

Ports

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Advantage India

Robust demand

- Port traffic in India is set to rise at a CAGR of 12.3 per cent over FY11-FY14
- CAGR in traffic over FY11-FY14 for:
 - Non-major ports: 10.6 per cent
 - Major ports: 13.6 per cent

Opportunities

- Non-major ports are set to benefit from strong growth in India's external trade
- Demand for port allied services such as operations and maintenance, and ship repair services will increase

FY14E

Cargo traffic
in MMT:
1,225

Advantage India

Advantages

- India has a coastline which is more than 7,500 km long, interspersed with more than 200 ports
- Most cargo ships that sail between East Asia and America, Europe and Africa pass through Indian territorial waters

Policy support

- The government initiated NMDP, an initiative to develop the maritime sector; the planned outlay is USD11.8 billion
- FDI of 100 per cent under the automatic route and a ten year tax holiday for enterprises engaged in ports

FY12

Cargo traffic
in MMT:
930.2

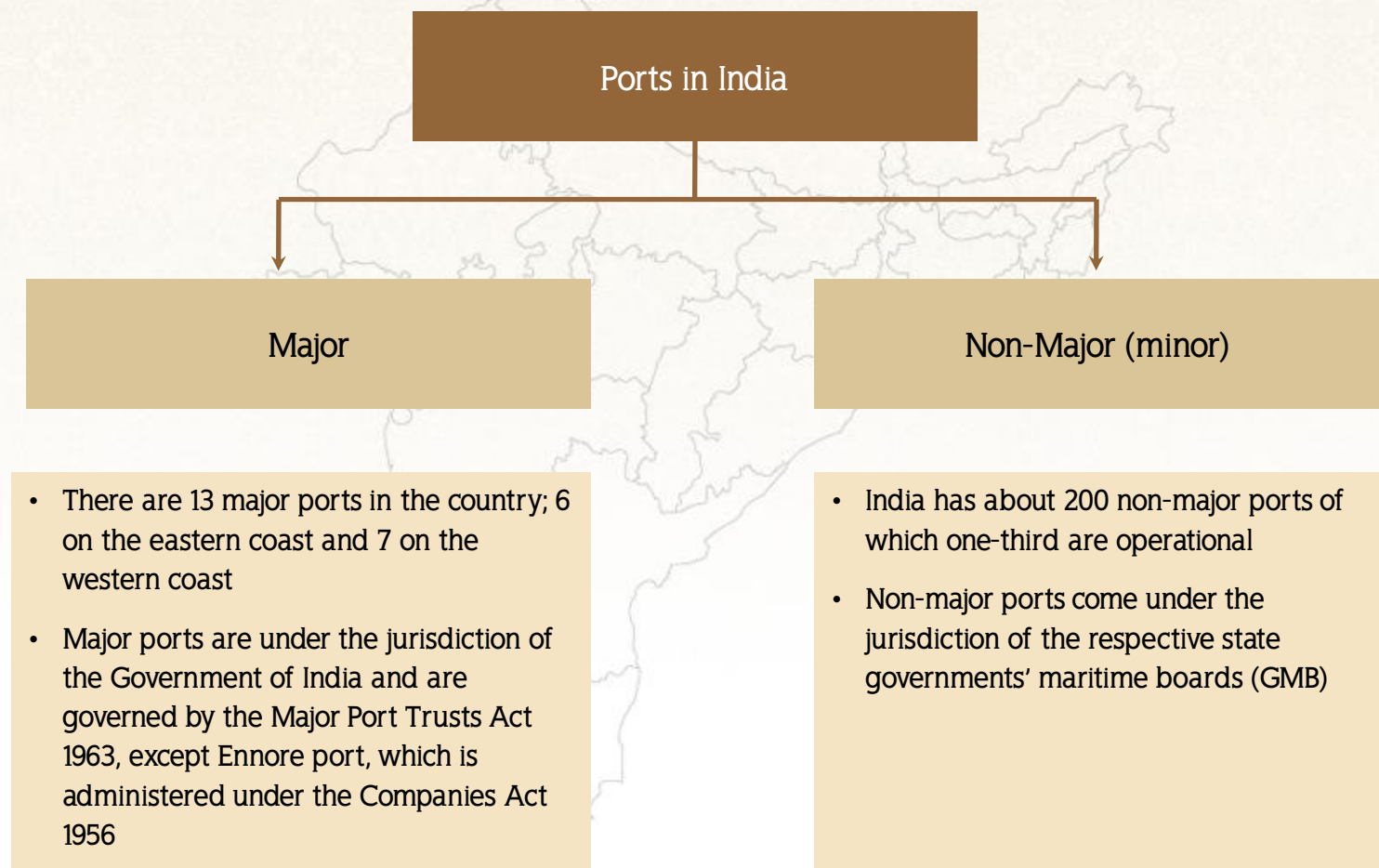
Source: Task force on financing plan for ports, Govt of India, Aranca Research

Notes: FY – Indian Financial Year (April – March), NMDP - National Maritime Development Programme, FDI – Foreign Direct Investment, USD – US Dollar, E – Estimates, MMT – Million Metric Tonnes, CAGR – Compound Annual Growth Rate

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There are two basic categories of ports in India



Major ports in India



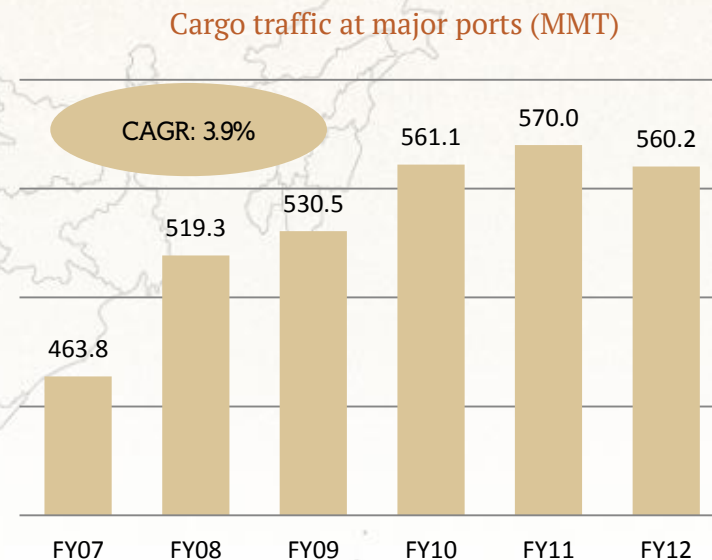
Notes: JNPT - Jawaharlal Nehru Port Trust

Cargo traffic is on the rise at both major and non-major ports ... (1/2)

Cargo traffic at major ports in India –

- Stood at 560.2 MMT in FY12
- Increased at a CAGR of 3.9 per cent during FY07-12

Notes: CAGR – Compound Annual Growth Rate,
FY – Indian Financial Year (April – March)

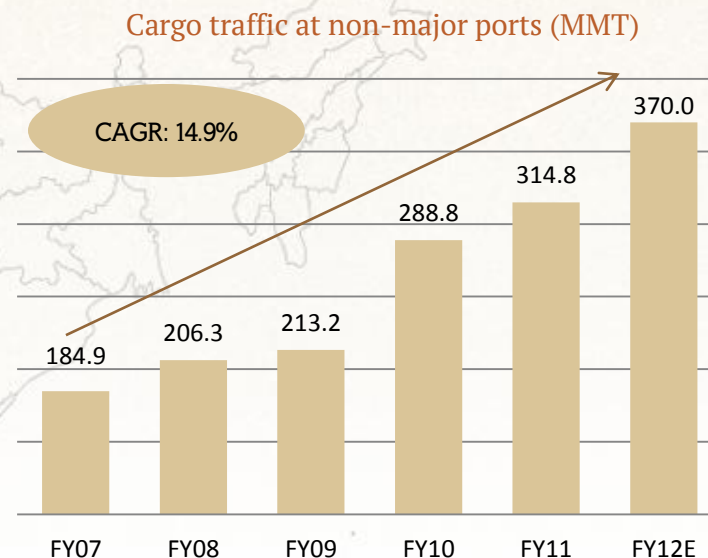


Source: Ministry of Shipping, Aranca Research
Notes : MMT - Million Metric Tonnes

Cargo traffic is on the rise at both major and non-major ports ... (2/2)

Cargo traffic at non-major ports –

- Estimated to have touched 370 MMT in FY12
- Likely to have experienced a CAGR of 14.9 per cent during FY07-12

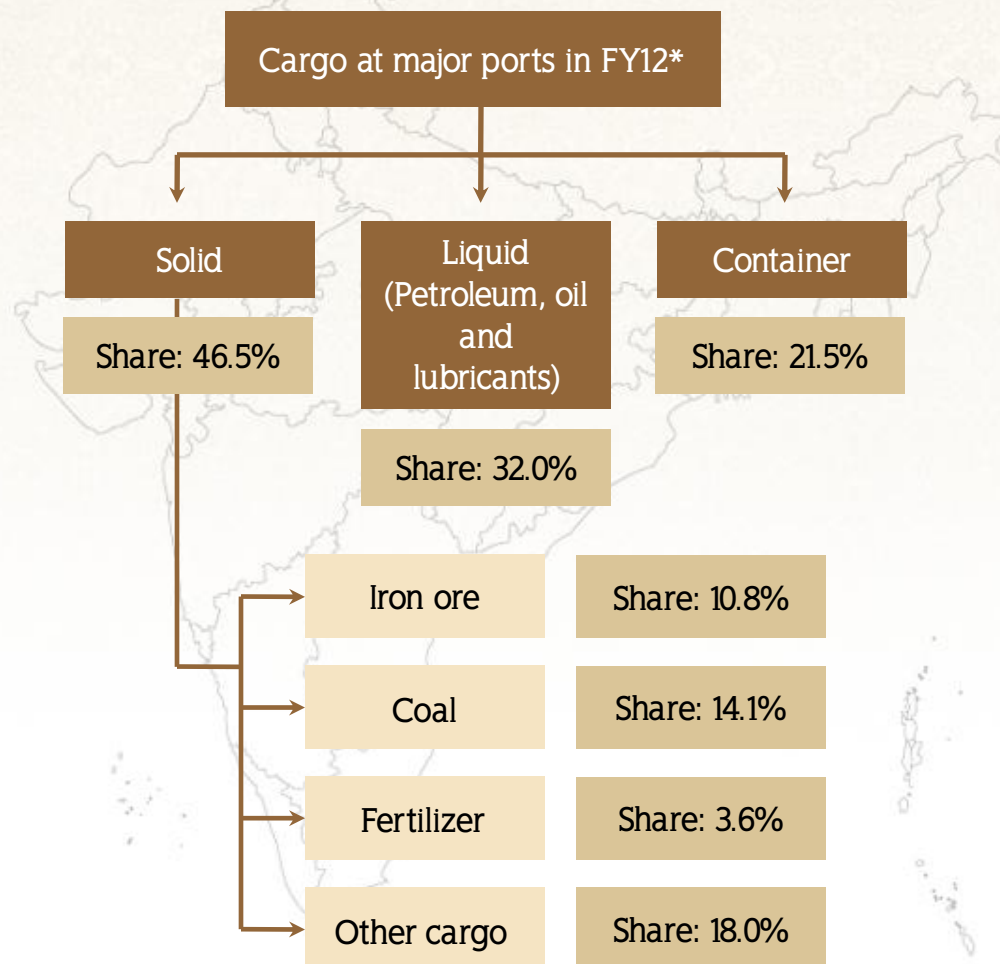


Source: Ministry of shipping, Aranca Research

Notes: MMT - Million Metric Tonnes

E – Estimate; FY12 figures are estimates announced by the Minister of Shipping

Cargo profile at major ports in India ... (1/2)



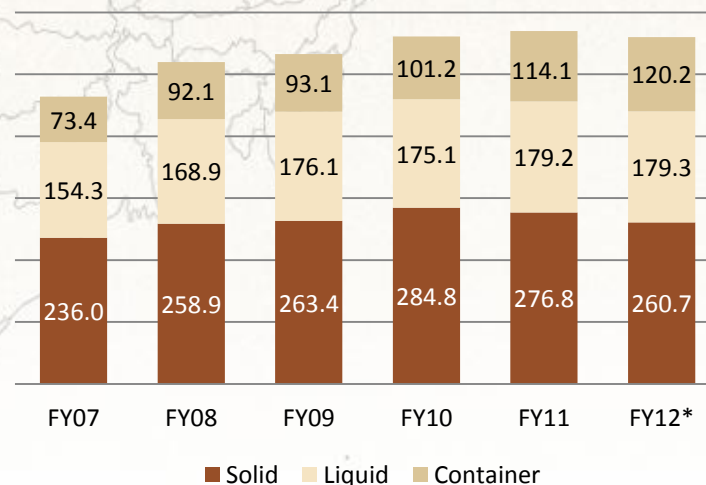
Notes : * - Tentative

Cargo profile at major ports in India ... (2/2)

Over FY07 to FY12, CAGR in the volume of –

- Solid cargo was 2.0 per cent
- Liquid cargo was 3.0 per cent
- Container cargo was 10.4 per cent

Cargo traffic at major ports (MMT)

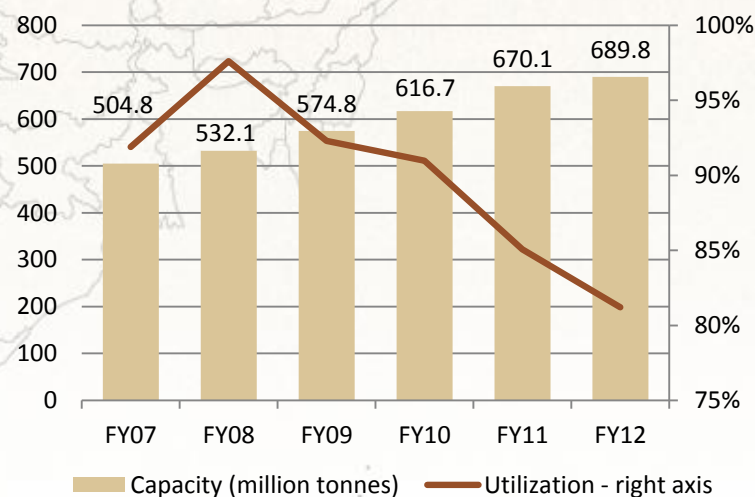


Source: Ministry of Shipping, Indian Ports Association (IPA),
Aranca Research
Notes : * - Provisional figures

Increase in capacity over the years

- Capacity at major ports grew to 689.8 MMT in FY12, implying a CAGR of 6.5 per cent since FY07
- With capacity increasing, utilisation rates have been gradually coming down

Capacity and utilisation at major ports (MMT)



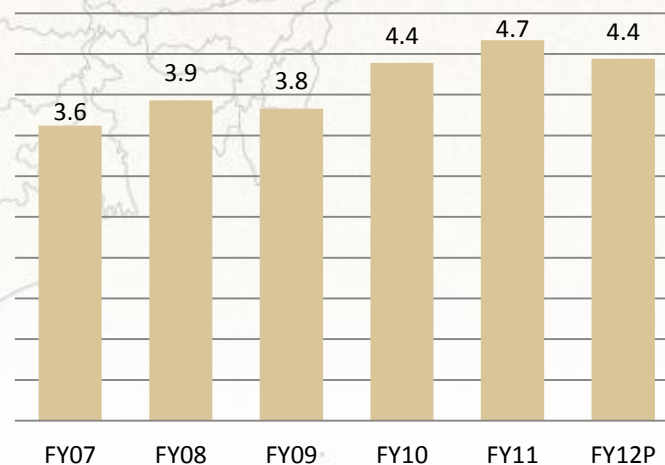
Source: Ministry of Shipping, Aranca Research

Drop in turnaround time in FY12

- Average turnaround time is influenced by factors such as type of cargo, parcel size and entrance channel
- The average turnaround time has improved by falling to 4.4 days in FY12 from 4.7 days in FY11

Notes: Turnaround time – total time spent by a ship from entry into port until departure

Average turnaround time for major ports (in days)



Source: Ministry of Shipping, Economic Survey (India, FY11),
Aranca Research
Notes : P - Provisional

Notable trends in the ports sector ... (1/2)

Increasing private participation

- Strong growth potential, favourable investment climate, and sops provided by state governments have encouraged domestic and foreign private players to enter the Indian ports sector. In addition to the development of ports and terminals –
 - The private sector has extensively participated in port logistics services
 - Its share in cargo mix has risen to 34 per cent in FY10 from 27 per cent in FY06

Setting up of port-based SEZs

- SEZs are being developed in close proximity to several ports, thereby providing strategic advantage to industries within these zones. Plants being set up include –
 - Coal-based power plants to take advantage of imported coal
 - Steel plants and edible oil refineries.
- Development of SEZs in Mundra, Krishnapatnam, Rewas and few others is underway

Focus on draft depth

- All the Greenfield ports are being developed at shores with natural deep drafts and the existing ports are investing on improving their draft depth.
- Higher draft depth is required to accommodate large sized vessels . Due to the cost and time advantage associated with the large sized vehicles, much of the traffic is shifting to large vessels from smaller ones, especially in coal transportation

Source: Ministry of Shipping, Aranca Research
Notes: SEZ – Special Economic Zone

Notable trends in the ports sector ... (2/2)

Specialist terminal-based ports

- Terminalisation: Focus on terminals that deal with a particular type of cargo
- This is useful for handling specific cargo such as LNG that requires specific equipment and hence high capital costs. Forming specialist terminals for such cargo result in optimal use of resources and increased efficiencies
- Examples of specialist terminals: ICTT in Cochin, LNG terminal in Dahej Port

'Landlord port' model

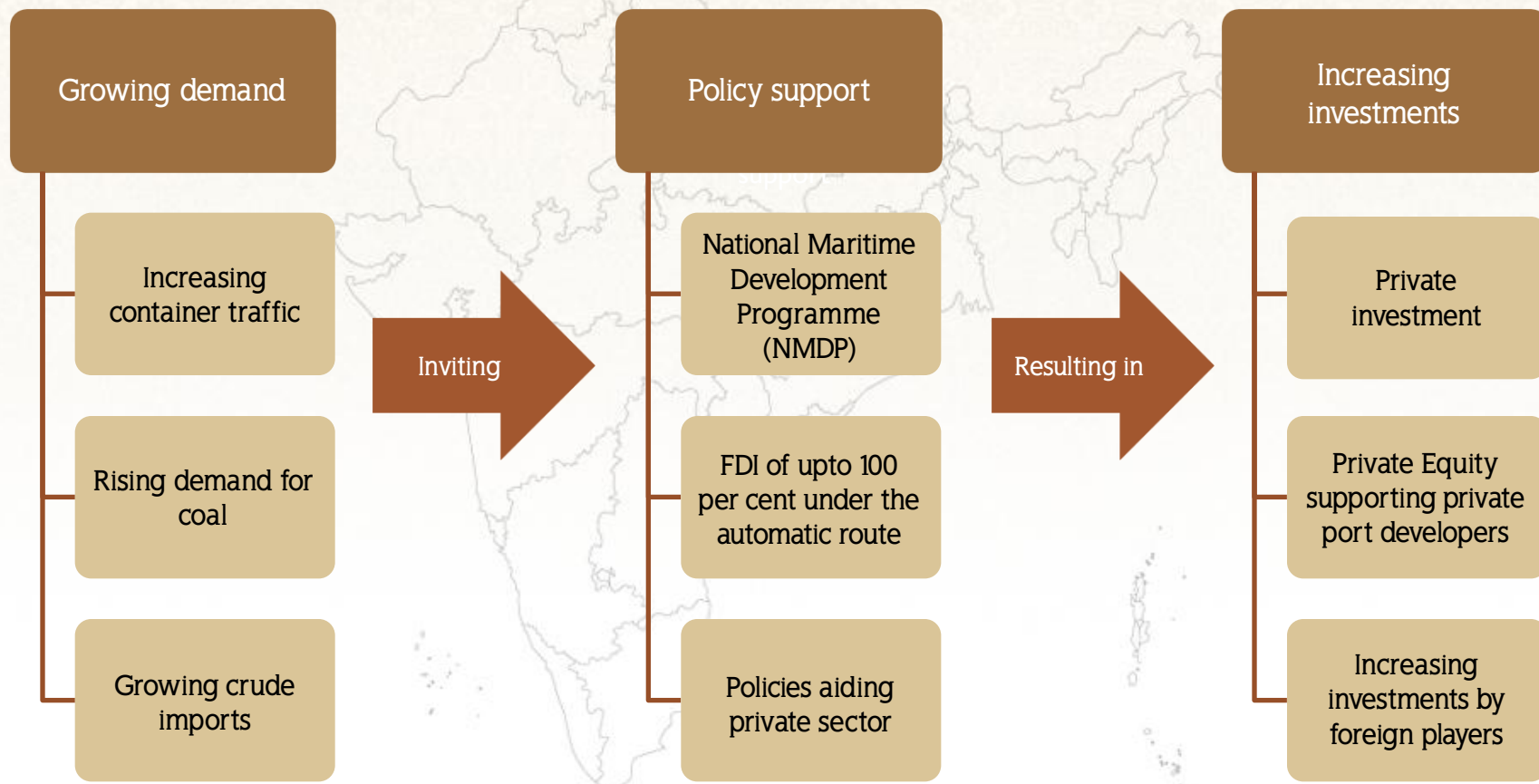
- To promote private investments, the government has reformed the organisational model of seaports -
- From: A 'service port' model where the port authority offers all the services
- To: A 'landlord port' model where the port authority acts as a regulator and landlord while port operations are carried out by private companies
- Major ports following 'landlord port' model: JNPT, Chennai, Visakhapatnam and Tuticorin

Source: Aranca Research
Notes: ICTT – International Container Transshipment Terminal,
LNG : Liquefied Natural Gas

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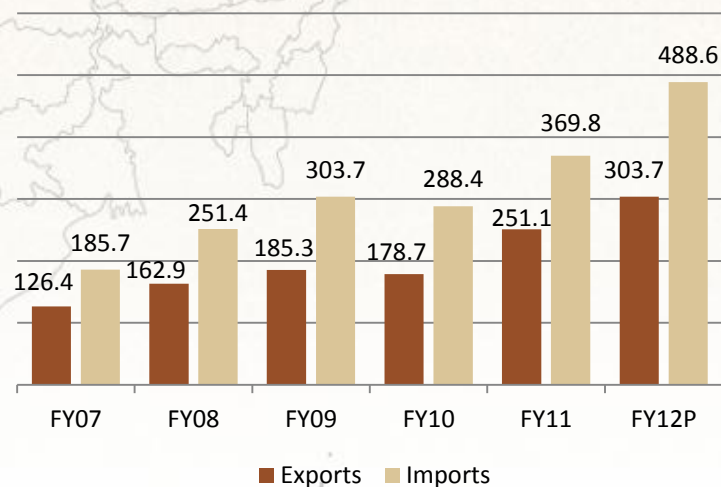
Sector benefits from strong demand, private participation



India's ports are benefitting from strong growth in external trade ... (1/2)

- India's total external trade is estimated to have grown to USD792.4 billion in FY12, implying a CAGR of 20.1 per cent since FY07
- Ports handle almost 95 per cent of trade volumes; thus rising trade has contributed significantly to cargo traffic

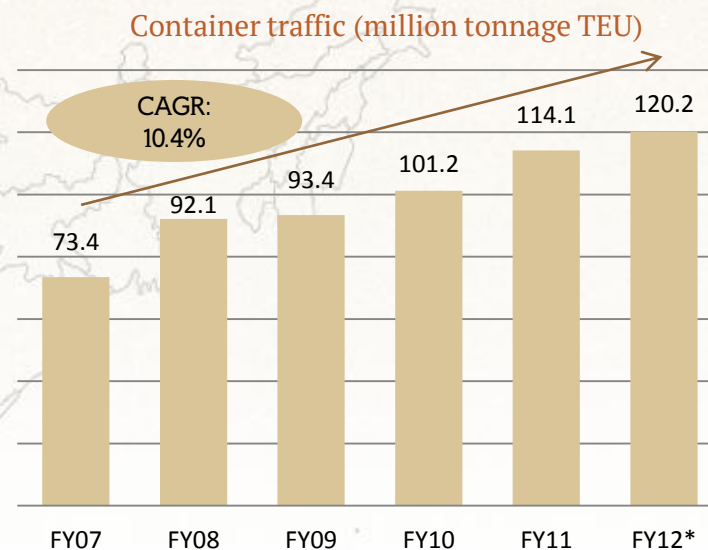
India's external trade flows (USD billion)



Source: Ministry of Commerce,
Aranca Research
Notes : P - Provisional

India's ports are benefitting from strong growth in external trade ... (2/2)

- Increasing trade is translating into higher demand for containerisation due to their efficiency
- During FY07-12, container traffic rose to 120.2 million tonnage TEU, implying a CAGR of 10.4 per cent

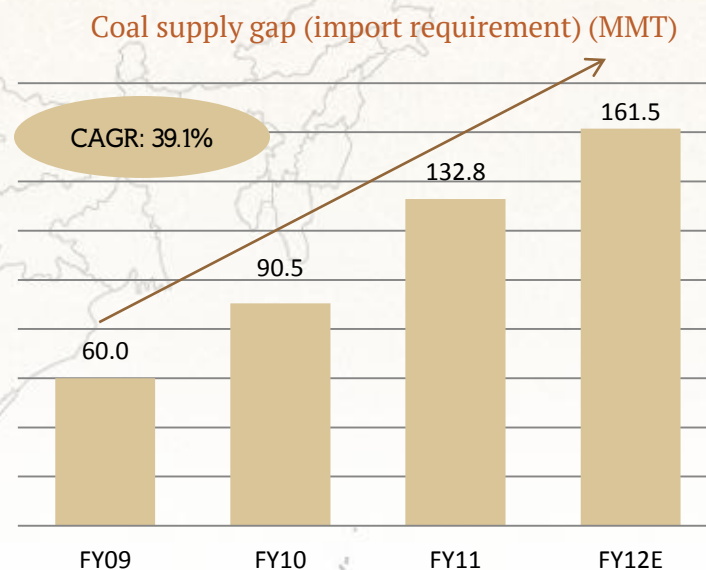


Source: Indian Ports Association, Aranca Research
Notes : * - Tentative, TEU – Twenty Foot Equivalent Unit

Increasing coal imports set to drive rising cargo traffic ... (1/2)

- India is the largest importer of thermal coal in the world; major chunk of this is transported by sea
- Coal imports (both thermal and cooking) are estimated to have risen to 161.5 MMT in FY12 due to new coal-fired power plants (30 GW of capacity addition), cement and steel plants

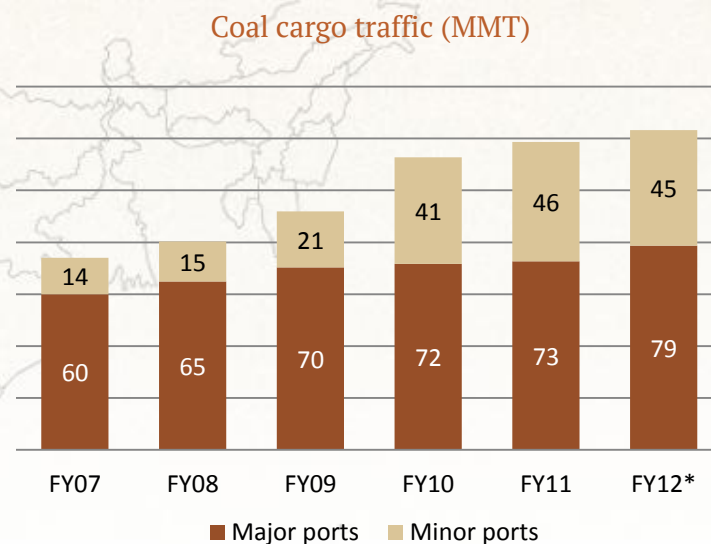
Notes: FY12E – estimates for FY12;
GW - Giga Watt, MMT – Million Metric Tonnes



Source: Ministry of Coal, Aranca Research
Notes: The figures from FY10-12 in the above graph are as per the data provided by Minister of State for Coal to the Upper House of Parliament

Increasing coal imports set to drive rising cargo traffic ... (2/2)

- Increasing coal imports are set to drive coal cargo traffic upwards at both major and non-major ports.
- With private ports boosting their coal handling capacities, non-major ports look set to handle majority of coal imports in the future

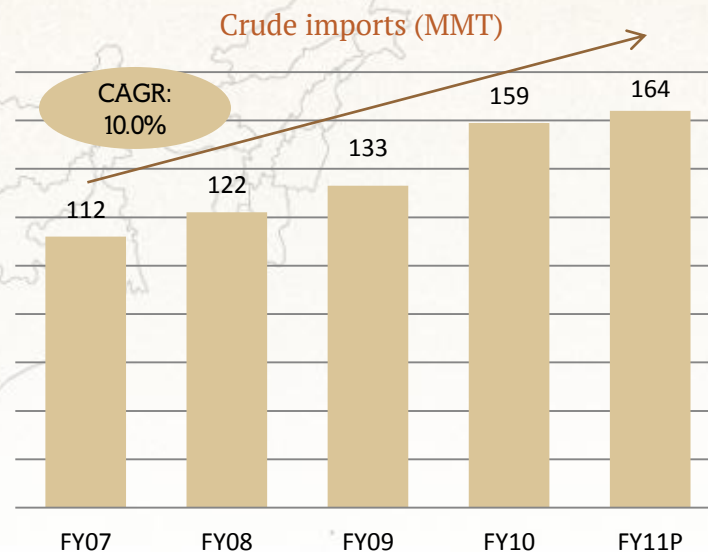


Source: Ministry of Shipping, Aranca Research
Notes: FY12* – estimate

Ports to benefit from growing crude imports ... (1/2)

- A consequence of strong GDP growth has been rising energy demand; the country currently meets about 75 per cent of total crude oil demand by imports
- India's crude imports touched 164 MMT in FY11, implying a CAGR of 10.0 per cent over FY07-11

Notes: MMT - Million Metric Tonnes

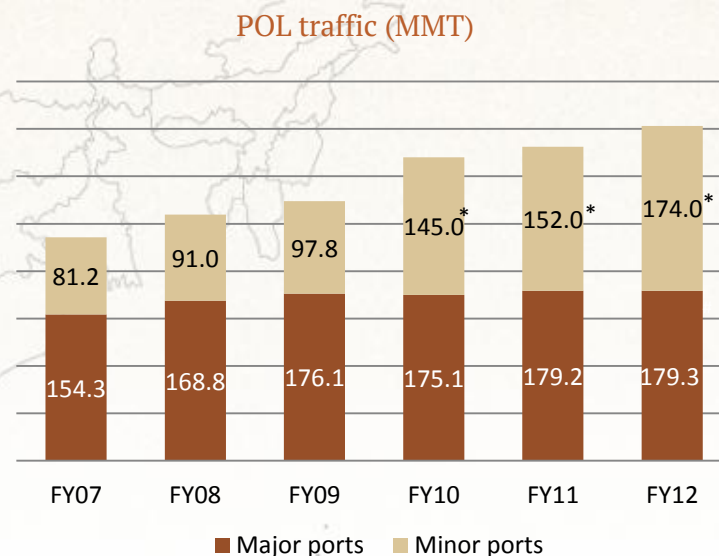


Source: Hand book of Indian Statistics (RBI),
Aranca Research
Notes : P - Provisional

Ports to benefit from growing crude imports ... (2/2)

- Private ports have been especially good at attracting crude import traffic
- POL traffic at both major and non-major ports added up to 353.3 MMT in FY12

Notes: POL – Petroleum, oil and lubricants, MMT - Million Metric Tonnes



Source: Ministry of Shipping, Standard Chartered, Aranca Research

Notes : * - Figures from Standard Chartered report; FY12 figure for minor ports is an estimate

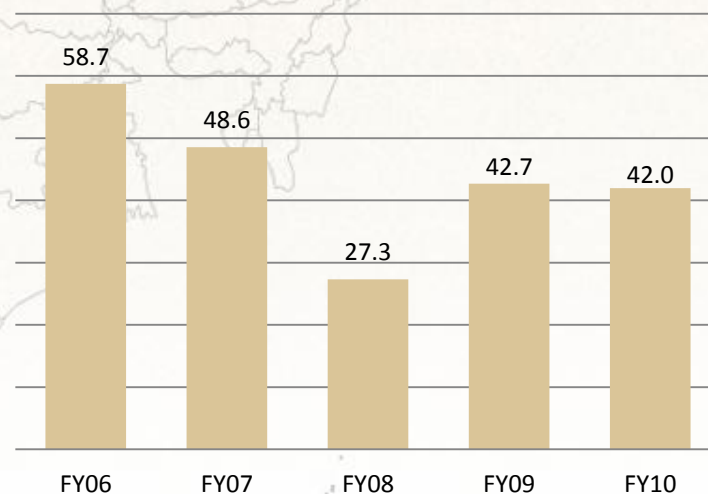
National Maritime Development Programme (NMDP) ... (1/2)

NMDP, a Government of India initiative, is aimed at the all round development of the Indian maritime sector

- A total of 251 projects ranging from construction of new berths to rail/ road connectivity projects with an investment outlay of USD11.8 billion have been identified; capacity augmentation by 429 MMT
- Phase I of the project was completed in 2009; Phase II is scheduled for completion in 2012
- Funding plans: 64 per cent by the private sector; rest from ports' internal sources and budgetary support

Notes MMT – Million Metric Tonnes

Capacity addition (million tonnes)



Source: Ministry of Shipping, Aranca Research

National Maritime Development Programme (NMDP) ... (2/2)

As of March 31, 2010	Projects completed	Work in progress	Approved but work not awarded	In approval process	Preliminary/ planning stage
No of projects	50	74	16	29	82
Estimated outlay (USD billion)	1.2	3.4	0.6	2.4	4.1
Capacity addition (MMT)	56	94	61	110	108

Favourable policies assisting the private sector

De-licensing and tax holidays

- Government has allowed FDI of up to 100 per cent under the automatic route for construction and maintenance of ports and harbours
- A 10-year tax holiday to enterprises engaged in the business of developing, maintaining and operating ports, inland waterways and inland ports

Price flexibility

- Private ports enjoy price flexibility as the government allows non-major ports to determine their own tariffs in consultation with the State Maritime Boards; at major ports, tariffs are regulated by the Tariff Authority for Major Ports (TAMP)

Model Concession Agreement (MCA)

- An MCA has been finalised to bring transparency and uniformity to contractual agreements that major ports would enter into with selected bidders for projects under the Build, Operate and Transfer (BOT) model

Monopoly prevention

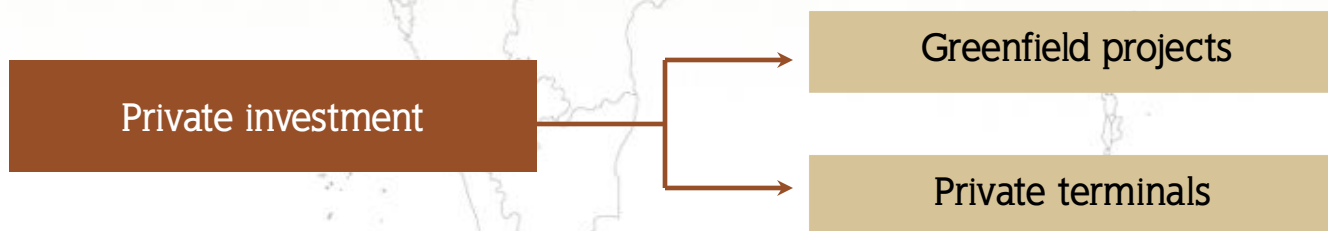
- The Ministry of Shipping has passed a regulation to prevent monopoly power –
- An existing private operator (at a port) cannot bid for the next terminal to handle similar kind of cargo at the same port

Source: Ministry of Shipping, Aranca Research
Notes: FDI – Foreign Direct Investment

Strong private sector participation in ports projects ... (1/2)

- Currently, 24 private sector projects (captive ports) with a capacity of 140.65 MMT and developed with an investment of USD1.4 billion are already operational
- 13 projects, with a capacity of 127.05 MMT and involving an investment of USD2.2 billion, are currently under development
- 27 projects are currently in a bidding/pipeline stage

Source: Indian Ports Association, Aranca Research



Strong private sector participation in ports projects ... (2/2)

Terminals in major ports with private sector involvement	Port agency	Estimated cost (USD million)
Container terminal, NSICT	JNPT	156.3
Oil jetty related facilities (Vadinar)	Kandla Port Trust	156.3
Third container terminal (Mumbai)	JNPT	187.5
Crude oil handling facility (Cochin)	Cochin Port Trust	146.5
ICTT at Vallarpadam (Cochin)	Cochin Port Trust	262.9
Construction of SPM captive berth (Paradip)	Paradip Port Trust	104.2
Development of second container terminal (Chennai)	Chennai Port Trust	103.1

Key private sector companies	Ports they developed
Adani	Mundra
Maersk	Pipavav
Navyuga Engineering Company Ltd	Krishnapatnam
DVS Raju group	Gangavaram
JSW	Jaigarh
Marg	Karaikal

Source: Indian Ports Association, Aranca Research

Notes : NSICT : Nhav Sheva International Container Terminal, Mumbai

ICTT – International Container Transshipment Terminal, SPM : Single Point Mooring

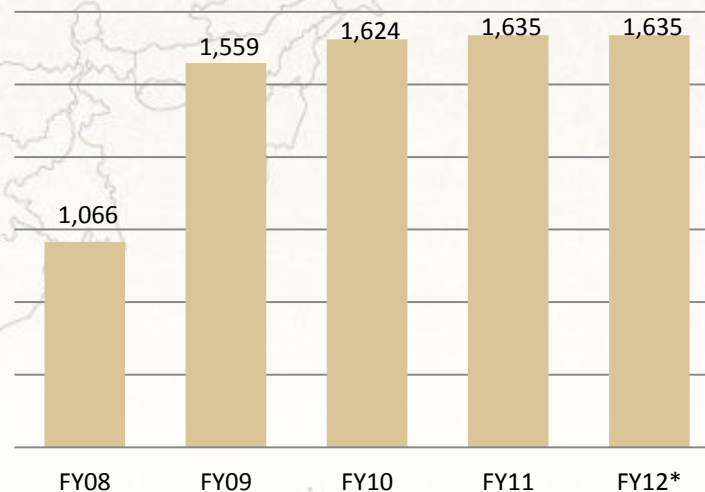
Private equity interest in Indian ports remains healthy

PE deals since 2005

Target	Acquirer	Deal value (USD million)
Krishnapatnam Port Co Ltd (2008)	3I Group	161.0
JSW Infrastructure (2010)	Eton Park Capital	125.0
Mundra Port	3I Group, GIC Real Estate	100.0
Karaikal Port Pvt Ltd (Second round)	Ascent Capital	41.7
Gangavaram Port (2008)	Warburg Pincus	34.0
Karaikal Port Pvt Ltd (First round)	IDFC Project Equity	32.6
Gujarat Pipavav Port Ltd	IDFC	28.5
Continental Warehousing Nhava Sheva	Aureos India Fund, Eplanet Venture	16.4

Source: E&Y, Grant Thornton, Aranca Research

Cumulative FDI inflows in ports since Apr 2000 (USD million)



Source: Department of Industrial Policy & Promotion (DIPP), Aranca Research

Notes: FDI – Foreign Direct Investment, * - till February 2012

Foreign investors have been encouraged by growth potential in the ports sector as well as favourable policies

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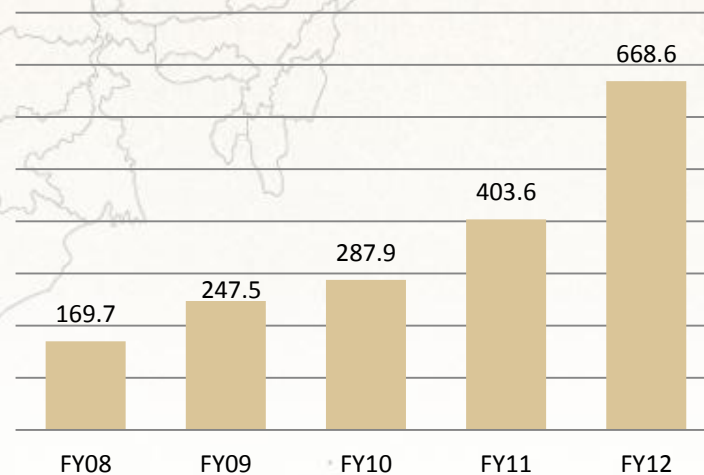
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Mundra: The largest private port in India ... (1/2)

- Mundra Port and Special Economic Zone Ltd was renamed as Adani Ports & Special Economic Zone Ltd
- It is the largest private port in India in terms of volume
 - Revenue (FY12): USD668.6 million
 - Operating profit: USD333.8 million
- Cargo traffic at Mundra port: 64.0 MMT in FY12
 - Container traffic contributed the most, followed by coal and edible oil, chemicals and POL
- Has the world's largest fully mechanised coal terminal with a capacity of 60 MTPA
- Handles the third highest container traffic in India

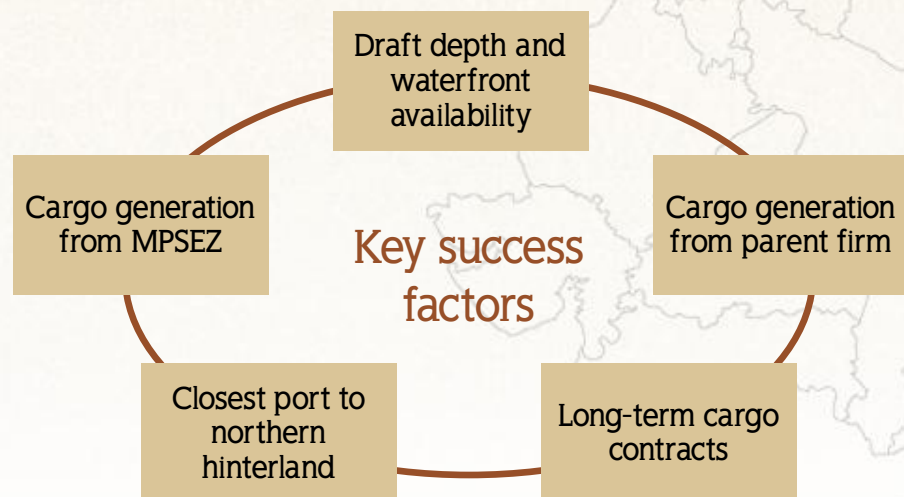
Notes: POL : Petroleum, Oil and Lubricants, MTPA : Million Tonnes Per Annum, MMT: Million Metric Tonnes

Trends in net sales (USD million)



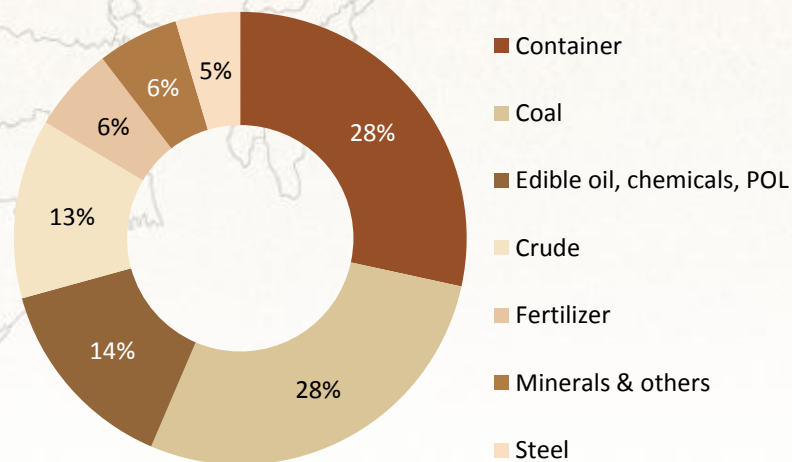
Source: company sources including annual reports and news items; assorted news articles, Aranca Research

Mundra: The largest private port in India ... (2/2)



Notes: POL : Petroleum, Oil and Lubricants,
MPSEZ : Mundra Port Special Economic Zone

Cargo profile of Mundra Port (FY11)



Source : Company Annual report, Aranca Research

JNPT: Major port with the largest container capacity ... (1/2)

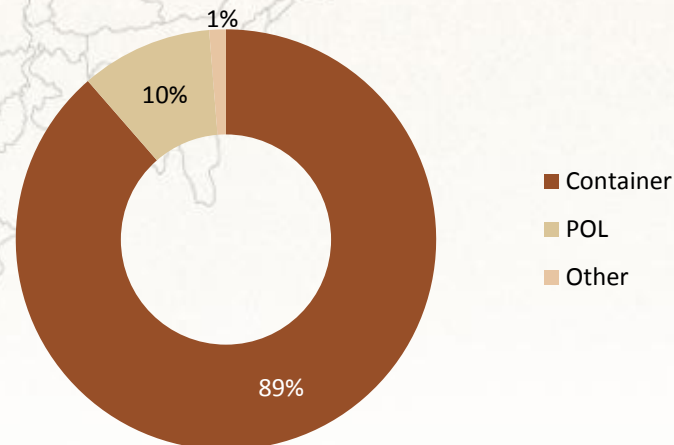
- Jawaharlal Nehru Port Trust (JNPT) has the third highest cargo traffic and the highest container traffic in the country
- It is a container-focussed port with container traffic of 58.3 MMT in FY12 (about 89 per cent of it's total cargo traffic)
- Distribution of JNPT's container traffic for FY12 across its various terminals was as follows –
 - Jawaharlal Nehru Port Container Terminal (JNPCT): 1.03 million TEUs
 - Nhava Sheva International Container Terminal (NSICT): 1.40 MMT
 - APM Terminals: 1.9 MMT

Notes : TEU – Twenty foot Equivalent Unit,
MMT – Million Metric Tonnes

JNPT: Major port with the largest container capacity ... (2/2)

- JNPT was developed to relieve the pressure of Mumbai port and was commissioned in 1989
- It serves most of North India and has good hinterland connectivity through road and rail networks
- JNPT, with a capacity of 4.3 million TEU, handles over 55 percent of India's container traffic and is ranked 24th among global container ports
- JNPT is a pioneer in involving private sector participation in major ports and operates under a landlord model; NSCIT is the first private terminal in the country
- Proposed capacity additions by FY17 –
 - Marine chemical: 30 MTPA
 - Container terminal: 58 MTPA

Cargo profile of JNPT (FY12)



Source: JNPT's website, Indian Ports Association, Aranca Research
 Notes: POL – Petroleum, Oil and Lubricants,
 MMT – Million Metric Tonnes
 TEU – Twenty foot Equivalent Units,
 MTPA - Million Tonnes Per Annum

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Opportunities

Increasing scope for private ports

- With rising demand for port infrastructure due to growing imports (crude, coal) and containerisation, public ports (major ports) will fall short of meeting demand
- This provides private ports with an opportunity to serve the spill-off demand from major ports and increase their capacities in line with forecasted new demand

Ship repair facilities at ports

- Dry docks are necessary to provide ship repair facilities. Out of all major ports, Kolkata has five dry docks, Mumbai and Vizag have two; the rest have one or no dock at all
- Given the positive outlook for cargo traffic, and the resulting increase in number of vessels visiting ports, demand for ship repair services will go up. This will provide opportunities to build new dry docks and setup ancillary repair facilities

Port support services

- Increasing investments and cargo traffic point to a healthy outlook for port support services
- These include operation and maintenance (O&M) services like pilotage, harbouring and provision of marine assets like barges and dredgers
- Currently, limited players provide port O&M services, ensuring an opportunity for domestic and overseas players

Notes: O&M - Operations & Maintenance

Source : Ministry of Shipping, Aranca Research

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Industry Associations

Indian Ports Association (IPA)

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Fax: 91-11-24365866
E-mail: ipa@nic.in, ipadel@nda.vsnl.net.in

Indian Private Ports & Terminals Association

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Ballard Estate, Mumbai 400 001, India
Tel. No. : 022-22610599
Fax. No. : 022-22621405
Email: secretary@ippta.org.in

Notes

- Major and non-major ports do not have a strict association with traffic volumes. The classification has more of an administrative significance
- Cargo traffic includes both loading (export) and unloading (imports) of goods
- Containerisation is the increased use of container for transporting non-bulk goods. It leads to increased efficiency (both time and money)
- Turnaround time is the total time spent by a ship from entry into port till departure
- Twenty Equivalent Units (TEU) is a standard measure of containers which are 20 feet in length and 8 feet in width; the height can vary
- Draft is the vertical distance between waterline and the bottom of the ship. It determines the depth of water a ship or boat can safely navigate. Higher capacity ships will need higher draft, hence ports with higher natural draft will attract bigger ships
- Waterfront availability is the length of the water line on the coast where ships can rest and the goods are unloaded. Longer waterfront lengths reduce waiting time and help raise capacity
- Terminals are certain sections of the ports where different types of cargo are unloaded
- Single Point Mooring (SPM) is a loading buoy anchored offshore that serves as a mooring point and interconnect for tankers loading or offloading gas or fluid product
- A dry dock is a narrow basin that can be flooded to allow a ship to be floated in, then drained to allow that ship to come to rest on a dry platform. Dry docks are used for construction, maintenance and repair of ships

Glossary ... (1/2)

- **FY:** Indian Financial Year (April to March)– So FY11 implies April 2010 to March 2011
- **USD:** US Dollar– Conversion rate used: USD1= INR48
- **FDI:** Foreign Direct Investment
- **IPA:** Indian Ports Association
- **NMDP :** National Maritime Development Programme
- **POL :** Petroleum, Oil & Lubricants
- **SEZ :** Special Economic Zone
- **CAGR :** Compounded Annual Growth Rate
- **ICTT:** International Container Transshipment Terminal
- **TEU :** Twenty Foot Equivalent Units
- **MMTPA:** Million Metric Tonnes Per Annum
- **MMT :** Million Metric Tonnes

Glossary ... (2/2)

- **GOI** : Government of India
- **NSICT** : Nhav Sheva International Container Terminal, Mumbai
- **O&M** : Operation and Maintenance services
- **LNG** : Liquefied Natural Gas
- Wherever applicable, numbers have been rounded off to the nearest whole number

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