

KPMG IN INDIA

Indian Maritime Landscape - A Background note

February 2008

INFRASTRUCTURE & GOVERNMENT



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In the ports and shipping sector, KPMG and its network of member firms have been involved in business planning, policy formulation, IT infrastructure assessment, traffic projections, competitor analysis, demand planning for ports in India and abroad. In addition to this, KPMG and its network of member firms have been involved in the business planning exercise for Jawaharlal Nehru, Mumbai and Kandla Port Trusts. KPMG and its member firms have assisted emerging minor ports and potential developers on regulatory and concession issues, provided bid advisory and assisted in the formulation of strategic development plans.

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Foreword



India's international trade is expected to expand at a fast pace given the growth projections of the Indian economy. Since, more than 90 percent of India's trade by volume is seaborne there is a need to review whether the Indian Maritime Industry as well as related inland transport and logistics industry is in a position to handle the expected growth.

The key challenges for the port sector are to remove capacity constraints (physical infrastructure) as well as to enhance operational efficiency and sector-specific human resource pool (soft or enabling infrastructure). However, herein lies the opportunity as well. In the next 5 years USD 18 billion will need to be invested in the ports sector and nearly 74 percent of this will need to be invested by the private sector. In this context, the port sector is poised to launch many projects given that the business plans of all the Major Ports have been drawn up. Several state governments are also taking initiatives to develop minor ports along their coast lines. Thus, there are significant opportunities for the private sector at both major and minor ports in port and terminal development and operation, land access infrastructure (CFS/port warehousing, tank farms, etc.) maritime construction projects and dredging, and port support services (piloting, stevedoring, bunkering,etc).

The Indian shipping industry faces challenges on account of higher tax regime and operational factors (ageing fleet, human resource shortages, etc) but the outlook remains bright. The ability of the Indian shipping industry to capture potential value will depend on regulatory support and creation of a supporting 'ecosystem' (e.g. chartering, financing, ship design, etc.). The same holds true for the shipbuilding and repair industry, which is at a nascent stage but has potential to capture an increasing share of the global market with the right fiscal and regulatory support.

It is equally important to establish good inter-modal connectivity within the country. This will enable cargo to move through the most efficient transport modes and reduce logistics costs. Besides road and rail connectivity, special attention can be paid to coastal shipping and inland waterways with lessons drawn from international examples.

The KPMG whitepaper on Indian Maritime Landscape reviews the current scenario in the Maritime sector and identifies the areas to be addressed. I hope you find the report useful.

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Introduction



India's trade sector is witnessing a long term and sustainable high growth trend driven by the rapid growth of the Indian GDP. International and domestic trade volumes are expanding rapidly and its impact is evident in the burgeoning traffic volumes of the shipping and ports sector, over the past few years. This growth trend is expected to continue over the medium term with India continuing to attract global capital inflows into manufacturing and infrastructure sectors and trade tie-ups with U.S., EU and China and South East Asian and South Asian trade blocs get cemented further. This high growth in trade would, in turn, translate into additional demand pressures on the Indian shipping and ports sector.

Ports

The port sector in India has witnessed significant growth in the recent past, especially in the container terminal segment. Over 95 percent of India's international trade by volume takes place through ports, and hence, ports play an important role in India's Export Import (EXIM) trade. Recent Government initiatives in the sector have led to domestic and international players investing in Indian ports. Current growth trends suggest that the Indian port sector would require a significant increase in capacity to meet future cargo demand. Accordingly, Indian ports have developed capacity expansion plans. Many major ports in India have adopted the Build Operate Transfer (BOT) model to facilitate the development of additional capacity. This has resulted in the entry of international players such as DP World, Maersk, PSA, etc. in the Indian ports sector. On the other hand, private sector investments in minor ports have also increased with successful participation in ports like Mundra, Pipavav, Hazira, Gangavaram, Krishnapatnam, Dhamra, Gopalpur, etc. Leading private ports like Mundra and Pipavav have also developed ambitious expansion plans. However, the sector faces constraints on account of hinterland connectivity, inland cargo handling infrastructure, and shortage of skilled manpower for port operations (including marine services, amongst others). It is important that these constraints are addressed to enable unhindered growth of India's port sector.

Shipping

Shipping is a cyclical business and is affected by ship-manufacturing activity around the world. When demand for tonnage increases, new ships are ordered. Following the current surge in demand, order books for new ships are at an all time high. Other interesting trends in the sector include increasing ship sizes, the integration of shipping lines and port operators, efforts towards horizontal integration/alliances, etc. These trends have increased the bargaining power of shipping lines vis-à-vis other players in the value chain. The Indian shipping industry has also been increasing capacity. Many players have developed expansion strategies and are raising capital through the market to finance the same. As global competition increases, the Indian shipping industry will have to expand and upgrade its fleet to improve its efficiency and become competitive.

Dredging

Dredging activity will witness significant expansion driven by growth of greenfield ports and expansions of Major ports. Government of India plans to open dredging contracts for participation by private sector and future projects are likely to be awarded on open competitive bidding. This creates significant opportunities for dredging operators. This creates significant opportunity for Indian and International dredging companies

Multi-modal Transportation

Growth in multi modal transport arrangements is crucial for reducing the logistics cost of Indian trade, which currently is significantly above global average, and is a key competitiveness pre-requisite to support future growth of trade and cargo traffic, thus having a direct bearing on ports and shipping sector. India would need to focus on multi-modal transport to facilitate the movement of goods from inland locations to ports and vice-versa. At varying distances, the various modes of transport, i.e., road, rail and coastal shipping, provide different relative advantages in terms of economy and accessibility. This would require development of road and rail infrastructure, improvement in multi-modal transport, and modifications in procedural arrangements to allow smooth flow of traffic (load limits on road, etc.).

Overall, the Indian maritime sector is poised for healthy growth in line with the growth of the Indian economy. This requires planning and investments by all stakeholders, including the Government and the public and private sector, for developing the requisite infrastructure, improving current processes and introducing policy measures that create a conducive environment for players in the sector.

Global Maritime Outlook



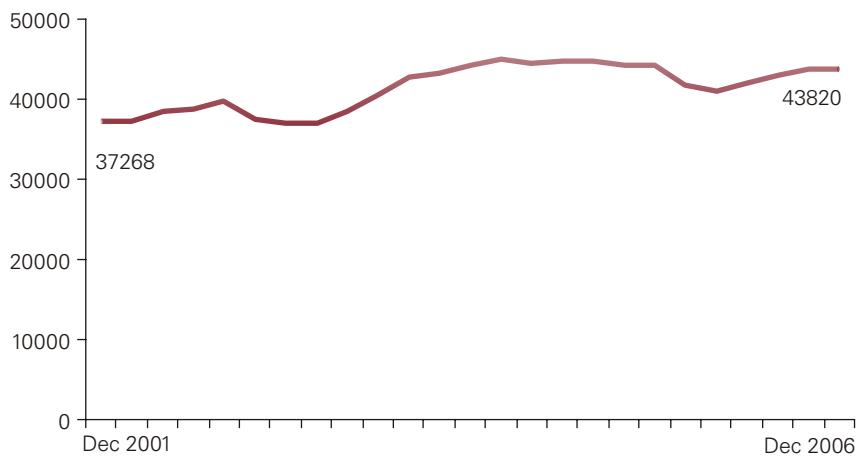
Global Shipping Trends

Larger Vessel Sizes

Over the years, vessel sizes in maritime trade have increased as a consequence of the need to reduce operating costs by achieving economies of scale. The economies of scale operate as new building prices per Dead Weight Tonne (DWT) are far lower for larger ships. For example, in 2006-07 at USD 433, the price per DWT on a 300,000 DWT tanker was only 41 percent of the price on a 45,000 DWT tanker. In the case of dry bulk carriers, the price per DWT on a 170,000 DWT vessel was USD 412, which represents 60 percent of the price per DWT on a 45,000 DWT vessel¹.

For dry bulk segment, the average size of ships on order has increased from 64,000 DWT in December 2000 to 80,000 DWT in December 2006.

Global Tonnage on order for ships (Average DWT)

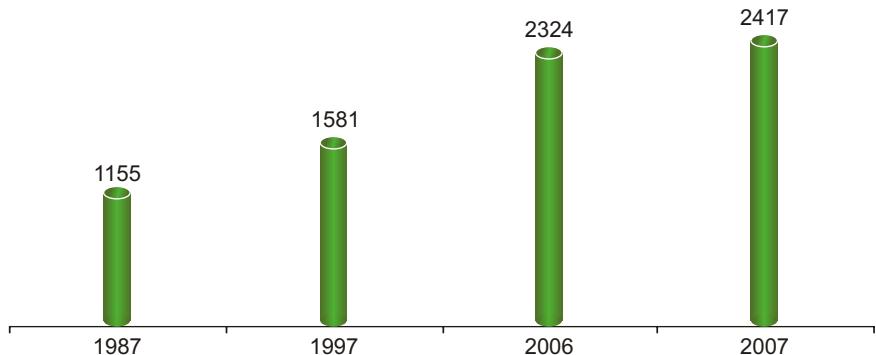


Source: *Review of Maritime Transport, 2007 UNCTAD*

Similarly, the container ship fleet has witnessed a rise in average size. The average vessel size in 2007 was 2,417TEUs, as opposed to 1,581TEUs 10 years earlier.

¹*Review of Maritime Transport, 2007 UNCTAD*

Average vessel size for containership (TEU)



Source: Review of Maritime Transport, 2007 UNCTAD

The Emergence of Horizontal Integration

There has been an increase in horizontal integration among shipping liners driven by an emphasis on cost reduction and ensuring capacity utilization. Horizontal integration has emerged in various forms - operational arrangements on vessel sharing, slot sharing, consortia, and strategic alliances.

Consortia

Consortia are agreements between liner shipping companies, aimed primarily at operating joint services through technical, operational, or commercial coordination (e.g. joint use of vessels, port installations, marketing organizations, etc).

Strategic or Global Alliances

Strategic alliances emerged in mid-90s, with shipping lines looking to provide combined services on various routes. This was done to increase efficiency and to ensure better utilization of vessels. These included joint vessel-route assignments, itineraries, sailing schedules, optimizing the type and size of vessels to be employed, additions and withdrawal of capacity, ports and port rotations on a global scale, etc., such that each participant's services were integrated into one operating system. Participants in alliances included national and cross-traders, as well as conference and non-conference lines. Grand Alliance and New World Alliance are some of the key alliances formed by liners. Indian shipping companies are increasingly forming alliances with private players for the full capacity use of vessels during their trips.



Increasing Importance of IT Infrastructure

Information technology (IT), especially Internet-based systems, can be used effectively to streamline and improve supply chain processes, enhance cooperation between carriers and their customers by enabling instant communications, and eliminate many burdensome procedures and regulations. Most developed countries have already implemented a variety of strategies and policies to develop information infrastructure. In many countries, port information systems have been transformed into integrated logistics information systems through interconnected efforts with other logistics-related information systems. INTIS at the Port of Rotterdam, ADEMAR+ at the Port of Le Havre, DAKOSY at the Port of Hamburg, SEAGH at the Port of Antwerp, and FCP80 at the Port of Felixstowe, are good examples of IT systems that facilitate electronic submissions and clearance of shipping information.

The Indian maritime industry has been giving greater emphasis on IT infrastructure. Initiatives such as Electronic Data Interface (EDI) are being implemented across various ports. The Government has initiated development of PORTNET, which is designed to integrate the ports with various users such as shipping agents, shipping lines etc, and with each other. This is expected to streamline information flow and improve process efficiency. Indian Customs is developing a risk management system to expedite various procedures.

Increased Emphasis on Value-Added Services

The provision of value-added services at ports is sometimes pivotal in ensuring lasting economic growth for the port as well as the hinterland that it services. They also act as a competitive advantage and differentiator.

Value-added services can lead to growth of integrated services within the port as well as attract related industries around the port, thereby benefiting the hinterland as well. For example, the Port of Rotterdam has been able to attract a number of European Logistics Centers (ELC) into the port area. A number of foreign firms that established ELCs in the Port of Rotterdam also moved their European headquarters' call centers, and research and development facilities to Netherlands.

Indicative List of Value Added Services

General Logistics Services	Logistics Chain Integration Services	Value Added Facilities
<ul style="list-style-type: none"> • Loading/ Unloading • Stripping/ Stuffing • Bulk Storage • Tank Storage • General Warehousing • Conditioned Warehousing • Distribution Centers. 	<ul style="list-style-type: none"> • Quality Control • Repacking • Customizing • Assembly • Testing • Repair • Re-use. 	<ul style="list-style-type: none"> • Parking Facilities • Weighbridges • Customs facilities • Truck maintenance and repair • Facilities • Container repair and maintenance • Cleaning facilities • Tanking facilities • Trailer renting and leasing • Information and communication • Safety and security services • Offices, hotels, restaurants shops.

Source: World Bank Port Reform Toolkit

In India, shipping lines and other logistics operators have realized the significance of providing customers with value-added services and have started integrating their operations to offer the entire spectrum of services to their clients. Ports are also seeking to develop distriparks and Special Economic Zones (SEZ) for providing value added services and creating captive cargo. Several private port operators and shipping lines have acquired Inland Container Depots (ICD) in the hinterland and are planning a strategic entry into the rail freight containerization business. An unintended beneficiary of these initiatives is the railways, whose market share erosion to roads may stop, while also enabling it to wean away high value traffic from roads.



Global Maritime Security Environment

Maritime security initiatives have assumed critical importance in the context of the threats from terrorist activities globally. The implementation of global maritime security initiatives at Indian ports is necessary to ensure continued integration with world shipping and port trade.

Container Security Initiative

Container Security Initiative (CSI) was driven by the United States as a measure to counter terrorist attacks at its ports. Through CSI, announced in January 2002, maritime containers that pose a risk are identified and examined at foreign ports before they are shipped to United States.

CSI consists of four core elements:

- Using intelligence and automated information to identify and target containers that pose a risk
- Pre-screening containers that pose a risk at the port of departure before they arrive at U.S. ports
- Using detection technology to quickly pre-screen containers that pose a risk
- Using smarter, tamper-evident containers.

International Ship and Port Security Compliance

The International Ship and Port Security Compliance (ISPS) was adopted by the International Maritime Organization's (IMO) diplomatic conference in December 2002 as part of the amendments to the 1974 Safety of Life At Sea convention. July 1, 2004, was set as the deadline for the maritime community to become ISPS compliant². In line with the objectives of the IMO, the ISPS emphasizes ship-related aspects rather than the infrastructure of ports. Offshore facilities are treated as extensions of port facilities and hence those aspects of the code, which are applicable to ports, are also applicable to all offshore facilities.

²ISPS Website

Highlights of the ISPS Code:

- Enables the detection and deterrence of security threats within an international framework
- Establishes roles and responsibilities
- Enables collection and exchange of security information
- Provides a methodology for assessing security
- Ensures that adequate security measures are in place.

ISPS requires ship and port facility staff to gather and assess information, maintain communication protocols, restrict access, prevent the introduction of unauthorized weapons, etc., and provide the means to raise alarms.

India is one of the first few countries along with Singapore to complete the implementation of the ISPS Code, ensuring that there will be no hindrance in Indian exports and imports. The ISPS Code has been implemented in 12 major ports, 35 minor ports, 205 ships, and three shipyards catering to international trade³.

The Customs-Trade Partnership against Terrorism

The Customs-Trade Partnership Against Terrorism (C-TPAT) was launched in November 2001, with the guiding principles of voluntary participation and jointly developed security criteria, best practices, and implementation procedures. In exchange for their security investments, C-TPAT partners receive "...reduced inspections at the port of arrival, expedited processing at the border, and other significant benefits, such as 'front of line' inspections and penalty mitigation."

We will now take a segment-by-segment view of the state of the maritime sector in terms of its size, growth and severity of prevalent skill gaps.

³<http://shipping.nic.in/writereaddata/linkimages/CapterII4886079359.pdf>

Indian Maritime Sector Outlook



Overview

India's goal of emerging as a developed nation by 2020 depends on its ability to sustain economic growth of over 8 percent annually over the next decade. To achieve this, the Government of India (GoI) has identified the development and modernization of the country's economic infrastructure as a priority step. The development and growth of ports, in particular, is crucial as they play a vital role in the country's overall economic development. Of India's international trade, about 95 percent by volume and 70 percent by value is undertaken through the maritime route. There has been a sustained rise in the volume of exports driven by robust growth in the manufacturing sector and improved export competitiveness. The Indian Government has fixed an ambitious target of U.S. dollar (USD) 150 billion for exports by 2008-09 and to double India's share in world exports from nearly 0.8 percent to 1.5 percent. At present, there are 12 major ports, six each on the west and east coasts and about 45 functioning non-major ports contributing to maritime trade⁴.

Ports

Overview

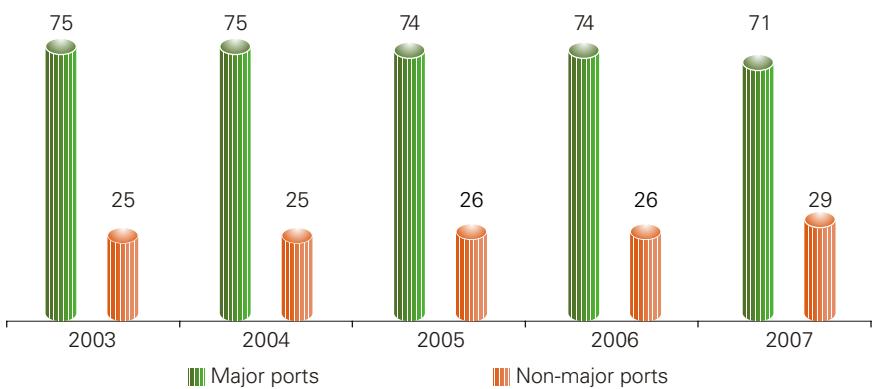
Ports in India are classified in two categories-'major' and 'non-major'. Major ports are under the control of the central Government. Non-major ports are controlled by respective state Governments. Central and state Governments are responsible for developing, maintaining, and operating the ports under their jurisdiction. Ports in India are governed by the Indian Ports Act of 1908. Major ports are also governed by the Major Ports Trust Act, 1963, with the exception of Ennore, which is the first corporatized major port and is governed by the Companies Act. Major ports are under the administrative control of the central Government through the Ministry of Shipping, Roads, Transport and Highways. In 1997, the Tariff Authority for Major Ports (TAMP) was formed as the tariff regulator for all major ports. All powers for fixing tariffs in major ports lies with TAMP, but it has no jurisdiction over non-major or private ports. All the conservancy powers in ports and all other regulatory functions with regard to safety, etc., are vested in the port trusts themselves.

⁴PMinistry of Shipping, Government of India website

Existing Traffic at the Ports

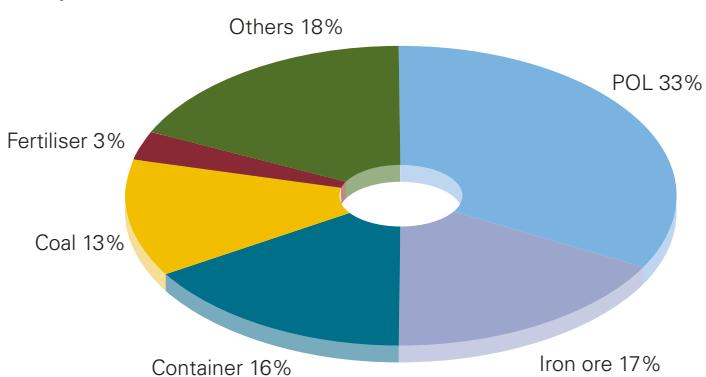
The total volume of the traffic handled by all Indian ports during 2006-07 was 650 million tonnes, of which 463.78 million tonnes, i.e., around 71 percent was handled by major ports and the remaining 186.12 million tonnes by non-major ports⁵. The traffic share of major ports and non-major ports during the last five years is presented as under:

Percentage Share of Major and Non-major Ports in last 5 years



During 2006-07, major ports posted a record traffic growth of 10.4 percent over the previous year, which was higher than the growth in GDP. Of the total traffic handled at major ports, petroleum crude and products have the largest share of about 33 percent; iron ore, 17 percent; coal, 13 percent; containers, 14 percent; and the rest is shared by general cargo⁶.

Share of Principal Commodities handled at major ports: 2006-07 (Total 464 MnT)



⁵IPA Annual Report 2006-07

⁶IPA Annual Report 2006-07

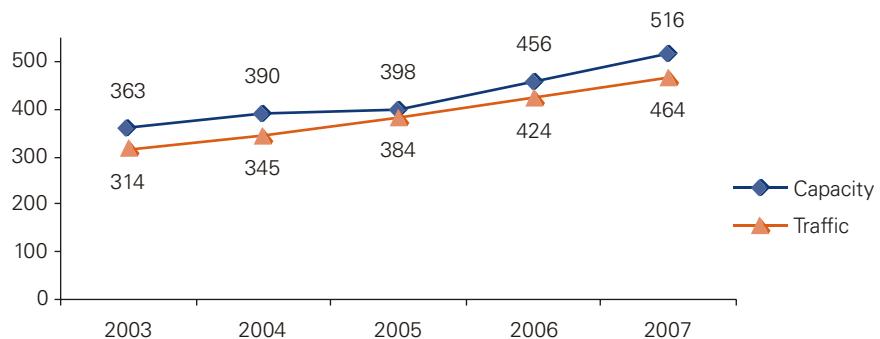


Visakhapatnam port handles the largest cargo among all the major ports with traffic of 56.39 million tonnes, followed by Chennai with 53.41 million tonnes of cargo⁷.

Ports Capacity

Till 2000-01, most ports were operating over or near the saturation levels of their handling capacities, resulting in high pre-berthing detention and turnaround time of vessels. The situation improved in 2000-01 as the port capacity of 291.45 million tonnes exceeded the cargo volumes of 281.11 million tonnes. The capacity in major ports as on March 31, 2007, was 517 million tonnes, and the traffic handled was 464 million tonnes⁸.

Traffic vis-à-vis capacity at major ports (in MnT)



However, commodity-wise capacity constraints continue to persist for POL, iron ore, fertilizers and coal.

Traffic Growth and its Trends

The overall Compounded Annual Growth Rate (CAGR) of traffic at major ports between 1951 and 2007 was 5.77 percent, whereas during the post-liberalization period, i.e., during 1992 to 2007, the CAGR has been 7 percent. However, in the last five years, the traffic growth at major ports has exhibited a CAGR of 10.08 percent⁹.

⁷IPA Annual Report 2006-07

⁸IPA Annual Report 2006-07

⁹Planning Commission, GOI 11th 5-year Plan Working Group Report on Ports

Traffic Projections for 2011-12

Keeping the objective of the Maritime Policy in view, the National Maritime Development Program (NMDP) has prepared macro-level traffic projections for the overall port sector, which includes major and non-major/private ports. These projections are based on the feedback received from major ports and their users, a number of policy papers/plan documents, trade requirements, the international scenario governing the country's exports and imports and new and expansion projects to be undertaken by the public and private sector. The broad commodity-wise traffic projections, as per NMDP, are presented below:

Projected traffic for Ports in India in 2011-12

Commodity	Traffic in all ports during 2005-06 (MnT)	Traffic (Projected) in all ports during 2011-12 (MnT)	CAGR (%)
POL	213.93	378.45	9.72%
Container (Mn TEUs)	66.11 (4.9)	169.93 (14.23)	17.04% (19.45%)
Iron Ore	107.01	128.04	3.04%
Coal	71.31	138.94	11.76%
Other Cargo	113.34	193.59	9.33%
Total:	574.7	1008.95	9.83%

Capacity Requirement

Of the above total projected traffic for all Indian Ports during 2011-12, around 708.09 million tonnes is projected to be handled at major ports by 2011-12, for which a capacity of around 1001.08 million tonnes has been estimated¹⁰. The detailed break-up of the commodity-wise capacity requirement is as under:

Projected Traffic and Planned Capacity for Major Ports in 2011-12

Commodity	Traffic at all ports during 2011-12 (MnT)	Traffic at Major ports during 2011-12 (MnT)	Planned Capacity at Major Ports in 2011-12 (MnT)
POL	378.5	215.33	294.03
Container (Mn TEUs)	169.9 (14.2)	144.42 (12.04)	223.54 (18.72)
Iron Ore	128.0	98.60	121.50
Coal	138.9	109.00	115.33
Other Cargo	193.6	140.74	247.40
Total:	1009.0	708.09	1001.8

¹⁰Planning Commission: Working Group Report 11th 5-year Plan



Recent Initiatives

The Indian Government has undertaken several policy initiatives for improving the Indian ports sector. The investment policy developed by the Government allows public-private participation in the ports sector and has been well received. Since the introduction of the policy, 15 projects involving a private sector investment of INR 4,242 crores have become operational while one project i.e. ICTT at Cochin is partly operational and five projects are under implementation. In addition 17 projects are in the pipeline¹¹.

In addition, the Government has also introduced a number of other policy initiatives for developing the ports sector to meet the growing demand of international trade.

1. For building and operating port terminals on a BOT basis, a comprehensive Model Concession Agreement (MCA) has been developed. The framework of MCA addresses the issues important for limited recourse financing of infrastructure projects, such as mitigation and unbundling of risks; allocation of risks and rewards; symmetry of obligations between the principal parties; precision and predictability of costs and obligations; reduction of transaction costs; force majeure conditions; and termination provisions. It also deals with other important concerns such as user protection; transparent and fair procedures; and financial support from the Government. The MCA also elaborates on the basis for commercializing ports in a planned and phased manner
2. The Government has also started work on the long-awaited Sethusamudram Ship Channel Project at an estimated cost of INR 24.27 billion. With a depth of 12 meters, the channel will enable ships up to 10 meter draft a shorter passage. This will result in savings of up to 424 nautical miles and sailing time of up to 29.9 hours¹²
3. The ministry has also completed a business planning exercise across all major ports aimed at identifying development strategies for all major ports, hinter-land connectivity requirement, and investment outlays for the ports
4. A Port Community System (PCS) is being setup to integrate all trading partners involved with the major ports. The proposed system is a centralized hub linking major ports with shipping lines, stevedores, banks, surveyors, Government Agencies, CHAs, importers/exporters, transporters, etc.

¹¹<http://shipping.nic.in>

¹²NMDP Report, March 2006

New Investment Policy to help Public-Private-Partnerships

The Indian Government has announced a series of measures to promote foreign investment in the port sector as listed below:

- No approval is required for foreign equity of up to 51 percent in projects providing support services to water transport
- Automatic approval for foreign equity of up to 100 percent in construction and maintenance of ports and harbours
- Open tenders are to be invited for private sector participation on a BOT basis.

The Government has announced guidelines for private/ foreign participation that permit formation of a JV between major ports and foreign ports, between major ports and minor ports, and between major ports and non-port corporate bodies.

The measures are aimed at attracting new technology, fostering strategic alliances with minor ports to create optimal port infrastructure and enhancing private sector confidence in the funding of ports.

The guidelines permit the formation of a JV between:

- i. A major port and foreign ports for the purpose of constructing new port facilities within existing ports, improving productivity of existing ports, and development of new ports
- ii. A major port trust and a company or a consortium of companies where:
 - A company or a consortium of companies, selected through BOT bidding under the guidelines of private sector participation alliances with a major port trust for improving the viability of the scheme and/or to enhance the confidence of the private sector
 - A company or a consortium of companies is selected under the scheme of unsolicited proposals
 - Oil PSUs/ a JV company of oil PSUs are/is selected for oil related port facility as a port based industry.



Areas to be addressed

Issues in Tariff Setting

The major ports in India are governed by TAMP for tariff related issues, while minor ports are free to set their own tariffs without any cap or governance by TAMP, creating a distortion in an emerging competitive market.

Moreover, as per prevailing TAMP guidelines; tariffs for major ports are set on a cost plus basis while the projects under the PPP route are bid on a revenue sharing model. This approach results in high tariffs to ensure prescribed returns to the developer even though the revenue share component is not allowed while calculating returns. Since tariffs are higher than other competing ports in South Asia, shipping liners prefer not to call at Indian ports. As a result, Indian exporters have to transship their cargo through foreign ports and pay higher transportation costs. Hence, port tariffs in India have to be rationalized to make them competitive to benchmark ports.

Now, as per the new guidelines, the government intends to set tariffs for major ports on normative basis such that the tariffs for new port projects will be decided upfront. The tariffs would be increased by indexing them to 60 percent of the Wholesale Price Index (WPI). However, these upfront tariffs may be set on performance benchmarks which could be too strict or too lenient and adversely impact the basic purpose of moving to the normative tariffs.

Streamlining the Regulatory Framework

Like several other infrastructure segments, the port sector lacks an independent regulator. Under the present system, the port authority grants contracts or concessions and also performs the function of the regulating body for resolving disputes or addressing issues. However, to ensure fair decision making, it is necessary to have an independent regulator. The fact that minor ports are not regulated by the central government, but by the respective state governments or authorities, further compounds the problem. Therefore, a central regulatory authority governing all ports in the country, ensuring similar regulations across Indian ports, would aid port development and port users.

At the same time, the prevalent over regulation in Indian ports through the Port Authority or the State Government agency leads to delays in port-development activities, and needs to be streamlined, until an independent regulator is in place. In this regard, regulations in areas such as licensing, environment and conservation, safety, quality of service, dispute resolution, Container Freight Station (CFS) development, etc., may require revaluation and simplification.

Easing of Hinterland Connectivity Pressures

Rail capacity in India is currently constrained. With the current growth in traffic, it is necessary to develop adequate capacity for all modes of evacuation, including rail and road. Development of inland waterways and promotion of multi-modal operations is required for improving the availability and efficiency of hinterland logistics.

Role of Public Port Authority

The focus for a public port authority needs to be directed on areas such as long-term planning, infrastructure development, asset management, and regulatory functions such as maritime safety, environment protection, and fair competition, while private participation is brought in to address operational efficiencies and investment needs.

State level initiatives in port development

There are only a few coastal states that have actively pursued development of the port sector by putting in place state maritime boards and concession frameworks for private sector involvement. While Gujarat, Maharashtra and Andhra Pradesh are the leaders, there can be more progress in states like West Bengal, Kerela, Karnataka and Tamil Nadu.

Reduction of procedural bottlenecks

International trade procedures in India are complex, causing significant inconvenience and delays to traders. According to the World Bank, eight documents are required for exports and it takes an average of 18 days to simply clear all export related procedures. It takes nine days to prepare the documents, two days for customs clearances, three days for ports handling and four days for inland transportation. This is significantly more than the average requirement for Organization for Economic Cooperation and Development (OECD) countries. Trade procedures need to be simplified by improving co-ordination between customs and port authorities.



Shipbuilding and Ship-Repair Industry

Overview

Shipbuilding is a truly globalized industry as the trade in ships is not protected by any tariff barriers. Unlike other industries, in shipbuilding, the sale precedes the manufacture of the product and as ships are custom built, each one of them is a different product. Moreover, ship owners are committed to future cargo shipments, limiting their ability to take risks on emerging shipyards and therefore it is difficult for a new entrant to penetrate the market, since ship buyers prefer to cover their risks, which may result from delayed deliveries, unless these risks are offset by attractive price discounts, by relying upon tested yards.

India has 23 shipyards, of which seven are under administrative control of the central Government, two with state Governments, and the rest in the private sector. The present shipbuilding capacity of India is only 2.8 million DWT, which is small according to global shipbuilding standards, and inadequate given the country's requirements¹³. While, productivity levels of Indian shipyards are low, compared to Korean and Chinese yards, a fair degree of improvement has been witnessed in last few years. The current uptrend in the global shipbuilding industry and the Government's¹⁴ shipbuilding subsidy has also enabled the sector to post robust growth and script a turnaround, since until recently, most Indian shipyards were incurring losses.

At present, India has only about 0.3 percent of the global ship-building market share whereas China starting in 1990s has acquired a 20 percent share. A cost-effective labor force and the availability of ancillaries have helped China capture a significant market share. India is now trying to replicate China's success owing to a growth in domestic manufacturing sector and the improving skill profile of its labor force. Indian corporate and shipyards plan to invest over 170 billion INR over the next 5-7 years which has the potential to take India's share to over 3 percent to 5 percent of global shipbuilding. Players in the industry have developed investment plans and accessed capital markets to raise funds for their capital expansion¹⁵.

With the exponential growth in the number of ships calling on Indian ports, providing ship-repair facilities is becoming an increasingly attractive opportunity. Not only does ship-repair activity help generate substantial local jobs; it also builds the capacity of local industry. It is noteworthy that among the 326 yards in China, nearly 160 focus on ship repairs.

¹³NMDP Report, March 2006

¹⁴The subsidy scheme expired on 14th August 2007

¹⁵NMDP Report, March 2006, Bharati and ABG have accessed capital markets while Pipavav is reported to be coming out with its IPO very shortly

Trends in Shipbuilding

The shipbuilding industry is a very global industry and has been witnessing dramatic changes in global leadership. At the beginning of the 19th Century, U.S. was the world's leading shipbuilding nation. From 1850 until 1945, Great Britain was the world leader (in 1882 it captured 80 percent of the world market), whereas shortly after the Second World War Germany and some other European countries took over leadership from Great Britain. In the 1960s Japan became the world's leading shipbuilding nation. Since 1973, South Korea has built up and expanded its shipbuilding industry and since late 1990s, China has emerged as a major shipbuilding nation. Recently, countries like Vietnam and Poland are making rapid inroads into the shipbuilding sector, having identified it as a priority sector for growth of the engineering industry¹⁶.

At present, Korea, (with a 35 percent share in the global shipbuilding market), Japan (35 percent) and China (20 percent) are the major global ship-building hubs.

The expensive yards of Europe and U.S. have made way for the low cost yards in Korea and China. Expensive yards have also been trying to move into higher value-added, niche markets that require sophisticated engineering know-how and high standards of workmanship, for instance - research ships, luxury cruisers and icebreakers.

Areas to be Addressed

Inherent constraints of domestic economic environment

While shipbuilding is a globalized industry, the distortions of fiscal and economic environment result in systemic disadvantages which reduce the competitiveness of Indian Shipbuilders. The principle disadvantages accrue from differential impact of statutory levies, financing cost differentials and forex rate disadvantages vis-à-vis China.

Disadvantages accruing from small scale of operations

The shipbuilding industry in India is still very nascent and is trying to make its presence felt in a market dominated by Korea, Japan and China. The shipbuilding sector in these countries has received significant government fiscal and policy support, spanning over decades in some cases, enabling them to develop scale as well as a cluster of ancillaries. These advantages of scale are not available to Indian shipbuilding industry which imports most of its input materials and is therefore unable to leverage advantages offered by bulk purchases and Just in Time supplies. As a result, there are significant cost disadvantages on account of import dependence which eat into the low labor cost advantages of Indian shipbuilders.

¹⁶Source: South Korea's Shipbuilding Industry, Robert Hassini & Dang-Ho Shin



Procedures governing subsidy support

With Indian shipyards suffering systemic and scale disadvantages, the policy of GoI to extend subsidy support to Indian shipbuilders enabled them to effectively compete in the global market. However, after expiry of subsidy scheme, even as its renewal is under consideration, there is a need to ensure that prescriptive procedures governing eligibility to receive subsidy are removed. These include procedures like the necessity for a shipyard to win an order through international competitive bidding or certification from the ship-owner that the bid process had been followed before selecting the Indian Shipyard, which effectively ensure that the benefits of the subsidy scheme are not realized by private operators, as most of their shipbuilding orders are won through negotiations with ship-owners. There is a need for simplified and effective procedures that enable Indian players to realize the benefits of subsidy to develop scale and become competitive.

Meeting International Standards for Technology, Design and Safety

China, Japan, and Korea are capable of developing highly sophisticated ships that meet international requirements. Indian shipbuilders need to improve their capability to match foreign players in ship automation and technology. Development of training programs in various academies to produce high quality talent in the shipbuilding industry is identified as a principal focus area.

Support Growth of Ancillary Industry

Ancillaries need to develop along with the shipbuilding industry as they are the key competitive differentiator for establishing/relocating shipbuilding and ship-repair facilities. It is likely that the development of ancillaries will not accelerate until the Indian shipbuilding acquires a reasonable scale. Towards this, the continuation of subsidy scheme may be necessary, for Indian shipbuilding to develop scale such that growth of ancillary clusters is triggered in the country.

Shipping Industry

Overview

India has over 110 companies in the shipping sector with major domestic players including Shipping Corporation of India Limited, Great Eastern Shipping Company Limited (GESCO), Essar Shipping, and Varun Shipping Company Limited. However, India's shipping industry has not grown at a pace commensurate with its international trade. From 1990-91 to 2006, the Indian fleet's total GT grew at around 1.8 percent per annum compared to the average trade growth of about 14 percent. Consequently, India's maritime trade is dominated by foreign fleets and the ratio between foreign and Indian fleets in Indian maritime trade is 70:30. Further, the average age of Indian ships is 16.5 years as against the world average of 12.2 years. The Indian fleet is mostly deployed on international operations, which account for 93 percent of the total capacity, while coastal shipping accounts for 5.7 percent of capacity and the rest is accounted for by offshore shipping.

The market share of Indian shipping companies also declined due to a fall in assured cargo on account of the liberalization of regulatory environment and due to major customers such as refineries, starting their captive shipping operations.

Recent Initiatives

1. The Government has initiated a comprehensive policy for the maritime sector for coordinated development of shipping, ports, inland transport, and ship building and ship repair. At present, the revised draft policy has been formulated by the Ministry of Shipping and is undergoing a review by a sub-committee of the Committee of Secretaries (COS). After clearance by the COS, the policy will be placed before the cabinet for approval
2. The Government introduced a tonnage tax from FY04-05, to provide the Indian shipping industry a level playing field vis-à-vis international shipping companies and facilitate the growth of Indian tonnage. The new tax and the recent increases in trade resulted in a steady growth in Indian tonnage in the last three years. Indian tonnage as on June 1, 2004, was 7.05 million Gross Tonnage (GT), and it increased to 7.69 million GT as on December 31, 2004, and further to 8.56 million GT as on March 31, 2006. Dredgers have also been included in the tonnage tax regime with effect from 2005-06
3. Keeping in view India's position as a leading merchant navy supplier and the stiff challenge faced by India from South-east Asian countries like Philippines, China, etc., the Government is considering the formation of an International Maritime University by an Act of Parliament



4. A high-powered steering group under the Chairmanship of the Minister of Shipping, Roads, Transport and Highways with the Union Minister of State for Tourism as Co-Chairperson has been set up for the formulation of a National Cruise Shipping Policy
5. An agreement on Merchant Shipping and other Maritime Transport related matters between the Government of the Republic of India and the Government of the Republic of South Africa was signed at Cape Town, South Africa in March 2006
6. India, Brazil and South Africa have signed a Trilateral Agreement concerning Merchant Shipping and other Maritime Transport related matters in the 1st IBSA summit held at Brasilia in September 2006
7. A Memorandum of Cooperation (MoC) on maritime transport, science and technology was signed on April 14, 2005, between the Indian Government and the Department of Transportation of the United States of America.

Areas to be addressed

Increase in Fleet Size and Improvement in Fleet Quality

The average age of Indian ships is over 16 years compared to a global average of around 12 years. To reduce this disparity, it is crucial that Indian companies acquire a younger fleet. At the same time, Indian companies would have to increase their fleet size to gain market share. Recent Government initiatives like introducing tonnage tax and improving the processes for acquiring vessels have increased shipping tonnage. However, the Government needs to further these reforms and remove disparities which may be present in tax-structures to create a level playing field vis-à-vis foreign flag vessels.

Simplification of Tax Structure

The taxation regime applicable to the Indian shipping industry comprises multiple (twelve in total) taxes including service tax and fringe benefit taxes. These taxes dilute the fiscal incentives aimed while implementing the tonnage tax and reduce the competitiveness of the Indian shipping industry. Simplification of the tax procedures would help in the improving competitiveness of the Indian players.

Need for Supporting Policies and Incentives

Indian ship owners are statutorily required to insure their fleet with Indian insurance companies for hull and machinery. The premium rates (fixed by the tariff advisory committee) have traditionally been much higher than international rates. Apart from this, the industry has been seeking revaluations of withholding tax on interest on External Commercial Borrowings (ECBs). The policy framework requires a modification to provide Indian shipping players a level field vis-à-vis international players.

Policy initiatives are also required to retain and forge talent. While Indians are considered to be highly qualified for sea-faring jobs, Indian ship owners face a shortage of personnel. One of the reasons is that the Indian taxation regime for companies and ship personnel imposes additional costs, making employment on Indian ships unattractive. Hence, a large number of Indian nationals work on foreign ships.



Dredging

Overview

The dredging market in India is dominated by the state owned Dredging Corporation of India (DCI). It is estimated that during the 10th Five Year Plan (2001-02 to 2006-07), 15 million cubic meters of capital dredging and 235 million cubic meters of maintenance dredging was undertaken. Private participation is currently limited but the government has taken steps to introduce competition in this sector.

Indian ports are handicapped by low drafts and have lined up ambitious plans to improve draft levels. Besides expansion of marine side infrastructure of major ports, construction of greenfield ports, the Sethusamudram Ship Channel project and the Government's plans to develop IWT offer a large opportunity for dredging in India. As per the National Maritime Development Programme for Major ports, 25 different dredging projects are envisaged to be taken up at a cost of Rs. 6,304 Crores. The total dredging requirement for the next five years, including minor ports, is estimated to be 1,079 million cubic meters of which maintenance dredging alone is expected to be 414 million cubic meters.

Recent Initiatives

1. The government has notified a new Dredging Policy according to which all major ports shall invite open competitive bids for dredging works and Indian companies owning Indian flag dredgers, including DCI, shall have the right of first refusal if the rate is within 10 percent of the lowest valid offer. This would apply to both maintenance and capital dredging works with sole exception of the maintenance dredging requirement of Kolkata Port. This is a significant departure from the earlier practice, when dredging contracts were awarded on nomination basis. However this policy is applicable only upto April 2010
2. International players, mainly from Netherlands and Belgium, have entered the Indian dredging market and have successfully won contracts for capital dredging at various ports.
3. More contracts are now being awarded on turnkey basis as against the earlier practice of awarding daily rate contracts with consequent impact on efficiencies

Areas to be addressed

Long Term contracts for dredging

Planning commission has proposed the Build Operate Transfer (BOT) framework of contracting for maintenance dredging specifying output parameters. This can be applicable in case of Major Ports with existing traffic. The arrangement envisages a payment structure based on either annuity basis or linked to vessel traffic payments. The advantage envisaged from such a BOT framework is that the dredging company is incentivised to not only undertake capital dredging efficiently but also to maintain the same during the BOT period

Private Indian dredgers need to scale up to qualify for upcoming dredging contracts

Currently, private Indian dredging companies cater to mainly dredging requirements of the State Maritime Boards, the Inland Waterways Authority, private ports and captive jetty operators with dredging volumes limited to 0.05 million to 0.5 million cubic meters. To take part in upcoming large volume dredging opportunities, these entities need to scale up their operations and capabilities to effectively leverage the favorable treatment offered to Indian dredgers

Fiscal incentives for Indian Dredging companies

Dredging is a core infrastructure capacity builder in the maritime sector and considering the existing capabilities of Indian dredging companies, a set of fiscal incentives in the medium term can help them to scale up their operations. For example, dredging sector can be considered for grant of 'infrastructure' status enabling it to receive tax benefits. To support domestic fleet growth, while import of dredgers is exempt from customs duties, the import of repair equipment/spares can also be exempted, till such time domestic manufacturing capabilities get developed.

Change of legal definition for Dredging

Presently Dredgers have been included within the ambit of coastal trade / cabotage laws (vide sections 406 & 407 of the Merchant Shipping Act, 1958). Dredgers do not engage in coastal trade and are specially fitted vessels which undertake deepening and land reclamation activities within the contracted port waters. The stress of cabotage laws is for cargo support, and since dredgers are not involved in the transport of cargo, their inclusion within the ambit of coastal trade/cabotage laws needs to be reviewed as it can ease the legal environment in which they operate.



Inter Modal Connectivity

Overview

Effective evacuation of the cargo to and from the port is critical for inter-modal networks to function smoothly. In the case of certain cargoes like bulk, railways have a major share in inland transportation. On other hand, manufactured cargo typically moves by road because of the inherent advantages road provides to suppliers in terms of flexibility in schedules and door-to-door delivery.

In recent years, containerization of non-bulk and non-liquid cargo has increased globally as well as in India. Most manufactured cargoes and even bulk cargoes for international as well as domestic trade move in containers. In 2006-07, some 6.2 million TEUs of containers were handled at various ports of the country¹⁷. As the trend of containerization increases, multi-modal transport of cargo will assume increasing significance.

Multi-modalism

In India, multi-modalism is still at a nascent stage, as the country has been rather slow in adopting containerization. However, with the liberalization of the Indian economy and growth in the manufacturing segment, growth in containerization has accelerated. With the increase in requirement for freight transport, the necessary impetus for growth of multi-modal transport in the country is likely to be available.

Railways

While the Indian Railways enjoy a major share of movement of bulk cargoes, given its inherent advantages in bulk transportation, it has also started targeting the rapidly growing manufactured cargo segment. Policy initiatives allowing private participation in rail container transport have attracted a large number of private players. As the number of players increase, ocean carriers and shippers would have more choice in hinterland transport options. This is expected to usher in a more competitive freight transport environment, deliver greater efficiency with consequential lower costs and increase trade volumes. The first benefits can be witnessed as some private container train operators are marketing their services to segments earlier ignored by the Indian Railways like the Small and Medium Enterprises (SMEs). This factor has helped in taking away some cargo from the road sector

In addition to the above, the Railways have also embarked upon an ambitious program of capacity expansion on trunk routes and addition of new capacities. Dedicated freight corridors along the golden quadrilateral and port-rail connectivity projects are some of the key initiatives in this direction.

¹⁷<http://shipping.nic.in>

Roadways

Roads have enjoyed a higher modal share in cargoes that move to and from various ports in the country. An ambitious National Highway Development Program (NHDP), involving a total investment of INR 2,200 billion up to 2012 will expand the capacity of road infrastructure and improve delivery efficiencies. Private participation in these projects is increasing, ensuring delivery commitments and service level efficiencies. The principal mode of private participation is through:

- Construction contracts
- BOT for some stretches-based on either the lowest annuity or the lowest lump-sum payment from the Government.

Going forward, more projects are to be under the BOT mode and the government has also tried the revenue share criteria for bidding of these projects.

Inland Waterways

Inland Water Transport (IWT) is one of the oldest economically and environmentally sustainable means of transportation. It consists of transportation through a network of lakes, rivers, canal, creeks, and backwaters. It is location-specific, and confined to regions that have waterways.

Despite a network of inland waterways spread over 14,500 km, India has not adequately exploited this form of transport. IWT contributes a minuscule 0.15 percent of the total inland cargo transportation in terms of tonne km. This slow progress can be attributed to the lack of supporting infrastructure, navigational constraints, and the need for additional Governmental support.

In contrast, some of the more developed countries depend heavily on this mode of transport. IWT carries 14 percent of the cargo traffic in the U.S., while in the Netherlands it accounts for 46 percent of the traffic.



Recent Initiatives

1. The Government has announced the development of rail freight corridors and rail freight terminals through private participation. The Government has allowed private players entry into rail container transport and as many as 15 players have registered for commencing operations
2. Steps are also being taken for restructuring and strengthening National Highways Authority of India, which is the implementing agency for the national highways program. Institutional mechanisms have been established to address bottlenecks arising from delays in environmental clearance, land acquisition, etc. The Government has laid special emphasis on traffic management and safety-related issues through the proposed Directorate of Safety and Traffic Management. It is expected that a combined set of these initiatives should deliver an efficient and safe highway network across the country. To attract investments in the sector on a fair and transparent basis, an MCA for PPPs in national highways has been mandated
3. The NHDP envisages investments totaling over INR 2,200.billion by 2012¹⁸. This would include upgradation of various highways in India including the Golden Quadrilateral, four laning, two laning of over 40,000 km of highways, etc. Within this plan, roads leading to ports have been included for development
4. To provide an impetus to IWT development, the Indian Government has approved the Inland Water Transport Policy, which includes several fiscal concessions, and policy guidelines for rapid development of the mode and encourages private sector participation in development of infrastructure and owner- ship and operation of inland vessels. Inland Waterways Authority of India (IWAI) is also authorized for joint ventures (JVs) and equity participation in BOT projects
5. With the objective of enhancing inland connectivity, the Government has declared three new National Waterways: Kakinada-Pondicherry Canal System comprising Kakinada Canal, Eluru Canal, Commamur Canal, Buckingham Canal, Kaluvelly Tank, Bhadrachalam-Rajahmundry stretch of River Godavari, and Wazirabad-Vijaywada stretch of River Krishna as NW 4; the Geonkhali- Charbatia stretch of East Coast Canal, the Charbatia-Dhamra stretch of Matai River, Talcher-Dhamra stretch of River Brahmani, and the Mangalgadi- Paradip stretch of Mahanadi Delta as NW 5, and Karimganj- Lakhipur stretch of River Barak as NW 6¹⁹.

¹⁸National Highway Development Program Report
¹⁹Inland Waterway Authority of India Report

Areas to be addressed

Infrastructure Development of Rail and Road

Given the increasing traffic at Indian ports, it is important that road and rail connectivity measures are undertaken. The Government has undertaken the development of dedicated freight corridors, port connectivity projects, and the NHDP. Besides new projects, there is also a need to upgrade current infrastructure to improve the load-carrying capacity and quality of roads as well as the capacity of rail to match future traffic. Early completion of various projects in the rail and road sector is crucial to meet the heavy traffic projections for the future.

Facilitative Measures to Streamline Processes

At present, different liability regimes are applicable for different legs of the transportation chain. Specifically, Shipping Lines use Combined Transport Document (CTD or Combidoc), Freight Forwarders use the FIATA principles and the MTOs use the MTD. This leads to increase in the number of documents and the associated costs and time involved. To harmonize the liability regime, the MMTG act has to be modified to replace this with the minimum criteria to be satisfied by all the transporters involved.

High Switching Costs

At present, the cost of switching from one mode of transport to other modes of transport is high. This is especially relevant in case of inland waterways where access to waterways increases IWT costs. In such a scenario it is important that support is extended to IWT as it can help in reducing the traffic burden on rail and road.

Policy Incentives for IWT

Along with fiscal incentives, the Government needs to provide institutional support for IWT to become a viable option for private participation. First, organic integration of Coastal Shipping and IWT modes/ operations should be attempted. This can be done by bringing the two modes under a single organization for their development in a focused manner. Comprehensive policies should be drafted and existing policies properly enforced. For instance, the lack of interest shown by both Bangladesh and Indian Governments in periodically reviewing the IWTTTP with Bangladesh has driven away private investment in the sector.



Poor Infrastructure at Inland Waterway Terminals

The absence of support infrastructure like surface road links and properly equipped terminals and warehouses to facilitate the smooth transit of cargo has been a major constraint in India. Mechanical handling facilities are needed at riverine terminals which need to become cargo oriented to reduce turnaround times. Storage facilities are needed so that more shippers can use the IWT to transport their goods. Moreover India has only 400 IWT vessels in the private and public sector, which is not sufficient to meet the demand²⁰.

Broadening the scope of coastal shipping

To promote coastal shipping, the Indian Merchant Shipping Act, 1958 needs to be updated to broaden the scope of coastal shipping to include any activity performed within the territorial waters of the country. For instance, the definition of 'ship' and 'vessel' should be expanded to include barges, dredges, non-floating or non-proposed units such as drilling machines, etc.

Implementation of the Coastal Shipping Development Fund (CSDF)

The government has proposed a creation of fund out of Government Budgetary Support for financing the acquisition of coastal vessels. The fund can also be used to support concessional term loans from banks for these acquisitions. These measures should be implemented, as proposed, to spur development in the sector.

²⁰Inland Waterway Authority of India website



Human Resource Development

Overview

Due to the high quality of training imparted to maritime personnel, India has always been regarded as a major source of skilled manpower for world shipping. India has around 150 training institutes with four in the public sector and around 146 in the private sector, capable of producing 11,164 seafarers (4,575 officers and 6,589 ratings) annually.

Recent Initiatives

Recruitment and Promotion

To facilitate the mobility of manpower from one port to the other, appointments at senior levels will be effected through a composite method where eligible officers from all major ports fulfilling the criteria would be considered. Recruitment and promotion rules of such appointments shall also be standardized.

Incentives

To improve the efficiency of ports, the Government has allowed incentive programs to be implemented by ports. Under these programs, the performance of port officers/personnel would be monitored by respective ports regularly and incentives like awards/mementos/remuneration for each year would be awarded. Incentives programs have been undertaken at various ports. The incentive programs initiated for crane operators at Jawaharlal Nehru Port Trust (JNPT) has led to an improvement in productivity parameters.

Dock Labor Boards

To enable interchangeability of labor, the Government has introduced the Dock Workers {Regulation of Employment (inapplicability to Major Port Trusts)}Act, 1997, that provides for merger of Dock Labor Boards; it has been implemented by most ports.

Training

Training programs for port officers and employees have also been identified as important under a recent initiative. It is proposed that there would be induction/foundation courses for new entrants and departmental promotees. The curriculum of the training program would be designed to cover the multiple activities carried out at a port. Refresher courses would also be conducted at regular intervals to keep pace with the latest developments. Successful completion of training courses would be made mandatory for promotions. Training institutions will be encouraged to collaborate with reputed counterparts abroad for upgrading skills of both trainers and trainees.

Areas to be Addressed

Calculation of Productivity Linked Reward

The present scheme of payment of productivity linked reward is based on certain productivity parameters calculated on an all-India basis. The payment is made out of the resources of the port trusts and each major port trust is an independent entity. So the scheme may need to be relooked at, based on productivity parameters of individual port trusts.

Retention and Training for Personnel

While training has been identified as a focus area by the Government, it is also necessary to address the need for training for special skills in areas where ports face manpower shortage. This includes training for crane operators, pilots, Vessel Traffic Services (VTS) operators, etc. Incentives should be provided to ports to invest in training infrastructure such as simulators, etc. Plans should also be developed to retain key staff such as pilots, IT personnel, VTS operators, etc.

Development of training curriculum

The Indian maritime training system lacks consistency in content and methods owing to the absence of a regulatory body. The large number of private institutions with no control has led to allegations about the quality of training in the country. There is a need to re-design the courses, reducing focus on theory and increasing focus on practical aspects. Another issue is the lack of slots at ports and ships which results in delay for cadets to start their training. Arrangements should be made to ensure that institutions make arrangements for the required number of training slots before intake of cadets.

Conclusion



India's maritime sector is witnessing promising growth, which is reflected in the increase in the demand for infrastructure and services across the entire value chain comprising shipping, ports, ship-building/repair, and logistics. While this growth has exposed bottlenecks in infrastructure and service provisioning across the sector, it has also opened up opportunities in each segment. Therefore, it is critical to pursue comprehensive measures in the policy, administration, and project level in each segment, so that bottlenecks are addressed and opportunities are capitalized upon, thereby ensuring that the growth momentum is sustained.

List of Abbreviations

BOT	→ Build Operate Transfer
CAGR	→ Compounded Annual Growth Rate
CFS	→ Container Freight Station
CONCOR	→ Container Corporation of India
CSI	→ Container Security Initiative
C-TPAT	→ Customs-Trade Partnership against Terrorism
DWT	→ Dead Weight Tonnes
ECB	→ External Commercial Borrowing
EDI	→ Electronic Data Interface
ELC	→ European Logistics Centers
EXIM	→ Export-Import
GDP	→ Gross Domestic Product
GESCO	→ Great Eastern Shipping Company
GoI	→ Government of India
GT	→ Gross Tonnage
HR	→ Human Resource
ICD	→ Inland Container Depot
IMO	→ International Maritime Organization
ISPS	→ International Ship and Port Security Compliance
IWAI	→ Inland Waterways Authority of India
IWT	→ Inland Water Transport
JNPT	→ Jawaharlal Nehru Port Trust
MCA	→ Model Concession Agreement
MOC	→ Memorandum of Cooperation
NHAI	→ National Highways Authority of India
NHDP	→ National Highway Development Program
NMDP	→ National Maritime Development Program
POL	→ Petroleum, Oil and Lubricants
PPP	→ Public Private Partnership
PSU	→ Public Sector Unit
R&D	→ Research and Development
SCI	→ Shipping Corporation of India
TAMP	→ Tariff Authority for Major Ports
TEU	→ Twenty Feet equivalent Unit
VTS	→ Vessel Traffic Service

Confederation Of Indian Industry

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the growth of industry in India, partnering industry and government alike through advisory and consultative processes.

CII is a non-government, not-for-profit, industry led and industry managed organization, playing a proactive role in India's development process. Founded over 112 years ago, it is India's premier business association, with a direct membership of over 7000 organizations from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 90,000 companies from around 362 national and regional sectoral associations.

A facilitator, CII catalyses change by working closely with government on policy issues, enhancing efficiency, competitiveness and expanding business opportunities for industry through a range of specialized services and global linkages. It also provides a platform for sectoral consensus building and networking. Major emphasis is laid on projecting a positive image of business, assisting industry to identify and execute corporate citizenship programs. Partnerships with over 120 NGOs across the country carry forward our initiatives in integrated and inclusive development, which include health, education, livelihood, diversity management, skill development and water, to name a few.

CII's theme of 'Building People, Building India' puts the spotlight on Human Resource Development: making people more efficient, entrepreneurial and innovative, to make India and Indian industry even more competitive, across all sectors of the economy and all sections of society, at all levels Global, National, Regional, State and Zonal.

With 62 offices in India, 8 overseas in Australia, Austria, China, France, Japan, Singapore, UK, USA and institutional partnerships with 271 counterpart organizations in 100 countries, CII serves as a reference point for Indian industry and the international business community.

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