

PORT FACILITIES



# Indian Minerals Yearbook 2019

(Part- I : GENERAL REVIEWS)

58<sup>th</sup> Edition

**PORT FACILITIES**

(ADVANCE RELEASE)

**GOVERNMENT OF INDIA  
MINISTRY OF MINES  
INDIAN BUREAU OF MINES**

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# 6 Port Facilities

## GENERAL

### Growth

Ports are economic and service provision units of a remarkable importance because they act as a place for the interchange of two transport modes, maritime and land, whether by rail or road. India has a long coastline of about 7,517 km spread across the western and eastern shelves of the mainland and also along the islands. It is a strategic geographical asset for country's trade. There are twelve major ports in India out of which six are located on the east coast and six on the west coast. In addition, there are about 205 notified intermediate/minor ports in the country. Shipping plays an important role in the economic development of the country, especially in India's International Trade. The World Bank publishes the Logistic Performance Index (LPI) in every two years. The LPI is an interactive tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics. India's LPI ranking dropped to 44 in 2018 as compared to 35 in 2016. The Indian Shipping Industry also plays an important role in the energy security of the country, as energy resources, such as, coal, crude oil and natural gas are mainly transported or received by ship. Approximately, 95% of the country's trade by volume and 68% in terms of value are being transported through sea route. India has one of the largest merchant shipping fleets among the developing countries. During 2018-19, major and non-major ports in India have accomplished a total cargo handling of 1,280.33 million tonnes reflecting an increase of 5.9% over the corresponding previous year. The major ports in India have recorded a growth of 2.9 per cent and together handled 699.10 million tonnes of cargo during the period 2018-2019 as against 679.37 million tonnes handled during the previous year. Similarly, the non-major ports in India have recorded a growth of 9.9% with 581.22 million tonnes of cargo handled during 2018-19 as against 529.09 million tonnes during previous year. The share of major port in total traffic handled in India decreased from 56.22% in 2017-18 to 54.60% in 2018-19. Nine ports, namely, Kolkata (including Haldia), Visakhapatnam, Paradip, Kamarajar, Chennai, Cochin, New Mangalore, JNPT and Deendayal also registered positive growth in

traffic. The Ministry of Shipping encompasses within its fold major ports and inland water transport among others. All major ports in the country presently have both rail and road connectivity.

### Sethusamudram Corporation Ltd (SCL)

The project is kept in abeyance in view of the litigations filed in the Supreme Court of India.

### Private Sector Participation in Major Ports

The Private Sector is envisaged to fund projects under Public-Private-Partnership (PPP) mode through Design-Build-Finance-Operate-Transfer (DBFOT) or Build-Operate-Own-Transfer (BOOT) models. As per the report of Indian Port Association, the details of projects awarded are given in Table-1.

**Table-1: PPP Projects Under Implementation/ Operation in Major Ports**

Sl. No.	Projects/Development	Estimated Cost (In ₹ crore)	Capacity (MMTPA)
<b>Projects under Implementation: (As on 31.05.2020)</b>			
<b>Jawaharlal Nehru Port Trust (JNPT)</b>			
1.	Development of Container Terminals of 2000 m length at JNPT (4 <sup>th</sup> Container terminal)	7915.00	60.00
<b>Kamarajar Port Ltd (Ennore)</b>			
2.	Modification of existing Iron Ore Terminal to also handle coal (SIOTL)	229.00	12.00
3.	Development of Marine Liquid Terminal-II on DBFOT Basis	393.00	3.00
4.	Development of LNG Terminal on Captive Basis	5151.00	5.00
5.	Development of IOCL Oil Jetty (Captive)	480.00	3.00
6.	Construction of Coal Berth 3 for TANGEDCO (Captive)	235.14	9.00
7.	Construction of Coal Berth 4 for TANGEDCO (Captive)	244.51	9.00
<b>Deendayal Port Trust</b>			
8.	Development of Oil Jetty to handle liquid cargo ship bunkering Terminal	233.50	3.39
9.	Development of Marine Liquid Terminal Facilities consisting of SPM & Two product jetties in KPT waters at OOT, Vadinar on captive-use basis	448.00	24.50

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(Table-1 Contd)

Sl. No.	Projects/ Development	Estimated Cost (In ₹ crore)	Capacity (MMTPA)
<b>Kolkata Port Trust</b>			
10.	Setting up of Liquid Cargo Handling Jetty at Shalukkhali, Haldia Dock -II	172.52	2.43
<b>Mormugao Port Trust</b>			
11.	Redevelopment of Berths 8, 9 and Barge Berths	1145.36	19.22
<b>New Mangalore Port Trust</b>			
12.	Provide Handling Equipment at Berth No. 18 (Old berth no.12) for handling bulk cargo & containers under PPP Mode	469.46	6.73
13.	Mechanisation of Berth No. 14 for handling container and other clean cargo on PPP mode	280.71	6.02
<b>Paradip Port Trust</b>			
14.	Development New Coal Berth for handling of Coal imports at Paradip Port on BOT basis.	655.56	10.00
15.	Development of Clean Multi-cargo Berth in Southern Dock	430.78	5.00
16.	Development of Deep Draft Iron Ore Berth	740.19	10.00
17.	Mechanisation of EQ1 to EQ3 berths	1437.76	30.00
<b>Visakhapatnam Port Trust</b>			
18.	Development of East Quay-1A (EQ-1A) berth on south side of EQ-1 berth in the Inner harbour of Visakhapatnam Port on DBFOT basis	313.39	7.36
19.	Extension of existing container MTEUs terminal	633.11	0.54
<b>VOC Port Trust, Tuticorin</b>			
20.	Construction of North Cargo Berth-II	332.16	7.00
21.	Development of Shallow draught Berth on PPP mode for handling construction materials	65.37	2.00
22.	Development of facilities for Handling Thermal Coal for SPIC Electric Power Corpn Pvt Ltd (SEPC)	214.50	2.50
<b>Mumbai Port Trust</b>			
23.	Bunkering Terminal	50.00	2.00
<b>PPP &amp; Captive Projects under Operation</b>			
<b>Chennai Port Trust</b>			
1.	Container Terminal-1 M/s CCTPL	790.60	31.30
2.	Development of 2 <sup>nd</sup> Container Terminal (M/s CITPL)	783.32	29.50
<b>Cochin Port Trust</b>			
3.	Vallarpadam Container Terminal ICTT	2118.00	40.00
4.	LNG Terminal	4182.00	5.00
5.	Crude Oil Handling Facility for BPCL-Kochi Refinery (Formerly KRL-a Central PSU) (Captive)	720.00	13.00

(Contd)

(Table-1 Contd)

Sl. No.	Projects/ Development	Estimated Cost (In ₹ crore)	Capacity (MMTPA)
<b>JLN Port Trust</b>			
6.	Container Terminal, NSICT	750.00	13.20
7.	Extension of container berth by 330 m towards north	600.00	10.00
8.	Third Container Terminal	1078.00	15.60
9.	BPCL Jetty (Captive)	200.00	5.50
<b>Kamarajar Port Ltd (Ennore)</b>			
10.	Development of Marine Liquid Terminal - I on DBFOT Basis	252.00	3.00
11.	Development of Coal Terminal for users other than TNEB on BOT basis	399.00	8.00
12.	Development of Container Terminal on DBFOT basis (2 phases) (Ph-1- Rs 724 Cr and Ph-2- Rs 546 Cr)	1270.00	16.80
13.	Development of Multi-Cargo berth on DBFOT Basis	151.00	2.00
14.	Coal Berth-1 for TANGEDCO (Captive)	80.38	8.00
15.	Coal Berth-1 for TANGEDCO (Captive)	80.38	8.00
<b>Deendayal Port Trust</b>			
16.	Development of 13 <sup>th</sup> Berth other than liquid and container cargo berth	188.87	1.50
17.	Development of 15 <sup>th</sup> multipurpose cargo berth at Kandla	188.87	1.50
18.	Container Freight Station	41.07	3.00
19.	Dry Bulk Terminal off Terka near Tuna on BOT basis (Outside Kandla Creek)	1060.00	14.11
20.	Development, operation & maintenance of Container Terminal (Berth 11 & 12) on BOT	159.81	7.20
21.	Oil Jetty for IOCL (Captive)	20.70	2.00
22.	Oil Jetty related facilities at Vadinar (ESSAR) (Captive)	750.00	13.50
23.	Fifth Oil Jetty (IFFCO)(Captive)	24.00	2.00
24.	Setting up of Captive Barge Jetty at Old Kandla (IFFCO)	27.00	1.50
<b>Kolkata Port Trust</b>			
25.	Multipurpose Berth No. 12	35.00	1.12
26.	Multipurpose Berth No. 4A	150.00	2.00
<b>Mormugao Port Trust</b>			
27.	Development of Coal Handling Terminal at Berth No.7	406.00	4.61
28.	Bulk Cargo berths No. 5A & 6A	250.00	5.00
<b>New Mangalore Port Trust</b>			
29.	Setting up of Bulk Cement Handling facility for M/s Ambuja Cement Ltd (Captive)	98.00	1.00

(Contd)

(Table-1 Contd)

Sl. No.	Projects/ Development	Estimated Cost (In ₹ crore)	Capacity (MMTPA)
30.	Construction of Captive Jetty for handling Coal by M/s UPCL	376.52	5.40
<b>Paradip Port Trust</b>			
31.	Mechanisation of Cargo Handling Project-1	37.32	2.00
32.	Mechanisation of Cargo Handling Project-2	25.13	2.00
33.	a) By OSL	87.75	3.75
	b) By Bothra Shipping Services		
	c) By ABCT Pvt. Ltd Supply, installation of 3 Nos. of HMC		
34.	a) By Crew Pvt. Ltd (60T)	87.75	3.75
	b) By OSL (100 T)		
	c) By OSL (60 T)		
35.	Captive Fertilizer Berth to PPL	20.00	4.00
36.	Captive Fertilizer Berth to IFFCO	26.17	4.00
37.	Construction of SPM Captive Berth	500.00	15.00
38.	Mechanisation of Central Quay-III Berth	40.00	6.00
39.	Construction of 2 <sup>nd</sup> SPM Captive Berth	746.17	11.00
40.	Construction of 3 <sup>rd</sup> SPM Captive Berth	746.17	11.00
41.	Development of South Oil Jetty (Captive)	222.29	10.00
<b>Visakhapatnam Port Trust</b>			
42.	Multipurpose Berths-EQ-8 & EQ-9	320.29	6.47
43.	Container Terminal, Outer harbour	86.35	5.60
44.	Development of WQ-6 berth for handling Dry Bulk Cargoes	114.50	2.08
45.	Development of EQ-10 berth for handling Liquid Cargoes	55.38	1.84
46.	Mechanised Coal handling facilities at GCB in the Outer Harbour	444.10	10.18
47.	Development of EQ-1 Berth	323.18	6.41
48.	Upgradation of existing facility in the outer harbour and creation of new facility in the inner harbour for handling iron ore.	845.41	23.00
49.	Single Point Mooring –Captive facility developed by H.P.C.L	643.48	8.00
<b>VOC Port Trust, Tuticorin</b>			
50.	Development of 7 <sup>th</sup> Berth as Container Terminal	135.00	5.00
51.	Berth No.8 Container Terminal	312.32	7.20
52.	Deployment of one number additional Harbour Mobile Crane at III & IV	24.60	4.36
53.	Upgradation of Mechanical handling equipment in Berth No.1 to Berth No.6 and Berth No. 9	49.20	8.72
54.	NTPL Captive berth - North Cargo Berth I (Captive)	43.72	6.30
55.	Coal Jetty-I & II	-	6.25

Source : Indian Port Association

## Inland Water Transport (IWT)

India has large number of inland waterways consisting of rivers, canals, backwaters, creeks, lakes, etc., which have the potential for development of efficient waterways transport network. IWT is referred to as operationally cheaper, high in fuel efficiency and environmental-friendly mode of transport. Inland Waterways Authority of India (IWAI) came into existence on 27.10.1986 for development and regulation of inland waterways for the purpose of shipping & navigation. The Authority primarily undertakes projects for development and maintenance of IWT infrastructure on National Waterways through grant received from Ministry of Shipping. This mode of transport is a potential supplement to the overburdened rail and that of congested roads and efforts are underway to develop this mode of transportation and to operationalise it. Waterways declared as National Waterways by the Act of Parliament come under the purview of Central Government, while other waterways remain under the respective State Government's domain.

The Kolkata Port, being a riverline port and strategically connected to National Waterway No. 1 and National Waterway No.2, has huge potential in respect of movement of cargo through Inland water Transport (IWT) mode.

### National Waterways

The Government of India has so far declared six waterways as National Waterways. These are:

**National Waterway-1:** Allahabad-Haldia stretch of the Ganga-Bhagirathi-Hooghly River System (Total length- 1,620 km declared in 1986) in the States of Uttar Pradesh, Bihar, Jharkhand and West Bengal.

During 2017-18, Bandalling works of 3,900 m in Tribeni - Rajmahal (399 km) stretch and 18,300 m in Rajmahal-Chunar (827 km) stretch were executed for developing and maintaining the navigation channel (fairway). Besides, 1.46 lakh m<sup>3</sup> dredging in Tribeni – Rajmahal stretch and 7.24 lakh m<sup>3</sup> dredging in Rajmahal - Varanasi / Chunar stretch were carried out by deploying IWAI's dredgers.

**National Waterway-2 :** Dhubri-Sadiya stretch of River Brahmaputra (Total length- 891 km declared in 1988) in the State of Assam. IWAI acquired a Ro-Ro vessel MV Gopinath Bordoloi, with capacity of 100

passengers and 8 Nos of loaded trucks, at a cost of ₹ 10.04 crore for deployment on Dhubri-Hatsingimari route. The vessel was delivered on 07.03.2017 and operationalised from July 2017. This service transported more than 22,000 passengers, 185 four axle vehicles and 950 m/cycle including 15.5 MT goods during 2017-18.

**National Waterway-3:** Kottapuram-Kollam stretch of West Coast Canal along with Udyogmandal and Champakara Canals (Total length- 205 km declared in 1993) in the State of Kerala.

Following are the three new NWs in addition to extension of NW-3 declared in Kerala during April 2016.

- a) Alappuzha-Changanassery Waterway (NW-8) - 28 km
- b) Alappuzha-Kottayam- Athirampuzha Waterway- (NW-9) - 38 km and
- c) Kottayam-Vaikkom Waterway (NW-59) -28 km

All the above new waterways are directly connected to the existing NW-3. Preparation of two stage DPR for the development of all the new waterways is under progress.

**National Waterway-4:** For development of the National Waterway-4 in Andhra Pradesh, an MoU was signed with Government of Andhra Pradesh on 14<sup>th</sup> April, 2016. A project has been sanctioned for ₹ 96.0 crore for developing the stretch between Vijayawada to Muktyala (82 km) of River Krishna in Phase-I. Dredging work is in progress at critical shoals in Vijayawada to Muktyala (82 km) stretch of River Krishna as a part of Phase – I development. Irrigation canals from Kakinada to Vijayawada (Kakinada & Eluru canals) & Rajahmundry to Polavaram stretch of River Godavari are planned for development in Phase – II for a total distance of 233 km. Development of Commamur canal, Buckingham canal and balance stretches of Rivers Godavari & Krishna are to be taken up in subsequent phases. A sub-office of IWAI has been set up at Vijayawada for implementing the development works of Phase-I project and coordinating with State Government.

**National Waterway-5:** For developing 332 km stretch in 2 phases between Talcher & Paradip / Dhamra on NW-5, an MoU (Memorandum of Understanding) with Government of Odisha, Paradip Port and Dhamra Port Co. Ltd was signed by IWAI on 30.6.2014. The Phase-1 development of 211 km stretch between Pankapal and Paradip/Dhamra is already under progress. The 131 km stretch between Talcher and Pankapal and East Coast Canal (Dhamra– Charabtia -

Geonkhali) will be taken up in the 2<sup>nd</sup> Phase. Another MoU has been signed with Paradip Port on 28.9.2016 for development of Phase -1 on NW-5, which includes all the Project Management Consultant (PMC) services.

**National Waterway-6:** River Barak was declared as National Waterway-16 (NW-16) in the year 2016. It connects Silchar, Karimganj and Badarpur in Cachar valley of Assam with Haldia and Kolkata ports through Indo-Bangladesh Protocol (IBP) Route. The achievements of IWAI on NW-16 are enumerated as below:

Dredging, providing fairway maintenance for Least Available Depth (LAD) along with providing navigational aid between Silchar and Bhanga have commenced in November 2017 and is in progress.

Upgradation / setting up of terminals at Badarpur and Karimganj has commenced in August 2017 and the work is in progress.

### ***Development of 106 New National Waterways***

National Waterways Act, 2016 (No.17 of 2016) was published in the Gazette of India Extraordinary Part II and Section I dated 26<sup>th</sup> March, 2016 (which came into effect from 12<sup>th</sup> April, 2016) along with the list of 106 new National Waterways.

### ***Status of 106 New National Waterways***

Feasibility Studies (FSs) were initiated on 106 National Waterways (NWs) by Inland Waterways Authority of India (IWAI), out of which, studies on 103 NWs have been completed. Based on the finding of FSs, 36 NWs have so far been found feasible for development. Based on the Detailed Project Reports, development work have been initiated on 8 most viable NWs.

Accordingly, a Restructuring Committee has been constituted to initiate the restructuring process on urgent basis.

As part of the preparatory works to undertake development on 106 new National Waterways, IWAI has grouped them under 3 categories as under:

**Category-I** Eight waterways which are considered to be the most viable and the following stretches have been taken up for development in Phase-I.

1. River Barak (NW-16)- Silchar to Bhanga (71 km).
2. River Gandak (NW-37)- Ganga confluence to Bagaha Bridge (250 km approx).
3. Sunderbans (Protocol Route) Waterways (NW-97) - Namkhana to Athara Banki Khal (172 km).

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4. Three NWs of Goa: would be/taken up through Govt. of Goa & Mormugao Port Trust:
  - i) River Cumberjua (NW-27),
  - ii) River Mandovi (NW-68),
  - iii) River Zuari (NW-111)
5. Alappuzha–Kottayam–Athirampuzha Canal (NW -9) - Alappuzha–Kottayam.
6. River Rupnarayan (West Bengal) (NW - 86): Approximately 34 km between Geonkhali to Kolaghat

Accordingly, consultancy assignments for preparing EPC tender documents contract and environmental studies for these waterways are being undertaken in phased manner.

**Category – II** Forty six waterways which are in the coastal regions and have some tidal stretches were clubbed in Category-II. Two stage DPR studies (Stage I - Feasibility study and based on viability & Stage II- DPR study) for all the rivers were awarded. On evaluation of Feasibility Study reports, Consultancy services for 2<sup>nd</sup> stage study, i.e., preparation of DPRs were taken up for 26 NWs while 20 NWs were not found feasible. Out of 26 NWs, 24 DPRs have been received and are being finalised. DPR of NW-53 (Kalyan-Thane-Mumbai Waterway, Vasai Creek and River Ulhas) is being finalised by Thane Municipal Corporation and preparation of DPR of River Tizu (NW-101) has been initiated.

**Category – III** The remaining 52 NWs which are located in remote, inaccessible and hilly regions were grouped in this category. Initially only Feasibility Study reports for all these 52 NWs were awarded. The DPR work for River Yamuna (NW-110) and River Jhelum (NW-49) has been awarded in the year 2017-18.

### **Recent Initiatives**

a) Under the Jal Marg Vikas Project (JMVP) being implemented at an estimated cost of ₹ 5,369 crore for development of cargo transportation on River Ganga, the multimodal terminal at Varanasi has been completed and was inaugurated by the Hon'ble Prime Minister on 12<sup>th</sup> November, 2018.

b) On NW-2 (Brahmaputra) Ro-Ro service from Dhubri to Hatsingmari is in operation and a new service was introduced from Neamati to Kamlabari.

c) On NW-4 for developing the stretch between Muktiyala and Vijayawada, dredging work and

installation of floating terminals at four locations are in progress.

d) On NW-16 (Barak) dredging work between Silchar and Bhanga is under way.

e) Work has started for development of ten new National Waterways (NWs) viz. NW-16 (Barak), NW-37 (Gandak), NW-27, NW-68 and NW-111 in Goa, NW-9 in Kerala, NW-86 (Rupnarayan), NW-97 (Sunderbans), River Ghagra (NW-40) and River Kosi (NW-58).

f) IWAI has been promoting the movement of cargo, such as, cement, fly ash, pulses, defence equipment etc. on NWs.

g) For the Kumbh Mela, 2019, IWAI in consultation with the Government of U.P. provided 4 floating terminals on NW-110 (River Yamuna) and 5 temporary Jetties at Chatnag, Sirsa, Sitamarhi, Vindhyachal and Chunar between Prayagraj and Varanasi on NW-1 (River Ganga) for embarkment and disembarkment of pilgrims.

### **Sagarmala**

i) The Sagarmala Programme is the flagship programme of the Ministry of Shipping to promote port-led development in the country through harnessing India's 7,500 km long coastline, 14,500 km of potentially navigable waterways and strategic location on key international maritime trade routes.

ii) Under the Sagarmala Programme, 602 projects at an estimated investment of more than ₹ 8.78 lakh crore have been identified for implementation over the next 20 years. Of these, 107 projects (costing ₹ 23,751 crore) have been completed and 162 additional projects (costing ₹ 2.48 lakh crore) have been awarded. A total of ₹ 1,792.26 crore has been sanctioned and ₹1,055.64 crore has already been released for the development and implementation of 88 projects for a total project cost of ₹ 5,514.04 crore. These include, coastal berth, fishing harbours, ROPax ferry services and skill development projects.

iii) A roadmap has been created for increasing the Indian port capacity to 3,000 plus MMTPA to cater to the projected traffic of 2,500 MMTPA by 2025. For all the 12 major ports, master plans have been finalised. From the port master plans, 108 port capacity expansion projects with project cost of ₹ 67,789 crore have been identified for implementation over next 20 years. Out of these

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108 projects, 22 projects (cost: ₹ 15,244 crore) have been completed and 37 projects (worth ₹ 14,275 crore) are taken up for implementation. Under the Project Unnati, 116 initiatives have been identified for improving port operational efficiency. Out of which, 91 initiatives have been implemented so far to unlock 80 MMTPA capacity.

### MAJOR PORTS

Major ports are under the jurisdiction of the Government of India and are governed by the Major Port Trust Act, 2013, except Kamraj port (Ennore port), which is administered under the Companies Act, 2013.

There are twelve major ports in the country, (6 on the Eastern Coast and 6 on the Western Coast) viz, Kolkata-Haldia, Paradip, Visakhapatnam, Chennai, Kamarajar and V.O.Chidambaranar (formerly Tuticorin) on the East Coast and Cochin (in Kochi), New Mangalore, Mormugao, Jawaharlal Nehru, Mumbai and Kandla on the West Coast. Of these, Paradip, Visakhapatnam, Chennai, New Mangalore and Mormugao ports were the five leading iron ore handling ports having mechanical ore handling system.

Deendayal (Kandla) Port handled the highest volume of traffic 115.4 mt (16.5%) followed by Paradip with 109.28 mt (15.63%), JNPT with 70.7 mt (10.11%), Visakhapatnam with 65.3 mt (9.34%) and Mumbai with 60.59 mt (8.67%). Together these five Ports handled around 60 per cent of major port traffic.

### 2.1 Cargo Handling Capacity and Cargo Handled

The cargo handling capacity in Major Ports during 2018-19 (provisionally) was 1,514.09 million tonnes as compared to 1,451.19 million tonnes during 2017-18. The major ports, therefore, continued to maintain a favourable capacity-cargo equation during the year.

The capacity addition and the productivity improvements achieved by the major ports coupled with growing participation of Private Sector in cargo handling have had a favourable impact on efficiency of cargo handling operations at India's major ports. The capacity utilisation was 46.2% in 2018-19.

The major ports handled a total traffic of 699.10 million tonnes during 2018-19 against 679.37 million tonnes during 2017-18. Traffic handled by major ports during 2017-18 and 2018-19 is furnished as below:

### Traffic Handled at Major Ports 2017-18 & 2018-19

(In million tonnes)			
Sl. No.	Ports	2017-18	2018-19
1A.	Kolkata	17.39	18.55
1B.	Haldia	40.50	45.21
2.	Paradip	102.01	109.28
3.	Visakhapatnam	63.54	65.30
4.	Ennore	30.45	34.50
5.	Chennai	51.88	53.01
6.	V.O. Chidambaranar (formerly Tuticorin)	36.58	34.34
7.	Cochin	29.14	32.02
8.	New Mangalore	42.05	42.51
9.	Mormugao	26.90	17.68
10.	Mumbai	62.83	60.59
11.	JNPT	66.00	70.71
12.	Deendayal	110.10	115.40
<b>Total</b>		<b>679.37</b>	<b>699.10</b>

*Source: Ministry of Shipping, Annual Reports, 2018-19 and 2019-20*

*Figures rounded off*

The selected commodity-wise cargo traffic handled at major ports during 2017-18 and 2018-19 is as below:

(In million tonnes)			
Sl.No.	Commodity	2017-18	2018-19
1.	P.O.L (Crude & Products)	226.68	232.36
2.	Iron ore	41.05	34.07
3.	Fertilizer & Fertilizer Raw material	14.89	15.13
4.	Coal	120.77	127.70
5.	Containerised cargo	133.63	145.45
6.	Other/cargo	142.35	144.39
<b>Total</b>		<b>679.37</b>	<b>699.10</b>

*Source: Ministry of Shipping, Annual Reports, 2018-19 and 2019-20*

## PORT-WISE REVIEW OF MAJOR PORTS

### EAST COAST

#### Kolkata-Haldia

Kolkata Port is the oldest (established in 1870) and the only riverine major port in India. The port caters to the cargo traffic of the entire Eastern India and the two landlocked neighbouring countries, Nepal and Bhutan. Kolkata Port Trust (KPT) has twin dock system, viz, Kolkata Dock System (KDS) on Eastern bank of River Hoogly and Haldia Dock Complex (HDC) started in 1971 on the Western bank of the River Hoogly.

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**Salient Features of Kolkata-Haldia Port**

Port	Draught (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq m)
	min.	max.				
Kolkata	5.4	8.3	35	24	5	134722 (Transit Shed) + 10794 (Warehouse)
Haldia	5.9	8.3	17*	-	-	25040 (Transit shed) 892840 (open area)

\* Including three oil jetties and two barge jetties

Both Kolkata Dock System and Haldia Dock Complex of Kolkata Port have been awarded ISO-9001:2000 certification. The port is also ISPS compliant. For promotion of Inland Water Traffic and River Tourism, New Inland Water Transport Terminal (IWT) and renovation of port-owned riverside jetties are underway. Kolkata Port handled 63.76 million tonnes (MT) traffic in 2018-19 (KDS handled traffic of 18.55 million tonnes, HDC handled 45.21 million tonnes). The port has 55 berths (KDS – 34 including 6 oil Jetties and HDC–17 including 3 Jetties) handling various types of cargoes including containers with an effective rated capacity of 82.57 MTPA.

The traffic in mineral/ore/mineral-based commodities handled at Kolkata and Haldia Port in 2017-18 and 2018-19 was as under:

Commodity	(In '000 tonnes)			
	Export		Import	
	2017-18	2018-19	2017-18	2018-19
Thermal coal	2181	2531	7	9
Coking coal	-	-	7491	9618
Iron ore	1576	434	-	40
Iron & Steel	702	505	146	361
Sand/Silica sand	73	54	182	248
Rock Phosphate	-	-	285	341
Metallurgical coke	-	-	622	773
Limestone	-	-	2209	3429
Raw Petroleum coke	-	-	186	231
Gypsum	-	-	289	499
Dolomite	-	-	50	120
Non-coking/Steam coal	-	1	5078	9843
Manganese ore	-	-	1560	969
Cement clinker	7	7	1317	980
Salt	-	-	20	44

*Source: Traffic Handled in terms of Principal commodities Kolkata Port*

**Wharfage**

Wharfage on foreign Cargo landed/shipped at Kolkata Port Trust w.e.f. 1.10.2016 was as below.

Sl. No.	Item	(In ₹ per tonne)	
		Rate	
<b>Cargo handled through Mechanical system</b>			
1.	Crude oil		100.24
2.	Export Iron ore		53.89
3.	Export Thermal Coal		75.00
4.	All other types of coal not specified, Fertilizer, Fertilizer raw materials, soda ash, and all other dry bulks		150.00
<b>Cargo handled other than through Mechanical system</b>			
1.	Salt, Fly ash, Sand		26.95
2.	Iron ore, Iron ore pellets		26.95
3.	Limestone, Bitumen, Pig iron, sponge iron and other ferrous metals, All types of coal/coke/ore/ other dry bulk cargo not specified		94.31
4.	Magnesite, granite, all types of Scraps, fire bricks and other refractory materials, mica block/flake/splittings/waste/scrap/ powder mica, non-ferrous metals of all kinds except ingot of zinc/aluminium/copper, lead, goods, rock phosphate, sulphur, other fertilizer raw materials, fertilizers, lead conc., asbestos.		
5.	Iron & steel, pipes & tubes		80.83
<b>Wharfage on coastal cargo landed/shipped at/ from Kolkata Port Trust</b>			
1.	Crude oil, Thermal coal, Iron ore and Iron ore pellets	Same as Foreign cargo.	
2.	All other cargo	60% of the rate for foreign cargo as specified for foreign cargo	

**Development Plans**

1) Important projects awarded during the year include installation of Container Scanners at an estimated cost of ₹ 29.38 crore, Construction of 1.5 lakh sq. meters of Hardstand inside the Dock at an estimated cost of ₹ 54.58 crore. Major Projects completed during the year include Up-gradation of Track nos. 10, 12, 14, 16, 18, 19, 20, 21, 22 and 23 at EJC Yard at a cost of ₹ 37.17 crore and Development of hardstand area msg. About 1.13 lakh sq m behind Berth No. 13 inside the Dock at a cost of ₹ 44.34 crore.

2) Setting up of Outer Terminal-II (OT-II) for liquid cargo handling at HDC (Cost ₹ 74.23 crore & capacity 2.00 MMTPA) envisaged to handle chemicals and liquid cargo comprising edible oil, paraxylene etc. is being set up on River Hooghly, upstream of Lock Entrance is expected to be completed by June, 2020.

## PORT FACILITIES

3) Setting up of Liquid Cargo Handling Jetty along with associated facilities at Shalukkhali, Haldia Dock-II (on BOT basis) [Cost ₹ 172.52 crore & capacity 2.43 MMTPA] for handling paraxylene, POL, edible oil, chemicals etc. is expected to be completed by December 2021.

4) Laying of 2<sup>nd</sup> rail line from Durgachak to HDC Railway System under Sagarmala Project (Cost ₹ 78.84 crore) for covering the entire route up to Haldia from Panskura which would increase the capacity of rail movement to and from Haldia is expected to be completed by 29.08.2019.

### PARADIP

It is one of the premier Maritime gateways on the East Coast of India with core strengths like deep draft, proximity to reach mineral-bearing areas, vicinity to the large hinterland and land locked regions.

#### Salient Features of Paradip Port

Draught (m)		No. of berths	No. of moorings	No. of wharf	Stacking area provided (sq. m)
min.	max.				
11.0	14.5	14	1	–	–

The port handled 109.28 million tonnes of cargo during 2018-19 as compared to 102.01 million tonnes in 2017-18. The Port has 16 berths/jetties and 3 Single Point Moorings and 1 RO-RO Jetty for handling different types of cargos with an effective rated capacity of 239 MT/annum.

### Development Plans

Major projects awarded during the year are

1) LPG Terminal at South Oil Jetty at an estimated cost of ₹ 690 crore and capacity addition of 0.75 MTPA,

2) Installation of Container Scanners at an estimated cost of ₹ 40 crore.

### Notable Achievements During the Year

a) Mechanised Coal Handling Plant (MCHP) has achieved a milestone by Ship loading 86,896 MT of Thermal coal in the shortest possible time of 17.51 hrs with gross productivity of 4,868 TPH (1,16,835 TPD) surpassing the previous records in the month of May, 2018.

b) Port created all time record by successfully completing movement of 27 vessels within 20 hrs, i.e., from 0600 hrs on 13<sup>th</sup> Oct, 2018 to 0200 hrs on 14<sup>th</sup> Oct. 2018.

c) On 29<sup>th</sup> Oct. 2018 PPT introduced possibly for the first time in India, the Mediterranean Mooring Method to discharge edible oil from “MT Delfine” without using the berth.

d) All time record traffic of 6.39 lakh tonnes was handled in a single day on 13<sup>th</sup> Oct. 2018 surpassing the previous record of 5.34 lakh tonnes handled in the previous month.

e) Possibly for the first time in India G12 grade coal from MCL was blended homogenously with G4 grade coal of ECL in 65:35 ratio to achieve GCV of 4033 kcal/kg suitable for Thermal power plants and shipped mechanically at MCHP through “M.V. Diamond Star” on 06<sup>th</sup> Nov. 2018.

f) Iron Ore Handling Plant achieved an all time record by Tippling (unloading) an Iron Ore Fines rake in 1 hr 45 min. on 11<sup>th</sup> Dec 2018 and an Iron Ore Pellet rake in 1 hr 50 min. on 5<sup>th</sup> Dec. 2018.

### Visakhapatnam

It is a natural harbour. Visakhapatnam Port has handling capacity of 131.09 million tonnes during 2018-19. The port handled 65.30 million tonnes of cargo during 2018-19 as compared to 63.54 million tonnes in 2017-18. The largest size vessel that can be handled in the inner harbour is 14.50 metres draught vessel, while the outer harbour is capable of handling vessel up to 200,000 dwt having draught up to 18.10 m.

#### Salient Features of Visakhapatnam Port

	Draught (m)		No. of berths	No. of moorings	No. of wharf	Stacking areas provided (sq m)
	min.	max.				
Inner harbour	10.00	14.50	21	–	NA	Exclusive for Iron ore: 3,88,871 sq m
Outer harbour	14.00	18.10	6	1	NA	In addition adequate storage open/

Traffic in mineral commodities handled by Visakhapatnam port during 2018-19 is furnished below:

## PORT FACILITIES

Commodity	(In '000 tonnes)		1. Berth	2 (Thermal Coal)
	Exports	Imports		
Iron ore	3456	654	Max. permissible Length	240 metres each
Manganese ore	99	1616	Max. permissible Draught	13.5 metres
Thermal coal	1851	-	Capacity of berth CB1	8 MTPA
Bentonite	-	68	Capacity of berth CB2	4 MTPA
Limestone	-	810	Capacity of berth GCB	1MTPA
Bauxite	-	519	Capacity of berth MLT1	3MTPA
Coking coal	-	5727	Capacity of berth CICT	8MTPA
POL & Crude	1211	12,567		
Anthracite coal	-	209		
Steam coal	-	9,026		
Pet coal	-	1,512		
LAM coke	-	346		

*Figures rounded off*

Following are the development activities that were undertaken in the port during 2018-19.

- 1) Reconstruction of old and shallow berths in the Inner Harbour by replacement of EQ-2 and EQ-5 berths to cater to 14.5 meters draft vessels.
- 2) Development of additional oil handling facility by improving the capacity utilisation of berths in Inner Harbour, i.e., OR1 and OR2.
- 3) Implementation of ERP.
- 4) Installation of Mobile container scanner.
- 5) Development and improvement of rail and road connectivity.
- 6) Environment upgradation works.

### **Future Development Plan**

No plans are envisaged in the near future, as adequate handling facilities are available for minerals/ore trade.

### **Kamarajar Port Ltd (formerly Ennore) (A mini Ratna Govt. of India Undertaking)**

Kamarajar port is situated on the Coromandal coast about 24 km north of Chennai port along the coastal line in Tamil Nadu. The port handled 34.5 million tonnes of cargo during 2018-19 as compared to 30.45 million tonnes in 2017-18. The port handled 25.04 million tonnes of imported coal during the year 2018-19 as compared to 23.17 million tonnes in 2017-18. The largest size vessel that can be received at the port is in the range up to 1,50,000 dwt.

The facilities available at Kamarajar port are detailed below:

1. Berth	2 (Thermal Coal)	one berth
Max. permissible Length	240 metres each	automobile
Max. permissible Draught	13.5 metres	(GCB) one
Capacity of berth CB1	8 MTPA	POL/che-
Capacity of berth CB2	4 MTPA	micals
Capacity of berth GCB	1MTPA	(MLT1)
Capacity of berth MLT1	3MTPA	and one
Capacity of berth CICT	8MTPA	coal (other
		than
		TNEB)
2. Size of vessels that can be accommodated	65,000/70,000 dwt (For CB1&CB)	
	>70,000 dwt (For GCB)	
	up to 150000 dwt (For MLT1 & CICT)	
3. Breakwater		
South	1,070 metres	
North	3,080 metres	
Type	Rubble mound with accropode	
	armour protection.	
4. Approach Channel		
Length	3,775 metres	
Width	250 metres	
Depth	16 metres BCD	
5. Equipment profile		
i) Conveyors (2 nos - 400 TPH each)		
ii) Unloading equipment (2 nos-200 TPH each)		
iii) Mobile Hopper (1 No.)		
iv) Temporary hoppers (6 Nos.)		
6. Connectivity	1) Excellent road connectivity to NH4, NH5 & NH45	
	2) linked to Chennai-Kolkata BG main line.	
	3) Connectivity to Chennai airport.	

### **Salient Features of Kamarajar Port**

Draught (m)		No. of berths	No. of moorings	No. of wharves provided (sq. m)	Stacking area
min.	max.				
-	16.50	3	-	-	-

### **Wharfage**

Wharfage charges (mineral-wise) levied by Kamarajar Port during 2017-18 & 2018-19 for coal was as follows:

Commodity	(In ₹ per tonne)	
	2017-18	2018-19
Coal	183.65	183.65

## PORT FACILITIES

The traffic handled during 2017-18 and 2018-19 is furnished below:

Commodity	(In million tonnes)			
	Export		Import	
	2017-18	2018-19	2017-18	2018-19
Coal	-	-	23.17	25.04

### **Development Plan/Future Development Plan**

Two coal berths with a capacity of 9 MTPA each with a draft of 18.5 m CD to handle cape size vessels have been completed for the requirement of TANGEDCO (captive user). The top unloading facilities for coal handling have to be installed by TANGEDCO.

### **Chennai**

The port at Chennai is an artificial harbour situated on the Coromandal coast in south-east India. The total traffic handling capacity of the Chennai port during 2018-19 was 135.6 million tonnes. The port handled 53.01 million tonnes during 2018-19 compared to 51.88 million tonnes in 2017-18. The largest size vessel that can be received at the port is in the range of 2,99,000 dwt, having a maximum 16.5 m draught and maximum 280 m overall length.

#### **Salient Features of Chennai Port**

Draught (m)		No. of berths	No. of moorings	No. of wharves provided (sq.m)	Stacking area
min.	max.				
8.5	16.5	27	-	-	-

### **Development Plans**

- (i) Development of common railway yard inside the port, the work was completed on 22.02.2018;
- (ii) Construction of Coastal Berth of Chennai Port. The work is likely to be completed in August, 2018;
- (iii) Development of paved storage yards at Chennai Port for handling export cargoes. The work is likely to be completed in August, 2018;
- (iv) Balance work of modernisation of JD at position of JD4 & JD6. The scheduled date of completion of work is 17.09.2018; and
- (v) Construction of Banker berth of Bharathi Dock. The scheduled date of completion of work is 13.09.19.

### **Future Development Plan**

Conversion of JD East into Multi cargo berth (Est. cost: ₹ 110 crore & capacity 1 MTPA (Sagarmala Project) and (ii) Development of BD II back up area for additional container storage or Developing BD II berth and back up space as fully mechanised fertilizer terminal (Est. cost : ₹ 1,000 crore & capacity would be 2 MTPA) Sagarmala project.

The traffic in mineral/ore/mineral-based commodities handled by the port (excluding commodities handled in containers) during 2017-18 and 2018-19 is given below:

Commodity	(In '000 tonnes)			
	Export		Import	
	2017-18	2018-19	2017-18	2018-19
Barytes	874	859	-	-
Dolomite	-	-	437	609
Limestone	-	-	1259	1864
Iron ore pellets	-	-	-	-
Gypsum	-	-	368	421
Bauxite	-	-	-	-

### **Wharfage**

Cargo related wharfage charges levied by Chennai Port Trust w.e.f. 01.05.2019 were as follows:

Item	Rate
	(In ₹ per tonne) (Foreign)
i) Asbestos, cement, clinker, sand and silica sand	46.92
ii) Crude oil	59.43
iii) Granite blocks, dressed marbles and slabs	81.32
iv) Ingots & billets, sheet & plates, bars, rods, angles, pipes,	93.83
v) Ores and minerals of all kinds (excluding iron ore pellets) in bulk for import.	46.92
vi) Ores and minerals of all kinds (excluding iron ore pellets) in bulk for export.	27.11

### **V. O. Chidambaranar (formerly Tuticorin)**

V.O. Chidambaranar Port is situated in Thoothukudi (formerly Tuticorin) on the eastern coast of Tamil Nadu. It has two operating wings viz, Zone A, comprising new major port and Zone B,

PORT FACILITIES

representing old anchorage port. The largest size of vessel that can be received at the port is 95,692 dwt. The port in 2018-19 (As on 31-03-2019) reported a total handling capacity of 111.46 million tonnes. The port handled 34.34 million tonnes during 2018-19 as compared to 36.58 million tonnes in 2017-18.

**Salient Features of V.O. Chidambaranar Port**

Draught (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq. m)
min.	max.				
5.85	14.20	16	-	-	4 Warehouses of 19,550 sq. m 2 Transit sheds of 10,800 sq. m open area and 5,53,000 sq.m open area container of 54,000 sq.m

The traffic in mineral/ore/mineral-based commodities handled by the port during 2017-18 and 2018-19 is as under:

(In tonnes)

Commodity	Exports		Imports	
	2017-18	2018-19	2017-18	2018-19
1. Garnet sand	-	-	-	-
2. Ilmenite sand	-	-	66937	22503
3. Copper (concentrate)	-	75999	1278555	86377
4. River sand	-	-	55444	-
5. Other ores	-	-	5360	10481
6. Dolomite	-	-	21225	-

**Wharfage Charges (Foreign)**

Wharfage charges levied by V.O. Chidambaranar Port during 2018-19 for the following minerals were:-

(In ₹ per tonne)

Sl.No.	Commodity	2018-19
1.	Garnet sand	25.10
2.	Ilmenite sand	25.10
3.	Copper concentrate	72.66
4.	River sand	23.78
5.	Other ores	25.10
6.	Dolomite	55.48

**Development Plans**

V.O. Chidambaranar Port Trust has awarded the work for "Construction of North Cargo Berth on EPC mode to M/s SRISHAILA - UNISON (JV) for a value of ₹ 36.52 crore. The work commenced on 29.04.2018 and was substantially completed on 24.07.2018.

The berth has been designed for handling vessels up to 15,000 dwt having a draught of (-) 9.00 m. But the average available depth in the dock basin area in front of the berth is (-) 4.40 m. In order to handle the designed vessels in the berth, the dock basin area has to be dredged up to (-) 10.00m. The dredging contractor, M/s Jan De Nul mobilised the dredger on 22.03.2018 and dredging commenced on 24.03.2018 and was completed on 04.04.2018. The total dredged quantity is 3.47.210.30 cu.m with which an area of around 75,000 sq.m has been reclaimed. The executed value of dredging was ₹ 85.48 crore.

**WEST COAST**

**Deendayal Port Trust (formerly Kandla Port Trust)**

This port is a protected natural harbour situated on the western coast of Gujarat in the Kandla Creek and is 90 km from the mouth of the Gulf of Kachchh. It is the largest port of India by volume of cargo handled in 2018-19.

**Salient Features of Kandla Port**

	Draught (m)		No. of berths	No. of moorings	No. of wharves provided	Stacking area (sq m)
	min.	max.				
Dry cargo	9.10	12.00	2*	-	12	There is no special stacking area for mineral commodities
Liquid cargo	10.00	10.70	6	5	6	-

\* Includes 2 cargo berths operated by private operator

In the port there are maintenance jetty for floating dry docks and maintenance of port craft, three single buoy moorings to handle very large crude carriers for import of crude oil, two Essar product jetties to handle POL carriers for export at Vadinar and a minor port Tuna, 24 km south of Kandla for handling country crafts. Barge handling operations for coal and fertilizer vessels are undertaken. A Bunder basin for handling barges and country crafts is in operation. The total cargo handling capacity of Deendayal port during 2018-19 was 267.10 million tonnes.

PORT FACILITIES

The total traffic handled by the Kandla port during 2018-19 was 115.40 million tonnes.

**Wharfage**

Wharfage levied by Kandla Port Trust as on 1.5.2019 was as follows:

Commodity	(In ₹ per tonne)	
	Coastal Rate	Foreign Rate
Liquid cargo		
i) Crude oil	19.80	19.80
ii) LPG (per cu m)	82.51	137.52
iii) POL products	55.01	55.01
Fertilizer and raw material including sulphur	22.18	36.96
Cement & clinker	14.85	24.75
Ores and minerals (in all forms)	11.14	18.56
Granite and marbles	14.85	24.75
Metal (ferrous/non-ferrous) (including pipes, plates, pig iron, coil, sheet)	24.75	41.26
Metal scrap	29.70	49.51
Construction materials and sand	11.14	18.56
Coal and coke (including firewood)	16.63	27.72
Salt	9.90	16.50
Dry chemicals including soda ash	14.85	24.75

*Note: In addition to the above rates, cargoes other than bulk, i.e., break-bulk and non-containerised shall be charged @ ₹19.80 per tonne for foreign and ₹ 11.88 per tonne for coastal cargo.*

**Wharfage**

Wharfage levied by the Mumbai Port w.e.f. 01.05.2019 was as below:

Sr. No.	Commodity	(In ₹ per tonne)			
		Foreign		Coastal	
		Dry Bulk	Other than dry Bulk	Dry Bulk	Other than dry Bulk
1.	Asbestos	-	68.57	-	41.14
2.	Materials, Sand	70.94	68.57	42.56	41.14
3.	Cement, Clinker	70.94	68.57	42.56	41.14
4.	Coal and Fire Wood	98.69	95.40	98.69	95.40
5.	Sulphur, Fertilizers and Fertilizer raw material	88.73	85.77	53.23	51.46
6.	Granites and Marbles	-	68.57	-	41.14
7.	Ores, Ore Pellets and Minerals (other than Iron Ore & iron ore pellets)	70.94	68.57	42.56	41.14
8.	Iron ore and Iron ore pellets	70.94	68.57	70.94	68.57
9.	Metals (Ferrous, Non-ferrous) in the form of ingots billets and unmanufacture & metal scrap	70.94	68.57	42.56	41.14
10.	Crude Oil	-	79.24	-	79.24
11.	Salt	8.93	8.64	5.36	5.18
12.	Iron and steel material (excluding scrap, dross, ores)				
	Import		238.51		143.11
	Export		159.01		95.40

**Mumbai**

Mumbai port is a natural deepwater multi-purpose port that handles all types of cargo-liquid bulk, dry bulk, break bulk and container. Salient features of Mumbai port are as follows:

**Salient Features of Mumbai Port**

Draught (m)		No. of berths	No. of moorings	No. of Stacking wharves area provided (sq m)
min.	max.			
8.84	14.30	32	-	NA

No dedicated area earmarked for storage of mineral

The port has 35 berths (including OCT) with an effective rated capacity of 79.00 MTPA (up to December, 2018). The total traffic handled by Mumbai port during 2018-19 was 60.59 million tonnes as compared to 62.83 million tonnes during the preceding year. The traffic in mineral/ore/mineral-based commodities handled in 2017-18 and 2018-19 was as under:

Commodity	(In '000 tonnes)			
	Export		Import	
	2017-18	2018-19	2017-18	2018-19
Iron & Steel	785	-	3060	-
Coal	-	-	2473	-
Fertilisers	-	-	225	-
Rock Phosphate	-	-	63	-

*Figures rounded off*

### Development

a) Mumbai Goa cruise service was launched on 20.10.2018. The cruise services would be available every alternate day from Mumbai and the capacity of the Cruise ships would be up to 350 passengers and 150 crew. This cruise service is aimed at boosting tourism development in India.

b) An agreement has been signed between Mumbai Port Trust and Cochin Shipyard Ltd (CSL) on 11.1.2018 to revive one of the largest dry docks on the west coast of India, the Hughes Dry Dock (HDD) at Mumbai Port which was built in 1914. Cochin Shipyard Limited will be developing a world class integrated ship repair facility that will mark its strong presence on the global scenario, thereby further strengthening the concept of “Make in India”.

### Mormugao

Mormugao port is one of the country's oldest ports on the west coast of India with modern infrastructural facilities and with one of the finest natural harbours in the world.

The entire output of iron ore from Goa and considerable quantity of iron ore from Ballari-Hosapete are exported through this port. Maximum exports of iron ore take place through this port.

The port has 10 operating berths including a ship repair yard with a floating dry dock. Apart from this, there are also 6 mooring dolphins for handling bulk cargo. The effective rated capacity of the port is 63.40 MTPA. The port handled a traffic of 17.68 million tonnes during the year 2018-19. The largest vessel that can be received at Berth No. 6 of this port is about 2,09,095 dwt.

#### Salient Features of Mormugao Port

Draught (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq. m)
min.	max.				
-	14.00	1	6	-	1) 80,000 sq. m (approx.) at berth No.9* (iron ore)
-	14.00	1	-	-	2) 31,900 sq. m (approx.) at berth No 6 (coal & coke)
-	14.00	-	-	-	3) 35,641 sq. m (approx.) at berth No 7 (coke and coal).

\* Concession Agreement signed on 22.9.2016 with M/s Goa Sea Port Pvt. Ltd forre-developmentation on PPP basis. Mooring Dolphin 4, 5 and 6 not in operation. Awaiting EC from SEAL.

The demand for mooring dolphins, particularly during monsoon period is heavy and also for export of iron ore through this facility.

Ore ships are also loaded in mid-stream by transhippers and floating crane which are owned and operated by private parties. Ore ships are also loaded by ship's gears. At West of Breakwater (WOB), there is no draft restrictions to load ore vessels. Three Mooring Dolphins (1 to 3) capable of accommodating Panamax size vessels are available for handling ore, coke, coal and other cargo using ship's own gears. Ore loaded at these facilities is brought by barges from hinterland through inland waterways. Import cargo at this position is unloaded in barges.

Development of the port as undertaken during 2018-19 is given below:

### Development Plans

#### A. Projects Awarded/ Under Execution

1. Construction of 4-lane port connectivity road at Mormugao port - Balance 5.2 km at Chainage 13.10 km to 18.30 km of NH 17 B from Varunapuri junction to Sada junction & flyover from Gate No.9 to NH 17B. For the balance 5.2 km stretch, Work Order has been issued on 14.10.2015 to M/s Gammon India Limited at a cost of ₹ 397.00 crore by State PWD who is executing the project on EPC mode wherein Mormugao Port and NHAI also will be sharing the cost. Work is in progress, 74.53% work is completed. The work is scheduled to be completed by October, 2020.

2. Circulation Road and Gate Complex for Exit/Entry offices for connecting Four Lane Road Landing at Berth no 11. The balance portion of 5.3 km four-lane connectivity to NH-17 B from Varunapuri to Mormugao Port landing at Berth no. 11 is in progress and the same will be commissioned by May, 2020.

3. Floating Jetty at River Mandovi & River Chapora (for IWAI). Floating Jetty (Four Nos) on EPC basis-Government of India has declared 6 rivers of Goa as National Waterways on 14.10.2016 to facilitate shipping and navigation. For the development of waterways, an MoU has been signed between MoPT, IWAI and GoG, on 3<sup>rd</sup> May, 2018 (valid for a period of five years). Work order issued to the lowest contractor M/s Marinetek India Pvt. Ltd Bombay, vide Work Order No CE/WKS/896/2019/6556 dated 28.02.2019. Project cost is ₹ 9.60 crore. Work is in progress and is expected to be completed by Nov. 2019.

4. Second Full Rake Wagon Handling Railway line No RD 8A in order to improve efficiency of Railway operation. Port has undertaken the subject project at an estimated cost of ₹9.91 crore. The “Part A” project of Extension of line No RD 8A costing ₹ 1.32 crore work is in progress.

## PORT FACILITIES

5. Removal of 2 nos Mooring Dolphins in the water area facing cruise Berth Work Order has been issued to the lowest contractor M/s Sealord Diving & Salvage Pvt. Ltd on 02/03/2019. Work commenced from 18.04.2019 and is in progress. Project cost is ₹ 14.54 crore. Work is in progress and is expected to be completed by Oct. 2019.

6. Development of Navy Base workshop at Bogda - Work Order No.CE/WKS-855/2017/5024 dt. 18.11.2017 has been issued to M/s Abhiyant Realty Pvt. Ltd Panjim. Work is in progress. Project cost is ₹ 3.81 crore. About 94% of the work has been completed.

### **B. Projects taken up for Implementation**

1. Redevelopment of Berths 8, 9, and Barge Berths at the Port of Mormugao, Goa-Mormugao Port has taken up the work “Redevelopment of Berths 8, 9 & Barge berths at the Port of Mormugao” under PPP basis. Modern equipment will be used to handle multipurpose cargo, such as, iron ore, bauxite, limestone, container and general cargo. Berth length to be developed is 1,050 m comprising three berths. Berth will be designed to handle cape-size vessels and will be mechanised with modern equipment for handling multipurpose cargo. The project cost is ₹ 1145.36 crore. The terminal will have capacity of 19.22 MMTPA. The Concession Agreement has been signed with M/s Goa Sea Port Pvt. Ltd (SPV of Sterlite Port Ltd) on 22.09.2016. The Public Hearing for the subject project was conducted on 27.04.2017 and was concluded on 04.05.2017. GCZMA has now recommended CRZ clearance to the project to MoEF for consideration. Environmental clearance is awaited. The project will be taken up after obtaining Environmental Clearance. These berths are expected to be completed and commissioned by year Dec. 2022 (Phase I) and Dec. 2024 (Phase II).

2. Development of Vasco Bay-Development of Fishing Harbour at Vasco Bay, Mormugao. The long pending issue of fishing community and encroachers at Vasco Bay was resolved after discussions with High-level committee constituted by Government of Goa on the directives of High Court. The MoU was signed on 22.12.2016 between Mormugao Port Trust, Government of Goa and Goa Fishing Boat Owner’s Association and Old Cross Canoe Owner’s Association, Vasco. The cost of project is ₹ 104.00 crore. The project will be taken up after obtaining Environmental Clearance. Expected date of completion of this project is Dec. 2020.

3. Development of Passenger Jetty at Vasco Bay-Mormugao - The project cost is ₹ 21.00 crore. CRZ clearance from GCZMA is awaited. The project will be taken up after obtaining Environmental Clearance. Expected date for completion of this project is Dec. 2022.

4. Development of POL Berth at Vasco Bay, Mormugao - The project cost is ₹155.90 crore. The capacity of the project is 2.0 MMTPA. CRZ clearance from GCZMA is awaited. The project will be taken up after obtaining Environmental Clearance. Expected date for completion of this project is Dec. 2022.

5. Development of Coastal/General Cargo Berth at Vasco Bay, Mormugao - The project cost is ₹ 203.00 crore and the capacity is 2.0 MMTPA. CRZ clearance from GCZMA is awaited. The project will be taken up in 2020-21 after obtaining Environmental Clearance.

### **C. Projects to be taken up for Implementation**

1. Capital dredging of the approach channel, turning circle, Berths 5, 6 & 7 approaches for Capesize vessels at Mormugao Port, Goa - The maximum size of the vessels that can navigate the channel is about 80,000 dwt. In order to facilitate berthing of capesize vessels so as to enhance the capacity of cargo handling at Berth No. 5,6 & 7 and proposed redevelopment of Berth No. 8 & 9, it has been proposed to deepen the existing outer channel and turning circle from (-)14.1 m to (-)19.8 m and inner channel and approaches to (-)19.5 m Providing deep drafts facilitates berthing of capesize vessels which indirectly reduces the logistic cost and provides benefit to trade. The project will be taken up after obtaining Environmental clearance and subject to resuming of iron ore mining.

2. Berth No1, 2 & 3 - Proposed Development of International/Domestic cruise Terminals - To cater to the requirement of International / Domestic cruise traffic, it is proposed to construct Modern Cruise Terminal. For this purpose Tenders for Architectural Services and Techno-Economic feasibility services have been invited. Tenders have been received and are under scrutiny. The consultancy works for the above will be awarded in mid of June and is likely to be completed by Sept. 2019. Subsequently, the tender for construction work will be invited in the third week of September 2019 with the completion period of 12 months.

The traffic in mineral/ore/mineral-based commodities, handled by the Mormugao Port during 2017-18 and 2018-19 was as follows:

Commodity	(In tonnes)			
	Export		Import	
	2017-18	2018-19	2017-18	2018-19
Iron ore	9925112	2528262	333712	1652451
Bauxite	-	-	-	450569
Coke	-	-	383861	459026
Coal	-	-	10512681	7745563

## PORT FACILITIES

### **Wharfage**

Wharfage (wharf dues including unloading, stacking, plot rent and loading charges, etc.) rate levied by Mormugao Port Trust in 2018-19 was as below:

(In ₹ per tonne)			
Sl. No.	Commodity	Foreign Rate	Coastal Rate
1.	Iron ore	24.00	24.00
2.	Iron ore pellets	27.00	27.00
3.	Bauxite	27.00	16.20
4.	Nickel/Alumina/ Bentonite/Gypsum/ Limestone/Cement	42.00	25.20
5.	Pig iron/ Slag	48.00	28.80
6.	Thermal coal and its variants	55.00	55.00
7.	Coke of all types	55.00	33.00
8.	Fertilizer and fertilizer raw material	50.00	30.00
9.	Metal Scrap of all types	55.00	33.00

Iron ore and iron ore pellets handling charges (exported through MOHP at Berth No.9) in 2018-19 are as under:

(In ₹ per tonne)			
Sl. No.	Description of Goods	Import/ Export rate per tonne or part thereof	Remarks
1.	Iron ore	118	At MOHP B.No.9
2.	Iron ore pellets	127 223	During June to Aug. During Sep. to May

### **New Mangalore**

The port has a modern all weather artificial lagoon situated at Panambur, Mangalore is in Karnataka on the west coast of India. The port handled 42.05 million tonnes of cargo during 2018-19 as compared to 42.05 million tonnes in 2017-18. In 2018-19, the total capacity of the port was 68.88 million tonnes. The largest vessel that was received at this port was 1,15,577 tonnes of dwt during 2018-19 which loaded POL (MRPL).

#### **Salient Features of New Mangalore Port**

Draught (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq m)
min.	max.				
7.0	14.20	15	01	-	-

The traffic in mineral/ore/mineral-based commodities handled in 2017-18 and 2018-19 was as follows:

Commodity	(In '000 tonnes)			
	Export		Import	
	2017-18	2018-19	2017-18	2018-19
Iron ore fines	-	-	2400	2026
POL	5669	5507	19048	20338
Rock phosphate	-	-	68464	82201
Bauxite	-	-	-	28
Gypsum	-	-	173	123
Limestone	-	-	55	55
Coal	33	114	66664	6463
Sulphur	62	78	-	-

*Figures rounded off*

### **Wharfage**

Wharfage (wharf dues including unloading, stacking, plot rent and loading charges, etc.) levied by New Mangalore Port w.e.f. 13.05.2016 and during the year 2018-19 was as follows:

(In ₹ per tonne)		
Commodity	Foreign Rate	Coastal Rate
Iron ore fines	32.38	32.38
POL	68.89	68.89
Thermal Coal	24.61	24.61
Coal (other than thermal coal) & coke	24.61	14.77
Gypsum	29.53	17.72
Limestone	34.45	20.67
Bauxite	34.45	20.67
Rock Phosphate	39.37	23.62
Sulphur	59.05	35.43

### **Cochin**

The traffic handling capacity of the port in 2018-19 was 73.6 million tonnes. The largest size vessel that can be received at this port is 1,13,976 dwt at berth and 3,20,411 dwt at SBM.

#### **Salient Features of Cochin Port**

Draft (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq m)
min.	max.				
9.14	14.50	20	1	2	1.25 lakh

The Cochin Port Trust handled 32.02 MMT of cargo during 2018-19 against 29.14 MMT during 2017-18.

## PORT FACILITIES

The total traffic in mineral/ore/mineral-based commodities handled by the Cochin port during 2017-18 and 2018-19 was as under:

Sl. No.	Commodities	(In '000 tonnes)			
		Export		Import	
		2017-18	2018-19	2017-18	2018-19
1.	Crude oil	40	-	14171	16086
2.	Bauxite	-	-	13	15
3.	Coal	-	-	44	43
4.	Sulphur	-	-	102	49
5.	Rock phosphate	-	-	86	169
6.	Salt	-	-	93	110
7.	Ilmenite sand	-	-	38	47
8.	River sand	-	-	133	-

*Figures rounded off*

The port is fast emerging as a cement hub having cement handling terminals.

### **Wharfage**

Wharfage charges of the Cochin Port for the year 2018-19 was as follows:

Sl. No.	Commodity	(In ₹ per tonne)	
		Foreign Rate	Coastal Rate
1.	Minerals & ores		
	(i) Zinc concentrate	87.40	52.50
	(ii) Others	80.10	48.10

Reply received from Cochin Port Trust for the year 2018-19

### **Development Plans**

The project "Refurbishments of South Tanker Berth for laying Heat traced pipeline for BPCL-KR at South Tanker Berth of Cochin Port" is planned for handling plant fuels for BPCL-KR by laying heat traced pipeline. The work commenced on 21.2.2018 and was completed on 28.02.2019.

Cochin Port Trust and Indian Oil Corporation are jointly developing a 4.10 MMTPA Oil-cum-LPG Jetty at Puthuvypen. It can receive berth vessels with LOA up to 230 m, 13 m draft and 80,000 dwt. The Jetty, when functional, will give access to 100 acres of tank farms in the Puthuvypen Port based SEZ.

The project 'upgradation of cruise berthing facilities at Ernakulam wharf is for providing International Cruise Terminal facilities inside Ernakulam wharf area of Cochin Port and to cater to the cruise passengers with the functional and service

requirements as per the Standard Operating Procedures (SOP) issued by Ministry of Tourism. The project consist of construction of an International Cruise Terminal building of approximate area that is 2,253 m<sup>2</sup> with connected facilities of upgrading / retrofitting the existing Q7-Q8 berth surface for about 420 m length and its back up area up to and around the cruise terminal building. The project is expected to be completed by February, 2020. Insofar as minerals/ores Cochin Port has handled meager quantities and therefore no development programme has been envisaged.

### **Jawaharlal Nehru Port Trust (JNPT), Nhava-Sheva, Navi Mumbai**

JNPT does not have any facility stacking areas to handle ore/mineral separately. JNPT has become a world class international container handling port. The port handled 70.71 million tonnes of cargo during 2018-19 as compared to 66 million tonnes in 2017-18. The traffic handling capacity of JNPT as on 2018-19 was 138.87 million tonnes.

#### **Salient Features of Jawaharlal Nehru Port Trust, 2018-19**

Draft (m)*		No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq. m)
min.	max.				
10	15	15	Nil	Nil	No area earmarked for minerals inside port

*\*using tidal window*

About 14,44,234 tonnes and 13,89,250 tonnes of crude oil was handled during the year 2017-18 & 2018-19, respectively. The Port does not have storage facility for crude oil. However, the wharfage charges for crude oil during 2018-19 was ₹ 68.65/tonne.

### **Development Plans**

M/s Bharat Mumbai Container Terminals Pvt. Ltd (PSA) was awarded the development of Fourth Container Terminal on DBFOT basis through a Concession Agreement on 6<sup>th</sup> May, 2014. BMCT is India's largest FDI project in the Port Sector with an estimated investment of ₹ 7,935 crore spread over eight years for two phases. The project comprises of two phases - each phase comprises 1 km of quay line, 16.5 m depth of berth, 12 quay cranes, 46 RTG

## PORT FACILITIES

yard cranes and 4 RKGK cranes for its rail yard generating a capacity of 2.4 million TEU (Total 4.8 MTEU). As per schedule, the work of Phase I got completed on 22<sup>nd</sup> December, 2017 and was put into operation. The Phase II is in progress and schedule date of completion is December 2022.

In order to give momentum to coastal shipping, JNPT is constructing 250 m long coastal Berth with backup area reclamation of 11 hectares. Dredging to achieve dredged depth of 11m at berth pocket back side of the berth is also proposed for handling port crafts with dredged depth of 6 m below CD. Capacity for handling liquid cargo of 1.5 MTPA and general coastal cargo of 1 MTPA has been proposed. The work is awarded to M/s RKEC Projects Ltd and schedule date of completion of the project is 23<sup>rd</sup> May, 2020.

To cater to the future traffic, JN Port, through implementing agency NHAI, has awarded the work of widening of 43.9 km length of NH 4B, SH 54 and Amra Marg Linkages to 6/8 lanes along with two lanes service roads by SPV formed by JNPT, NHAI and CIDCO. This project will be executed on EPC mode in 4 civil packages and it is expected to be completed by 31<sup>st</sup> March, 2020.

J.N. Port has taken up the work of development of Port Based SEZ in 277 hectares. The EPC contract to develop basic infrastructure at a cost of ₹ 476 crore was awarded on 07.10.2016 and the work is in progress.

Till June, 2019 over all 31 acres of land have been allotted on 60 years lease basis to 15 investors from the Micro, Small & Medium Enterprise (MSME) segment via Tender-cum-auction methodology.

J.N. Port has also awarded the work of widening and deepening of the channel to M/s Boskalis Smit India. The work was completed in February, 2019. The draft of the channel has increased from 14 to 15 m. This envisages additional capacity of 4.5 MMTPA and DIB approved the project. The J.N. Port Trust has taken advance action and invited tender for jetty and mechanical works. The work was awarded on 27<sup>th</sup> March, 2019 and the work is expected to commence after receipt of EC clearance.

### NON-MAJOR PORTS

Cargo handling capacity of non-major ports has increased from 599.47 MTPA as on 31.03.2014 to 863.50 MTPA as on 31.03.2019. The available

information on traffic handled by non-major ports during 2017-18 and 2018-19 is furnished in Table-2 and that of facilities for handling and transporting minerals from selected non-major ports are furnished in Table-3.

**Table-2: Traffic Handled at Non-major Ports  
2017-18 and 2018-19**

(In million tonnes)		
Commodity	2017-18	2018-19
i) POL	193.42	NA
ii) Iron ore	36.60	NA
iii) Building material	15.59	NA
iv) Thermal Coal & Coking Coal	146.68	NA
v) Fertilizers (including Raw Materials)	11.71	NA
vi) Others	125.09	NA
<b>Total</b>	<b>529.09</b>	<b>NA</b>

*Source: Update on Indian Port Sector (31.03.2016), Transport Research Wing, Ministry of Road Transport & Highways, Government of India.*

There are 205 notified non-major ports in the country controlled by State Governments and Union Territories. These are in Gujarat (46), Maharashtra (48), Goa (5), Karnataka (9), Kerala (17), Tamil Nadu (16), Andhra Pradesh (12), Odisha (13), West Bengal (1), Daman & Diu (2), Lakshadweep (10), Puducherry (3) and Andaman & Nicobar Islands (23). In 2015-16, only 70 non-major ports were reported to have handled cargo traffic. The traffic handled at non-major ports which was 470.60 MT during 2014-15 increased to 582.59 MT during 2018-19 which was 45% of the total maritime traffic of the country. The Maritime States, namely, Gujarat, Andhra Pradesh and Maharashtra accounted for 94.12% of the traffic handled by non-major ports.

Minor Port Survey Organisation (MPSO), a subordinate office of Ministry of Shipping, Government of India, located at Mumbai, carries out the task of Hydrographic Survey in minor and major ports and inland waterways. The Governments of Gujarat, Maharashtra and Andhra Pradesh have taken several initiatives for development of their ports through private investments.

Gujarat Maritime Board (GMB), a statutory body of Government of Gujarat, is responsible for management, control and administration of 46 ports in Gujarat state. These ports under jurisdiction of GMB are grouped into 10 ports.

PORT FACILITIES

In Maharashtra, the State Government has encouraged development of its Port Sector and adopted an investor-friendly port policy. To meet the requirements of India's growing economy and to address the need of its Industry, Maharashtra Maritime Board (MMB) has entered into six concession agreements for development of minor

ports, namely, Rewas-Awaare Port, Dighi Port, Jiagad Port (Lavgan), Vijaydurg Port, Redi Port, etc.

In addition, Andaman Lakshadweep Harbour Works (ALHW) (a subordinate office of Department of Shipping, Government of India) has been entrusted with the responsibility of providing port and harbour facilities in Andaman & Nicobar and Lakshadweep Islands.

**Table – 3: Facilities for Handling & Transporting and Mineral Commodities Handled at Selected Non-major Ports, 2017-18 and 2018-19**

State/ Port	Facilities for Handling & Transporting						Mineral commodity handled (in tonnes)					
	Traffic Handled ('000t)		Draught max. (m)	No. of wharves	No. of berths (sq. m)	Stacking capacity received ('000 dwt)	Largest vessel	Commodity	Export		Import	
	Costal	Overseas							2017-18	2018-19	2017-18	2018-19
<b>WEST COAST</b>												
<b>GUJARAT</b>												
Bhavnagar	NA	NA	3.5	1	1	225000	66614	Coal	-	-	517708	1005381
								Limestone	-	-	1190958	1593866
								Salt	132300	59000	-	-
Bedi	498	1346	14	8	-	10000	179250	Stone	-	190000	-	-
								Bauxite	247501	259804	-	-
Dahej Harbour and Infrastructure Ltd	3322	30733	13.0	-	1	62500	70000	Coal	-	-	437643	354644
								Rock-phosphate	-	-	329480	436029
								Copper-concentrate	-	-	1431450	1198640
								Copper slag	172050	106650	-	-
Jafarabad	2809	3187	9	-	1	-	56892	Cement-clinker	3768054	3928603	-	-
								Pet Coke	-	-	547432	473866
								Bauxite	-	-	264823	110180
								Limestone	-	-	849701	1138213
								Gypsum	-	-	40756	64100
								Copper Slag	-	-	-	51650
Magdalla Surat	18904	14155	14	01	11	30129	188627	Coal	-	-	7928906	9898607
								Iron ore	-	-	10549320	11633643
								Limestone	54000	-	1076187	1637915
								Iron ore fines	-	116755	187888	-
								Gypsum	-	-	58565	273417
Navalakh	32	11823	5.0	-	5	247597	182060	Salt	1313799	1410517	-	-
								Coal	-	-	7309853	10412533
								Cement	-	-	67787	31914
Okha	1898	2840	8.0	2	2	5000	-	Bauxite	555820	825670	-	-
								Limestone	-	-	667947	1032709
								Coal	-	-	622161	981111
								Cal. Bauxite	14694	13425	-	-
								Pet Coke	1787	4239	10200	11550

(Contd)

**PORT FACILITIES**

Table-3 (Contd.)

State/ Port	Facilities for Handling & Transporting						Mineral commodity handled (in tonnes)					
	Traffic Handled ('000t)		Draught max. (m)	No. of wharves	No. of berths (sq. m)	Stacking capacity received ('000 dwt)	Largest vessel	Commodity	Export		Import	
	Costal	Overseas							2017-18	2018-19	2017-18	2018-19
Pipavav	NA	NA	13.9	-	5	-	150000	Fertilizer	-	-	1001132	1329491
								Others	140612	109598	1467978	1066222
Porbandar	NA	NA	8.5	NA	2	-	145512	Coal	-	-	412112	661027
								Bauxite	529453	276236	-	-
								Limestone	-	-	568438	640920
Adani Hazira Port	NA	NA	14	-	2	-	-	Gypsum	-	-	163420	235200
								Rock Phosphate	-	-	633038	727058
								Sulphur Crude	-	-	-	11001
								Limestone	-	-	14500	30000
Alang Bhavnagar	NA	NA	-	-	-	-	-	Clinker	-	-	NA	-
Adani Dahej	NA	NA	14	2	2	-	90000	Coal	-	-	5588	7047
								Rock phosphate	-	-	305	299
								NPK	-	-	-	40
								Gypsum	-	-	887	979
								Limestone	-	-	-	408
								Salt	-	73	-	-
								Copper Slag	-	14	-	-
Mandvi Port	NA	NA	4.0	1	1	-	-	-	-	-	-	-
Jakhau Port	NA	NA	4.0	1	1	-	70000	Cement	186710	252667	-	-
								Coal	-	-	116911	721587
								Gypsum	-	-	53099	38859
								Clinker	395300	150902	11227	-
Mundra	NA	NA	7.30	1	1	-	-	-	-	-	-	-
<b>KARNATAKA</b>												
Karwar	442	504	6.5	NA	NA	NA	NA	-	-	-	-	-
Kundapura	NA	NA	4.50	700	2	1200	2000	-	-	-	-	-
<b>MAHARASHTRA</b>												
Dahanu	352	NA	6.0	-	1	-	-	Coal	-	-	NA	NA
Dharamtar	11756	4801	5.5	NA	9	160000	NA	Iron ore	-	-	NA	NA
								Iron ore pellets	-	-	NA	NA
								Limestone	-	-	NA	NA
								Coal	-	-	NA	NA
								Rock Phosphate	-	-	NA	NA
								Dolomite	-	-	NA	NA
								Bauxite	NA	-	-	-
Dighi	NA	NA	9	NA	2	4000	NA	Bauxite	NA	-	-	-
Jaigarh	NA	NA	14	NA	2	2000	NA	Bauxite	NA	-	-	-
								Iron ore	NA	-	NA	NA
								Limestone	-	-	NA	NA
								Coke	-	-	NA	NA
								Coal	NA	NA	NA	NA

(Contd)

PORT FACILITIES

Table-3 (Concl.)

State/ Port	Facilities for Handling & Transporting							Mineral commodity handled (in tonnes)				
	Traffic Handled ('000t)		Draught max. (m)	No. of wharves	No. of berths (sq. m)	Stacking capacity received ('000 dwt)	Largest vessel	Commodity	Export		Import	
	Costal	Overseas							2017-18	2018-19	2017-18	2018-19
Kelshi	NA	NA	15	NA	NA	NA	NA	Bauxite	NA	-	NA	NA
Ratnagiri	NA	435	5	NA	1	NA	NA	Clinker	NA	-	NA	NA
Redi	NA	NA	4	NA	NA	NA	NA	Iron ore	NA	-	-	-
Revdanda	553	945	4	NA	4	NA	55000	Iron ore	NA	NA	NA	NA
Bankot	NA	NA	NA	NA	NA	NA	NA	Bauxite	-	NA	-	-
<b>EAST COAST</b>												
<b>ANDHRA PRADESH</b>												
Kakinada # (Anchorage Port)	22	1624			NA		NA		NA	NA	NA	NA
<b>EAST COAST</b>												
<b>ANDHRA PRADESH (Concl.)</b>												
(Kakinada 3 Ships Deep water Port)	1390	14741	NA	NA	NA	NA	NA		NA	NA	NA	NA
Krishnapatnam	9862	44509	18	-	9	2560000	200	Iron ore	NA	NA	-	NA
								Gypsum	-	-	NA	NA
								Barytes	NA	NA	-	-
								Clinker	-	-	-	-
								Feldspar	NA	NA	NA	-
Rawa	NA	NA	-	-	-	-	-	-	-	-	-	-
<b>TAMIL NADU</b>												
Cuddalore	-	281	@	-	-	80000	@@	-	-	-	-	-

*Source: Basic Port Statistics of India, 2016-17.*

@ not applicable being a roadstead port.

@@ Any size being an anchorage port.

# Two ports, namely, 1. Kakinada Anchorage Port under Govt. of Andhra Pradesh and 2. Kakinada Deep water Port under private organisation M/s Kakinada Sea Port Ltd, in East Godavari district at Kakinada, Andhra Pradesh.

## PRIVATE PORTS

### Major Development Projects International Container Trans-shipment Terminal (ICTT) at Vallarpadam

The International Container Trans-shipment Terminal (ICTT), Vallarpadam, is India's first dedicated International Container Trans-shipment Terminal. It was developed by Cochin Port Trust and M/s India Gateway Terminal Pvt. Ltd (IGT), a subsidiary of M/s Dubai Ports World (DPW) through a Public-Private Partnership on Build- Operate-Transfer (BOT) basis. It was dedicated to the nation on 11<sup>th</sup> February, 2011. Container handling charges at nearby Vallarpadam terminal are likely to go down

with stakeholders deciding that all terminal-related charges will be billed directly to the exporter or importer by M/s DPW from 1<sup>st</sup> January 2015.

A decision in this regard was reportedly taken at a meeting of various stakeholders held in October 2014 convened by the Cochin Port Trust.

### Adani Ports and Special Economic Zone Limited (APSEZ)

Mundra Special Economic Zone (Mundra SEZ) is located on the western coast of India in the Gulf of Kachchh, within the State of Gujarat. Mundra Port is the gateway for cargo to the Northern hinterland and has increasingly become the gateway for Indian exports.

## PORT FACILITIES

Mundra SEZ is India's largest notified, operational multi-product SEZ with state-of-the-art infrastructure and is planned to be spread over 15,000 ha. Currently, notified multi-product SEZs are spread over an area of 6,473 ha. The zone also has in addition a Free Trade and Warehousing Zone (FTWZ) spread over 168 ha. Leveraging the advantage of the robust port infrastructure, Mundra SEZ offers the best investment opportunity for diversified industries.

Mundra SEZ has the potential to offer developed industrial clusters for small/medium projects as well as facilitate the mega projects with the desired land parcel, along with an excellent logistic connectivity, power reliability and other utilities.

### Salient Features of Adani Ports for the Year 2018-19

Draught (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq. m)
min.	max.				
10.5	17.9	30	3+2+2	-	-

The traffic in mineral/ore/mineral-based commodities handled in 2017-18 and 2018-19 was as follows:

Commodity	(In '000 tonnes)			
	Export		Import	
	2017-18	2018-19	2017-18	2018-19
Bauxite in bulk	198	228	-	-
Bentonite in bulk	693	522	-	-
Bentonite in Jumbo bags	20	-	-	-
Iron ore fines	-	-	525	482
Iron ore lumps	-	-	206	91
Iron ore pellets	108	435	-	-
Limestone	-	-	54	105
Silica sand	23	53	-	-
Stone/Stone Chips	86	58	-	-

*Figures rounded off*

Infrastructure being the key to the SEZ development, emphasis has been to develop/augment core infrastructure facilities to attract investments.

### Special features of Mundra SEZ are:

- (1) India's Largest, Port - based, Notified and Functional, Multi-product SEZ.
- (2) An integrated self-sustained zone with modern infrastructure and facilities.
- (3) Mundra SEZ's multi-modal connectivity offers competitive logistic advantage with:

- In-zone Multi-purpose Port with Container Terminals.
- Fully mechanised efficient port with one of the lowest turnaround time in India.
- In-zone Road & Rail connectivity.
- Well connected with National & State Highways.
- 64 km Private Rail line connects Mundra to National Railway Network at Adipur near Gandhidham, Kachchh.
- 210 km rail network within the Zone.
- In-zone private Airstrip.
- Proposed International Air Cargo Hub.
- Integrated Infrastructure and Utilities.
- Well-developed commercial & social infrastructure for Living, Learning, Healthcare & Recreations.

### Essar Ports

Essar Ports Ltd is one of India's largest Private Sector Port and Terminal Company by capacity and throughput.

The Company through its subsidiaries develops and operates ports and terminals for handling liquid, dry bulk and general cargo with an existing aggregate cargo handling capacity of 104 MTPA across the facilities located at Vadinar and Hazira in the State of Gujarat on west coast of India and Paradip in the State of Odisha on east coast of India. The facilities of Vadinar, Hazira and Paradip are used primarily for receipt of raw material, such as, crude oil, iron ore pellets, limestone, dolomite, coal and finished goods, such as, petroleum products and steel products.

Essar Ports has an existing aggregate capacity of 104 MTPA. The Company is in process of increasing its aggregate ports capacity to 194 MTPA. In addition, Essar has plans for 32 MTPA iron ore export terminal consisting of three berths at Visakhapatnam in the State of Andhra Pradesh.

### Maritime Agenda 2010-20

In the Maritime Agenda, a target of 3,130 million tonnes Port capacity has been set for the year 2020. More than 50% of this capacity is to be created in the Non-major Ports. The Non-major Ports are expected to play a major role and by the year 2020, the traffic handled by Non-major Ports is expected to increase to 1,280 million tonnes. The objective is not only creating more capacity but to bring out ports

## PORT FACILITIES

at par with the best international ports in terms of performance. This will reduce the transaction cost considerably for our trade, thus making them globally competitive. The total proposed investment in Major and Non-major Ports by 2020 is expected to be around ₹ 2,77,380 crore. Most of this investment has to come from the Private Sector. Public Funds will be mainly deployed for common user infrastructure facilities like deepening of port channels, rail and road connectivity from ports to hinterland, etc. Foreign Direct Investment up to 100% under automatic route is permitted for construction and maintenance of ports.

The Ministry of Shipping is continuously engaged in designing and implementing various projects for development of Port Sector. To increase the pace of growth and to improve the efficiency of the delivery system, the Ministry of Shipping has come out with a

Maritime Agenda 2010-20 for the next ten years. The Agenda is an effort to identify the areas for attention during 2010-11 to 2019-20.

### The agenda for the Ports are:

- ◆ Develop two New Major Ports one each on east and west coasts.
- ◆ Full mechanisation of cargo handling and movement.
- ◆ Major Ports to have draft of not less than 14 metres and hub ports 17 metres.
- ◆ Identification and implementation of projects for rail, road and inland waterway connectivity to ports.
- ◆ Development of two hub ports on each of the West and the East coasts.

### Ongoing Private Sector/Captive/Joint Venture Port Projects (Non-Major Ports)

Sl.No.	Project Name	State/Ports Maritime Board	Capacity (million tonnes)	Project Cost (₹ in crore)
1.	Development of Mundra Port	Mundra (Gujarat)	185	12305
2.	Hazira Port Pvt. Ltd (HPPL)	Hazira (Gujarat)	2.50 (MMTPA)	1180.4
3.	Development of BGCT under phase IB at Hazira	Hazira (Gujarat)	30	186
4.	Development of Solid Cargo Port Terminal	Dahej (Gujarat)	15	980
5.	Captive jetty by Cairn Energy India Pvt. Ltd, Bhogat, Dist. Jamnagar	Bhogat (Gujarat)	7	1285
6.	Captive jetty by J.P. Associates Ltd, Jakhau Port	Jakhau Port	3	140
7.	Captive jetty by Essar Salaya Bulk Terminal Ltd	Salaya (Gujarat)	7	600
8.	Captive jetty by ABG Cement Ltd	Hazira Mora (Gujarat)	2	100
9.	Captive jetty by M/s Essar Bulk Terminal Ltd - 1100 m (3rd Expansion)	Hazira (Gujarat)	25	2321
10.	Captive jetty by M/s Ultra Tech Cement Ltd - Expansion of Captive jetty at Kovaya	Kovaya Pipavav (Gujarat)	5	200
11.	Captive jetty by M/s Godrej - Ro Ro jetty for handling of ODC cargo at Dahej SEZ	Dahej (Gujarat)	1	5.9
12.	Captive jetty by M/s ISGEC - Ro Ro jetty for handling of ODC cargo at Dahej SEZ	Dahej (Gujarat)	1	5.9
13.	Demolition and reconstruction of Capt. of Ports jetty at Panaji	Panaji-Port, Goa	-	15.01
14.	Demolition of old existing jetty and reconstruction of new Capt. of Ports jetty at old Goa	Panaji-Port, Goa	-	20.36
15.	Establishing a captive port at Parangipettai by M/s IL&FS Ltd	Parangipettai, Tamil Nadu	13	1349
16.	Meghwaram Port	Meghwaram, Andhra Pradesh	Captive Port 4.70 MMT	600

Contd.

## PORT FACILITIES

(Concl'd)

Sl.No.	Project Name	State/Ports Maritime Board	Capacity (Million Tonnes)	Project Cost (₹ in crore)
17.	KSEZ	KSEZ, Andhra Pradesh	Captive Port 15.00 MMT	2500
18.	Phase-II-Development of Krishnapatnam Port	Krishnapatnam, Andhra Pradesh	44.30 (MTPA of non-container Cargo) 3.30 MTEUpa of Container cargo	10,800
19.	7 <sup>th</sup> Berth	Kakinada Deep water Port, Andhra Pradesh	25	1320
20.	Dhamra Chandbali Port Project	Dhamra Port, Odisha	25 MMT	3639
21.	Development of Karaikal Port through private investment on BOT basis	Karaikal, Puducherry	Phase-2A 21.5  Phase-2AE 6.5	1600   500
22.	Development of Puducherry Port through private investment on BOT basis	Puducherry	Phase-1 16.2  Phase-II 10.8	2785   NA
23.	Construction of Captive jetty at Manki in Honnavar Taluka of U.K District by M/s Shree Renuka Energy Ltd, Belagavi	Manki, Karnataka	2.0 (3.5 in Future)	46
24.	Anchorage operations at Honnavar Port by M/s Honnavar Port Pvt. Ltd, Hyderabad.	Honnavar, Karnataka	4.99	511.3

### FUTURE OUTLOOK

The Major Ports in India have been witnessing sustained growth in the last few years, due to the novel & progressive pathways pursued by Ministry of Shipping. Major fillip to the Port Sector by way of introducing vital and long overdue futuristic Port-led development programmes including Sagarmala

has been emplaced. The Ministry has intended on upgrading and developing the major ports of India on par with the International Ports.

India's port facilities are in for a major overhaul as development of ports and augmentation of capacities are significant for economic vibrancy and growth.