आज़ादी का अमृत महोत्सव

जनेप प्राधिकरण JNPA

INDIA'S BEST PERFORMING PORT

G20 भारत 2023 INDIA

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ONE EARTH • ONE FAMILY • ONE FUTURE

INDIA'S BEST PERFORMING PORT

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JAWAHARLAL NEHRU PORT

An Overview

06TH JULY 2023

Mr. Unmesh Sharad Wagh
Deputy Chairman
Jawaharlal Nehru Port Authority, India

INDIA'S BEST PERFORMING PORT

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- JNPA was commissioned in 1989 – 33 years
- 6 million TEUs per year / 80 MMTPA
- Ranked 26th in Top 100 Container Ports of the World
- 50% of container in Major ports handled in JNPA
- 25% of the Country's Customs revenue is from JNPA
- 5 Container Terminals, 1 Liquid and 2 General Cargo
- Deep Water Draft of 15 M
- Ships of 12500 TEUs capacity

JNPA Terminals – A Bird's Eye View

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JNPT : INDIA'S FIRST LANDLORD PORT

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NSFPT (J. M. Baxi)	NSICT (DP World)	Liquid Terminal	JNPT-SDB	APMT (Maersk & CONCOR)	NSIGT (DP World)	BMCT (PSA)	COASTAL BERTH (J. M. Baxi)
							
July 2022 1.5 M TEUs 22.1 MMTPA	Apr 1999 1.2 M TEUs 20.5 MMTPA	Feb 2002 7.2 MMTPA	Sep 2002 4.5 MMTPA	Mar 2006 1.8 M TEUs / 23.7 MMTPA	Jul 2016 0.8 M TEUs 10.3 MMTPA	Feb 2018 2.4 M TEUs-P1 30 MMTPA	Nov 2022 2.5 MMTPA
Quay Length – 680 M RMQCs – 6 (50 MT) RTGCs – 27 (15 eRTGCs) RMGCs – 3 Rail Sidings – 3 + (2 Escape)	Quay Length – 600 M RMQCs – 8 (60 MT) RTGCs – 29 (No eRTGCs) RMGCs – 3 Rail Sidings – 2 Royalty – Rs. 4,118/- per TEU (From 3rd **Jul'** 2021)	Quay Length LB-1 – 308 M (Draft 15 M) LB-2-250 M (Draft 10.5 M) Marine Loading Arms LB-1 - 6 Nos. LB-2 – 4 Nos. Revenue Share PSU Cargo – 20% Non-PSU – 50%	Quay Length – 450 M (Draft 10 M) Cargo Handled- Break Bulk, Chemicals, Cement & Coastal	Quay Length – 712 M RMQCs – 10 (65 MT) RTGCs – 30 (No eRTGCs) RMGCs – 3 Rail Sidings – 3 Revenue Share – 35.503%	Quay Length – 330 M RMQCs – 4 (65 MT) RTGCs – 16 (All eRTGCs) RMGCs – Nil Rail Sidings – Nil Revenue Share – 28.09%	Quay Length – 1000 M RMQCs – 12 (65 MT) RTGCs – 30 (No eRTGCs) RMGCs – 4 Rail Sidings – 4 + (1 Escape) Revenue Share – 35.79%	Quay Length – 250 M (Draft 11 M) Capacity for handling Liquid Cargo of 1.5 MTPA and General Coastal Cargo of 1 MTPA

Maritime India Vision 2030 (MIV 2030)

- Ministry of Ports, Shipping and Waterways has formulated Maritime India Vision 2030 (MIV 2030), to improve the Safety and sustainability at Indian Ports and Maritime bodies:
- Renewable Energy
- Air Quality improvement
- Water usage optimization
- Improving Solid Waste management
- Dredging Material Recycling
- Zero Accident Safety Program

"Harit Sagar" Green Port Guidelines

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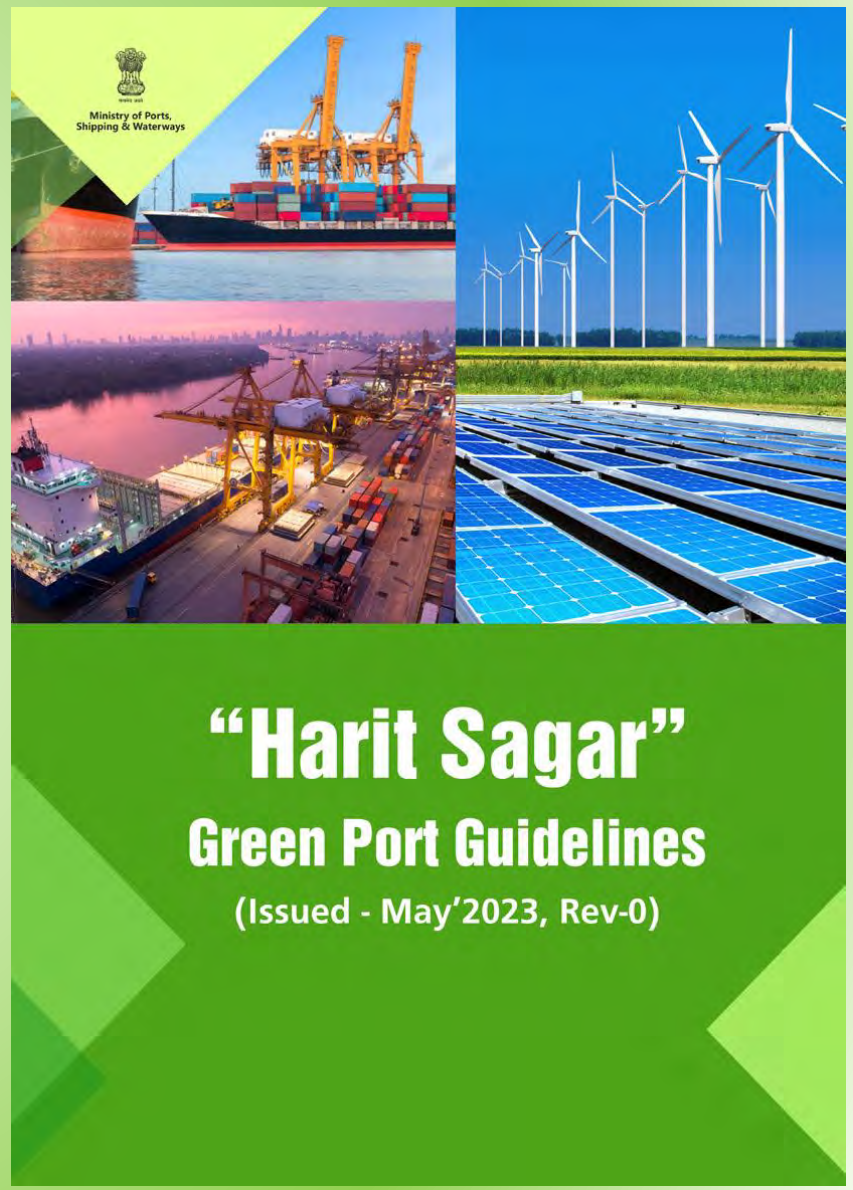
- **Ministry of Ports, Shipping and Waterways, GoI has formulated "Harit Sagar" Green Port Guidelines, to reduce carbon intensity and to develop an environment friendly ecosystem at Major Ports.**

Focus Areas for Implementation are

- ✓ Green Cover
- ✓ Electrification of Port Equipments (including Vehicles)
- ✓ Renewable Energy
- ✓ Shore to Ship Power Supply
- ✓ Use of Energy Efficient equipments
- ✓ Promotion of Coastal Shipping
- ✓ Marine Ecosystem
- ✓ Waste Management
- ✓ Environment Management
- ✓ Environment Performance Indicators (EPIs)



Green Port Initiatives of JNPA for Sustainable Port Management

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- Solar Generation : 4.10 MWp.
- 28% of Avg. power requirement
- Upcoming solar plants of 2.5MWp.

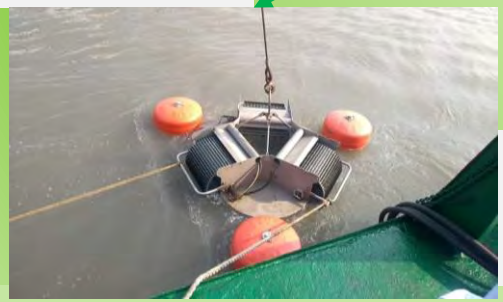
Initiative for ease of Traffic Congestion ITRHO and CPP

Shore Power Supply to tugs and port crafts.

JNPA GREEN INITIATIVES

31 E-RTGCs/ Carbon footprint saving - 1500 tonnes/ year.

12 e-vehicles / Estimated savings of 47 tonnes equivalent CO2 per year.



Oil Spill Response Facility (OSR)

4000 LED Lamps
Savings – 7,12,058 kWh energy/yr.

Solar Power Plants

- JNPA's Average Power Demand - 14.6 MW Present installed solar capacity - 4.10 MWp (~28% of average demand)
- Presently 44% of container handling equipment are running on electrical/hybrid.
- Target is to achieve 84% by 2025-26.
- Introduction of e-vehicle presently 12 nos. Target 53 nos. by next financial year.

Upcoming Solar Power Projects at JNPA

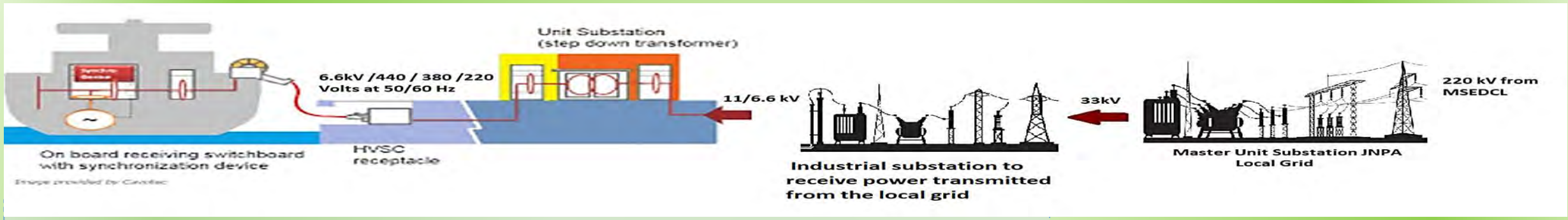
- 1.5 MWp with battery storage facility- Expected completion: Q2:2024 with this the solar capacity will be about 52 % of average power demand of
- BMCTPL has entered into an agreement for 6.52 MWp Solar Plant under open access regulations.
- After completion of above initiatives the installed capacity of renewable energy will be about 65% of expected average power demand of 18 MW at JNPA in the year 2024.

SAVING IN CARBON FOOTPRINT

Achieved: ~10,000 Tons/Year

Expected saving due to ongoing green initiatives – about 10,600 Tons / year.

Shore Power Supply



- ✓ JNPT is providing shore power supply to tugs and port crafts.
- ✓ Consultant for carrying out feasibility study for providing shore power supply to EXIM vessels is on board.
- ✓ Application submitted MERC for obtaining orders permitting power distributing to ships by JNPA.
- ✓ Challenges:
- Regulatory issue- Distribution license
- Landlord Port – Creation of infrastructure in the area of PPP Operator.
- CAPEX and O&M expenses – Who will invest?
- Tariff for the shore power – Special tariff for shore power.
- Readiness of vessels to accept shore power.

Electric Vehicles

- JNPA inducted 9 Electric vehicles for internal movement.
- Also, inducted 3 EVs for JNP-SEZ operations.
- One E- Environmental Monitoring introduced by IIT Madras.
- Road map preparation is under progress in consultation with PPP Operators for acquisition of E-vehicles except tractor-trailers.

E-RTGCs

- Conventional RTGCS are powered through diesel engine which consumes 15-20 litres of diesel per hour.
- In total 31 electrically operated RTGCs are acquired.
- One of the BOT operator has planned to acquire 36 nos. of E-RTGCs in second phase.
- One of the BOT operator (GTI) successfully converted 03 no's of diesel engine operated RTGCs to Hybrid RTGC

Carbon Foot Print Saving

- **Saving in carbon foot print achieved – about 10,000 Tons / year**
- **Expected saving in carbon foot print due to ongoing green**

	2018-19	2019-20	2020-21	2021-22
Energy Consumed from the GRID in Million Units	90.23	83.24	79.95	89.40
Container handling in Million TEUs	5.13	5.03	4.67	5.68

- **80% of the electricity is consumed for operating Container Terminals.**
- **Though container handling was highest in 2021-22 energy consumed from the grid is proportionally less in comparison with 2018-19 due increased use of renewable energy and energy conservation initiatives.**

Oil Spill Response Facility at JNPA

- **Oil Spill Response Facility (OSR): JNPA and Mumbai Harbour, a common Oil Spill Response Tier – 1 facility is at Jawahar Dweep**
- **A Multi- Purpose Utility Launch (MPUL) is hired to combat minor oil spill, collecting floating debris and is equipped with pollution control equipments.**
- **The pollution control cell carries out regular inspection of J N Port channel and berth area to check the Oil Spill.**
- **Regular planned drills are being conducted every week in each tug in rotation to check the Oil Spill Dispersant spraying systems.**

Environmental Monitoring at JNPA

Environmental Monitoring is carried out through IIT Madras at JNPA.

Environmental Monitoring stations in port area are as under:

- **Ambient Air: 10 Stations**
- **Marine Water and Ecology: 11 Stations**
- **Marine Ecology : 10 Stations**
- **Drinking Water : 20 Stations**
- **Ambient Noise : 12 Stations**
- **Sewage Effluent Quality: Sewage Treatment Plant**
- **Continuous Ambient Air Quality Monitoring Station (CAAQMS) was inaugurated on January 2021 and Air Quality data displayed to the public through large screen at Port Operation Centre.**
- **Continuous Marine Water Quality Monitoring Station (CMWQMS) was inaugurated on November 2022**

JNPAT Air Quality Index 2018-2023

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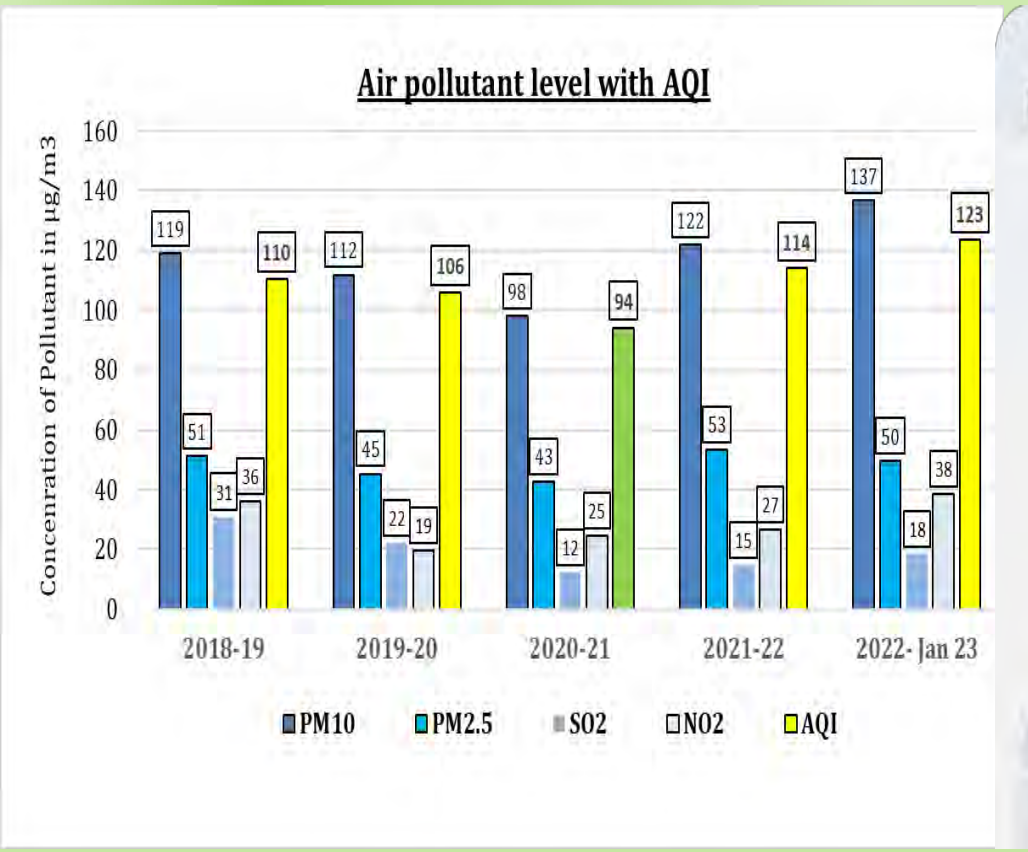
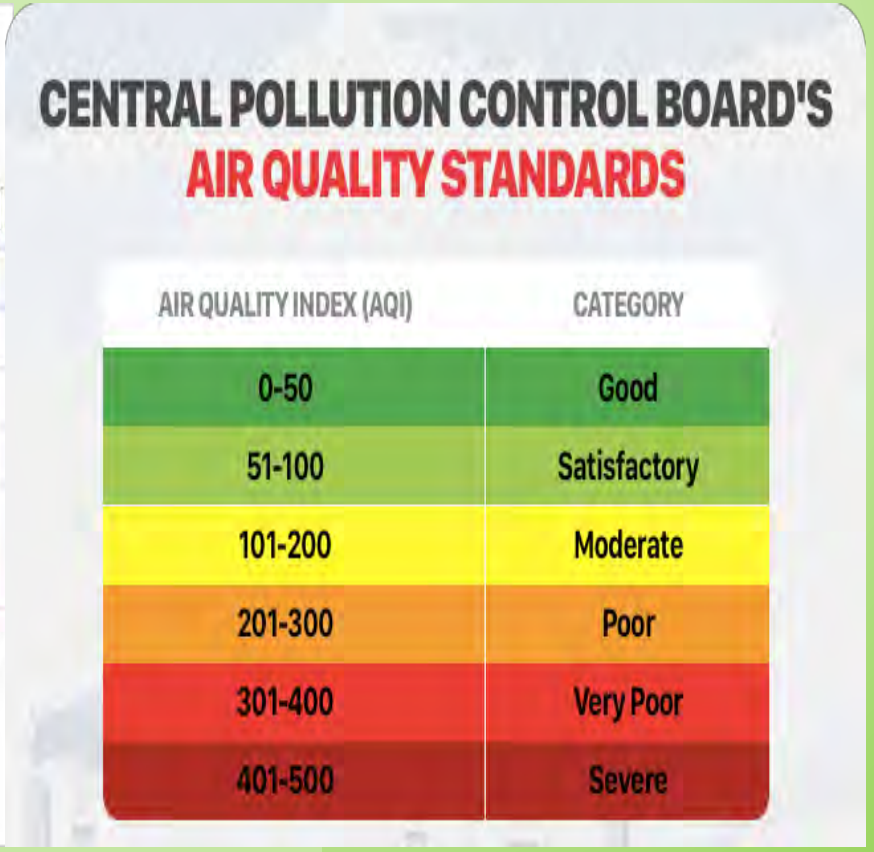
Parameter	Unit	NAAQS	2018-19	2019-20	2020-21	2021-22	2022- Jan 23
PM_{10}	µg/m³	60	118.96	111.80	97.91	121.86	136.55
$PM_{2.5}$	µg/m³	40	51.23	45.26	42.72	53.38	49.63
SO_2	µg/m³	50	30.79	22.12	12.07	14.57	18.35
NO_2	µg/m³	40	36.06	19.45	24.60	26.60	38.46
AQI			110.38	105.90	94.13	113.90	123.42





At the End of the COVID-19 pandemic, transportation operations and Construction works was gradually increased afterwards, resulting in an increased AQI.

Beach Cleaning Drive at Pirwadi Uran

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JNPA has conducted Swachh Sagar, Surakshit Sagar Clean Coast, Safe Sea beach cleaning program at Uran Pirwadi beach

JNPA's Compliance to International Standards

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- Quality Management System - ISO 9001:2015
- Environmental Management System - ISO 14001:2015
- Information Security Management System - ISO 27001:2013
- Occupational Health and Safety Management System – ISO 45001:2018

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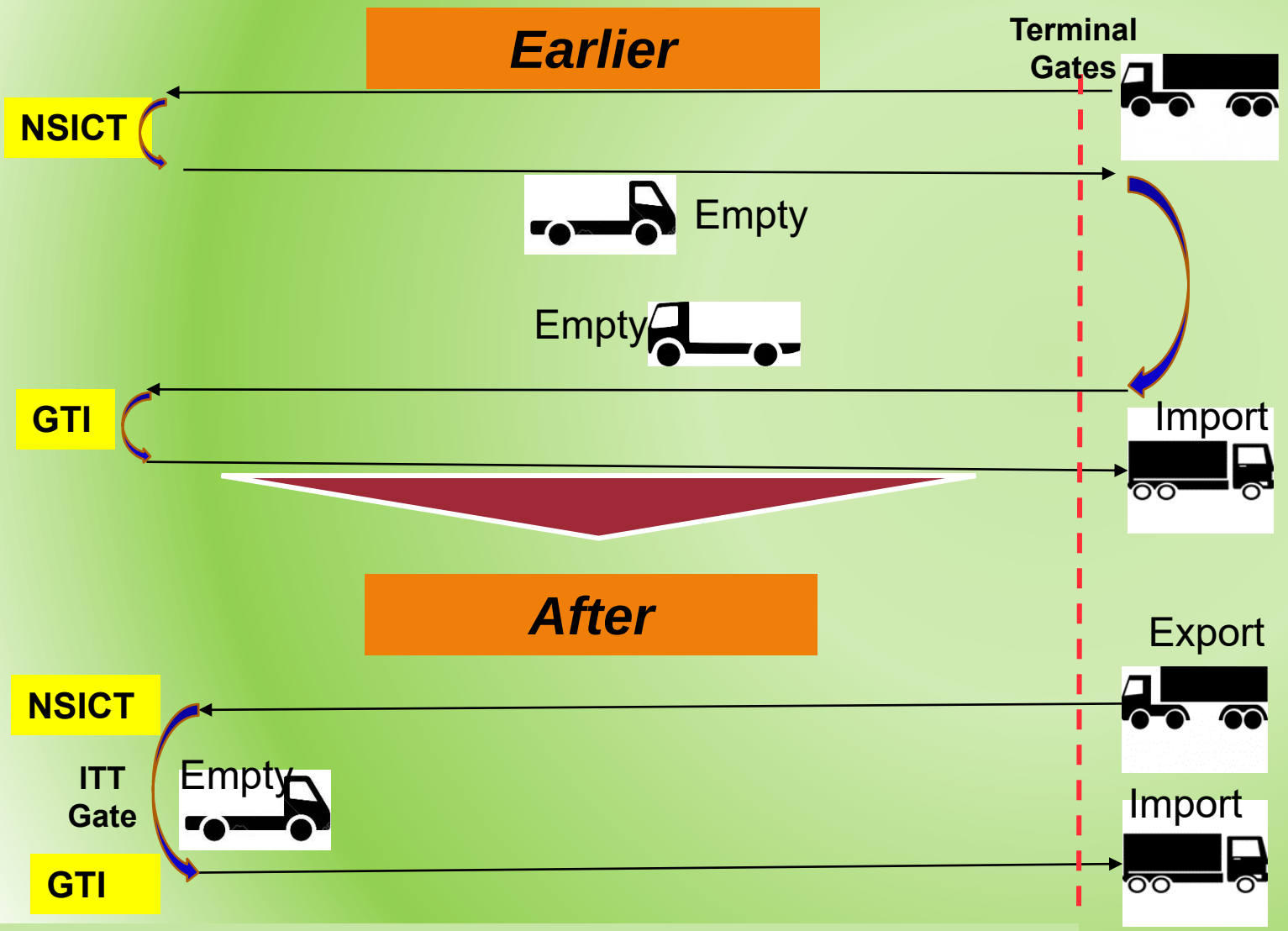
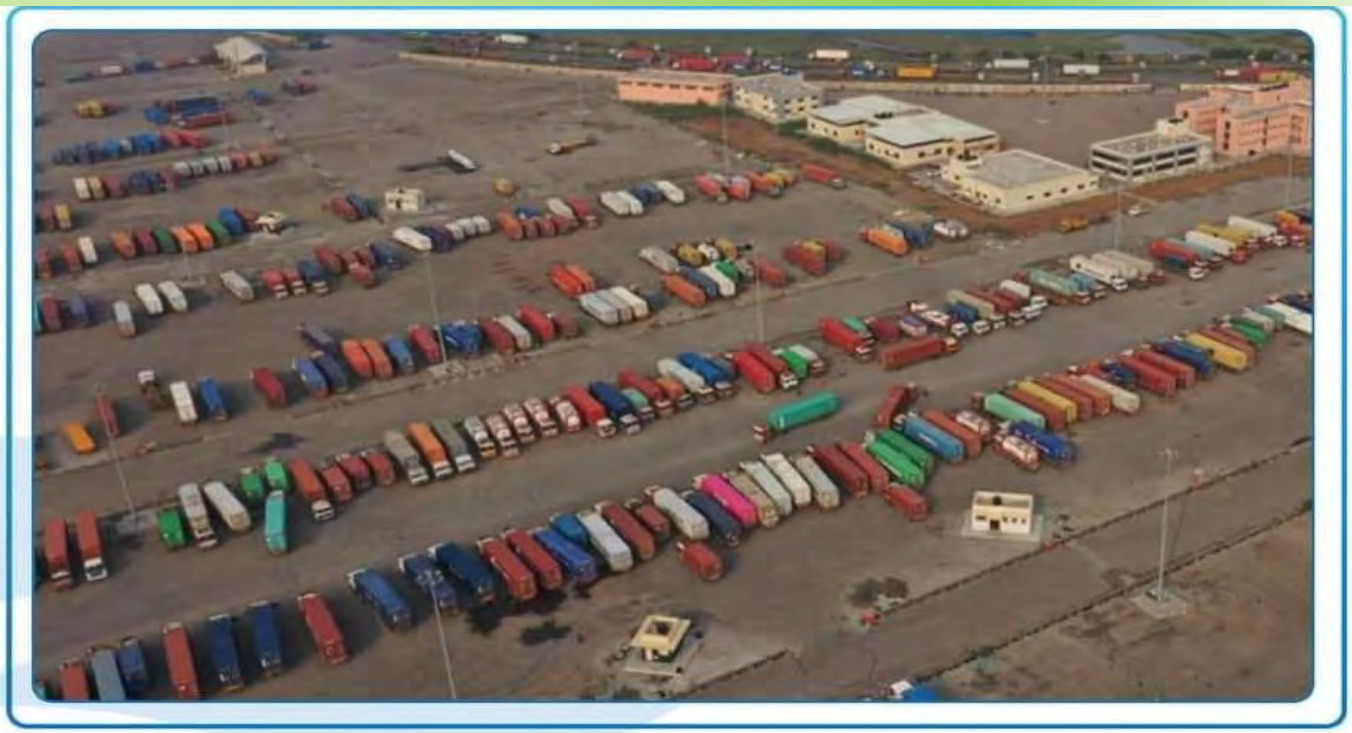
ISO

Inter-Terminal Tractor Movement Facility



Enabling seamless connectivity, JN Port's Inter Terminal Movement of Tractor Trailers has played a huge role in simplifying processes. Saving a 7.5 km run per road trip, it has helped enable faster turnaround time with two commercial transactions in one trip.

Centralized Parking Plaza



JN Port's Centralized Parking Plaza is equipped with a huge parking capacity to help park 1,538 tractor trailers in one go, hereby integrating document processing by Customs and streamlining traffic movement using Real Time Parking Management system. Reduce congestion on road.

#EaseOfDoingBusiness

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SAGARMALA
PORT-LED PROSPERITY

Comprehensive Solid Waste Management Project at JN Port

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In line with the Swachh Bharat Mission to revolutionize waste management for a cleaner India, 10 MT/Day Solid Waste Management Facility commissioned in the month of February 2021 as per SWM rule 2016 for port users, Port Township and villages within port estate.

स्वच्छ भारत
एक कदम स्वच्छता की ओर

Comprehensive Wastewater Management Facility

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The treated sewage water of STP is being used for the gardening purpose of JNPA township and about 2 MLD treated water is being used which reduced the burden on use of drinking water. The port has further planned to increase use of recycled water for SEZ area & tank farm area.

Rejuvenation of Water Body near Sheva Temple and Sheva Foothill at JNPA

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In order to encourage green projects in port area it is decided to preserve the water bodies located in JNPT area. The existing water bodies which are located at Sheva temple and Sheva foothill are filled with rain water and remain wetted for entire season. The rejuvenation of water bodies also included in Maritime India Vision 2030. The project involves Bioengineering techniques for the rejuvenation of the water bodies. Schedule Date of completion is 03.07.2023.

Potential Benefits

- **Increase in the Quality and Volume of Water in the lakes**
- **Enhanced Bio diversity**
- **Erosion control in the watershed area**
- **Recharging ground water table**
- **And improvement of the lake precinct to establish a connect between the Locals and Visitors.**

Sustainability Report

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The Port First Sustainability Report is completed as per Global Reporting Initiative (GRI) standards. The Sustainability Report reflects JNPA's commitments and achievements in fostering leadership in sustainability and creating value for the trade – depicted across the economic, social, and environmental parameters of the Global Reporting Initiative (GRI) Standards 2020.

Environment Awareness Training to Stakeholders

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Plantation by Miyawaki method in JNP SEZ

This method of afforestation was developed by the Japanese botanist and plant ecology expert Professor Akira Miyawaki, and draws inspiration from nature's ecosystems to create 100% organic, dense and diverse pioneer forests in as little as 20-30 years.

Port Green Area of JNPA

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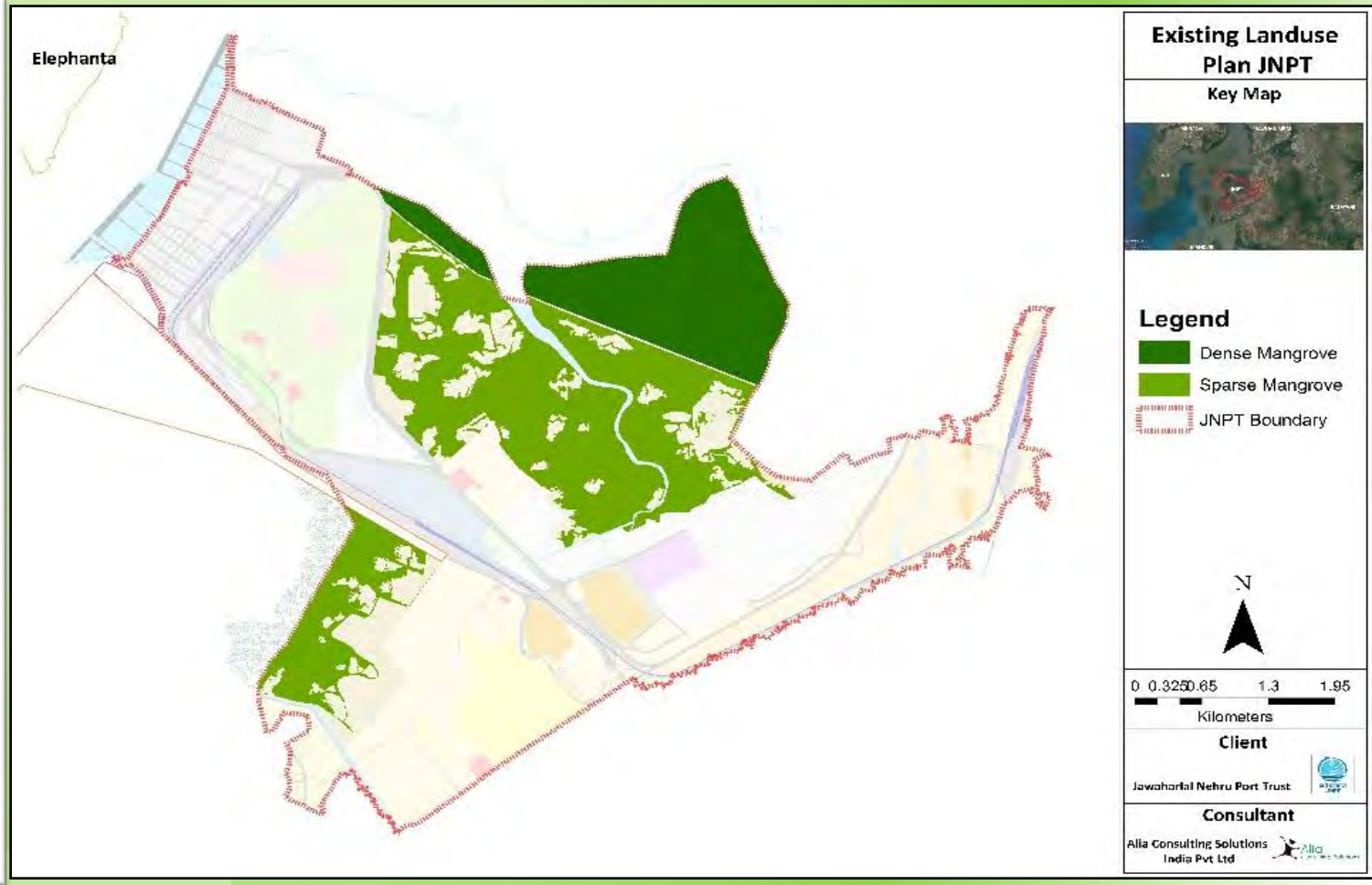
The Port's ecosystem consists of rich and diversified flora and fauna. To address the Global climate change problem at port level, the Port has taken up the initiative to acquire "Green Port Status".



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Thank You!