PORT SCENARIO IN ORISSA

Commerce & Transport Department,
Government of Orissa
**Hinterland of Indian Coast**

- **NORTH & WEST**
  - J&K, PUNJAB, HARYANA, DELHI, W.UP, W.MP, GUJRAT, MAHARASTRA
  - SERVED BY KANDLA, MUMBAI, JNPT AND MINOR PORTS OF GUJRAT AND MAHARASTRA

- **WEST & SOUTH**
  - GOA AND PARTS OF MAHARASTRA, MP AND KARNATAKA
  - SERVED BY MORMUGAO AND MINOR PORTS OF MAHARASTRA AND MORMUGAO

- **SOUTH**
  - TAMIL NADU, KERALA AND PARTS OF KARNATAKA AND A.P.
  - SERVED BY CHENNAI, ENNORE, TUTICORIN, COCHIN AND MINOR PORTS OF TAMILNADU AND KERALA

- **EAST AND SOUTH**
  - A.P AND PARTS OF CHATTISGARH, MP AND ORISSA
  - SERVED BY VISAKHAPATNAM AND MINOR PORTS OF A.P

- **NORTH AND EAST**
  - ORISSA, WEST BENGAL, NORTH EASTERN STATES, JHARKHAND, BIHAR AND PARTS OF UP, MP AND CHATTISGARH
Ports in India

- MAJOR PORTS: 12
- NON MAJOR PORTS: 185
- TOTAL PORTS: 197
- ACTIVE MINOR PORTS(*): 45
- TOTAL ACTIVE PORTS: 57

Locations:
- KOLKATA/HALDIA
- PARADIP
- VISHAKAPATNAM
- CHENNAI
- TUTICORIN
- COCHIN
- MANGALORE
- MORMUGAO
- MUMBAI
- JNPT
- KANDLA
- ENNORE
- CHENNAI
- TUTICORIN
Types of Cargo

- **BULK**: 278 MT
- **BREAK BULK**: 118 MT
- **LIQUID**: 270 MT
- **CONTAINER**: 142 MT
- **TOTAL**: 808 MT

*FIGURES ARE FOR 2009-10*

- Achieved a growth of 9.3% over the previous FY
- Share of Non Major Ports – 31% (increasing)
## Capacity vs Demand

<table>
<thead>
<tr>
<th>YEAR</th>
<th>CAPACITY</th>
<th>TRAFFIC</th>
<th>Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-10</td>
<td>840 MT</td>
<td>808 MT</td>
<td>(96%)</td>
</tr>
<tr>
<td>2011-12</td>
<td>1500 MT</td>
<td>1103 MT</td>
<td>(67.3%)</td>
</tr>
<tr>
<td>2013-14</td>
<td>1840 MT</td>
<td>1225 MT</td>
<td>(67%)</td>
</tr>
</tbody>
</table>
Non Major Ports in India

- Maharashtra, 53
- Gujarat, 40
- Tamil Nadu, 15
- Andaman & Nicobar Islands, 23
- Andhra Pradesh, 12
- Orissa, 14
- Kerala, 13
- Diu & Daman, 2
- Lakshadweep Islands, 10
- Goa, 5
- Karnataka, 10
Orissa

- Location: East Coast of India
- Natural Resources: Minerals, Marine, Forest and Agricultural Produce.
- Rich human resources base for rapid industrialization
- Industries: Steel, Aluminum, Chrome, Power, Cement, Textile and Handicraft
- Much needed development of the state has started to capitalize on:
  - Industry
  - Agriculture
  - Information Technology
Mineral Base

• Orissa contributes about 10-14% of all mineral production in the country
• Mineral Belt spanning 6000 sq. km produces nonmetallic, metallic and fuel minerals
• Abundant water resources, surplus availability of power and improved road and rail network,
• Orissa has the potential to emerge as a centre for metals business in India and provide significant opportunity for investments up to USD 30–40 billion over the next five years
Major Industries

• Metal/Minerals
  • 45 projects with proposed aggregate production capacity of 56 MTPA of Steel are in progress
  • 4 Aluminum projects with more than 4 MTPA production capacity and 1 Titanium project are under implementation
  • POSCO, Arcelor Mittal, Tata Steel, Bhusan Gp, Jindal Gp, Essar Steel, Hindalco, Vedanta, Aditya Aluminium, L&T-Dubal are some of the major investors in this sector

• Chemicals & Petrochemicals
  • 15 MTPA mega petrochemical complex by IOC at Paradip (Investment of $6Bn) is under implementation
  • Deepak Fertilizers has proposed the establishment of an ammonium nitrate project at Paradip
  • Mega Petroleum, Chemicals & Petrochemicals Investment Region (PCPIR) under development at Paradip

• Energy and Power
  • 13 thermal power projects under implementation with aggregate capacity of 13,500 MW
  • Project proposed by Reliance Industries Limited for hydrocarbon power generation & gas grid
  • Major developers include Tata Power, Reliance Energy, Sterlite Energy, Mahanadi Aban, Monnet Ispat, Essar Power, Lanco group, NavBharat Power, CESC and GMR Energy
  • Mini-Hydel projects with a combined capacity of 90 MW have been planned
Infrastructure – Orissa

• Ports
  – Coastline: 480 KM
  – Main entry/exit point for sea borne trade in Eastern India
  – Hinterland: All mineral rich states such as Orissa, Jharkhand, West Bengal and parts of Chhattisgarh
  – Commodities: bulk (coal, iron ore, limestone and minerals), liquid bulk (crude and petroleum products), break bulk (steel and bagged cargo) and containerized cargo
  – Operational Ports: Paradeep (major) and Gopalpur (minor)
  – Under Development: Dhamra Port

• Proposed Inland Waterway (NW-5)
  – Length: 588 km
  – Estimated Cost: INR 42090 Million
  – Cargo Potential: Coal from Talcher to Dhamra and Paradip Port with an estimated volume of 11 MTPA which can go up to 23 MTPA in next 10 years
Orissa Cargo Projection – FY 2016

- **India**: 2000 Million Ton
- **Orissa**: 330 Million Ton (1/6th of India Cargo)
  - **Paradip major & Dhamra minor Port**: 160 Million Ton
  - **Gopalpur 7.5% of Orissa Cargo share**: 25 Million Ton
  - **Chudamani 3% of Orissa Cargo share**: 10 Million Ton

No Dearth of Cargo for Gopalpur Port & any other Port developed in Orissa Coast

3% of Orissa Cargo – 0.5% of National Cargo

12 Ports of 10-15Mty. Capacity needed for Orissa Share
Orissa Government has identified 14 sites for port development on public-private partnership basis.
## Identified Port Sites – Orissa

<table>
<thead>
<tr>
<th>Port</th>
<th>District</th>
<th>Interested Parties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talsari (Bichitrapur)</td>
<td>Balasore</td>
<td>JSW Infrastructure</td>
</tr>
<tr>
<td>Kirtania</td>
<td>Balasore</td>
<td>Creative Ports (CA signed)</td>
</tr>
<tr>
<td>Bahabalpur</td>
<td>Balasore</td>
<td>ILFS</td>
</tr>
<tr>
<td>Chandipur</td>
<td>Balasore</td>
<td>-</td>
</tr>
<tr>
<td>Inchudi</td>
<td>Balasore</td>
<td>-</td>
</tr>
<tr>
<td>Chudamani</td>
<td>Bhadrak</td>
<td>Aditya Birla Group (MOU signed)</td>
</tr>
<tr>
<td>Dhamra (under development)</td>
<td>Bhadrak</td>
<td>DPCL (JV of L&amp;T and Tata Steel)</td>
</tr>
<tr>
<td>Barunei Muhana</td>
<td>Kendrapada</td>
<td>Arcelor Mittal, Adhunik Metaliks, SPI Ports, Sical</td>
</tr>
<tr>
<td>Paradeep (Major Port)</td>
<td>Jagatsinghpur</td>
<td>PPT (GoI undertaking)</td>
</tr>
<tr>
<td>Jatadhari</td>
<td>Jagatsinghpur</td>
<td>Posco (MOU signed)</td>
</tr>
<tr>
<td>Kalinga Adani (yet to be notified)</td>
<td>Jagatsinghpur</td>
<td>Mundra Port and SEZ</td>
</tr>
<tr>
<td>Astaranga</td>
<td>Puri</td>
<td>Navayuga Engineering (MOU signed)</td>
</tr>
<tr>
<td>Baliharchandi</td>
<td>Puri</td>
<td>Shyam Steel</td>
</tr>
<tr>
<td>Palur</td>
<td>Ganjam</td>
<td>Future Metals</td>
</tr>
<tr>
<td>Gopalpur</td>
<td>Ganjam</td>
<td>Gopalpur Port Limited (CA signed)</td>
</tr>
<tr>
<td>Bahuda Muhana</td>
<td>Ganjam</td>
<td>Alfa Group, USA</td>
</tr>
</tbody>
</table>
Formation of OMB has been recently approved by the State Cabinet
OMB will act as a Single Window Agency for development of Ports and Inland Water Ways
OMB’s prime objective is to increase Orissa’s share in the export and import sector, in national and international trade and commerce
OMB to facilitate decongesting of existing major ports by developing minor ports on the Eastern coastal region so as to cater to the needs of increasing volumes of international and domestic traffic.
OMB to facilitate for handling 330 MTPA of Cargo by 2012 as envisaged by the Government of India, Ministry of Shipping.
OMB to provide port facilities to promote export-oriented and port-based industries, which constitute the major chunk of industrial investment.
OMB to encourage shipbuilding, ship repairing and ship breaking and establish manufacturing facilities for heavy industries in and around ports.
OMB to provide facilities for coastal shipping of passengers and inter-state cargo traffic
OMB to take up suitable facilitating measures as well as policy initiatives for attracting private sector investments
OMB to establish connectivity of the ports with the riverine systems so as to increase the transportation of cargo through inland waterways
OMB to encourage private investment in the existing and proposed minor ports and inland waterways; the guidelines are as follows:

- Incomplete wharf/jetty/quay projects would be privatized.
- Entrepreneurs/investors will be given ‘ousted priority’ for a period of five years from the date on which the contract is awarded with the approval of Government.
- OMB will commission preliminary techno-economic feasibility reports of identified locations to facilitate private investment.
- For projects with an investment of Rs.25 Crores, O.M.B. will be authorized to increase the period of concession.
- Government of India had introduced a policy of parallel marketing of petroleum products facilitating the demand for port facilities for handling L.P.G., L.N.G., Kerosene, HSD and other petroleum and chemical products.
- O.M.B. will also co-ordinate with the Ministry of Defence, Indian Navy and the Coast Guard to evolve a mutually agreed maritime safety and security plan for the entire coast of Orissa.
• Establishment of Special Economic Zone (SEZ) for facilitating export led growth, near Paradip, Dhamra and Gopalpur.

• Further industrialization of Orissa to handle 330 MTPA of Cargo by 2012.

• Institutional mechanism to draw upon expertise, wherever necessary.
1. The Government of Orissa had initiated a policy of ‘leasing Government land for execution of infrastructure projects and port projects on BOT mode’.

2. Gopalpur lighterage port will be developed into an all weather port under an Special Purpose Vehicle with equity participation by GoO.

3. Cost of land shall be compensated by Government by adjusting the same against the future revenue streams that would accrue to the Government/OMB.

4. OMB will have the authority to permit the developer for fixation of port tariffs.

5. GoO/OMB equity participation will be restricted to 11% in order to insulate port management from interference.

6. OMB will endeavor at all times to ensure that the concerns of financing institutions are addressed in order to make these projects creditworthy and bankable.

7. OMB will ensure that the concessions, levies and charges are uniformly applicable to all port projects.

8. OMB would ensure that revenue sharing mechanisms with the developer will be such so as to safeguard the project’s viability and profitability.
DHAMRA PORT
In the Mineral Heartland of India

- Situated between Haldia and Paradip
- Close to the mineral based industrial states of Orissa, Jharkhand and Chhattisgarh
- NH-5 is the nearest highway & Bhadrak is the nearest railway station on the Chennai - Howrah main line
- A good motorable road connects Bhadrak-Dhamra
Port of Dhamra

An Old Port

1. Dhamra is one of the ancient ports of India.
2. Till about independence and even thereafter it was used for cargo transportation between North Orissa and Kolkata.
3. Port limits including the present location were notified in 1931 which have been modified in 1998.

Kanika (Dhamra) Port

Kanika (Dhamra – Chandbali) Port (15th -18th AD) was a prosperous oceanic trading centre and Point Palmiras in the southern side of Dhamra River mouth was one of the most important navigation land marks of that time. A multitude of commercial vessels of the King of Kanika were plying on the Indian Ocean doing prolific trade.

- Walter Hamilton - 1828 AD, Imperial Gazette
Port of Dhamra

- Dhamra Port: Proximity to both deep sea and hinterland, remarkably tranquil conditions and sustainable channel
- As we go north the deep sea becomes farther from coast hence deep port above Dhamra may be cost intensive
- As we go south the mineral heartland becomes farther from port adding to higher cost of transportation on land
Area notified as port in 1931

- Officially, the Dhamra port limits were notified as far back as 1931. The port falls within the area notified as port way back in 1931.

- The port continued to be a thriving port till after independence when it fell to disuse except as a fishing port.
DPCL Formed

- DPCL was formed as a special purpose vehicle to develop the port under a concession agreement from GoO for a period of 34 years which can be extended for two additional periods of 10 years each.

- Originally a JV of L&T and two foreign companies, DPCL is now a 50:50 JV of L&T and TATA Steel.

- An independent port company to build and operate a full-fledged, all weather & multi-user port on BOOST basis.
The Location

- Latitude 20° 47' 30"
- Longitude 86° 57' 35"
- North of mouth of river Dhamra
- Protected by islands with remarkably tranquil conditions
- Sensitive from ecological and defence point of view
• Amongst the deepest ports coming up (others being Gangavaram and Mundra)
• Can handle super capesize vessel up to 180,000 DWT
• Cargo handling efficiency at global best standards (60000t/berth/day)
Master Plan

- 13 berths
  - 2 liquid (petro, oil etc.)
  - 5 dry bulk (coal, iron ore etc.)
  - 6 break bulk and container (steel and containers)

- Capacity
  - Liquid  24 MTPA
  - Dry Bulk  63 MTPA
  - Others  22 MTPA

Total  109 MTPA
Hinterland of Dhamra Port

<table>
<thead>
<tr>
<th>State</th>
<th>Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orissa - A</td>
<td>Kalinganagar, Keonjhar, Banspani</td>
</tr>
<tr>
<td>Orissa – B</td>
<td>Rourkela Jharsugda, Angul, Talcher, Raigarh</td>
</tr>
<tr>
<td>Orissa - C</td>
<td>Dhamra</td>
</tr>
<tr>
<td>Jharkhand</td>
<td>Jamshedpur, Bokaro, Patratu</td>
</tr>
<tr>
<td>West Bengal</td>
<td>Durgapur, Burnpur, Salboni, Purulia, Kharagpur</td>
</tr>
</tbody>
</table>
Phase – I Plan
The Port (Phase I)

The Channel

- **Length**: 18 kms,
- **Width**: 170 - 240 m
- **Depth**: 18m
- **Vol. of Dredging**: 59.5 million Cu. M.
- **Alignment**: Along natural water depth to optimize dredging
- **Vessel Size**: Designed to accommodate safe passage to vessels up to 180000 DWT (LOA-290 m, Beam- 47m)

- **Notes**:
  1. Vessels up to 150000 DWT can enter 99% of the time & above 150000 DWT up to 180000 DWT can enter 48% of the time
  2. One vessel at a time
The Rail Road Corridor

- **Width:** 125 m
- **Length:** 62.50 km (To accommodate up to 3 tracks + 6 lane road)

**Rail Track**
- Track length: 112.50 km
- ROR: 1
- ROB: 1
- Bridges
  - Major: 6
  - Minor: 134
Rail Connectivity and Distance (km)

- Kalinganagar: 122 km
- Keonjhar: 220 km
- Banspani: 290 km
- Talcher: 260 km
- Angul*: 272 km
- Jharsuguda: 483 km
- Rourkela: 537 km
- Salboni: 275 km
- Burnpur: 460 km
- Purulia: 447 km
- Durgapur: 481 km
- Tatanagar: 370 km
- Bokaro: 496 km
- Raigarh: 545 km

* Post Angul – Sukinda Rail Link this distance reduces to 220 km
JETTY

- **Length**: 700 m
- **Width**: (600 x 24m, 100 x 37m)
- **Type**: Dolphin Type (pier mounted) with conveyer support structure and trestle connecting the berth to shore
- **No. of Ships**: 2 Capesize
### Material Handling System

<table>
<thead>
<tr>
<th>CONFIGURATION</th>
<th>No.</th>
<th>CAPACITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FOR EXPORT CARGO</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stackers-Reclaimer</td>
<td>1</td>
<td>3750/5000 TPH</td>
</tr>
<tr>
<td>Reclaimer</td>
<td>1</td>
<td>5000 TPH</td>
</tr>
<tr>
<td>Wagon – Tippler</td>
<td>1</td>
<td>25 Tips per hour (20 Tips per hour)</td>
</tr>
<tr>
<td>Ship Loader</td>
<td>1</td>
<td>5000 TPH (4000 TPH)</td>
</tr>
<tr>
<td><strong>FOR IMPORT CARGO</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ship Un-loader</td>
<td>2</td>
<td>2800 TPH x 2 (1680 TPH x2)</td>
</tr>
<tr>
<td>Stacker Reclaimer</td>
<td>2</td>
<td>5500 / 3500 TPH each</td>
</tr>
<tr>
<td>Rail Loading Facility</td>
<td>1</td>
<td>1.25 Hours / Rake (3000 TPH)</td>
</tr>
<tr>
<td>RCC Silos</td>
<td>2</td>
<td>2000 MT each</td>
</tr>
<tr>
<td><strong>CONVEYOR BELT</strong></td>
<td>6.90 km</td>
<td>1400/2200 MM : 3500/5000 TPH</td>
</tr>
<tr>
<td><strong>STORAGE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coking Coal + Limestone</td>
<td>83 m x 730 m x 2</td>
<td>0.80 Million MT</td>
</tr>
<tr>
<td>Iron Ore / Thermal Coal</td>
<td>36 m x 730 m x 2</td>
<td>0.75 Million MT</td>
</tr>
</tbody>
</table>
Advantage Dhamra

- Deep draught, all weather sea port, capable of handling vessels upto 180,000 DWT.
- Berthing of two capesize vessels at any given point of time wherein discharging and loading operations can be carried out simultaneously.
- Savings of USD 5 – 7 PMT in sea freight (cape size vis-à-vis panamax).
- Fully mechanised and efficient cargo handling system, capable of:
  Discharging vessels at the rate of 60,000 MT/day
  Loading rakes within 1.5 hours
  Unloading rakes within 3 hours
  Loading vessels at the rate of 80,000 MT/day
- Least cargo loss and no pilferage
- Savings of USD 2 PMT due to efficiency in discharging/loading of the vessels.
- Flexibility in terms of evacuation of imported cargo by rail/barges/daughter vessels.
- Proper demarcation of stackyards – customer wise and grade wise.
- IT enabled stackyard management system.
- Telescopic rail freight advantage to the customers.
- Composite tariff without hidden costs.
- One stop solution for all handling needs of the customer.
Jetty
Bulk Material Handling System

Conveyor System

Jetty Conveyor System

Rapid Loading Silo

Motor Control Center
Rail Link

- Rail Track at Bhatatira Station
- Erection of 1st span at BR # 86
- Bridge#8 under Construction
- Rail Laying
Transmission Line

Switchyard

Conductor stringing in progress
Measures for Sustainable Development

- Association with IUCN
  - Dredging
  - Lighting
  - Preparation of Environment Management Plan
  - Gap analysis in existing research
  - Awareness programmes

- Engagement of NIO
  - Study of the beach profile of Gahirmatha area
  - Impact of dredging if any on beach profile

- Engagement of RRL (renamed as IMMT)
  - Environment Impact Assessment of Dredging and other related activities in Dhamra Port.
    - Monthly monitoring
    - Half yearly reports
    - Covers 27 parameters of water quality in relation to marine productivity
    - Monitoring of air and noise parameters
Measures for Sustainable Development

• Engagement of WTCER
  – Impact of Embankment on natural drainage and adequacy of cross drainage measures taken.
  – Impact of reclamation on natural drainage and adequacy of measures taken

• Engagement of Orissa Forest Development Corporation
  – Plantation of 2,40,000 trees along the rail - road corridor and port area

MISSION OF DHAMRA PORT
TO MAKE THE PORT OF DHAMRA AN EXEMPLARY EXERCISE IN SUSTAINABLE DEVELOPMENT
GOPALPUR PORT
An Overview

• Govt. of Orissa signed Concession Agreement with Gopalpur Ports Ltd (A consortium of Orissa Stevedores Ltd. Cuttack, Sara International Ltd. Delhi) on 14 September 2006 to develop the Port on BOOST basis for initial period of 30 years. The major Milestones are:
  ❖ Phase I of Project: To rehabilitate the defunct erstwhile Port and make operative with in 12 months from the Take over Date.
  ❖ Phase II of Project: To develop the Port to an All Weather deep water Direct Berthing Port and make operative no later than 48 months from the Take over Date or no later than 24 months of obtaining environmental clearance, whichever is earlier.
• Handing over of assets of the erstwhile Gopalpur Port Project to Gopalpur Ports Limited on 30 October 2006
<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Year</th>
<th>No of Vessels</th>
<th>Quantity (MTPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2006-07</td>
<td>01</td>
<td>0.502</td>
</tr>
<tr>
<td>2</td>
<td>2007-08</td>
<td>18</td>
<td>0.247</td>
</tr>
<tr>
<td>3</td>
<td>2008-09</td>
<td>11</td>
<td>0.252</td>
</tr>
<tr>
<td>4</td>
<td>2009-10</td>
<td>21</td>
<td>0.499</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>51</td>
<td>1.048</td>
</tr>
</tbody>
</table>

Gopalpur Ports Limited entered into record book by discharging a record 11,110 MT of Non-Coking Coal on 5th March 2010 in just 24 hours from the Indonesian Vessel “MV Golden Eye” carrying 20,000MT of Non-Coking Coal. This is all time highest discharge rate in any anchorage Ports in India.
CUTTER SUCTION DREDGER

1500T CAPACITY BARGE

BAGGING PLANT
PHASE – II

DEVELOPMENT OF ALL WEATHER DIRECT BERTHING GOPALPUR PORT
Salient Features

- To meet the traffic demand up to 2016 GPL two Bulk berths and one Multipurpose General Cargo berth is being Constructed

**PHYSICAL DIMENSIONS**

**DESIGN VESSEL:**
- Maximum vessel size in the port
  - Panamax Vessel - 80,000 DWT
  - LOA - 245 m
  - Beam - 32 m
  - Draught - 14.0 m

**BERTHS:**
- Two bulk cargo berths & one multipurpose berth
  - Length - 281.5m each
  - Width - 31.45m
  - Draught at berth - (-) 15.5m Below Chart Datum
### Salient Features

#### Breakwaters
- South break water: 2170m long
- North break water: 435m long
- Top of Break water: 5.5 to 8.9 above CD
- Granite Stones Required: 3 million tones

#### Harbour Basin
- Diameter of the turning circle: 550m
- Draught at the circle: (-) 15.0m
- Entrance channel: 1700m length, 200m wide, (-) 15.5 draught

**Port is planned to receive 1,25,000 DWT vessels beyond 2016**
### MECHANICAL HANDLING SYSTEM

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Belt Conveyor System</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Continuous Unloader</td>
<td>1600 TPH</td>
</tr>
<tr>
<td>3</td>
<td>Stacker</td>
<td>3200 TPH</td>
</tr>
<tr>
<td>4</td>
<td>In-motion Wagon Loader</td>
<td>1500 TPH</td>
</tr>
<tr>
<td>5</td>
<td>Reclaimer</td>
<td>4000 TPH</td>
</tr>
<tr>
<td>6</td>
<td>Mobile Harbour Crane</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Road Weigh Bridge</td>
<td>60T capacity</td>
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<tr>
<td>8</td>
<td>Rail Weigh Bridge</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Fork lift Trucks</td>
<td>3T to 15T</td>
</tr>
<tr>
<td>10</td>
<td>Front end Loader</td>
<td>6T capacity</td>
</tr>
<tr>
<td>11</td>
<td>In-motion Wagon Loader</td>
<td></td>
</tr>
</tbody>
</table>
## Cargo Projection

<table>
<thead>
<tr>
<th>S No</th>
<th>Projection (MTPA)</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9.89</td>
<td>2012</td>
</tr>
<tr>
<td>2</td>
<td>23.45</td>
<td>2016</td>
</tr>
<tr>
<td>3</td>
<td>29.74</td>
<td>2022</td>
</tr>
<tr>
<td>4</td>
<td>53.49</td>
<td>2040</td>
</tr>
</tbody>
</table>

## Cargo Profile

- **Import** – Coking Coal, Fertilizer, Lime Stone, POL, Caustic Soda, Thermal Coal, FRM
KIRTANIA PORT
Subarnarekha Mouth (Kirtania) Port

- For development of Port on Subarnarekha Mouth (Kirtania) in Balasore District, Government has entered into MOU with Creative Port Private Limited, Chennai on 18th December’2006.
- Government of Orissa has signed the Concession Agreement with the developer on 11th January’2008.
- Total estimated cost of the Project is Rs.2187.00 Crores.
- Total projected cargo to be handled 14 MTPA to 50 MTPA.
- Traffic Projection:

<table>
<thead>
<tr>
<th></th>
<th>PHASE-I</th>
<th>PHASE-II</th>
<th>PHASE-III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (Million Tons)</td>
<td>14</td>
<td>35</td>
<td>50</td>
</tr>
<tr>
<td>Vessel Size (DWT)</td>
<td>1,20,000</td>
<td>1,50,000</td>
<td>1,80,000</td>
</tr>
<tr>
<td>Year of Commissioning</td>
<td>2010</td>
<td>2020</td>
<td>2032</td>
</tr>
</tbody>
</table>
Salient Features

- **The Basin**: This would be created within two break waters (Eastern & Western) totaling around 7000 Meters long.

- **Berth**:
  
  (i) 4 Nos. of berth in the 1st Phase around 1100 Meter long.
  
  (ii) 3 Nos. Additional berth in Phase-II
  
  (iii) 3 Nos. Additional berth in phase-III

  A master plan development plan for a 25 berth, 100 million ton facility.

- **Rail/Road corridor** from Haladipada to the Port site (100 Mtrs. Width)

- **Approach Channel**: 28 Kms. Channel to reach 15.7 meter contour in the first Phase.
## Phase-wise Cargo Projection

<table>
<thead>
<tr>
<th></th>
<th>PHASE-I 2010</th>
<th>PHASE-II 2020</th>
<th>PHASE-III 2032</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coking Coal Imports Million Tons</td>
<td>7.50</td>
<td>14.00</td>
<td>20.00</td>
</tr>
<tr>
<td>Iron Ore Exports Million Tons</td>
<td>2.50</td>
<td>2.00</td>
<td>2.00</td>
</tr>
<tr>
<td>Thermal Coal Exports Million Tons</td>
<td>0</td>
<td>4.00</td>
<td>6.00</td>
</tr>
<tr>
<td>Limestone Imports Million Tons</td>
<td>1.50</td>
<td>4.00</td>
<td>6.00</td>
</tr>
<tr>
<td>Containers Nos. TEU</td>
<td>75,000</td>
<td>6,00,000</td>
<td>15,00,000</td>
</tr>
<tr>
<td>General Cargo Million Tons</td>
<td>2.00</td>
<td>3.50</td>
<td>3.50</td>
</tr>
</tbody>
</table>

- Steps taken for development of the Port:-
  - The first and most important step of the project is acquiring land for port area. The company has given the detailed land schedule for port site land of 1215 Acres (Government Land) for which steps are being taken for acquisition.
  - The company has submitted its land requirement of 1565.93 Acres for Rail/Road corridor.
JATADHAR PORT
Salient Features

• Government of Orissa have given in principle approval for establishment of a Captive Minor Port at Jatadhar Muhan in Jagatsinghpur District by POSCO India Limited on 14th June’2006.
• POSCO has conducted preliminary study and prepared Master Plan for Harbour facilities and site preparation for POSCO’s Integrated Steel Plant.
• Numerical Model Analysis, Littoral Drift Study have also been conducted by POSCO through the consultancy services of International standard.
• POSCO has submitted a Road Plan for the proposed Port to connect road and rail link to the Port.
• For assessment of adverse impact on environment, a detailed studies has been conducted by CWPRS, Pune engaged by Paradip Port Trust and submitted its report. POSCO has been advised to take into account the suggestions of CWPRS Report while preparation of the DPR.
• The proposed Port, POSCO India Limited will handle its own cargo i.e., Iron Ore, Coal etc.
• The Port will bring cape-size vessels of more than 1 Lakh DWT.
Salient Features

- The POSCO Captive Port at Jatadhar will be on BOO/BOOT/BOOST Basis.
- RITES Limited have been entrusted for preparation of the draft concession agreement. The cost will be borne by the POSCO India Limited. Draft Concession Agreement along with remarks of POSCO has been received and is under scrutiny. Certain clarifications have been sought from M/s RITES regarding water front royalty.
- Estimated Cost in First Phase is Rs.1432.00 Crores.
- Total number of Berth-8 (in 1st Phase-3, 2nd Phase-3 and 3rd Phase-2)
ASTARANGA PORT
Government of Orissa has signed an MOU with Navayuga Engineering Company Limited, Hyderabad on the 22nd December’2008 for development of a Port at Astaranga in Puri District

• The estimated cost of the Project is Rs.3500.00 Crores for Phase-I of the Project.
• The projected capacity of the Port will be 25 MTPA in Phase-I
• Number of Berth will be 8.
• The company has submitted the Techno-feasibility report of the Port project.
• Government of Orissa will sign the Concession Agreement with the developer for development of the port at Astaranga very shortly.
CHUDAMANI PORT
• Government of Orissa has signed MOU with Aditya Birla Group on 22.10.2009 for development of a Captive Port at Chudamani in Bhadrak District.
• Chudamani Port has a potential to be developed to a large Port with handling capacity of 10 MTPA.
• Essel Mining and Industries Ltd. will be developing the facility in phases with Phase-1 for 3 MTPA handling, Phase-2 will be with 5 MTPA and Phase-3 will be 10 MTPA.
• All the Port limits have been notified basing on Indian Ports Act,1908 and governed by Orissa Port Policy, 2004.
THANK YOU