either there may not be enough volume, or the ports may be located distantly from each other. Therefore, a set of direct or transshipment connections are required to link all country pairs by maritime shipping. For this purpose, the transshipment terminals and intermediate hubs have been started. The world’s most important intermediate hub is Singapore, where 92% of its traffic is transshipped. The emergence of major intermediate hubs favored a concentration of large vessels along long-distance, high capacity routes, while smaller ports can be serviced with lower capacity ships. Consequently, the emergence of intermediate hubs has permitted liner services that would otherwise be economically unfeasible.

Port Regionalization

Ports, especially large gateways, are facing a wide array of local constraints that impair their growth and efficiency. Limited availability of land for expansion is one of the most acute problems. This issue is exacerbated by the deepwater requirements for handling larger ships. Port regionalization is required when the ports are not able to handle additional traffic. Port regionalization refers to integration between maritime and inland transport systems, particularly by using rail and barge transportation, which are less prone to congestion than road transportation. Port regionalization and hinterland connectivity has been growing over the years, with the objective of meeting the constraints faced by ports. Port regionalization helps in creating a regional load centre network through joint development of a specific load centre and logistics platform in the hinterland. This has led to the development of corridors leaning on rail or barge services connecting to inland terminal facilities, which act either as satellite terminals, load centers or, less commonly, transmodal facilities. Many port authorities, terminal operators, commercial real estate developers and local/regional governments have been actively involved in the setting of such facilities.

INDIAN SCENARIO

Maritime transport, which plays a vital role in the development of the country, comprises ports, shipping, shipbuilding and ship repair, and inland water transport systems. According to the Ministry of Shipping, Government of India, approximately 95% of the India’s trade by volume, and 70% by value, is moved through maritime transport. India is among the top 20 leading countries having large number of merchant fleets in the world. The Gross Tonnage (GT) under the Indian flag was 10.1 million GT as of 1.09.2010, with as much as 1029 ships in operation.

Ports act as an interface between ocean transport and land transport. India has 12 major ports viz. Kolkata (including Dock complex at Haldia), Paradip, Vishakapatnam, Chennai, Ennore, Tuticorin, Cochin, New Mangalore, Mormugao, Jawaharlal Nehru at Navi, Mumbai, and Kandla, and 187 minor ports.

Despite recessionary conditions, traffic handled at major ports has grown on an average by 5.7% in the year 2009-10, over the year 2008-09. However, ports like Haldia (-20.4%), Ennore (-6.9%) and New Mangalore (-3.2%) are few of the main ports that witnessed negative growth in 2009-10. Nevertheless, most of the ports have not achieved their target for the year 2009-10. Mormugao (8.5%), Tuticorin (8.1%) Mumbai (2%), Kandla (2%), and Paradip (1.8%) were the only ports which achieved their growth target for 2009-10. Haldia (-22.1%) and Ennore (-14%) were the two ports which showed huge variation in traffic compared to the traffic targeted in 2009-10. It has been the Endeavour of Government of India to consistently enhance the cargo handling capacity of the major ports keeping in view the projected traffic for the country. The aggregate capacity in major ports as on 31.3.2009 was 574.77 MTPA. Major cargoes handled at Indian ports include: petroleum products, iron ore, fertilizers & raw materials, coal and
containerized cargo. In case of POL, fertilizer and other cargo, Kandla handled the highest traffic.

LNG Shipping in India
In the past few years, there has been a massive growth in LNG trade globally. The growth is mainly due to the energy demands of the emerging economies, particularly India and China, and due to the fact that LNG is relatively safe and environmentally friendly. Even in the event of spillage, LNG evaporates quickly and has no long term adverse effect on the ecosystem, and so poses little or no risk to environment. The non corrosive nature of LNG makes the life of an LNG carrier longer than other types of carriers.

Currently, India has two LNG terminals, with few more that are planned or proposed. India started receiving LNG shipments in January 2004 with the start-up of the Dahej terminal in Gujarat state. Indian shipping industry currently does not own any LNG vessels; one of the main reasons is attributed towards the cost of acquisition of LNG vessels. With a capacity of about 135,000 cubic meters, a LNG vessel cost at least US $ 200 million in the international market. Therefore, the Indian shipping industry is currently exploring this area through joint ventures. Shipping Corporation of India (SCI) has identified carriage of LNG as one of its thrust and growth areas, and has emerged as the first Indian shipping company in LNG transportation, through global agreements. SCI has acquired stake in the three Indian LNG transportation agreements through a global bidding process.

International Container Transshipment Terminal (ICTT)
The need to develop transshipment hub ports in India was documented by the Planning Commission in its Tenth Five Year Plan. The Vallarpadam terminal in Cochin has been identified as a transshipment terminal for the sub-continent by the Government of India. The Vallarpadam terminal, the first-of-its-kind in India, aims to cut down logistics costs for shipping lines, transshipping cargo in and out of the country, as at present, the containerized cargo, to and from India, is transshipped through the ports at Colombo, Dubai, Singapore and Salalah.

Measures Initiated by the Government to Improve Ports and Shipping are as Follows

- Automatic approval for FDI up to 100 per cent in Ports and Shipping
- Facilities at par with 100 per cent EOUs for the ship repairs industry
- Action has been initiated to formulate a National Maritime Policy to provide fiscal, financial, administrative and legislative measures for growth and development of the maritime sector in India
- The Government has taken steps for phased corporatization of major ports
- Private sector participation in the ports sector has been allowed
- Scheme for formation of joint ventures by major ports approved
- Inland water transport policy approved by the Government
- The Government has introduced tonnage tax regime for shipping
- Most categories of ships have been brought under the Open General License (OGL) to facilitate acquisition at competitive prices
- Automatic approval is also available for acquisition by ship-owning companies for the categories which are not covered under OGL i.e. barges, tugs and boats etc
- The shipping companies are now permitted to get their ships repaired in any shipyard without seeking prior approval from the Government
- The Reserve Bank of India releases foreign exchange for ship repair/dry docking and spares for imported capital goods without any value limit
- 100 per cent investment by NRIs in Shipping with full repatriation benefits
Expansion Plans in Indian Port Industry

India expects to achieve a quantum leap in external trade in tandem with a sustained growth rate of over 7 percent and demand growth in port sector is likely to outpace infrastructure capacity creation. For instance, the National Maritime Development Program envisages an investment of US$14 billion in 276 projects in federal ports of which US$9 billion (64 per cent) is proposed through private investments. This is expected to catapult the capacity from 510 million tons in 2007 to 1,002 million tons in 2012, a jump of 100 per cent. In addition, non federal ports expect to invest close to US$9 billion in capacity expansion of which US$6 billion is proposed to be through private investments. This represents a 150 per cent increase aimed to augment the capacity from 228 MT in 2007 to 574 MT in 2012. On an aggregate basis, Indian port capacity is expected to double from 737 MT in 2007 to 1576 MT in 2012.

Private Sector Participation in the ports and Shipping Sector:

Under the BOT route container terminal have been commissioned in the private sector by P&O Australia at Jawaharlal Nehru Port and Chennai Ports. The government had also approved the award of a contract for development management and operation of an international container. Jawaharlal Nehru Port is planning to have its fourth container terminal by the end of the current decade. There is also a new phenomenon of private ports such as Pipavav and Munda.

Exhibit 1: Response to Privatization at major Indian ports

<table>
<thead>
<tr>
<th>Year</th>
<th>Port</th>
<th>Successful bidder</th>
<th>Revenue share offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>JNPT: second terminal</td>
<td>P &amp; O Ports</td>
<td>33.0%</td>
</tr>
<tr>
<td>2001</td>
<td>Chennai: first container terminal</td>
<td>P &amp; O Ports</td>
<td>37.1%</td>
</tr>
<tr>
<td>2004</td>
<td>Cochin</td>
<td>Dubai Ports</td>
<td>33.3%</td>
</tr>
<tr>
<td>2004</td>
<td>JNPT: third terminal</td>
<td>Maersk – CONCOR</td>
<td>35.5%</td>
</tr>
<tr>
<td>2005</td>
<td>Kandla</td>
<td>ABG – Voltri</td>
<td>48.9%</td>
</tr>
<tr>
<td>2006</td>
<td>Mumbai</td>
<td>Gammon – Dragodos</td>
<td>35.0%</td>
</tr>
<tr>
<td>2007</td>
<td>Chennai: second container terminal</td>
<td>Chennai international Terminals Private Limited a JV of PSA international Pte Limited</td>
<td>45.8%</td>
</tr>
<tr>
<td>Year</td>
<td>Location</td>
<td>Terminal Type</td>
<td>Operator and Shareholders</td>
</tr>
<tr>
<td>------</td>
<td>------------------------------</td>
<td>--------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>2008</td>
<td>Ennore</td>
<td>Iron ore terminal</td>
<td>Sical Logistics Ltd. and NA</td>
</tr>
<tr>
<td>2009</td>
<td>Paradip</td>
<td>Iron ore berth</td>
<td>Noble-Gammon-MMTC 36.8%</td>
</tr>
<tr>
<td>2009</td>
<td>Paradip</td>
<td>Coal berth</td>
<td>Essar shipping 31.0%</td>
</tr>
<tr>
<td>2009</td>
<td>Mormugao</td>
<td>Coal terminal</td>
<td>Mundra and Adani 20.0%</td>
</tr>
<tr>
<td>2009</td>
<td>New Mangalore</td>
<td>Iron ore terminal</td>
<td>Sical Logistics 37.0%</td>
</tr>
<tr>
<td>2009</td>
<td>Tuticorn</td>
<td>Container terminal</td>
<td>ABG Infralogistics 52.2%</td>
</tr>
<tr>
<td>2009</td>
<td>Vishakapatnam</td>
<td>Cargo berth</td>
<td>Sterlite – Leighton 38.1%</td>
</tr>
<tr>
<td>2009</td>
<td>Paradip</td>
<td>Multi-purpose clean cargo</td>
<td>Sterlite – Leighton 23.4%</td>
</tr>
<tr>
<td>2010</td>
<td>Ennore</td>
<td>Container terminal</td>
<td>Erdencne capital Plc, Grup Maritime TCB SL, Obrascon Huarte Lain SA and Lanco infratech Ltd NA</td>
</tr>
</tbody>
</table>

Source: - ministry of Shipping 7.9&8

As on 1 August 2010, Project Public Private Partnership (PPP) 24 PPP Project (with an investment of around INR 64.8 billion) had become operational (140.7 million tones of added capacity) at major ports. The impact of the privatization and development of major ports on PPP basis had been positive. Private sector terminals have been constantly attracting higher throughout than their public sector counterparts. Privatization has also encouraged intra – port competition between terminals. The best example of this is the result of privatization over the performance of the JNPT.

The Jawaharlal Nehru Port Terminal (JNPT) invited bids for the construction, operation and maintenance of a new container terminal for 30 years on a BOT basis in 1995. The concession agreement between the consortium and the JNPT was signed in July 1997. The JNPT continued to operate Jawaharlal Nehru Port Container Terminal (JNCT) it also quickly set a string of
records for crane productivity berth throughout and vessel turnaround. Further, it created new benchmarks in operational efficiency.

**Investment Opportunities for the Private Sector**
- Increased emphasis on modernisation and restructuring of ports
- Increased thrust on public-private partnerships for the development of ports
- Private investment to the tune of US$ 2345 million is expected
- Private participation with respect to inland transport infrastructure connecting ports
- Investment needs worth US$ 20 billion in the maritime sector up to 2012

**Potential Opportunities for Overseas Investors in Indian Ports**
In the context of a quantum leap visualized in port capacity in India, predominantly through private investments, the following are some of the possible avenues for global port investors to participate in India:

1. Participating in bids through PPP route – This Avenue is appropriate for large international contractors/project developers and large port operators with a significant track record and experience.
2. Entering into joint venture with existing Concessionaires – This avenue is worth exploring by international port investors who are keen to enter India and scale capacity through inorganic growth.
3. Obtaining construction/terminal management/dredging contracts – This Avenue is suitable for overseas firms which are keen to participate in the Indian port growth story other than through long term concessions.
4. Project financing and investment banking and technical and management consultancy firms – Given the wide variety of projects under bid, established legal and financial firms would find Indian port industry an appropriate country for diversification and to establish an early lead ahead of the market.

**KEY CHALLENGES**

1. **Infrastructure capacity limitations**
   Between Finical year 2004 and 2010 the cargo-handling capacity of major ports grew at a CAGR of 7.5 percent from 389.5 million tons to 599.3 million tones. During the same period, the traffic at major port grew at a CAGR 8.4 percent from 344.8 million tons to 560.7 million tones. Despite large-scale capacity expansion in recent times, most major ports are operating at more than 90 percent of their capacity, which coupled with their limited IT implementation affects their efficiency in terms of a higher dwell period and turnaround time. While the total cargo they handle is within their overall capacity they handle more than their designed capacity for some important streams of cargo.

2. **Inadequate IT implementation**
   Operations and resources at ports cannot function efficiently in the absence of an enterprise resource planning (ERP) system. Consequently, some resources are extensively used while others remain idle and a wait the availability of other resources. Systems are procedures at ports are complex and unable to facilitate e-environment transactions. Processes are characterized by cumbersome physical data verification modifications and artificial checks and balances, which frequently leads to delays in the completion of business transactions.

3. **Inadequate cargo – handling equipment / machinery**
The majority of cargo–handling equipment at Indian ports was commissioned a long time ago and has outlived its designed life span. Cargo–handling equipment / machinery, including container spreaders, special gears for handling wood pulp, newsprint and logs, are inadequate to fulfill the requirements of modern vessels arriving at Indian ports. In addition, equipment at ports across the country frequently breaks down. Most ports follow reactive maintenance procedures instead of preventive maintenance. Long response times, the unavailability of spares, dependence on proprietary parts and cumbersome purchase procedures result in substantial equipment downtime.

4. **Inadequate navigational aids and facilities**

Most ports in the country lack state–of–the–art navigational aids for ships. Except Mumbai, major ports are not equipped with the latest VTMS, which are used for the regular berthing or de-berthing of ships.

5. **Poor road network within the port**

Roads within most ports are narrow and are not designed to handle the traffic and load they currently handle. This results in traffic congestion, which, in turn, leads to delays in the feeding and evacuation of cargo, thereby lowering the productivity of vessels. Indian ports do not have route planning for the optimization of existing road networked with suitably located weighbridges.

6. **Labor–related challenges**

Indian ports suffer due to frequent labor strikes, malpractices, inefficiency and low labor productivity. Most major ports are overstaffed with unskilled and untrained labor. In addition, labor costs at ports are as high as 40 percent – 60 percent of total port expenditure.

**CONCLUSION**

With globalization and liberalization the Indian Shipping industry is all set to acquire new dimension in terms of demand and infrastructural development. As there are exciting business opportunities in Indian ports. The unique features and challenges of the Indian ports industry discussed above highlight the need for overseas, investors to conceive appropriate competitive strategies in terms of partnering financing project structuring and development.

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