Indian Minerals Yearbook 2015

(Part- I General Reviews)

54th Edition

PORT FACILITIES

(FINAL RELEASE)

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES

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6 Port Facilities

1. GENERAL

1.1 Growth

Ports are economic and service provision units of a remarkable importance since 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 200 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 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 ships. Approximately, 90% of the country's trade by volume and 68% in terms of value, are being transported through sea route. Though India has one of the largest merchant shipping fleets among the developing countries, it is ranked 17th in the world in terms of dead weight tonnage (dwt) as on 1.1.2014. The Ministry of Shipping encompasses within its fold major ports and inland water transport among others. All major ports in the country are at present, having both rail and road connectivity.

1.2 Sethusamudram Corporation Ltd (SCL)

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

1.3 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 during 2014-15 are as follows:

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

Sl. No.	Projects/ Development	Estimated Cost (In ₹ crore)	Capacity (MMTPA)
Projects under Implementation:			
Chennai Port			
1.	Development of Barge jetty at Bharathi Dock	27.29	1.35
JLN Port			
2.	Development of standalone container handling facility with a quay length of 330 m North of NSICT Terminal	600.00	9.60
3.	Development of Container Terminals of 2000 Mtrs Length at JNPT (4th Container terminal)	7915.00	60.00
4.	Special Economic Zone	4000.00	6.00
Kamarajar Port Ltd (Ennore)			
5.	Upgradation of the existing Non-TNEB Coal Terminal developed by M/s Chettinad International Coal Terminal Pvt. Ltd.	351.08	8.00
6.	Development of LNG Terminal by IOCL	4512	5.00
7.	Development of Container Terminal	1270.00	16.80
8.	Development of Multi-Cargo Berth	151.00	2.00
Kandla Port			
9.	Development of Oil Jetty to handle liquid cargo ship bunkering Terminal	233.50	3.39
10.	Development of SPM in OOT	448.00	25.00
11.	Construction of Oil Jetty No.7 on BOT basis for liquid cargo.	72.00	2.00
Kolkata Port Trust			
12.	Development of Haldia Dock II (North)	821.40	11.70
13.	Floating Storage & Regasification Unit (FSRU)	3500.00	4.00

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Sl. No.	Projects/ Development	Estimated Cost (In ₹ crore)	Capacity (MMTPA)
	Mumbai Port Trust		
14.	Construction of Offshore Container Berths and Development of terminal on BOT basis at Mumbai Harbour	2098.56	9.60
15.	Facilities for handling & storage of Bulk Cement and Bagging Plant at Petroleum Godown Plot at Sewree	95.00	1.25
16.	Bunkering Terminal	50.00	2.00
	Paradip Port Trust		
17.	Construction of Deep Draft Coal Berth at Paradip	479.01	10.00
18.	Development of Clean Multi-cargo Berth in Southern Dock	387.31	5.00
19.	Development of Deep Draft Iron Ore berth	740.19	10.00
20.	Supply, installation of 3 Nos. of 100 tonnes HMC	117.00	3.00
	Visakhapatnam Port Trust		
21.	Development of EQ-1A in East Docks	313.39	7.36
22.	Installation of Mechanised handling facilities for fertilizers at EQ 7 in the Inner Harbour	217.58	3.33
23.	Installation of Mechanised Iron Ore handling facilities at WQ-1 in the northern arm of Inner harbour of VPT for handling Dry bulk cargo and Modernisation of Ore Handling Complex	940.00	23.70
24.	Container Terminal expansion	633.11	7.56
25.	Multi Modal Logistic Hub	400.00	0.00
26.	Establishment of Container Freight Station through existing BOT operator by VCTPL	100.00	0.90
	VOC Port Trust, Tuticorin		
27.	Construction of Coal Berth at NBW for NLC-TNEB	49.50	6.30
28.	Construction of North Cargo Berth-II	332.16	7.15
29.	Construction of Shallow draft berth for handling cement	84.08	2.67
30.	Development of NCB-IV for handling thermal coal & copper concentrate	355.00	9.15
31.	Development of NCB-III for handling thermal coal & rock phosphate	420.00	9.15
32.	Development of facilities for handling thermal coal for SPIC Electric Power corpn. Pvt. Ltd (SEPC)	214.50	2.50

(Contd.)

(Contd.)

Sl. No.	Projects/ Development	Estimated Cost (In ₹ crore)	Capacity (MMTPA)
33.	Mechanisation of cargo evacuation from 9th Berth to Coal Yard at the existing Coal Yard	76.25	3.67
34.	Mechanisation of cargo to transfer from VOC wharf-4 berth to Wagon/ Truck loading system and mechanisation	24.68	3.19
	Projects under Operation:		
	Chennai Port Trust		
1.	Container Terminal-1	788.18	6.00
2.	Development of 2nd Container Terminal	495.00	9.60
3.	Supply, Operation and Maintenance of 2 nos. of 100 T Mobile Harbour Cranes on Revenue Share Basis	62.57	5.00
	Cochin Port Trust		
4.	Crude Oil handling facilities	720.00	13.00
5.	Vallarpadam Container Terminal ICTT	2118.00	40.00
6.	LNG Terminal	4150.00	5.00
7.	Facilities for cement bagging plant by M/s Zuari cement (on Land Lease Model)	147.00	-
	JLN Port		
8.	Container Terminal, NSICT	750.00	13.20
9.	BPCL Jetty (Captive)	200.00	5.50
10.	Third Container Terminal	1078.00	15.60
	Kamarajar Port Ltd. (Ennore)		
11.	Marine Liquid Terminal	252.00	3.00
12.	Development of an Iron Ore Terminal on BOT basis	480.00	12.00
13.	Development of Coal Terminal for users other than TNEB on BOT basis	399.00	8.00
	Kandla Port Trust		
14.	Development of 13th Berth other than liquid and container cargo berth	188.87	1.50
15.	Development of 15th Multipurpose Cargo berth at Kandla	188.87	1.50
16.	Oil Jetty for IOCL (Captive)	20.70	2.00
17.	Container Freight Station	41.07	3.00
18.	Oil Jetty related facilities at Vadinar (ESSAR) (Captive)	750.00	13.50
19.	Fifth Oil Jetty (IFFCO) (Captive)	27.67	2.00
20.	Dry Bulk Terminal off Terka near Tuna on BOT basis (Outside Kandla Creek)	1060.00	14.11

(Contd.)

(Contd.)

Sl. No.	Projects/ Development	Estimated Cost (In ₹ crore)	Capacity (MMTPA)
21.	Setting up of Captive Barge Jetty at Old Kandla (IFFCO)	27.00	1.50
Kolkata Port Trust			
22.	Multipurpose Berth No.12	35.00	1.12
23.	Multipurpose Berth No.4A	150.00	2.00
Mormugao Port Trust			
24.	Development of Coal Handling Terminal at Berth No.7	406.00	4.61
25.	Bulk Cargo berths No. 5A & 6A	250.00	5.00
New Mangalore Port Trust			
26.	Setting up of Bulk Cement Handling facility for M/s Ambuja Cement Ltd (Captive)	98.00	1.00
27.	Construction of Captive Jetty for handling Coal by M/s NPCL	230.00	3.00
Paradip Port Trust			
28.	Captive fertilizer Berth to PPL	20.00	4.00
29.	Captive fertilizer Berth to IFFCO	26.17	4.00
30.	Construction of SPM Captive Berth	500.00	15.00
31.	Mechanisation of Cargo Handling Project-1	37.32	2.00
32.	Mechanisation of Cargo Handling Project-2	25.13	2.00
33.	Mechanisation of Central Quay-III Berth	40.00	6.00
Visakhapatnam Port Trust			
34.	Multipurpose Berths-EQ-8 & EQ-9	320.29	6.47
35.	Container Terminal, Outer harbour	86.35	5.60
36.	Establishment of Multi Modal Logistic Park	372.00	1.00
37.	Development of Western Quay (WQ-6) in the northern arm of inner harbour of VPT for handling dry bulk cargo	114.50	2.00
38.	Development of WQ-10 in inner harbour for handling liquid cargo	55.38	1.84
39.	Mechanised Coal handling facilities at General Cargo Berth (GCB) in the outer harbour	444.10	10.18
40.	Single Point Mooring - Captive facility developed by H.P.C.L.	643.46	8.00
41.	Development of EQ-1 in East Docks	323.18	5.25
VOC Port Trust, Tuticorin			
42.	Development of 7th Berth as Container Terminal	135.00	5.00
43.	Berth No.8 Container Terminal	54.00	2.23
44.	Grant of license for deployment of floating cranes V.O. Chidambarnar port water limits for handling the cargo in the vessel	70.71	2.49
45.	Upgradation of Mechanical handling equipment in Berth No.1 to Berth No.6 and Berth No.9	49.20	8.72

(Concld.)

1.4 Inland Water 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 Inland Water Transport (IWT) infrastructure on National Waterways through grant received from Ministry of shipping.

Inland Water Transport is cost effective, fuel efficient and climate-friendly mode of transport for bulk cargo, over dimensional cargo and hazardous goods. 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.

1.4.1 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) in the States of Uttar Pradesh, Bihar, Jharkhand and West Bengal.

National Waterway-2: Dhubri-Sadiya stretch of Brahmaputra River (Total length- 891 km) in the State of Assam.

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

National Waterway-4: Kakinada-Puducherry stretch of the canal along with designated stretches of Rivers Godavari and Krishna (Total length- 1,095 km) in the States of Andhra Pradesh, Tamil Nadu and the Union Territory of Puducherry.

National Waterway-5: Designated stretches of East Coast Canal, River Brahmani and Mahanadi Delta (Total length- 623 km) in the States of West Bengal and Odisha.

National Waterway-6: Lakhipur to Bhanga at River Barak in Assam (Total length - 121 km).

2. MAJOR PORTS

There are twelve major ports in the country, 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. Out of the total 581.34 million tonnes traffic handled at major ports, Kandla Port is the top traffic handler during 2014-15 with 76% capacity utilisation.

2.1 Cargo Handling Capacity and Cargo Handled

The capacity of major ports during 2014-15 was 871.52 million tonnes as compared to 800.52 million tonnes during 2013-14. The major ports, therefore, continued to maintain a favourable capacity-cargo equation during the year.

The major ports handled a total traffic of 581.34 million tonnes during 2014-15 against 555.52 million tonnes during 2013-14. Traffic handled by major ports during 2013-14 and 2014-15 is given below:

Traffic Handled at Major Ports
2013-14 & 2014-15

(In million tonnes)

Sl. No.	Ports	2013-14	2014-15
1A.	Kolkata	12.87	15.28
1B.	Haldia	28.51	31.01
2.	Paradip	68.00	71.01
3.	Vizag	58.50	58.00
4.	Kamarajar (Ennore)	27.34	30.25
5.	Chennai	51.11	52.54
6.	V.O. Chidambaranar (formerly Tuticorin)	28.64	32.41
7.	Cochin	20.89	21.60
8.	New Mangalore	39.37	36.57
9.	Mormugao	11.74	14.71
10.	Mumbai	59.19	61.66
11.	JNPT	62.35	63.80
12.	Kandla	87.01	92.50
	Total	**555.52**	**581.34**

Source: *Annual Report 2014-15, Ministry of Shipping, Government of India.*

Figures rounded off.

The selected commodity- wise traffic handled at twelve major ports during 2013-14 and 2014-15 is as below:

(In '000 tonnes)

Sl. No.	Commodity	2013-14	2014-15
1.	P.O.L (Crude & Products)	181055	188743
2.	Iron ore	24616	16605
3.	Fertilizer Raw material (Dry)	13784	16224
4.	Thermal Coal	71651	85287
5.	Containerised cargo	114672	119441
6.	Others	112295	118990
	Total	**518073**	**545290**

Source: *Major Ports & Indian Ports Association.*

3. PORT-WISE REVIEW OF MAJOR PORTS

EAST COAST

3.1 Kolkata-Haldia

Kolkata Port is the oldest (established in 1870) and the only riverine major port in India. The port catering to the 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.

Handling capacity of the port as on 31.3.2015 was 25.61 million tonnes at Kolkata and 49.75 million tonnes at Haldia.

Salient Features of Kolkata - Haldia Port

Port	Draught (m)		No. of berths	No. of moor-ings	No. of wharves	Stacking area provided (sq m)
	min.	max.				
Kolkata	5.4	8.3	33	24	4	134722 (Transit Shed) + 10794 Warehouse)
Haldia	5.9	8.3	17*	–	–	25040 (Transit shed) 892840 (open area)

** Including three riverine oil jetties and 3 riverine & Haldia Anchorage for LASH vessels 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.

The traffic in mineral/ore/mineral-based commodities handled at Kolkata Port in 2013-14 and 2014-15 was as under:

(In '000 tonnes)

Commodity	Export		Import	
	2013-14	2014-15	2013-14	2014-15
Thermal coal	1598	NA	-	-
Coking coal	-	-	5612	270
Iron ore	2170	34	-	102
Silica sand	-	-	-	30
Rock phosphate	NA	-	300	86
Sand	-	33	-	-
Sulphur	NA	-	60	12
Mica	85	98	NA	-
Metallurgical coke	NA	NA	NA	11
Limestone	NA	NA	1293	56
Raw Petroleum coke	NA	NA	90	76
Gypsum	-	NA	26	NA
Magnesite	NA	NA	NA	3
Dolomite	-	NA	16	-
Ferro - chrome	140	162	NA	4
Non-coking coal	-	-	3266	-
Manganese ore	NA	-	945	169
Bitumen	-	1	-	34
Carbon black	NA	34	NA	63
Silicon	384	388	27	34
Cement clinker	NA	-	45	NA
Salt	-	-	-	48

Source: Kolkata Port Trust return/information received 2014-15

Wharfage

Wharfage on foreign Cargo landed/shipped at Kolkata Port Trust as available w.e.f. 17.3.2011.

(In ₹ per tonne)

Sl. No.	Item	Rate
1.	Crude oil Cargo handled through Mechanical system	91.80
2.	Export Iron ore	38.88
3.	Export Thermal Coal	43.74
4.	All other types of coal not specified, Fertilizer, Fertilizer raw materials, soda ash, and all other dry bulks	87.48

(Contd.)

Sl. No.	Item	Rate
	Cargo handled other than through Mechanical system	
1.	Salt, Fly ash	23.33
2.	Iron ore, sand	23.30
3.	Limestone, Bitumen, Pig iron, sponge iron and other ferrous metals, All types of coal/coke/ore/other dry bulk cargo not specified	46.66
4.	Cement, Clinkers, Gypsum, Slag	48.60
5.	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.	68.04
6.	Iron & steel, pipes & tubes	69.98
	Wharfage on coastal cargo landed/shipped at/ from Kolkata Port Trust	
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.

3.2 Paradip

It is one of the premier Maritime gateways on the East Coast of India based on its 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 moor-ings	No. of wharves	Stacking area provided (sq m)
min	max				
11.0	14.5	14	1	–	–

The port handled 71.01 million tonnes of cargo during 2014-15 compared to 68 million tonnes in 2013-14. The Port has achieved 100% utilisation of installed capacity of 21 MTPA of the Mechanised Coal Handling Plant during 2014-15.

3.3 Visakhapatnam

It is a natural harbour. Visakhapatnam port handled 58.04 million tonnes traffic in 2014-15. The largest size vessel that can be handled in the inner harbour is 12.50 metre draught vessels while the outer harbour is capable of handling vessels up to 2,00,000 dwt having draught up to 18.10 m.

Handymass vessels up to 12.5 m draught and Panamax vessels up to 10.90 m draught are handled at inner harbour.

Salient Features of Visakhapatnam Port

	Draught (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq m)
	min.	max.				
Inner harbour	8.00	12.50	18	–	NA	Exclusive of Iron ore: 65306
Outer harbour	14.00	18.10	6	1	NA	297550
Outer harbour	14.00	18.10	6	–	NA	Exclusive of Iron ore: 297550

Selected commodities handled by Visakhapatnam port in 2014-15 were as follows:

(In tonnes)

Commodity	Quantity
POL & Crude Products	13129000
Iron ore	8365000
Fertilizer	1838000
Thermal Coal & Coking Coal	8853000

Following are the development activities that were undertaken in the port during 2014-15.

The Port has ambitious plans for modernisation with the vision to become the most preferred Port in South Asian Region. Considerable investments from the internal resources and through Private Sector Participation are being made. The capacity of the Port will reach 125 million tonnes by the end of 12th Five Year Plan with the projects under development on the anvil.

Details of major developments envisaged by the Port which are in different stages of implementation are given below. These developments would enhance the capacity to 110 million tonnes by 2014-15.

Projects in Progress

• Phase-II deepening of inner harbour entrance channel and turning circle to cater to vessels of 12.5 metres draught.

• Procurement of 2 nos., 50 T Bollard pull shipping tugs.

• Strengthening of 5 berths (EQ5, EQ6, WQ1, WQ2 and WQ3) in the inner harbour to cater to vessels of 12.5 metres draught.

• Extension of return end of WQ-1 and construction of WQ-8 return end

•Development of SBM facility at outer harbour for import of crude oil as JV with HPCL

Projects in Pipeline

• Strengthening and mechanisation of the General-cum-bulk Cargo Berth (GCB) in the outer harbour to accommodate 2 lakh DWT coal vessels (DBFOT). The targeted output at the facility for Panamax and Cape size vessels is 42,000 TPD and 70,000 TPD, respectively.

•Mechanised handling facilities for fertilizer at EQ7 berth (DBFOT) at a targeted output of 28,000 TPD with storage sheds, silos and bagging plant.

• Development of EQ1 and EQ1A berths in the inner harbour with mechanised handling facilities (DBFOT) at a targeted output of 15,000 TPD and 27,000 TPD for Handymax and Panamax vessels respectively for steam coal and thermal coal.

• Installation of mechanised iron ore handling facilities at WQ1 berth in the inner harbour (DBFOT) at a targeted output of 25,000 TPD and 43,200 TPD for Handymax and Panamax vessels respectively.

• Development of EQ10 berth in the inner harbour (DBFOT) for handling liquid cargo and chemicals including Bio-diesel at a targeted handling rate of 7,200 TPD.

• Development of WQ6 berth in the inner harbour for multi commodities (DBFOT) such as Calcined PET Coke, Metallurgical coke, Steel, Granite etc.

• Development of WQ7 and WQ8 berths in the inner harbour (DBFOT) for handling alumina and other dry bulk.

Proposals on the anvil

• Phase-III deepening of the inner harbour entrance channel and turning circle to cater to vessels of 14 metres draught.

• Dredging in the outer harbour to cater to 2 lakh DWT vessels.

• Upgradation of iron ore handling facilities in the outer harbour to accommodate 2 lakh DWT vessels.

• Strengthening of 3 berths in the inner harbour to cater to vessels of draft up to 12.5 metres.

• Development of roads, bridges and flyovers.

3.4 Kamarajar (formerly Ennore)

Kamarajar port is situated on the Coromandal coast about 24 km north of Chennai port along the coastal line in Tamil Nadu.

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.	

The traffic handled during 2013-14 and 2014-15 is furnished below:

(In million tonnes)

Sl. No.	Commodity	2013-14	2014-15
1.	Coal	14.93	24.00
2.	POL	1.22	1.89
3.	Other cargo	1.74	4.14
	Total	**17.89**	**30.03**

3.5 Chennai

The port at Chennai is an artificial harbour situated on the Coromandal coast in south-east India. The Port's handling capacity in 2014-15 was 86.04 million tonnes. The largest size of the vessel that can be received at the port is in the range of 1,65,000 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 moor-ings	No. of wharves	Stacking area provided (sq.m)
min.	max.				
8.5	16.5	24	-	-	-

Development Plans

Development of a Mega Terminal includes 2 km long quay and an ultimate alongside depth of 22 m sheltered by a breakwater system of about 4.75 km length. Rated capacity of the Terminal is 4 million TEUs per annum. Barge handling capacity has been developed in Bharathi Dock. It is proposed to develop an integrated Dry port and Inter-model Logistics Hub for efficient movement of containers between the port and its hinterland which will also serve to congest city roads that lie in the vicinity of the port.

The traffic in mineral/ore/mineral-based commodities handled by the port (excluding commodities handled in containers) during 2013-14 and 2014-15 is given below:

(In '000 tonnes)

Commodity	Export		Import	
	2013-14	2014-15	2013-14	2014-15
Barytes	532	251	-	-
Dolomite	-	-	1,053	996
Limestone	-	-	2,682	2630
Iron ore pellets	-	20	71	126
Gypsym	-	-	-	292
Bauxite	-	-	-	2

Wharfage

Cargo related wharfage charges levied by Chennai Port Trust were as follows:

(In ₹ per tonne)

Item		Rate
i)	Asbestos, cement, clinker, lime and limestone products	40.10
ii)	Thermal coal	32.70
iii)	Coal other than thermal coal, coke of all kinds and charcoal of all kinds	32.70
iv)	Ores and minerals of all kinds including sized kerbstone/cobblestone for export	16.50
v)	Ores and minerals of all kinds in bulk for import.	28.60
Mechanical handling		
i)	Iron ore handled mechanically or through handling system at Bharathi Dock	85.00
ii)	Charges for cleaning the ore handling system for receiving the shipment of iron ore fines/calibrated iron ore	2.00

Note: *The rates specified at item (i) are inclusive of all operations from the time of tippling the iron ore from the wagon by the wagon tippler to putting it into the holds of the vessel, cleaning the system, cleaning the spillages, dust and trimming operations of the ship, if any, required and wagon damages; but exclusive of all the railway operations connected with the movement of iron ore for which charges are leviable as per the Scale of Rates.*

3.6 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, representing old anchorage port. The largest size of vessel that can be received at the port is 82962 dwt. The port in 2014-15 reported a total handling capacity of 44.55 million tonnes.

Salient Features of V.O. Chidambaranar Port

Draught (m)		No. of berths	No. of moor-ings	No. of wharves	Stacking area provided (sq m)
min.	max.				
5.85	12.80	14	–	–	3 Warehouse of 14,940 sq m. 2 Transit sheds of 10,800 sq. m open area of 5,53,000 sq.m open area for containers of 54,000 sq m

The traffic in mineral/ore/mineral based commodities handled by the port during 2013-14 and 2014-15 is as under:

(In tonnes)

Commodity	Export		Import	
	2013-14	2014-15	2013-14	2014-15
1. Garnet sand	83742	30322	-	-
2. Ilmenite sand	237083	190925	39605	20807
3. Copper (concentrate)	-	-	925905	1208577
4. Iron ore	-	-	-	46050

Wharfage

Wharfage levied by V.O. Chidambaranar Port during 2014-15 was as follows.

(In ₹ per tonne)

Sl.No.	Commodity	2014-15
1.	Garnet sand	19.00
2.	Ilmenite sand	19.00
3.	Copper concentrate	55.00
4.	River sand	18.00
5.	Iron ore	19.00

WEST COAST

3.7 Kandla

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.

Salient Features of Kandla Port

	Draught (m)		No. of berths	No. of moor-ings	No. of wharves	Stacking area provided (sq m)
	min.	max.				
Dry cargo	9.10	12.00	2*	–	12	There is no special stacking area for mineral commo-dities
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 traffic handled by the Kandla port during 2014-15 was 92.50 million tonnes as against 87.01 million tonnes in 2013-14.

Wharfage

Wharfage levied by Kandla Port Trust as on 31.3.2015 was as follows:

(In ₹ per tonne)

Commodity	Coastal Rate	Foreign Rate
Liquid cargo		
i) Crude oil	12.00	12.00
ii) LPG (per cu m)	60.00	100.00
iii) POL products (bulk)	26.20	26.25
Fertilizer and raw material including sulphur	14.40	24.00
Cement & clinker	10.80	18.00
Ores and minerals (in all forms)	8.10	13.50
Granite and marbles	10.80	18.00
Metal (ferrous/non-ferrous) (including pipes, plates, pig iron, coil, sheet)	18.00	30.00
Metal scrap	21.60	36.00
Construction materials and sand	8.10	13.50
Coal and coke	10.80	18.00
Salt	1.80	3.00
Dry chemicals including soda ash	10.80	18.00

Note: *In addition to the above rates, cargoes other than bulk; i.e., break-bulk and non-containerised shall be charged @ ₹18.00 per tonne for foreign and ₹10.80 per tonne for coastal cargo.*

3.8 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 wharves	Stacking area provided (sq m)
min.	max.				
7.5	14.30	32	-	NA	Mineral-wise/ Commodity wise information not available

The total traffic handling capacity of the Mumbai port during 2014-15 was 50.25 million tonnes as compared to 49.25 million tonnes in 2013-14. The traffic in mineral/ore/mineral-based commodities handled in 2013-14 and 2014-15 was as under:

(In '000 tonnes)

Commodity	Export		Import	
	2013-14	2014-15	2013-14	2014-15
Rock Phosphate	-	-	162	215
Sulphur	-	-	23	28
Coal	-	-	6877	7350
Soapstone	9000	-	-	-
Limestone	-	-	545	766
Silica Sand	-	-	11	-
Iron ore	-	-	4912	5153
Dolomite	-	-	280	270

Wharfage

Wharfage levied by the Mumbai Port in 2014-15 was as below:

(In ₹ per tonne)

Sl. No.	Commodity	Export	Import
1.	Fuel minerals	44.85	44.85
2.	Coal and firewood	4	-

3.9 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 Bellary-Hospet is exported through this port. Maximum exports of iron ore take place through this port.

The total handling capacity of this port in 2014-15 was 27.50 million tonnes for iron ore & other ores and 14.5 million tonnes for coal/coke. The largest vessel that can be received at Berth No. 9 of this port is about 2,75,000 dwt.

Salient Features of Mormugao Port (2014-15)

Draught (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq m)
min.	max.				
13.10	14.10	5	6	-	1) 80,000 sq m (Berth No.9) for iron ore (attached to Berth No. 9) 2) (Approx. 31,000 sq m (at berth Nos. 6 & 7) for coal & coke 3) (Approx. 35,641sq m . at berth No 7 for coke and coal.

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 operated by private parties. Ore ships are also loaded by ship's gears. At West of Break Water (WOB), there is no draught restriction to load ore vessels. At times, large size vessels requiring higher draughts are initially loaded at MOHP (Berth No.9) upto permissible limit and then at outer anchorage (WOB) by transhippers. Six Mooring Dolphins capable of accommodating Panamax size vessels are also available for handling ore, coke and coal and other cargo using ship's own gear. 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 2014-15 is detailed as below:

i) Augmentation of Railway Network: Mormugao Port has undertaken the work of augmenting the existing rail network considering the increased rail traffic in the port. The salient feature of the project is that a total of 7 rail lines is to be laid in R & D yard. Modification in rail yard expansion is aimed so as to cater to Berth Nos. 5, 6, 7, 10 & 11. The total rail length in MPT yard is 13.25 km. Plans are afoot to install electronic interlocking for the entire yard. Yard will have 4 weigh bridges for weighment of wagons.

ii) Installation of Rapid-in-motion wagon loading facility by M/S SWPL (BOT Operator): Operator M/s SWPL of Berth No. 5&6 has been granted permission for construction of Silo and conveyor system. With this, the capacity of the terminal has been increased from the present 5.00 million tonnes to about 7.50 million tonnes per annum. The capacity of the silo is 4,000 tonnes. The coal will be conveyed/ transported from the stockyard to the silo by a overhead pipe conveyor system of 550 m length which rests on 25 trestles/towers at the rate of 2,000 mt/hr. It is estimated that loading of full rake will be completed in just one hour which thus will increase evacuation of cargo at a faster pace.

iii) Capital dredging of the approach channel, turning circle, berths 5,6&7 and approches for capesize vessels at the port is to deepen the existing channel and work was expected to be completed by 15.6.2016.

The total traffic handled by the Mormugao port during 2014-15 was as follows:

(In tonnes)

Commodity	Export		Import	
	2013-14	2014-15	2013-14	2014-15
Iron ore	43523	604178	-	-
Bauxite	153400	267220	-	-
Coke	-	10185	347968	710710
Coal	-	-	7517587	8568241

Wharfage

Wharfage (wharf dues including unloading, stacking, plot rent and loading charges, etc.) rate levied by Mormugao Port Trust in 2014-15 was as below:

(In ₹ per tonne)

Mineral /ore	Rate	Remarks
1. Bauxite	42.00	At Berth
2. Coal/coke	25.20	At Mooring Dolphin
	42.00	At Berth

Iron Ore and pellets handling charges (exported through MOHP at Berth No. 9) in 2014-15 are as under:

(In ₹ per tonne)

Sl. No.	Description of Goods	Import/ Export rate per tonne or part thereof	Remarks
1.	Iron ore	117.94	At MOHP B.No.9
2.	Iron ore pellets		
	(i) During the period June to August each year	126.11	During June to August
	(ii) Season beginning from September to May each year	222.59	During Sept. to May

3.10 New Mangalore

The port has a modern all weather artificial lagoon situated at Panambur, Mangalore in Karnataka on the west coast of India.

The present total capacity of the port is 77.77 million tonnes. The largest vessel that can be received at this port is 90,000 tonnes.

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	14.0	15	–	1	58391 open

The traffic in mineral/ore/mineral-based commodities handled in 2014-15 was as follows:

(In lakh tonnes)

Commodity	2014-15
POL & Crude Products	21409000
Coal	8178000
Fertilizer	649000
Iron ore	1557000

Wharfage

Wharfage (wharf dues including unloading, stacking, plot rent and loading charges, etc.) levied by New Mangalore Port was as follows:

(In ₹ per tonne)

Commodity	Foreign Rate	Coastal Rate
Chrome ore	29.53	17.72
Iron ore (fines/lumps)	32.38	32.38
Crude oil	68.89	68.89
Thermal Coal (other than UPCL)	24.61	24.61
Coal (other than thermal coal) & coke	24.61	14.77
Limestone	34.45	20.67
Manganese ore	29.53	17.72
Granite in any form	44.29	26.57
Bentonite & Ball clay sand/clay of any class	19.68	11.81
Gypsum/clinker	29.53	17.72
Any other ore in bulk	34.45	20.67
Perlite ore	29.53	17.72

3.11 Cochin

The traffic handling capacity of the port in 2014-15 was 49.66 million tonnes. The largest size vessel that can be received at this port is 1,15,000 dwt.

Salient Features of Cochin Port

Draught (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 total traffic handled by the Cochin port during 2014-15 was as under:

(In '000 tonnes)

Sl.No.	Mineral/ore	Exports		Imports	
		2013-14	2014-15	2013-14	2014-15
1.	Crude	68	92	10160	10654
2.	Bauxite	-	-	10	10
3.	Zinc concentrate	-	-	33	10
4.	Sulphur	-	-	148	174
5.	Rock phosphate	-	-	123	204
6.	Salt	-	-	37	38
7.	Ilmenite sand	-	-	37	20

Figures rounded off.

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

Development of the port undertaken during 2014-15, is as follows:

Wharfage

Wharfage levied by the Cochin Port was as follows:

(In ₹ per tonne)

Sl. No.	Commodity	Foreign Rate	Coastal Rate
1.	Construction and building materials-		
	(a) Sand, stones, Granites & marbles	52.00	31.20
	(b) Cement, clinker, clay, chalk	72.80	43.70
2.	(a) Coal/coke	56.00	33.60
	(b) Thermal coal	56.00	56.00
3.	Fertilizer and fertilizer raw material at Q 10 Berth		
	(a) Sulphur	62.00	37.20
	(b) Rock phosphate	57.00	34.20
	(c) Finished fertilizers	57.00	34.20
4.	Metals and metal products	112.00	67.20
5.	Metal scrap	90.00	54.00
6.	Liquid Cargo, acids-		
	(a) Phosphoric acid	109.20	65.50
	(b) Liquid ammonia	119.00	71.40
	(c) POL products at Port Berth	65.00	65.00
7.	Minerals & ores	72.80	43.70
8.	Salt	14.00	8.40

(Contd.)

(Concld.)

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

JNPT does not have any facility to handle ore/mineral separately. JNPT has become a world class international container handling port. The traffic handling capacity of JN Port Trust as on 2014-15 was 65.88 million tonnes.

During the year 2013-14 & 2014-15 1734848 tonnes and 1568333 tonnes of crude oil was handled. However, the Port does not have storage facility for crude oil.

4. NON-MAJOR PORTS

The available information on traffic handled by non-major ports during 2013-14 and 2014-15 is furnished in Table-2 and that on facilities for handling and transporting minerals from selected non-major ports are furnished in Table-3.

There are 200 notified non-major ports in the country controlled by State Governments and Union Territories. These are in Gujarat (41), Maharashtra (48), Goa (5), Karnataka (11), Kerala (17), Tamil Nadu (15), Andhra Pradesh (12), Odisha (13), West Bengal (1), Daman & Diu (2), Lakshadweep (10), Puducherry (2) and Andaman & Nicobar Islands (23). In 2014-15, only 69 Non-major ports were reported to have handled cargo traffic.

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, responsible for management, control and administration of 41 ports in Gujarat state. These ports under jurisdiction of GMB are grouped into 10 ports.

In Maharashtra, the Government of Maharashtra 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, Jaigad 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 Islands and Lakshadweep Islands.

Table-2 : Traffic Handled at Non-major Ports 2013-14 and 2014-15

(In '000 tonnes)

Commodity	2013-14	2014-15
i) POL	169777	156507
ii) Iron ore	18338	27070
iii) Building material	14178	14435
iv) Coal	126321	158755
v) Fertilizers (including Raw Materials)	12010	13940
vi) Others	76346	56460
Total	**416970**	**427167**

Source: *Update on Indian Port Sector (31.03.2015), Transport Research Wing, Ministry of Road Transport & Highways, Government of India.*

Table – 3 : Facilities for Handling & Transporting and Mineral Commodities Handled at Selected Non-major Ports, 2013-14 and 2014-15

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	
								2013-14	2014-15	2013-14	2014-15
WEST COAST GUJARAT											
Bhavnagar	NA	3.5	1	1	225000		Coal	-	8393	1005306	1047158
							Limestone	-	-	59202	797093
Bedi	NA	14	-	8	-	181352	Bauxite	1599798	3106211	-	-
Dahej Harbour and Infrastructure Ltd	NA	13.0	-	1	62500	-	Coal	-	-	340296	374937
							Rock-phosphate	-	-	349914	494327
							Copper-concentrate	-	-	1182182	1440842
							Copper slag	27250	28750	-	-
Jafarabad	NA	9	-	1	-	56512	Cement-clinker	3234303	3432229	-	-
							coal	-	-	198538	320308
Magdalla Surat	19540	12	01	4	30129	174033	Coal	100457	-	4980402	6481299
							Iron ore	-	-	4968137	4759838
							Limestone	10011	-	124421	1027847
							Iron ore fines	98777	-	148753	295614
Navalakhi	NA	5.0	5	3	205742	183913	Salt	671522	637270	-	-
							Coal	-	-	6621521	4312005
							Cement	-	22483	-	-
Okha	4469	8.0	1	2	50000	-	Bauxite	890941	2689965	-	-
							Limestone	-	-	912426	1068313
							Coal	-	-	593760	697873
Pipavav	9070	14.5	-	5	-	90000	Fertilizer	-	-	712367	712367
							Others	112766	151515	1631307	2236303
Porbandar	NA	8.5	NA	2	-	79141	Coal	-	-	4590000	5170000
							Bauxite	10390000	11950000	-	
Adani Hazira Port	NA	13	1	3	-	-	Gypsum	-	-	151423	188296
Alang Bhavnagar	-	-	-	-	-	-	Clinker	-	-	-	5219
Adani Dahej	12420	15.4	-	2	-	90000	Coal	-	-	7648000	12276000
							Rock phosphate	-	-	276000	133000
							Silica sand	-	-	NA	-

(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	
								2013-14	2014-15	2013-14	2014-15
Mandvi Port	NA	4.0	1	1	-	-					
Jakhau Port	NA	4.0	-	3	-	-	Cement	166683	130231	-	-
							Coal	-	-	480691	385641
							Salt	1926694	1965343	-	-
Mundra	NA	7.30	1	1	-	-	-	-	-	-	-
KARNATAKA											
Karwar	380	NA	NA	NA	NA	NA	-	-	-	-	-
Kundapura	NA	4.50	700	2	1200	2000	-	-	-	-	-
MAHARASHTRA											
Dahanu	NA	6.0	-	1	-	-	Coal	-	-	738238	455561
Dharamtar	9650	5.5	NA	9	160000	NA	Iron ore	-	-	3364102	4523200
							Iron ore pellets	-	4918	1215483	214224
							Limestone	-	-	497031	651151
							Coal	-	-	2461453	1877239
							Rock Phosphate	-	-	61227	38031
							Dolomite	-	-	366443	384574
							Bauxite	2016	-	-	-
Dighi	NA	9	NA	2	4000	NA	Bauxite	170640	213553	-	-
Jaigad	NA	14	NA	2	2000	NA	Bauxite	466164	280100	-	-
							Iron ore	84600	1002558	84600	1002488
							Limestone	-	-	698516	172100
							Coke	-	-	187590	156145
							Coal	-	448507	4044840	4909457
Kelshi	NA	15	NA	NA	NA	NA	Bauxite	527809	-	NA	NA
Ratnagiri	670	5	NA	1	NA	NA	Clinker	548470	-	247892	273566
Redi	NA	4	NA	NA	NA	NA	Iron ore	2335120	1513789	-	-
Revdanda	1054	4	NA	4	NA	55000	Iron ore	52500	52499	392245	472444
Bankot	NA	NA	NA	NA	NA	NA	Bauxite	-	56700	-	-
EAST COAST											
ANDHRA PRADESH											
Kakinada # (Anchorage Port)	2740				NA		NA	NA	NA	NA	NA

(Contd.)

Table - 3 (Concld.)

State/ Port	Facilities for Handling & Transporting						Mineral commodity handled (in tonnes)				
	Traffic Handling ('000t)	Draught max. (m)	No. of wharves	No. of berths	Stacking capacity received (sq m)	Largest vessel ('000 dwt)	commodity	Export		Import	
								2013-14	2014-15	2013-14	2014-15
EAST COAST											
ANDHRA PRADESH (Concld.)											
(Kakinada 3 ships Deep water Port)	13400	NA	NA	NA	NA	NA		NA	NA	NA	NA
Krishnapat-anam	25200	18	-	9	2560000	200	Iron ore	-	988796	-	8529650
							Gypsum	-	-	100932	130148
							Barytes	244315	248917	-	-
							Clinker	79100	-	-	-
							Feldspar	NA	NA	-	4000
Rawa	1540	-	-	-	-	-	-	-	-	-	-
TAMIL NADU											
Cuddalore	270	@	-	-	80000	@@	-	-	-	-	-

Source: *Basic Port Statistics of India,2014-15.*

@ 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, Andhra Pradesh at Kakinada.

5. PRIVATE PORTS

5.1 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 11th 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 1st 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.

5.2 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.

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.

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:

- India's Largest, Port - based, Notified and Functional, Multi-product SEZ
- An integrated self-sustained zone with modern infrastructure and facilities
- 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.

5.3 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.

5.4 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)	160	12305
2.	Hazir Port Pvt. Ltd. (HPPL)	Hazira (Gujarat)	2.50 (MMTPA)	1180
3.	Development of BGCT under phase IB at Hazira	Hazira (Gujarat)	24.6	267.6
4.	Development of Solid Cargo Port Terminal	Dahej (Gujarat)	15	84
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	2621

(Contd.)

(Contd.)

Sl.No.	Project Name	State/Ports Maritime Board	Capacity (Million Tonnes)	Project Cost (₹ in crore)
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	1	5.9
12.	Captive jetty by M/s ISGEC - Ro Ro jetty for handling of ODC cargo at Dahej SEZ	Dahej	1	55
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 MMTPA	1349
16.	Meghwaram Port	Meghwaram, Andhra Pradesh	Captive Port 4.70 MMT	600
17.	KSEZ	KSEZ, Andhra Pradesh	Captive Port 15.00 MMT	2500
18.	Phase-2-Development of Krishnapatnam Port	Krishnapatnam, Andhra Pradesh	44.30 (Bulk & Gen Cargo) 3.30 MTEU (Containe)	6600
19.	7th Berth	Kakinada Deep water Port, Andhra Pradesh	2.5	90
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, Belgaum	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

5.5 Maritime Agenda 2010-20

In the Maritime Agenda a target of 3130 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 1280 million tonnes. The objective is not only creating more capacity but to bring out ports 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 ₹ 2,96,000 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 continously 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 than14 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.

FUTURE OUTLOOK

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. The projected capacity during the terminal year of 12th Five Year Plan for the major ports would be 1,229.24 MT, which is nearly 1.76 times of the existing capacity. The expected demand by the end of 12th Five Year Plan in terms of cargo handling at major port would be 943.06 MT with an estimated annual growth of 10.98%. The total plan outlay projected to augment the capacity by 532.71 MT is ₹67,295.54 crore. Most of the investment is expected to flow from Private Sector i.e. ₹ 51,036 crore (76%) and the remaining share of 24% is anticipated from internal resources and budgetary support of the Government.