NEXT IAS

DAILY CURRENT AFFAIRS (DCA)

Time: 45 Min

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Table of Content

DEFORESTATION AND HEAT-RELATED MORTALITY IN TROPICAL REGIONS

Context

- A recent study published in Nature Climate Change revealed that deforestation-induced warming caused nearly 28,000 additional heat-related deaths annually in tropical regions between 2001 and 2020.

Deforestation in the Tropics

- **Tropical forests** are biodiversity-rich ecosystems found mainly in **South America, Africa, and Asia.**
- **Significance:** They act as significant carbon sinks, absorbing greenhouse gases through photosynthesis and regulating the hydrological cycle.
  - However, large-scale deforestation has led to both climate impacts and loss of human lives.
- According to the study, **1.6 million sq. km** of tropical forest cover was lost globally between **2001 and 2020:**
  - Central and South America: 7,60,000 sq. km
  - Southeast Asia: 4,90,000 sq. km
  - Tropical Africa: 3,40,000 sq. km

Do you know?

- As per India State of Forest Report 2023, the forest and tree cover of the country is 8,27,357 sq km which is 25.17 percent of the geographical area of the country, consisting of 7,15,343 sq km (21.76%) as forest cover and 1,12,014 sq km (3.41%) as tree cover.
  - The top four states showing maximum increase in forest and tree cover are **Chhattisgarh** followed by **Uttar Pradesh** , Odisha and Rajasthan.
  - Top three states showing maximum increase in forest cover are Mizoram followed by Gujarat and Odisha.
  - Area wise top three states having largest forest and tree cover are Madhya Pradesh followed by Arunachal Pradesh and Maharashtra.

Causes of Deforestation

- **Agricultural expansion:** Commercial-scale farming for commodities like soy, palm oil etc is the largest driver of deforestation, especially in tropical regions.
- **Logging and timber extraction:** Both legal and illegal harvesting for wood and paper contributes significantly to forest loss and degradation.
  - The construction of logging roads also enables further forest destruction.
- **Infrastructure development:** Expanding cities, building new roads and dams, and mining operations directly clear forested areas and fragment ecosystems.
- **Unsustainable subsistence activities:** For rural populations, the collection of fuelwood and the practice of shifting cultivation (slash-and-burn farming) contribute to forest degradation.

Impacts of Deforestation

- **Release of Stored Carbon Dioxide:** Tropical forests act as major carbon sinks, storing huge amounts of carbon in soils and woody biomass.
  - When forests are cleared, this carbon is released as CO , accelerating global warming.
- **Loss of Local Cooling Effect of Trees:** Trees and plants absorb water from the soil and release it into the atmosphere as water vapour through transpiration.
  - This process cools the air above, acting as a natural air conditioner.
  - When forests are cleared, this cooling mechanism disappears, leading to higher local temperatures.
- **Biodiversity Loss:** Deforestation destroys habitats for countless species, leading to a decline in biodiversity and potential loss of important ecosystem services like **pollination and soil fertility.**
- **Human Health and Mortality:** An estimated **28,300 deaths** are annually linked to deforestation-induced warming. Extreme heat, coupled with high humidity, increases risks of heat stroke and organ failure.
  - **Southeast Asia** accounted for **more than half** due to population density and heat vulnerability.
- **Socio-Economic Impacts:** Deforestation often leads to the loss of livelihoods for people dependent on forest resources, impacting indigenous and rural communities disproportionately.

Challenges in Addressing Deforestation

- **Economic Dependence:** Agricultural exports and timber trade remain major sources of income for tropical countries.
- **Weak Governance:** Poor enforcement of forest conservation laws.

- **Population Pressure:** Rising demand for food and land.
- **Health Linkages:** Limited recognition of deforestation's direct impact on human mortality.

Steps Taken Across the Globe

- **Global Initiatives:**
  - **The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation (UN-REDD Programme)** was launched in 2008 as a joint effort of the **FAO, UNDP, and UNEP.**
  - **The Paris Agreement (2015)** acknowledges the crucial role of forests in addressing climate change by emphasizing the need to reduce emissions from deforestation and forest degradation.
  - **Glasgow Leaders' Declaration on Forests and Land Use (2021):** Pledged to halt and reverse forest loss by 2030.
  - **The Amazon Fund,** established in **2008** to finance projects that prevent, monitor, and combat deforestation and forest degradation in the Amazon Biome, as well as promote conservation and the sustainable use of forests.
- **India's Initiatives:**
  - **National Mission for a Green India (GIM):** A mission under the National Action Plan on Climate Change (NAPCC) that aims to increase forest cover and improve existing forest quality to combat climate change.
  - **Compensatory Afforestation Fund Act (2016):** An act that ensures funds for afforestation and related activities by requiring users of forest land for non-forest purposes to pay compensatory levies.
  - **Eco-Sensitive Zones (ESZs):** Areas designated around Protected Areas (National Parks and Wildlife Sanctuaries) to act as a buffer and minimize the negative impact of certain human activities on fragile ecosystems.
  - **Joint Forest Management (JFM):** A program that fosters partnerships between state forest departments and local communities to protect, and regenerate forest resources.

Way Ahead

- **Strengthen International Cooperation:** Global South requires financial and technological support to reduce deforestation without sacrificing development.
- **Integrate Health Dimension:** Climate-health linkages of deforestation should be included in policy frameworks.
- **Community Empowerment:** Indigenous communities must be involved in conservation decision-making.
- **Forest Monitoring:** Use satellite-based technologies for real-time tracking.
  - **Global Forest Watch,** a real-time forest monitoring system using satellite technology (supported by World Resources Institute).
  - In India, the **Forest Survey of India (FSI)** uses satellite data for biennial State of Forest Reports.

Source: IE

ISRO TECHNOLOGIES TRANSFERRED TO PRIVATE FIRMS

Context

- **The Indian National Space Promotion and Authorisation Centre (IN-SPACe)** has facilitated the **transfer of five technologies** developed by ISRO to five Indian companies.

About

- The transfers are aimed at **driving commercialisation, strengthening self-reliance, reducing imports, and enabling wider applications of space technologies** in sectors such as **automotive, biomedical, and industrial manufacturing.**

Technologies Transferred

- **For Biomedical Use:** The Low-Temperature Co-Fired Ceramic (LTCC) Multi-Chip Module, developed by the Space Application Centre (SAC), enables the integration of multiple semiconductor chips into a single, compact module.
  - This has been acquired for RT-PCR kits requiring high-volume production.
- **For solar panel bonding:** The RTV Silicone Single-Part Adhesive (SILCEM R9), developed by Vikram Sarabhai Space Centre (VSSC), is a room-temperature curable adhesive.
  - It has been acquired for solar panel bonding.

- **For industrial use:** Another three technologies are transferred to three organisations for industrial use.

India's share in the Space Industry

- India's space economy stands at **$8 billion,** contributing **2-3%** of the global space economy, and this is expected to rise to **8% by 2030** and further to **15% by the year 2047.**
- With over **400** private space companies, India ranks **fifth globally** in the number of space companies.

Private players in the Space Industry

- The number of space startups in India increased to nearly **200 in 2024** from just one in **2022**.
- The funding received by these start-ups reached a total of **$124.7 Mn in 2023** from $67.2 Mn in 2021.
- Skyroot has launched India's first privately built rocket, **Vikram-S**, into space, with plans to revolutionise satellite launches.

Regulation of the Private sector in the Space industry in India

- **National Space Promotion and Authorisation Centre (IN-SPACe):** It is an **autonomous and single window nodal agency** in the Department of Space for the promotion, encouragement, and regulation of space activities of both government and private entities.
- **NewSpace India Ltd (NSIL):** Acts as the **commercial arm** of the Department of Space:
  - Commercialises space technologies developed by ISRO.
  - Manufactures and procures space assets.
  - Serves both government and private sector clients on commercial terms.

Significance of the privatisation of the space sector

- **Cost Reduction:** Profit motive drives private companies to reduce costs in space missions and satellite launches.
- **Competition & Innovation:** Privatisation introduces competition, enhancing efficiency and fostering innovation.
- **Commercialisation:** Private players enable space applications in sectors like agriculture, disaster management, urban planning, navigation, and communication.
- **Autonomy:** Greater decision-making autonomy allows private companies to take on new projects more swiftly.
- **Employment & Self-reliance:** Privatisation generates jobs, supports modern technology adoption, and helps make the space sector self-reliant.

Challenges

- **High Investment Costs:** Space technology requires heavy investment, potentially leading to monopolisation by wealthy corporations.
- **Specialised Expertise:** Building and operating space tech demands specialised technical skills and resources.
- **Protecting intellectual property rights (IPR):** Safeguarding intellectual property rights is essential to encourage innovation and investment.
- **International Competition:** Indian private space companies face strong competition from established players like SpaceX and Blue Origin globally.

Steps Taken by the Government

- **Space Sector Reforms (2020):** The Government allowed private sector participation, defining the roles of IN-SPACe, ISRO, and NSIL.
- **Space Vision 2047:** Aims for Bharatiya Antariksh Station (BAS) by 2035 and an Indian Moon landing by 2040.
  - Gaganyaan programme has entered its final phase, with the first human spaceflight now scheduled for the first quarter of 2027.
  - Bharatiya Antariksh Station (BAS) first module by 2028.
  - Next Generation Satellite Launch Vehicle (NGLV) by 2032.

- Chandrayaan-4 by 2027, to collect moon samples and demonstrate return technology.
- Venus Orbiter Mission (VOM) by 2028, to study Venus.

- **Indian Space Policy, 2023:** Ensures a level playing field for Non-Government Entities (NGEs) in space activities.
- **Venture Capital Fund:** Rs. 1000 crore fund for space startups under IN-SPACe over the next 5 years.
- **SpaceTech Innovation Network (SpIN)**: SpIN is a one-of-its-kind public-private collaboration for start-ups and SMEs in the space industry.
- **Under the amended FDI policy, 100% FDI is allowed** in the space sector.
  - Up to 74% (Automatic route) for satellite-related activities; beyond that, government route.
  - Up to 49% (Automatic route) for launch vehicles and spaceports; beyond that, government route.
  - 100% (Automatic route) for manufacturing components and sub-systems for satellites and ground/user segments.

Way Ahead

- Private entities are now actively involved in crucial aspects of research, manufacturing, and fabrication of rockets and satellites, fostering a vibrant ecosystem of innovation. It is expected to integrate Indian companies into global value chains.
- With this, companies will be able to set up their manufacturing facilities within the country, duly encouraging '**Make In India (MII)'** and '**Atmanirbhar Bharat'** initiatives of the Government.

Source: TH

15TH INDIA-JAPAN ANNUAL SUMMIT

Context

- PM Modi is on a 2-day visit for the **15th India-Japan Annual Summit.**

About

- The two sides are expected to **upgrade the 2008 Declaration on Security Cooperation**, including defence hardware purchases, launch an "Economic Security" initiative to build resilient supply chains, and increase **Japan's investment targets to around $68 billion.**
- The summit is expected to focus on **deepening economic and investment partnerships**, while also enhancing cultural ties between the two nations.
- The two sides are expected to **start a digital partnership involving AI and semiconductors,** and focus on public infrastructure.
  - They are also likely to promote a **bilateral energy partnership in hydrogen and renewable energy projects.**

Brief on India-Japan Relations

- **Establishment of Relations:** After WWII, India opted for a separate Peace Treaty with Japan, signed in 1952, marking the start of formal diplomatic relations.
- **Growth in Bilateral Ties:** India-Japan bilateral relations were elevated to Global Partnership in 2000, Strategic and Global Partnership in 2006, and Special Strategic and Global Partnership in 2014.
- **Strategic Synergy:** India's Act East Policy and Indo-Pacific Oceans Initiative (IPOI) align closely with Japan's Free and Open Indo-Pacific (FOIP) policy.
- **Collaboration on Global Initiatives:** Japan and India cooperate in initiatives like the International Solar Alliance (ISA), Coalition for Disaster Resilient Infrastructure (CDRI), and Leadership Group for Industry Transition (LeadIT).
  - Both countries work together in multilateral frameworks like the Japan-Australia-India-U.S. Quad and the India-Japan-Australia Supply Chain Resilience Initiative (SCRI).
- **Defence and Security:** Joint Declaration on Security Cooperation (2008), Defence Cooperation and Exchanges MoU (2014), Information Protection Agreement (2015), Reciprocal Provision of Supplies and Services Agreement (2020), and co-development of the UNICORN naval mast (2024).
  - **Exercises:** Malabar (with the US and Australia), Milan (multilateral naval), JIMEX (bilateral maritime), Dharma Guardian (Army), and Coast Guard cooperation are held regularly.
    - 2024-25 saw the participation of service chiefs in India and Japan, strengthening interoperability.

- **Bilateral Trade:** Bilateral trade reached $22.8 billion in 2023-24.
  - **Imports from Japan continue to outweigh exports.** India's main exports are chemicals, vehicles, aluminium, and seafood; imports include machinery, steel, copper, and reactors.
- **Investment:** Japan is India's **fifth-largest source of FDI,** with $43.2 billion cumulative investment up to 2024.
  - Japan has consistently ranked India as the most promising long-term investment destination.
- **Space Collaboration:** ISRO and JAXA collaborate in X-ray astronomy, satellite navigation, lunar exploration, and the Asia Pacific Regional Space Agency Forum (APRSAF).
  - In 2016, they signed a Memorandum of Cooperation (MoC) for peaceful space exploration and use.
- **Emerging Focus Areas:** Digital cooperation (semiconductors, startups), clean energy, supply chain resilience, industrial competitiveness, and skill development.
- **Development and Infrastructure Cooperation:** Japan has been India's largest ODA donor since **1958**, supporting critical infrastructure and human development projects.
  - ODA disbursement stood at about JPY 580 billion ($4.5 billion) in 2023-24.
  - The flagship Mumbai-Ahmedabad High Speed Rail is the flagship project symbolising advanced technology transfer and skill development.
- **Tourism:** 2023-24 was celebrated as the Year of Tourism Exchange, with the theme "Connecting Himalayas with Mount Fuji".
- **Diaspora:** About 54,000 Indians live in Japan, mainly IT professionals and engineers.

Challenges

- **Trade Imbalance:** There is a significant trade imbalance, with Japan exporting more to India than India exports to Japan, creating a need for better reciprocal trade.
- **Geopolitical Tensions:** Regional security issues, such as China's influence in the Indo-Pacific, pose challenges for India-Japan relations, requiring careful diplomatic balancing.
- **Cultural and Language Barriers:** Despite strong ties, differences in language, culture, and business practices pose challenges to deeper integration.
- **Limited People-to-People Exchanges:** The scale of people-to-people interactions is still limited, impacting deeper mutual understanding.
- **Infrastructure Constraints:** Despite improvements, some areas in India still lack the infrastructure necessary to support large-scale Japanese investments effectively.
- **Different Economic Priorities:** India's focus on rapid economic growth may sometimes contrast with Japan's emphasis on sustainable development and technology.

Way Ahead

- **Enhance Trade and Investment:** Focus on reducing the trade imbalance by increasing Indian exports to Japan and encouraging Japanese investment in India's manufacturing and technology sectors.
- **Boost People-to-People Connections:** Increase cultural exchanges, tourism, and educational collaborations to deepen mutual understanding.
- **Technology and Innovation Partnership:** Leverage Japan's expertise in technology and India's growing digital sector to collaborate in AI, robotics, renewable energy, and space exploration.
- **Address Environmental Concerns:** Increase cooperation on environmental sustainability, climate change, and disaster resilience to support both countries' green energy goals.

Source: IE

'FOREIGNERS TOO HAVE THE RIGHT TO LIBERTY UNDER ARTICLE 21': HIGH COURT

In News

- The Punjab and Haryana High Court granted bail to a Bangladeshi woman accused of forgery and illegal stay, ruling that **Article 21's right to personal liberty applies to foreigners**.

About the Recent Ruling

- The Punjab and Haryana High Court emphasized that foreigners also have a right to personal liberty, and prolonged detention without the ability to furnish sureties would cause **"irreversible injustice."**

- The word **'person'** in Article 21 is wide enough to cover not only citizens but also foreigners.
  - The **State has an obligation to protect the liberty** of such foreigners and ensure that their liberty is not deprived except in accordance with the procedure established by law".
  - It also acknowledged the difficulty for undocumented migrants to furnish sureties and said bail conditions cannot be so harsh that they effectively deny freedom.

Article 21 of the Indian Constitution

- Article 21 of the Constitution of India guarantees the fundamental right to protection of life and personal liberty except by a procedure established by law.
- It ensures certain safeguards against arbitrary deprivation of life and liberty.
- It protects the right to life, which includes living with dignity, the right to livelihood, and a healthy environment, as well as personal liberty, such as the freedom to move, reside, and work lawfully.

Interpretation of Article 21 by Supreme Court judgments

- **Early Interpretation:** In **A.K. Gopalan v. The State of Madras**, the Supreme Court held that personal liberty means the **'liberty of the body,'** which is freedom from arrest and detention, from false detention.
- **Broadening of Scope:** In the case of **R.C. Cooper v. Union of India (1970),** the court held that the word personal liberty would not only include **Article 21 but also include the 6 Fundamental Freedoms given under Article 19 (1).**
  - In **Maneka Gandhi v. Union of India (1978),** the Supreme Court held that the right to life and personal liberty under Article 21 is not limited to mere animal existence but includes the **right to live with dignity.**
- **Right to Livelihood & Shelter: In Olga Tellis v. Bombay Municipal Corporation (1985),** the court recognized the right to livelihood as an integral part of the right to life under Article 21.
  - It held that the eviction of pavement dwellers without providing alternative arrangements would violate their right to life and personal liberty.
- **Right to Dignity & Safe Environment: In Vishaka v. State of Rajasthan (1997**), the court held that the right to a safe and secure working environment is a fundamental right flowing from Article 21.
- **Right to Privacy: In K.S. Puttaswamy v. Union of India (2017)** judgment, the Supreme Court recognized the right to privacy as a fundamental right protected under Article 21.
- **Right to Die with Dignity: In Common Cause v. Union of India (2018)**, the court legalized passive euthanasia and recognized the right to die with dignity as a fundamental right under Article 21.

Source: IE

DEEP SEA EXPLORATION UNDER THE SAMUDRAYAAN PROJECT

Context

- Recently, two Indian 'aquanauts' travelled deep into the Atlantic Ocean as part of preparations for the upcoming **Samudrayaan Project**, under which India aims to send three humans to depths of 6,000 metres by 2027.

About the Samudrayaan Project

- It is a flagship initiative under **India's Deep Ocean Mission**, approved by the Cabinet in 2021 with a budget of ₹4,077 crore over five years. Key objectives include:
  - Harness India's **11,098 km-long coastline** through a blue economy strategy.
  - Explore untapped deep-sea **minerals, fuels, and biodiversity resources**.
  - Protect and secure undersea **telecommunication cables**, vital for global connectivity.
  - Place India among an elite group of nations — including the US, Russia, China, Japan, and France — with **deep-sea human exploration capability**.
  - It operates as part of the **Deep Ocean Mission** under the **National Institute of Ocean Technology (NIOT)**.
- India is set to join an elite group of nations capable of manned deep-sea exploration, alongside the United States, Russia, China, Japan, and France with the launch of the Samudrayaan Project.

Matsya-6000: India's Deep-Sea Submersible

- India's aquanauts aim to travel in the **Matsya-6000**, a **made-in-India titanium submersible**, and designed like a **large fish,** developed by the National Institute of Ocean Technology (NIOT).

- **Capacity: 3 humans for 12 hours**, emergency endurance up to **96 hours**.
- **Initial Tests:** Steel sphere dives up to **500 metres** (wet test off Chennai, February).

Key Challenges

- **Vessel Development:** Precise thickness of **titanium alloy sphere** is required, and even **0.2 mm deviation** in thickness risks collapse.
  - Fabrication involves **electron beam welding**, with ISRO assisting in the process.
- **Life Support Systems: Oxygen regulation** and **carbon dioxide scrubbing** are critical.
  - Equipped with **re-breather oxygen systems** for emergencies, recycling exhaled air.
- **Aquanaut Health:** High physical fitness is essential, and limited food and water intake.
- **Communication: Radio waves fail** underwater, requiring **acoustic telephones**.
  - India developed its own system, though initial tests struggled with **temperature and salinity effects**. Later trials in the open ocean confirmed functionality.

Looking Ahead

- The Samudrayaan Project represents a leap forward for India's **blue economy ambitions** and **scientific innovation**.
- India could soon stand alongside global leaders in deep-sea human exploration, unlocking vast resources while strengthening strategic and technological self-reliance with the successful deployment of Matsya-6000.

Source: IE

NEWS IN SHORT

BURMESE PYTHONS

In News

- Florida officials are deploying robotic rabbits as a new tool to capture invasive Burmese pythons.

Burmese pythons(Python bivittatus)

- Burmese pythons are among the longest snakes in the world.
- It primarily inhabits forested areas like mangroves and rainforests but is also found in grasslands, marshes, wetlands, and near streams and rivers.
- **Distributed** : It is a widely distributed species found throughout Southeast Asia, with evidence of extensive and widespread population declines.
  - It is found in isolated areas of northeast India, Nepal, Indonesia, and China.
  - It is also an invasive, established population in southern Florida, USA, where it has severely impacted native wildlife.
- **Protection status :** IUCN Red List of threatened species classifies it as **Vulnerable.**

Source : IE

PRITHU RAE OF THE KHEN DYNASTY

Context

- The Assam Cabinet decided that a new flyover being constructed in the heart of Guwahati would be named after **Prithu, a 13th-century Kamrup ruler.**

About

- **Bakhtiyar Khilji/Khalji (c. 1200 CE) was a** Turko-Afghan military general under **Muhammad of Ghor.**
- **In 1206 CE**, he launched an expedition into Kamrup (present-day Assam), but suffered defeat.
- His forces were reportedly annihilated, but the **identity of the local ruler remains disputed.**
- Later historians (esp. **Kanak Lal Barua, 1933**) linked this victory to a ruler named **Prithu of Kamarupa.**

About Raja Prithu and the Kamarupa Kingdom

- In the early 13th century, Kamrupa was ruled by **Raja Prithu Rae of the Khen Dynasty,** believed to be of humble origins and descended from **Narakasura**.
- **Kamarupa** was the **first historical kingdom of Assam**, existing roughly from the **4th century CE to the 13th century CE.**
- It was located in the **Brahmaputra valley,** with **Pragjyotishpura** (modern Guwahati) as its capital.

Political Transition after the 13th Century

- After the decline of the Palas and Prithu's fall, Kamarupa fragmented into small principalities.
- The western part evolved into the **Kamata kingdom (13th–16th century).**
- Eastern Assam saw the rise of the **Ahoms (from 1228 CE), who later became dominant.**

Source: IE

NUAKHAI FESTIVAL

Context

- Prime Minister Narendra Modi extended heartfelt wishes to the people of India on the occasion of Nuakhai.

About the festival

- Nuakhai is celebrated in the **western districts of Odisha**. The word "Nuakhai" comes from **two Odia words**: "Nua", which means "new," and"Khai", which means "food" or "eating."
- On this day, farmers offer the season's first grains to the deity as a gesture of gratitude for a bountiful harvest and seek blessings from elders.
- The festival features community gatherings with traditional dance, music, games, and feasts, and is observed a day after **Ganesh Chaturthi**.

Source: PIB

MOUNT FUJI

Context

- Japan recently released an AI-generated video of Mount Fuji erupting, to give people an idea of what to expect if the disaster strikes and how to prepare themselves.

About

- Mount Fuji is an **active stratovolcano** located on the **Japanese island of Honshu**, with a summit elevation of **3,776.24 m.**
- **Geographical Significance:** It is the highest mountain in Japan, the second-highest volcano on any Asian island, and seventh-highest peak of an island on Earth.
- **Cultural Significance:** It is revered as one of Japan's "Three Holy Mountains", along with **Mount Tate and Mount Haku.**
  - Mount Fuji was inscribed as a **UNESCO World Cultural Heritage Site in 2013** as **Fujisan,** sacred place and source of artistic inspiration.
- The volcano has not erupted since **1707.**

Stratovolcano

- **A stratovolcano,** also known as a composite volcano, is a **tall, steep, conical volcano** built from **alternating layers** of thick, sticky lava, ash, and other volcanic debris.
- Its distinctive shape and explosive eruptions are caused by the **high viscosity of its magma**, which prevents gases from escaping easily.

Source: IE

EXTENDED RANGE ATTACK MUNITIONS (ERAM) MISSILES

Context

- The United States has approved the sale of 3,350 Extended Range Attack Munitions (ERAM) missiles to Ukraine.

The ERAMs

- **Type:** Next-generation, air-launched, precision-guided missile.
- **Range and Warhead**: With a range of **240 to 450 kilometers** and a **500-pound warhead**, these missiles can hit supply depots, command centers, and critical infrastructure deep inside occupied territories, including **Crimea**.
- **Guidance:** GPS, inertial navigation, and terminal seeker, with accuracy within **10 meters**, even under electronic jamming.
- **Launch Platforms:** Modular design allows deployment on Western fighter jets like F-16s or retrofitting on Soviet-era aircraft.

Source: AIR

NATIONAL SPORTS DAY

Context

- On National Sports Day, India honors Major Dhyan Chand, celebrated as one of the greatest hockey players in history.

National Sports Day

- The Indian Government declared August 29 as National Sports Day in **2012.**

It is celebrated annually to emphasise the importance of sports and physical activities and serves to honour Major Dhyan Chand's legacy in Indian hockey.

- This year's celebrations include a **three-day Sports Movement** under the theme **"Ek Ghanta, Khel ke Maidan Main".**

- India has several campaigns to promote **health, sports, and fitness,** including **'Khelo India' and 'Fit India Movement'.**
    - **The International Sports Day,** on the other hand, is celebrated on **April 6** to mark the **first Olympic Games held in Athens.**

About Major Dhyan Chand

- He is Known as the **"Wizard of Hockey"** for his exemplary display of sportsmanship.
- **Achievements:** Won Olympic Gold medals in **1928 (Amsterdam), 1932 (Los Angeles), and 1936 (Berlin).**
- He was honoured with the country's prestigious civilian honour, Padma Bhushan, in 1956.

Source: AIR

NATIONAL ANNUAL REPORT AND INDEX ON WOMEN'S SAFETY (NARI) 2025

Context

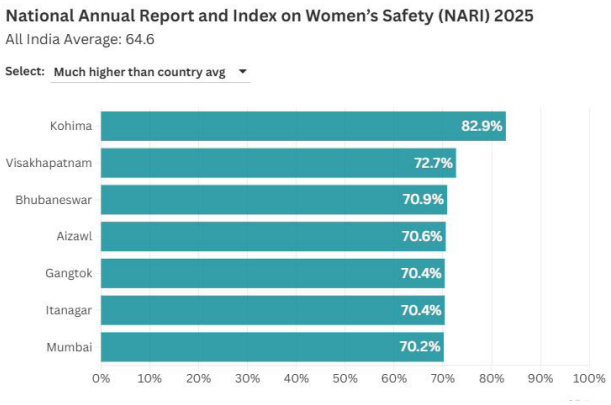
- The National Annual Report and Index on Women's Safety (NARI) 2025 was recently released by the **National Commission for Women (NCW).**

About

- It was conducted across **31 cities with the participation of 12,770 women.**
- **Developed by:** Pvalue Analytics, The NorthCap University, Jindal Global Law School, and published by Group of Intellectuals and Academicians (GIA).
- **Objective:** To capture both crime data and women's perceptions of safety.

Key Findings

- **National Safety Score:** It placed the national safety score at **65%,** categorising cities as "much above", "above", "below" or "much below" this benchmark.
- **Safest Cities:** Kohima, Visakhapatnam, Bhubaneswar, Aizawl, Gangtok, Itanagar, Mumbai.
- **Least Safe Cities:** Patna, Jaipur, Faridabad, Delhi, Kolkata, Srinagar, Ranchi.
- **Factors for Safety:** Stronger gender equity, civic participation, women-friendly infrastructure, better policing.
- **Factors for Low Safety:** Patriarchal norms, weak institutional responsiveness, and urban infrastructure gaps.



Source: TH

FEATURES AND LEGACY OF INS UDAYGIRI AND INS HIMGIRI, NOW COMMISSIONED INTO THE INDIAN NAVY

In News

- The Indian Navy simultaneously commissioned two Nilgiri-class stealth guided-missile frigates, the INS Udaygiri and INS Himgiri, at Visakhapatnam.

Udaygiri

- INS Udaygiri is the **second ship of the Project 17A stealth frigates** built by Mazagon Dock Shipbuilders Limited (MDL) in Mumbai.
- It is the 100th ship designed by the Navy's in-house Warship Design Bureau.
- It is a modern Avatar of its predecessor, erstwhile INS Udaygiri which was a Steam Ship, decommissioned in August 2007 after rendering 31 years of glorious service to the nation.
- It also holds the distinction of being the fastest ship of her class to be delivered post-launch.

Himgiri

- INS Himgiri is the first of the Project 17A ships constructed by Garden Reach Shipbuilders and Engineers (GRSE), Kolkata.
- It is a reincarnation of the erstwhile INS Himgiri, a Leander-class frigate, that was decommissioned in May 2005 after 30 years of glorious service to the nation.

Design and Capabilities

- Each ship is 149 meters long, displaces 6,670 tonnes, reaches 28 knots, and has a range of 5,500 NM.
- Crew size: 225 personnel.
- Equipped with advanced weaponry like BrahMos missiles, Barak-8, torpedoes, rocket launchers,

radars, electronic warfare systems, and sonar.

- Features low radar cross-section for stealth and **Combined Diesel or Gas (CODOG) propulsion plants** propulsion.

Significance

- The induction of Udaygiri and Himgiri will enhance the Navy's combat capabilities and reinforce India's commitment to self-reliance in warship design and construction.
- Once commissioned, both frigates will become part of the Eastern Fleet, boosting India's capacity to protect its maritime interests in the Indian Ocean Region.

Source :IE

MAHATMA AYYANKAL

Context

- The Prime Minister of India paid **tribute to Mahatma Ayyankali,** commemorating his birth anniversary and honoring his enduring legacy as a champion of social justice and empowerment.

About the Mahatma Ayyankali (1863–1941)

- **Born**: August 28, 1863, in Princely State of Travancore (present day Thiruvananthapuram, **Kerala**).
- He belonged to the **Pulayar Community,** historically marginalized and denied basic rights.

Key Movements and Struggles

- **Villuvandi (Bullock Cart) Protest (1893):** He defied caste restrictions by riding a bullock cart on public roads, asserting Dalit rights to mobility.
- **Kudippallikoodam Strike (1907):** He led a historic protest **demanding school access for Dalit children**, which eventually forced the Travancore government to open public schools to all castes.
- **Agricultural Labor Reforms:** He organized workers to demand fair wages and better working conditions, laying the groundwork for labor rights in Kerala.
- **Sadhu Jana Paripalana Sangham (SJPS), 1907:** It was a pioneering organization that advocated for Dalit education and social upliftment, founded by him.

Legacy in Education and Equality

- The **first school admission** for a Dalit girl, Panchami, which sparked widespread resistance but ultimately catalyzed reform.
  - The establishment of **Ayyankali Panchami Memorial School**, commemorating his fight for inclusive education.
- Ayyankali's contributions have been honored through:
  - A commemorative postal stamp (2002);
  - Statues and memorials across Kerala;
  - Inclusion in school curricula and public discourse.

Source: PIB

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