



# THE SAGARMALA POST

August-September, 2018



## Odisha: Charting a New Course



Coastal Shipping: Prospects,  
Potential and Possibilities



Events Detour



Maritime Glory: Paradip Port

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# From the **SECRETARY'S**

**DESK**

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*The last two months have been quite eventful, marked with many important happenings and headlines.*

*In a significant move, an MoU for the Rs. 8,600-crore Indore-Manmad railway corridor was inked by JNPT, Ministry of Railways and the Governments of Maharashtra and Madhya Pradesh. The new rail corridor will cut down the distance by 171 km between Indore and the gateway ports of JNPT and Mumbai, reducing the logistics cost for cargo movement. The project will, it is estimated, result in a cumulative net economic benefit of Rs 15,000 crore in the first ten years of its operations.*

*Another striking news is IWAI's breakthrough in ship designing for inland waterways. IWAI has brought about 13 standardised state-of-the-art ship designs for large barge haulage on the Ganga river. The designs, which are available to the private sector, will translate into substantial reduction in the cost of production of ships. An achievement of crucial significance, this will give a cutting edge to India's shipbuilding industry working in the sphere of inland vessels, while opening immense possibilities for cargo and passenger transit on the National Waterway-I.*

*There was more in the sphere of inland waterways that turned heads. Two barges carrying fly ash sailed from Kahalgaon (Bihar) for Pandu island (Assam), for one of the longest hauls in India's inland waterways, covering 2,085 km. Crossing three waterways – NW-1, NW-2 and the Indo-Bangladesh Protocol Route – the journey of the barges signifies the beginning of an integrated movement through multiple waterways.*

*On the other hand, the Cochin Port has assumed new dimensions in its cement handling capacity.*

*It has added a fourth cement terminal to its existing capability.*

*The move is aimed at directing a modal shift in the movement of cement, from road and rail to the sea, in order to promote coastal shipping as a cost-effective and environment-friendly means of transportation.*

*The Dredging Corporation of India (DCIL) has made great strides on the financial front and displayed shining statistics for the year 2017-18. It has declared a dividend of 20 per cent. DCIL has posted a profit after tax at Rs. 1,664.27 lakh, as against Rs. 712.26 lakh in the previous financial year.*

*This edition is centred on Odisha as the state in focus. Under the Sagarmala Programme, the Paradip Port has made a remarkable headway towards augmenting its capacity. The cargo handling capacity of the port has been increased to 277 million metric tonnes per annum, which is the highest amongst all Major Ports. Displaying a high degree of excellence in operations, the Paradip Port Trust handled an all-time record cargo of 100.12 million tonnes during the financial year 2017-2018. With this feat, it has joined the 'Exclusive Club of Ports'. The pages of the newsletter also trace the history and legacy of the Paradip Port which carries a maritime heritage that dates back to the Neolithic period.*

*More than a newsletter, the Sagarmala Post is a progress report about our pursuits and endeavours, as it brings into perspective some of the latest developments. Do share your opinions, which we always look forward to.*

**GOPAL KRISHNA, IAS**  
Secretary, Ministry of Shipping

# PARADIP : THE SMART INDUSTRIAL PORT CITY IN THE MAKING

With an entirely new eco-system and state-of-the-art technologies, the Paradip Port is getting ready to take a plunge into future.

A Smart Industrial Port City that can meet the challenges of the future has just begun to take shape at the Paradip Port. Betting big on the upcoming industrial parks, multi-modal stations, warehouse complexes and port connectivity infrastructure, the port has a lot of optimism about tomorrow.

The idea of the Smart Industrial Port City (SIPC) has been conceived by the Government of India with a view to use latest technologies for enhancing performance, reducing cost and minimising the consumption of non-renewable energy-resource, and to ultimately stimulate growth. A smart city is envisaged to respond faster to city and global challenges. One of the Major Ports, Paradip has been identified to be developed as a SIPC.

The outline for the Paradip SIPC involves a string of projects across various sectors and the Paradip Port Trust has initiated work on several projects.

## From paper to the ground

Through an open competitive bidding, Tata Consulting Engineers were selected in January 2016 as the consultants to prepare the Detailed Project Report (DPR). They submitted the DPR in December 2016, recommending to develop the Smart City with plans for city improvement (Retrofitting the area), city renewal (Redevelopment of an area) and city extension (Green field development).

The Detailed Project Report, in its recommendations, encompasses an extensive framework that covers important infrastructural developments such as cycle tracks, escape routes and flyovers built into the existing roadways network; water supply system in addition to laying of pipeline from Tarapur to Paradip along with facilities for improving the quality of water; solid waste management and development of its periphery;

sewage treatment system and drainage network; energy and power system including utilization of green energy; development of park, recreation area including eco-tourism, increasing plantation and sea-front development and landscaping; and designing of separate zones for setting up industries and cargo operations like Multi-modal Logistic Park, Agro Processing Zone, etc.

The Detailed Project Report also touches significant areas such as traffic control and signage system with public transport system; installing ICT network system; disaster management fire-fighting system; and sustainable rehabilitation of slum dwellers by providing low-cost housing.

The recommendation in the DPR will be carried out in different phases over a time frame till 2047. A number of projects have been taken up for implementation in the first phase.



*A perspective of Paradip Port with a ship docked in the wharf*

The major projects which have been taken up include an industrial parks with multi-modal infrastructure, sewage treatment plants with advanced technologies, water treatment plants for desalination, a network of roads and flyovers for faster transit and a gamut of crucial facilities integrated to the blueprint for the Smart City.

In the entire framework, the construction of the Multi-Modal Logistics Park has central importance. The MMLP will comprise warehousing zones, container terminals and bulk cargo terminals. The park envisages a host of facilities like inland container depots, container freight stations,

parking, mechanised handling and inter-modal transfers - all at a single location. The warehouse complex to be developed by Concor under MMLP will be spread over 10 lakh sq ft. It will generate employment potential in the areas of warehouse management and logistic operations. Thriveni Earthmovers is setting up a four MTPA pellet plant within the Smart Industrial Port City on a land area measuring 177 acres.

**A new growth centre**

The development of Paradip Port as a Smart Industrial Port City will work as a critical enabler of Odisha's industrialisation. While it will

facilitate the industrial and business activities in the region, it will tap the tremendous potential for port-led industrialisation in Odisha and stimulate its growth. With the spurt in industrialisation and civic and infrastructural developments, it will open new opportunities for direct and indirect employment in various sectors, with a widening scope in logistics. Integrated projects like low-cost housing for the sustainable rehabilitation of slum dwellers will change the picture for the deprived.

As a Smart Industrial Port City, the Paradip Port is soon to emerge into a growth centre for a holistic development of the region. ■

**Projects under implementation**

Projects Initiated	Investment (Rs. in Crore)	Project Details	Present Status
Multi-Modal Logistics Park	~200	MMLP over 100 acres	Land allotted to CONCOR; detailed engineering being carried out by CONCOR
Road Network	~ 94	2nd exit from Paradip with flyover	Presently at DPR formulation stage
Sewage Treatment Plants	~20	2 sewage treatment plants	Work in progress; completion by December 2018
Water Infrastructure & Environment	~110	Desalination Plant (10 MLD)	Under DPR formulation by NIOT, Chennai
<b>Total Investment :</b>	<b>~3474 Cr.</b>		



*Another perspective of Paradip Port*

# MULTI-LOCATION, MULTI-PROJECT BLUEPRINT: SAGARMALA PROJECTS IN ODISHA

An infrastructural transformation is taking shape in the shipping sector in Odisha under the Sagarmala Programme – with numerous projects being implemented to take the

marine facilities and operations to global measures. All the projects are being implemented by Paradip Port Trust.

Project	Year of Award of Contract	Theme	Project Cost (Rs. Cr.)	Present Status
RFID–Paradip	2015-16	Port Modernisation	8.50	Work Completed
2 Nos. of Harbour Mobile Cranes–Paradip	2016-17	Port Modernisation	80	Work Completed
Deep Draft Iron Ore Export Berth–Paradip	2016-17	Port Modernisation	740.19	Stipulated completion in April, 2019; Expected to be operational by Dec. 2018
Development of Clean Cargo Berth–Paradip	2016-17	Port Modernisation	430.78	Provisional completion certificate issued to Concessionaire on 29 Mar. 2018 and now operational. Overall completion certificate likely by 31 Oct. 2018
Development of IWT Terminal at Paradip Port	2016-17	Port Modernisation	80	Work Completed
Mechanisation of EQ1-3 Berths–Paradip	2017-18	Port Modernisation	1437.76	Stipulated completion in Dec. 2020
New Deep Draft Coal Import Berth at Paradip	2017-18	Port Modernisation	655.56	Stipulated completion in Apr. 2021
Capital Dredging of BOT Basin–Paradip (Balance Work)	2017-18	Port Modernisation	86.20	Under Implementation
River mouth dredging of Mahanadi at Paradip Fishing Harbour	2017-18	Coastal Community Development	21	In Tendering Stage
Development of Rail Connectivity for BOT berths at Paradip (Balance Work)	2017-18	Port Connectivity	55.42	Under implementation; likely to be completed by Apr. 2019
LPG Terminal at South Oil Jetty	2017-18	Port Modernisation	690	Being taken up by IOCL; works under implementation
SIPC, Paradip	2017-18	Port-led Industrialisation	2770	DPR prepared; land allotted for MMLP & Industrial Park/Pellet Park
New Mega Port– Development of Outer Harbour at Paradip Port	2021-25	Port Modernisation	4179	To be taken up after optimisation of inner harbour and construction of western dock based on techno-economic viability

Project	Year of Award of Contract	Theme	Project Cost (Rs. Cr.)	Present Status
Mechanisation of CQ 1-2 Berths-Paradip	2021-25	Port Modernisation	1103.42	To be initiated after commissioning of Development of New Coal Berth based on techno-economic viability
Conversion of IOHP Berth to Coal Handling Facility at Paradip	2021-25	Port Modernisation	100	The project is not being taken up for IOHP conversion to coal handling due to increased demand for Iron ore handling. However, alternative scheme 'Connectivity of IOHP to MCHP' has been taken up and is under implementation



A vessel harboured at Paradip Port

# SUCCESS STORIES BEYOND THE BALANCE SHEET

Through its CSR initiatives, the Paradip Port Trust is writing a different kind of success stories - success stories beyond the key business imperatives.

The Paradip Port Trust relates business to wider objectives. While measures such as operational efficiency, business volumes and profits figures are key imperatives for its operations, working for the cause of the larger people gives a meaning to its enterprise. This philosophy has taken it to many areas of social commitment.

- The Port Trust has taken up a number of initiatives that aim at improving the quality of life for the people in the coastal areas, opening opportunities for education and providing recreation and community life. The initiatives span from drinking water, public health, street lighting, upkeep of roads and sewage system to family welfare, literacy programmes, maintenance of schools and colleges, and promotion of sports and culture.
- The Port Trust is also contributing to the skill development for youths in order to stimulate employment and create opportunities of livelihood. PPT sponsors 120 students every year for training through CIPET (Bhubaneswar), which ensures employment immediately after the completion of training.
- Under the women empowerment programme, Paradip Saksharata Samiti provides training in tailoring and computer education to women from the surrounding areas.
- In order to cater to the needs of the denizens of the areas near the Paradip Port, free cataract surgery and post-operation care are provided at the PPT Hospital. So far, 163 persons from the BPL category have been operated upon. Besides, PPT is committed to providing medical treatment to 200 persons from BPL families every year. Under the Janani Suraksha Yojana, 43 beneficiaries have been given incentives this year.
- In order to eliminate diseases and ensure good health for children, a vaccination campaign for Measles-Rubella (MR) was conducted in January 2018 for the children in the age-group of nine months to fifteen years.

Through its CSR initiatives, the Paradip Port Trust is writing a different kind of success stories - success stories beyond the balance sheet. ■



*An aerial view of the Paradip International Cargo Terminal*

# COASTAL SHIPPING: PROSPECTS, POTENTIAL AND POSSIBILITIES



*With an extensive coastline of 7,500 km, coastal shipping has a huge role to play in India's logistics sector. It is not only cost-effective and time-efficient but also eco-friendly and reduces traffic congestion on the road. But, presently it contributes less than 10 per cent to India's modal-mix. In an exclusive interview, Shri Kailash Kumar Aggrawal, Joint Secretary (Sagarmala), talks about the prospects that lie ahead and the initiatives for taking it to new dimensions.*

**Q: According to the reports, at present, in India, about 54 per cent of the cargo is transported through roads, 33 per cent by rail, seven per cent by pipelines and six per cent by coastal shipping. Also, the Ministry of Shipping aims to double the share of transportation of cargo through coastal shipping and inland water navigation by 2025 under the Sagarmala Programme. Is the progress happening?**

**A:** In 2014-2015, the total cargo transported by coastal shipping was

83 million tonnes whereas in 2017-2018 the same is estimated at 110 million tonnes. An estimated 9 per cent CAGR growth was recorded over the last 3 years, as against 4.5 per cent CAGR growth in the preceding 3 years. Various measures including sanctioning of additional coastal berths, reduction in vessel and port charges for coastal movement vis-à-vis international trade, priority for coastal vessels at ports etc., have been undertaken by the Major Ports for promoting coastal shipping. Some of these measures have a lead time to fructify. The Ministry has initiated the projects execution and various policy initiatives have started taking shape. One of the objectives of the Sagarmala Programme is to enhance the share of waterways in the national modal-mix from 6% to 12%, and various projects have been identified to achieve the target. The Ministry is confident that the growth targets are likely to be met by 2025.

Also, there has been a development with regard to the National Waterways. While earlier only 5 National Waterways were identified, the National Waterways Act 2016 has declared 106 new National Waterways. Now, we have 111 National Waterways, spanning across 24 states, with a total navigable network of more than 20,000 km of waterways.

The planning and development works for these waterways are under progress, especially the works for NW-1 costing about Rs. 5,400 crore with assistance from the World Bank. The NW-1 works, called the Jal Marg Vikas project, are in full swing and are expected to be completed by 2022. The terminal at Varanasi is also expected to be commissioned this year. The

planning and implementation of other waterways are also on the anvil.

**Q: It is believed that the transportation of cargo through coastal shipping is very cost-effective. It is estimated that the cost per tonne per kilometre of moving cargo through the coastal route can be 60 per cent to 80 per cent cheaper than moving the cargo through rail or road. But still the logistics cost is very high in India and so is traffic congestion, while water transport is low-cost, low-pollution and low-carbon mass-transport mode. Please share the initiatives taken by the government to reduce cost, dwell time and congestion?**

**A:** When it comes to high logistics cost in India, I will bring a few facts. Many of the advanced countries which have coastal line have, over the years, taken the advantage of their coastal routes and have built huge industries along these routes. As a result, their production and consumption centers are confined to these coastal areas. Logistics cost of these countries are quite low i.e. 9-10 per cent as compared to the logistics costs in India which is 14-15 per cent of GDP. But, because of our geographical layout and history, both population growth and industrial developments have generally taken place in regions far away from the coastline.

At present, the focus is to exploit the potential of the existing coastal routes, so that the logistics cost comes down. To achieve this, firstly, we have to ensure world-class infrastructure at ports for the easy movement of cargo. Secondly, if industries are

developed along the coastal routes, the cost of transportation of cargo to and from the hinterland may reduce by as much as 90 per cent. Thirdly, ports also have to be well-connected to the hinterland, so that there is a seamless movement of cargo from the hinterland to the ports and for that proper railway/road connectivity should be available. Under the Sagarmala Programme, more than 4,200 km railway line and 8,700 km road network is proposed to be added to the existing networks, so that there is a seamless movement of cargo from the hinterland to ports and vice versa. Fourthly, port operations have to be of the world standards with respect to productivity. In this regard, there is a need to have IT-enabled services, better quality of cranes, more mechanisation, advance Port Community System (PCS) etc. for stakeholders to interact with each other, less paperwork, more online transactions and seamless communications etc. All these areas have been given focus under Sagarmala. This is expected to provide the desired framework for improving the logistics scenario in the country.

Coming to the aspect of congestion, I would say that if we compare the absolute cost of coastal movement with road or rail movement, the cost per km of coastal movement is quite less but it is not so simple and one to one equation. For example, if it costs 20-30 paisa per-tonne-per-km in waterways, it costs approximately Rs. 1.0-1.2 per-tonne-per-km in rail and approximately Rs. 2.0 per-tonne-per-km by road. But the ground reality is slightly different. When you transport the cargo through sea route, then you have to consider the first-mile connectivity till the loading port, transportation through sea route, last-mile connectivity from the unloading port and multiple handling of cargo at these various points.

At times, a short route is available through rail/road compared to the coastal route and the total distance covered through coastal movement may be significantly higher. For example,

for movement from Deendayal Port to Paradip Port, the rail route is approximately 2,000 km but the sea route will include journey from the outside of Sri Lanka, with a total length of approximately 4,000 km. All these considerations have to be factored in by the industry before deciding on a coastal route. This adds to the cost of transportation through the coastal route. It may be appreciated that even if the cost of transportation along the coastal route is the same, coastal shipping leads to large-scale reduction in pollution and congestion on the road or rail networks.

Various studies have been undertaken by the Ministry of Shipping to identify routes which are financially viable through coastal shipping along with discussions with various stakeholders for means to reduce costs through coastal movements. There are certain policy interventions which have been carried out, for example, the Ministry has recently relaxed cabotage for the movement of fertilizers and agricultural produce. Other policy interventions are under discussions with other ministries and state governments.

As far as the dwell time is concerned, various measures have been taken to reduce it. Under the Sagarmala Programme, 197 port-related modernisation works, especially designed to reduce dwell time including through IT interventions, have been identified. One of the steps already taken by the JNPT is with regard to direct port delivery. Earlier, containers were sent to the CFS for custom clearances but now, about 1,600 companies have been given clearance by the customs to directly take their shipments from the port without going to the CFS. This results in a significant reduction in time and costs for these firms. Other measures including deployment of container scanners, development of parking plazas and allotment of time slots are also being considered to reduce dwell time.

Overall, the port authorities are trying to make it easier for the customers to move their cargo, which will eventually reduce the dwell time.

**Q: How do you think technology is changing the future of coastal shipping in India?**

**A:** The Port Community System is a platform where various stakeholders are able to communicate and transfer data online with each other. This platform is now being upgraded to PCS-1x. It will have additional features. It reduces paperwork and provides real time assessment of stock, cargo and equipment to the stakeholders on a need basis.

Secondly, the focus is on the modernisation and mechanisation of the equipment with state-of-the-art technology to improve the efficiency and productivity. Unlike the historical precedence, most ports today provide their berth operations on PPP mode, which allows private sector efficiencies in the port sector. Also, servicing higher capacity ships is commercially more profitable, and, therefore, ports are creating infrastructure to handle large capacity vessels that require higher draft. The Ministry has funded the development of National Technology Center for Ports, Waterways and Ports at IIT Chennai to develop related technologies and reduce our dependence of foreign consultants. Similarly, the Ministry of Shipping has also funded the development of Center of Excellence at Mumbai and Visakhapatnam for imparting training for ship design, ship-building and hull design etc., which will be one of its kind in the South-Asian region.

The Inland Waterways Authority of India (IWAI) is coming out with world-class inland vessels for rivers. These vessels are being designed by a reputed international firm and their prototypes will be available shortly. The prototypes are being designed with due consideration to efficiency in terms of fuel and durability and their ability to operate in various conditions. These vessels are also being designed to run on fuel mixed with ethanol/methanol which is both cost-effective and environment-friendly.

**Q: Coastal shipping presently accounts for only 7 per cent of the overall cargo movement in India. Promotion of coastal shipping is essential due to the potential economic and social benefits it could confer. Hence, it is important to address issues such as route development, capacity additions, incentives by reduction in fuel bill, logistic cost, impact of land congestion and pollution on the national economy and environment. Please elaborate on the government's initiatives to promote coastal shipping and address these issues.**

**A:** So far as the route development is concerned, more than 4,200 km of rail network and 8,700 km of road network have been planned to be added. These projects are under various stages of development and require an overall investment in excess of Rs. 2.25 lakh crore.

For capacity addition, the Sagarmala Programme is considering a planned investment of nearly Rs.1.5 lakh crore. These projects include new port development, capacity addition at existing ports, and operational improvements at the ports.

For a reduction in fuel costs, GST on bunker fuel which was earlier 18 per cent, has now been reduced to 5 per cent. Further, since pipelines are one of the most efficient ways of transportation for liquid cargo,

3 pipeline projects are in progress.

For logistics costs, there is the concept of development of Multi-Modal Logistics Parks (MMLPs). The objective of developing these MMLPs will be to serve as hubs for aggregating cargo and further coordination for dedicated movement of individual cargo to end-use industries in their influence area. So far, 15 MMLPs have already been identified under the Sagarmala Programme and one MMLP at Pantnagar has been completed. JNPT has planned four ICDs at Jalna, Sangli, Nashik and Wardha in Maharashtra to act as centres to collect the cargo from nearby areas.

Some of the ports which have surplus land are now also utilising the land for industrial development. For example, Deendayal Port has about 1,425 acres of land and has come up with a master plan to identify and establish industries that can provide cargo to the port for import-export/coastal movement leading to a win-win situation for both the industry and the port. JNPT is coming up with a Special Economic Zone over 430 acres of land. The Paradip Port also has identified about 500 acres of land for industrial development and the land is being allotted to various industries.

The Ministry takes it as a focussed area to arrest the growing trend of the Indian cargo being trans-shipped at foreign ports and a policy initiative to relax cabotage to arrest this trend has been announced in May 2018.

Results of this intervention are very encouraging and Indian ports will hugely gain in terms of coastal cargo by this initiative.

**Q: How do you foresee the future of coastal shipping in India?**

**A:** The main vision of the Sagarmala Programme is to reduce the logistics costs for the domestic and EXIM trade with a minimal infrastructure investment. One of the main objectives of the Sagarmala Programme is to increase the current share of coastal and inland water transport in the national modal-mix from the existing 6 per cent to 12 per cent by the year 2035 through various interventions to optimise the modal-mix of the transportation of goods and reduce the cost of transportation of cargo.

The Ministry believes that there will eventually be a grid of roads, rail, pipelines and terminals, all converging at one or the other MMLP in the country.

At these MMLPs, transporters will have the option to transport their shipments via road, rail or coastal movement. These coastal legs, including the riverine movement, are what will drive logistics efficiency, and also reduce road congestions in large urban centers of the country. ■

*(The content is based on the interview given to the 'Cargo Connect' digital magazine)*



*A ship on its journey through coastal movement*

# FOURTH CEMENT TERMINAL AT COCHIN PORT BEGINS OPERATIONS

**With the fourth terminal, more volume of cement will take to coastal shipping, resulting in reduced logistic costs and cement prices.**

As 'Penna Suraksha' carrying 25,000 tonnes of cement from Krishnapatnam arrived at Q6 berth at Ernakulam Wharf, that marked the beginning of operations of the 4th cement terminal of the Cochin Port.

The opening of a 4th cement terminal at the Cochin Port is part of the drive to prompt modal shift in transport of cement, from road and rail to sea, in order to promote coastal shipping as a cost-effective and environment-friendly means of transportation. Cement being a high-volume, product, lower-cost sea transport is very important as a game-changer in logistics.

Another significance of the opening of the 4th cement terminal is the immediate urgency for transportation of cement in view of the huge destruction of buildings and infrastructure in Kerala due to floods. Coastal shipping of building materials like cement is economical and will help rebuild Kerala in a cost-effective manner with lower logistic costs.

Presently, three cement terminals of Ambuja, UltraTech and Zuari are in operation at the port and handle 7,83,000 tonnes of cement annually.

The bagging terminal of Penna Cement Ltd. is the fourth such terminal at the Cochin Port. The terminal has been set up in

1.14 hectare of land leased by the Cochin Port Trust and is expected to handle 3 lakh tonnes of cement annually.

The terminal has been designed to connect to Q6 berth at the Ernakulam Wharf, where ships carrying cement from the Krishnapatnam plant will be berthed for transfer of the cargo to the silos through pneumatic suction. The terminal has four silos with a total capacity of 20,000 MT and has the designed capacity of 0.50 MMTPA for cement bagging. The Cochin packing terminal has an annual throughput of 0.30 MMT, to begin with.

The Cochin Port has facilitated the installation of automated cement bagging units by allotting land adjacent to berths to cement companies. Cement is brought in bulk by ships and is transferred to silos on the adjacent land through pipelines.

The port is expected to handle 1.5 million metric tonnes of cement by 2020. Malabar Cements, a Government of Kerala enterprise, has also been allotted land at the Cochin Port for setting up a bagging terminal.

With its increasing capacities for cement handling, the Cochin Port is geared up to play a crucial role in taking coastal shipping to new dimensions. ■



Containers being loaded into a vessel at Cochin Port

# DCIL DECLARES 20% DIVIDEND FOR 2017-18

With a post-tax profit of Rs. 1,664.27 lakh, DCIL displays a stellar show.

When the financial world is lamenting over the profit squeeze, the Dredging Corporation of India has displayed a profit of Rs.1,664.27 lakh after tax and declared a dividend of 20%.

In its 42nd Annual General Meeting held in August, the company announced the dividend of Rs.2 per equity share of Rs.10 each on the paid-up capital of Rs.28 crore for the year 2017-18. The total dividends amount to Rs. 5.6 crore.

Having the largest equity participation, the Government of India holds 73.47 % of the share capital in the company. A cheque of Rs. 4,11,44,026 (Rs. 4.11 Crore ) was handed over to Shri Nitin Gadkari, Hon'ble Minister of Shipping, by Shri Rajesh Tripathi, CMD of DCIL, in the presence of senior officials of the

Ministry of Shipping in New Delhi on 28 August, 2018.

The company earned a profit of Rs.1,664.27 lakh after tax for the year as compared to Rs. 712.26 lakh for the previous year. The operational income was Rs. 59,187.36 lakh as compared to Rs.58,514.17 lakh for the previous year. The total income for the year stood at Rs. 61,211.90 lakh as compared to Rs.59,896.55 lakh for the previous year. The company's earning per share has increased to Rs. 5.94 as compared to Rs. 2.54 for the corresponding previous year.

What added to the financials of the DCIL were its dredging contracts. During the year, the Corporation executed maintenance dredging contracts for Kolkata Port Trust, Cochin Port Trust, Cochin Shipyard,

RGPPL-Dabhol, Gangavaram, Mumbai Port Trust and New Sand Trap and its approaches at Visakhapatnam Port Trust. At the same time, capital dredging contracts were executed at Paradip Port, Andaman & Nicobar Islands, Puducherry, Gogha and Dahej and even Bangladesh.

The DCIL spent Rs. 109.42 lakh on corporate social responsibility (CSR) initiatives during the year, taking up the construction of toilets in public places and Government schools as well as installation of RO plants in Government schools.

Incorporated in 1976 to provide integrated dredging services to the country's Major Ports, DCIL today is a Mini Ratna public sector undertaking, under the Ministry of Shipping. Some of its major clients range from Major Ports, non-major ports and the Indian Navy to state governments. ■



Shri Nitin Gadkari, Hon'ble Minister of Shipping and Shri Rajesh Tripathi, CMD, DCIL, holding the blow-up of the details of the dividend cheque for Rs. 4.11 crore. Also in the picture: Shri Gopal Krishna, Secretary and Shri Rabindra Agrawal, JS (Ports)

# MOVEMENT OF FLY ASH ACROSS NATIONAL WATERWAYS

**In one of the longest haul in India’s inland water movement, barges with fly ash set sail for 2085 km long haul – from the Ganga to Brahmaputra.**

Two barges carrying fly ash sailed from Bihar to Assam in one of the longest hauls in India’s inland waterways sector. The two 1,000-tonne barges, belonging to the Inland Waterways Authority of India, carrying 1,233 tonnes of fly ash were flagged off at Kahalgaon (National Waterway-1, river Ganga) for Pandu (National Waterway-2, river Brahmaputra) on 30 August, 2018.

The barges sailed through three waterways – National Waterway-1, National Waterway-2 and Indo-Bangladesh Protocol Route and reached Pandu near Guwahati in nearly 30 days, covering a distance of 2,085 km. According to the Inland Waterways Authority of India (IWAI), the journey of the barges marks the commencement of a critical integrated movement through multiple waterways.

*Passing through three waterways – National Waterway-1, National Waterway-2 and Indo-Bangladesh Protocol Route, the journey of the barges marks the commencement of a significant integrated multi-waterways movement.*

The fly ash that the consignment carries, is a by-product from NTPC’s super thermal power plant at Kahalgaon and was to be delivered to Star Cements for use in their cement plant in Guwahati.

“More such movements of fly ash and pond ash from the Super Thermal Power Plants of NTPC are being planned on National Waterway-1”, said Shri Pravir Pandey, IWAI’s Chairman.

More than ten such pilot movements – with different kinds of consignments and different stretches of distance – have been successfully completed recently on the National Waterways, which will instill confidence and interest in the inland waterways industry and vessel operators. In July, IWAI launched a dedicated portal ‘FOCAL’ to connect to cargo owners and shippers, providing them real-time data on the availability of vessels.

As its commitment towards building an alternative mode of transport which is environment-friendly and cost-effective, IWAI is engaged in developing a network of National Waterways. Numerous facilities like multi-modal and inter-modal terminals, Roll on-Roll off (Ro-Ro) facilities, ferry services and navigational aids are fast taking shape as part of the infrastructure. ■



*A barge carrying fly ash through the National Waterway-1*

# IWAI COMES UP WITH INDIA'S FIRST MODERN SHIP DESIGNS FOR THE GANGA

As IWAI introduces state-of-the-art ship designs for the river Ganga, it marks a major milestone in the growth of India's inland water transport.

The country has got the first-of-its-kind vessel designs for inland water transport of goods which can ply in shallow waters. The Inland Waterways Authority of India (IWAI) has come out with 13 standardised state-of-the-art ship designs suitable for large barge haulage on the river Ganga (National Waterway-1).

The navigation in the Ganga throws up an immense challenge due to its complex river morphology, hydraulics, acute bends, shifting channels, meanders and currents. The challenge poses the need to build such vessels which can effectively ply on a low depth and have a high-carrying capacity. The development of the design marks a critical technological triumph.

While it will enable the domestic shipbuilding industry in constructing functionally more effective inland vessels, it will open new possibilities for cargo and passenger movement on National Waterway-1.

The Government is implementing Jal Marg Vikas Project (JMVP) for capacity augmentation of navigation on National Waterway-1 – from Varanasi to Haldia – at an outlay of Rs. 5,369 crore with the technical assistance and investment support from the World Bank. Even as the work on JMVP is going on in full steam, the specially designed vessels will navigate on low drafts with high carrying capacity, ensuring environment-friendly transportation. For the shipbuilding industry, the new designs will translate into savings of Rs. 30-50 lakhs on the

designing of a vessel.

Taking the ambiguity out of vessel building, the designs will help shipyards build vessels of standardised dimensions and capacity and make them available off the shelf, besides developing the 'sale and purchase' market for inland vessels.

*Some of the designs can enable movement of bulk cargo carriers with a capacity of 2,500 tonnes and maneuverability in three metres of depth. Just one such vessel can remove almost 150 truckloads of pressure from the road or one full rail rake from the track.*

The new designs are a result of rigorous studies of the characteristics of rivers conducted by a high-level technical team comprising of experts from IWAI, Indian Institute of Technology (Kharagpur) and Indian Register of Shipping, with periodical technical consultations with domain experts of the World Bank.

The vessels built around the new designs can sail even in depths of about two metres, carrying about 350 cars on a five-deck car carrier. Some of the designs can enable movement of bulk cargo carriers with a capacity of 2,500 tonnes and maneuverability in three metres of depth. Just one such vessel can remove almost 150 truckloads of pressure from the road or one full rail rake from the track. The designs will lead to reduced fuel costs and, in turn, lesser logistics costs.

The designs have been prepared by DST, Germany, which specialises in low-draft, high-carrying capacity vessels and has developed designs for various categories of dry and liquid bulk carrier, Ro-Ro vessels, car carrier, container carrier, LNG carrier and tug-barge flotilla.

IWAI had awarded the contract to DST in September, 2016 through a global bidding.

The new designs denote the touching of a major milestone in the growth of India's inland water transport. They also signify a major stride towards the 'Make in India' impetus. ■



# MoU INKED FOR 362 KM-LONG INDORE-MANMAD RAILWAY CORRIDOR

The new railway line will cut down the distance between Mumbai and key central India locations by 171 km.

The logistics map of Madhya Pradesh and Maharashtra is soon going to have a new railway line that will significantly cut down distances and the transit cost. An MoU was signed by the Ministry of Shipping, Ministry of Railways, Government of Maharashtra and Government of Madhya Pradesh for a Rs. 8,600 crore railway line project between Indore (MP) and Manmad (Maharashtra).

The MoU was inked on 28 August 2018 in the presence of Shri Nitin Gadkari, Hon'ble Minister of Shipping; Shri Piyush Goyal, Hon'ble Minister for Railways; Shri Subhash Bhamre, Hon'ble Minister of State for Defence, Shri Shivraj Singh Chouhan, Hon'ble Chief Minister of Madhya Pradesh; and Shri Devendra Fadnavis, Hon'ble Chief Minister of Maharashtra.

*"We are starting a very big railway project from Indore to Manmad. Indore is a commercial hub and from here the containers by using Central Railways will come to Manmad, and from Manmad they will go to JNPT!"*

Shri Nitin Gadkari

The 362-kilometre-long rail corridor will complete a missing link and reduce the distance by 171 km between Mumbai and key central India locations. The new line will be primarily used for the running of cargo trains and only a few passenger trains will be allowed to use the route.

At present, containers and other rail traffic from Indore and other locations in the central India follow a circuitous route through Vadodara and Surat to reach Mumbai, Pune and ports like JNPT, travelling a distance of 815 km. The straight connectivity will reduce travel time and lower logistics costs.

Speaking on the occasion, Shri Gadkari hailed the signing of the MoU as a major step towards development of backward areas of Madhya Pradesh and Maharashtra, through which the new railway line will pass. The project is estimated to result in cumulative net economic benefits of Rs 15,000 crore in the first ten years of operations.

The Hon'ble Minister further added that the logistics

advantages of the project include providing a shorter route for the passenger as well as freight traffic originating from, terminating at or crossing through the region. The project will reduce the logistics cost for the cargo centres located in the Northern India such as Lucknow, Agra, Gwalior and Kanpur belt as well as the Indore-Dhule-Bhopal region to the gateway ports of JNPT and Mumbai. It will provide an alternative route to the existing central and western railway lines and will reduce congestion on the over-utilised existing railway network.

Shri Gadkari also said that the project will help in employment generation, reduction in pollution, fuel-consumption and vehicle operating costs.

The new railway line will pass through the Delhi-Mumbai Industrial Corridor nodes of Igatpuri, Nashik and Sinnar, Pune and Khed, and Dhule and Nardana. The project will reduce the logistics cost for the cargo centres located in the Northern India such as the Lucknow, Agra, Gwalior and Kanpur belt as well as the Indore-Dhule-Bhopal region to the gateway ports of JNPT and Mumbai.

The Ministry of Shipping or its nominated PSUs including JNPT, will be the main promoter of the new joint venture project. The Governments of Maharashtra and Madhya Pradesh have agreed to contribute an equity share of 15 per cent each towards the project. ■



(L to R) Shri Gopal Krishna, Secretary; Shri Shivraj Singh Chouhan, Chief Minister, MP; Shri Piyush Goyal, Hon'ble Minister of Railways; Shri Nitin Gadkari, Hon'ble Minister of Shipping and Devendra Fadnavis, Chief Minister, Maharashtra at the signing of the MoU

# ARCHIVING THE 5,000 YEARS OF INDIA'S MARITIME LEGACY

A National Maritime Heritage Complex is in the offing, which will archive and showcase India's maritime legacy. Recently, a workshop was held in Mumbai to deliberate over the concept design and conservation of India's maritime heritage.

India's maritime roots are among the oldest in the world. The world's first tidal dock was built at Lothal (Gujarat) during the Harappan civilisation. Vedic texts such as the Rigveda and the Shatapatha Brahmana have several references to naval and commercial expeditions. Similarly, the Matsya, Varaha and Markandeya Puranas too have descriptions of sea voyages. Indian ships, in the ancient times, sailed to the distant shores of Africa and Arabia in the west, and the harbours of South-East Asia in the east.

Now, to archive and showcase the legacy of India's maritime history, the Ministry of Shipping along with the Ministry of Culture, the Government of Gujarat and other stakeholders is working on a project to set up a National Maritime Heritage Complex at Lothal (Gujarat). The preliminary work on the design and execution of the complex are being carried out and further consultations with experts are underway about its detailed feasibility.

In order to further plan and take the project forward, a one-day consultation workshop was held at Chhatrapati Shivaji Maharaj Vastu Sangrahalaya in Mumbai on 4 September, 2018.

At the workshop, discussions took place around the plan options, themes, design vision, best strategies for collection of artifacts and design approaches and various other aspects. The workshop was attended by officials from the Ministry of Shipping, Ministry of Culture, Ministry of Tourism, Maritime Boards, Archaeological Survey of India, museum heads, maritime history researchers, scholars

from universities, research institutes and maritime societies as well as private collectors and those who hold artefacts, objects and documents related to the maritime history of India.

*"An Indian ship could carry crew between 100 and 300. The ships were well-furnished and decorated in gold, silver and copper."*

*Marco Polo (1254-1324), Italian Explorer*

In his address, Shri D. K. Rai, Director (Sagarmala) said that concrete efforts are being made to realize the vision of the National Maritime Heritage Complex and emphasised that the experience shared by maritime history experts would help in shaping the implementation plan.

Speaking on the occasion Shri. Sabyasachi Mukherjee, Director General, Chhatrapati Shivaji Maharaj

Vastu Sangrahalaya, Mumbai, said that the development of National Maritime Heritage Complex realises our key need to preserve and showcase our rich maritime heritage. The Complex would help the younger generations learn from our rich past.

The concept design for the of NMHC has been conceived with extensive infrastructure, which includes: (i) National Maritime Museum (NMM), (ii) Maritime University, (iii) Maritime Heritage-based Theme Park, (iv) Virtual Museum, (v) Maritime Heritage Research Institute and (vi) Hotel/ Motel and Restaurant for Tourists. The museum, perceived on the global measures, will display India's maritime heritage and trade through the water route. It will also showcase artifacts collected from places throughout India by the Archaeological Survey of India (ASI) and such other entities. ■



Group of participants at the NMHC Workshop in Mumbai

# BUILT IN 1965, CONCEIVED IN 7,000 BC

When the world was still hunting with the Neolithic Age stone tools, Odisha was building ports and ships. That maritime genius gave birth to Paradip Port.



*A moment frozen in history: Pandit Jawaharlal Nehru laying the foundation stone of Paradip Port*

The excavations at Kuliana, Kuchai and Baiyapur in the Mayurbhanj district of Odisha have opened an entirely new chapter about the maritime history of Odisha. Archaeologists have discovered Neolithic Age polished shouldered tools, rice and cord-impressed pottery which have striking similarities with those found in the South-East Asian countries. It is believed that Odisha's maritime connections with the South-East Asia began from the Neolithic period.

The maritime history of Odisha traces its beginning in the Neolithic Age, between 7000 and 3500 BC. Known as Kalinga in the chronicles, it developed ports and ships when most of the world was still developing stone tools. Its strategic location with an extensive coastline kept its harbours bustling with ships and its coastal people engaged in maritime enterprise.

In excavations at different places, researchers have unearthed various remains, belonging to different epochs of history, which prove Odisha's sea trade with countries far and near. The discovery of Chinese celadon ware, Chinese coin, white porcelain, blue, white and brown glazed porcelain shreds, Roman rouletted potteries and fragments of amphora, knobbed ware, Burmese potteries, Ceylonese coins, Siamese

potteries, Indonesian terracotta, egg-white Arabian pottery, moulded ware, stamped ware, decorated ware, kaolin ware and such other remnants testify to its trade link with far-off countries like Rome, China, Burma, Sri Lanka, Indonesia and Arabian countries.

### ***Know why the Magadha emperor Ashok invaded Kalinga?***

*The 'Elephant Cave' inscription (1st century BC) from Udayagiri, near Bhubaneswar indicates that Magadha emperor invaded Kalinga to acquire the sea ports of Kalinga as Magadha did not have any sea port of its own.*

The ships of Kalinga had a predominant presence on the eastern coastline of the ancient India and controlled the waters. The commanding powers of the Kalinga rulers over the Bay of Bengal finds a reflection in 'Raghuvansam' by Kalidasa (400 AD), who describes the king of Kalinga as 'Mahodadhipati' (the Lord of the Ocean). The 6th century Buddhist scripture 'Mañjuśrī-mūla-kalpa' mentions the Bay of Bengal as 'Kalingodra' and it was known as 'Kalinga Sagar' during that time.

**Fabled harbours that never remained quiet**

The chief ancient ports of Kalinga were Tamralipti, Che-li-ta-lo (Manikpatna), Palur (Dantapura), Khalkattapatna, Dosarene, Barua, Kalingapatnam and Pithunda. These ports were bustling centres for coastal trading and also for loading and unloading of merchant ships. They were developed as international ports, from which ships sailed to Malaysia and the far-off harbours of China and Rome. These ports carried on a brisk business of export and import of goods, belonging both to the state and individual merchants. The ports were also used for passenger traffic as there were no separate passenger ships.

Of all the ports of ancient Odisha, the foremost was the port of Tamralipti. From this port there was a regular sailing of vessels which either proceeded along the coasts of Bengal and Burma (Myanmar), or crossed the Bay of Bengal and made a direct voyage to the Malaya Peninsula and to the East Indies, Indo-China and beyond.

Che-li-ta-lo (Manikpatna) was another important seaport of ancient Odisha. The reference of Che-lita-lo for the first time appears in the accounts of Hiuen-Tsang in the 7th century AD. Hiuen-Tsang writes that it was situated to the south-east of the Wu-Tu (Odra) country. That it was near the shore of the

ocean and was above twenty 5 miles in circuit. The city was naturally strong and contained many rare commodities. It was a thoroughfare and resting place for sea-going traders and strangers from distant lands.

Palur (Dantapura) was another important port on the coast of ancient Odisha. The earliest reference to this port appears in the work of the Greek sailor, Ptolemy, during the 2nd century AD who has named it as 'Paloura'. Ptolemy has mentioned it as one of the bases for the preparation of his map. Khalkattapatna, on the basis of the archaeological data, was a major international port having connection with many countries.

***When the Bay of Bengal was called 'Kalinga Sagar'***

*The 6th century Buddhist scripture 'Mañjuśrī-mūla-kalpa' mentions the Bay of Bengal as 'Kalingodra', and it was known as 'Kalinga Sagar' during that time.*

Fa-Hien, the fifth century Chinese pilgrim, has left many detailed accounts of the various seaports that the ancient Kalinga that were anchored with ships from foreign lands and thronged by merchants, travellers and sailors.



*The beginning: Mr. Petar Stambolic, Former Prime Minister of erstwhile Yugoslavia inaugurating the entry of the first ship into Paradip Port on 12 March 1966*

### The marine genius of the ancient world

The marine genius of the Odishan people built some of the world's earliest ships.

In those times, ships were made of wood. As good quality timber was available in large quantities in the forests of Orissa, it was natural that ship-building industry should be centred here. The people of Kalinga were also skilful boat builders, for their ships had to be both swift and strong to carry them and their goods to different countries across unpredictable seas.

Rules and regulations regarding construction of ships were recorded in the Sanskrit 'Juktikalpataru'. The 'Madalapanji' records that king Bhoja built many ships with local wood. The recovery of many wood-working adzes and other artefacts from Chilika Lake shows that Golabai was a boat-building centre.

The earliest representation of ships is noticed in a sculptured frieze collected from the vicinity of the Brahmeswar temple, Bhubaneswar, which depicts two ships. In the first ship, there is a standing elephant in the front part of the ship. In the centre of the ship, two persons are represented being seated, and two sailors are shown with oars in the rear end steering the ship. The second ship which is not completely shown depicts a standing elephant on its frontal portion. From this depiction it may be inferred that the ships of ancient Odisha were well-built and were big and strong enough to carry elephants. Terracotta seals from Bangarh and Chandraketugarh (400 BC to 100 BC) depict seagoing vessels carrying loads of corn. The ships have a single mast with a square sail.

### Changing tides in Odisha's maritime history

Arabian sailors began to intrude into the Bay of Bengal as early as the 8th century. They started controlling the water and the dominance of the sailors of Odisha began shrinking. When

the Mughals invaded Odisha, the sea ports of Orissa were still flourishing centres of trade and commerce and so were used by them to carry on trade with foreign countries.

#### *Kartik Purnima: a celebration of the maritime glory of ancient Odisha*

*In the ancient times, when sea-farers used to sail to distant islands of Java, Sumatra, Borneo and Sri Lanka, women gave them a grand send-off on Kartik Purnima. Now, people float tiny boats made of coloured paper and banyan bark, commemorating the old maritime glory. This is called 'Boita Bandana'.*

As the Mughals did not much understand the significance of marine trade and concentrated more on the mainland, there was gradual decline in the inland water traffic and sea-borne traffic in Odisha. Later, Portuguese, Dutch, French and English ships emerged to have a powerful presence and the ports once again regained their magic and magnificence. The ports of Balasore, Pipili and Harishpur became sought-after destinations on the sea route. With the passage of time, the English East India Company slowly took over most of the marine trade of the region. The ports served as important departure points for the exports of the finest Indian rice and shiploads of salt.

### A modern chapter in Odisha's maritime history

During the early 17th Century, Paradip and its adjoining areas were connected with Cuttack through river Mahanadi and its branches. Transportation of goods from rural areas to Cuttack was done through waterways via Dhamara and Pattamundai. But slowly, that discontinued due to silting of the river-bed. In 1819, the British constructed a sort of a harbour at north of the present Paradip site, which was then called False Point. In 1862, the East India Irrigation Company explored the potential



A bird's eye view of the Paradip Port

## Legacy of the past, technology of the future

of Paradip harbour for transportation of rice from the area.

During the early post-independent period, a minor port came into existence at Paradip in 1958 through the efforts of the State Government. Subsequently, the Government decided to construct a major port there.

On 3rd January 1962, the foundation stone for Paradip Port was laid by late Pandit Jawaharlal Nehru, the then Prime Minister of India. On completion, the port was taken over by the Government of India from the State Government on 1 June 1965 and was declared open to traffic on 12 March 1966. INS 'Investigator' was the first ship to berth in the port on the 12th March, 1966.

The Government of India declared Paradip Port as the 8th Major Port of India on 18 April 1966, making it the first Major Port on the east coast, commissioned after independence. The Paradip Port Trust came into being in 1967 for development and management of the port. Since then, PPT has taken the Paradip Port from one success story to another.

Strategically situated at the east coast of India, the Paradip Port today is an interface between the eastern region of the country and the world, serving a vast hinterland spread over the states of Odisha, West Bengal, Jharkhand, Chhattishgarh, Madhya Pradesh, Bihar and Uttar Pradesh.

In FY 2017-18, the port has achieved 102.01 million metric tonnes of cargo handling and is striving to touch 120 million metric tonnes in the current fiscal year and become India's No. 1 port. With its outstanding feat in cargo handling, the port has entered the 'Exclusive Club of Ports' – a recognition for touching the mark of 100 tonnes of cargo.

The Paradip Port has been consistently maintaining the second position for the last four years in terms of traffic handled amongst all Major Ports.

While the Paadip Port has its roots in pre-history, its vision goes into future. The port is equipped with some of the most futuristic technologies that give it speed, efficiency and capability.

The port has been touching new measures in operations and capacity expansion. The Cargo handling capacity of the Port has increased to 277 million metric tonnes per annum, which is the highest amongst all Major Ports. Four projects, namely mechanization of EQ-1, 2 & 3, construction of a new Deep Draught Coal Berth, construction of a new Deep Draught Iron Ore Berth, construction of a new Clean Cargo-cum-Container Berth are at various stages of progress. The commercial operations have started in the Clean Cargo Multipurpose Berth after receiving the provisional completion certificate on 29 March 2018. The overall completion is expected by 31 October 2018. This will give a boost not only to the economy of Odisha but also to that of West Bengal, Jharkhand and Chhatisgarh.

The port is also taking measures to develop synergy in creating right eco-system for the port. A new Multi-modal Logistic Park spreading over 100 acres will be set up soon, for which work has been awarded to CONCOR and it is to commence this year. Under this project, warehousing facilities to the tune of 1.1 million square feet is being envisaged along with the setting up of Wood Park and Mega Food Park.

Once these projects get completed, the Paradip Port will emerge as one of the premier industrial hubs in the county and the Smart Industrial Port City will also fit into this vision.

While the Paradip Port looks ahead into a shining future, it turns back to a magnificent past. Significantly, the port commemorates its anniversary on the auspicious day of Kartik Purnima, which celebrates the glorious maritime history of Odisha. ■



# IN THE FACE OF THE CHALLENGE

It was the flood of the century that Kerala saw. It devastated life. But it couldn't break the spirit of the people, who got up to rebuild life again. Hand in hand with the people was the Ministry of Shipping. Fighting the odds with them. And playing crucial roles at many fronts.



Shri A. V. Ramana, Deputy Chairman, Cochin Port Trust handing over a cheque to Shri Pinarayi Vijayan, Hon'ble Chief Minister of Kerala as a donation towards the Chief Minister's Relief Fund



The first truck carrying relief material from the Major Ports (lungi, bedsheets, dhoti, saree, 5-kg rice bags and water, biscuit etc.) leaving Tuticorin for Cochin



Two containers of relief supplies carrying sanitation material, toiletries, medicines, clothes and food items mobilised and forwarded by Kolkata Port being flagged off by Shri Alphons Kannanthanam, Hon'ble Union Minister in the presence of Shri A. V. Ramana, Chairman, Cochin Port



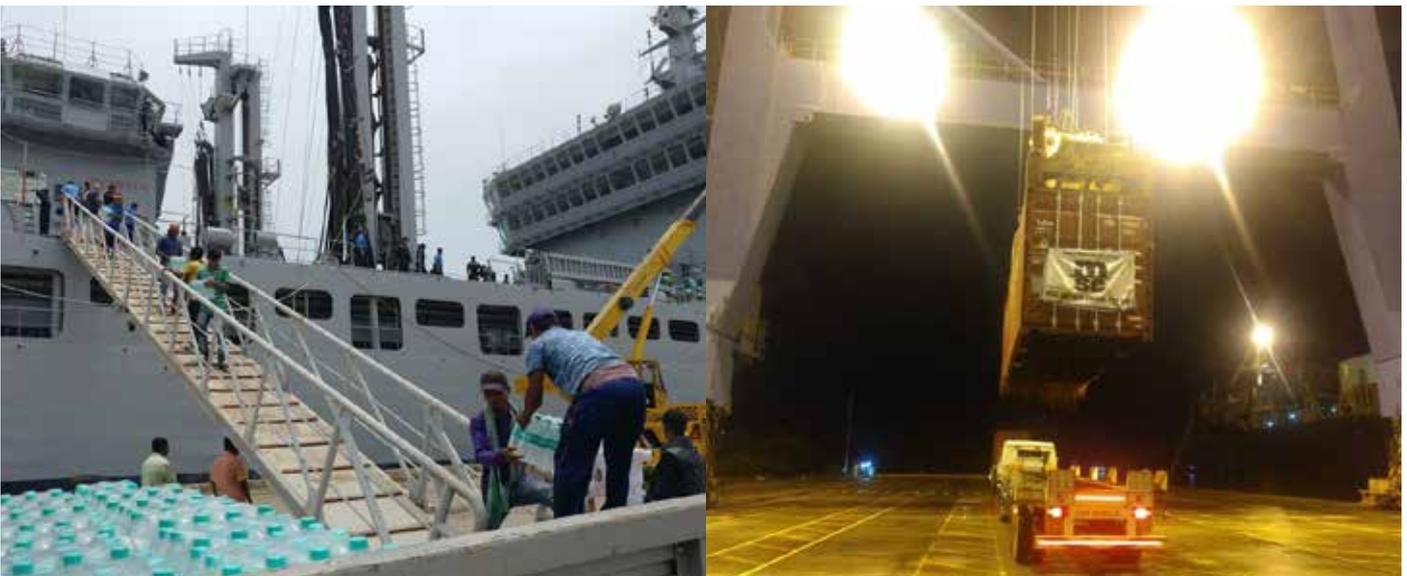
Relief supplies arriving at Cochin Port



Relief material at Cochin Port



Food supplies mobilised from Major Ports and consolidated at VOC Port in Tuticorin, ready to be sent to Cochin Port through coastal shipping



Cochin Port Trust has earmarked two berths at Mattancherry and Ernakulam wharfs for the priority berthing of vessels bringing flood relief material. In the picture: two warehouses especially earmarked for free storage of the flood relief material and medicines



Port personnel unloading relief supplies at Cochin Port



# SWACHHATA HI SEVA 2018



Under a cleanliness drive, the ports undertook various initiatives during the 'Swachhata Hi Seva' campaign (15 September-2 October, 2018) and the Swachhata Pakhwada (15-30 September, 2018).



Chennai Port



Cochin Port



Mumbai Port



Deendayal Port



Kamarajar Port



Jawaharlal Nehru Port



New Mangalore Port



Visakhapatnam Port



V.O. Chidambaranar Port



Mormugao Port



Kolkata Port



Paradip Port

# THE SAGARMALA POST

(A Newsletter on Sagarmala Programme by Ministry of Shipping)