

## DAILY CURRENT AFFAIRS (DCA)

Time: 45 Min Date: 12-07-2025

### **Table of Content**

**UNEP Frontiers Report 2025** 

Maharashtra's 'urban Maoism' Bill

Panch Sankalpa of NEP 2020 to Guide Universities in Building Viksit Bharat

Artificial Intelligence (AI): Transforming the Manufacturing Landscape

134th Session of the International Maritime Organization (IMO) Council

India's Population at Crossroads, not a Crisis: Population Foundation of India

India Officially Launched Its First-ever E-truck Incentive Scheme

#### **NEWS IN SHORT**

UNESCO World Heritage Status Granted to India's 12 Maratha Forts

Kailash-Mansarovar Yatra Resumes After Five Years

Sanchar Mitra Scheme

Debate on UN Draft Declaration on Trans-Fatty Acids

HtBt Cotton

RhoDIS India

Astra Missile

#### **UNEP FRONTIERS REPORT 2025**

#### In News

 The seventh edition, Frontiers 2025: The Weight of Time – Facing a New Age of Challenges for People and Ecosystems, highlights emerging environmental threats and potential solutions.

#### **Key Highlights**

- Heatwaves and Vulnerable Populations:
   Extreme heat events are increasing in frequency and severity, with older persons (65+) facing heightened mortality and health risks; heat-related deaths in this group have surged by 85% since the 1990s.
  - Acute and prolonged exposure to extreme heat or cold raises the risk of cardiovascular, cerebrovascular, and respiratory conditions.
- Cryosphere Decline and Zombie Microbes: Melting glaciers and permafrost ("cryosphere collapse") threaten water security for 670 million people and risk reactivating ancient dormant pathogens causing AMR.
- Aging Dams: The report flags the risk of unsafe, obsolete dams, which threaten ecosystems and communities, and suggests dam removals can restore rivers and biodiversity.
- India-Specific Impact: Between 1986-2005 and 2013-2022, older adults in India experienced an increase of 2.1–4 additional heatwave days per person per year. This has led to higher rates of illness and mortality among the elderly during heatwaves.

#### Recommendations

- Transform Cities for Age-Friendly Resilience:

  Develop pollution-free, resilient, and accessible urban spaces with abundant vegetation.
  - Improve urban planning to address the needs of an ageing population, especially during extreme weather events.
- Invest in Early Warning and Adaptation: Expand weather station networks to monitor and forecast extreme heat.
  - Promote community-based disaster risk management and ensure timely access to information for older adults.
- Adopt the '15-Minute City' Approach: Design neighbourhoods where essential services homes, workplaces, schools, shops, and green spaces—are within a 15-minute walk or cycle.
  - This compact, accessible model supports independent living for older adults, reduces car dependency, and improves air quality.

Source: DTE

## MAHARASHTRA'S 'URBAN MAOISM' BILL

#### In News

The Maharashtra Special Public Security (MSPS)
Bill, 2024—commonly referred to as the 'Urban
Maoism' Bill—was passed by the Maharashtra
Assembly recently.

#### **Background and Rationale**

- The Bill was introduced in response to the perceived inadequacy of existing laws (like the UAPA) to deal with the evolving tactics of Maoist organizations, which increasingly use urban fronts—NGOs, intellectual circles, students, and media—to support rural armed struggle and undermine state institutions.
- Maharashtra joins states like Telangana, Andhra Pradesh, Odisha, and Jharkhand in enacting such special public security laws.

#### **Key Features**

- Objective: The Bill aims to counter urban Naxalism by criminalizing support—whether written, spoken, symbolic, or violent—for banned organizations and their activities in urban areas.
- Definition of Unlawful Activity: Includes acts that disturb public order, encourage disobedience to law, or aid extremist organizations. This covers intellectual, financial, or logistical support, including media campaigns and legal defence.
- **Empowerment of State:** The government can declare organizations as "unlawful" and penalize individuals for membership, fundraising, aiding, or committing unlawful acts.
- **Penalties:** Offences are cognizable and non-bailable, with punishments ranging from 2 to 7 years' imprisonment and fines between ₹2 lakh and ₹5 lakh.
- Property Forfeiture: The state can forfeit properties linked to unlawful organizations even before conviction, with a 15-day notice period; affected parties may challenge forfeiture in the High Court within 30 days.
- Safeguards: Only senior police officers can lead investigations, and an Advisory Board of three High Court-qualified persons must confirm the unlawful status of organizations.

Source: TH



## PANCH SANKALPA OF NEP 2020 TO GUIDE UNIVERSITIES IN BUILDING VIKSIT BHARAT

#### **Context**

 The Union Education Minister inaugurated the two-day Vice-Chancellors' Conference of Central Universities at Kevadia, Gujarat, to assess the implementation of the National Education Policy (NEP) 2020.

#### **Key Highlights of the Conference**

- **Panch Sankalpa:** It is the Five Guiding Resolutions of NEP 2020.
  - Next-Gen Emerging Education,
  - Multidisciplinary Education,
  - Innovative Education,
  - Holistic Education, and
  - Bharatiya Education.
- Academic Triveni Sangamam was proposed to shape academic philosophy.
  - Celebrate the Past: Honouring India's civilisational richness.
  - Calibrate the Present: Correcting narratives and institutional reform.
  - Create the Future: Repositioning India in global higher education.

#### **Progress in Higher Education in India**

- Total Enrollment Growth: Total student enrollment has reached 4.46 crore, reflecting a 30% increase since 2014–15.
- **Female Empowerment:** Female enrollment has surged by **38%**, and the Gross Enrollment Ratio (GER) for women now exceeds that of men.
- Ph.D. enrollment has nearly doubled, with the number of female Ph.D. scholars increasing by a remarkable 136%.
- The GER for Scheduled Tribes (STs) has risen by 10 percentage points, while for Scheduled Castes (SCs), it has increased by over 8 points.
- Institutional growth and expansion:
  - Growing Network: India now boasts over 1,200 universities and 46,000 colleges, making it one of the world's largest higher education systems.
  - Increased Faculty: The total number of faculty/teachers in 2021-22 reached 15.98 lakh, with 43.4% being female.

#### **New Education Policy 2020**

- Emphasis on early childhood care and education (ECCE), particularly for children up to 6 years.
- Encourages multi-disciplinary learning at the school and higher education levels.
- Introduction of a 5+3+3+4 school structure (5 years of foundation, 3 years of preparatory, 3 years of middle, and 4 years of secondary education).
- Focus on critical thinking, creativity, and problem-solving rather than rote learning.

#### **Government Initiatives for Higher education**

- PM-Vidyalaxmi scheme: The scheme is a Central Sector Scheme and facilitates the extension of education loans to students who get admission in the top quality higher educational institutions (QHEIs) of the nation.
- **SWAYAM and SWAYAM Prabha:** These platforms offer Massive Open Online Courses (MOOCs) and educational channels, respectively, to expand access to quality education.
- Rashtriya Uchchatar Shiksha Abhiyan (RUSA): Provides financial support to state higher education institutions for infrastructure development, research, and innovation.
  - Impacting Research Innovation & Technology (IMPRINT): Encourages research and innovation in various engineering and technology domains.
- Impacting Research Innovation & Technology (IMPRINT): Encourages research and innovation in various engineering and technology domains.

#### **Way Ahead**

- Each institution should develop a comprehensive NEP implementation roadmap with time-bound targets for GER enhancement, curriculum revision, digital expansion, and faculty development.
- Promote hybrid learning models to enhance access, especially in remote and underserved areas.
- Enhancing Research and Innovation: Operationalise the Anusandhan National Research Foundation (ANRF) with transparent funding mechanisms.
  - Promote innovation hubs, incubation centres, and industry-academia collaboration within universities.

Source: PIB

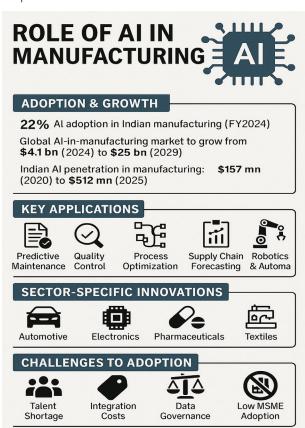
## ARTIFICIAL INTELLIGENCE (AI): TRANSFORMING THE MANUFACTURING LANDSCAPE

#### **Context**

 The manufacturing sector is undergoing a paradigm shift, powered not by steam or steel, but by smart algorithms and intelligent systems.

#### Al in Manufacturing

 Al is used to create a virtual replica of processes, production lines, factories and supply chains that are used to simulate, analyze and predict performance in real time.



- Al is transforming operations from legacy facilities to state-of-the-art plants.
  - It enables higher output, lower waste, realtime adaptability, and smarter design.

#### **Current Status & Projection**

- Globally, the Al-in-manufacturing market is poised to grow from \$4.1 billion in 2024 to more than \$25 billion by 2029.
- In India, AI adoption in manufacturing jumped from 8% to 22% in just one year (FY2024).
  - Data and AI could add \$450-\$500 Bn to India's GDP by 2025.

#### **Key Applications of AI in Manufacturing**

- **Predictive Maintenance:** Reduces downtime by up to 30% using sensor data and machine learning (McKinsey).
- Quality Control: Al vision systems detect microdefects in real time.
- Process Optimization: Al adjusts workflows dynamically to reduce waste and boost efficiency.
- **Supply Chain Forecasting:** Enhances agility and responsiveness by over 20% (IBM).
- Robotics & Automation: Cobots assist workers in repetitive or high-risk tasks, improving safety and productivity.
- Sector-Specific Innovations:
  - Automotive: Al-powered robotics streamline assembly and inspection.
  - **Electronics:** Machine vision ensures precision in component assembly.
  - Pharmaceuticals: Al monitors largescale production and ensures regulatory compliance.
  - Textiles: CAD/CAM systems optimize cutting, stitching, and inspection.

#### **Challenges to Adoption**

- Talent Shortage: Need for upskilling in AI and machine learning.
- Integration Costs: High initial investment slows adoption among MSMEs.
- **Data Governance:** Concerns over transparency and explainability of AI models.
  - Reliable connectivity and cloud access remain uneven, especially in tier-2 and tier-3 cities.
- **Low MSME Adoption:** Only about 15% of SMEs currently use AI in manufacturing.
- **Cautious Optimism:** About 44% of manufacturing leaders hesitate to scale generative AI due to concerns about explainability and accuracy.

#### **Government Initiatives**

- National Program on AI (MeitY): It promotes responsible AI use across sectors including manufacturing.
- **Samarth Udyog Bharat 4.0:** Supports smart factory development and **Industry 4.0 adoption.**
- IndiaAl Mission: ₹10,300 crore allocated to build Al infrastructure and indigenous models.



• Centres of Excellence (CoEs): Focused on Al in healthcare, agriculture, education, and sustainable cities.

Source: TH

# 134TH SESSION OF THE INTERNATIONAL MARITIME ORGANIZATION (IMO) COUNCIL

#### Context

 India has reiterated its commitment to maritime safety and gender equality during the 134th session of the International Maritime Organization (IMO) Council, held in London.

#### India's Key Interventions at the 134th IMO Session

- Call for IMO-Led Investigation into Maritime Incidents: India highlighted recent accidents, which caused container losses, and release of hazardous cargo such as;
  - Sinking of MSC ELSA 3, a container ship carrying hazardous cargo, off the coast of Kochi, Kerala (in May 2025),
  - Fire and explosion on WAN HAI 503 (in June 2025) off the Kerala coast.
- India urged the IMO to:
  - Conduct comprehensive investigations into such incidents.
  - Review global standards governing the transport of hazardous goods, especially lithium-ion batteries and other items listed under the International Maritime Dangerous Goods (IMDG) Code.
  - Improve international protocols on packaging, declaration, stowage, and monitoring of dangerous cargo.
- India proposed IMO-led standardisation:
  - For incident response protocols.
  - To establish global best practices and enhance the operational safety of container ships.
- India's "Sagar Mein Samman" Initiative: India showcased "Sagar Mein Samman" (Honour at Sea), launched in 2024 by the Directorate General of Shipping. It aims to;
  - Promote a safe and inclusive maritime workplace.
  - Encourage women's participation at all levels—from seafaring roles to leadership positions.

 India reported a 650% increase in the number of Indian women seafarers.

#### **Laws and Conventions**

- International Convention for the Prevention of Pollution from Ships (MARPOL): It was rolled out by the International Maritime Organisation (IMO) in 1973 and recognised the need for international coherent efforts for curbing oil spill.
  - India is a signatory to the MARPOL Convention.
- The Maritime Labour Convention, 2006, Sets minimum working and living standards for seafarers globally. Covers aspects such as equal opportunity, safety, and gender inclusion on board vessels.
- Merchant shipping Act, 1958: The Act, describes
  the power to give a notice to the owner, when the
  central government is satisfied the ship is not as
  per the prescribed rules.
  - After notice, if the person fails to comply, the government can convict the person of an offense.

#### **Way Ahead**

- **IMO-Level Structural Reforms:** Enhance compliance mechanisms for cargo safety.
  - Establish an international maritime incident investigation body.
- Technological Integration: Use of blockchain and Al for cargo tracking and declaration transparency.
- Capacity Building and Training: Support to developing countries in implementing IMDG Code protocols.
- Boosting Women's Participation: Replicate India's initiatives globally to promote gender inclusion in maritime sectors.

#### **About the IMO**

- The International Maritime Organization (IMO) is a specialised UN agency responsible for regulating shipping.
- The IMO was established following agreement at a UN conference held in Geneva in 1948 and the IMO came into existence ten years later, meeting for the first time in 1958.
- **Headquarters:** London, United Kingdom
- **IMO currently has 176 Member States** and three Associate Members.

Source: DD News

# INDIA'S POPULATION AT CROSSROADS, NOT A CRISIS: POPULATION FOUNDATION OF INDIA

#### In Context

 On 2025 World Population Day (July 11), the Population Foundation of India emphasized that India's real challenge lies not in population size, but in justice, gender equity, and investing in human potential.

#### **Key Takeaways**

- Shift the focus to reproductive rights, gender equality, and inclusive growth.
- Empower youth, especially young women, to make informed choices about their lives and families.
- View the demographic journey as an opportunity, not a threat—invest in education, healthcare, and skills.

#### **India's Demographic Dividend**

- Demographic Dividend: It refers to the economic growth potential that results from shifts in a population's age structure, mainly when the share of the working-age population (15 to 64 years old) is larger than the non-working-age population (14 or younger and 65 or older).
  - The change in age structure is typically brought on by a decline in fertility and mortality rates.
- India's Demographic Dividend: India, with its large and young population, is currently experiencing a demographic dividend.
  - India is expected to add another 183 million people to the working-age group between 2020 and 2050.
  - The dividend would peak around 2041 (when the working age population would be 59% of India's population) and is expected to last until 2055.

#### **Data on India's Ageing Population**

- As per the India Ageing Report 2023, the share of population over the age of 60 years is projected to increase from 10.5% in 2022 to 20.8% in 2050.
  - By the end of the century, the elderly will constitute over 36% of the total population of the country.

 80+Years Population: The population of people aged 80+ years will grow at a rate of around 279% between 2022 and 2050, with a predominance of widowed and highly dependent very old women.

#### **Challenges India Face**

- Unemployment: For the demographic dividend to work, the country must provide productive employment to the 7-8 million youths that join the labourforce every year.
  - In 2022, the unemployment rate among graduates was around 29%, while for those who cannot read and write, it was just 3.4%.
- Education and Skill Gap: Over two-fifths of the country's youths are educated below the secondary level and just 4% have access to vocational training.
- **Gender Inequality:** Women's participation in the workforce remains relatively low, limiting the overall potential of the economy.
- Jobless Growth: Economic growth hasn't created proportional employment opportunities.
  - Over 80% of India's workforce is in the informal sector, lacking security and benefits.
  - Emerging technologies are reducing demand for low-skilled labour.
  - **Mental Health Neglect:** Youth face rising issues of depression, anxiety, and stress without adequate support systems.
- Regional Imbalances: Southern states are ageing faster, while northern states have younger populations but weaker infrastructure.
  - Youth from lagging regions migrate to urban centres, causing stress on city infrastructure and leading to underemployment.

#### **Measures**

- Skill Development: Programs like the Skill India Mission aim to provide training and certification to millions of youth, enhancing their employability in various sectors.
- Education Reforms: Efforts to improve primary and secondary education quality, by introducing new Education Policy 2020.
- Make in India & Atmanirbhar Bharat:
   These initiatives focus on boosting domestic manufacturing, creating jobs, and enhancing industrial capacity to absorb the growing workforce.

- Start-up Ecosystem: The Startup India campaign encourages entrepreneurship, providing support to young innovators and creating new employment opportunities.
- **Digital Infrastructure:** Expanding internet access and digital literacy through programs like Digital India to create opportunities for youth in the technology and digital sectors.
- **Healthcare Improvements:** Programs like Ayushman Bharat aim to improve healthcare access and outcomes.

Source: TH

## INDIA OFFICIALLY LAUNCHED ITS FIRST-EVER E-TRUCK INCENTIVE SCHEME

#### Context

- The Centre unveiled a scheme to provide financial incentives for purchase of electric trucks under the PM E-Drive initiative, where a sum of ₹500 crore has been set aside for 5,600 electric trucks.
  - Of this financial outlay, a fifth is dedicated for vehicles registered in Delhi.

#### **About**

- This is India's first dedicated scheme for electric trucks, which were not included under the earlier FAME (Faster Adoption and Manufacturing of Electric Vehicles) scheme.
- Eligibility Conditions: Manufacturers must provide a battery warranty of 5 years or 5 lakh kilometres, whichever is earlier.
  - The vehicle and motor must carry a warranty of 5 years or 2.5 lakh kilometres.
  - To receive the incentive, scrapping of old, polluting diesel trucks is mandatory.

#### **About PM E-DRIVE Scheme**

- The scheme shall be implemented from October
   1, 2024 to March 31, 2026.
- The EMPS-2024 (Electric Mobility Promotion Scheme) is being subsumed under the PM E-DRIVE scheme.
- Subsidy: The subsidy under the scheme for electric two-wheelers has been fixed based on battery power at Rs 5,000 per kilowatt hour but the overall incentive will not exceed Rs 10,000 in the first year.
  - In the second year, it will be halved by Rs 2,500 per kilowatt hour, and the overall benefit will not exceed Rs 5,000.

- Three-wheelers, including e-rickshaws, will get a demand incentive of Rs 25,000 in the first year, which will be halved to Rs 12,500 in the second year.
- For the L5 category (cargo three-wheelers), they will get a benefit of Rs 50,000 in the first year, and for the second year, it is Rs 25,000.
- e-Vouchers: Ministry of Heavy Industries is introducing e-vouchers for EV buyers to avail demand incentives under the scheme.
  - One vehicle per Aadhaar will be allowed. As soon as the vehicle is sold, e-voucher will be generated.
  - The signed e-voucher will be essential for OEM (original equipment manufacturer) to claim reimbursement of demand incentives under the scheme.
- Charging Stations: The scheme addresses range anxiety of EV buyers by promoting in a big way the installation of electric vehicle public charging stations (EVPCS).
  - These EVPCS shall be installed in select cities with high EV penetration and also on selected highways.

Source: TH

#### NEWS IN SHORT

#### UNESCO WORLD HERITAGE STATUS GRANTED TO INDIA'S 12 MARATHA FORTS

#### Context

 UNESCO has added the 'Maratha Military Landscapes of India' — 12 iconic forts of the Maratha Empire — into the World Heritage List.

#### **About**

- This historic recognition was granted at the 47th Session of the World Heritage Committee in Paris.
- This marks India's 44th UNESCO World Heritage Site, ranking the country 6th globally and 2nd in the Asia-Pacific region for the highest number of heritage sites.

#### **About Maratha Forts**

 Spread across the states of Maharashtra and Tamil Nadu, these sites include Salher, Shivneri, Lohgad, Khanderi, Raigad, Rajgad, Pratapgad, Suvarnadurg, Panhala, Vijaydurg, and Sindhudurg in Maharashtra, along with Gingee Fort in Tamil Nadu.



Built between the 17th and 19th centuries, this
extraordinary network of forts demonstrates the
strategic military vision and architectural ingenuity
of the Maratha Empire.

#### Major Forts of Chhatrapati Shivaji Maharaj

- Raigad Fort: It was the capital of the Maratha Empire from 1674 to 1818.
  - It is located on a hilltop in the Sahyadri Mountains.
- Rajgad Fort: First capital of Shivaji Maharaj before shifting to Raigad.
- Pratapgad Fort: It is the site of the famous battle between Shivaji Maharaj and Afzal Khan in 1659.
- **Sindhudurg Fort:** It is located on an island off the **Konkan coast.**
- Vijaydurg Fort: It is known as the 'Gibraltar of the East' due to its strong coastal defense.

Source: PIB

#### KAILASH-MANSAROVAR YATRA RESUMES AFTER FIVE YEARS

#### In News

 The Kailash Mansarovar Yatra was resumed in June 2025 after a five-year suspension.

#### About

- Kailash-Mansarovar refers to the sacred region in southwestern Tibet encompassing Mount Kailash and Lake Manasarovar.
- Lake Manasarovar is one of the highest freshwater lakes in the world, situated at about 4,590–4,600 meters elevation in Ngari Prefecture, Tibet, just south of Mount Kailash.

Source: TOI

#### **SANCHAR MITRA SCHEME**

#### Context

 The Department of Telecommunications (DoT) has expanded its 'Sanchar Mitra Scheme' across India.

#### **About**

- **Objective:** To promote digital safety, cyber fraud prevention, responsible mobile usage, and electromagnetic field (EMF) radiation awareness through student volunteerism.
- **Volunteer Engagement:** Volunteers named Sanchar Mitras.
  - Targeted students from telecom, electronics, computer science, and cybersecurity streams.

- Nominated via local Department of Telecommunications (DoT) offices.
- Training & Exposure: Provided by National Communications Academy—Technology (NCA-T) and DoT's Media Wing.
  - Focus areas: 5G, 6G, Artificial Intelligence (AI), cyber security.
- Incentives: Top performers may get internships, project work, and representation at events like India Mobile Congress and ITU conferences.

Source: PIB

# DEBATE ON UN DRAFT DECLARATION ON TRANS-FATTY ACIDS

#### In News

 The United Nations has circulated a draft declaration aiming to eliminate trans-fatty acids (TFAs) from global diets.

#### **About**

- Trans-fats, particularly industrially produced ones, are widely recognized as a major public health risk, linked to increased risk of heart disease and other non-communicable diseases.
- However, experts argue that a blanket elimination of all trans-fatty acids, without distinction between industrial and naturally occurring sources, could violate the rights of the world's poorest populations to access affordable and nutrient-rich foods such as milk and meat.

#### Trans fats, or trans-fatty acids (TFAs)

- Trans fats are unsaturated fats that can be either naturally present in animal products or artificially produced in processed foods.
- **Industrial Trans-Fats** are produced from the partial hydrogenation of vegetable oils.
- Natural (Ruminant) Trans-Fat are found in dairy and meat from ruminant animals (cows, sheep, goats), and present in much lower quantities.

Source: TH

#### **HTBT COTTON**

#### Context

 The Union Agriculture Minister said that the issue of herbicide tolerant BT cotton (HtBt) will be raised with the Union Environment Ministry as there are reports of farmers growing them illegally.



#### **About**

- HTBt cotton, also known as Herbicide Tolerant Bt cotton, is a genetically modified cotton variety that combines two important traits;
  - **Bollworm resistance:** This is derived from the Bt (Bacillus thuringiensis) gene for resistance to bollworm pests.
  - Herbicide tolerance: HTBt cotton is engineered to be resistant to the glyphosate, a widely used herbicide for weed control.
- Bt cotton was India's first GM crop, introduced in 2002 (Bollgard I) and upgraded in 2006 (Bollgard II).
- HtBt cotton has not yet been approved by the Genetic Engineering Appraisal Committee (GEAC) for commercial cultivation.
  - However it is illegally cultivated in states like Gujarat, Maharashtra, Andhra Pradesh, and Telangana.

Source: IE

#### **RHODIS INDIA**

#### Context

 The Assam Forest Department has initiated DNA profiling of rhino horns, integrating the genetic data into the RhoDIS India DNA database to bolster efforts against wildlife crime.

#### **About RhoDIS India programme**

- It was started in 2016 as a collaboration among the Environment Ministry, the rhino-bearing States of India, the WII, and the World Wide Fund for Nature-India.
- The programme seeks to improve the crime investigations scientifically and provide technical support for the scientific management of India's rhino population.

#### **Great One-horned Rhinoceros**

- The great one-horned rhino (or "Indian rhino") is the largest of the rhino species.
- Appearance: Indian Rhinos are brownish-grey in colour and are hairless.



- Habitat: Grasslands and shrublands on the southern base of the Himalayas.
- **Distribution:** India, Pakistan, Bangladesh, Bhutan and Myanmar.
  - In India, they are found in Assam, West Bengal and Uttar Pradesh.
- Conservation Status:
  - IUCN Status: vulnerable.
  - CITES: Appendix I (includes species threatened with extinction. Trade in specimens of these species is permitted only in exceptional circumstances).

Source: TH

#### **ASTRA MISSILE**

#### **Context**

 DRDO and the Indian Air Force have successfully conducted a flight-test of the indigenous Astra missile from a Sukhoi-30 MKI, engaging highspeed aerial targets off the coast of Odisha.

#### **About the Astra Missile**

- Developed by: Defence Research and Development Organisation (DRDO).
- Type: Advanced Beyond-Visual-Range Air-to-Air Missile (BVRAAM).
- Range: Capable of engaging aerial targets over 100 km away.
- Features:
  - Advanced guidance and navigation systems for high precision.
  - All-weather, day-and-night operational capability.
  - Maximum speed: exceeds Mach 4.
  - Operational ceiling: up to **20 km** altitude.
- Significance: Enhances India's indigenous air combat capabilities and aligns with Aatmanirbhar Bharat in defence production.

Source: TH