INSIGHTS INTO THE INDIAN MARITIME INDUSTRY AND PORTS IN INDIA.
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Preface

With the future prospect of establishing networks and initiating memberships in India, the document aims to profile the 12 major ports in India and understand the organizational structure of the authorities and their functioning. The key aspect of the document is to provide a brief that will enable us to divulge further into identifying the prospective target areas and the establishing links with the organizations.  

The Ministry of Shipping has formulated a Maritime Agenda 2020 to compliment the growing Indian economy. The Ministry believes that it is imperative to make substantial investment in ports and shipping sector in order to sustain the high growth rates in the years to come. The efforts of the ministry are directed towards attraction of investment for the creation and the upgradation of infrastructure in the ports. They are also aiming at increasing Indian tonnage in the shipping sector. The agenda is a perspective plan for the coming decade and identifies the priority areas for government intervention.

Acknowledging the vitality of port infrastructure and shipping in logistics chain, there is the need now to increase the pace of development. India’s coastal shipping potential is significantly underutilized when compared with other emerging and developed countries.  

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2 [http://www.ibef.org/industry/ports-india-shipping/showcase](http://www.ibef.org/industry/ports-india-shipping/showcase)
PORT FOCUS: INDIA

16th LARGEST MARITIME COUNTRY IN THE WORLD WITH 7,515km OF COASTLINE

1052 MILLION TONNES of Cargo Traffic recorded in 2015

6.7% INCREASE in container handling year on year FY 2015

$10.5 BILLION Dollars will be invested in 12 major ports in the next five years under 'Sagarmala' initiative.

12 MAJOR PORTS
- Kolkata
- Paradip
- Visakhapatnam
- Kamarajar (Ennore)
- Chennai
- Vishakhapatnam (Vizag)
- Cochin
- New Mangalore
- Mormugao
- Mumbai
- Jawaharlal Nehru Port Trust (JNPT)
- Kandla

INDIA IS THE 5th LARGEST AUTOMOTIVE MARKET IN THE WORLD

Projected to overtake Japan in 5 years as world's foremost producer of entry level automobiles.

28% BY 2021 MARKET SHARE
20% IN 2015 MARKET SHARE

India is focusing on boosting trade along the coastline by using more economical & environmentally friendly Ro-Ro Vessels to transport Indian Manufactured automobiles.

Sources: IBEF (www.ibef.org)

Introduction

- According to the Ministry of Shipping, around 95 percent of India’s trading is by volume and 70 per cent by value is done by maritime transport. India has 12 major ports and 187 non-major ports. Cargo traffic, which is recorded at 1.052 million metric tonnes (MMT) in 2015, is expected to reach 1,758 (MMT) by 2017. The Indian ports and shipping industry plays a vital role in sustaining the growth in the country’s trade and commerce.

India is the sixteenth largest maritime country in the world, with a coastline of about 7,517 km.

- The Indian government plays a pivotal role in supporting the ports sector and it has allowed Foreign Direct Investment of up to 100 per cent under the automatic route for port and harbor construction and maintenance projects.

It has also facilitated a ten year tax holiday to enterprises that develop maintain and operate ports, inland waterways and inland ports.

Market Size

The handling capacity of major ports in India is sufficient to match the trade demand. The capacity utilization for the year 2014-2015 was around 66 percent. Furthermore as per internationally accepted norms, the gap between the traffic and capacity is usually around 30 percent.

Currently there are 44 ongoing projects undertaken at major ports in India, with total investment of over 3.88 billion.¹

¹ www.ibef.org/industry/ports-india-shipping.aspx
<table>
<thead>
<tr>
<th>Ports on Western Coast</th>
<th>Ports on Eastern Coast</th>
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<tbody>
<tr>
<td>1. Kandla (formed after Karachi given to Pakistan, child of partition)</td>
<td>1. Kolkata-Haldia (riverine port, Indian coast guard base)</td>
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<td>2. Mumbai (India’s busiest and biggest)</td>
<td>2. Paradip (exports raw iron to Japan)</td>
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<td>4. Marmugao (natural harbour)</td>
<td>4. Chennai (oldest and artificial harbour)</td>
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<td>5. Mangalore/Panambur (Kudremukh iron-ore exports)</td>
<td>5. Ennore (most modern-in private hands)</td>
</tr>
<tr>
<td>6. Cochin (Natural Harbour)</td>
<td>6. Tuticorin (southernmost &amp; artificial deep sea harbour)</td>
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2. Insights into the Indian Maritime Industry

2.1 Coastal Shipping

It is highly relevant in India, since the country has a long peninsular coastline. In recent years the rising delays and costs due to high road and rail congestion has been driving companies to consider coastal shipping to transport their goods. It is significantly underutilized when compared with other emerging and developed countries.

At 7 percent, the share of coastal shipping in India in overall cargo movement is low compared to that of the United States, some European and Asian countries. This can be largely attributed to insufficient infrastructure and the absence of favorable policies in India, which are the driving force in developed countries. The example of the Marco Polo Scheme by the European Union is cited here.6

The water transportation is largely untapped and underutilized despite the high growth potential. The recent shift that has been undertaken by policy makers is mainly towards developing the infrastructure of the segment, routes, capacity addition by port operators, and shipping lines and incentives for shippers and the ship owners. The Ministry of Shipping can foster the growth of the coastal shipping segment by reducing port duties and developing the coastal–specific non-major ports and supporting infrastructure.

6 https://www.kpmg.com/IN/en/IssuesAndInsights/ArticlesPublications/Documents/KPMG_All_Aboard_Insights_into_India_maritime_community.pdf
The benefits of good transportation via coastal shipping compared with road and rail transportation are as follows:

<table>
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<th>ECONOMICAL MODE</th>
<th>The cost of coast-to-coast transportation of goods by coastal shipping is at about 21 per cent of that of road transport and 42 percent of that of rail transport.</th>
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| LOWER FUEL CONSUMPTION PER TONNE OF CARGO | - Fuel consumption by coastal shipping is 4/83 gms/tkm.  
- 15 % of consumption by road.  
- 54 % of consumption by rail. |
| SIGNIFICANTLY MORE ENVIRONMENT FRIENDLY | Carbon dioxide emission from rail transport is twice that from coastal shipping and six times that from road transport. |
| LOW RATE OF FATALITIES | Road and rail movement result in significant loss of lives in India. It is estimated that one life is lost in a road accident every 3.7 minutes in India. |

https://www.kpmg.com/IN/en/IssuesAndInsights/ArticlesPublications/Documents/KPMG_All_Aboard_Insights_into_India_maritime_community.pdf
2.2 Inland Water Transport

The share of India’s inland water transport cargo traffic to the logistics market is significantly lower at 0.5 percent as compared to China at 8.7 per cent and Europe at 7 per cent.

1. India has about 14,500 km of navigable inland waterways, of which 5,200 km (36 per cent) major rivers and 485 km (3 percent) canals are conducive to the movement of mechanized vehicles.

2. There are five National Waterways (NWs) spanning approximately about 4,400km have been outlined as potential inland waterways at the Ganges, the Brahmaputra rivers, the West Coast Canal, the Godavari and Krishna rivers, and the East Coast Canal respectively.

2.3 Container Freight Station and Inland Container Depots

The shippers are digressing from general or bulk shipping to container transport, thus increasing India’s share in the global container traffic. This growth has been supplemented by the development of container freight stations (CFS) and inland container depots (ICD). This phenomenon is largely unique to India but plays a pivotal role in the decongesting container traffic at ports, adding value to container trade and also enhancing the operational capacity of the ports.
Below is a brief on the container infrastructure market in India, which has outpaced the global growth rates. The Compounded Annual Growth Rate is eight percent globally but India’s container traffic shows a growth rate at 15%.8

This increase in containerization levels is driven by the escalation of containerization of commodities, such as textiles, electronics and automobiles. It must be noted that there is still potential to further increase the overall capacity as containerization is absent in agricultural commodities - such as rice, maize, and sugar, which are still transported in bulk.

The map below shows the Container terminals at select Indian ports.

The traffic is expected to surge at a CAGR of 6-7% over the next five years, and both the major and the minor ports intend to increase the container handling capacities to cater to the growing traffic and facilitate healthy utilization levels. The data also suggests the capacity utilization of ports on the west coast is higher than the pan-Indian average. It can be deduced from that data that the west coast is more utilized (-64%) than those along the south and east coasts (-44%).

2.4 Trends

- The growth trends show that a strong correlation exists between economic growth, trade and logistics sector.
- The dispersion pattern of facilities is aimed at being closer to production with consumption and multi-modal hubs being considered.
- There is a move towards service re-orientation, which would involve reassessing the transportation, storage and value added services.

The map below outlines the spread of cargo handled by freight forwarders across India.

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9 Page 22, 28
https://www.kpmg.com/IN/en/IssuesAndInsights/ArticlesPublications/Documents/KPMG_All_Aboard_Insights_into_India_maritime_community.pdf
3. Ports in India

Cargo handling at Indian Ports has matured over time. The development of non-major ports due to growing private sector participation has led to a shift of cargo traffic from major ports that operate at above-optimum capacity, to the non-major ports. There has been an uneven development of port infrastructure across the country. As the addition of handling capacity has gradually outpaced the cargo traffic at ports, capacity utilization at the major ports has decreased.

![Share of major vs non-major ports](image)

Historically, ports along the west coast have dominated the cargo traffic due to their proximity to India’s major consumption centers and the industrial belt in North – West India. China’s emergence as India’s leading trade partner, India’s ‘Look East’ Policy and overcapacity at the west coast ports provide the east coast ports the opportunity to develop. The 50 ports that are situated along this coast is said to drive the overall growth increasing the total trade and capacity addition.
Port operations in the Indian scenario

Ports operations in India lag behind international standards, especially in terms of adopting new technologies and practices, cargo handling, cargo evacuation, customs clearance, tracking, hinterland connectivity or innovative logistics practices. Some operational bottlenecks at Indian ports are highlighted below.

Source: KPMG in India analysis
3.2 MARITIME AGENDA 2010-2020

- The Maritime Agenda is the foundation of an ambitious development plan. Each state government is also having a Maritime Policy of its own and an endeavor is being made to assimilate the spirit of such policies in this document. Future policy milestones, which are foreseeable priority deliverables, have also been identified and incorporated into the document.

- It has been decided in a meeting of the Committee of Infrastructure that the major ports have been asked to prepare a long prospective business plan of each port with the help of international consultants.

- All these plans have been co-ordinated at the central level by the Indian Ports Association, by engaging the Port of Rotterdam Authority and a consolidated business plan, combining the projections of traffic and development plans was prepared.

- This consolidated plan is only for the major ports and does not take into consideration the needs of non-major ports, which are large in number irrespective of the volumes.

- The Planning Commission in the mid-term appraisal has suggested that the document be more comprehensive and provide scope for inclusion of the non-major ports. It is in this context that the Ministry of Shipping has prepared this ambitious Maritime Agenda for the decade with the intention of creating, building and sustaining the maritime infrastructural needs of the country for the decade.

- During the post liberalization period due to the emergence of a large number of state and private ports as well as private terminals within major ports. Competition is emerging among various ports and also ports within and outside the region.\(^\text{10}\)

The vision of the Ministry of Shipping is to be recognized globally as a highly effective, efficient, responsible and progressive maritime administration.

Agenda for the decade, addresses port capacity, port policy measures, environment, technology for efficiency, safety and security, human resources, shipping policy, finance, shipping programmes, ship building and repairs, tourism, inland waterways, institutional development, legislation and international matters.

### 3.3 ORGANISATIONAL STRUCTURE OF PORTS
3.4 LIST OF MAJOR AND NON-MAJOR PORTS

Major Ports

1. Kolkata Port Trust
2. Paradip Port Trust
3. Visakhapatnam Port Trust
4. Chennai Port Trust
5. Tuticorin Port Trust
6. Cochin Port Trust
7. New Mangalore Port Trust
8. Mormugao Port Trust
9. Mumbai Port Trust
10. Jawaharlal Nehru Port Trust
11. Kandla Port Trust
12. Port Blair Port Trust

Companies

13. Ennore Port Ltd.
### 3.5 Major Port Profiles

#### State-Wise & Union Territory List of Non-Major Ports

<table>
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<tr>
<th>S.No.</th>
<th>Name of Port</th>
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<td>VASAI-BADRI</td>
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<td>Mahuva</td>
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#### Major Port Profiles

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**LAKSHADweep - 18**

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- 27 | Mandu | 28 | Kamarthan |
- 29 | Sh-hurdhun | 30 | Kharri |
- 31 | Kard | 32 | Harrai |
- 33 | Dhar | 34 | Khali |
- 35 | Kala | 36 | Ka |
3.5.1 KOLKATA PORT TRUST

Kolkata Dock System is situated on the left bank of the river Hooghly in position Latitude of 22°32'53" North and Longitude of 88°18'5" East.

Haldia Dock Complex is situated on the right bank of River Hugli in position Latitude of 22°02' North and Longitude 88°06’east.

- It is a riverine port located on the left bank of river Hugli about 128 kms inland from the Bay of Bengal. Kolkata port handles goods coming from South-East Asian countries, Australia and New Zealand. Kolkata port is called the ‘Gateway to Eastern India.
- It is the world’s most important centre of jute industries. Kolkata is the main port for exporting jute products, tea, coal, steel, iron ore, copper, leather and leather products, textiles, manganese and many more items. The imports consist mainly of machinery, crude oil, paper, fertilizers and chemical products.

- The Kolkata port suffers from a number of problems.
  - It is located on the bank of the River Hugli, which suffers from the problem of silting as tidal bores enter this port frequently.
  - The river is in its old stage and bends at several places creating lot of problems for the ships because they do not find a straight passage from the coast to the port.
  - To sum up Kolkata port has a serious problem of ‘bends’, ‘bars’ and ‘bores’.
  - Expert pilots are required to conduct the ships and the cost of maintaining the port has become prohibitive.

- The Kolkata Dock System will be going in for privatisation of modernising and replacing port craft; strengthening of cargo handling equipment; better utilisation of dry docks and deep drafted areas while promoting ship breaking activities.
- Kolkata port has a vast hinterland.
- Almost whole of the eastern and north-eastern parts of the country are included in the hinterland of this port.
- The main areas comprising the hinterland of Kolkata are West Bengal, Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Sikkim, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Meghalaya, Tripura and northern parts of Chhattisgarh and Madhya Pradesh.

3.5.2 HALDI PORT
Haldia port has recently been developed on the confluence of rivers Hugli and Haldi about 105 km downstream from Kolkata.

- It receives larger vessels from Kolkata and was constructed to ease the traffic in the Kolkata port.
- Haldia has an oil refinery and a fertilizer factory. A large integrated petro-chemical plant has also been set up here.
- An important rail link connects Haldia with Kharagpur. The main items of trade are mineral oil and petroleum products.
- Haldia-Dock complex is considering plans to develop a berth on BOT basis. The hinterland of Haldia covers the same territories as that of Kolkata although to a much lesser extent.
- The Bhagirathi River has changed its course recently as a result of which Haldia’s future has become uncertain. With the large-scale deposition of silt near the port (Nayachar), the entry of large ships has become difficult.11

3.5.3 PARADIP PORT TRUST
It is a deep water (depth 12 metres) and all weather port located on the Orissa coast about 100 km east of Cuttack. The great depth plays to the advantage of the port and is capable of handling bulk carriers of over 60,000 DWT. Construction of an exclusive oil jetty to handle about 6 to 8 million tonnes of petroleum products and crude tankers of 85,000 DWT were completed recently.
Constructed in the Second Five Year Plan period, this handles iron-ore and coal along with some other dry cargo. Large quantity of iron ore is exported to Japan through this port.

3.5.4 VISHAKAPATNAM PORT TRUST
- It is the deepest land-locked and protected port built at the coast of Andhra Pradesh.
- Vishakhapatnam has a capacity of handling 16.7 million tonnes of cargo traffic. It also has the ship-building and ship-repair industry.
The primary export items are iron ore (especially from Bailadila mines to Japan), manganese ore, spices and wood. The imports comprise mainly of mineral oil, coal, luxury items and other industrial products.
- The hinterland of Vishakhapatnam port commands an approximate area of 3.4 lakh sq. km which is constituted by Andhra Pradesh and the contiguous parts of Chhattisgarh, Madhya Pradesh, Maharashtra and Karnataka. This part of the country is very rich in mineral resources and agricultural produce.
3.5.5 CHENNAI PORT TRUST

Chennai Port, the third oldest port among the 12 major ports, is an emerging hub port in the East Coast of India. This gateway port for all cargo has completed 134 years of glorious service to the nation’s maritime trade.

In 1983, the port heralded the country’s first dedicated container terminal facility commissioned by the then Prime Minister Smt. Indira Gandhi on 18th December 1983. The Port privatized this terminal and is operated by Chennai Container Terminal Private Limited. The port is ranked in the top 100 container ports in the world. Witnessing a phenomenal growth in container handling post 2009, they commenced the Second Container Terminal with a capacity to handle 1.5 M TEU’s to meet the increasing demand.

Chennai Port is one among major ports having Terminal Shunting Yard and running their own railway operations inside the harbour. The port is having railway lines running up to 41 kms, 8 sidings to handle wide range of cargo like granite, food grains, dry bulk, etc. For handling containers separate sidings are available.

3.5.6 TUTICORIN PORT TRUST

- This port has also been recently developed at the Tamil Nadu coast about 8 km south-west of the old Tuticorin port. It has an artificial deep sea harbour.
- The port handles the traffic of coal, salt, food grains, edible oils, and sugar and petroleum products. Its main purpose is to carry on trade with Sri Lanka as it is very near to that country.
Its hinterland is formed mainly by southern Tamil Nadu comprising districts of Madurai, Kanniyakumari, Ramnathpuram, Tirunelveli and southern part of Tiruchirappalli.

3.5.7 NEW MANGALORE PORT TRUST

- This is an important port located at the southern tip of the Karnataka coast north of Gurpur River.
- Its hinterland lies in Karnataka and northern part of Kerala.
- Tea, coffee, rice, cashew nuts, fish, rubber etc. are exported through this port. The major items of import through this port are crude oil, fertilizers, edible oils etc.
- Its main importance lies in export of iron ore from the Kundremukh mines. The port is well linked through broad gauge rail line and NH-17 with Mumbai and Kanyakumari.
3.5.8 MORMUGAO PORT TRUST

- It is an important port of Goa located at the entrance of Zuvari estuary and occupies fifth position in handling the traffic.
- It has the capacity to handle 16.1 million tonnes of cargo traffic.
- For a long period, it handled the export of iron-ore from Goa. Currently the major items of exports are iron ore, manganese, coconut and other nuts, cotton etc. Imports through this port are very few.

- It has a comparatively small hinterland covering the whole of Goa and parts of north Karnataka coastal region and southern Maharashtra.
- With the opening of the Konkan railway, the importance of this port has increased significantly and it is fast emerging as a multi-commodity port. Four new harbours are being constructed in the Vasco Bay for handling container traffic and general cargo;¹²

3.5.9 COCHIN PORT TRUST

- It is another natural harbour on the west coast of India and is located on the coast of Kerala. Kochi has sheltered backwater bay.
- It handles the export of tea, coffee and spices and imports of mineral oil and chemical fertilizers.
- The Kochi Oil Refinery receives crude oil through this port. Its hinterland lies mainly in Kerala and Tamil Nadu. It is served by a well-developed network of transport routes.¹³

¹² http://www.mptgoa.com/history.php
3.5.10 MUMBAI PORT TRUST

- It is a magnificent natural harbour on the West Coast of India. The deep 10-12 metre sea adjoining the harbour with no sand banks enables big ships to enter the port easily. It handles approximately one-fifth of India’s foreign trade with predominance in dry cargo and mineral oil from the Gulf countries;
- It is the biggest port of India. It handles foreign trade with the Western and East African countries
- Mumbai has a vast hinterland covering the whole of Maharashtra and large parts of Madhya Pradesh, Gujarat, Rajasthan, and Delhi. This hinterland is very rich in agricultural and industrial resources. The entire hinterland has undergone large scale economic improvement which has helped in the rapid growth of this port. A dense network of roads and railways connects the port with its hinterland.
- Mumbai is a gateway to India from the west and handles large scale trade of great variety.
- The major items of export are cotton textiles, leather, tobacco, manganese, machinery, chemical goods etc. while the imports include crude oil, superior quality raw cotton, latest machines, instruments and drugs. **14**

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[http://www.mumbaiport.gov.in/writereaddata/linkimages/7513127109.htm](http://www.mumbaiport.gov.in/writereaddata/linkimages/7513127109.htm)
3.5.11 JAWAHARLAL NEHRU PORT TRUST

- Formerly known as Nhava Sheva port, this port was opened on 26th May, 1989. This new port has been built at an island named Nhava Sheva across the famous Elephanta caves, about 10 km from Mumbai. Built at the cost of Rs. 880 crore, this port is named Jawaharlal Nehru port as a tribute to the first prime minister of India. The main purpose of this port is to release pressure on the Mumbai port.
- Envisioned in a remote location about 10 km across the Bombay Harbour, JN Port rose up from paddy fields, salt-ponds and marshlands, in a Herculean effort at construction – the first large-scale industrial development in independent India.
- The Port is as much a representation of what is best about our country’s capabilities, from project conceptualization to completion, as it is an example of human endeavour against all odds.
- JN Port is the biggest container handling port in India, handling around 44% of the country’s containerized cargo, crossing the historic landmark of 4 million TEUs in container bulk consecutively for the last five years. In its coveted role as the Hub Port on the West Coast of India.
- JNP is ranked 31st among the top 100 Container Ports in the world.¹⁵

3.5.12 KANDLA PORT TRUST

- This port is located at the eastern end of Gulf of Kachchh about 48 km away from Bhuj. It is a natural sheltered harbour in Kandla creek with average depth of 10 m.
- The traffic handled at Kandla consists of crude oil, petroleum products, fertilizers, food grains, salt, cotton, cement, sugar, edible oils and scrap.
- This port has a vast hinterland covering large parts of Gujarat, Rajasthan, Haryana, Punjab, Delhi, Himachal Pradesh, Jammu and Kashmir and Uttaranchal. The port is well connected by roads and railways and has a bright future.

3.5.13 ENNORE PORT LIMITED

- This port has recently been developed to reduce pressure of traffic on Chennai port. Located slightly in the north of Chennai on the Tamil Nadu coast, this is the country’s first corporate port.
- The major items of traffic on the port are coal, iron ore, petroleum and its products, chemicals, etc. Its hinterland is a part of the hinterland of Chennai port

¹⁵ http://www.jnport.gov.in/History.aspx
The paper concludes the brief of the Maritime Industry in India and the various functional major ports alongside the mention of non-major ports. The Maritime Agenda mainly highlights the development driven path that this sector has embarked upon, beginning 2010. The major ports in India and their organisation is handled mainly by the central government and non-major ports come under the state government, subject to legislation of those listed in the concurrent as well as the state list. The current scenario in the port sector highlights the growing trend of public-private partnerships and the expansion of the port sector inorder to meet the escalating export-import market. India hosted the Indian Maritime Summit from the 14-16th of April 2016, with the intention of furthering the development at a faster pace that would be beneficial for trade and commerce of industries as well as the maritime sector itself. The market for logistics and service providers is marked by competition that is driving the productivity of the sector. The competition within the ports in India and abroad is seen as a pivotal factor in making the sector at par with international standards. The advancement of the ports are crucial to India in order to elevate it’s international trade transactions. The improvement of the inland waterway system will aptly contribute to this port advancement. Though the Indian ports are not as advanced when compared with their counterparts in the global market, it stands at an advantage with regard to the increasing domestic demand. Thus making investments in Indian ports in sync with the market trend could be beneficial in the coming years.