

6 Port Facilities

1. GENERAL

1.1 Growth

Port provides an interface between ocean transport and land-based transport. India has a long coastline of about 7,517 km spread on the western and eastern shelves of the mainland and also along the islands. It is an important natural resources for country's trade. India has 12 major ports and 200 non-major ports. Out of 12 major ports, 6 are located on the East Coast and 6 on the West Coast. Approximately 95% of India's trade by volume and 70% by value move through Maritime Transport. Maritime Transport is a critical infrastructure for the economic development of the country. The Ministry of Shipping was formed in 2009 by bifurcating the erstwhile Ministry of Shipping, Road Transport and Highways into two independent Ministries. The Ministry encompasses within its fold major ports and inland water transport, among others.

India is among the 20 leading merchant fleets all over the world. The Gross Tonnage (GT) under Indian flag was 9.47 million GT as on 31.12.2009. All major ports in the country are at present having both rail and road connectivity.

1.2 National Maritime Development Programme (NMDP)

The Ministry of Shipping has finalised a National Maritime Development Programme (NMDP) to implement specific programmes/schemes for the development of Port Sector. Under the programme, specific projects to be taken up for implementation over a period up to 2011-12 have been identified. Total investment involved under the programme is Rs. 1,00,339 crore. Out of this, Rs. 44,535 crore is for the Shipping and Inland Water Transport (IWT) sector and balance of Rs. 55,804 crore is for Port Sector. In major port, 276 projects have been identified. Out of these, Rs. 34,505 crore is expected from private sector. The objective is to upgrade and modernise the port infrastructure in India and

benchmark its performance against global standards.

1.3 Sethusamudram Ship Channel Project

The Sethusamudram ship channel project envisages cutting of a channel to connect the Gulf of Mannar and Bay of Bengal through Palk Strait and Palk Bay so that ships moving between east and west coast of India could have a continuous navigable sea route within India's own territorial waters. The project leads to saving of 424 nautical miles and 29.9 hours time. The project gives a boost to coastal movements of cargo. Sethusamudram Corporation Limited envisaged dredging of a ship channel in the shallow portion of sea to connect. The project was inaugurated on 2nd July 2005 by the then Prime Minister. The entire dredging work for the project was awarded to the Dredging Corporation of India (DCI) on nomination basis. Committee of experts constituted to consider the realignment of Sethusamudram Channel. The committee will examine the feasibility of alternative alignments suggested by the Hon'ble Supreme Court for the Sethusamudram Ship Channel between Dhanushkodi and Land's End on Rameswaram Island keeping in view the technical aspects and cost benefit analysis, social and cultural impact, environmental impacts, etc. Environmental Impact Assessment (EIA) of proposed alternative alignment has been assigned to National Institute of Oceanography (NIO).

1.4 Private Sector Participation in Major Ports

24 private sector projects involving an investment of Rs. 6485.50 crore are already operational and 13 projects are under implementation. Apart from these, another 28 projects are under bidding. Completed Private Sector/Captive Port Projects during 2008-2011 are shown in Table-1.

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Table – 1 : Completed Private Sector/Captive Port Projects during 2008-2011

Sl. No.	Name of the Project	Department/ Agency	Estimated Cost (Rs. in Crore)	Structure (BOOT/BOT)	Date of Completion
1.	Container Terminal (Phase I & II)	Kandla Port Trust	446.54	BOOT	12/06/2009
2.	Mechanisation of Cargo Handling Project-1	Paradip Port Trust	37.32	Mechanisation through Pvt operator by tendering	15/04/2009
3.	Mechanisation of Cargo Handling Project-2	Paradip Port Trust	25.13	Mechanisation through Pvt operator by tendering	24/04/2009
4.	Mechanisation of Central Quay-III Berth	Paradip Port Trust	40.00	Mechanisation through Pvt operator by tendering	March, 2010
5.	Construction of SPM Captive Berth	Paradip Port Trust	500.00	Captive	28/12/2008
6.	Development of II Container Terminal	Chennai Port Trust	495.00	BOT	22/9/2009
7.	Mechanisation at HDC berth No 2	Kolkata Port Trust	75.00	BOT	Sept. 2010
8.	Mechanisation at HDC berth No 8	Kolkata Port Trust	75.00	BOT	Sept. 2010
9.	Marine Liquid Terminal	Ennore Port Trust	249.43	BOT	16/01/2009 (operational)
10.	Development of an Iron Ore Terminal	Ennore Port Trust	480.00	BOT	2.2.2011
11.	Development of Coal terminal for users other than TNEB	Ennore Port Trust	399.13	BOT	2.2.2011
12.	ICTT at Cochin Vallarpadam	Cochin Port Trust	2118 (I Phase 1262)	BOT Letter of Intent 15/9/04	11.2.2011 (I phase)

Source : Ministry of Shipping.

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Following PPP projects have been awarded for Development and Construction of Berths/ Mechanisation in respect of Kolkata, Vishakapatnam, Paradip, New Mangalore and Mormugao Port Trust.

1. The projects related to Mechanisation of Berth No. 2 and 8 at Haldia will add a capacity of 4 million tpy each in berth.
2. The Visakhapatnam Port Trust awarded a project for Development of Western Quay (WQ-6) in the Northern arm of inner harbour of Visakhapatnam Port Trust for handling dry bulk cargo at a capacity of 2 million tpy.
3. The project of "Development of Deep Draught Coal Berth at Paradip port" with a capacity of 10 million tpy on BOT basis awarded on 10.11.2009 to M/s Essar Paradip Terminal Ltd.
4. The project of "Development of Deep Draught Iron Ore Berth at Paradip port" with a capacity of 10 million tpy on BOT basis awarded on 1.7.2009 to M/s Blue Water Iron Ore Terminals Private Limited.
5. The project of Mechanisation of Iron Ore Handling Facility as a backup requirement at Deep Draught Berth No.14 at New Mangalore Port Trust with a capacity of 6.62 million tpy on BOT basis awarded on 19.10.2009 to M/s Sical Logistic Ltd, Chennai.
6. The Project of "Conversion/Development of 7th Berth into Coal Terminal at Mormugao Port" with a capacity of 4.61 million tpy on BOT basis on 22.9.2009 to M/s Adani Mormugao Port Terminal Private Limited .

1.5 Inland Water Transport

Inland water transport mode is cost effective, fuel efficient and climate friendly mode of transport for bulk cargo and over dimensional cargo. It has been a neglected infrastructure. Efforts are being made to develop this mode.

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. There are five National Waterways.

Inland Waterways Authority of India is undertaking projects for making National Waterways 1, 2 and 3 (Ganga, Brahmaputra and West Coast Canal) fully functional by providing navigational channel with regard to Cargo transportation on these National Waterways.

1.5.1 Cargo Movements On Major Waterways

The total cargo movement on India's waterways comprising the three national waterways and waterways in the state of Goa and Maharashtra increased to 69.62 million tonnes in 2009-10 and 58.02 million tonnes in 2008-09 reflecting an increase of 12%. In term of tonnage, Goa and Maharashtra accounted about for (54.43 million tonnes (78.2%) and 12.51 million tonnes (18.0%) of Cargo Volume respectively and balance of 2.68 million tonnes (3.8%) being accounted by National Waterways I (1.84 million tonnes); National Waterways II (0.18 million tonnes); National Waterways III (0.66 million tonnes). In case of National Waterways I (Allahabad - Haldia stretch of 1620 kms of Ganga-Bhagirathi-Hooghly river system) the average distance over which Cargo moved was around 566 kms, in case National Waterways II (Sadiya - Dhubri stretch of 891 kms of Brahmaputra river), distance over which Cargo moved was around 40 kms and in case National Waterways III (Kottapuram-Kollam stretch of 168 kms of the West coast canal alongwith Champakara Canal of 14 kms); and Udhog Mandal canal of 23 kms, distance over which Cargo moved was around 15 kms, respectively in 2009-10.

1.5.2 New Inland Water ways

Two new waterways have been declared by Govt. of India as National Waterway 4 & 5. National Waterway 4 (Kokinada - Puducherry canals with Godavari and Krishna Rivers) have stretches of waterway of 1095 kms are as below.

i) Godavari river from Bhadrachalam to Rajahmundry - 171 kms, ii) Krishna river from Wazirabad to Vijaywada - 157 kms, iii) Kakinada canal from Rajahmundry - 50 kms, iv) Eluru canal from Rajahmundry to Vijaywada - 139 kms,

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v) Commamur canal from Vijaywada to Peddaganjam lock - 113 kms, vi) North Buckingham canal from Peddaganjam lock to Chennai - 34 kms, vii) South Buckingham canal from Chennai to Mercanum - 103 kms and viii) Kaluvelli tank from Mercanum to Puducherry - 22 kms.

National Waterways 5 (East Coast Canal alongwith Brahmani river and Mahanadi Delta), the stretches of waterways of 623 kms are as follows:

- i) East coast Canal (Geonkhadi - Charbatia - 217 kms.
- ii) Matai River (Charbatia - Dhamra) - 40 kms.
- iii) River Brahmani (Talcher - Dhamra) - 265 kms.
- iv) Mahanadi delta river (Mangalgadi - Paradip) - 101 kms.

2. MAJOR PORTS

There were twelve major ports in the country; viz, Kolkata-Haldia, Paradip, Visakhapatnam, Chennai, Ennore and Tuticorin on the East Coast and Cochin (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 total 561 million tonnes traffic handled at major ports, Kandla is the top traffic handler during 2009-10. Except Ennore Port being Public Sector Undertaking, all the major ports are administered by Port Trusts which are autonomous bodies.

2.1 Tariff Authority for Major Ports

The Authority was constituted by the Government of India in 1997 to provide for an independent Authority to regulate all tariffs (vessel related and cargo related) as also the rates for lease of properties in major Port Trusts and private operators located therein and conditions governing application of rates. The jurisdiction of the Authority is restricted to major port trusts and private terminals operating therein.

2.2 Cargo Handling Capacity and Cargo Handled

The aggregate capacity of major ports as on 31.3.2009 was 574.77 million tpy against 532.07 million tpy as on 31.3.2008, an addition of 42.70 million tpy. The major ports, therefore, continued to maintain a favourable capacity-cargo equation during the year.

The major ports handled a total traffic of 560.97 million tonnes during 2009-10 against 530.53 million tonnes during 2008-09. Traffic handled by major ports during 2008-09 and 2009-10 is as below:

Traffic Handled at Major Ports 2008-09 & 2009-10

(In million tonnes)

Sl. No.	Ports	2008-09	2009-10
1A.	Kolkata	12.43	13.05
1B.	Haldia	41.79	33.25
2.	Paradip	46.41	57.01
3.	Vizag	63.91	65.50
4.	Ennore	11.50	10.70
5.	Chennai	57.49	61.06
6.	Tuticorin	22.01	23.79
7.	Cochin	15.23	17.43
8.	NMPT	36.69	35.53
9.	Mormugao	41.68	48.85
10.	Mumbai	51.88	54.54
11.	JNPT	57.29	60.75
12.	Kandla	72.23	79.52
Total		530.53	560.97

Figures rounded off.

Source: Ministry of Shipping.

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The commoditywise traffic handled at twelve major ports during 2008-09 and 2009-10 is as below :

Sl. No.	Commodity	(In '000 tonnes)	
		2008-09	2009-10
1.	P.O.L	176138	175482
2.	Iron ore	94036	99914
3.	a) Fertilizer (Final)	12153	10949
	b) Fertilizer (Raw)	6074	6779
4.	a) Thermal coal	43301	44092
	b) Coking coal	27098	27492
5.	Containerised cargo	93140	101153
6.	Other	78593	95107
Total		530533	560968

Source: Ministry of Shipping.

3. PORTWISE 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 was catering to the entire Eastern India and 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.

During 2009-10 the break up of traffic handled is as under:

Kolkata: 13.05 million tonnes, and

Haldia: 33.25 million tonnes.

Handling capacity of the port in 2009-10 was as below:

Kolkata: 20.26 million tonnes, Haldia 46.70 million tonnes. The largest size of the empty vessel that can be received at the Kolkata Port is 484,276 dwt and at Haldia Dock Complex, it is 90,000 dwt.

Salient Features of Kolkata - Haldia Port

Port	Draft (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq m)
	min	max				
Kolkata	4.8	8.4	33	24	4	134722 (Transit Shed) + 1.794 (Warehouse) 892840 (Open Area)
Haldia	5.4	8.4	17*	-	-	-

** Including three oil jetties and 2 barge jetties.*

Development Projects undertaken are as below:

1. A stand alone Vessel Traffic Management System(VTMS) along with Automatic Identification System (AIS) was installed in March 2005. Upgradation/replacement of three Radar Stations with replacement/renovation of infrastructure facilities, including installation/commissioning of AIS at Frasergunj and Haldia have also been completed recently. Procurement of state-of-the-art equipment, viz, Multi-beam, Echo-sounders, DGPS and other navigational accessories, to ensure improved survey, bathymetric surveillance and communication requirements, is in place.
2. To ensure improved customer-focus leading to minimised transaction cost and efficient port operations with eventual paperless transactions, a comprehensive Information Technology (IT), infrastructure is in advance stage of completion. The system includes port community system, port operation and management system, Executive Information System, Facilities Access Management etc.

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 for promotion of inland water traffic are underway.

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The traffic in mineral/ore/mineral-based commodities handled in 2008-09 and 2009-10 was as under:

Commodity	(In '000 tonnes)			
	Exports		Imports	
	2008-09	2009-10	2008-09	2009-10
Thermal coal	1915	1489	-	-
Coking coal	-	-	5931	6075
Iron ore	9266	8709	23	-
Rock phosphate	-	-	171	97
Sulphur	-	-	82	65
Mica	88	82	-	-
Metallurgical coke	-	-	363	173
Limestone	-	-	642	499
Petroleum coke	-	-	73	99
Chrome ore	4	-	-	-
Ferro-chrome	144	107	-	-
Non-coking coal	-	-	1236	1766
Manganese ore	-	-	219	607
Carbon black	2	24	1	7
Silicon	6	-	1	1

Source: www.kolkataporttrust.gov.in

Wharfage

Wharfage on foreign Cargo landed/shipped at Kolkata Port Trust.

Sl. No.	Item	Rate
(Rs. per tonne)		
Liquid handled through pipeline		
1.	Crude oil Cargo handled through Mechanical system	76.50
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
Cargo handled other than Mechanical system		
5.	Salt, Fly ash	19.44
6.	Iron ore, sand	19.44
7.	Limestone, Bitumen, Pig iron, sponge iron and other ferrous metals, All types of coal/coke/ore/other dry bulk cargo not specified	38.88
8.	Cement, Clinkers, Gypsum, Slag	48.60
9.	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 zine/aluminium/copper, lead,c.i. goods, rock phosphates, sulphur, other fertilizer raw materials, fertilizers, lead conc., asbestos.	68.04

(Contd.)

(Concl.)

(Rs. per tonne)

Sl. No.	Item	Rate
10.	Iron & steel, pipes & tubes	58.32
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

The only major sea port in Odisha is Paradip serving eastern and central part of the country.

Salient Features of Paradip Port

Draft (m)	No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq m)
11.0	13	14	1	-

The port handled 57.01 million tonnes of cargo during 2009-10 to register an increase of 18% over the last year.

Largest vessels can be handled of 70,000 dwt during 2008-09. The following developmental projects were carried out.

1. Deepening of existing entrance and approach channel to handle 1,25,000 dwt vessels. Work is under progress. The depth of the entrance channel and approach channel will be increased from 13.00 metres to 17.00 metres and 15.00 metres to 18.70 metres, respectively.

PORT FACILITIES

2. Construction of Deep Draught Iron Ore berth on BOT Basis-10 million tpy capacity:

Concession agreement signed on 1.7.2009 with M/s. Blue Water Iron Ore Terminal Pvt. Ltd. The project is expected to be completed by 30th June, 2014.

3. Construction of Deep Draught Coal Berth on BOT Basis - 10 million tpy capacity:

Concession agreement has been signed on 10.11.2009 with M/s. Essar Paradip Terminal Pvt. Ltd. The project is expected to be completed by 30th June, 2014.

4. Construction of New Haridaspur-Paradip railway line:

The work is under progress. A joint venture company RVNL is taking up construction of this railway link between Haridaspur and Paradip which is 82 kms in length. There will be a considerable reduction of the distance from Banasapani to Paradip and freight will be reduced by 5%.

5. Construction of concrete road from Paradip to Cuttack (SH-12):

Work is under progress.

6. Development of multipurpose berth to handle clean cargo including container on BOT basis (5 million tpy).

Commodities handled by Visakhapatnam port in 2008-09 and 2009-10 were as follows:

(In tonnes)

Commodity	Exports		Imports	
	2008-09	2009-10	2008-09	2009-10
Anthracite Coal	–	NA	153655	NA
Bentonite	–	NA	54800	NA
LAM coke	–	NA	320615	NA
Granite	148184	NA	–	NA
Ferro-products	23285	–	NA	NA
Iron ore	12065301	NA	11886	NA
Limestone	–	NA	568794	NA
Manganese ore	124692	NA	92319	NA
Coking coal	19431	NA	7561363	NA
Crude oil	–	NA	5303258	NA
POL (crude)	–	NA	11709915	NA
Ilmenite sand	61750	NA	–	NA
Steam coal	13340	NA	1905632	NA
Thermal coal	3439696	NA	–	NA
Chrome ore	–	NA	–	NA
Bauxite	–	NA	87819	NA
SM Ore/FM Ore	–	NA	–	NA

3.3 Visakhapatnam

It is a natural harbour. The handling capacity of the port in 2009-10 was 62.27 million tonnes. Visakhapatnam port handled 65.50 million tonnes traffic in 2009-10. The largest size of vessel that can be handled in the inner harbour is 11 m draft and in the outer harbour 150,000 dwt. Very large crude carriers meant for transshipment of 3 to 4 lakh dwt can be handled at the anchorage. This is the only port having three international accreditations; viz, ISO 14001; 2004 (EMS)/OHSAS/8001 and ISO 9001; 2000 (QMS).

Salient Features of Visakhapatnam Port

	Draft (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (Sq. m.)
	min	max				
Inner harbour	9.75	11.00	18	–	–	NA
Outer harbour	–	17.00	6	1	–	NA

3.4 Ennore

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

The Ennore port was originally conceived as a satellite port to the Chennai port, primarily to handle thermal coal to meet the requirement of Tamil Nadu Electricity Board (TNEB). The scope was expanded to set up (i) 1880 MW LNG Power Project; (ii) a large Petro Chem Park and (iii) A Naptha Cracker Plant.

This was the rationale behind planning of berths for coal (for users other than TNEB), iron ore, LNG, POL, chemicals and other liquids and crude to serve various industries that would come up on the proposed Petro Chem Park. These factors have contributed to the evolution of Ennore port as a multi-functional energy port of the millenium.

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The Ennore port handled 10.70 million tonnes traffic in 2009-10.

The following projects at Ennore Port completed during 2010-11:-

1. Iron ore terminal of 6 million tpy capacity each in Phase I and II, respectively, with jetty length of 347.5 m completed by M/s Sical Iron Ore Terminal Ltd.

2. Coal terminal of 8 million tpy capacity with jetty length of 325 m completed by M/s Chettinad International Coal Terminal (P) Ltd.

3. General Cargo Berth of 0.5 million tpy capacity plus 200,000 cars per annum, with quay length of 250 m completed.

4. One project is ongoing. One Container Terminal (Phase-I) of 18 million tpy capacity (1.5 million TEUs), with quay length of 1000 m.

5. Marine Liquid Terminal with capacity 3.0 million tpy with Jetty length 360 m completed by Ennore Tank Terminal Pvt. Ltd.

Ennore port has been endowed with large chunks of land.

The facilities available at Ennore port are as below:

1.	Berth	2 (Thermal Coal)
	Max permissible Length	280 metres each
	Max permissible Draught	15 metres (BCD)
	Capacity Other berth	8 MTPA
2.	Size of vessels that can be accommodated	65000/70,000 DWT
3.	Break water	
	South	1070 metres
	North	3080 metres
	Type	Rubble mound with accropode armour protection.
4.	Approach Channel	
	Length	3775 metres
	Width	250 metres
	Depth	16 metres BCD
5.	Connectivity	Excellent road connectivity to NH4, NH5, NH45 linked to Chennai-Kolkata BG main line. Connectivity to Chennai airport.

Wharfage

Cargo related charges w.e.f. 21.8.2010 are as below:

S/No.	Nomenclature	Unit	Rate
1.	Coal and Coke	1 tonne	Rs. 130.00
2.	Iron ore	Per tonne	Rs. 35.00
3.	Other goods	1 tonne	Rs. 60.00
4.	Other goods	Advalorem	Rs. 0.5%

Traffic handled during 2008-9 and 2009-10 is as below:

(In million tonnes)

S/No.	Mineral	2008-09	2009-10
1.	Coal	NA	9.279
2.	Iron ore	NA	0.936
3.	POL	NA	0.488
4.	Other cargo	NA	—

3.5 Chennai

The port at Chennai is an artificial harbour situated on the Coromandal coast in south-east India. The handling capacity of the port in 2009-10 was 71.32 million tonnes. The largest size of the vessel that can be received at the port is 175,000 dwt, having a maximum 17.4 m draft and maximum 280 m overall length.

Salient Features of Chennai Port

Draft (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (Sq.m.)
min	max				
8.5	17.4	24	—	—	46100

Ongoing projects:

Development of Second Container Terminal on BOT Basis was completed including dedicated elevated Port Link road, expressway from Chennai port to Maduravoyal up to NH4, modernisation of the Chennai Port, additional open storage area by reclamation, development of additional open storage yard, Chennai Ennore Port road connectivity, development of Chennai Mega Terminal, deepening of channels, basins and berths, etc.

The total traffic handled by the Chennai port during 2009-10 was 61.06 million tonnes. The traffic in mineral/ore/mineral-based commodities handled by this port (excluding commodities handled in containers) during 2009-10 is given below :

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Commodity	(In tonnes)	
	Exports	Imports
Barytes	746011	-
Coal	-	7967976
Coke & briquettes	-	1789954
Fluorspar	-	19940
Iron ore pellets	-	-
Iron ore	7130652	-
Iron ore lumps	896309	-
Manganese ore	95000	-
Non-ferrous metals	-	5106
Bauxite	-	7362
Other ores	-	-

Wharfage

Wharfage levied by Chennai Port Trust in 2009-10 were as follows:

Item	(In Rs. per tonne)	
	Exports	Imports
1. Manual handling		
i) Ores and minerals in bulk handled by importers for foreign & coastal vessels	28.60	
ii) Ores and minerals in bulk handled by exporters for foreign & coastal vessels	16.50	
2 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 2(i) are inclusive of all operations from the time of tipping 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 Tuticorin

Tuticorin port is situated on the eastern coast in 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 65,000 dwt with length 245 m at Berth No. VIII. Handling capacity of the port in 2009-10 was 22.81 million tonnes.

Salient Features of Tuticorin Port

Draft (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (Sq.m.)
min	max				
5.85	10.90	Berths 10			
		Oil Jetty 1	-	-	5,53,000
		Coal Jetties 2			

Zone B can handle lighterage vessels.

The total traffic handled by the Tuticorin port during 2009-10 was 23.79 million tonnes. The traffic in mineral commodities handled in 2008-09 and 2009-10 was as under:

Commodity	(In tonnes)			
	Exports		Imports	
	2008-09	2009-10	2008-09	2009-10
Copper conc.	20541	-	1138549	1182742
Garnet sand	31708	23473	-	-
Ilmenite sand	142720	204834	-	-
Coal	-	-	7992737	8641845
Rock phosphate	-	-	816352	666140
Sulphur	-	-	10634	43801
Granite stone	210144	174880	-	-
Cement	4337	14718	-	-
Copper Slag	75	-	-	-

Development projects undertaken by the Tuticorin port during 2009-10 are under progress including construction of cargo Berth No. 9; construction of North Cargo Berth-I: Deepening the channel and basin to cater to 12.80 m draught vessels, construction of North Cargo Berth-III & IV, construction of 2 shallow water berths for handling cement and construction material, conversion of Berth No. 8 as container Terminal, construction of north cargo berth and mechanisation of Berth No. 9.

WEST COAST

3.7 Kandla

This port is a natural harbour situated on the western coast of Gujarat. The handling capacity in 2009-10 was 79.52 million tonnes. The largest size of vessel that can be received at this port is 74,099 dwt.

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Salient Features of Kandla Port

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

* Included 2 cargo berth operated by private operator.

In addition, there was one 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 kms south of Kandla for handling country crafts. Barges handling operations for coal and fertilizer vessels have commenced from July, 2009. A Bunder basin for handling of barges and country crafts also operates.

The total traffic handled by the Kandla port during 2009-10 was 79.50 million tonnes. The traffic in mineral/ore/mineral-based commodities handled in 2008-09 and 2009-10 was as under :

Commodity	(In tonnes)			
	Exports		Imports	
	2008-09	2009-10	2008-09	2009-10
Bentonite	159863	140102	-	-
Fertilizer	-	-	5194785	4911994
Rock phosphate	-	-	209643	656000
Salt	1323236	2079301	-	-
Sulphur	-	-	88101	131951
Zinc conc.	171550	242984	-	-
Copper conc.	-	-	38892	5255
Lead Conc.	-	27113	-	-

Wharfage

Wharfage levied by Kandla Port Trust as on 31.3.2011 are as follows:

Commodity	(In Rs. per tonne)	
	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 above rates, cargoes other than bulk; i.e., break-bulk and non-containerised shall be charged @ Rs. 18.00 per tonne for foreign and Rs 10.80 per tonne for coastal cargo supply of port labour.

3.8 Mumbai

Mumbai port is a natural deep water multi purpose port handling all types of cargo-liquid bulk, dry bulk, break bulk and container. The handling capacity of this port in 2009-10 was 49.70 million tonnes, including 6 million tonnes at anchorage. Salient features of Mumbai port are as follows:

Salient Features of Mumbai Port

Draft (m)	No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq m)
3.6	10.5	43	-	Berths have wharves of different lengths
				No special facility for handling minerals

PORT FACILITIES

The total traffic handled by the Mumbai port during 2009-10 was 54.54 million tonnes. The traffic in mineral/ore/mineral-based commodities handled in 2008-09 and 2009-10 was as under :

Commodity	(In tonnes)			
	Exports		Imports	
	2008-09	2009-10	2008-09	2009-10
Other ores	34274	8713	81433	105609

Wharfage

Wharfage levied by the Mumbai Port Trust in 2009-10 was Rs. 34.50 per tonne of mineral/ore for import and export by foreign & coastal vessels. Loading and unloading is done by the consignees/consigners and no charges, therefore, are recovered by Mumbai Port Trust.

3.9 Mormugao

Mormugao port is one of the country's old ports on the west coast of India with modern infrastructural facilities and 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 2009-10 was 28.30 million tonnes for iron ore and other ores and 5.00 million tonnes for coal/coke. The largest vessel that can be received at Berth No. 9 of this port is about 275,000 dwt.

Salient Features of Mormugao Port

Draft (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq m)
min	max				
14.0	3	3	3	-	80000 sq. m area attached to Berth No. 9, Approx. 3000 sq. m to berth and for ore

The demand for Mooring Dolphins particularly during monsoon period is heavy and also for export of iron ore through this facility.

Ore ships are loaded in mid-stream by transhippers. There are five such transhippers and one floating crane owned and operated by private parties and their aggregate assessed loading capacity is 11.50 million tonnes per annum. Ore ships are also loaded by ships Gears. At West of Break Water (WOB), there is no draft restriction. At times large size vessels requiring higher drafts are initially loaded at MOHP (Birth No.9) up to permissible limit and then at outer anchorage (WOB) by transhippers. Ore loaded at these facilities is brought by barges from hinter land through inland waterways.

Development of the port was undertaken during 2009-10, as per following details:

i) Construction of 4 lane road from port to Verna Junction on NH-17 including flyover from Gate No. 9 to NH-17B near Baina Bay.

ii) Construction of additional 3 numbers of Mooring Dolphin.

iii) Construction of a Jetty for relocation of port crafts and small boats.

iv) Strengthening of the Break water mole.

v) Development of coal import Terminal at Berth No.7 of Mormugao Port on DBFOT basis.

The total traffic handled by the Mormugao port during 2009-10 was 48.85 million tonnes. The traffic in mineral/ore/mineral-based commodities handled in 2008-09 and 2009-10 was as follows:

Commodity	(In tonnes)			
	Exports		Imports	
	2008-09	2009-10	2008-09	2009-10
Iron ore	33457819	40039835	-	253846
Iron ore pellets	351124	280496	-	-
Bauxite	394366	105276	-	-
Coke	-	29000	4555622	4712365
Coal	36745	20554	609385	878791

PORT FACILITIES

Wharfage

Wharfage (wharf dues including unloading, stacking, plot rent and loading charges, etc.) rate levied by Mormugao Port Trust in 2009-10 was as below:

Mineral/ore	Rate Rs./tonne	Remarks
1. Iron ore	64.80	At Berth No. 9
2. Iron ore pellet	69.29 122.30	During June to August During September to May
3. Bauxite	30.00	At Berth
4. Coal/coke	18.00 30.00	At Mooring Dolphin At Berth

Iron Ore and pellets handling charges (Exported through MOHP at Berth No. 9) are as below:

Sr. No.	Description Goods	Import/Export rate per tonne or part thereof (in Rs.)
1.	Iron ore	84.24
2.	Iron ore pellets	
	(i) During the period June to August each	90.08
	(ii) During the fair season beginning from September to May each year	158.99

3.10 New Mangalore

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

The handling capacity of this port in 2009-10 was 44.20 million tonnes. The largest vessel that can be received at this port is 90,000 tonnes.

Salient Features of New Mangalore Port

Draft (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq m)
min	max				
7.0	14.0	13	-	1	58391 open area

Development of coal handling facilities for captive user and setting of mechanised iron ore handling facilities under BOT basis was undertaken during 2009-10.

The total traffic handled by the New Mangalore port during 2009-10 was 35.53 million tonnes. The traffic in mineral/ore/mineral-based commodities handled in 2008-09 and 2009-10 was as follows:

Commodity	(In tonnes)			
	Exports		Imports	
	2008-09	2009-10	2008-09	2009-10
* Bentonite	-	-	33450	23400
Bauxite	-	14935	-	-
Coal	-	19000	1929014	2790973
Granite	31027	18052	-	-
Crude oil	-	-	12457009	12753748
Iron ore/fines	9294628	6715743	480345	345693
Limestone	-	-	767721	1127539
Slag	29400	4009	-	-
Gypsum	-	-	49121	-
Rock powder	-	19772	-	-

* *Relates to coastal ports.*

Wharfage

Wharfage (wharf dues including unloading, stacking, plot rent and loading charges, etc.) levied by Mormugao Port Trust in 2009-10 was as follows.

PORT FACILITIES

Commodity	Rate (Rs. per tonne)
Iron ore pellets	50.00
Iron ore fines	35.00
Crude oil	70.00
Coal	25.00
Limestone	35.00
Bauxite	21.00
Granite stones	45.00
Bentonite	20.00
Slag	25.00
Gypsum	30.00

3.11 Cochin

The handling capacity of this port in 2009-10 was 30.37 million tonnes. The largest size of vessels that can be received at this port is 3,00,000 dwt.

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	12.5	16	2	2	41515

The total traffic handled by the Cochin port during 2009-10 was 17.43 million tonnes. The traffic in mineral/ore/mineral-based commodities handled during 2008-09 and 2009-10 was as under:

(In '000 tonnes)

Sl. No.	Mineral/ore	Export		Import	
		2008-09	2009-10	2008-09	2009-10
1.	Coal	-	-	259	148
2.	Crude	306	118	7906	8291
3.	Zinc Concentrate	-	-	60	76
4.	Clay	-	-	14	-
5.	Gypsum	-	-	54	54
6.	River sand	-	-	8	51
7.	Sulphur	-	-	139	156
8.	Rock phosphate	-	-	126	55
9.	Salt	-	-	81	69
10.	Iron Ore	-	-	27	-
11.	Slag	-	-	8	4
12.	Ilmenite sand	-	-	-	9
13.	Granite	-	1	-	18
14.	LPG	-	23	-	23

Figures rounded off.

Wharfage

Wharfage levied by the Cochin Port were as follows:

(In Rs. per tonne)

Sl. No.	Commodity	Foreign	Coastal
1.	Asbestos	84.00	50.40
2.	Construction and building materials-		
	(a) Sand, stones	52.00	31.20
	(b) Granites & marbles	67.00	40.20
	(c) Cement, clinker, clay, chalk	72.80	43.70
3.	(a) Coal/coke	56.00	33.60
	(b) Thermal coal	56.00	56.00
4.	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
5.	Metals and metal product	112.00	67.20
6.	Metal scrap	90.00	54.00
7.	Liquid Cargo, acids-		
	(a) Phosphoric acid	109.20	65.50
	(b) Liquid ammonia	119.00	71.40
	(c) POL & POL products	65.00	65.00
8.	Minerals & ores	72.80	43.70
9.	Salt	14.00	8.40
10.	Fertilizer and fertilizer raw material at Other Berth		
	(a) Sulphur	86.80	52.10
	(b) Rock phosphate	79.80	47.90
	(c) Finished fertilizer	79.80	47.90

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

JNPT does not have any facility to handle ore/minerals, separately. JNPT has become a world class international container handling port. The largest size of the vessel that can be received at the port is 100,000 dwt. The handling capacity of JN Port as on 31.3.2009 was 57.96 million tonnes.

PORT FACILITIES

The total traffic handled by the port during 2009-10 was 60.75 million tonnes. Port has not handled any mineral/ore cargo during 2009-10.

Salient Features of Jawaharlal Nehru Port

Draft (m)		No. of berths	No. of moorings	No. of wharves	Stacking area provided (sq m)
min	max				
-	12.5	12	3 Tugs 7 Launches	5	1422614

4. NON-MAJOR PORTS

Facilities for handling and transporting minerals from selected non-major ports are given in Table-2.

There are 200 non-major ports in the country controlled by State Governments and Union Territories. These are in Gujarat (42), Maharashtra (48), Goa (5), Karnataka (10), 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). Traffic at non-major ports and private ports is growing at 11.74% and their share is expected to grow from 26.30% in 2005-06 to 30% during 2011-12.

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 developments of their ports through private investments.

Gujarat Maritime Board (GMB) is a Government of Gujarat Undertaking. Along the 1600 km of coastline of Gujarat, there are 41 ports of which Kandla is a major port. Out of remaining

40 ports, 11 are intermediate ports and 29 are minor ports under the control of Gujarat Maritime Board. Those ports can be broadly classified into three categories:-

1. Three all weather ports viz. Porbandar, Okha and Sikka with all weather direct berthing facilities.
2. Seven ports are all weathered lighterage ports.
3. The remaining thirty ports are fair weather lighterage ports for sailing vessels and fishing boats.

The minor and intermediate ports of Gujarat handled about 8.5% of national Shipping Cargo. Nevertheless, Gujarat ports handle about 16 million tonnes of cargo which accounts for 70% of the total cargo handled by all major ports of India.

GMB has handled traffic of 205.51 MMT during 2009-10 as compared to traffic of 153 MMT handled in 2008-09. GMB has attained a considerable growth rate of 34% during 2008-09 compared to previous year.

The Government of Maharashtra has encouraged development of port sector and adopted an investor-friendly port policy. To develop the port sector for meeting 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), Vijay Durg Port, Redy Port etc.

Besides, Andaman Lakshdweep Harbour Works (ALHW) is a subordinate office of Department of Shipping, Government of India. It has the responsibility for providing port and harbour facilities in Andaman & Nicobar Islands and Lakshdweep Islands.

PORT FACILITIES

Table – 2 : Facilities for Handling & Transporting and Mineral Commodities Handled at Selected Non-major Ports, 2008-09 and 2009-10

State/ Port	Facilities for Handling & Transporting						Mineral Commodity Handled (in tonnes)				
	Handling capacity ('000t)	Draft max (m)	No. of wharves	No. of berths	Stacking capacity (sq m)	Largest vessel received ('000 dwt)	Commodity	Export		Import	
								2008-09	2009-10	2008-09	2009-10
WEST COAST											
GUJARAT											
Bhavnagar	700 to 800	12	2	1	249039	–	Coal	–	–	83660	52154
Bedi, Jamnagar	2535.49	14	8	–	10000	82.62	Bauxite	418243	206561	–	–
Dahej Harbour and Infrastructure Ltd	4500	13.0	1	1	6.6 (acre)	70	Coal	–	–	343978	463816
							Rock phosphate	–	–	454065	469876
							Copper concentrate	–	–	1215544	1221061
							Pet coke	–	–	–	15000
							Copper revert	–	–	–	12482
Jafarabad	40	9	–	1	–	53.42	Cement clinker	4557531	4886231	–	–
							Coal	–	–	252756	393578
							Gypsum	–	–	–	26961
							Limestone	–	–	–	34800
Magdalla Surat	–	3.5	–	10 (Jetties)	30129	168.40	Coal	27211	–	2090247	2957239
							Iron ore	–	–	5284772	5289027
							*Limestone	–	–	186518	369805
							*Iron ore fines	212385	–	–	165530
							Pet coke	–	–	43269	–
Navalakhi	4500	5.0	5	5	160000 (Coal)	82.11	Salt	130322	120000	–	–
							Coal	–	–	2704013	4344358
Okha	1096.79	8.0	1	2	50000	–	Bauxite	759700	411112	–	–
							Limestone	–	–	197860	–
							Coal	–	–	602297	545554
							Gypsum	–	–	–	25412
							Clincker	–	10975	–	–
Pipavav	4000	12.5	2	4	–	90.0	Cement	63904	18526	775.49	–
							Coal	1560	12364	836243	1758147
							Limestone	–	19506	44000	171376
							Steel cargo	194887	83868	129373	68679
							Gypsum	–	2099	32801	156326
							Bauxite	–	–	24188	79625
Porbandar	4700	9.5	NA	2	243000	55.7	Bauxite	1116237	100000	–	–
							Coal	–	–	433868	205000
Sikka	–	–	–	–	–	–	–	NA	NA	NA	NA

(Contd.)

PORT FACILITIES

Table - 2 (Contd.)

State/ Port	Facilities for Handling & Transporting						Mineral Commodity Handled (in tonnes)				
	Handling capacity (‘000t)	Draft max (m)	No. of wharves	No. of berths	Stacking capacity (sq m)	Largest vessel received (‘000dwt)	Commodity	Export		Import	
								2008-09	2009-10	2008-09	2009-10
KARNATAKA											
Belkari	60.9	No res- triction	2	60000 (Iron ore) 20000 (Mn ore)	-	-	NA	NA	NA	NA	NA
Karwar	-	3.5	1	2	50 (acre)	60	-	-	-	-	-
Kundapura	200	4.50	-	2	12000	2	-	-	-	-	-
MAHARASHTRA											
Dahanu	445	6.0	-	1	-	-	Coal	NA	NA	444505	NA
Dharamtar	5088	5	-	2	-	-	*Coke	NA	NA	504572	NA
							Iron ore fines	NA	NA	502068	NA
							Iron ore pellets	NA	NA	603953	NA
							Iron ore lumps	NA	NA	1638569	NA
							Limestone	NA	NA	240656	NA
							Coal	NA	NA	615379	NA
							Sulphur	NA	NA	79454	NA
							Clinker	NA	NA	238778	NA
							Sponge iron	NA	NA	-	NA
							D.R. Iron	NA	NA	-	NA
							H.B.Iron	NA	NA	64407	NA
							Scrap	NA	NA	261351	NA
							MOP	NA	NA	117867	NA
							Rock phosphate	NA	NA	50144	NA
							Dolomite	NA	NA	37950	NA
							Coke breez	NA	NA	-	NA
							Gypsum	NA	NA	-	NA
							Pig iron	NA	NA	-	NA
							Urea	NA	NA	29986	NA
							DAP	NA	NA	16500	NA
							H.R.Coil	NA	NA	-	NA
							Bauxite	NA	NA	-	NA
Dighi	2	10	-	1	-	-	Bauxite	NA	NA	-	NA
Jaigad	371	5.5	-	-	-	-	Bauxite	NA	NA	-	NA
Kelshi	305	3.0	1	1	-	0.8	Bauxite	NA	NA	-	NA
Ratnagiri	365	5	-	1	-	-	Cement	NA	NA	364564	NA
Redi	529	4.0	-	2	-	-	Iron ore Fines	NA	NA	NA	NA
Revdanda	1029	8.0	-	-	-	-	Iron ore pellets	NA	NA	315981	NA
							Lumps	NA	NA	549989	NA
							Fines	NA	NA	132962	NA

(Contd.)

PORT FACILITIES

Table - 2 (Concl'd.)

State/ Port	Facilities for Handling & Transporting						Mineral Commodity Handled (in tonnes)				
	Handling capacity (’000t)	Draft max (m)	No. of wharves	No. of berths	Stacking capacity (sq m)	Largest vessel received (’000dwt)	Commodity	Export		Import	
								2008-09	2009-10	2008-09	2009-10
EAST COAST											
ANDHRA PRADESH											
Kakinada # (Anchorage Port)	819502		Open road-sted-port, no separate stacking yard for minerals				Cement (million tonne)	71.19	54.29	NA	NA
						Rock Phosphate (million tonne)	NA	NA	114.71	8.5	
						Non Coking (million tonne)	NA	NA	91.76	154.5	
(Kakinada 3 ships deep water port)	NA	9.5	–	–		NA	NA	NA	NA	NA	
Krishnapat- anam	10000	14.2	–	4	277548	120	Iron ore	7421915	NA	51805	NA
							Gypsum	–	NA	NA	NA
							Rock phosphate	–	NA	NA	NA
Rawa	2500	–	–	–	–	–	–	NA	NA	NA	NA
TAMIL NADU											
Cuddalore	2000 t/day	@	–	–	80000	@@	–	NA	NA	NA	NA

* Relates to Indian coastal destinations/port of origin.

@ not applicable being a roadstead port

@@ Any size being an anchorage port

Two ports namely 1. Kakinada Anchorage Port working under Govt. of Andhra Pradesh and 2. Kakinada deep water port working under private organisation M/s Kakinada Sea Port Ltd in East Godavari district, AP. are working at Kakinada. Two more port namely 1. Gangavaram Port in Visakhapatnam district owned by M/s Gangavaram Port Ltd and 2. Krishnapatanam Port in Nellore district owned by Krishnapatanam Port Ltd.

5. PRIVATE PORTS

5.1 Mundra Port and Special Economic Zone Limited (MPSEZ)

The largest private port and special economic zone of India was incorporated as Gujarat Adani Port Limited (GAPL) at inception in 1998 to develop a private port at Mundra, on the west coast. The company commenced commercial operations in October 2001. Mundra Special Economic Zone Limited (MSEZ) was later incorporated in November 2003, to set up an SEZ at Mundra. MSEZ was subsequently merged with GAPL in April 2006 and the company was renamed as Mundra Port and Special Economic Zone

Limited. Mundra Port provides cargo handling and other value-added port services. Mundra SEZ is India’s first port-based multi-product SEZ.

Mundra Port is strategically located for global trade on the northern coast of the Gulf of Kachchh in Gujarat on the west coast of India. Mundra Port provides a convenient international trade gateway to Europe, Africa, America and the Middle East. Mundra has a deep draft (12.5 m – 17 m) which enables large vessels like Panamax and Super Post Panamax carriers to dock alongside its berth. It also has a large land area available for development, part of which is now the Mundra SEZ which proposes to attract port-led industrial development.

PORT FACILITIES

Mundra Port is well connected to the Indian railway network. The port has 7 railway sidings and two dedicated diesel locomotives which can handle double stack container trains. A 64 km private railway line has been developed which connects the port with the national network at Adipur. Adipur falls on the broad gauge route from Mumbai to Bhuj.

The storage facilities are as follows :

1. Closed godowns measuring 1,37,000 sq m for wheat, rice, sugar, de-oiled cakes (DOC), fertilizer, fertilizer raw materials (FRM), etc.
2. Well demarcated open storage space of 8,80,000 sq m for steel sheets, plates, coils, scrap, clinker, salt, coal, coke, bentonite, etc.
3. Open storage alongside rail siding of 26,000 sq m.

Highlights of Overall Performance:

- Total number of vessels handled at Mundra Port: 2,517 (2,339 vessels in 2009-10 i.e. a growth of 9.3% year on year).
- Cargo volumes have improved across all segments. Cargo handled was 40.29 million tonnes in 2009-10 and 51.68 million tonnes in 2010-11 which shows a growth of 27.97% year on year).

Railway :

- A total of 8,121 rakes were handled in 2010-11.
- Commissioning of four lines at R&D Yard with RRI (Route Relay Interlocking) type of signaling system.

Works on the anvil :

Doubling of 64 km railway track from Adipur to Mundra has commenced in 2010-11 and expected to be completed by second quarter of 2012-13.

Dry Cargo:

- 22.66 million tonnes of dry cargo handled during 2010-11.

Adani Mundra Container Terminal (AMCT):

• Mundra Port has crossed one million TEU's mark during the financial year 2010-11 and ended handling total 1.23 million TEU's. Thus, becoming third port in country to reach one million TEU throughout.

- Largest container ship to call to India so far, the MSC's operated 8,400 TEU vessel M V. Northern Jaguar called at AMCT on October 12, 2010.

5.2 Essar Ports

Essar Ports is India's second-largest private sector port and terminal company by capacity and throughput. It develops, owns and operates ports and terminals.

Essar Ports provides port and terminal services for liquid, dry bulk, break bulk and general cargo, with an existing aggregate capacity of 88 million tpy across two facilities located at Vadinar and Hazira in the state of Gujarat on the west coast of India. The company is in the process of expanding its existing aggregate ports capacity to 158 million tpy, besides, a new port at Salaya in Gujarat and two terminals at Paradip in the state of Odisha on the east coast of India.

The company's sites at Vadinar, Hazira and Salaya are strategically located on the western coast of India in the state of Gujarat to cater the growing demand from the land-locked northern, north-western and central regions of India and are well connected to the state highways and will have connectivity to the railway network in future. It's sites at Paradip are located on the eastern coast of the state of Odisha to serve mineral and metal-rich eastern India and are well positioned to serve cargo for the steel and power industries.