

DAILY CURRENT AFFAIRS (DCA)

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ASSESSMENT OF LOGISTICS COST IN INDIA

Context

- The Union Minister of Commerce and Industry launched the **report on Assessment of Logistics Cost in India**.

About

- Prepared by:** The Industry and Commerce Departments.
- Comprehensive Framework:** It provides a comprehensive framework by capturing logistics costs across different transport modes, product categories, and firm sizes.
- Aim:** It follows the mandate of the National Logistics Policy (2022) to establish a uniform framework for measuring logistics costs and benchmarking them against global practices.
- Logistics Cost:** As per the current assessment logistics costs in India are estimated at about **7.97% of total GDP**.
- Previous Estimates:** Until now, logistics costs in India were often misrepresented, with commonly cited figures of 13–14% of GDP derived from external studies or partial datasets.
 - This led to inconsistent estimates, causing confusion among policymakers and global stakeholders.
- Improvement:** Estimates for the previous five years show that the growth rate of logistics costs is gradually slowing compared with the pace of growth in non-services output.

Key Achievements of India's Logistics Sector

- Ranking in 2023 Logistics Performance Index (LPI):** India was ranked **38th place out of 139 nations**, a notable improvement of six places since the last ranking in 2018.
- The Inland Waterways Authority of India (IWAI)** recorded cargo movement of 145.5 million tonnes in the year 2024–25.
 - The number of operational national waterways has also increased from 24 to 29 during the same period.

Key Objectives of National Logistics Policy (NLP):

- To **reduce logistics costs** to global benchmarks and to **bring it below 10% of GDP**.
- To improve India's ranking in the Logistics Performance Index (LPI) to the **top 25 by 2030**.
- To establish a **robust, data-driven decision support system** to ensure an efficient and integrated logistics ecosystem.

Challenges

- High Logistics Cost:** India's logistics cost is very high at around 13–14% of GDP (as estimated previously), making Indian exports less competitive compared to global peers.
- Infrastructure Gaps:** The sector suffers from infrastructure gaps in warehousing, cold storage, and last-mile connectivity.
- Overdependence on Road:** There is an overdependence on road transport, which causes congestion, delays, and higher transportation costs.
- Multimodal Transport Issues:** The low share of railways and inland waterways in freight transport hampers the development of an efficient multimodal system.
- Environmental Concerns:** Heavy dependence on diesel-based trucking increases carbon emissions and contributes to environmental pollution.

Key Government Initiatives in Logistics

- PM GatiShakti Master Plan:** It was launched in **2021** to integrate different modes of transport into a coordinated network.
 - It has brought together 57 Central Ministries/Departments and all 36 states and union territories.
- Maritime Amrit Kaal Vision 2047:** It is aligned with blue economy principles, lays out a long-term roadmap to transform India's maritime sector.
 - The vision also aims to boost coastal tourism, strengthen maritime skill development, and position India as a global hub for shipbuilding and repair.

Dedicated Freight Corridors



- **Dedicated Freight Corridors:** The Ministry of Railways is currently developing two Dedicated Freight Corridors (DFCs).
 - ♦ The objectives of these specialized railway lines are to ease congestion on existing passenger routes, lower transportation costs, and improve energy efficiency.
- **Multi-Modal Logistics Park:** 35 key locations such as Chennai, Bengaluru, Nagpur, Indore, and others have been approved through both private and public sector efforts for the development of MMLPs. Out of these, 5 are expected to be operational by 2027.
- **Unified Logistics Interface Platform (ULIP):** It is a digital platform that brings together data from various logistics-related ministries and departments on a single interface; it has recorded 100 crore API transactions in 2025.
- **Gati Shakti Vishwavidyalaya (GSV):** The GSV is **India's first university** dedicated to transport and logistics education.
 - ♦ GSV plays a key role in preparing skilled professionals to support this national goal.
 - ♦ Gati Shakti Vishwavidyalaya has signed Memoranda of Understanding (MoUs) with about 40 different industrial and academic institutions.
- **Sustainability: The Freight Greenhouse Gas (GHG) Calculator** has been developed for calculating and comparing the total cost of transportation and GHG emissions to build awareness and support sustainable development.
 - ♦ The Indian Railways has launched **Rail Green Points** for freight customers, allowing them to see potential carbon emission savings.

Source: PIB

LARGE SHIPS GRANTED INFRASTRUCTURE STATUS

In News

- The Ministry of Finance has finally given **infrastructure status** to large ships, meeting one of the shipping **industry's longest-standing demands**.

About

- **Large ships** are defined as **Indian-owned and flagged commercial vessels** with a **gross tonnage of 10,000 or more**, or Indian-built, owned, and flagged commercial ships of 1,500 gross tonnage or more.

- The **Ministry of Finance** included **"large ships"** in the harmonized master list of infrastructure sectors under the **"Transport and Logistics" category**, making them eligible for all benefits accorded to infrastructure projects.

Significance of Inclusion

- **Enables access** to infrastructure lending under easier terms, including higher limits on loans.
- **Facilitates access** to larger external commercial borrowings (ECB).
- Opens up opportunities for **viability gap funding and tax incentives**.

Status of India's Shipping Sector

- India has an approximately 11,099 km **long coastline**, with 13 major ports and over 200 non-major ports.
- India accounts for ~1.3% of world fleet tonnage, despite handling ~95% of its trade by volume and ~70% by value through **maritime routes**.
- **India is the largest supplier of seafarers after the Philippines**, contributing nearly 10% of global seafarers, and ranks among top 5 nations in officer supply.

Challenges

- **Low Indian-flag share:** Over 70% of India's cargo is carried on foreign ships, raising freight bill vulnerabilities (~\$75 billion annually).
- **Shipbuilding constraints:** High input costs, lack of scale, limited financing support, competition from East Asian yards.
- **Port efficiency gaps:** Though improving, turnaround time still lags behind global leaders like Singapore and China.

Recent Developments (2024–25)

- Launch of **India Middle East Europe Economic Corridor (IMEC)**, boosting the importance of Indian ports.
- **India joined IMO's Green Voyage 2050 programme**, committing to sustainable shipping.
- **Sagarmala Project:** Focused on port modernisation, connectivity, port-linked industrialisation, and coastal community development.
- **Maritime India Vision (MIV) 2030:** Roadmap for 3 lakh crore investment, aiming to increase Indian flag tonnage to 23 million GT by 2030.
- **Amrit Kaal Maritime Vision 2047:** Seeks to make India a global maritime hub with focus on green shipping, digitalisation, and cruise tourism.

- **Growth in cruise tourism:** The passenger traffic crossed the 1 million mark in 2024, aided by Mumbai, Kochi, Goa cruise terminals.

Source: TH

HIGH SEAS TREATY OF UN REACHES ENTRY INTO FORCE THRESHOLD

Context

- Recently, the BBNJ Treaty of the United Nations (UN) crossed the **threshold of 60 ratifications**, with Morocco and Sierra Leone becoming the 60th and 61st signatories respectively, paving the way to enter into force in January 2026.

About the BBNJ Treaty

- It is the **UN's High Seas Treaty**, formally known as the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine **Biological Diversity of Areas Beyond National Jurisdiction (BBNJ)**.
 - ♦ It builds on the **UN Convention on the Law of the Sea (UNCLOS)**, often referred to as the 'Constitution For The Oceans', adopted in 1982 and effective since 1994.
- It is designed to safeguard biodiversity in the **high seas — areas that lie beyond national jurisdictions**, and **aligning with the Kunming-Montreal Global Biodiversity Framework** goal of **protecting 30% of the world's land and sea areas by 2030**.
 - ♦ Currently, **only 1.44% of the high seas** are under **any form of protection**.
- It establishes **legally binding rules to:**
 - ♦ Create **Marine Protected Areas (MPAs)** in international waters; At present, **6.35% of the ocean is protected**, with just **1.89% designated as no-take MPAs**, where extractive activities are prohibited.
 - ♦ Ensure fair and equitable sharing of benefits from **Marine Genetic Resources (MGRs)**;
 - ♦ **Mandate Environmental Impact Assessments (EIAs)** for activities like deep-sea mining and carbon sequestration;
 - ♦ Promote scientific cooperation, capacity building, and technology transfer;

Criteria For Treaty To Enter Into Force

- According to the UN, the criteria for a treaty to enter into force are **typically outlined within the treaty itself**.

- For the **BBNJ Treaty**, the specific condition is:
 - ♦ The treaty enters into force **120 days after** the deposit of the **60th instrument of ratification, approval, acceptance, or accession**.
 - ♦ It means that once 60 countries formally ratify or accede to the treaty, a countdown of 120 days begins, after which the treaty becomes legally binding for those parties.

India's Role and Strategic Interests

- **India's Union Cabinet** approved the **signing of the BBNJ Treaty in July 2024** with the aim to enhance India's strategic presence beyond its **Exclusive Economic Zone (EEZ)**.
 - ♦ It opens avenues for scientific research, and facilitates access to marine genetic resources and technology.
- India's proactive stance reflects its commitment to **Sustainable Development Goal 14 (Life Below Water)** and its broader vision of environmental stewardship.

Next Steps: PrepCom and COP1

- **Preparatory Commission (PrepCom):** To **define the operational mechanics** of the treaty.
 - ♦ These include setting up the scientific and technical bodies, determining qualifications for experts, and outlining procedures for reviewing MPA proposals.
- **First Conference of Parties (COP1):** It will be convened after the treaty enters into force, marking the beginning of formal implementation.
- These sessions have focused on governance, the **Clearing-House Mechanism**, financial rules, and resource mobilization.

Source: DTE

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Source: Ministry of Railways (PIB)

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Source: PIB

WORLD'S 1ST FUNCTIONING AI-DESIGNED VIRAL GENOME

Context

- Recently, researchers at Stanford and the Arc Institute created **the world's first entirely AI-generated genome**.

About

- The **new virus** created by AI **can infect and kill bacteria**.
- Scientists have already used **AI to design individual proteins and even small multi-gene systems**. However, creating an **entire genome is way more complex**.
- In simpler words the **AI model learned the "language rules" of phage DNA** and then generated **a new, never-before-seen genome that still worked in real life**.

How was it done?

- Scientists used **Artificial Intelligence (AI)** called **Evo**, specifically genome **"language models,"** to design entirely **new bacteriophage** (virus that infects bacteria) genomes.

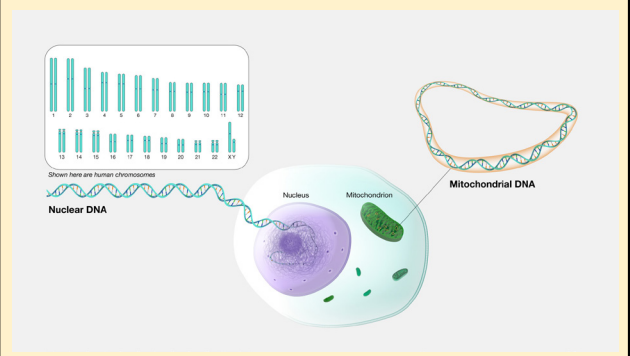
- **Evo was trained on about two million viral genomes** so it could learn the DNA, the patterns of gene order and composition.
 - ♦ The researchers guided the model to mimic phiX174, a small bacteriophage with just 11 genes and around 5,000 DNA letters that has long been a staple of molecular biology.

What is Virus?

- A virus is an infectious microbe consisting of a segment of nucleic acid (either DNA or RNA) surrounded by a **protein coat called capsid**.
- Viruses are **not considered living organisms** because they cannot carry out metabolic processes on their own.
- A virus cannot replicate alone; instead, it must infect cells and use components of the host cell to make copies of itself.
- Often, a **virus ends up killing the host cell** in the process, causing damage to the host organism.
- Well-known examples of viruses causing human disease include AIDS, COVID-19, measles and smallpox.

Genome

- The genome is the **entire set of DNA instructions found in a cell**.
- In humans, the genome consists of **23 pairs of chromosomes** located in the cell's nucleus, as well as a small chromosome in the cell's mitochondria.
- A genome contains **all the information needed for an individual to develop and function**.



Key Takeaways

- Instead of tweaking a few DNA letters, **AI created the whole genome from scratch**.
- The DNA sequences were very different from any natural phage but **still functional**.
- It could be huge for **phage therapy** i.e. using viruses to fight against antibiotic-resistant bacteria.

Significance

- It's a step beyond just reading a genome (sequencing), or synthesizing a known genome, scientists are designing new, functional genomes using AI.
- This could make phage therapy more adaptable, generating diverse phages to stay ahead of bacterial resistance.
- As technology gets cheaper and models improve, we might design more complex viral genomes, or phages targeting pathogens of clinical importance.

Source: IE

CLEAN PLANT PROGRAMME**In News**

- The Clean Plant Programme (CPP) is moving from vision to action, with field-level initiatives like nursery certification, training for authorities, crop-specific diagnostic protocols, and funding guidelines.

The Clean Plant Programme (CPP)

- It was conceptualized by the **Ministry of Agriculture & Farmers Welfare** in collaboration with the **Asian Development Bank**.
 - ♦ The National Horticulture Board (NHB) serves as an implementing and executing agency in association with Indian Council of Agricultural Research (ICAR), which oversees technical progress and facilitates capacity building.
- It is a novel initiative aimed at ensuring **healthy, disease-free planting material** of key fruit crops.

Key Features of CPP

- **Farmers:** Access to virus-free, high-quality planting material, for boosting crop yields and enhancing farmer income opportunities.
- **Nurseries:** Provides streamlined certification processes and offers infrastructure support, enabling nurseries to effectively propagate clean planting material and promote growth and sustainability.
- **Consumers:** Delivers superior produce free from viruses, improving the taste, appearance, and nutritional value of fruits available to consumers.
- **Exports:** Strengthens India's position as a leading global exporter by focusing on higher-quality, disease-free fruits
- **Equity and Inclusivity:** Ensures affordable clean plant access for all farmers, promotes women's participation through training and resources, and develops region-specific varieties suited to India's diverse agro-climatic conditions.

Importance

- CPP is set to boost **India's horticultural sector** while aligning with **Mission LiFE** and the **One Health initiatives** to promote sustainable and eco-friendly agricultural practices.
- Moreover, through plant health management, **CPP helps farmers adapt to climate change**, as rising temperatures not only trigger extreme weather events but also influence pest and disease behaviour.
- **CPP** complements the **Mission for Integrated Development of Horticulture (MIDH)**- a centrally sponsored scheme, launched in 2014-15 for holistic growth of the horticulture sector.

Concerns

- Climate change and plant diseases, especially from viruses, are causing major agricultural losses in India despite efforts to boost productivity.
- These threats reduce crop yield, quality, and lifespan, and are hard to manage once symptoms appear.
 - ♦ Using disease-free planting materials is the most effective solution.

Conclusion and Way Forward

- The **Clean Plant Programme (CPP)** is steadily moving forward, with several initiatives already underway and more planned to expand its impact.
- In the coming phase, the programme will focus on tangible on-ground actions such as broader consultations with nurseries for certification, development of training modules for relevant authorities, creation of a hazard analysis protocol for citrus, and diagnostic protocols for crops like mango, guava, litchi, avocado, and dragon fruit.

Mission LiFE (Lifestyle for Environment)

- It is an India-led global mass movement to nudge individual and community action to protect and preserve the environment.
 - ♦ Introduced by PM Narendra Modi at COP26 in Glasgow on 1st November 2021, it draws from India's rich cultural heritage, which promotes conservation of natural resources and harmony with nature.
 - ♦ It seeks to channel the efforts of individuals and communities into a global mass movement of positive behavioural change.

National One Health Mission

- One Health is a multidisciplinary approach that unites human, animal, and environmental health sectors to solve the health, productivity, and conservation challenges.

- ♦ In India, with its one of the largest livestock populations, diverse wildlife, dense human population, and diverse flora, there are both opportunities for coexistence and risks of disease spread.

Source : PIB

NEWS IN SHORT

BAGRAM AIR BASE

In News

- The US President wants the United States to reclaim **Bagram Air Base** in Afghanistan because of its **immense strategic, military, and geopolitical value**.

About

- Bagram Air Base is the **largest and most strategically significant military airfield** in Afghanistan, located in Parwan province around 40–60 km north of Kabul, near the ancient town of Bagram.
- **Built by the Soviet Union in the 1950s**, it played a pivotal role during the Cold War and the Soviet-Afghan War, and later, it became the nerve center for US and NATO operations after 2001.
- Bagram is positioned at the crossroads of **Iran, Pakistan, Central Asia, and close to China's Xinjiang province**, making it a unique vantage point for projecting military force or conducting surveillance in Eurasia.
- The base was vacated by **US forces in July 2021** as part of the broader withdrawal from Afghanistan, and it subsequently fell under Taliban control.

Source: HT

SAWALKOTE PROJECT

In News

- The stalled Sawalkote project which is part of the Indus system is back at the centre of India's strategy to tap the river's hydropower potential.

About

- The Sawalkote Project is a run-of-the-river hydroelectric power project **proposed on the Chenab River**, located in the Ramban and Udhampur districts of the Union Territory of Jammu and Kashmir.
- It is being **implemented by the National Hydroelectric Power Corporation (NHPC)**, a

Government of **India Mini Ratna Category-I Public Sector Enterprise under the Ministry of Power**.

- The project aims to enhance power availability in the region, especially during winter when shortages are frequent, transforming Jammu and Kashmir into a power-surplus region with the potential to export surplus electricity to the national grid.

Source: IE

INDUSTRIAL PARK RATING SYSTEM (IPRS) 3.0

In News

- The Union Minister of Commerce and Industry launched the Industrial Park Rating System (IPRS) 3.0.

About IPRS 3.0

- Developed by the **Department for Promotion of Industry and Internal Trade (DPIIT)** with support from the **Asian Development Bank (ADB)**, the initiative aims to further strengthen India's industrial ecosystem and enhance the competitiveness of industrial infrastructure.
- **Under IPRS 3.0**, industrial parks will be benchmarked and categorized as Leaders, Challengers, and Aspirers based on their performance across key indicators. This will provide investors with transparent and credible information, foster healthy competition among States and Union Territories, and guide policymakers in designing targeted interventions.
- **Building on the pilot phase in 2018 and IPRS 2.0 in 2021**, the third edition introduces an expanded framework with new parameters, including sustainability, green infrastructure, logistics connectivity, digitalization, skill linkages, and enhanced tenant feedback.

Source: PIB

PROJECT VIJAYAK CELEBRATES 15TH RAISING DAY IN KARGIL

In News

- Project Vijayak of the Border Roads Organisation (BRO) celebrated its 15th Raising Day in Kargil, marking a legacy of engineering excellence and resilience in Ladakh's harsh terrain.

Project Vijayak

- It was established in **September 2010 in Kargil** as a strategic response to the lessons of **Operation Vijay (Kargil War, 1999)**, emphasizing the need

for robust road infrastructure along the Line of Control (LC) to enhance military preparedness.

- **Areas Covered:** Initially covered **Kargil and Zaskar**—areas formerly under **Project Himank**.
 - ♦ It manages two key communication axes in the Western Indus Corridor: the Zojila–Kargil–Leh and Nimmu–Padam–Darcha routes.
 - ♦ Following a boundary realignment in 2019, it also oversees roads and airfields in the Western Shyok and Nubra Corridors, including the Siachen Glacier region.

Importance

- It has built over 1,400 km of roads and 80 major bridges across Ladakh, playing a crucial role in both military operations and civilian connectivity.
- Upholding its credo, “Always Victorious,” **Project Vijayak remains central to both national defense and regional connectivity**.

Source :PIB

EXTREME NUCLEAR TRANSIENTS (ENTs)

Context

- Until now, scientists believed gamma-ray bursts (GRBs) were the most powerful explosions since the Big Bang, but researchers have found something even bigger: **Extreme Nuclear Transients (ENTs)**.

What are ENTs?

- In astronomy, **transients refer to celestial objects** whose brightness changes significantly over a relatively short period.
- **Extreme Nuclear Transients (ENTs) phenomena** occur when **massive stars**, at least **three times the mass of our Sun**, are torn apart by supermassive black holes at the centres of distant galaxies.
 - ♦ The resulting **explosions release energy equivalent to what 100 Suns** would emit over their entire lifespans, making them visible across vast cosmic distances.
- **Gaia18cdj:** It is the most energetic ENT studied, it released over **25 times more energy** than the most powerful supernova ever discovered, more than the amount of energy that would be **released by 100 suns throughout their entire lifetime**.
- ENTs traverse **immense distances and remain luminous in radio wavelengths for years**, making it possible for astronomers to study them.

Significance

- They help scientists **study supermassive black holes** in the early universe.
- They **may explain how galaxies and black holes grow**.
- Future telescopes like the Rubin Observatory and Roman Space Telescope will make it easier to spot more ENTs.

Source: TH

SMOG EATING PHOTOCATALYTIC COATINGS

In News

- The Delhi government is going to conduct a time-bound feasibility study on the use of “**smog-eating**” **photocatalytic coatings** on roads, pavements and public.

About

- Smog-eating photocatalytic coatings aim to **reduce nitrogen dioxide (NO₂) and harmful hydrocarbons** in public spaces, thereby improving air and water quality.
- These coatings are designed for urban environments to mitigate air pollution by breaking down NO and volatile organic compounds (VOCs), which are common contributors to smog and poor air quality.
- These coatings contain materials, most commonly titanium dioxide (TiO₂), which serve as a photocatalyst. When exposed to light (primarily ultraviolet), TiO₂ becomes activated and initiates chemical reactions that break down airborne pollutants.
- The activated TiO₂ interacts with NO and harmful hydrocarbons, converting them into harmless byproducts like water, carbon dioxide, and nitrate compounds.

Source: PIB

DADASAHEB PHALKE AWARD FOR THE YEAR 2023

Context

- Legendary actor, director, and producer **Mohanlal** will be conferred the **prestigious Dadasaheb Phalke Award for the year 2023**.
 - ♦ The government of India previously honoured the actor with **Padma Shri in 2001 and Padma Bhushan in 2019**.

About

- **Instituted in 1969**, it is India's **highest award** in the field of cinema, presented **annually** at the **National Film Awards ceremony** by the Directorate of Film Festivals, an **organisation set up by the Ministry of Information and Broadcasting**.
- It is presented on the recommendation of the **Dadasaheb Phalke Award Selection Committee**.

- The award is named after Dadasaheb Phalke (1870–1944), who is regarded as **“the father of Indian cinema”**. He **directed India's first feature film, Raja Harishchandra (1913)**.
- The **award comprises** a Swarna Kamal (Golden Lotus), a shawl and a cash prize of Rs. 10 Lakhs.
- **The first recipient** of the award was actress **Devika Rani**, who was honored in 1969.

Source: AIR

