CURRENT AFFAIRS

महाकुम्भ

Special Features

Current Events	**Polity & Governance**
International Issue	**Society & Culture**
Ecology & Environment	**Science & Tech**
Internal Security	**Yojana Analysis**
Geography	**Economics**
Editorials	**MCQ'S**

Index

EDITORIALS

Crux of The Hindu & Indian Express

Indian Polity & Governance

- National Voters' Day 2025: Key Highlights and Significance
- The Birthright Citizenship Debate in the U.S.
- Uttarakhand Becomes First Indian State to Adopt Uniform Civil Code (UCC)

Indian Society & Social Justice

- Amrit Bharat Trains 2.0
- Bharat Ranbhoomi Darshan
- Sukanya Samriddhi Yojana (SSY)
- Kokborok Language
- Mannan Community
- 10th Anniversary of Beti Bachao Beti Padhao (BBBP) Scheme
- Shompens - An Isolated Tribe of Great Nicobar Island
- 6.21 Lakh Applications for 1.27 Lakh Opportunities Under the PM Internship Scheme
- School Enrolment Declines by Over 1 Crore in 2023-24: Government Report
- Pravasi Bharatiya Divas (PBD) - 2025

EDITORIALS

Crus of The Hindu & Indian Express

Indian Society & Social Justice

- WEP of NITI Aayog Partners With India's Largest Convenience Retail Chain New Shop to Empower Women Retail Business Owners
- Startup India Mission Marks Nine Years of Growth and Innovation
- 76th Republic Day Celebrations - January 26, 2025
- Pradhan Mantri Fasal Bima Yojana (PMFBY)
- Nagoba Jatara: A Glimpse into Telangana's Tribal Festival
- ASER 2024: A Glimpse of the Status of Rural School Education

Economic

- Baanknet Portal
- State Bank of India's (SBI's) Two New Deposit Schemes
- World Gold Council (WGC)
- Indian Customs Electronic Gateway (ICEGATE)
- Remission of Duties and Taxes on Exported Products (RoDTEP) Scheme
- Asset Reconstruction Companies (ARCs)
- Diamond Imprest Authorisation (DIA) Scheme
- Airport Economic Regulatory Authority (AERA)
- Logistics Ease Across Different States (LEADS) 2024
- Export Inspection Council
- Future of Jobs Report 2025
- Entity Locker
- National Mineral Development Corporation (NMDC)
- Tobacco Board Focuses on Sustainability and Growth; Exports Reach ?12,005 Crores in 2023-24

EDITORIALS

Crux of The Hindu & Indian Express

Economic

Science & Technology

EDITORIALS

Crux of The Hindu & Indian Express

Science & Technology

Trump Withdraws US from Paris Climate Agreement: Impact on India

Background:

- In January 2025, Donald Trump, the President of the United States, signed an order to pull the US out of the Paris Climate Agreement for the second time.
- He had made a similar move in 2017, and now, after coming back to office, he is repeating this action.
- This will take about a year to fully complete.
- The Paris Climate Agreement, signed in 2015, is an international agreement aimed at limiting global warming and reducing the effects of climate change.
- Trump's reasons for leaving include his belief that the agreement unfairly takes money from the US and sends it to other countries.

Paris Agreement Goals:

The main goal of the Paris Agreement is to:

- Keep global warming well below 1.5°C compared to pre-industrial levels.
- Try to limit the temperature rise to 2°C at most.
- The US is the second-largest producer of carbon dioxide (CO_2) in the world, and historically, it has been the largest polluter.
- Trump's decision to leave the agreement is seen as harmful, as it means the US will not contribute to the global efforts to fight climate change.

Impact of the US Withdrawal:

1. Global Climate Efforts:

o The US is responsible for around 20% of all global CO_2 emissions.

o Its decision to leave the agreement weakens global climate efforts, especially as 2024 was the hottest year ever recorded, with temperatures rising above 1.5°C above pre-industrial levels for the first time.

2. Setting a Bad Example:

o Trump's decision sends a bad signal to other countries, especially developing nations like India.

o It could encourage other developed countries to also back out of their climate promises.

3. Climate Funding and Support:

o The US decision could also hurt **climate funding** for developing countriezzzsed to help poorer nations with money to fight climate change, but the US has pledged less money than other countries, like Germany and the UK, which offer more support for climate projects.

o Trump's action could make it harder for countries like India to get the money they need to deal with the effects of climate change and to make their energy systems cleaner.

Impact on India:

1. Moral Leadership:

o India has been a leader in fighting climate change, setting goals to reduce its carbon emissions and use more clean energy.

o Despite challenges, India is committed to climate action, and now it might need to step up more as the US pulls back.

2. Climate Finance and Support:

o India, like many developing countries, needs financial support to deal with the impacts of climate change.

o Trump's move to withdraw from the agreement makes this harder, as it takes away a key source of funding.

o India's energy transition and climate resilience projects will need more support, which might be harder to come by if the US is no longer involved in the Paris Agreement.

3. Green Technology Opportunities:

o On the positive side, the clean energy market has grown a lot since 2017.

o India can use this opportunity to invest more in renewable energy and green technologies like solar and wind power, and create jobs in these sectors.

4. Global Role:

o India's role in global climate talks is now more important than ever.

o India can push for stronger commitments from other countries and take a leadership role in ensuring that global goals are still met, even without the US.

5. New Technologies and Jobs:

o India can also focus on developing green technologies and making its industries cleaner.

o By doing this, India can create new jobs and help reduce the country's carbon emissions while also boosting its economy.

What India Can Do:

India should stay committed to its climate goals, even if the US pulls out. There are several things India can focus on:

- Building better systems to protect itself from climate change, like stronger infrastructure.

- Continuing to grow its clean energy sector, which includes solar and wind power.

- Finding ways to make more money available for climate projects, like green finance.

- India has a big chance to lead the world in climate action by pushing for international cooperation, investing in clean technologies, and supporting the growth of green industries.

Conclusion:

Trump's decision to withdraw from the Paris Agreement is a setback for global efforts to fight climate change, especially since the US is a big polluter. However, it also gives India a chance to step up as a leader. India should continue pushing for stronger action on climate change and take advantage of opportunities to grow its economy with green technology and renewable energy. By doing so, India can help ensure a better future for itself and for the world.

US Withdrawal from WHO : Impact and Implications for India

Background:

- On his first day in office, US President Donald Trump signed an executive order to withdraw the United States from the World Health Organization (WHO).

- The reasons cited for this decision included WHO's perceived mismanagement of the COVID-19 pandemic, its failure to adopt necessary reforms, and its inability to operate independently of political influences.

- Trump also objected to the financial contributions demanded by WHO, claiming they were disproportionately high for the US, compared to other countries like China.

- Although the withdrawal wasn't unexpected—Trump had threatened to do so earlier during his presidency—it raised concerns about the funding and global health expertise that the WHO would lose as a result.

Key Points in the Executive Order:

1. **Suspension of Funding:**

   The US government will pause any further transfer of funds to the WHO.

2. **Recall of Personnel:**

   US personnel working with the WHO will be recalled, signaling a halt in collaboration.

3. **Identification of New Partners:**

   The US will seek alternative international partners to carry out WHO's necessary functions.

4. **Cease Pandemic Treaty Negotiations:**

   The US will withdraw from the ongoing negotiations for a pandemic treaty aimed at better global preparedness and response to future pandemics, as well as fair distribution of medical resources like vaccines and treatments.

Financial Impact on WHO:

The US withdrawal from WHO is significant given the country's contributions:

- **Mandatory Contributions:** The US provides about 22.5% of WHO's assessed budget, a total of USD 138 million.
- By comparison, China contributes 15%, or USD 87.6 million.
- **Voluntary Contributions:** The US is the largest voluntary donor, contributing 13% (USD 356.3 million) of the total.
- China's voluntary contribution is significantly smaller at 0.14% (USD 3.9 million).

The loss of these contributions will greatly impact WHO's ability to fund its global health programs, particularly in developing countries.

WHO's Response:

- The WHO expressed regret over the US decision, emphasizing its crucial role in protecting global health, including that of Americans.
- The organization also pointed out that it had implemented significant reforms in recent years, which were achieved with the cooperation of the United States and other member states.

Impact on India:

As a key partner in global health, India is likely to be affected by the US withdrawal from WHO in several ways:

1. **Health Program Support:** WHO's role in India is vital, particularly in tackling diseases like malaria, tuberculosis, HIV, and neglected tropical diseases.
2. It also plays a critical role in India's immunization program, with WHO teams monitoring vaccine coverage.
3. **Loss of Expertise and Guidance:** The expertise of US professionals, especially from the Centers for Disease Control and Prevention (CDC), has been integral to WHO's role in global health.
4. If US personnel are recalled, India might face challenges in adapting WHO's global health frameworks to its local context.
5. **Impact on Collaboration:** The severing of ties between the CDC and WHO could hinder international efforts in disease surveillance and response to health emergencies.
6. India, as a major health player, may face disruptions in cross-border health cooperation.
7. **Vulnerabilities in Health Programs:** WHO's guidance on chronic diseases, vaccine development, and pandemic preparedness has shaped health policies worldwide, including in India.
8. Without US funding and participation, some of these initiatives might not be as effective or timely.

Global South's Role:

- The vacuum left by the US is likely to be filled by China and countries from the global south, including India.
- India, with its growing global influence and health expertise, could play an increasingly important role in international health governance.
- Indian Prime Minister Narendra Modi has already been a strong advocate for global health cooperation and could further elevate India's leadership in this space.
- As the voice of the global south, India can leverage its position to rally other nations and organizations to step up their contributions to global health.
- There is also potential for greater collaboration between India and other rising powers, like South Africa, to bridge the gap left by the US.

Moving Forward:

- In light of the US withdrawal, WHO will need to find alternative funding sources and strengthen collaborations with other international partners.
- The Bill and Melinda Gates Foundation (BMGF), along with countries like Australia, Indonesia, and Spain, have already pledged more resources, and this trend could continue as global health efforts adapt to the shifting dynamics.
- India, with its robust public health infrastructure and leadership role in the global south, stands at a crossroads.
- It has the opportunity to expand its influence in global health and support initiatives that aim to address health inequities, pandemic preparedness, and universal health coverage.

Conclusion :

The US decision to withdraw from WHO poses significant challenges for global health governance, including in India. The loss of funding and expertise may affect WHO's operations and its support for health programs in India. However, this shift also opens doors for India and other countries to step into leadership roles, ensuring the continuity of crucial.

❏❏❏

International Organization for Migration (IOM)

Overview:

The International Organization for Migration (IOM), a crucial intergovernmental entity, has recently increased its funding appeal for Syria from $30 million to $73.2 million, highlighting its vital role in responding to global migration crises.

About IOM:

- **Established**: 1951
- **Type**: Intergovernmental organization
- **UN Affiliation**: IOM is a related organization within the United Nations system.
- **Mission**: To promote humane and orderly migration for the benefit of migrants and society, ensuring international cooperation in addressing migration challenges.

Functions and Goals:

1. **Migration Management**: IOM focuses on the humane and orderly management of migration. This includes offering humanitarian aid to migrants, especially those displaced due to conflict, and promoting international cooperation on migration issues.

2. **Policy Guidance and Development**: The IOM provides operational and policy guidance on matters such as:
   o **Labour mobility** (movement of workers across borders)
   o **Integration of migrants** into host societies
   o **Development links** through diaspora communities

3. **Humanitarian Aid**: IOM assists migrants in distress, such as refugees and internally displaced persons (IDPs), through direct aid, including medical support, shelter, and food.

4. **Global Advocacy**:
   o IOM has played a key role in supporting the negotiation of the UN Global Compact for Migration (2018), an agreement to address all aspects of international migration.
   o **Global Coordination**: IOM coordinates the UN Network on Migration, which aims to improve international cooperation on migration-related issues.

Headquarters & Membership:

- **Headquarters**: Geneva, Switzerland
- **Member States**: 175 member states
- **Observer States**: 8 observer states

Key Publications:

- **World Migration Report**: An annual publication that provides in-depth analysis of migration trends worldwide.
- **Migration Health Annual Report**: Focuses on the health-related aspects of migration.

Role in Global Migration:

IOM helps to develop solutions to migration challenges by working with countries to ensure migration is safe, legal, and beneficial for both migrants and host societies. This includes promoting the protection of migrant rights and ensuring non-discriminatory treatment across borders.

UN Global Compact for Migration:

The UN Global Compact for Migration (2018) is a non-legally binding international agreement aimed at managing migration in a comprehensive manner. It is cooperatively negotiated among UN member states and seeks to:

- **Balance State Sovereignty and Responsibility**: It encourages cooperation while respecting national laws and interests.
- **Promote Human Rights**: Ensures migration policies uphold migrants' rights, dignity, and safety.
- **Cooperative Approach**: Encourages collective action to optimize the benefits of migration, while addressing its risks and challenges.

This agreement provides a framework for states to improve migration management, reducing inequalities and protecting vulnerable migrants worldwide.

Henley Passport Index 2025

Overview:

The Henley Passport Index 2025 reveals that India's passport ranking has dropped by five places, from 80th to 85th. This ranking is based on the number of visa-free destinations accessible to holders of each country's passport.

About the Henley Passport Index:

- **Purpose**: The Henley Passport Index ranks the world's passports based on how many destinations their holders can access without requiring a prior visa.

- **History**: It began in 2006 as the Henley & Partners Visa Restrictions Index (HVRI). The index is considered the original and authoritative source for passport rankings.

- **Data Source**: The rankings are based on exclusive data from the International Air Transport Association (IATA), which maintains the largest and most accurate travel information database. Additional research is conducted by the advisory firm Henley & Partners, based in London.

- **Coverage**: The index evaluates 199 passports and 227 travel destinations.

- **Visa-free Score**: The passport's rank is determined by the number of visa-free destinations a holder can access.

Highlights of the Henley Passport Index 2025:

- **Top Rank**: **Singapore** retains its position as the world's most powerful passport. A Singaporean passport allows visa-free access to 195 destinations.

- **India's Position**: The Indian passport has dropped five places to 85th position. Indian passport holders can travel visa-free to 57 destinations. India shares this rank with Equatorial Guinea and Niger.

- **European Nations**:

  o France, Germany, Italy, and Spain each dropped two places, sharing the third position with Finland and South Korea, all providing visa-free access to 192 destinations.

  o Fourth place sees a tie between seven EU countries: Austria, Denmark, Ireland, Luxembourg, Netherlands, Norway, and Sweden, with access to 191 destinations.

  o The top five includes countries like Belgium, Portugal, Switzerland, the UK, and New Zealand (the only non-European country in this group), all providing visa-free access to 190 destinations.

Global Impact:

The Henley Passport Index serves as a reference for travelers, policymakers, and institutions when evaluating global mobility and visa policies. It highlights the growing importance of visa-free access as a key indicator of a country's passport strength.

What is the International Civil Aviation Organization (ICAO) ?

The International Civil Aviation Organization (ICAO) is an intergovernmental specialized agency of the United Nations (UN), established in 1947 under the Chicago Convention (1944).

- **Purpose**: ICAO is responsible for establishing global standards and regulations for aviation safety, security, efficiency, and environmental protection.

- **Role**: It works with member states and industry stakeholders to develop guidelines for the safe operation of international air travel and air traffic control.

ICAO plays a crucial role in ensuring global cooperation in aviation, which influences travel patterns, including visa-free access between countries.

Canada's RCIC Scheme : A Pathway for Indian Students with Expiring Work Permits

1. Background

- In recent months, changes to Canada's immigration and study visa rules have made it more difficult for international students, especially from India, to secure Permanent Residency (PR).

- Many students, particularly those from Punjab, see PR as their ultimate goal after completing their studies and gaining work experience in Canada.

- However, by the end of 2025, nearly 7.66 lakh international students' Post-Graduation Work Permits (PGWPs) are set to expire.

- This has left many worried that they will have to leave Canada if they are unable to secure PR before their permits expire.

- In response, Canada has introduced a new initiative to help such students: the Rural Community Immigration Class (RCIC).

2. What is the Rural Community Immigration Class (RCIC)?

- The Rural Community Immigration Class (RCIC) is a new immigration program launched by Immigration, Refugees, and Citizenship Canada (IRCC) in December 2024. The program is designed to:
    o Attract foreign nationals, including international students, to settle and work in designated rural communities across Canada.
    o Address labour shortages, promote economic development, and boost population growth in underrepresented areas.

- For international students, especially those with expiring PGWPs who are struggling to meet the Comprehensive Ranking System (CRS) score for PR or secure high-paying jobs, the RCIC offers a viable pathway to Permanent Residency (PR).

3. Why Has Canada Opened PR Opportunities in Rural Communities?

- The designated rural communities are located outside Canada's major urban centers like Toronto, Vancouver, and Montreal. These communities are generally smaller towns that are near larger urban areas (e.g., Ontario, Vancouver, etc.).

- Canada launched this program to revitalize rural areas by attracting skilled workers, addressing labour shortages, and stimulating economic development in these less-populated regions.

- The RCIC is part of Canada's strategy to promote long-term residency and development in regions that need a population boost.

4. Eligibility for the RCIC Program

The Rural Community Immigration Class (RCIC) program has the following eligibility requirements:

a) Education Level:

- Applicants must have completed at least secondary school or hold higher education qualifications (e.g., graduation, post-graduation, etc.).

b) Studies in Designated Communities:

- International students who have studied for at least 18 months in a designated rural community are eligible to apply directly for PR.

- Students who have studied outside these communities may also be eligible but must meet additional conditions.

c) Job Offer:

- A job offer from a designated employer in one of the rural communities is required.

- The job can be in any field, including non-skilled roles.

- The job offer must be submitted to the community, which will then issue a certificate to support the PR application.

d) Work Experience:

- Applicants are generally required to have relevant work experience. However, for international graduates meeting certain criteria, this requirement may be waived.

e) Language Proficiency:

- Applicants must meet the Canadian Language Benchmark (CLB) requirements, depending on the NOC TEER level of the job:
  - **TEER 0-1**: CLB 6
  - **TEER 2-3**: CLB 5
  - **TEER 4-5**: CLB 4

f) Financial Proof:

- Applicants must demonstrate that they have sufficient funds to support themselves and their families for one year in the designated community.
- This amount is typically half of the low-income threshold for rural areas as per Statistics Canada.

g) Intent to Reside:

- Applicants must show genuine intent to live and work in the designated rural community.

5. Benefits of the RCIC Program for International Students

a) Easier Path to PR:

- The RCIC provides a clearer and easier pathway to PR for international students who may face difficulties meeting the CRS score or securing high-paying jobs in Canada's major cities.

b) Less Competition in Rural Areas:

- Rural areas have less competition than major cities, meaning students have a higher chance of securing a job offer and transitioning to PR.
- The job market in rural areas is less saturated, making it easier to gain employment and settle in the community.

c) Employer Support:

- Many designated employers in rural communities assist with the PR application process, providing support through documentation and facilitating the overall procedure for the student.

d) Long-term Residency:

- Successful applicants can settle in rural areas, contributing to economic growth, community development, and gaining Permanent Residency in Canada.

6. Why is the RCIC Program Significant for Indian Students?

- Indian students make up nearly 40% of all international students in Canada.
- Many face challenges transitioning from temporary visas to Permanent Residency due to increasing competition and tougher immigration rules.
- The RCIC program offers an alternative pathway to PR for students who may find it difficult to navigate Canada's regular immigration processes, especially in light of expiring PGWPs.
- The program has come at a time when Indian students are protesting and expressing dissatisfaction over PR challenges and stricter immigration rules.

Experts suggest that instead of focusing solely on large cities, students from India should explore opportunities in rural communities through the RCIC program for a smoother transition to PR.

7. Key Considerations for Applicants

- **Research Participating Communities and Employers**: It's essential for applicants to thoroughly research the communities and the designated employers in those regions to ensure a good fit for their skills and qualifications.
- **Act Quickly**: Since Post-Graduation Work Permits (PGWPs) are time-sensitive, applicants should act promptly to secure a job offer and begin the PR application process.
- **Complete Documentation**: Ensure that all documentation, particularly proof of intent to reside and financial proof, is accurate and complete.

Conclusion

The Rural Community Immigration Class (RCIC) offers a valuable opportunity for international students, especially those from India, to secure Permanent Residency in Canada. This program addresses labour shortages in rural areas and promotes economic growth in these underdeveloped communities, while also offering a clear pathway for students who may otherwise struggle to meet immigration requirements in Canada's larger cities.

India, U.S. to Jointly Manufacture Interoperable Sonobuoys for Navy

Overview

- In January 2025, India and the United States have announced a significant partnership to jointly produce sonobuoys for the Indian Navy.
- Sonobuoys are essential devices used for tracking submarines in the oceans, an important tool for Undersea Domain Awareness (UDA).
- This collaboration comes at a time when both countries are increasingly concerned about China's growing naval presence in the Indian Ocean Region (IOR).
- The deal marks the latest in a series of defense cooperation initiatives between India and the U.S.

Key Points:

1. What are Sonobuoys?

- **Sonobuoys** are devices used to detect and track submarines, providing underwater surveillance.
- They work by dropping into the ocean and transmitting acoustic signals that can detect submarines.
- They play a critical role in Undersea Domain Awareness (UDA), helping countries track submerged vessels in vast ocean areas, thus strengthening their maritime defense.

2. The India-U.S. Cooperation on Sonobuoy Manufacturing:

- Ultra Maritime (UM), a leading U.S. company specializing in undersea warfare, will collaborate with Bharat Dynamics Limited (BDL), a public-sector defense company in India, to co-manufacture sonobuoys.
- The partnership will be aligned with the 'Make in India' initiative, aiming to boost domestic manufacturing while ensuring high-quality standards in line with U.S. Navy requirements.
- The sonobuoys produced under this partnership will be interoperable—meaning they can be used by both the Indian Navy and the U.S. Navy, as well as other allied countries, including Japan and Australia, which operate similar platforms.

3. Interoperability Focus:

- The new sonobuoys will be compatible with advanced **naval pla**tforms used by both nations, including the P-8I long-range maritime patrol aircraft, the MH-60R multi-role helicopters, and the MQ-9B Sea Guardian drones.
- This interoperability is a key aspect of the cooperation, allowing smooth integration of defense technologies across allied forces, particularly in joint operations within the Quad (India, U.S., Japan, Australia).

4. Technological Advancements:

- Ultra Maritime and BDL will focus on developing new sonobuoy technologies that are optimized for the unique acoustic conditions of the Indian Ocean.
- This collaboration will improve the acoustic performance of sonobuoys and enhance India's ability to conduct wide-area searches for submerged submarines, using multi-static active solutions (a technique involving multiple sonobuoys working together).

5. Strategic Importance in Indo-Pacific Region:

- This move is significant as it strengthens India-U.S. defense ties and enhances maritime security in the Indian Ocean Region (IOR), where China's naval presence is rapidly growing.
- The two countries are also working together to enhance their defense-industrial base, helping them prepare for potential security threats in the region.
- The partnership is viewed as part of a larger strategy to counter the increasing Chinese influence in the Indo-Pacific, especially in maritime areas.

6. Related Developments in India's Maritime Defense:

- India's defense focus on UDA is growing. The Indian Navy has identified UDA as a critical area for naval operations, emphasizing the need for cutting-edge technology to monitor and secure vast areas of the ocean.

- The Indian Navy operates advanced platforms such as the P-8I maritime aircraft, the MH-60R helicopters, and recently acquired MQ-9B Sea Guardian drones. These platforms will now be enhanced with locally produced, interoperable sonobuoys.

7. Other U.S.-India Defense Collaborations:

- In addition to the sonobuoy deal, India and the U.S. are pursuing several other **defense collaborations** to strengthen maritime and overall security in the Indo-Pacific region:
  - o Sagar Defence Engineering and Liquid Robotics (Boeing) announced a partnership for co-developing Uncrewed Surface Vehicle (USV) systems for UDA.
  - o In October 2024, India signed a $3.5 billion contract for 31 MQ-9B drones (15 Sea Guardians for the Navy and 16 Sky Guardians for the Army and Air Force), which will begin deliveries in 2029.

8. Indian Navy's Emphasis on UDA:

- The Indian Navy has placed UDA among its top priorities, and October 2021 saw the then-Navy Chief, Adm Karambir Singh, calling UDA one of the most critical aspects of naval operations.

- This focus aligns with the broader Quad strategy, aiming to ensure safe and secure maritime trade routes in the Indo-Pacific region, which are vital for the global economy.

9. Global Context – China's Growing Influence:

- The cooperation between India and the U.S. comes at a time when China's growing naval power in the Indian Ocean and beyond is raising security concerns in the region.

- Both India and the U.S. are committed to deepening interoperability in their defense forces to address common security challenges posed by China's expanding influence.

10. Long-Term Impact:

- The sonobuoy manufacturing partnership is part of a broader trend of increasing defense collaboration between India and the U.S., which is strengthening the defense industrial base in both countries.

- This cooperation will help both nations improve their naval capabilities, enhance security cooperation in the Indo-Pacific, and provide cutting-edge technologies for the Indian Navy's operations.

Conclusion:

The joint India-U.S. initiative to co-produce interoperable sonobuoys for the Indian Navy is a significant step forward in enhancing Undersea Domain Awareness (UDA) in the Indian Ocean Region. This collaboration not only strengthens bilateral defense ties but also supports broader regional security objectives, particularly in countering China's growing maritime presence. By focusing on interoperability and technological innovation, the two countries aim to bolster their defense capabilities, ensuring a secure and stable maritime environment for trade and global prosperity.

Indonesia Joins BRICS : Unlocking New Economic Opportunities

- Indonesia is the first Southeast Asian country to join the BRICS on January 6, 2025 which is made up of emerging economies, alongside powerful emerging economies like Brazil, Russia, India, China, and South Africa.

- This development comes as Indonesia sets an ambitious target of achieving 8% GDP growth, a goal that would position the country among the world's fastest-growing economies.

- With its entry into the BRICS Plus bloc—an expanded version of BRICS—Indonesia aims to unlock new economic opportunities, attract foreign investment, and strengthen its global position.

- The original member countries of BRICS were Brazil, Russia, India, and China.
- South Africa joined in 2010, and in 2024, Egypt, Ethiopia, Iran, and the United Arab Emirates became official members while Argentina declined and Saudi Arabia has not yet formally accepted.

What is BRICS?

- BRICS was formed in 2009 to represent emerging economies with a goal of reshaping global governance and challenging the dominance of Western-led institutions.
- Over the years, the group has expanded.
- The recent inclusion of countries like Egypt, Ethiopia, Iran, and the UAE as part of BRICS Plus has significantly boosted its economic footprint and influence.

Key Facts about BRICS Plus:

- **Global Trade**: Accounts for around 24% of global trade.
- **Economic Impact:** Represents 28% of the world's GDP.
- **Global Partnerships:** By 2022, BRICS Plus had become the main trade partner for 28% of countries worldwide.
- Indonesia's entry into BRICS strengthens its role within this influential bloc, providing the country with greater access to trade, infrastructure financing, and technological collaboration—all of which are essential to reaching its ambitious economic goals.

Why Did Indonesia Join BRICS?

1. Strengthening Economic Partnerships:

- Indonesia's President Prabowo Subianto recognizes that long-term growth requires diversified trade relationships and increased foreign investment.
- Membership in BRICS opens access to new markets in Asia, Africa, and Latin America, helping Indonesia expand its non-traditional trade partnerships and reduce its dependence on Western markets.

2. Infrastructure and Financing Opportunities:

- **Infrastructure investment** is critical to achieving Indonesia's growth target.
- By joining BRICS, Indonesia can access low-cost financing through the New Development Bank (NDB), which focuses on funding infrastructure projects in member countries.

- Large-scale infrastructure projects, including ports, railways, and roads, are needed to support Indonesia's ambitious growth plans.

3. Advocating for the Global South:

- As a BRICS member, Indonesia has a platform to advocate for the interests of emerging economies in the Global South.
- Jakarta aims to influence global policies on sustainable growth, fair trade, and access to technology, all of which are crucial for achieving its economic goals.

4. Attracting Investment:

- With BRICS Plus representing nearly a third of global GDP, Indonesia's membership increases its appeal as an investment destination.
- Partnerships within the BRICS bloc can help Indonesia stimulate key sectors like energy, manufacturing, and technology, which are vital to its economic growth.

Indonesia's Trade Dynamics with BRICS

1. Trade Volume and Growth Potential:

- As of 2024, Indonesia's trade with BRICS nations reached approximately $150 billion, demonstrating the importance of BRICS as a trade partner.
- Expanding this trade is crucial for Indonesia's target of an 8% GDP growth, as it needs to significantly increase its exports.

2. Key Exports to BRICS Countries:

- **Palm Oil**: A major export to markets like India and China.
- Coal and Natural Gas: Supporting energy security in BRICS countries.
- **Rubber**: Widely used in industrial and automotive applications.

3. Key Imports from BRICS Countries:

- **Machinery and Electronics**: To aid in Indonesia's **industrialization** efforts.
- **Chemicals**: For growing agricultural and manufacturing sectors.

Linking BRICS Membership to Indonesia's Growth Ambitions

1. Infrastructure Development:

- Achieving 8% GDP growth requires massive investment in infrastructure, including new roads, ports, and railways.

- BRICS financing, particularly through the New Development Bank, can support these efforts, especially with China's expertise in infrastructure development.

2. Technology Transfer and Industrial Growth:

- BRICS membership offers Indonesia opportunities for technological collaboration, particularly in renewable energy, artificial intelligence (AI), and digitalization.

- These technological advancements could help modernize Indonesia's industries, improving productivity and global competitiveness.

3. Trade Diversification:

- By engaging more with BRICS Plus, Indonesia can reduce its reliance on traditional markets like the U.S. and the EU.

- Diversifying its export base will ensure that Indonesia's economy remains resilient and sustainable in the long term.

BRICS Membership as a Catalyst for Growth

- While BRICS membership opens up new possibilities, Indonesia will need to implement structural reforms and navigate geopolitical complexities to ensure that these opportunities translate into tangible economic gains.

- Active participation in BRICS will not only contribute to Indonesia's growth but also help shape the future of global economic governance, offering a platform for emerging economies to collectively pursue equitable development.

Conclusion :

Indonesia's decision to join BRICS reflects its long-term economic ambitions. By aligning itself with this influential bloc, Indonesia seeks to achieve its 8% GDP growth target, diversify trade, access essential financing, and advocate for the Global South. As Indonesia takes these significant steps to modernize its economy, its BRICS membership will play a vital role in shaping the country's future and boosting its global influence.

Switzerland Suspends MFN Clause in DTAA with India (Effective January 1, 2025)
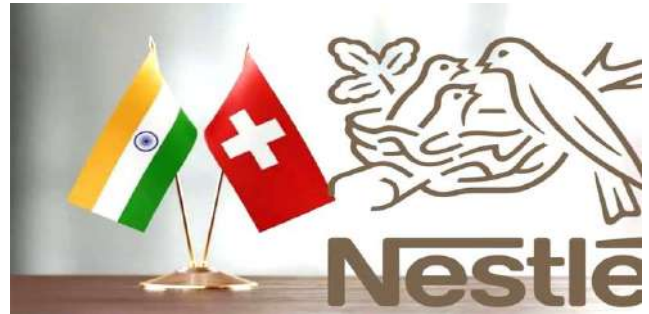
- On January 1, 2025, Switzerland suspended the Most Favoured Nation (MFN) clause in its Double Taxation Avoidance Agreement (DTAA) with India.

- As a result, the tax on dividends (payments to shareholders) made by Swiss companies to Indian residents will increase from 5% to 10%.

- This decision came after a 2023 ruling by the Indian Supreme Court, which made it clear that the MFN clause does not automatically apply when a country joins the Organisation for Economic Co-operation and Development (OECD), especially if there's already an existing tax treaty.

What is Double Taxation Avoidance Agreement (DTAA) ?

A DTAA is an agreement between two countries that makes sure people and businesses are not taxed twice on the same income. This helps to prevent Non-Resident Indians (NRIs) and others from paying taxes in both countries on the same earnings.

- The India-Switzerland DTAA was signed in November 1994. It has 29 articles that explain how tax rules work, how to avoid being taxed twice, and how to handle income that comes from both countries.

- The agreement ensures that if an Indian citizen works in Switzerland but still earns money from India, they will not be taxed by both countries.

- They only need to pay tax in either India or Switzerland, based on the rules in the agreement.

What is the Most Favoured Nation (MFN) Clause ?

The MFN clause is a rule in international agreements that says if a country gives special treatment (such as lower

taxes or fewer trade barriers) to one country, it must offer the same treatment to other countries with similar agreements.

- **Example:** If India gives Switzerland a lower tax rate on dividends, India must offer the same lower tax rate to all countries it has agreements with under the MFN clause.

Pros and Cons of MFN:

- **Advantages**: The goal of the MFN clause is to ensure fairness by treating all countries equally. It prevents countries from favoring one nation over others based on power or influence.
- **Exceptions**: The World Trade Organization (WTO) allows some exceptions, including:
  - o Countries can have special agreements with each other.
  - o Developing countries can get special treatment.
  - o Countries in trade groups (e.g., the EU) may treat non-member countries differently.
  - o Countries can set different rules for non-WTO members (like Iran, North Korea, etc.).
- **Removal of MFN status**: There is no fixed rule for suspending MFN status, and countries do not always need to inform the WTO when they do so.

  For example, India suspended MFN status for Pakistan after the Pulwama attack in 2019.

  In the case of the India-Switzerland DTAA, the MFN clause was supposed to allow Indian tax residents to benefit from lower taxes on dividends if Switzerland gave such treatment to other countries, especially those that had joined the OECD.

- *The Most Favored Nation (MFN) clause is commonly included in international treaties between countries.*
- *It ensures that if a country gives favorable tax treatment (like lower taxes) to one country, it must give the same treatment to all other countries in the treaty.*
- *This rule is often used in agreements with countries that are members of the Organisation for Economic Co-operation and Development (OECD).*
- *Under the MFN principle, if a country gives a better deal (e.g., lower tax rates) to one OECD member, it must offer that same deal to all other OECD members.*

- *The goal is to ensure equal treatment for all countries involved, so no country gets unfairly better tax benefits than others in the group.*

Why Did Switzerland Suspend the MFN Clause ?

Switzerland decided to suspend the MFN clause because of a 2023 legal case involving Nestlé, a Swiss company. The case was about Nestlé asking for a tax refund on dividends received from Indian companies. Nestlé claimed it should pay less tax because other countries (like Colombia and Lithuania) were getting lower taxes after joining the OECD.

- **Swiss Belief**: Switzerland thought that the lower tax rates given to OECD countries would automatically apply to India because of the MFN clause.
- **Indian Supreme Court Ruling (2023)**: The Court ruled that the MFN clause does not apply automatically in this situation. Tax changes based on OECD membership need a formal agreement between the two countries, not just automatic changes. This ruling overturned a previous decision by the Delhi High Court, which had supported Nestlé's claim.

The Court's decision forced Switzerland to rethink its position and led to the decision to suspend the MFN clause.

Why Did Switzerland Choose to Suspend the MFN Clause?

Switzerland decided to suspend the MFN clause, starting on January 1, 2025, for a few reasons:

1. **Clarity from the Indian Supreme Court**: The Court's ruling made it clear that tax changes based on OECD membership need to be agreed on by both countries involved, not automatically applied.
2. **Avoiding Future Tax Disputes**: Continuing to apply the MFN clause could have led to more legal disputes and confusion about how tax rates should be applied. Suspending the MFN clause helps avoid future conflicts.
3. **Controlling Tax Rates**: By suspending the MFN clause, Switzerland can control how tax rates are set for India, without being forced to automatically adjust based on other countries' tax changes.

Key Facts: Impact of MFN Clause Suspension

The suspension of the MFN clause will affect businesses and investors in both countries.

What's changing:

1. **Impact on Indian Companies Receiving Swiss Dividends:**

* **Higher Tax:** The tax on dividends (payments to shareholders) from Swiss companies to Indian residents will increase from 5% to 10%.

* **Increased Tax Burden:** Indian businesses or individuals receiving dividends from Swiss companies will face a higher tax rate than before, as the rate will double from 5% to 10%.

2. **Impact on Swiss Companies:**

* Swiss companies that receive dividends from their Indian subsidiaries will still pay the 10% withholding tax. This has always been the case under the India-Switzerland DTAA.

* **EFTA Countries:** The suspension of the MFN clause will not affect Swiss companies or investments from EFTA countries (Norway, Iceland, Liechtenstein, and Switzerland), as they already pay a 10% tax on dividends from India.

3. **Other Tax Benefits:**

* **No Change for Other Benefits:** Indian companies that operate in Switzerland will still be able to use other benefits under the DTAA, such as tax relief on things like royalties or technical services.

* **No Major Changes:** Indian businesses with operations in Switzerland will not face major changes in their tax obligations, except for the higher tax on dividends.

4. **Impact on India's Global Tax Treaties:**

* The suspension of the MFN clause could make other countries rethink how they use the MFN clause in their tax treaties with India.

* **Reassessing MFN Clauses:** Other countries may look at whether they should include MFN clauses in future treaties with India, especially if they join the OECD or change their tax rules.

* **Future Tax Disputes:** This case could lead countries to ask for clearer tax agreements to avoid confusion or disputes.

* **More Bilateral Negotiations:** Countries may want to negotiate tax rates more carefully to make sure both sides agree and understand the changes.

Potential Effects on Global Tax Treaties

Switzerland's decision to suspend the MFN clause may have wider effects:

* **Reassessing MFN Clauses:** Other countries might reconsider whether to include MFN clauses in their tax treaties with India, especially if they join the OECD or change their tax policies.

* **Future Tax Disputes:** This case could lead to other countries asking for clearer terms in tax agreements to prevent confusion or disagreements.

* **More Careful Bilateral Negotiations:** Countries may start negotiating tax treaties more carefully to ensure both sides agree on changes.

Conclusion :

Switzerland's suspension of the MFN clause in its tax treaty with India, starting January 2025, is a major change in international tax law. For Indian businesses, this means they will pay a higher tax on dividends received from Swiss companies, which could affect their investment strategies. However, Swiss businesses will not see any major changes to their tax treatment, as they will continue to pay the same 10% withholding tax. This decision could also influence how other countries handle MFN clauses in future tax treaties with India, leading to more detailed and clearer agreements.

Interpol Issues First Silver Notice to Trace Illicit Wealth Laundered Across Borders

* In January 2025, Interpol issued its first-ever Silver Notice to help trace illicit assets that have been moved across borders.

* This new type of notice is part of a pilot project that involves 52 countries, including India, and aims to

locate and recover the hidden wealth of criminals involved in serious offenses like corruption, fraud, and drug trafficking.

What is Interpol ?

1. The International Criminal Police Organisation has 196 member countries.
2. The Interpol allows countries to share data related to crime and criminals and offers technical support to them.
3. In India, the Central Bureau of Investigation (CBI) is responsible for coordinating investigations on behalf of Interpol members.

What is the Silver Notice?

The Silver Notice is a new tool introduced by Interpol to locate assets linked to criminal activities. This includes properties, vehicles, businesses, and financial accounts that have been illegally moved to other countries to hide them, especially in tax havens.

- The Silver Notice allows countries to request information from other nations to help **track down these assets**.
- It will help locate and identify wealth linked to crimes such as **fraud**, **corruption**, **drug trafficking**, and **environmental crimes**.
- Countries can use this information to make formal requests for **seizure**, **confiscation**, or **recovery** of the assets, based on each country's own laws.

First Use of the Silver Notice

- The very first **Silver Notice** was issued on the request of **Italy**.
- **Italy asked Interpol to help trace the assets of a senior mafia member who had hidden wealth abroad**.
- This marks the **beginning of the Silver Notice's use** in international crime-fighting.

Why Is This Important for India?

India is one of the 52 countries participating in the pilot project. For India, the Silver Notice is particularly important because it can help track down economic offenders who have illegally transferred their wealth to other countries. Many criminals assume that by moving their wealth to offshore tax havens, they can hide it and avoid being caught.

- **India has several fugitive economic offenders** who are believed to have **moved illicit wealth** outside the country.
- The Silver Notice can help **trace and recover** these assets, which could be used to bring these criminals to justice.
- Officials believe that the Silver Notice will assist in uncovering **hidden wealth** linked to crimes, including **corruption**, **money laundering**, and **fraud**.

The Pilot Project and Global Cooperation

- The **pilot project** will run at least until **November 2025**, allowing countries to request a total of **500 Silver Notices**.
- These requests will be divided equally among the participating nations.
- Interpol will carefully review each Silver Notice to make sure that it is **not misused for political purposes**.
- For now, the **details of the notices** won't be made public, ensuring that sensitive information remains confidential.

How the Silver Notice Works

- **Countries involved** in the **project can request information about assets linked to criminals who have committed serious offenses**, such as fraud, drug trafficking, and environmental crimes.
- The Silver Notice can also be **used to locate hidden assets in foreign countries and may lead** to efforts to **seize** or **recover** these assets.
- Countries can then use the information for **bilateral engagement**, which means they can work together to request the **seizure** or **confiscation** of the assets, depending on each country's laws.

Other Types of Interpol Notices

Interpol uses a system of color-coded notices to assist countries in gathering information about criminals or threats. Each notice serves a specific purpose:

- **Red Notice**: Requests the detention of a fugitive for prosecution or to serve a sentence.
- **Yellow Notice**: Helps locate missing persons, often minors, or identify individuals who cannot identify themselves.

- **Blue Notice**: Gathers additional information about a person's identity or activities related to an investigation.

- **Black Notice**: Seeks information about unidentified bodies.

- **Green Notice**: Warns of a person's criminal activities and potential threat to public safety.

- **Orange Notice**: Warns about a serious threat to public safety, like a dangerous event or object.

- **Purple Notice**: Shares information about criminal methods, devices, or operations.

- **UN Security Council Special Notice**: Targets individuals or entities sanctioned by the UN Security Council.

The **Silver Notice** will specifically focus on **criminal assets** and is part of the broader system of notices that helps Interpol facilitate international cooperation in criminal investigations.

The Bigger Picture: Why the Silver Notice Matters

- Interpol's Silver Notice is a **powerful new tool** in the global fight against organized crime.

- By targeting the **financial assets** of criminals, it aims to weaken criminal networks, many of which rely on the illegal profits they make from **money laundering** and other serious crimes.

- **99% of criminal assets** are currently **unrecovered**, and this new notice system is designed to make it easier to track down these funds.

- For countries like India, where **black money** and **economic offenders** are major issues, the Silver Notice represents a **strong step forward** in efforts to recover hidden wealth and hold criminals accountable.

Conclusion :

The Silver Notice issued by Interpol is an important development in international law enforcement, helping countries locate and recover illicit wealth that criminals have hidden across borders. The program, which involves 52 countries, including India, is a major step in tackling the global issue of money laundering and financial crime. As this pilot project progresses, it is expected to strengthen cooperation between nations and disrupt the financial foundations of criminal networks, making it harder for criminals to hide their ill-gotten wealth.

India Joins UN Committee on Big Data for Official Statistics

India joins the UN committee on big data and data science for official statistics

- India has officially become a member of the UN Committee of Experts on Big Data and Data Science for Official Statistics (UN-CEBD), marking a significant milestone in the country's growing prominence in the global statistical community.

- This development shows India's commitment to leveraging advanced technologies, particularly Big Data, for more informed and efficient policy-making and governance.

What is Big Data?

- Big Data refers to massive and diverse datasets that are too large, fast, and complex for traditional data management systems to handle.

- These datasets grow exponentially due to advancements in digital technologies like the Internet of Things (IoT), connectivity, mobility, and artificial intelligence (AI).

- Big Data includes structured, unstructured, and semi-structured data, which is increasingly used for machine learning, predictive modeling, and advanced analytics to solve business problems and make informed decisions.

Examples of Big Data Applications

1. *Retail:* Analyzing consumer behavior to deliver personalized product recommendations.

2. *Finance:* Monitoring payment patterns to detect real-time fraud.

3. *Logistics:* Optimizing last-mile delivery by combining order data with traffic insights.

4. *Healthcare:* Using AI to analyze unstructured medical data for improved treatment development.

5. *Urban Planning:* Detecting potholes using image data for better road maintenance.

6. *Environmental Monitoring:* Using satellite imagery to assess the social and environmental impacts of supply chains.

Key Aspects of India's Membership in the UN-CEBD

1. **Strategic Importance**:

* India's inclusion in the UN-CEBD highlights its active role in shaping global statistical standards and its drive to enhance the use of data science in official statistics.

* The country will contribute to global discussions on how Big Data can be utilized effectively to monitor and report on progress toward the Sustainable Development Goals (SDGs).

2. **India's Contributions and Initiatives**:

* India has been a pioneer in the use of alternative data sources, such as satellite imagery, machine learning, and Internet of Things (IoT) data for policy formulation and governance.

* Notably, India has established the Data Innovation Lab, which explores innovative data-driven approaches to solving complex socio-economic challenges.

* By joining the UN-CEBD, India will showcase its cutting-edge efforts in the data space, helping shape global practices for data-driven governance and policy-making.

3. **Transformative Potential of Big Data**:

* The integration of Big Data and advanced data science techniques is set to revolutionize the way official statistics are produced and disseminated.

* By using non-traditional data sources, such as private sector data streams and satellite data, India aims to modernize its statistical processes.

* This will improve the accuracy and timeliness of data, allowing for more informed decision-making.

* The use of Big Data will also reduce the time lag in data availability, which is essential for quick and effective policy responses.

4. **Enhancing Governance through Data**:

* The adoption of Big Data tools can lead to real-time insights for evidence-based decision-making, helping policymakers address critical socio-economic challenges.

* Real-time data will also support the timely monitoring and implementation of policies, thus fostering improved governance.

UN Committee of Experts on Big Data and Data Science for Official Statistics (UN-CEBD)

* The UN-CEBD was established in 2014 with the goal of exploring the role of Big Data and data science in producing more accurate, timely, and relevant official statistics.

* The committee plays an important role in investigating the potential and challenges of utilizing Big Data for global reporting, particularly in the context of the 2030 Agenda for Sustainable Development.

Mandate and Objectives:

* **Strategic Vision**: Provide direction and coordination for a global program on Big Data for Official Statistics, focusing on indicators for the Sustainable Development Goals (SDGs).

* **Promote Data Use**: Encourage the use of Big Data sources (including cross-border data) for monitoring development goals while tackling associated challenges.

* **Capacity Building**: Foster the sharing of experiences, capacity building, and training to improve the quality and efficiency of statistical practices worldwide.

* **Public Trust**: Build public trust in the use of Big Data for official statistics by promoting transparency and accountability in data usage.

Governance Structure:

* **Advisory Board**: This management body meets approximately 4 times per year to review the work of the UN-CEBD and provide strategic direction.

* **UN Bureau**: The Bureau handles the day-to-day operations and coordination of the committee's activities.

India's Role in the UN-CEBD

* India's engagement with the UN-CEBD is a strategic move to align its domestic advancements in Big Data and data science with international objectives.

* The country has been making progress in improving its statistical infrastructure, leveraging innovative data sources and advanced analytics to enhance the quality and accessibility of its official statistics.

As part of the committee, India will:

* Share best practices and pioneering efforts such as its use of alternative data to improve policy decisions.

- Contribute to global discussions on standardizing Big Data methodologies and making official statistics more inclusive and real-time.

Significance for India and Global Statistical Community

1. Boosting India's Global Influence:

* Membership in the UN-CEBD boosts India's stature in the international statistical and data science communities.

* It highlights the country's leadership in the integration of technology and governance, establishing India as a key player in data-driven decision-making globally.

2. Global Standards and Sustainable Development:

* India's participation will contribute to the formulation of global standards for using Big Data in monitoring progress towards the Sustainable Development Goals (SDGs).

* The use of Big Data to track SDGs allows countries to identify trends, challenges, and gaps in achieving these global objectives, thus driving more efficient interventions.

About the UN Statistical Commission

The UN Statistical Commission is the highest decision-making body for international statistical activities. It is responsible for:

- Setting statistical standards,
- Developing concepts and methodologies,
- Ensuring the implementation of these standards both nationally and internationally.

This body is pivotal in shaping the future of global statistical systems and ensuring that data collection and dissemination are both accurate and timely for better governance.

Conclusion :

India's membership in the UN Committee of Experts on Big Data and Data Science for Official Statistics marks a significant milestone in its ongoing journey to become a global leader in data science and governance. By leveraging its domestic advancements in Big Data, India will contribute to the global statistical community's efforts to improve the quality, accessibility, and timeliness of official statistics, thus ensuring more evidence-based decision-making and sustainable development.

17 Indian Fishermen Arrested by Sri Lankan Navy

Overview:

- 17 fishermen from Thangachimadam, near Rameswaram, Tamil Nadu, were arrested by the Sri Lankan Navy while fishing near Neduntheevu Island in the early hours of 12 Jan 2025.

- The incident has led to protests from the fishermen's families and highlights ongoing tensions regarding maritime disputes.

Key Points :

1. The Incident:

o On 11 Jan, 2 boats from Thangachimadam set out from the Rameswaram fish landing centre.

o The boats carried a total of 17 fishermen: 8 fishermen on one boat and 9 on the other.

o The fishermen were fishing near Neduntheevu, also known as Delft Island, when they were apprehended by a Sri Lankan naval patrol around 3:30 a.m. on 12 Jan.

2. Protest by Families:

o News of the arrests spread quickly, causing family members of the fishermen to protest.

o Women relatives of the arrested fishermen blocked the Madurai-Rameswaram Highway at Thangachimadam to express their dissatisfaction with the frequent arrests.

o One protestor, Asansia, wife of one of the arrested fishermen, expressed the hardships faced by fishermen, saying that they were not involved in illegal activities, unlike smugglers, but were simply trying to earn a living.

SOUTH ASIA

Fishing wars trapping Indians in Sri Lanka

In 2024, a record 535 Indian fishermen were arrested by Sri Lanka — more than double the previous year. As of November 29, 141 Indian fishermen remain in Sri Lankan jails, with 198 trawlers confiscated.

3. Frequent Arrests:

o The Sri Lankan Navy regularly arrests Indian fishermen from Tamil Nadu for allegedly crossing into Sri Lankan waters.

o The arrested fishermen are often accused of fishing in areas that Sri Lanka claims as its own territory.

About Neduntheevu Island (Delft Island):
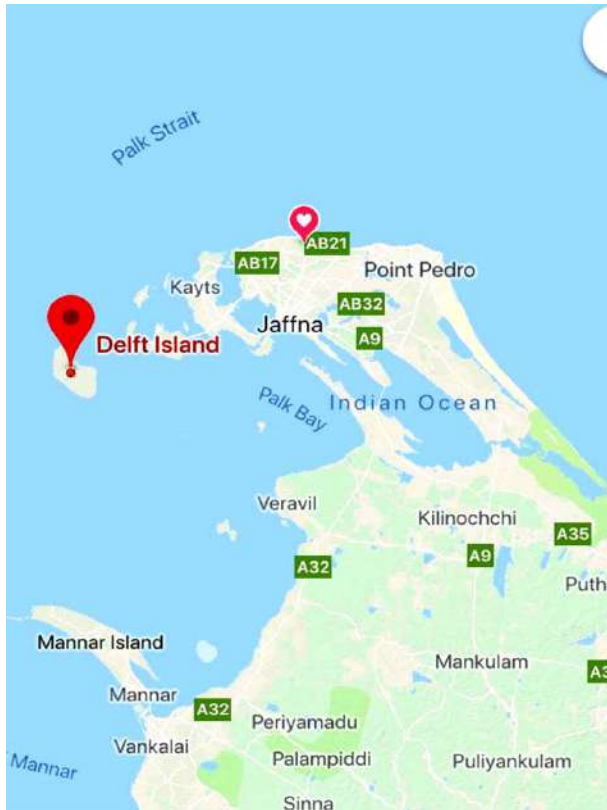
- **Location and Size:**

o Neduntheevu (also called Delft Island) is the largest island in the Palk Strait, located in the northern part of Sri Lanka.

o The island spans an area of 50 sq. km, with a length of 8 km and a maximum width of about 6 km.

- **Geography:**

o The island is flat and oval-shaped, often experiencing strong winds, making it a soothing and wind-swept area.

o There are no permanent streams on the island.

o The primary freshwater source is surface water, collected in natural depressions and artificial ponds.

- **Flora and Fauna:**

o The island has a mix of dry shrubs and semi-arid tropical plants.

o There are also tall palm trees, contributing to the island's beachy feel.

- **Historical and Cultural Significance:**

o A notable feature on the island is a Dutch fort, made from dead coral chunks, dating back to the Dutch colonial era.

o The island is home to a population of around 4,800 Tamil people, who live in the northern part of the island, in small compounds.

Conclusion:

The arrest of 17 fishermen by the Sri Lankan Navy has brought attention to the ongoing issue of maritime disputes between India and Sri Lanka. While the fishermen are seeking to make a living, these frequent arrests have led to protests and calls for a solution. At the same time, the island of Neduntheevu remains a point of historical and geographical significance in the region. The tensions highlight the challenges of maritime boundary disputes and their impact on local communities.

15 Indian Fishermen from Kanyakumari Detained Near Diego Garcia Island

- **Date of Detention:** January 9, 2025
- **Incident Location:** Near Diego Garcia Island, British Indian Ocean Territory (BIOT)
- **Origin of Fishermen:** Thengapattinam Fishing Harbour, Kanniyakumari, Tamil Nadu
- On January 9, 2025, 15 Indian fishermen were detained near Diego Garcia island, a part of the British Indian Ocean Territory (BIOT), for allegedly crossing the maritime boundary.
- The fishermen had ventured into the sea from Thengapattinam fishing harbour in Kanniyakumari district, Tamil Nadu, on December 29, 2024, and were apprehended for poaching.

Key Points of the Incident:

- The fishermen, who usually engage in deep-sea fishing, were on a mechanized boat owned by J. Paul Surgen, a resident of Thoothoor, a town in Kanniyakumari district.
- Eight of the detained fishermen were from Thoothoor, while the rest hailed from various other parts of the country.
- The fishermen had planned a long haul, typically staying out at sea for extended periods before returning to shore, and were detained for allegedly crossing into the maritime boundaries of Diego Garcia.
- As the news spread, the families of the detained fishermen were shocked and worried, urging the district administration to intervene.

About Diego Garcia:

Diego Garcia is an atoll in the central Indian Ocean, part of the Chagos Archipelago. It is the largest and southernmost island in the group and has significant geostrategic importance.

1. **Geography & Area:**
   o Diego Garcia covers an area of approximately 44 square kilometers.
   o The island is V-shaped, with a sand-fringed cay about 24 km in length and a maximum width of 11 km.
   o Its lagoon is open at the northern end.

2. **Historical Background:**
   o Discovered by the Portuguese in the early 16th century, Diego Garcia has a long history of being a dependency of Mauritius.

   o In 1965, it was separated from Mauritius and became part of the newly formed British Indian Ocean Territory (BIOT).
   o In 1966, the United Kingdom (UK) leased Diego Garcia to the United States to establish a military base. The establishment of the base led to the forcible removal of the island's inhabitants.

3. **Geostrategic Importance:**
   o Diego Garcia hosts a major U.S. air and naval base, making it a critical logistics and geostrategic support hub in the Indian Ocean.
   o The island is key for military operations, especially for the United States, and serves as a strategic outpost for controlling the region.

4. **International Disputes:**
   o In 2019, the International Court of Justice (ICJ) issued an advisory opinion declaring that the UK's separation of Diego Garcia from Mauritius in 1965 was unlawful, as the Chagossian people's rights were violated.
   o The UN General Assembly passed a non-binding resolution in 2019, calling for the end of Britain's colonial administration of the Chagos Archipelago and the return of the islands to Mauritius.

Current Status of Diego Garcia:

- **No Permanent Population:**

  Diego Garcia does not have a permanent civilian population. However, approximately 4,000 U.S. and British military personnel, along with civilian contractors, are stationed on the island due to the presence of the military base.

- **Importance for the U.S.:**

  The island is considered one of the most important military installations for the United States in the Indian Ocean region, playing a key role in logistics, defense, and surveillance activities.

Fishermen's Detention and Maritime Boundaries:

The British Indian Ocean Territory (BIOT), which includes Diego Garcia, is a disputed area, and fishing within its maritime boundary has been a point of contention.

- **Poaching Charges:**

  The fishermen from Kanniyakumari are accused of poaching, as they were allegedly found fishing within the territorial waters of the British Indian Ocean Territory.

- **Maritime Boundary Disputes:**

  The Indian Ocean is home to several maritime boundaries that are contested, and fishing vessels that unknowingly cross these boundaries can face detention or other legal actions by the authorities governing the waters.

- In this case, the fishermen were apprehended near Diego Garcia, indicating they might have crossed into disputed or restricted waters.

- **Diplomatic Efforts:**

  As the families of the detained fishermen have alerted the district administration, it is likely that the Indian government will pursue diplomatic channels to resolve the issue and secure their release.

Conclusion:

The detention of the 15 Indian fishermen near Diego Garcia island highlights the ongoing challenges of maritime boundary disputes in the Indian Ocean. As the incident unfolds, the families of the detained fishermen, along with local authorities, are seeking government intervention to address the issue and bring the fishermen back home safely.

❏❏❏

EDITORIALS

Crux of The Hindu & Indian Express

International Issues

India's Engagement with the Taliban (2021-Present)

- India's relationship with the Taliban since the group's return to power in Afghanistan in August 2021 has evolved, marked by cautious diplomatic engagement, humanitarian aid, and strategic interests.

- India, historically wary of the Taliban's extremist ideologies and ties with Pakistan, had to adjust its approach given the changing political and security situation in Afghanistan.

Pre-2021 : India's Historical Stance on the Taliban

- **Vijay K. Nambiar's Meeting (2000):**

  * In 2000, Vijay K. Nambiar, India's High Commissioner to Pakistan, met Mullah Abdul Salam Zaeef, the Taliban's representative in Pakistan.

  * This interaction was one of the few occasions India engaged with the Taliban.

  * Nambiar's assessment was that India could not have meaningful ties with the Taliban due to their close relationship with Pakistan, complicating diplomatic relations.

- **India's Stance during the Taliban's First Rule (1990s):**

  * During the Taliban's first rule (1996-2001), India refused to engage with them due to the group's extreme interpretation of Islamic law, oppression of women, and their links to terrorist organizations.

  * Instead, India supported the Afghan government led by Hamid Karzai (2001-2014) and later Ashraf Ghani (2014-2021), providing significant development assistance to Afghanistan during these periods.

The Taliban's Return to Power : August 2021

- **Taliban Takeover:**

  * In August 2021, as U.S. and NATO forces withdrew from Afghanistan, the Taliban quickly took control, leading to the collapse of the Ashraf Ghani government.

  * India had invested heavily in Afghanistan over two decades, primarily in infrastructure and development projects.

  * India was forced to reassess its diplomatic approach as the Taliban became the de facto power in Afghanistan.

- **First Contact (August 31, 2021) – Doha:**
  - * India's first official engagement with the Taliban took place in Doha, Qatar, on August 31, 2021.
  - * India's Ambassador to Qatar, Deepak Mittal, met Sher Mohammad Abbas Stanekzai, the head of the Taliban's political office.
  - * During this meeting, the Taliban expressed interest in continuing cultural, economic, and political relations with India, citing historical ties.
  - * India responded cautiously, signaling that its engagement would be limited and carefully calibrated.

Humanitarian Assistance and Early Diplomatic Engagement :

Despite concerns over the Taliban's governance practices, India took steps to provide humanitarian aid to the Afghan people while maintaining its distance from the Taliban government.

- **Humanitarian Aid (December 2021):**

  India sent 1.6 tonnes of medical supplies to Afghanistan, a humanitarian gesture aimed at assisting the Afghan people without directly supporting the Taliban regime.

- **June 2022 – First Official Diplomatic Visit to Kabul:**
  - * India sent a team led by J.P. Singh, a senior official from the Ministry of External Affairs, to Kabul.
  - * The team's mission was to supervise the delivery of humanitarian aid and meet with Amir Khan Muttaqi, the Taliban's foreign minister.
  - * India provided aid to victims of the Khost and Paktika earthquake, signaling continued humanitarian support.

- **Technical Team in Kabul:**

  Even after the embassy evacuation, India deployed a small technical team to Kabul to monitor aid delivery, indicating India's commitment to its humanitarian obligations in Afghanistan.

2022-2023 : Strengthening Diplomatic Ties Amidst Challenges

India continued to engage diplomatically with the Taliban while emphasizing key concerns such as women's rights, inclusive governance, and the security situation in Afghanistan.

- **December 2022 – Women's Rights and Inclusive Government:**
  - * India expressed concern over the Taliban's ban on women's education and other restrictions on women's rights.
  - * India called for an inclusive government in Afghanistan that would represent the diverse ethnic and religious communities of the country.
  - * India reiterated the importance of UN Security Council Resolution 2593, which called for respecting human rights and forming an inclusive government.

- **October 2023 – Closure of Afghan Embassy in New Delhi:**
  - * In October 2023, Afghanistan's embassy in New Delhi closed due to logistical constraints and lack of resources.
  - * However, Afghan diplomats continued to work at the Indian consulates in Mumbai and Hyderabad to maintain diplomatic engagement.

- **January 2024 – Meeting with Amir Khan Muttaqi:**
  - * Indian diplomats met Amir Khan Muttaqi, the Taliban's foreign minister, in Kabul to discuss visa issues for Afghan businessmen, students, and patients.
  - * India remains open to providing humanitarian visas on a case-by-case basis despite logistical challenges due to the closure of the embassy.

Key Drivers of India's Engagement with the Taliban

Several key factors have influenced India's approach to engaging with the Taliban:

- **Geopolitical and Regional Dynamics:**
  - * **Pakistan's Influence:** The Taliban's strong ties to Pakistan present challenges for India, particularly

regarding concerns over terrorism and the possible flow of refugees from Afghanistan to India.

* **China's Role:** China has been increasing its influence in Afghanistan by signing economic and trade agreements with the Taliban. India is cautious about falling behind China in securing its interests in the region.

* **Iran and Russia:** India continues to engage with Iran and Russia, both of which share concerns about the Taliban's policies and its regional impact.

• **Security Concerns:**

* India is concerned about terrorist groups like Jaish-e-Mohammad and Lashkar-e-Taiba using Afghanistan as a base for attacks against India.

* India is working to ensure that the Taliban does not allow such groups to operate from Afghan soil.

• **Visa Issues:**

The Taliban's request for visas for Afghan businessmen, students, and patients to visit India faces logistical challenges, as India's embassy in Kabul remains closed. However, India is open to issuing **humanitarian visas**.

Key Development Projects by India in Afghanistan

India's long-term engagement in Afghanistan is visible through its investment in infrastructure and development projects, many of which have strategic importance:

• **Salma Dam (Afghan-India Friendship Dam):**

* Completed in 2016, the Salma Dam is a 42 MW hydropower and irrigation project in Herat Province, providing water and power to thousands of Afghan homes.

* However, the region has faced security challenges due to Taliban attacks.

• **Zaranj-Delaram Highway:**

* Built by India's Border Roads Organisation, this 218 km highway connects Zaranj (near Iran's border) to Delaram. It enhances trade and transportation connectivity.

* India also used the Chabahar Port in Iran to ship goods to Afghanistan, bypassing Pakistan's denial of overland access.

• **Afghan Parliament Building (2015):**

* India constructed the Afghan Parliament Building at a cost of $90 million, symbolizing its support for democracy in Afghanistan.

* The building remains a testament to India's development cooperation with Afghanistan.

• **Stor Palace Restoration:**

India collaborated with the Aga Khan Development Network to restore the Stor Palace in Kabul, an important historical site, further strengthening cultural ties.

• **Infrastructure and Health Projects:**

India has built essential infrastructure in Afghanistan, including a 220kV transmission line to improve electricity supply to Kabul, and has helped restore telecommunications in several provinces.

Bilateral Trade Relations

Trade relations between India and Afghanistan have continued despite the challenges, bolstered by initiatives like the air freight corridor:

• **Trade Growth:**

Bilateral trade crossed $1 billion in 2019-20, with India exporting products such as pharmaceuticals, cement, and sugar to Afghanistan, and Afghanistan exporting fruits to India.

• **Air Freight Corridor:**

In 2017, India established an air freight corridor to facilitate trade, particularly exports from Afghanistan to India, bypassing logistical challenges in the region.

Strategic Importance of India's Investments in Afghanistan

India's involvement in Afghanistan goes beyond economic aid and is seen as a key part of its strategic objectives in the region:

• **Counter Terrorism:**

India aims to prevent Afghanistan from becoming a safe haven for terrorists who may target India. India is keen on ensuring the Taliban doesn't support or harbor groups like Jaish-e-Mohammad or Lashkar-e-Taiba.

• **Regional Connectivity:**

Through projects like the Zaranj-Delaram Highway and Chabahar Port, India is improving regional

connectivity and boosting trade routes that bypass Pakistan, further enhancing its strategic presence in Afghanistan.

- **Soft Power:**

    India's extensive development work in Afghanistan helps bolster its soft power in the region, enhancing its image and fostering goodwill among the Afghan people.

About Afghanistan:

Afghanistan, located at the crossroads of Central and South Asia, is a landlocked country with a complex history shaped by ethnic, cultural, and political diversity. Its geopolitical importance, rich natural resources, and strategic position have made it the center of various historical conflicts.

Geography and Demographics

1. **Location:** Afghanistan is bordered by Pakistan to the south and east, Iran to the west, Turkmenistan, Uzbekistan, and Tajikistan to the north, and China to the far northeast.

2. **Afghanistan also share border with India (Indo-Afghanistan Border :** (106 km)

3. **Capital:** Kabul

4. **Area:** Approximately 652,860 square kilometers, making it the 41st largest country in the world.

5. **Population:** As of 2023, Afghanistan has a population of around 40 million people. The country is ethnically diverse, with the major ethnic groups being Pashtuns, Tajiks, Hazaras, and Uzbeks.

* Pashtuns make up the largest ethnic group, followed by Tajiks and Hazaras.

* Afghanistan has a rich cultural heritage, with many different languages spoken, including Dari (a variant of Persian) and Pashto being the official languages.

Historical Background

Afghanistan has a complex history with periods of foreign invasion, conflict, and change. Key moments include:

1. **Soviet Invasion (1979-1989):** The Soviet Union invaded Afghanistan, leading to a decade-long war with Afghan resistance fighters (Mujahideen), who were supported by the U.S. and other countries.

2. **Taliban Rule (1996-2001):** The Taliban took control in the 1990s and imposed strict laws until they were overthrown by U.S.-led forces in 2001.

3. **Post-2001:** After the U.S. invasion in 2001, a new government was set up, and the country struggled with insurgency from the Taliban and other militant groups.

IMEC Corridor and Its Implications

- **Gaza Ceasefire and IMEC's Revival**: US President Joe Biden recently commented that with the ceasefire deal between Israel and Hamas, the IMEC Corridor could finally become a reality.

- Biden highlighted how the project could transform global connectivity and regional economies.

- **Impact of the Ceasefire**: The IMEC project faced delays after the Hamas attack on Israel in October 2023, which caused instability in the region.

- With the ceasefire, the project can now move forward without such geopolitical hurdles.

What is the India-Middle East-Europe Corridor (IMEC)?

- The India-Middle East-Europe Economic Corridor (IMEC) is a large-scale infrastructure project designed to connect India, the Middle East, and Europe through a network of ports, railways, roads, sea routes, and pipelines.
- This initiative aims to improve trade, connectivity, and cooperation among these regions.
- **Participants**: The project was officially announced during the G20 summit in New Delhi on September 9, 2023.
- The agreement was signed by India, the United States, Saudi Arabia, the UAE, France, Germany, Italy, and the European Union.

Strategic Importance of IMEC

- **Global Trade and Connectivity**: IMEC aims to significantly enhance trade routes between Asia, the Middle East, and Europe, making trade faster, cheaper, and more efficient.
- **Alternative to China's OBOR**: The IMEC Corridor is seen as a counter to China's Belt and Road Initiative (BRI). Unlike BRI, which focuses on Chinese interests, IMEC provides a platform for regional cooperation, infrastructure development, and a more balanced trade network.
- **India's Growing Role**: For India, this project is a key step in positioning itself as a global leader in trade and infrastructure development. It also boosts India's strategic presence in Middle Eastern and European markets.

Key Features of the IMEC Corridor

- **Rail and Shipping Routes**:
  - The IMEC will feature cross-border railways connecting India to the Arabian Gulf and then linking the Gulf to Europe.
  - A shipping route will connect the Indian ports of Mumbai and Mundra to the UAE, with rail links extending to Israel's Haifa port and onward to Greece and Europe.
- **Infrastructure**:
  - **Energy**: IMEC will include hydrogen gas pipelines and electricity grids to enhance energy security across regions.

- **Digital Connectivity**: The project also plans to lay fiber-optic cables to boost digital infrastructure and improve communication.
- **Efficiency**: The corridor aims to make the trade process more cost-effective and reliable, improving regional supply chains and boosting economic activity in the participating countries.

The IMEC Project's Benefits

- **Economic Cooperation**: IMEC will lead to greater economic cooperation between India, the Middle East, and Europe, helping countries involved to strengthen their trade ties and open up new markets for goods and services.
- **Job Creation and Economic Growth**: By improving trade routes and infrastructure, the IMEC is expected to generate jobs and promote sustainable economic development in the participating regions.
- **Sustainability**: The project also focuses on reducing greenhouse gas emissions by providing more efficient transport options and supporting clean energy initiatives like hydrogen gas transport and renewable electricity.
- **Secure Trade Routes**: The development of IMEC aims to secure regional supply chains, reduce transportation costs, and ensure reliable trade routes that will be critical for future economic stability.

Role of India in IMEC

- **Key Player**: India is at the heart of the IMEC initiative, both geographically and strategically. As the starting point of the corridor, India's involvement ensures it will play a central role in reshaping global trade routes and positioning itself as a major economic and diplomatic force.
- **Strengthening Regional Ties**: India's active participation in the project also strengthens its ties with both the Middle East and Europe, making it a critical partner in regional and global economic development.

Challenges and Roadblocks for IMEC

- **Geopolitical Tensions**: While the ceasefire between Israel and Hamas is a positive development, tensions in the Middle East remain high. Conflicts or instability in the region could still delay or hinder progress on the project.

- **China's Response**: China's Belt and Road Initiative (BRI) remains a major competitor to the IMEC. The Chinese government has already invested in several infrastructure projects in Asia and Africa, and its reaction to the IMEC may influence the global response to the project.

- **Regional Cooperation**: The success of IMEC will depend on continued collaboration and cooperation among the countries involved. Any breakdown in communication or disagreements over project details could delay progress.

IMEC's Broader Implications

- **Shaping Future Global Trade**: The IMEC project is poised to reshape how goods move between Asia, the Middle East, and Europe, bringing more efficiency and stability to global supply chains.

- **Strategic Influence**: For countries like India, the IMEC is a strategic tool that increases their global influence in geopolitical and economic matters.

- **Alternative Growth Model**: By focusing on regional collaboration and sustainable infrastructure, IMEC offers an alternative to China's One Belt, One Road (BRI), which is often criticized for its debt-trap diplomacy and its heavy focus on Chinese interests.

Conclusion:

The India-Middle East-Europe Economic Corridor (IMEC) is a transformative infrastructure initiative that has the potential to change the global trade landscape. By connecting India, the Middle East, and Europe, the IMEC will open up new opportunities for economic growth, job creation, and sustainable development.

India-Indonesia Relations : From Sukarno to Prabowo Subianto
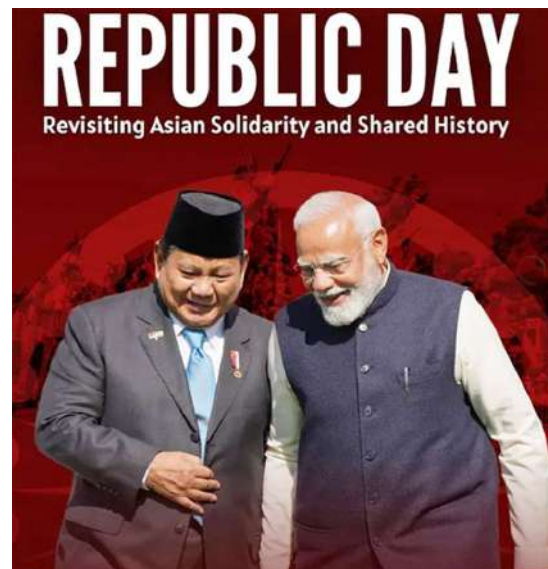
1. Over the past 75 years, the bond between India and Indonesia has seen its ups and downs.

2. A key moment came in 1950, when Sukarno, Indonesia's first president, was the chief guest at India's first Republic Day.

3. As India celebrated its 76th Republic Day on 26 January 2025, Indonesian President Prabowo Subianto was invited as the chief guest, highlighting the continued strengthening of their diplomatic ties.

4. What makes this year's Republic Day even more special is the presence of the Indonesian President joined by a 152-member marching contingent and a 190-member band from Indonesia, marching alongside the Indian Armed Forces at the Republic Day Parade at Kartavya Path.

5. This shows the unity between the two nations adds another chapter to the growing relationship between India and Indonesia, filled with promise for the years ahead.

6. On January 25, 2025, India and Indonesia took another step forward by signing several important agreements in areas like maritime security, health, traditional medicine, culture, and digital cooperation during a meeting between P.M. Modi and Indonesian President Subianto at Hyderabad House in New Delhi.

Early Post-Colonial Solidarity (1940s-1950s)

- **Shared Struggle Against Colonialism**: India and Indonesia both fought against colonial rule in the 20th century. India's support for Indonesia's independence struggle against Dutch colonial control played a crucial role in the formation of strong bilateral ties.

- **India's Diplomatic Support**: Under Prime Minister Jawaharlal Nehru, India was one of the first countries to support Indonesia's independence from the Dutch. India provided humanitarian aid, diplomatic backing, and even took actions such as banning Dutch airlines from flying over India in 1947 as a sign of protest.

- **Sukarno's Visit to India**: In 1950, President Sukarno of Indonesia visited India as the guest of honor at India's Republic Day celebrations.

- This visit symbolized the strong bilateral ties between the two nations, with Nehru and Sukarno maintaining a close friendship rooted in their shared struggle against colonialism.

- **Treaty of Friendship (1951)**: India and Indonesia signed the Treaty of Friendship in 1951, which aimed to establish "perpetual peace and unalterable friendship."

- This treaty reflected their shared commitment to non-alignment, anti-colonialism, and peaceful coexistence.

- **Bandung Conference (1955)**: India and Indonesia were central figures in the Bandung Conference, which marked the birth of the Non-Aligned Movement (NAM).

- Both Nehru and Sukarno were founding members of NAM, advocating for political independence and economic self-sufficiency for newly independent countries, and fostering South-South cooperation between India and Indonesia.

How the Bandung Conference of 1955 laid the foundation of the Non-Aligned Movement in 1961 ?

1. **Bandung Conference (1955):** This conference brought together 29 Asian and African nations, primarily newly independent countries, to discuss their shared concerns about colonialism, the Cold War, and economic development.

2. **Non-Aligned Movement (NAM):** While the Bandung Conference wasn't the official founding of NAM, its principles strongly influenced the movement's formation.

* The Non-Aligned Movement was formally established in 1961 at the First Summit in Belgrade, Yugoslavia , uniting countries that sought to avoid aligning with either the US-led Western bloc or the Soviet-led Eastern bloc during the Cold War.

How was the Bandung Conference and the Non-Aligned Movement connected ?

1. **Ideological Foundation:** The Bandung Conference laid the groundwork for the principles that would later guide the Non-Aligned Movement.

   The "10 Principles of Bandung," focusing on peaceful coexistence, mutual respect, and non-interference in internal affairs, became NAM's ideology.

2. **Shared Goals:** Both the Bandung Conference and the Non-Aligned Movement aimed to:

   a. Promote peaceful coexistence and cooperation among nations.

   b. Oppose colonialism and neo-colonialism.

   c. Seek economic and social development for developing countries.

   d. Reduce global tensions, particularly during the Cold War.

Divergence and Cold War Alignment (1960s)

- **Differences on China**: Initially, both India and Indonesia saw China as an ally in their anti-colonial struggle.

- However, the relationship began to diverge after India's relationship with China soured following the 1959 Tibetan Uprising and the 1962 Sino-Indian War.

- **Indonesia's Continued Friendship with China**: While India distanced itself from China after the 1962 war, Indonesia maintained its friendship with China, leading to tensions between India and Indonesia during the 1960s.

- **Personal and Political Strains**: The tension was not only due to political differences but also personal strains between Prime Minister Nehru and President Sukarno. Nehru's refusal to support Sukarno's idea of holding a 2nd Bandung Conference in the 1960s further escalated tensions.

- **Indonesia-Pakistan Conflict (1965)**: During the 1965 India-Pakistan war, Indonesia supported Pakistan,

which caused a significant rift. Indonesia's Foreign Minister announced support for Pakistan, and Indonesia even supplied arms to Pakistan.

- This support for Pakistan led to an attack on the Indian Embassy in Jakarta, marking a low point in bilateral relations.

- **Political Change in Indonesia**: In 1966, an attempted coup in Indonesia led to the weakening of Sukarno's power and the rise of General Suharto. Suharto's anti-communist stance and shift toward a pro-Western foreign policy helped restore and strengthen Indonesia's relationship with India.

The Suharto Era: Recovery and Stagnation (1970s-1980s)

- **Maritime Boundaries Agreement (1977)**: The 1977 maritime boundaries agreement marked the beginning of a more stable relationship between India and Indonesia. The two countries also cooperated on issues related to regional security and economic development during this time.

- **Cold War Alignments**: During the Cold War, India aligned itself with the Soviet Union, while Indonesia leaned toward the United States.

- This ideological and political divide created some challenges in bilateral cooperation, but the two countries maintained diplomatic and trade relations.

- **Diplomatic Engagement**: Despite ideological differences, both nations maintained regular diplomatic exchanges. Notable visits include Suharto's visit to India in 1980, and Indian leaders such as Indira Gandhi and Rajiv Gandhi also visited Indonesia in the early 1980s.

'Look East' Policy and Economic Reforms (1990s)

- **Economic Liberalization in India**: In the early 1990s, under Prime Minister P.V. Narasimha Rao, India began its economic liberalization process, which included greater focus on Asia. The 'Look East' policy was introduced to strengthen India's economic and political ties with Southeast Asia, including Indonesia.

- **Regional Economic Growth**: The 1990s saw Indonesia's rapid economic growth, presenting India with opportunities for increased trade and investment. Bilateral cooperation expanded in various sectors, especially as both nations pursued economic modernization.

- **Strategic Cooperation**: As regional security concerns grew, particularly in the South China Sea, India and Indonesia strengthened their strategic cooperation. They conducted joint military exercises (e.g., Garuda Shakti) and started sharing intelligence, improving their defense ties.

- **Multilateral Cooperation**: India and Indonesia worked closely in multilateral forums like the East Asia Summit (EAS) and the ASEAN Regional Forum (ARF), emphasizing regional stability and collaboration on global issues.

The 2000s and 2010s: Comprehensive Engagement

- **Increased Defense and Security Cooperation**: The 2000s saw both nations strengthening defense ties through regular joint military exercises and maritime security cooperation, particularly due to the strategic importance of the Indo-Pacific region for global trade and security.

- **Bilateral Trade Expansion**: By 2022, Indonesia became India's 2nd-largest trading partner in ASEAN, with bilateral trade reaching $38.84 billion in 2022-23.

- Indonesia exports coal, crude palm oil, and oil to India, while India exports refined petroleum, vehicles, and steel products to Indonesia.

- **Cultural Ties**: There was a significant growth in cultural ties, including increased educational exchanges. Many Indonesian students studied in India, and there was a rise in tourism between the two countries.

- **Leadership Exchanges**: From the 2000s onward, each Indonesian president and Indian prime minister visited the other country, helping deepen ties in various areas, from trade to cultural collaboration.

2020s: The 'Act East' Policy and Strengthened Cooperation

- **'Act East' Policy**: In 2014, Prime Minister Narendra Modi expanded the 'Look East' policy into the 'Act East' policy.

- This shift focused on practical, outcome-oriented cooperation, particularly in defense, connectivity, and economic growth, with a strong emphasis on the Indo-Pacific region.

- **Ongoing High-Level Engagement**: The January 2025 visit of President Prabowo Subianto to India highlighted the continued commitment to strengthening ties.

- The visit resulted in agreements covering maritime security, digital cooperation, traditional medicine, and defense industrial cooperation.

- **Current Economic Ties**: As of 2023-24, bilateral trade between India and Indonesia was valued at $29 billion.

- India imports coal and palm oil from Indonesia, while its exports include refined petroleum products, commercial vehicles, and machinery.

- **Untapped Potential**: Despite strong ties, experts believe there is still untapped potential in sectors like technology, infrastructure, and green energy. These areas could provide opportunities for further collaboration in the future.

Key Areas of Cooperation and Future Potential

1. **Maritime Security**: Both nations are focused on maritime security in the Indo-Pacific, India and Indonesia cooperate on securing vital shipping lanes, which are increasingly important in the face of rising geopolitical tensions.

2. **Defense and Military Cooperation**: India and Indonesia are enhancing their defense cooperation, including joint military exercises, defense technology sharing, and potentially collaborating on defense production.

3. The agreements signed in 2025 indicate growing defense industrial cooperation.

4. **Regional Influence and Multilateral Platforms**: Both countries are committed to ensuring regional stability and cooperation through multilateral platforms like the East Asia Summit (EAS) and the ASEAN Regional Forum (ARF), strengthening their strategic roles in the Indo-Pacific.

5. **Economic Potential**: The economic partnership between India and Indonesia continues to grow, with ample opportunities in sectors like renewable energy, technology, infrastructure development, and the digital economy. Both countries aim to boost trade further, with potential for new projects and investments.

What is East Asia Summit (EAS) ?

ABOUT THE EAST ASIA SUMMIT

1. **Initiation:** The East Asia Summit (EAS) was established in 2005 with its first meeting in Kuala Lumpur, Malaysia.

2. **Original Members (2005):** ASEAN Member States, Australia, China, India, Japan, New Zealand, and the Republic of Korea.

3. **Expansion (2011):** The United States and Russian Federation joined the EAS during its 6th meeting in Bali, Indonesia (19 November 2011).

4. **Annual Meeting:** The EAS is an annual summit involving Heads of State/Government of the participating countries.

5. **Core Objectives:**
   a. The EAS serves as a premier leaders-led forum for dialogue and cooperation.
   b. Focus areas include strategic, political, and economic issues of shared interest and concern.
   c. The goal is to promote peace, stability, and economic prosperity in East Asia.

16 Streams of Work in EAS:

Peace and Security, Sustainable Development, Climate, Environment, and Energy Cooperation, Education Cooperation, Finance, Health (including Pandemic Diseases), Natural Disaster Management Cooperation, ASEAN Connectivity Cooperation, Economic Cooperation and Trade, Poverty Alleviation, Food Security, Maritime Cooperation ,Strengthening EAS Institutional Capacity, Tourism Cooperation, Advancement and Empowerment of Women and Youth Participation and Other issues as identified by Leaders and Ministers.

Recent Annual Summit:

19th East Asia Summit (2024):

a. Date: 11 October 2024
b. Country/Host: Lao PDR, Vientiane
c. Host Leader: Prime Minister Sonexay Siphandoned.
d. Notable Notes:
   o The President of the European Council and the Secretary-General of the Shanghai Cooperation Organisation participated as guests of the Chair.
   o Briefed the EAS on enhancing connectivity and economic integration.

What is ASEAN Regional Forum (ARF) ?

Established: 23-25 July 1993, Singapore; inaugural meeting on 25 July 1994 in Bangkok.

Objectives

1. Promote dialogue on political/security issues of common concern.

2. Promote confidence-building and preventive diplomacy in the Asia-Pacific region.

Participants

1. Current Members: Includes Australia, China, India, Japan, US, Russia, ASEAN countries, and others.

2. Participation Criteria (1996):
   o Must support ARF goals, impact regional peace/security, and agree on prior decisions.
   o Managed expansion for effectiveness.

ARF Chair

1. Chaired by the ASEAN Chair for the year.

2. 2025 Chair: The ASEAN Chair will lead the ARF and SOM meetings.

Resumption of Direct Flights, Visas, and Bilateral Cooperation between India and China (January 2025)

India, China decide to resume Kailash Mansarovar Yatra, direct flights

The two sides announced several measures to 'rebuild' bilateral ties over two-and-a-half months.

Overview:

• In January 2025, India and China took major steps to improve their relations, 3 months after resolving the military stand-off at the Line of Actual Control (LAC).

• These steps include resuming direct flights, issuing visas, increasing exchanges in various sectors, and restarting the Mansarovar Yatra for Indian pilgrims.

• Both countries also agreed to restart talks on shared rivers and the sharing of hydrological data, which China had not been providing.

• These measures are part of a larger effort to stabilize and rebuild ties between the two countries.

1. Key Agreements and Decisions:

Resumption of Direct Flights and Visa Issuance:

• **Direct Flights:** India and China agreed to restart direct flights, which had been stopped in 2020 due to the COVID-19 pandemic and rising tensions at the LAC.

• **Visa Issuance:** The countries will begin issuing visas again, allowing easier travel for business, tourism, and study between the two nations. This move is seen as a step toward improving the relationship.

Mansarovar Pilgrimage:

• **Mansarovar Yatra:** The pilgrimage to Mount Kailash and Mansarovar, which had been stopped since the border tensions in 2020, will restart in the summer of 2025.

• **Implications:** Restarting this pilgrimage is an important symbolic and practical step toward improving relations, showing both governments' recognition of its cultural significance.

About Kailash Mansarovar Yatra

1. The yatra includes visits to Mount Kailash and Mansarovar Lake in Tibet.

2. The Ministry of External Affairs, India organises the Yatra during June to September through two different routes:
   • Lipulekh Pass (Uttarakhand)
   • Nathu La Pass (Sikkim).

3. It is open to eligible Indian citizens holding valid Indian passports.

4. The Yatra is organised with the support from state governments of Uttarakhand, Delhi, and Sikkim; and cooperation of Indo Tibetan Border Police.

5. Ministry of External Affairs (MEA) does not provide any subsidy or financial assistance to Yatris.

Location

1. Mount Kailash is located in the Kailash Range (forms part of the Trans Himalaya) in Tibet.
2. Lake Manasarovar is a high altitude freshwater lake near Mount Kailash in Tibet.
3. Four rivers emerge from the Kailash-Mansarovar region: Sutlej, Brahmaputra, Indus and Kamali (Karnali).

Religious Significance of Kailash Mansarovar Yatra

1. Hindus believe Mount Kailash is the abode of Lord Shiva. Mansarovar lake is said to be one of Goddess Sati's 51 Shakti Peethas.
2. Tibetans, Buddhists and Jains revere it as the 'Stairway to heaven'.
3. Jains hold that Rishabhanatha, the first Tirthankar (Jains' spiritual preacher), found enlightenment at Mount Kailash.
4. The Mount is referred to in Jain literature as "Ashtapada," or "the eight steps," which can pave the way to enlightenment and spiritual advancement.

Trans-Border Rivers and Hydrological Data:

- **Hydrological Data Sharing:** A key agreement is the restart of talks on shared rivers, especially concerning the sharing of water data.
- China had stopped sharing this data, particularly for the Brahmaputra River (known as Yarlung Zangpo in Tibet), which is important for water management in India.
- **Expert-Level Mechanism:** The India-China Expert Level Mechanism will meet to discuss the return of hydrological data and other cooperation related to shared water resources.
- **Brahmaputra River Concerns:** India has expressed worry about China's hydropower projects on the Brahmaputra, which could affect water flow into India.

2. Bilateral Relations and Celebratory Events:

- **75th Anniversary of Diplomatic Ties:** 2025 marks the 75th year of diplomatic relations between India and China.
- Both countries plan to celebrate this anniversary with events to strengthen cultural and economic ties.
- **Foreign Minister's Remarks:** Chinese Foreign Minister Wang Yi called for an end to mutual distrust and separation, stressing the need for both countries to focus on cooperation instead of conflict.

- **Government Commitment:** Both sides pledged to work on stabilizing relations, aiming to find mutual benefits and avoid further disputes.

3. Economic and Trade Cooperation:

Trade and Economic Disputes:

- Despite record levels of trade, India and China have imposed restrictions on each other due to political tensions that began after 2020.
- **India's Restrictions:** India put several restrictions on Chinese businesses, such as requiring Home Ministry approval for Chinese investments (as a security measure), denying business visas, and carrying out raids on Chinese telecom companies.
- **China's Restrictions:** China responded by limiting exports of key materials to India, like Active Pharmaceutical Ingredients (APIs), high-tech products, and equipment for major infrastructure projects (e.g., Tunnel Boring Machines).
- **Trade Imbalance:** China remains one of India's biggest trade partners, but India has expressed concerns over the growing trade deficit and the lack of fair opportunities for Indian businesses in China.

4. Diplomatic Engagements and Strategic Partnerships:

Foreign Secretary's Visit to China:

- **Vikram Misri's Visit:** Indian Foreign Secretary Vikram Misri visited Beijing from January 26-27, 2025, for talks with Chinese officials, including Vice Foreign Minister Sun Weidong, Foreign Minister Wang Yi, and Liu Jianchao (Member of the Chinese Communist Party's Central Committee).
- **Resumption of Bilateral Dialogue:** Misri's visit marked the return of regular dialogues between the two sides, which had been suspended after the 2020 Galwan clashes.
- **India's Support for China's SCO Chairmanship:** During his visit, Misri showed India's support for China's leadership of the Shanghai Cooperation Organisation (SCO) in 2025, highlighting the importance of cooperation in multilateral organizations.

Future Engagements:

- **Modi-Xi Summit Possibility:** Officials did not comment on whether an informal summit between Indian Prime Minister Narendra Modi and Chinese President Xi Jinping will happen in 2025, similar to previous meetings in Wuhan (2018) and Mamallapuram (2020). However, the return of regular dialogues suggests more high-level interactions could take place.

- **SCO Summit in June 2025:** Prime Minister Modi is expected to attend the SCO summit in June 2025, which will provide another opportunity to strengthen ties between the two countries.

5. Context and Implications:

Impact of Galwan Clashes:

- **Galwan Valley Incident (June 2020):** The violent clash between Indian and Chinese troops in Galwan Valley, which led to the deaths of 20 Indian soldiers, was a major turning point in their relationship.
- This event caused a severe strain in diplomatic ties and led to military standoffs along the LAC.
- **Disengagement Agreement (2024):** The situation started to calm down with disengagement agreements signed in late 2024, which paved the way for the resumption of talks and cooperation.

Strategic Rivalry:

- India and China remain strategic competitors, especially in the areas of regional security (such as the Indo-Pacific) and their influence in global organizations.

Conclusion:

The resumption of direct flights, visa issuance, and key diplomatic talks between India and China in January 2025 is a positive step toward restoring ties that had been severely damaged due to the 2020 Galwan clashes.

United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)

Overview: The United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) is a UN agency that provides relief and human development services for Palestinian refugees who were displaced due to the Arab-Israeli conflicts, particularly following the establishment of Israel in 1948.

Establishment and Objectives:

- **Established:** UNRWA was established on 8 December 1949 by UN General Assembly Resolution 302 (IV).
- **Objective:** The agency's primary mission is to offer relief, health, education, and social services to Palestinian refugees who lost their homes and livelihoods during the Arab-Israeli wars (1948 and 1967).
- **First Operation Date:** UNRWA began its operations on 1 May 1950.
- **Mandate Renewal:** The agency's mandate has been repeatedly renewed due to the unresolved Palestine refugee issue, most recently extended until 30 June 2026.

Headquarters and Operations:

- **Original Headquarters:** UNRWA was originally based in Beirut, Lebanon.
- **Relocation:** The agency's headquarters moved to Vienna, Austria in 1978, and later to the Gaza Strip in 1996 to show the UN's commitment to the Arab-Israeli peace process.
- **Fields of Operation:** UNRWA operates in five regions:
    1. **Jordan**
    2. **Lebanon**
    3. **Syria**
    4. **Gaza Strip**
    5. **West Bank** (including East Jerusalem)

Services Provided by UNRWA:

UNRWA offers a range of direct services to Palestinian refugees, including:

- **Education:** Schools and educational programs.
- **Health Care:** Clinics and health services.
- **Relief and Social Services:** Assistance for refugees in need.
- **Camp Infrastructure and Improvement:** Enhancing living conditions in refugee camps.
- **Microfinance:** Financial services to foster economic development.
- **Emergency Assistance:** Providing help during conflicts or natural disasters.

Funding:

- **Voluntary Contributions:** UNRWA is primarily funded by voluntary contributions from UN member states.
- **UN Regular Budget:** Some funding also comes from the regular UN budget.
- **Reporting:** UNRWA reports directly to the UN General Assembly.

Key Facts:

1. **Registered Refugees:** The agency supports more than five million Palestinian refugees and their descendants, who were displaced during the 1948 Palestine War and the 1967 Six-Day War.
2. **Currency in Palestine:** The region uses Israeli shekels (ILS), US dollars (USD), and Jordanian dinars (JOD).
3. **Language:** The primary language spoken is Palestinian Arabic.
4. **Control of Gaza: Hamas**, a Palestinian political and militant group, has controlled Gaza since 2007.

Conclusion:

UNRWA plays a crucial role in providing essential services to Palestinian refugees across multiple countries in the Middle East. It is vital in helping millions of refugees access education, healthcare, and social support, while also providing emergency assistance during crises.

❑❑❑

Indian Polity & Governance

National e-Governance Awards Scheme

Ministry of Personnel issued guidelines for the 28th NAeG 2025

Overview:

- The Ministry of Personnel, Public Grievances & Pensions has recently issued the guidelines for the 28th National e-Governance Awards (NAeG) 2025.

- These prestigious awards recognize excellence in the implementation of e-Governance initiatives across India, celebrating the successful application of digital technologies in governance.

What is the National e-Governance Awards Scheme?

The National e-Governance Awards (NAeG) is one of the most competitive and distinguished awards schemes in India that recognizes the effective use of information technology in improving public service delivery, governance processes, and transparency. The awards aim to encourage innovation and excellence in digital governance across the country.

Objective:

The primary objective of the NAeG is to recognize and promote excellence in the implementation of e-Governance projects. It highlights initiatives that have successfully utilized technology to enhance public service delivery, improve governance systems, and provide citizen-centric services.

Key Features of NAeG 2025:

- **Awards for Excellence**: The 2025 edition will confer 16 awards in total, including 10 Gold Awards and 6 Silver Awards.

- **Incentives**: Winners will receive a Trophy, Certificate, and a monetary incentive:

  o **Gold Award**: Rs. 10 lakhs for the district/ organization.

  o **Silver Award**: Rs. 5 lakhs for the district/ organization.

- **Purpose of Funds**: The incentive money is intended to be used for further implementing or enhancing the winning e-Governance projects or addressing resource gaps in public welfare.

Categories of Awards for 2025:

The awards for 2025 will be conferred under six categories:

1. **Government Process Re-engineering**: Using technology for digital transformation in government processes.

2. **Innovation with AI & New Technologies**: Leveraging Artificial Intelligence (AI) and other emerging technologies for delivering citizen-centric services.

3. **Cybersecurity Practices**: Recognition of best practices and innovations in cybersecurity for securing government digital platforms.

4. **Grassroots-Level Initiatives**: Projects that focus on improving service delivery at the district, urban local bodies (ULBs), or Gram Panchayat levels.

5. **Replication and Scaling of Award-Winning Projects**: Recognition of states/UTs/districts that successfully replicate and scale successful NAeG, Prime Minister's Excellence Awards, or other centrally awarded projects.

6. **Data Analytics for Digital Transformation**: Using data analytics to enhance digital platforms in government services by central ministries, states, or UTs.

Nodal Ministry:

The Ministry of Personnel, Public Grievances & Pensions is the nodal ministry responsible for administering the National e-Governance Awards Scheme.

What is Cybersecurity?

Cybersecurity refers to the practice of protecting digital systems, networks, and programs from cyberattacks. These attacks can include actions like:

- Accessing sensitive information without permission.

- Changing or destroying data.

- Ransomware attacks where attackers demand money to restore access.

- Disrupting business operations or services by corrupting systems or networks.

Cybersecurity is crucial in safeguarding digital government platforms and the privacy and security of citizens' data.

Conclusion:

The National e-Governance Awards Scheme is a significant initiative to promote the digital transformation of governance in India. By recognizing outstanding projects, the scheme encourages innovation, transparency, and efficiency in government processes, thus enhancing the delivery of public services. The 2025 edition highlights critical areas like cybersecurity, artificial intelligence, and grassroots initiatives, which are key to building a more efficient, secure, and citizen-friendly government ecosystem.

Armed Forces Tribunal (AFT)

Overview:

The Supreme Court has recently suggested the creation of Benches of the Armed Forces Tribunal (AFT) in Jammu and Kashmir and Himachal Pradesh to address the growing backlog of defence-related cases from these regions.

About Armed Forces Tribunal (AFT):

- **Establishment**: The AFT was established under the Armed Forces Tribunal Act, 2007, and operates under the Ministry of Defence (MoD).

- **Primary Function**: It handles disputes related to military service, including issues such as commission, appointments, enrolment, and conditions of service as per the Army Act, 1950, Navy Act, 1957, and Air Force Act, 1950.

- **Appeals**: The AFT also hears appeals arising from court-martial decisions. It has the authority to either uphold or dismiss the findings of the court-martial.

Functions of AFT:

- **Original Jurisdiction**: Resolves disputes concerning service matters for members of the armed forces.

- **Appellate Jurisdiction**: Handles appeals against court-martial decisions.

- The AFT's decisions can only be appealed to the Supreme Court.

Benches:

- **Principal Bench**: Located in New Delhi.

- **Regional Benches**: The AFT has regional benches in Chandigarh, Lucknow, Kolkata, Guwahati, Chennai, Kochi, Mumbai, Jabalpur, Srinagar, and Jaipur.

- The proposed suggestion is to establish additional benches in Jammu and Kashmir and Himachal Pradesh.

Composition:

- **Judicial Members**: Retired High Court Judges.

- **Administrative Members**: Retired Armed Forces personnel with the rank of Major General or equivalent, or those who have served for three years or more in this rank. Judge Advocate Generals (JAG) with at least one year of experience are also eligible.

Functioning:

- The AFT follows the Armed Forces Tribunal (Procedure) Rules, 2008.

- **Language**: All proceedings are conducted in English.

- The tribunal's functioning closely mirrors the procedures of High Courts in India.

What is a Tribunal?

- A tribunal is a quasi-judicial body that resolves disputes related to administrative, taxation, environmental, or other specific areas.

- Tribunals in India offer an alternative to the traditional court system and are designed to provide faster, cost-effective, and decentralized dispute resolution. They focus on specific issues and are less formal than regular courts.

Conclusion:

The Armed Forces Tribunal serves a vital role in addressing military disputes and appeals, providing a specialized forum for issues related to service matters and court-martial findings. The suggestion to create additional regional benches will aid in reducing the backlog of cases and enhance the accessibility of justice for the armed forces personnel in Jammu & Kashmir and Himachal Pradesh.

What is Blood Money?

Overview:

The concept of blood money has recently gained attention due to a death sentence awarded to a nurse from Kerala in Yemen, which sparked debates and efforts for her acquittal and repatriation. Part of the ongoing discussions includes the payment of monetary compensation to the victim's family, which highlights the role of blood money in certain legal systems.

About Blood Money:

- **Blood Money**, also known as 'diya' in Islamic law, is a practice found in Sharia law and followed by countries that integrate Islamic laws into their legal systems.

- Under the rule of diya, if someone causes the death of another person (either intentionally or unintentionally), the perpetrator or their family is required to pay a set amount of money to the victim's family.

- This payment is mainly used in cases of unintentional murder or culpable homicide, where the death was not premeditated.

- It can also apply in cases of murder, where the victim's family decides not to pursue 'qisas' (retributive justice under Sharia law, meaning "an eye for an eye").

- The aim of blood money is not to put a price on human life but to provide financial support to the victim's family, especially in cases where the family might lose a key income earner.

- However, the payment of blood money does not prevent the state or community from imposing other legal penalties, including **deterrent punishments**.

Contemporary Use of Blood Money:

- Blood money is still practiced in several Islamic countries, but factors such as gender, religion, and the nationality of the victim can affect how much compensation is paid.

- Saudi Arabia has specific rules related to blood money. For example, if a person dies in a road accident, the perpetrator must pay blood money to the victim's heirs, and they will also face a prison sentence.

India's Stand on Blood Money:

- In India, blood money is not a part of the formal legal system.

- However, India does have a system called plea bargaining, which allows the accused to negotiate with the prosecution for a reduced penalty in exchange for pleading guilty to a crime. While plea bargaining is not the same as blood money, it serves as a way for the accused to seek some form of compensation for the victim.

  o Plea bargaining was introduced in India through the Criminal Law (Amendment) Act, 2005.

  o It has limitations compared to blood money, such as:

    * It can only apply to offenses punishable with imprisonment of less than seven years.

    * It is not available for heinous crimes, such as murder or rape, or for crimes against women or children under 14.

    * The accused must voluntarily agree to plead guilty; they cannot be forced into it.

    * Compensation to the victim can be a part of plea bargaining, somewhat resembling the idea of blood money.

How much is Diya in Islam?

The amount of diya (blood money) in Islam varies depending on factors like country and legal interpretation. According to traditional Sharia law:

- The standard amount for an adult male Muslim is:

  o 100 camels,

  o 200 cows,

  o 1,000 gold dinars (approximately 4.25 kg of gold), or

  o 12,000 silver dirhams (around 42.5 kg of silver).

Conclusion:

The concept of blood money has roots in Sharia law and continues to be relevant in some Islamic countries.

While it is not part of the Indian legal system, plea bargaining in India offers a limited form of negotiation that might involve compensation for victims, though it is not the same as the broader practice of blood money.

What is Lokpal ?

Overview:

The Foundation Day of the Lokpal of India was celebrated for the first time on 16th January at Manekshaw Centre, New Delhi, in the esteemed presence of the Chief Justice of India.

About Lokpal:

- The Lokpal is a statutory body created under the Lokpal and Lokayuktas Act of 2013.
- Mandate: Its primary role is to inquire into allegations of corruption against specific public functionaries and related matters.

Who was the first Lokpal in India?

- Justice Pinaki Chandra Ghose was appointed as the first Lokpal of India on March 19, 2019.
- He was a former Judge of the Supreme Court of India and also served as a member of the National Human Rights Commission (NHRC) before assuming the role of Lokpal.

Organisational Structure:

- The Lokpal consists of:
  o 1 Chairperson
  o 8 Members, including 4 Judicial Members.
- **Chairperson Eligibility**: The Chairperson should be:
  A former Chief Justice of India, a former Judge of the Supreme Court, or an eminent person meeting specific criteria.
- **Judicial Member Eligibility**: A judicial member must be a former Judge of the Supreme Court or a former Chief Justice of a High Court.

- **Representation**: At least 50% of the Members should come from SC/ST/OBC/Minorities and Women.

Appointment of Members:

- The President of India appoints the Chairperson and Members on the recommendation of a selection committee, which includes:
  o Prime Minister (Chairperson)
  o Speaker of the Lok Sabha
  o Leader of Opposition in Lok Sabha
  o Chief Justice of India or a nominated Judge
  o One Eminent Jurist.
- **Term**: Members hold office for five years or until they turn 70, whichever is earlier.
- **Salary and Conditions**:
  o The Chairperson's salary and allowances are the same as that of the Chief Justice of India.
  o The Members' salary and allowances are the same as that of a Judge of the Supreme Court.

Jurisdiction of Lokpal:

- The Lokpal can inquire into allegations of corruption against:
  o Prime Minister (with some exceptions).
  o Ministers in the Union Government.
  o Members of Parliament.
  o Union Government officials (Group A, B, C, and D).
  o Officials of boards, corporations, societies, and trusts funded by the Union or State governments.
  o Any body receiving foreign contributions over Rs. 10 lakh.
- Complaints should relate to offences under the Prevention of Corruption Act, 1988.
- **Preliminary Inquiry**: Lokpal can order an inquiry or refer the case to agencies like the CBI if there's a prima facie case.
- **Complaints against PM**: These cannot be probed unless:
  o The full Lokpal bench agrees.
  o At least 2/3rd of the members approve the initiation of the inquiry.
  o The allegations concern issues like international relations, security, or atomic energy, which are exceptions.

Powers of Lokpal:

The Lokpal can:

1. Supervise and give directions to the CBI.

2. Authorize CBI for search and seizure operations.

3. Order the transfer or suspension of public servants related to corruption allegations.

4. Confiscate assets procured through corruption in special cases.

5. Prevent destruction of records during an inquiry.

6. Submit an annual report to the President, which is presented in Parliament.

Doctrine of Merger – Understanding the Legal Principle

The Doctrine of Merger is a common law principle that maintains the decorum and hierarchy of courts and tribunals. It ensures that when an appellate court passes an order, the order passed by the lower court is merged with the higher court's order, effectively overriding it.

Key Elements of the Doctrine of Merger

• **Basic Principle**:

The doctrine asserts that when a higher court passes a ruling, the lower court's order is no longer independently valid, as it merges with the decision of the appellate court. This ensures there is only one operative decree or order governing a particular subject matter at any given time.

• **Objective**:

It resolves the issue of multiple orders passed by both superior and subordinate courts on the same matter, specifying that the superior court's order prevails, and the lower court's order merges into it.

• **Judicial Propriety**:

The doctrine is not a statutory law but a statement of judicial propriety. It seeks to maintain discipline in the functioning of subordinate adjudicating bodies, whether they are judicial, quasi-judicial, or administrative.

Applicability of the Doctrine

• **Limited Scope**:

The Doctrine of Merger is not universally applicable. Its application depends on the nature of the jurisdiction exercised by the superior forum and the subject matter of the challenge.

• **Enforcement**:

The doctrine ensures that in cases where multiple courts issue conflicting orders, the one issued by the higher court is the final and binding decision. The lower court's ruling, even if conflicting, is considered merged into the superior court's order.

Conclusion :

The Doctrine of Merger is essential in maintaining judicial discipline and clarity, ensuring that the decision of the superior court holds precedence over those made by lower courts. This principle helps avoid conflicts arising from multiple rulings on the same issue, providing a clear hierarchy and respect for appellate authority.

India Among 25 Nations with High Religious Restrictions in 2022

Shades of intolerance

The data for the charts were sourced from the Pew Research Center's report titled "Government restrictions on religion stayed at peak levels globally in 2022"

Aftermath : A Muslim man watches from his house after a shop was demolished in the area that saw communal violence during a Hindu religious procession in New Delhi, India, Wednesday, April 20, 2022.
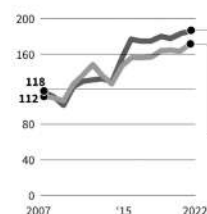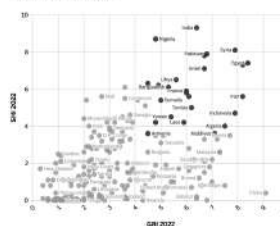
186 nations
Government harassment of religious groups

170 nations
Government interference in worship

- A Pew Research Center report released recently places India among the 25 countries with the highest levels of religious restrictions.
- This includes both social hostilities related to religion and government restrictions on religious practices.
- India's Social Hostilities Index (SHI) score of 9.3 out of 10 and its Government Restrictions Index (GRI) score of 6.4 out of 10 rank it among the countries with the most severe restrictions on religious freedoms globally.

1. Social Hostilities Index (SHI):

The SHI measures religion-related hostilities such as harassment, mob violence, terrorism, militant activity, and conflicts over religious symbols, practices, or conversions.

India's SHI:

- India scored 9.3 out of 10 in 2022 on the SHI, which is the highest score among 198 nations.
- A score above 7.2 is considered "very high", indicating that India experiences significant levels of religion-related violence, harassment, and hostility.

Global Context:

- India is not alone; 24 other countries also have high SHI scores in 2022.
- This includes countries like Nigeria, Pakistan, Syria, Egypt, Afghanistan, Israel, and France.

India's score highlights the challenges related to religious violence, including attacks on religious minorities and conflicts over religious practices, attire, and symbols. These social hostilities often manifest in forms like mob lynching, terrorist attacks, and religious riots.

2. Government Restrictions Index (GRI):

The GRI evaluates the level of government-imposed restrictions on religion, including laws, policies, and actions that restrict or regulate religious practices. This can include:

- Banning or restricting certain religious practices.
- Unequal treatment of religious groups by the state.
- Bureaucratic rules that hinder religious groups' ability to operate freely.

India's GRI:

- India scored 6.4 out of 10 on the GRI in 2022, categorizing it as having "high" government restrictions on religious freedom.

- A score above 6.6 is considered "very high", which means India's GRI score is significant, but not at the absolute highest level.

Global Context:

- In 2022, only 12% (25 countries) had both high or very high scores on both GRI and SHI.
- This group includes countries like Nigeria, Pakistan, Syria, Egypt, Afghanistan, Israel, and Bangladesh.
- India is part of this group, signifying that the country not only faces significant social hostilities (violence, harassment) but also has government-imposed restrictions on religious freedom.

3. Global Overview:

The report paints a broader picture of the global landscape of religious restrictions:

Countries with High GRI and SHI:

- In 2022, 25 countries (12% of the global total) had high or very high scores for both the GRI and SHI. These countries include:
    * India, Nigeria, Pakistan, Iraq, Syria, Egypt, Afghanistan, Israel, Libya, Palestinian territories, Ukraine, Bangladesh, France, Jordan, Iran, Sri Lanka, Somalia, Tunisia, Indonesia, Yemen, Laos, Nepal, Algeria, Maldives, and Armenia.

Countries with Low or Moderate Scores:

- In 62% of the countries, including nations like Canada and South Korea, both GRI and SHI scores were low or moderate.

Other Patterns:

- 16% of countries had high or very high GRI but low or moderate SHI.
- Countries like Cuba and China fall into this category, where the government imposes severe restrictions but social hostilities related to religion are relatively low.
- 10% of countries had high or very high SHI but low or moderate GRI, including countries like Brazil and the Philippines, where religion-related hostilities exist but government restrictions are less severe.

4. Rising Global Trends in Religious Restrictions:

The report shows a rise in religious restrictions worldwide over recent years.

Growth in High GRI and SHI Scores:

- In 2022, 59 countries (30% of all nations analyzed) had high or very high GRI or SHI scores, a rise from 55 countries in 2021.

- In 2007, when the report started, only 40 nations (20%) had high or very high religious restrictions.

Social Hostilities:

- In 2022, 45 countries (23% of nations) had high or very high SHI scores, a slight increase from 43 countries in 2021.

- In 2012, the peak year, 65 countries (33% of nations) had high or very high SHI scores.

5. Types of Religious Restrictions:

A. Harassment by Governments:

- Harassment by government was one of the most common types of religious restrictions.

- This type of harassment was reported in 186 out of 198 countries (94% of nations studied).

* It involves both verbal and physical pressure on religious groups, with governments using legal, social, and political measures to restrict religious freedom.

B. Interference in Worship:

- Government interference in worship was also widespread. In 170 countries (86% of the countries analyzed), governments interfered in religious practices such as:

    * Denying permission to worship.
    * Closing places of worship.
    * Disrupting religious rituals or practices like burial.

6. Correlation Between GRI and SHI:

The report found that government restrictions and social hostilities are often closely linked:

- Countries with higher government restrictions tend to have higher levels of social hostilities, and vice versa.

- Countries with lower scores on these indices generally have fewer conflicts related to religion.

This suggests that addressing government policies that restrict religious freedom could help reduce religion-related social hostilities in many countries.

Conclusion:

The Pew Research Center's report indicates that India is one of the 25 countries with the highest levels of religious restrictions globally, facing serious social hostilities and government restrictions related to religion.

Are Former Prime Ministers Mandated Memorials?

- On December 26, 2024, former Prime Minister Manmohan Singh passed away. In line with the traditions for state funerals, the Union Ministry of Home Affairs (MHA) announced seven days of state mourning and a state funeral for the former PM.

- He was cremated at Nigambodh Ghat in central Delhi, marking the first time that a former PM had been cremated at this public cremation ground.

- This sparked a controversy, with the Congress party accusing the government of an "insult" for not allocating a separate, designated place for the funeral and demanding a memorial at the cremation site.

Is There a Rule Regarding Memorials for Former Prime Ministers?

- While there are established guidelines for state funerals, no specific rule or government order exists regarding the allocation of space for memorials for former Prime Ministers (PMs).

- According to constitutional expert P.D.T. Achary, there is no set rule for memorials.

- He highlighted that the convention had been that former PMs were cremated at designated locations, but Manmohan Singh's cremation at Nigambodh Ghat marked a departure from this tradition.

- While India upholds the principle that all citizens are equal before the law, Achary pointed out that former PMs, especially someone like Manmohan Singh, who was respected both nationally and globally, deserved a special place for their last rites.

What Has Been the Trend in Memorials for Former PMs ?

Apart from Vishwanath Pratap Singh, who did not have a memorial, all other former PMs have had memorials dedicated to them, most of which are located in Delhi, with a few in other parts of the country.

Here are some notable examples:

• Jawaharlal Nehru's memorial is known as Shanti Vana.

• Lal Bahadur Shastri's memorial is called Vijay Ghat.

• Charan Singh's memorial is called Kisan Ghat.

• Indira Gandhi's memorial is at Shakti Sthal.

• Rajiv Gandhi's memorial is known as Vir Bhumi.

Additionally, in 2015, a memorial for P. V. Narasimha Rao was established at Ekta Sthal in Delhi, 10 years after his death in 2004.

In 2013, the Congress government decided that all future memorials would be built at Smriti Sthal due to a shortage of space in Delhi.

Who Maintains the Memorials?

The responsibility for the maintenance of memorials varies:

• According to a 2012 reply by the Culture Ministry in the Lok Sabha, local state governments and municipalities are primarily responsible for maintaining the memorials of various personalities.

• However, the Central Government, specifically the Ministry of Urban Development, oversees the upkeep of certain prominent memorials. These include:

  * Rajghat (New Delhi).

  * Morarji Desai's Samadhi at Abhay Ghat (Ahmedabad).

  * Rajiv Gandhi Memorial at Sriperumbudur in Tamil Nadu.

What Is the Congress's Demand?

• On December 27, 2024, Congress President Mallikarjun Kharge wrote a letter to Prime Minister Narendra Modi, requesting that the Union Government identify a designated place for the funeral rites of Manmohan Singh and that a memorial be constructed at the site.

• Despite this request, the cremation took place at Nigambodh Ghat on December 28, which was a public cremation ground.

Following the public outcry, the MHA released a press statement on December 27 at 11:45 pm, stating that:

• The government had received the request for the allocation of space for a memorial.

• After the Cabinet meeting, Home Minister Amit Shah conveyed to Kharge and Singh's family that the government would allocate space for the memorial.

• The government also stated that a Trust needed to be formed, and only after that could space be allocated for the memorial.

As of December 30, 2024, the memorial for Manmohan Singh had not yet been announced.

Comparison with Atal Bihari Vajpayee's Memorial

In contrast to the ongoing discussions about Manmohan Singh's memorial, the memorial for Atal Bihari Vajpayee, who passed away on August 16, 2018, was quickly addressed:

• Atal Bihari Vajpayee was cremated at Smriti Sthal, which is also the place designated for the memorials of other prominent leaders.

• A memorial for Vajpayee was constructed at Smriti Sthal within 45 days of his passing.

• The memorial cost ₹ 10.51 crore, which was fully funded by the Atal Smriti Nyas Society, a trust set up for the purpose.

Conclusion :

Currently, there is no mandate or rule regarding the creation of memorials for former Prime Ministers, and each case has been handled on an individual basis. While there have been traditions followed in the past, the cremation of Manmohan Singh at Nigambodh Ghat has sparked debate, with the Congress party demanding a dedicated memorial at the site. The MHA has confirmed that the government will allocate space for the memorial, but details remain to be finalized.

Are Government Schemes Really Working ? CAG's New Tool to Track and Assess Impact

1. Introduction to the New CAG Tool

- The Indian government has launched numerous schemes aimed at improving public welfare, such as health, education, and rural development.

- However, the effectiveness of these schemes has often been questioned.

- To address these concerns, the Comptroller and Auditor General (CAG) of India has adopted a new digital tool to assess and track the true impact of government spending and the implementation of these schemes.

2. What is the Open Data Kit (ODK)?

- The tool that the CAG now uses is called the Open Data Kit (ODK).

- It is an open-source platform designed to collect and manage data securely, which helps to enhance transparency and accountability in public spending.

- It works in integration with the CAG's existing operating system, OIOS (Office of the Internal Audit System).

3. Purpose and Functionality of ODK

The ODK platform aims to collect reliable, accurate data on government schemes' implementation and outcomes. It is particularly useful for performance audits and beneficiary surveys. Through this tool, the CAG can track how public money is spent and whether the intended benefits reach the target population effectively.

- **Secure Data Collection**: ODK allows for secure collection of data from different government schemes, ensuring that information is reliable and can be accessed with accountability.

- **Multilingual Capability**: The platform can conduct surveys in multiple languages, making it easier to reach a wider audience and gather diverse opinions from across the country.

- **Survey Integration**: The platform is capable of conducting beneficiary surveys, which can assess the satisfaction levels and identify gaps in government programs.

4. Use of ODK in Real-World Audits

- The CAG recently utilized the ODK toolkit in a performance audit at two prominent AIIMS hospitals—AIIMS Mangalagiri (Guntur) and AIIMS Bibinagar (Hyderabad).

- The purpose was to assess patient satisfaction, a crucial aspect of healthcare delivery.

- The feedback collected through this digital tool can give an accurate picture of how well these healthcare services are performing and where improvements are needed.

- **Beneficiary Surveys**: These surveys help collect opinions from the actual recipients of the services (patients in this case), providing first-hand data to guide audits.

- The data helps identify problem areas that may require additional scrutiny or corrective action.

5. Importance of Beneficiary Surveys in Audits

Beneficiary surveys are a vital component of the audit process as they offer direct insights into the impact of a government scheme or program. The feedback from beneficiaries helps auditors:

- Identify inefficiencies and shortcomings in scheme implementation.

- Highlight areas where the government's spending may not be yielding the expected results.

- Guide corrective actions or suggest modifications to improve program delivery.

6. Ensuring Transparency and Accountability

- By employing this new digital tool, the CAG aims to enhance transparency and accountability in public administration.

- The use of such technology ensures that data is gathered in an accurate, transparent, and verifiable manner, making it easier to track the performance of government schemes.

- **Real-Time Monitoring**: The CAG will now be able to monitor the real-time performance of public programs, offering actionable insights.
- **Data Accuracy**: With digital data collection, errors or manipulations that can occur with traditional manual methods are minimized.

7. Controversy Surrounding the Term 'Toolkit'

- The word 'toolkit' has been a subject of controversy in Indian politics in recent times.
- Political parties have used the term to associate it with activities such as spreading fake news or manipulating public opinion.
- However, in the case of the CAG's ODK platform, the term refers to a legitimate and official tool for auditing and ensuring the success of government schemes, rather than being used for nefarious purposes.

8. The Way Forward

The adoption of the ODK platform by the CAG marks a significant shift toward digitizing and modernizing the process of public expenditure audits. It holds the potential to:

- Improve the efficiency of audits by ensuring that the real-world impact of government schemes is continuously assessed.
- Increase citizen confidence in government programs by proving that public funds are being spent effectively.
- Provide a more accurate representation of how well schemes are addressing their goals, ultimately contributing to better policymaking and governance.

Conclusion :

The introduction of the Open Data Kit (ODK) platform by the Comptroller and Auditor General (CAG) is a crucial step toward improving the effectiveness, transparency, and accountability of government schemes in India. By leveraging modern technology, the CAG can now provide more accurate assessments of how government programs impact citizens, ensuring that public money is being spent wisely. This also paves the way for corrective actions and better governance in the future.

Two New Special Category Visas Introduced for International Students by MHA

1. Overview:

- The Ministry of Home Affairs (MHA) has introduced two special category visas for international students who wish to pursue higher education in India.
- The two new visa types are:
  - e-student visa
  - e-student-x visa
- Both visa types require students to use the Study in India (SII) portal, which streamlines the process for foreign students seeking education in India.

2. Eligibility and Application Process:

- **e-student visa**:
  - Available to international students who have been admitted to full-time undergraduate, postgraduate, PhD, or other formal programs at recognized educational institutions in India.
  - Students must apply through the SII portal after receiving an admission offer from one of the portal's partner institutions.
  - The visa is valid for up to five years, depending on the length of the course, and can be extended.

- **e-student-x visa**:

  Available to the dependents (such as family members) of e-student visa holders.

- Both types of visas require students to have an SII ID, which verifies their application and allows them to proceed with visa processing.

3. Study in India (SII) Portal:

- The SII portal is a flagship initiative by the Ministry of Education to simplify the admission process for international students.

- Over 600 partner institutions in India offer more than 8,000 courses across various fields including:
  - o Engineering, Management, Agriculture, Science, Arts, Humanities, Law, and Paramedical Sciences (including Pharmacy and Nursing).
  - o Specialized courses like Buddhist Studies and Yoga are also available.
- **Steps for Registration**:
  - o Students must visit the SII portal and click on the "Register Now" tab.
  - o They need to provide basic information such as name, country, date of birth, mobile number, and email ID.
  - o After registration, students will receive a unique SII ID which is essential for tracking their admission and visa process.
  - o **Note**: The SII ID is mandatory for students to apply for visas, admission, or travel to India. Without it, students cannot pursue their studies in India.

4. Visa Application Process:

- Students must apply for their visa through indianvisaonline.gov.in after obtaining an admission offer from a SII partner institution.
- The SII ID will be used to verify the authenticity of the student's application.
- Students will be able to enter India via any immigration check post with a valid e-student visa.

5. Key Features of the New Visa System:

- **Streamlined Process**: The SII portal simplifies the entire process, from admission to visa application, for international students.
- **Multiple Course Options**: Students can choose from a wide variety of undergraduate, postgraduate, PhD, and certification courses, giving them the flexibility to select programs based on their interests.
- **Long-term and Extendable**: The e-student visa can be valid for up to five years, with the possibility of extension based on course length.
- **Admission & Visa Tracking**: The portal allows students to track their admission status and manage their visa process through their SII ID.

Conclusion:

- The introduction of the e-student visa and e-student-x visa will make it easier for international students to pursue education in India.
- The Study in India (SII) portal plays a central role in simplifying the visa and admission process, ensuring that students have a smooth experience from registration to their arrival in India.

Inclusion and Empowerment of Women Pivotal for Socio-Economic Change : Om Birla & President Murmu on Panchayati Raj's Role

1. Lok Sabha Speaker Om Birla's Address on Women Empowerment (January 6, 2025)

1. **Key Focus:** Lok Sabha Speaker Om Birla emphasized that the inclusion and empowerment of women, particularly from rural and tribal communities, is critical for socio-economic change in India.

2. **Women in Panchayats:** He also highlighted the significant role of women leadership in panchayat-level representative institutions in effectively addressing community issues such as:
   a. Clean drinking water
   b. Sanitation
   c. Education

3. **Entrepreneurial Spirit of Tribal Women:**
   a. He praised tribal women for their efforts in self-reliant villages, contributing to local production, traditional crafts, and online businesses.
   b. He advocated for support to help these women-led enterprises expand and reach global markets, which would further support economic growth and cultural preservation.

4. **Leadership and Problem-Solving:** He attributed women's leadership to their unique problem-solving skills, which stem from their personal experiences.

5. These skills lead to more effective and inclusive governance, promoting socio-economic development at both local and national levels.

6. **Women's Participation:** He emphasized that women's participation at both the panchayat and national parliamentary levels is essential for ensuring accountability and fostering inclusive development.

7. **Increased Women Representation:** Many states have surpassed the 33% reservation for women in panchayats, with some reaching over 50% representation, which Birla saw as crucial for sustainable governance.

8. **Event Participation:** Over 500 tribal women from 22 states and Union Territories attended the event, showcasing the growing involvement of women in panchayati raj institutions.

2. President Droupadi Murmu's Address on Women Empowerment Through Panchayati Raj

1. **Key Message:** President Droupadi Murmu highlighted the important role of Panchayati Raj Institutions (PRIs) in empowering women and fostering grassroots governance and community development.

2. **Fearless Leadership and Conflict Resolution:**

a. She encouraged women representatives to discharge their duties fearlessly as leaders.

b. Dispute resolution at the panchayat level was also emphasized. Murmu stressed that resolving conflicts locally would:

   i. Save time and resources.

   ii. Promote mutual harmony and peace in the community.

   iii. Empower women as key decision-makers.

3. Panchayati Raj Institutions: Foundation for Governance and Women Empowerment

1. **Local Governance:** President Murmu called Panchayati Raj Institutions the cornerstone of India's democracy, giving local communities a platform for self-governance.

2. **Women's Empowerment:** She said that these institutions have been crucial in empowering women, providing them with a strong voice in local governance.

4. Statistics of Women's Participation in Panchayati Raj Institutions

1. **Women Elected Representatives:**

a. 14 lakh women serve as elected members in Panchayati Raj Institutions across India, constituting 46% of the total elected representatives.

b. This figure reflects increasing women's participation in local governance.

2. **Reservation for Women:**

To further strengthen women's participation, most states have increased reservation limits to 50%, ensuring that half of the panchayat positions are reserved for women, promoting gender equality in leadership roles.

5. President Murmu's Call for Awareness and Welfare Initiatives

1. **Promote Welfare Schemes:**

Women panchayat representatives were urged to raise awareness about Central government welfare schemes, ensuring that eligible people benefit.

2. **Health and Education:**

a. Ensure that children are vaccinated on time and pregnant women receive proper nutrition.

b. Ensure children do not drop out of school and continue their studies.

3. **Campaigns Against Social Evils:**

a. The President encouraged campaigns against social evils, including:

   * Dowry

   * Domestic violence

   * Drug addiction

b. These efforts are vital for creating a safer and more supportive community.

6. The 'Panchayat se Parliament' Initiative Scheduled Tribe Women Representatives:

a. President Murmu addressed a group of Scheduled Tribe women representatives, who came to Delhi under the Panchayat Se Parliament initiative.

b. Objective: The initiative aims to connect grassroots women leaders with the legislative process and encourage their participation in national governance.

c. The initiative was organized by the National Commission for Women, in collaboration with the Ministry of Tribal Affairs and Lok Sabha Secretariat.

7. Panchayati Raj's Role in Empowering Women

1. **Foundation for Local Governance:** Both President Murmu and Speaker Birla highlighted that Panchayati Raj Institutions are essential for maintaining India's democratic structure, providing citizens, especially women, with a space to engage in decision-making and lead their communities.

2. **Empowerment Through Representation:** Women in panchayats ensure their voices are heard, and their needs are addressed, empowering them to become local leaders.

Conclusion : Women's Empowerment Through Panchayati Raj

Women's participation in Panchayati Raj Institutions has been instrumental in advancing gender equality in India. These institutions provide a platform for women to influence local governance and shape their communities. With increasing women's representation, Panchayati Raj Institutions will continue to drive positive changes in local governance, further empowering women in both rural and urban areas.

UGC's Draft Regulation has Serious Constitutional issues

Overview of the Issue

- The University Grants Commission (UGC) recently proposed an amendment to its Regulation 2010 that deals with the selection and appointment of vice-chancellors (VCs) in universities.

- The key change in this proposal is to allow professionals from fields outside academia—such as industry, public administration, and public policy—

to be considered for the role of vice-chancellor, provided they have at least 10 years of experience.

- This draft regulation has faced strong opposition, especially from non-BJP-led state governments, who argue that it violates the federal structure of India and interferes with state powers over university administration.

- This issue raises important legal and constitutional questions about the powers of the central and state governments in managing universities.

1. Details of the Proposed UGC Regulation

- Under the UGC Regulation 2010, vice-chancellors are selected from academics who have at least 10 years of experience as a professor.

- The proposed amendment changes this by allowing professionals from outside academia to be eligible for the VC position. These include:
  o Professionals from industry.
  o Experts in public administration.
  o Professionals in public policy.

- These professionals would also need to have 10 years of experience in their respective fields to qualify.

- This broadens the pool of candidates for the position of VC, which has traditionally been limited to academic professionals.

2. Objections from State Governments

Several state governments, particularly those led by parties other than the Central Ruling Party, have raised strong objections to the proposed regulation. Their main concerns are:

- **Violation of Federalism**: These state governments argue that the UGC's regulation interferes with the autonomy of state-run universities.

Since state legislatures have the authority to govern their own universities, they believe the central government should not impose regulations on matters like the selection of vice-chancellors.

- **State Autonomy**: Critics argue that state governments, not the central UGC, should have the right to determine the qualifications and selection process for vice-chancellors.

The regulation, they say, oversteps the powers of the states and violates the principles of federalism set out in the Indian Constitution.

In response, these states have called for the withdrawal of the draft regulation.

3. The UGC Act, 1956: Purpose and Powers

- The UGC Act, 1956 was created by Parliament to promote and coordinate university education in India and ensure academic standards. The main responsibilities of the UGC under the Act are:
  - o Coordinating and promoting university education across India.
  - o Setting academic standards for teaching, research, and examinations in universities.
  - o Allocating funds to universities for their development.
- The Act grants the UGC the authority to create regulations, especially related to:
  - o Faculty qualifications.
  - o Standards for teaching and research.
- However, the UGC Act does not mention anything about the selection or appointment of vice-chancellors.
- This raises questions about whether the UGC has the authority to regulate vice-chancellor appointments.

4. Limits of UGC's Power: Selection of Vice-Chancellors

- The most important issue is whether the UGC has the legal authority to regulate the selection and appointment of vice-chancellors, as this is not addressed in the UGC Act.
- The Act mainly deals with academic standards, not university administration.
- The UGC Act empowers the UGC to set standards for teaching, research, and examinations, but it does not give the UGC the power to interfere with the way universities are run or how their leadership is selected.
- The selection of vice-chancellors has traditionally been decided by state laws or university statutes, which are established by state legislatures or university governing bodies.
- Therefore, the UGC's attempt to regulate vice-chancellor appointments may be considered beyond its legal powers (ultra vires), as it falls outside the scope of the UGC Act.

5. Legal Precedents and Court Rulings

There are important court rulings that have dealt with similar issues:

- **Suresh Patilkhede v. Chancellor of Universities of Maharashtra (2011)**:
  - o The Bombay High Court ruled that the qualifications and appointment methods for vice-chancellors do not directly affect academic standards.
  - o Therefore, the court held that the UGC's regulations cannot interfere with state laws that govern vice-chancellor appointments.
  - o The court made it clear that UGC regulations cannot override state laws when it comes to the selection of vice-chancellors.
- **Kalyani Mathivanan v. K.V. Jeyaraj (2015)**:
  - o The Supreme Court upheld the idea that UGC regulations are binding on universities that receive UGC funding.
  - o However, the court also clarified that these regulations are advisory for state-run universities and cannot override state laws.
  - o The court's ruling allows state universities to follow their own laws and decide their own selection processes for vice-chancellors, even though they can consider UGC guidelines.

6. Constitutional Framework and Federalism

- India's Constitution establishes a federal structure, which means that certain powers are divided between the Union (central) and State governments.
- Education is a concurrent subject, meaning both the Union and States can make laws in this area.
- However, the Union's power to make laws in a concurrent subject does not automatically mean it can override state laws unless explicitly stated.
  - o Article 254 of the Constitution deals with conflicts between central and state laws. If a state law conflicts with a central law, the state law is void to the extent of the conflict, unless it has been approved by the President.
  - o However, this does not apply to subordinate legislation like UGC regulations.

- Since UGC regulations are subordinate (meaning they are not laws passed by Parliament), they cannot override state laws unless specifically allowed by Parliament.

7. Key Legal Question: Can UGC Regulations Override State Laws?

A key legal question in this case is whether UGC regulations can override state laws that govern the selection of vice-chancellors.

- The Suresh Patilkhede case (2011) made it clear that UGC regulations are not superior to state laws. The regulations can't change how vice-chancellors are selected by state universities, as those laws are separate from UGC guidelines.
- In the Kalyani Mathivanan case (2015), the Supreme Court ruled that UGC regulations are binding on universities, but only for central universities.
- For state universities, these regulations are only advisory, meaning states can follow them, but they are not obligated to.

EDITORIALS

Crux of The Hindu & Indian Express

Indian Polity & Governance

National Voters' Day 2025: Key Highlights and Significance

Date of Celebration: 25th January 2025 (a day before Republic Day)

Context & Significance:

- National Voters' Day (NVD) is celebrated annually on January 25th, to commemorate the foundation day of the Election Commission of India (ECI), which was established on this date in 1950.
- The day serves to emphasize the importance of voting, raise electoral awareness, and inspire active participation in the democratic process.

This year's celebrations are even more significant as they coincide with 2 major milestones:

1. **75 years of the Election Commission of India** – marking **seven and a half decades** of the Commission's service to the nation.
2. **India's total electorate approaching 100 crore** – The latest **electoral roll stands at 99.1 crore** voters, with a notable increase in youth and gender balance.
3. **Historical Context:**
   a. National Voters' Day was first observed in 2011, and it marks a celebration of India's democratic spirit.
   b. The event highlights the critical role of voters in shaping the nation's future.

Key Features of National Voters' Day 2025:

1. **Thematic Focus:**

   The theme for this year's 15th edition of NVD is "Nothing Like Voting, I Vote for Sure", a continuation from the previous year, emphasizing the importance of voter participation and encouraging citizens to take pride in exercising their right to vote.

2. **Celebrations and Key Events:**
   o **National Ceremony:** The event will take place in New Delhi, with the President of India, Smt. Droupadi Murmu, gracing the occasion as the Chief Guest.
   o **Awards for Excellence:** The President will present the Best Electoral Practices Awards to state and district officials who have demonstrated outstanding performance in election management.

3. **Focus on Electoral Engagement:**

   NVD ceremonies across the country will include the presentation of Elector Photo Identity Cards (EPIC) to new voters, particularly young individuals who have just become eligible to vote.

4. **International Engagement:**

   A 2-day conference (January 23-24) hosted by the Election Commission of India will bring together heads and representatives of election management bodies from around the world to discuss global challenges and innovations in election management.

5. Voter Outreach:

o The day shows the importance of voter enrollment, especially among young voters, and encourages active participation in elections.

o It also aims to promote an understanding of the electoral process, making it accessible and inclusive.

Important Facts:

• The Electoral Gender Ratio has improved, increasing from 948 women per 1,000 men in 2024 to 954 in 2025.

• **Youth Participation:** There are now 21.7 crore young electors (aged 18-29 years), marking a significant demographic shift.

• **Largest Electorate in the World:** India's electorate is one of the largest in the world, and the 2024 Lok Sabha elections were held on a record scale.

Conclusion:

National Voters' Day is a momentous occasion that celebrates the democratic participation of citizens in India. The year 2025 marks a special occasion with the Election Commission's 75th anniversary and the nearing milestone of 100 crore voters. The celebration not only honors the voters but also highlights ongoing efforts to make elections more inclusive, efficient, and accessible to all citizens.

The Birthright Citizenship Debate in the U.S.

• In January 2025, After starting his 2nd term as President, Donald Trump signed many executive orders, including a controversial one to end birthright citizenship.

• This means that children born in the U.S. will not automatically become U.S. citizens if their parents are not citizens or lawful permanent residents.

• This change will have a major effect on the Indian-American community, which is one of the largest and fastest-growing immigrant groups in the U.S.

• As per the executive order, The U.S. will not give automatic citizenship to babies born after February 19, 2025, if a parent is not a U.S. citizen or permanent resident.

• However, this decision has led to legal challenges.

Recent Legal Development:

• On January 23, 2025, U.S. District Judge John Coughenour, from Seattle, temporarily blocked an executive order issued by President Donald Trump.

• The legal challenge came from four Democratic-led states: Washington, Arizona, Illinois, and Oregon.

• These states filed a lawsuit to prevent the executive order from taking effect, arguing that it went against the 14th Amendment of the U.S. Constitution, which guarantees citizenship to any child born on U.S. soil "and subject to the jurisdiction thereof".

What is Birthright Citizenship?

• Birthright citizenship means that any child born on the soil of a country automatically gets that country's citizenship, no matter the parents' nationality or immigration status.

• In the United States, birthright citizenship has been guaranteed since the 14th Amendment was passed in 1868, which says that anyone born or naturalized in the U.S. is a citizen.

The History of Birthright Citizenship in the U.S.:

1. Early History (Pre-Revolutionary Period to 1788):

* Before U.S. independence in 1776, the concept of citizenship was determined by the individual colonies.

* However, the idea began to grow that anyone born on U.S. soil could be considered a citizen.

* After independence, the U.S. Constitution (ratified in 1788) mentioned the concept of "natural born citizens" in Article 2, but did not clearly define it. It was assumed that the term included both:

i. Jus soli (right of the soil): Citizenship for those born on U.S. soil.

ii. Jus sanguinis (right of the blood): Citizenship for those born outside the U.S. to U.S. citizen parents.

2. Dred Scott v. Sandford (1857):

* The U.S. Supreme Court (SCOTUS) ruled in Dred Scott v. Sandford that slaves brought to the U.S. were not U.S. citizens, even if they were born on U.S. soil.

* The ruling also denied citizenship to the descendants of enslaved people.
* This decision made the issue of citizenship even more divisive until after the Civil War.

3. The 14th Amendment (1866):

* After the Civil War, in 1866, Congress passed the 14th Amendment to ensure that freed slaves and their descendants would be granted U.S. citizenship.
* The important part of the 14th Amendment says:
    i. "All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside."
* While this granted citizenship to former slaves, the phrase "subject to the jurisdiction thereof" caused confusion, leading to debates about whether children born to foreign nationals or people who weren't legally in the U.S. would be citizens.

4. Trump's Executive Order on Birthright Citizenship:

* Trump's executive order, titled "Ending Birthright Citizenship for Children of Illegal Immigrants and Temporary Visa Holders", proposes that:
    i. A child born in the U.S. will only become a citizen if at least one of the parents is:
        1. A U.S. citizen.
        2. A Green Card holder (legal permanent resident).
        3. Serving in the U.S. military.
    ii. For example, if a child's mother is in the U.S. temporarily (e.g., on a work or tourist visa), and the father is not a U.S. citizen or permanent resident, the child will not be granted citizenship.

* **Specific Exclusions in the Order**

    The order says that birthright citizenship will not apply to:
    i. Children born to parents who are unlawfully present in the U.S.
    ii. Children born to parents who are in the U.S. on temporary visas (such as H-1B for work, F-1 for students, or B-2 for tourists) would not get citizenship).
    iii. The order argues that the 14th Amendment was never meant to apply to people who are not "subject to the jurisdiction" of the U.S., such as undocumented immigrants or people with temporary visas.

Timing and Scope of the Order

* The order is set to take effect 30 days after being signed by President Trump.
* The order does not apply retroactively, meaning people who are already U.S. citizens will not lose their citizenship.
* The Trump administration has stated that they will not recognize automatic birthright citizenship for children born to illegal immigrants and will also increase screening for immigrants.

How Will This Affect Indians in the U.S.?

* As of 2024, there are around 5.4 million Indian-Americans in the U.S., making up about 1.47% of the U.S. population.
* Two-thirds of Indian-Americans are first-generation immigrants, meaning they were born outside of the U.S., while the rest are U.S.-born citizens.
* Many Indian-Americans live in the U.S. on temporary work visas, like the H-1B visa, which is for skilled workers in technology, healthcare, and other sectors
* If this executive order is carried out, children born in the U.S. to Indian parents on temporary visas like H-1B (for skilled workers) or H-4 (for dependent family members) would no longer automatically become U.S. citizens.
* This is a big change, as children born to Indian parents in these visa categories are usually granted U.S. citizenship under current laws.
* This could impact hundreds of thousands of children born to Indian parents in the U.S. each year, making their future uncertain in terms of citizenship.
* Many Indian immigrants have been waiting for years to receive a Green Card (permanent residency).
* There are huge backlogs, particularly for employment-based Green Cards.
* Over a million Indians have been waiting for more than 10 years for a Green Card.
* If birthright citizenship is revoked, children born in the U.S. to Indian parents on temporary visas will not be able to sponsor their parents for permanent residency once they turn 21—something that many families relied on for years.
* Indian students make up one of the largest groups of international students in the U.S. According to the

Institute of International Education (IIE), there were over 200,000 Indian students enrolled in U.S. colleges and universities as of 2023.

- Birth tourism is when foreign nationals, including Indians, travel to the U.S. to give birth so their child can automatically become a U.S. citizen.

- This executive order will likely reduce birth tourism, especially among people from India and Mexico, as it would deny citizenship to children born under these circumstances.

- As Indian Express reports, Indians are among the highest groups using birth tourism to secure U.S. citizenship for their children.

Key Supreme Court Rulings on Birthright Citizenship:

1. **United States *Vs*. Wong Kim Ark (1898):**

* This case made it clear how to interpret the 14th Amendment regarding birthright citizenship.

* Wong Kim Ark, born in the U.S. to Chinese parents, was not allowed to return to the U.S. because of the Chinese Exclusion Act of 1882, which limited Chinese immigration.

* The Supreme Court ruled that the 14th Amendment granted U.S. citizenship to anyone born in the U.S., regardless of the parents' nationality or immigration status.

* The Court said that Wong, as a U.S. citizen by birth, couldn't be denied his right to return to the U.S.

* The Court's decision set the rule that being born in the U.S. automatically makes someone a U.S. citizen.

2. **Plyler v. Doe (1982):**

* The Supreme Court again confirmed birthright citizenship in Plyler v. Doe, ruling that children of undocumented immigrants still had the right to attend public schools.

* The Court decided that there was no difference under the 14th Amendment between children born to legal immigrants and those born to undocumented immigrants, as both were under U.S. laws.

Birthright Citizenship in India

Historical Background:

- When the Indian Constitution was being drafted, one of the biggest challenges was deciding whether

citizenship should be granted based on birth (jus soli) or descent (jus sanguinis).

- Some members of the Constituent Assembly argued against birthright citizenship.

- For instance, P S Deshmukh, a member from the Indian National Congress from Maharashtra, believed that granting citizenship based on birth would make Indian citizenship "the cheapest on earth".

- However, prominent leaders like B R Ambedkar and Sardar Vallabhbhai Patel supported birthright citizenship, as they felt it would strengthen the country's unity and inclusiveness.

- Ultimately, birthright citizenship was included in the Indian Constitution.

Provisions in the Indian Constitution:

- Article 5 of the Indian Constitution states that:

  * Any person born in India before the commencement of the Constitution would be a citizen of India.

  * This made birthright citizenship a part of India's foundational legal framework.

The Citizenship Act, 1955:

- Following the Constitution, India's Parliament passed the Citizenship Act, 1955 to provide more detailed rules on citizenship.

- Section 3 of the Act granted birthright citizenship to any person born in India on or after January 26, 1950, unless:

  * The child's parents were foreign diplomats (envoys), meaning the parents were not Indian citizens.

  * The child was born in an area under enemy occupation during times of war (i.e., born to an enemy alien).

Amendments to the Citizenship Act:

1. **1986 Amendment:**

* In 1986, India amended the Citizenship Act to address concerns over the growing number of migrants from Bangladesh, Sri Lanka, and some African countries.

* This amendment removed the provision for automatic citizenship by birth for children born after the amendment, unless at least one parent was an Indian citizen.

* This change marked the end of unrestricted birthright citizenship in India.

2. 2003 Amendment:

* In 2003, another amendment further refined the rules.

* It stated that if a child was born in India and one of the parents was an illegal immigrant, the child would not automatically become a citizen.

* This amendment was aimed at controlling the citizenship rights of children born to illegal immigrants and further restricted the scope of birthright citizenship.

How Both Legal Laws (INDIA and the US) different ?

Feature	India	United States
Legal Basis	Citizenship Act, 1955 and Indian Constitution (Article 5). Birthright citizenship initially granted but later restricted through amendments.	14th Amendment to the U.S. Constitution. Grants automatic citizenship to anyone born on U.S. soil (jus soli).
Automatic Citizenship	Only if at least one parent is an Indian citizen, and the parents are not illegal immigrants.	Guaranteed for all children born on U.S. soil, regardless of parents' citizenship or immigration status.
Amendments	- 1986: Ended unrestricted birthright citizenship; required at least one parent to be an Indian citizen. - 2003: Children born to illegal immigrants not granted citizenship.	No significant amendments to restrict birthright citizenship. Efforts (e.g., Trump's executive orders) have faced legal challenges.
Children of Foreign Nationals	Excluded: enemy aliens (during wartime).	Included: Children born to foreign nationals, including undocumented immigrants.
Children of Illegal Immigrants	Not granted citizenship (post -2003 amendment).	Automatically granted citizenship.
Diplomatic Immunity	Children born to foreign diplomats are excluded from Indian citizenship.	Children born to foreign diplomats in the U.S. are excluded from U.S. citizenship.

Uttarakhand Becomes First Indian State to Adopt Uniform Civil Code (UCC) (January 2025)

Overview:

• On January 27, 2025, Uttarakhand became the first Indian state post-Independence to implement the Uniform Civil Code (UCC) for all residents, excluding Scheduled Tribes and natives who have migrated out of the state.

• An 5 member expert committee, led by Former Supreme Court Justice Ranjana Prakash Desai, was formed to draft the legislation.

• The final report was submitted to Uttarakhand Chief Minister Pushkar Singh Dhami on February 2, 2024.

• After that, the UCC Bill was passed in the Uttarakhand Assembly during the February 2024 session.

• However, Goa remains the only state in India where a UCC is already in force, based on the Portuguese Civil Code of 1867.

What is the Uniform Civil Code (UCC)?

• The Uniform Civil Code (UCC) refers to a single set of laws that govern personal matters like marriage, divorce, inheritance, and adoption for all citizens, regardless of their religion.

• It is mentioned in Article 44 of the Indian Constitution as a Directive Principle of State Policy (DPSP).

• However, the implementation of UCC is not legally enforceable by the courts.

Related Articles on Religious Freedom:

• **Article 15:** Prohibits discrimination on grounds of religion, race, caste, sex, or place of birth.

• **Article 25:** Guarantees freedom of conscience and the right to freely practice religion, subject to public order, health, and morality.

• **Article 26:** Provides the right to manage religious affairs.

• **Article 27:** Prohibits state funding for specific religious activities.

• **Article 28:** Deals with religious instruction in educational institutions.

Historical Context of UCC:

• **British Era:** The British introduced uniform criminal laws but allowed communities to follow their own personal laws.

- **Constituent Assembly Debates:** Proponents of the UCC, including B.R. Ambedkar, argued that it was essential to promote equality, while some Muslim leaders expressed concerns about its impact on their personal laws.

Supreme Court's Stance on UCC:

- **Shah Bano Case (1985):** The court recognized the need for UCC and remarked that Article 44 had remained a "dead letter".

- **Sarla Mudgal Case (1995):** The court emphasized the need to implement the UCC for uniformity and equality.

- **Shayara Bano Case (2017):** The Supreme Court declared triple talaq unconstitutional and recommended UCC for marriage and divorce reforms.

- **Jose Paulo Coutinho Case (2019):** The court praised Goa's UCC and called for its adoption across India.

Law Commission's Stance:

In 2018, the 21st Law Commission, led by former Supreme Court judge Justice Balbir Singh Chauhan, released a consultation paper on "Reforms of family law", saying that the formulation of a Uniform Civil Code is neither necessary nor desirable at this stage.

Key Features of the Uttarakhand UCC:

Ban on Certain Practices	Halala, iddat, and talaq (Muslim Personal Law practices) are banned.
Equal Rights for Women	Ensures equal rights in property and inheritance.
Online Registration	Mandatory for marriages, divorces, and live-in relationships via ucc.uk.gov.in.
Aadhaar-Based Verification	Ensures authenticity; AI-based translation in 22 languages.
Integration with Departments	Data integrated from 13+ government departments, including police and courts.
Tatkal Facility	Emergency services available for a nominal fee.

1. **Halala:** a practice in which a woman is required to marry another man and then divorce him before she can remarry her previous husband.

2. **Iddat:** a period of waiting for a woman after divorce or widowhood before she can remarry.

3. **Talaq:** a form of divorce in Muslim Personal Law where a husband can divorce his wife by pronouncing the word "talaq" 3 times.

4. In August, 2017, the Supreme Court of India declared the practice of Triple Talaq unconstitutional.

5. Following that, in 2019, the Parliament passed the "Muslim Women (Protection of Rights on Marriage) Act, 2019", making it a punishable offense effective from August 1, 2019.

Implementation Timeline

Marriages	- Marriages since March 26, 2010, must be registered within 6 months. - Post-UCC marriages must be registered within 60 days.
Live-in Relationships	- Must be registered within 1 month of implementation or establishment. - Either partner can end the relationship online/offline. - Pregnancy during live in must be reported within 30 days of childbirth.
Divorce/Annulment	Requires details like marriage registration, court case number, and children's details.
Will Registration	Can be done via form, uploaded document, or a 3-minute video.

Administrative Structure

Role	Appointed Officials
Sub-registrar	Mostly Sub-Divisional Magistrates (SDMs).
Registrar	Municipal Commissioners, CEOs of Cantonment Boards.
Registrar-General	Secretary of the Department.

1. Applications are examined within 15 days (or 3 days in emergencies).

2. Appeals against rejections can be made to the registrar within 30 days, and further to the registrar-general within 30 days.

Penalties for Violations

Violation	Action
First-time	Warning issued.
Repeat Violations	Fines imposed.

Significance of the UCC:

- **Unity and Belonging:** The UCC would help unite all citizens and promote a sense of belonging.

- **Reducing Conflicts:** It could reduce conflicts arising from different personal laws.

- **Principles of Equality:** The UCC would support the principles of equality, fraternity, and dignity.

- **Equal Rights:** It would provide equal rights in marriage, divorce, inheritance, adoption, and maintenance.

- **Women's Rights:** The UCC would help women challenge unfair practices and ensure their fundamental rights.

- **Modernizing Laws:** It would modernize outdated practices in personal laws.

- **Human Rights:** It would remove practices like triple talaq, polygamy, and child marriage that violate human rights.

- **Transparency:** The online portal ensures transparency and reduces bureaucratic hurdles.

- **Precedent for Other States:** It sets a precedent for other states to adopt similar reforms.

Challenges and Criticisms:

- **Exclusion of Scheduled Tribes:** The exclusion of Scheduled Tribes raises questions about the universality of the UCC.

- **Privacy Concerns:** Mandatory registration and Aadhaar-based verification may raise privacy issues.

- **Religious Practices:** The ban on certain religious practices has been criticized as an infringement on personal laws.

Has Any Country Fully Implemented a Uniform Civil Code?

No country fully implements a uniform civil code across all areas of law, but many have adopted uniform laws in specific areas such as criminal law, contract law, and property rights.

Examples:

- **France:** Napoleonic Code (1804) applies uniformly to all citizens, covering property, civil rights, and family law, with minor regional exceptions.

- **Germany:** German Civil Code (BGB) (1900) unifies personal and civil law for all citizens, with some special provisions for certain groups.

- **Turkey:** Turkish Civil Code (1926), inspired by Swiss law, replaced Islamic law for family matters, though some Islamic law elements remain.

- **United States:** Federal laws are unified, but family law varies by state.

- **Egypt:** Civil code applies to all citizens but incorporates Islamic law in family matters.

- **Indonesia:** Legal system combines civil, customary, and Islamic law; efforts made to harmonize laws for greater equality.

Conclusion :

Uttarakhand's adoption of the Uniform Civil Code (UCC) marks a significant step in India's legal and social reforms. By creating a single set of laws for personal matters like marriage, divorce, and inheritance, the UCC aims to promote equality, justice, and gender rights.

❑❑❑

Indian Society & Social Justice

Amrit Bharat Trains 2.0

Context:

The Railway Minister recently announced the introduction of 12 significant improvements to the Amrit Bharat Trains 2.0 under a revamped version of the program.

About Amrit Bharat Trains 2.0:

- **Objective:** The newly upgraded Amrit Bharat Trains 2.0 are designed to cater primarily to low and middle-income families, aiming to provide a comfortable travel experience.

- **Manufacturing Plans:** Over the next 2 years, 50 upgraded trains will be manufactured at the Integral Coach Factory (ICF).

Key Features of Amrit Bharat Trains 2.0:

- **Enhanced Safety and Comfort:**
  o Semi-automatic couplers for improved train coupling.
  o Modular toilets that provide better hygiene facilities.
  o Ergonomic seats and berths for a comfortable journey.
  o Emergency talk-back systems for communication in case of emergencies.
  o Continuous lighting system similar to Vande Bharat trains to ensure proper lighting during travel.

- **Advanced Technology and Design:**
  o IoT-based water level indicators to assist watering stations and onboard staff in managing water supply efficiently.
  o External emergency lights to provide basic lighting during emergencies like derailments or accidents.
  o Advanced pantry car designs to improve food service.

- **Train Features:**
  o LHB push-pull train design, with locos at both ends to enhance acceleration.
  o Attractive and functional interiors including comfortable seats, better luggage racks, mobile charging points, LED lights, CCTV surveillance, and a public information system.

Launch and Updates:

- The first version of the Amrit Bharat Trains was launched in 2024, and the upgraded version 2.0 includes 12 notable enhancements aimed at improving passenger experience.

What is the Amrit Bharat Station Scheme (ABSS)?

The Amrit Bharat Station Scheme (ABSS) is an ongoing initiative by Indian Railways, launched in February 2023, with the objective of redeveloping railway stations across India. The scheme aims for the long-term development of stations, enhancing infrastructure and facilities for passengers.

Conclusion:

Amrit Bharat Trains 2.0 bring several advanced features aimed at improving passenger comfort and safety, especially for low and middle-income travelers. These trains are part of a broader effort to upgrade India's railway infrastructure, enhancing the overall travel experience for millions.

Kokborok Language

Overview:

The Twipra Student Federation (TSF), a student group associated with the North East Students Organisation (NESO), recently staged a protest in Agartala, the capital of Tripura, demanding the adoption of the Roman script for the Kokborok language.

About Kokborok Language:

- **Kokborok** is a language spoken by the Borok people, also known as the Tripuris.

- It is one of the official languages of Tripura, officially recognized on January 19, 1979.

- **Linguistic Family**: Kokborok belongs to the Sino-Tibetan language family.

- **Historical Roots**:
  o The language's history can be traced back to at least the 1st century AD, when the Tripuri kings' historical records began to be written in a book called the Raj Ratnakar.
  o The term "Kokborok" was first recorded in 1897/98 as 'Kok-boro' in an early primer on the language by Daulat Ahmed, titled 'Kokboroma'.
  o In 1900, Thakur Radhamohan Debbarma published a grammar of the language, spelling it as 'Kokborok'.

- **Other Names**: Historically, British officials like Political Agents, District Officers, and Sub-Division Officers referred to the language as Tipperh, Tipura, or Tipra.

- **Meaning of Kokborok**:
  o The word 'Kok' means 'verbal'.
  o The word 'Borok' means 'people' or 'human'.
  o Therefore, Kokborok literally means 'language of the people' or 'verbal people'.

- **Current Number of Speakers**:

  According to the 2011 Census, there are 880,537 Kokborok speakers, which accounts for 23.97% of Tripura's total population.

What is the Roman Script?

- The Roman script, also known as the Latin script, is the writing system originally developed by the ancient Romans.

- It is the most widely used writing system in the world today and is used to write English, as well as many other languages, including Spanish, French, Italian, German, and Portuguese.

Conclusion:

Kokborok is a significant language of the Tripura state, with deep historical roots and cultural importance. The demand for adopting the Roman script for Kokborok reflects ongoing efforts to modernize and promote the language. The language, which is spoken by nearly 24% of the population of Tripura, continues to be a vital part of the state's identity.

Bharat Ranbhoomi Darshan

Overview:

The "Bharat Ranbhoomi Darshan" app was recently launched by the Defence Minister in conjunction with the Army Day celebrations.

About Bharat Ranbhoomi Darshan:

- The app has been developed by the Ministry of Defence in collaboration with the Ministry of Tourism.

- It aims to open doors to India's iconic battlefields, allowing citizens to explore the country's wartime history like never before.

- The initiative is designed to promote connectivity, tourism, and socio-economic development in border regions.

- The Indian Army is working with local civil authorities to facilitate these efforts while ensuring high operational preparedness.

Features of the App:

- **Virtual Tours**: The app provides virtual tours of various battlefields and border areas with historical narratives and interactive content.

- **Travel Arrangements**: It serves as a one-stop destination for travel planning, including details on how to apply for permits for some of these locations.

- **Tourism Promotion**: The app highlights these sites as part of the Incredible India campaign by the Tourism Ministry.

- **Battlefield Tourism**: It features 75 key sites, including Galwan, Doklam, and other important border areas that have witnessed military actions.

  These areas include significant locations along the borders with China (Line of Actual Control) and Pakistan (Line of Control), which have been part of historical wars like the 1962 war with China, the 1967 Nathu La conflict in Sikkim, and the 1971 Battle of Longewala in the Thar desert.

- **Restricted Access**: Previously, many of these sites were off-limits due to strategic significance and challenging terrain. With the app, these locations now offer visitors a first-hand experience of the life and challenges faced by soldiers stationed in these regions.

Where is Doklam?

- **Location**: Doklam is located at a tri-junction between India, Bhutan, and China. It is surrounded by:
  1. The Chumbi Valley of Tibet (China).
  2. Bhutan's Ha Valley.
  3. Sikkim (India).

- **Strategic Importance**: Doklam is strategically important as it lies close to the Siliguri Corridor (also known as Chicken's Neck), which connects mainland India with its northeastern states. The corridor is considered a vulnerable point for India due to its geographical location.

Conclusion:

The Bharat Ranbhoomi Darshan app offers a unique opportunity for citizens to explore India's military history through virtual tours, promoting tourism and border region development while maintaining national security. By facilitating access to once-restricted sites, the app provides a glimpse into the challenges faced by soldiers in some of the country's most strategically significant regions.

Mannan Community
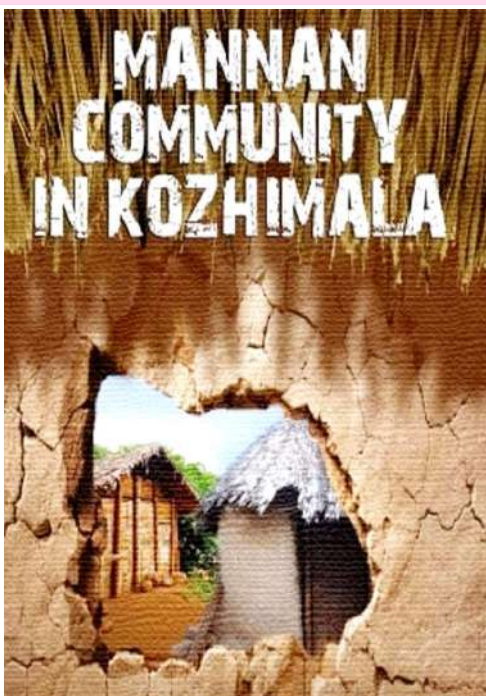
Overview:

The Mannan Community, an Adhivasi tribal group of Kerala, has recently gained attention with Raman Rajamannan, the king of the Mannan community and Kerala's only tribal king, set to participate in the Republic Day parade in Delhi.

About Mannan Community:

- The Mannan community is recognized as a Scheduled Tribe (ST) in Kerala.
- It is the only Adhivasi tribal dynasty with an existing kingship in South India. The ruler, Raja Mannan, is chosen by community headmen based on hereditary eligibility.

- The Mannans' culture is deeply intertwined with Tamil culture. They speak a dialect similar to Tamil, though they do not have a written script.
- It is believed that the Mannan people originally hailed from Tamil Nadu and migrated to Idukki during the time of the Poonjar Rajavamsham (royal dynasty).
- Nearly 97% of the Mannan population resides in the Idukki District of Kerala. Historically, they lived in remote forests but were later moved to government-allocated plots on the outskirts of the Periyar Tiger Reserve, after the government imposed a ban on deforestation in the area.

Social Structure and Lifestyle:

- The Mannan community follows a matrilineal system of descent, where lineage is traced through the mother.
- They are primarily engaged in agriculture, including coconut harvesting and the cultivation of herbs.
- The Mannans practice Hinduism.

Festivals and Art Forms:

- The Mannans celebrate festivals such as the Kalavoot, Meenoot, and Mutthiamman Festival.
- Mannankoothu is a unique ritual art form performed by the Mannans, typically during religious ceremonies, harvest times, and weddings.

Conclusion :

The Mannan community of Kerala is a unique tribal group with a rich cultural heritage, including a dynastic rule and a close connection to Tamil traditions. They are primarily agriculturalists and follow a matrilineal system. Though relocated to government-allotted land, the Mannans continue to practice traditional arts and festivals, maintaining their distinct identity within the broader Indian cultural landscape.

Sukanya Samriddhi Yojana (SSY)

Overview:

The Sukanya Samriddhi Yojana (SSY) is a government-backed savings scheme introduced in 2015 as part of the Beti Bachao, Beti Padhao campaign. Celebrating its 10th year, the scheme has helped families invest in the futures of their daughters, promoting gender equality and financial inclusion.

Eligibility Criteria:

- The account can only be opened for a girl child who is below the age of 10 years.
- The parent or legal guardian of the girl must open the account.
- Only one account can be opened for a girl child.
- A family can open a maximum of two SSY accounts for their daughters.
- **NRIs** (Non-Resident Indians) are not eligible for this scheme.
- The girl child must be a **citizen of India**.

Key Features:

- **Minimum & Maximum Deposit**:
  - Minimum deposit: Rs. 250 per year.
  - Maximum deposit: Rs. 1.5 lakh per year.
  - Deposits can be made in multiples of Rs. 100.
  - There is no limit on the number of deposits in a month or financial year.
- **Tenure**:
  - The scheme has a maturity period of 21 years.
  - However, deposits are required only for the first 15 years.
  - After 15 years, the account continues to earn interest until maturity.
  - The account must be operated by the girl after she turns 18 years old.
- **Interest**:
  Interest is announced quarterly by the Government of India and is compounded annually.
- **Partial Withdrawal**:
  - Withdrawal is allowed once the account holder reaches 18 years of age or has completed 10th standard, whichever comes first.

  - For higher education, up to 50% of the balance at the end of the previous financial year can be withdrawn.
  - For marriage, 100% of the balance can be withdrawn once the account holder reaches adulthood.
- **Premature Closure**:
  Premature closure is allowed in the event of the account holder's death or in cases of extreme compassionate grounds like life-threatening diseases, with approval from the Central Government.

Tax Benefits:

- Investments in the SSY qualify for tax exemption under Section 80C of the Income Tax Act.
- The principal amount invested, interest earned, and maturity amount are tax-free.

Conclusion:

The Sukanya Samriddhi Yojana continues to be an essential tool for empowering families to save for their daughters' future education and marriage. It encourages a culture of inclusion and financial security, helping millions of families across India.

10th Anniversary of Beti Bachao Beti Padhao (BBBP) Scheme

Overview:

Launched by Prime Minister Narendra Modi on January 22, 2015, in Panipat, Haryana, the Beti Bachao Beti Padhao (BBBP) scheme aims to address India's declining Child Sex Ratio (CSR), combat gender-biased sex-selective abortions, and promote the survival, protection, and education of the girl child. As the scheme celebrates its 10th anniversary in 2025, it continues to play a pivotal role in gender equality and empowerment.

Key Aims:

- Prevent gender-biased practices.
- Promote girl child education and empowerment.

- Improve maternal health and access to healthcare for women and girls.

Key Activities & Initiatives:

- Mission Vatsalya and Mission Shakti portal launches.
- SANKALP: Hub for Women's Empowerment at the district level, which serves as a one-stop solution for information and assistance regarding various government schemes.
- A Compendium of Best Practices to highlight successful models.
- The SANKALP Hub facilitates women in accessing both Central and State Government benefits through grassroots-level awareness campaigns.
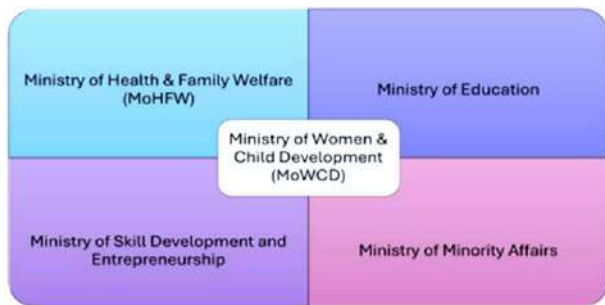
Integration with Mission Shakti:

BBBP has been integrated with Mission Shakti, a comprehensive initiative focusing on women's safety and empowerment, launched during the 15th Finance Commission period (2021-2026). Mission Shakti consists of two sub-schemes:

- **Sambal**: Focuses on women's safety, offering One Stop Centres (OSCs), a Women Helpline (181), and Nari Adalat for minor grievances.
- **Samarthya**: Aims at women's empowerment and economic support through initiatives like Shakti Sadans, Sakhi Niwas, and PMMVY (for maternal health).

Objectives of BBBP:

- Improve the Sex Ratio at Birth (SRB) by 2 points annually.
- Increase the rate of institutional deliveries, maintaining a target of 95%.
- Raise 1st Trimester Ante-Natal Care (ANC) registration by 1% per year.
- Ensure a 1% increase in girls' secondary education enrollment and skilling annually.

- Reduce the dropout rate among girls in secondary and higher secondary education.
- Raise awareness about safe Menstrual Hygiene Management (MHM).

Target Groups:

- **Primary Target Groups**: Newly married couples, expecting parents, adolescents (girls and boys), households, and communities.
- **Secondary Target Groups**: Schools, Anganwadi Centres (AWCs), healthcare facilities, Panchayat Raj Institutions (PRIs), Self-Help Groups (SHGs), NGOs, and media.

Financial and Operational Structure:

BBBP is a centrally sponsored scheme, fully funded by the Central Government. The funding varies depending on the Sex Ratio at Birth (SRB) in districts:

- **SRB $\leq$ 918 :** Rs. 40 lakh annual funding.
- **SRB between 919–952 :** Rs. 30 lakh.
- **SRB > 952 :** Rs. 20 lakh.

Key Achievements and Data Highlights:

Metric	2014-15	2023-24	Impact
Sex Ratio at Birth (SRB)	918	930	Improved CSR, combatting gender-biased sex selection.
Girls' Enrollment in Secondary Education (GER)	75.51%	78%	Significant increase in girls' access to education.
Institutional Deliveries	61%	97.3%	Major improvement in maternal and infant health.

Notable Campaigns and Initiatives:

- **Selfie with Daughters**: This viral campaign encouraged fathers to share pictures with their daughters, advocating gender equality.
- **Beti Janmotsav**: Celebrated the birth of girls, helping to change societal attitudes toward daughters.
- **Skill Development Programs**: Collaborations with the Ministry of Skill Development and Entrepreneurship have improved the economic participation of women and girls.

Key Interventions and Activities:

BBBP operates through a multi-sectoral approach, bringing together various ministries, stakeholders, and

community-level actions. Some significant initiatives include:

- **Yashaswini Bike Expedition**: A cross-country journey promoting women's empowerment.
- **National Conference on Skilling**: Aimed at increasing women's workforce participation.
- **Kanya Shiksha Pravesh Utsav**: A campaign for re-enrolling out-of-school girls, with 100,786 girls re-enrolled in 2022.

Conclusion:

The Beti Bachao Beti Padhao scheme has significantly impacted gender equality, education, and healthcare in India. With continued focus on empowering girls, improving access to education, and increasing maternal health, BBBP has laid the foundation for a more equitable society. Going forward, the scheme aims for sustainable progress, with a strong emphasis on inclusive policies and community involvement.

Shompens – An Isolated Tribe of Great Nicobar Island

The Shompens are one of the most isolated and least studied tribes in India. They are classified as a Particularly Vulnerable Tribal Group (PVTG) and live in the dense tropical rainforests of Great Nicobar Island, part of the Andaman and Nicobar Islands. This region is a biological hotspot, home to two national parks (Campbell Bay and Galathea National Park) and one biosphere reserve (Great Nicobar Biosphere Reserve).

Lifestyle and Habitats of the Shompens

- **Location**:

    The Shompens reside in the remote rainforests of Great Nicobar Island, where around 95% of the island is covered in dense forest.

- **Nomadic Nature**:

    The Shompens are nomadic hunter-gatherers who live in small groups. They move between forest camps, staying at one location for a few weeks or months before relocating to another site. Their territories are marked by the rivers that flow through the rainforest.

- **Diet and Agriculture**:

    Their diet mainly consists of a wide variety of plants from the rainforest, with pandanus fruit (locally called "larop") being a staple. They also cultivate small gardens where they grow crops like lemon, chillies, and betel leaves.

Population and Social Structure

- **Population**:

    According to the 2011 Census, the Shompen population was estimated at 229, although the exact population remains unknown.

- **Social Organization**:

    Shompen families consist of a husband, wife, and their unmarried children. The family unit is patriarchal, with the eldest male controlling the activities of the family, including the roles of women and children. Monogamy is the general norm, though polygamy is also allowed within the tribe.

- **Physical Appearance**:

    The Shompens exhibit distinct Mongoloid features, such as a round or broad head, narrow nose, and oblique eye features. Their skin tone ranges from light brown to yellow-brown. They are typically of short to medium stature.

Language and Cultural Beliefs

- **Language**:

    The Shompens speak their own language, which has several dialects. Members of different bands within the tribe may not understand each other's dialects.

- **Religion**:

    The Shompens follow an animistic belief system. They worship the moon, referred to as Houou, whom they believe created the universe.

Significance of Shompens' Habitat

- **Ecological Importance**:

    The Shompen's habitat in the rainforests of Great Nicobar Island is not only crucial for their way of life but also a significant ecological zone. The region hosts various unique flora and fauna, contributing to its designation as a biological hotspot. The area is protected under several conservation programs, including the Great Nicobar Biosphere Reserve.

Conclusion

The Shompens remain one of the most isolated and enigmatic tribes in the world, with a unique way of life that has remained largely unchanged for centuries. Their cultural practices, language, and connection to the land offer valuable insights into the diversity of human existence and the importance of preserving vulnerable tribal communities and their habitats.

6.21 Lakh Applications for 1.27 Lakh Opportunities Under the PM Internship Scheme

- The Prime Minister's Internship Scheme witnessed an overwhelming response in its pilot phase, with 6.21 lakh applications received for 1.27 lakh internship opportunities offered by the Union Corporate Affairs Ministry.

- The Ministry, in a release on December 29, 2024, confirmed that the selection process for these internships is ongoing.

- The scheme was initially announced in the 2024 Union Budget as part of a broader initiative aimed at enhancing employability and providing young individuals with real-life business exposure.

- The application surge highlights the growing demand among youth for opportunities that will allow them to gain professional skills and practical experience in top companies.

PM Internship Scheme Overview

The Prime Minister's Internship Scheme was introduced with the goal of providing internship opportunities to one crore youth over the next 5 years in the top 500 companies. The scheme is designed to offer young people hands-on exposure in various business environments across different sectors and professions, significantly boosting their future career prospects.

- **Target Audience**: The scheme is open to youth across India, providing opportunities to students and fresh graduates.

- **Internship Duration**: Internships will last for 12 months, with the possibility of learning in varied roles and industries.

Financial Support for Interns

Interns selected under this scheme will receive financial assistance to support their learning journey:

1. **Monthly Stipend**:
   * ₹ 5,000 per month for each intern.
   * ₹ 4,500 of this amount will be provided by the Union Government.
   * ₹ 500 per month will be contributed by the partner companies through their Corporate Social Responsibility (CSR) funds.

2. **Incidentals Grant**: Interns will also be entitled to a one-time grant of ₹ 6,000 to cover incidental expenses upon joining the internship.

Launch and Progress of the Scheme

- **Pilot Phase**: The Pilot Project of the scheme, which is targeted to provide 1.25 lakh internship opportunities in 2024-2025, was officially launched on October 3, 2024.

- **Online Portal**: Internships are being offered through the online platform at www.pminternship.mca.gov.in, where the partner companies have posted a total of 1.27 lakh internship opportunities.

Applicant Statistics

- **Applications Received**: As of December 2024, 6.21 lakh applications have been submitted for the 1.27 lakh opportunities available in the pilot phase.

- **Registrations**: Approximately 4.87 lakh youths have completed their Know Your Customer (KYC) process and registered on the portal.

Impact and Benefits

1. **Exposure to Top Companies**: The internship scheme aims to give participants real-world exposure to some of India's top 500 companies, enhancing their employability and business acumen.

2. **Increased Youth Participation**: The overwhelming number of applications demonstrates the eagerness of youth to participate in skill-building initiatives that promise valuable industry experience.

3. **Financial Support**: The financial assistance and incidental grant will help reduce the economic burden

on interns, encouraging broader participation from various socio-economic backgrounds.

Future Plans and Expectations

• The Prime Minister's Internship Scheme is expected to grow significantly over the next 5 years, with a target to provide internship opportunities to one crore youth.

• This ambitious initiative aligns with the government's broader skill development and employment generation strategies, aiming to equip youth with the necessary tools for success in the evolving job market.

• The scheme also emphasizes the importance of collaboration between the government and corporate entities, leveraging Corporate Social Responsibility (CSR) to create opportunities for young talent.

Conclusion :

The surge in applications for the PM Internship Scheme's pilot phase reflects the growing demand among Indian youth for career-building opportunities in top-tier companies. With 1.27 lakh opportunities and a target of one crore youth over five years, the scheme is poised to make a significant impact on the employment landscape by providing critical work experience and skill development. The scheme's success will depend on the effective implementation of the selection process and its ability to provide interns with meaningful, real-life exposure to the business world.

School Enrolment Declines by Over 1 Crore in 2023-24 : Government Report

TOTAL SCHOOL ENROLMENT

2023-24	24.80 cr
2022-23	25.18 cr
2021-22	26.52 cr
2020-21	26.44 cr
2019-20	26.45 cr
2018-19	26.03 cr

Average total enrolment for 2018-19 to 2021-22 is 26.36 cr
Source: UDISE+ report

• **Overview:**

  * Ministry of Education (MoE) released data showing a significant decline in school enrolments for the academic year 2023-24.

  * Data, published in the Unified District Information System for Education Plus (UDISE+) report reveals that enrolment dropped by over 1 crore students compared to previous years.

What is the United District Information System for Education (UDISE+)?

• **Overview:**

  * UDISE+ is a large Management Information System initiated by the Department of School Education and Literacy (DoSEL), Ministry of Education, Government of India.

  * It covers 14.72 lakh schools, 98.08 lakh teachers, and 24.80 crore children.

• **Purpose:**

  * UDISE+ is an online portal that records data related to:

    1. Schools
    2. Teachers
    3. Enrolment
    4. Infrastructure
    5. Other educational parameters for all recognized schools in India.

• **Data Collection Process:**

  * Data is captured using the Data Capture Format (DCF).

  * Each school is provided with a login ID and password for online data entry.

  * Head Teacher/Head Master of each school is responsible for compiling the data.

• **Validation and Verification Process:**

  * Data undergoes a 3-stage validation/verification process :

    1. Block/Cluster level
    2. District level
    3. State level

  * After verification, data is certified by the State Project Director (SPD) at the State level.

- **Approval and Certification:**
  * Once the SPD certifies the data, it is considered approved by the State.
  * The certified data is then entered into the UDISE+ portal by the respective state.

- **Importance:**
  * UDISE+ data is considered the most trusted and comprehensive pan-India database for school education in the country.

- **Key Findings of Report :**
  * **Total Enrolment Decline:**
    * Enrolment in 2023-24 stands at 24.8 crore, a 6% decrease (1.22 crore fewer students) compared to 26 crore in 2018-19.
    * The decrease continued from 2022-23 (25.18 crore).
  * **Historical Trends:**
    * Enrolment in 2018-19: 26.02 crore.
    * Increase in 2019-20: 26.45 crore (1.6% increase).
    * After some fluctuations, the enrollment had generally hovered around 26 crore until the significant decline in 2023-24.
  * **Aadhaar & Educational ID:**
    * UDISE+ system collects detailed data, including students' Aadhaar numbers.
    * Over 19.7 crore students provided Aadhaar details in 2023-24.
    * Unique Educational IDs (EID) created for each student to prevent duplicates.
  * **Data Accuracy:**
    * Online submission with validation checks at different administrative levels ensures data accuracy.
    * Data from 2022-23 onward is more reliable due to improved verification processes.

- **Gender-wise Enrolment Decline:**
  * **Boys' enrolment**: From 13.53 crore (2018-19) to 12.87 crore (2023-24) — a 4.87% decrease.
  * **Girls' enrolment**: From 12.49 crore (2018-19) to 11.93 crore (2023-24) — a 4.48% decrease.

- **State-wise Decline:**
  * **Bihar**: Enrolment dropped from 2.49 crore (2018-19) to 2.13 crore (2023-24), a 35.65 lakh decrease.
  * **Uttar Pradesh**: Dropped from 4.44 crore to 4.16 crore (28.26 lakh decrease).
  * **Maharashtra**: Dropped by 18.55 lakh, from 2.32 crore to 2.13 crore.

Impact of UDISE+ System:

- The new system has contributed to improving data quality by establishing accurate identities for students and teachers.
- This has significant implications for beneficiary identification and scheme allocations, such as Samagra Shiksha, PM POSHAN, and National Scholarships.
- By eliminating duplicate entries, the MoE aims to ensure more accurate beneficiary identification for government educational schemes, which can lead to substantial cost savings in the future.

In conclusion, while the 2023-24 enrolment data highlights some concerning trends in school enrolment, the improvements in data accuracy and the introduction of unique identifiers could lead to more efficient and equitable distribution of educational resources in the future. The government must investigate the causes of the enrolment decline to formulate effective interventions.

Pravasi Bharatiya Divas (PBD) - 2025

- Pravasi Bharatiya Divas (PBD) is a biennial celebration that honors the contributions of Indians living abroad (the Indian diaspora) towards the development of India.
- It is observed every 2 years on January 9, the day when Mahatma Gandhi returned to India from South Africa in 1915, marking the beginning of a major phase in India's freedom struggle.

- The event aims to celebrate the achievements of the diaspora and strengthen their connection with the homeland.

History and Significance:

- **Inception**: PBD was inaugurated in 2003 by then Prime Minister Atal Bihari Vajpayee to acknowledge the significant role of overseas Indians in India's economic, social, and cultural growth.

- **Date Selection**: January 9 was chosen as the date for the PBD celebration, as it commemorates Mahatma Gandhi's return to India from South Africa in 1915.

- Gandhi's return marks an important milestone in the Indian freedom struggle and the historical connection between India and its global diaspora.

Key Objectives of PBD:

1. **Recognize Diaspora's Contributions**: The event acknowledges and celebrates the impact of the Indian diaspora in various sectors, including business, education, technology, culture, and social work.

2. **Promote India Globally**: It serves as a platform to enhance global awareness about India, its culture, economy, and the aspirations of its people.

3. **Support India's Interests**: It encourages diaspora members to contribute to India's development and to participate in initiatives that promote India's interests worldwide.

4. **Provide a Platform for Connection**: PBD facilitates interaction between the Indian diaspora and the Indian government, creating opportunities for networking, collaboration, and partnership.

Pravasi Bharatiya Divas (PBD) 2025:

- **Dates**: January 8–10, 2025
- **Venue**: Bhubaneswar, Odisha
- **Theme**: "Diaspora's Contribution to a Viksit Bharat" (Developed India)

Key Events of PBD 2025:

1. **Day 1 – January 8, 2025: Youth Pravasi Bharatiya Divas**

* **Focus**: Engaging with young Indians abroad, encouraging them to reconnect with their cultural roots and contribute to India's growth.

* **Inauguration:** External Affairs Minister, Minister for Youth Affairs & Sports, and the Chief Minister of Odisha.

* **Main Agenda:** The event will focus on the role of youth in the Indian diaspora and empower them to take leadership roles, fostering ties with India.

2. **Day 2 – January 9, 2025: Main Convention**

* **Inaugural Session**: Prime Minister Narendra Modi will inaugurate the main event, highlighting the theme of the convention and celebrating the global contributions of the Indian diaspora.

* **Key Highlights**:

o **Pravasi Bharatiya Express**: A special tourist train that will take diaspora members to key cultural and religious sites in India.

o **Exhibitions**:

— **Vishwaroop Ram**: An exhibition depicting the story of the Ramayana through art.

— **Diaspora's Contribution to Technology**: An exhibition showcasing the contributions of the Indian diaspora in the global technology sector.

— **Mandvi to Muscat**: A historical exhibition on the migration of Indians from Mandvi (Gujarat) to Muscat (Oman).

— **Heritage of Odisha**: An exhibition celebrating the rich culture and traditions of Odisha.

* **Key Plenary Sessions**:

o **Diaspora Youth Leadership**: Empowering youth to take leadership roles and contribute to a connected world.

o **Migrant Skills:** Recognizing the skills developed by migrants and their role in fostering cultural exchange.

o **Sustainable Development:** Highlighting the diaspora's contributions to environmentally sustainable initiatives.

o **Women's Leadership:** Celebrating the leadership roles of diaspora women in various fields.

o **Cultural Connections:** Sharing stories of belonging and the preservation of cultural ties across generations.

3. **Day 3 – January 10, 2025:** Valedictory Session

* **Closing Address**: President Droupadi Murmu will deliver the closing address, marking the conclusion of the 18th edition of PBD.

* **Pravasi Bharatiya Samman Awards (PBSA)**: The awards will be presented by the President of India to honor outstanding individuals from the diaspora for their exceptional contributions in fields such as:

  o Education   o Science & Innovation

  o Trade & Business   o Arts & Culture

  o Social Work   o Public Service

  o Philanthropy

Pravasi Bharatiya Samman Awards (PBSA):

The PBSA is a prestigious award presented by the President of India during the PBD convention. It honors Non-Resident Indians (NRIs) and Persons of Indian Origin (PIOs) who have made exceptional contributions in their respective fields, promoting India's development globally. Awardees are recognized for their outstanding achievements in:

* Education   • Science & Innovation

* Trade & Business   • Arts & Culture

* Social Work   • Public Service

* Philanthropy

Previous PBD Conventions:

* **17th PBD (2023)**: Held in Indore, Madhya Pradesh, with the theme "Diaspora: Reliable Partners for India's Progress in Amrit Kaal."

  Notable Attendees: Leaders and dignitaries from countries such as Guyana, Suriname, and other nations with significant Indian diaspora communities attended the event.

Conclusion :

Pravasi Bharatiya Divas is a significant event that serves to strengthen the bond between India and its diaspora. It provides a platform for recognition, engagement, and collaboration, encouraging overseas Indians to contribute to India's progress. The 18th edition in 2025, with the theme "Diaspora's Contribution to a Viksit Bharat," will further emphasize the role of the Indian diaspora in shaping India's future and building a developed India.

EDITORIALS

Crus of The Hindu & Indian Express

↓ Indian Society & Social Justice ↓

WEP of NITI Aayog Partners With India's Largest Convenience Retail Chain New Shop to Empower Women Retail Business Owners

Overview:

* In January 2025, The Women Entrepreneurship Platform (WEP) of NITI Aayog launched a new initiative called EmpowHER Biz – Sapno Ki Udaan in partnership with New Shop, India's largest 24/7 convenience retail chain.

* This collaboration aims to empower women entrepreneurs by providing them with the necessary skills and resources to succeed in the organized retail sector.

* The program is designed to support aspiring women entrepreneurs by offering mentorship, training, and access to financial tools to help them build sustainable retail businesses.

Key Features of the EmpowHER Biz Initiative:

1. **Objective**:

o The EmpowHER Biz initiative aims to empower women entrepreneurs by providing a comprehensive support system to help them establish themselves in the retail business.

o The focus is on providing mentorship, training, and access to digital tools, financial literacy, and business development resources.

2. Program Structure:

o The program will offer mentorship and comprehensive training, covering critical aspects such as:

* Retail management
* Digital tools
* Financial literacy
* Business development

o The initiative will select fifty women participants aged 18–35 through an online application process, based on specific eligibility criteria.

3. Special Benefits:

o The top twenty participants will receive a 100% waiver on New Shop franchise fees, allowing them to own and operate their own retail businesses with reduced financial barriers.

o The program is specifically targeted at women from Delhi NCR, Punjab, Rajasthan, Uttar Pradesh, Haryana, Madhya Pradesh, and Gujarat.

4. Role of WEP:

o WEP, incubated by NITI Aayog in 2018, aims to empower women entrepreneurs through a variety of support mechanisms, including:

* Access to finance
* Market linkages
* Training and skilling
* Mentoring and networking
* Compliance and legal assistance
* Business development services

o Since 2023, the 'Award to Reward' initiative under WEP provides a plug-and-play framework for developing impactful programs for women entrepreneurs, with the support of more than 30 public and private sector partners.

5. Role of New Shop:

o New Shop operates a network of over 200 convenience retail stores, which are open 24/7 and are strategically located in high-density neighborhoods, highways, and gas stations.

o The company plans to expand further into mass transit hubs such as airports and railway stations.

o New Shop is committed to empowering over 10,000 entrepreneurs by 2030, primarily through its franchising model.

Conclusion:

The EmpowHER Biz – Sapno Ki Udaan initiative under WEP and New Shop is a significant step towards empowering women entrepreneurs in India, particularly in the retail sector. The training, mentorship, and financial support provided through this program will help women overcome existing barriers and establish successful businesses, driving sustainable growth and gender equality in the Indian entrepreneurial landscape.

Startup India Mission Marks Nine Years of Growth and Innovation

Introduction

• On the 9th anniversary of the Startup India Mission, the Union Minister for Commerce and Industry, celebrated the tremendous success of the initiative.

• He emphasized how the mission has helped boost India's economy and innovation, with a special focus on the role of government funding programs like the Fund of Funds for Startups (FFS).

What is the Fund of Funds for Startups (FFS) ?

The Fund of Funds for Startups (FFS) Scheme was launched in 2016 with a total amount of Rs 10,000 crore. This fund was created to support the growth of the Indian startup ecosystem by providing access to domestic capital.

• **How it works:** FFS does not directly invest in startups. Instead, it provides money to SEBI-registered AIFs (Alternative Investment Funds), known as daughter funds, which then invest in Indian startups.

• **Role of SIDBI:** The Small Industries Development Bank of India (SIDBI) manages the fund, selects suitable daughter funds, and oversees the distribution of capital.

- **Investment Requirement**: The AIFs supported by FFS must invest at least twice the amount committed by FFS in startups.

This scheme is part of the Startup India initiative, which aims to foster the growth and development of startups in the country.

Key Highlights

1. **Growth of the Startup Ecosystem**:
* India's startup ecosystem has grown remarkably since the Startup India mission began in 2016.
* As of January 2025, India has 1,59,157 startups, a massive rise from just 500 startups in 2016.
* 76 IPOs took place in 2024, showing how startups are now moving towards public listings.
* These startups have not only created 17.2 lakh direct jobs, but they have also raised a significant amount of Rs 13 trillion in funding, helping boost the economy.

2. **Fund of Funds for Startups (FFS)**:
* This fund has helped startups access private investment and scale up their operations, especially in Tier II and Tier III cities.
* By supporting smaller cities, the government ensures that startups from across the country can grow, creating more jobs and contributing to regional economic growth.

3. **The Role of Private Investment**:
* Private equity (PE) and venture capital (VC) are crucial to the success of India's startups. These investors bring not just money but also global expertise and networks, helping Indian startups compete globally.
* Through partnerships with these private investors, Indian startups have been able to rapidly innovate and expand.

4. **Innovation and Problem-Solving**:
* Indian startups are solving important challenges in areas like renewable energy, healthcare, and digital transformation.
* The Bharat Startup Grand Challenge was launched to encourage startups to solve problems in sectors like renewable energy, blockchain, and agritech.
* This challenge will provide funding, mentorship, and opportunities for startups to grow.

5. **Women in Startups**:
* India is a leader in producing STEM graduates (Science, Technology, Engineering, and Mathematics), with 43% of these graduates being women.
* The government has launched the Women Entrepreneurship Platform to support women-led startups, providing them with the necessary resources to succeed.

Future Outlook

- **Startup Mahakumbh**: In April 2025, India will host the second edition of the Startup Mahakumbh, an event where 2,500 startups will come together to showcase their innovations.
- This event will encourage even more entrepreneurs to join India's growing startup ecosystem.
- **PRABHAAV Factbook**: The government launched the PRABHAAV Factbook, which tracks the growth of India's startup ecosystem from 2016 to 2024.
- This book highlights the achievements of startups from across the country and showcases the dynamic nature of India's entrepreneurial spirit.
- **Government Support**: The government continues to support startups by providing policy frameworks, infrastructure, and access to capital.
- As India moves into a new phase of growth, the role of startups will be critical in making India self-reliant and globally competitive.

Conclusion :

The Startup India Mission has helped make India one of the largest startup ecosystems in the world. With continued government support, the growing role of private investment, and the focus on innovation, India is ready to take on the global market.

76th Republic Day Celebrations – January 26, 2025

- India celebrated its 76th Republic Day on January 26, 2025, marking not only the adoption of its Constitution in 1950 but also a celebration of democracy, diversity, and unity.
- With the theme of Jan Bhagidari (people's participation) and a focus on 75 years of the Constitution, this year's celebration highlighted India's remarkable journey over the decades.
- The day was marked with military grandeur, cultural pride, and a sense of national unity, with over 10,000 special invitees.
- The event witnessed a special international presence, with Indonesia's President Prabowo Subianto was the main chief guest, highlighting the importance of India's growing diplomatic and defense ties with Indonesia and ASEAN nations.
  - o Sukarno, Indonesia's first president, was the chief guest at India's first Republic Day in 1950

Why is Republic Day celebrated on 26 january?

1. The constitution was adopted by the Constituent Assembly of India on 26 November 1949 and came into effect on 26 January 1950.
2. The date was chosen because the Indian National Congress had proclaimed Purna Swaraj (complete independence) on that date in 1930.

Key Features and Events of the Republic Day
Celebrations 2025

1. Special Guests and Invitations

- In line with the Jan Bhagidari theme, approximately 10,000 special guests were invited to witness the parade.
- These special invitees included individuals from diverse backgrounds:
  - o Sarpanches (village heads) from across India who excelled in various government initiatives.
  - o Best performers from different fields, such as education, sports, social work, and culture.
  - o Those who significantly contributed to the Swarnim Bharat (Golden India) vision through active participation in government schemes such as Swachh Bharat Abhiyan, Pradhan Mantri Jan Dhan Yojana, and Skill India Mission.

  The special guests represented the ethos of "Public Participation" in national events of importance.

2. The President's Arrival and National Flag Unfurling

- The President of India and President Subianto arrived in a traditional ceremonial buggy, escorted by the President's Bodyguard (the senior-most regiment of the Indian Army).
- This Buggy Escort was revived in 2024 after a gap of 40 years.
- As per tradition, the National Flag will be unfurled followed by the National Anthem with a thunderous 21-gun salute using 105-mm Light Field Guns, an indigenous weapon system.
- The presence of the Indonesian President as the chief guest marked the deepening ties between India and Indonesia, reinforcing their diplomatic and defense relationships.

3. Military Displays and Armed Forces Participation

- The military display was amazing, showcasing the might of India's armed forces:
  - o Indian Army Contingents included 61 Cavalry, the only serving active horsed cavalry regiment in the world, established in 1953.
  - o Modern tanks like the T-90 Bhishma and BrahMos missile systems were part of the parade, highlighting India's indigenous defense capabilities.
  - o Other notable displays were the Pinaka Multi-launch Rocket System, Agnibaan Multi-barrel Rocket Launcher, Akash Weapon System, Integrated Battlefield Surveillance Systems, and Agni and Brahmos missiles.
- The Indian Navy Contingent included 144 personnel, displaying INS Visakhapatnam (destroyer), INS Nilgiri (frigate), and INS Vagsheer (submarine), reflecting India's progress towards self-reliance in maritime defense.
- Indian Air Force conducted a dynamic fly-past with 22 fighter jets, including Rafale, Su-30, and Tejas, along with MiG-29 and C-130 transport aircraft.

4. Participation of Foreign and State Representatives

- As part of the Republic Day parade, India was joined by a distinguished Marching Contingent from

Indonesia, which included 152 soldiers and a 190-member military band.

- This was a significant step in promoting defense cooperation and strategic ties between India and ASEAN nations.

5. Tableaux from States and Union Territories

- This year, the parade featured tableaux from 16 states and Union Territories, reflecting the cultural and developmental milestones achieved in India:
  - o Uttarakhand highlighted its cultural heritage and adventure tourism.
  - o Madhya Pradesh showcased the Kuno National Park (home to the recently introduced cheetah population).
  - o Bihar paid tribute to Nalanda University, a historical symbol of knowledge and progress.
  - o Goa displayed its distinct cultural heritage as part of its Swarnim Bharat celebrations.

6. Department and Ministry Tableaux

- Ministries and Departments contributed their own tableaux:
  - o Ministry of New and Renewable Energy showcased India's strides towards a sustainable and energy-efficient future.
  - o The Ministry of Women and Child Development highlighted the multifaceted journey of women and children under various government schemes.
  - o Department of Animal Husbandry honored the country's indigenous bovine breeds, focusing on sustainable rural growth.

7. Cultural Performance - Jayati Jaya Mama' Bharatam

- A cultural performance took place involving 5000 artists performing 45 dance forms from across India.
- This was the first time the cultural performance covered the entire stretch of Kartavya Path, from Vijay Chowk to C Hexagon, ensuring all spectators had the same viewing experience.
- The cultural display emphasized India's unity, diversity, and rich cultural heritage.
- The performers wore traditional attire from different regions, showcasing the country's diverse traditions, from Kathak to Bhangra to Bharatanatyam.

8. Special Participation and Exhibitions

- The Dare Devils Motorcycle Display Team of the Indian Army Corps of Signals exhibited daring stunts, such as the Human Pyramid, Ladder Salute, and Bullet Salute, captivating the audience with their acrobatic feats.
- **DRDO's Showcase included:**
  - o Quick Reaction Surface-to-Air Missile System, Medium Power Radar – Arudhra, Indigenous Unmanned Aerial System, and Light Weight Torpedo.
  - o DRDO's technological innovations, like the Hypersonic Anti-Ship Missile and Zorawar Light Tank, were exhibited in the DRDO tableau.

Final Remarks on Republic Day Celebrations:

The 76th Republic Day Celebrations of India were a grand testament to the nation's progress, resilience, and democratic values. From the military displays to the cultural performances, the event underscored India's deep cultural heritage, modern technological advancements, and the spirit of unity. The event was not only a celebration of India's Constitution and democratic ideals but also a showcase of India's bright future, marked by progress, unity, and strength.

Pradhan Mantri Fasal Bima Yojana (PMFBY)

In January 2025, The Union Government expanded the Pradhan Mantri Fasal Bima Yojana (PMFBY) to include crop damage by animals as a valid cause for insurance payouts. This is a long-standing demand from farmers and aims to address the challenges posed by wildlife and stray animals to crop yields.

About PMFBY

- **Launch Date**: 18th February 2016
- **Launched By**: Department of Agriculture, Cooperation and Farmers' Welfare, Ministry of Agriculture
- **Objective**: To provide financial protection to farmers against crop loss due to natural disasters, pests, and diseases.

Objectives of PMFBY

1. **Financial Protection**: Offer compensation to farmers for crop damage due to unforeseen events.
2. **Income Stability**: Stabilize farmers' incomes and encourage continuity in farming.

3. *Modernization of Agriculture*: Encourage the adoption of modern farming techniques.

4. **Risk Mitigation**: Protect farmers from production risks and enhance agricultural growth.

5. **Creditworthiness**: Boost farmers' eligibility for agricultural loans and encourage crop diversification.

Eligibility Criteria

- **Loanee Farmers**: Farmers availing Seasonal Agricultural Operations (SAO) loans are compulsory participants.

- **Non-Loanee Farmers**: Voluntary participation for farmers not availing loans.

- **Eligible Crops**: Only notified crops grown in notified areas.

- **Land Ownership**: Farmers must hold valid land ownership or tenancy agreements.

- **Exclusion**: Farmers who have received compensation from other sources for the same crop loss are ineligible.

- **Special Focus**: Maximum coverage for SC/ST and Women farmers.

Key Features and Benefits

1. **Affordable Premiums**:

o Kharif crops (food & oilseeds): 2% of the sum insured.

o Rabi crops (food & oilseeds): 1.5% of the sum insured.

o Commercial/Horticultural crops: 5% of the sum insured.

o Government subsidizes the remaining premium.

o **Special Subsidy**: Entire premium paid by the government for farmers in North-Eastern States, Jammu & Kashmir, and Himachal Pradesh.

2. **Comprehensive Coverage**:

o Covers damage from natural disasters (e.g., droughts, floods), pests, and diseases.

o Post-harvest losses due to local risks such as hailstorms and landslides are also covered.

o **Exclusions:** Losses due to war, nuclear risks, and other preventable damage.

3. **Timely Compensation**:

The scheme processes claims within two months post-harvest, ensuring quick payouts to farmers and preventing debt traps.

4. **Technology-Driven Implementation**:

o **Satellite Imaging, Drones, and Mobile Apps**: Used for accurate crop loss assessments.

o **National Crop Insurance Portal (NCIP)**: Facilitates smooth interaction between farmers, insurers, and banks.

o **YES-TECH**: Uses remote sensing for precise yield estimation.

o **CROPIC**: Uses geotagged photos for accurate damage assessment.

Recent Expansion

- The inclusion of crop damage by animals as a valid cause for compensation addresses a critical gap in the earlier version of the scheme and supports farmers facing losses due to wildlife or stray animals.

Conclusion

PMFBY plays a crucial role in providing financial security to farmers and ensures they are shielded from unpredictable agricultural risks. The government's continuous efforts to enhance and expand the scheme underscore its importance in the socio-economic stability of the agricultural sector.

Nagoba Jatara : A Glimpse into Telangana's Tribal Festival

Overview of the Event:

- Nagoba Jatara is an eight-day holy pilgrimage festival celebrated by the Mesram clan of the Adivasi Gonds in the tribal heartland of Indervelli mandal, located in Adilabad district, Telangana.

- It typically takes place in January or February, and is one of the most significant tribal festivals in India.

Key Details of Nagoba Jatara:

1. **Significance:**

o It is the second biggest tribal festival in India, after the Sammakka Saralamma Jatara, which is also held in Telangana.

o The festival is celebrated over 10 days by the Mesram clan of the Gond tribes.

o The chief deity of the festival is Nagoba, represented by the cobra, a sacred figure in the tribe's belief system.

2. Participants:

o Tribal communities from various states, including Maharashtra, Chhattisgarh, Odisha, Karnataka, Jharkhand, and Madhya Pradesh, participate in the festival, offering prayers and seeking blessings.

Rituals and Ceremonies:

1. Holy Water Collection:

A few elder members of the Mesram clan journey barefoot to the Godavari river several days before the festival. They collect holy water and bring it back to the Banyan tree located in front of the Nagoba Temple, where it is kept for the rituals.

2. Bheting Ceremony:

o A key feature of the festival is the 'Bheting' ceremony, where new brides are formally introduced into the clan.

o The brides wear white saris and are escorted by elder women to the Nagoba Temple to worship Nagoba. This marks their formal acceptance as full-fledged members of the clan.

3. Gusadi Dance:

The Gusadi Dance, performed by dancers from the Gond tribe, is a major attraction of the festival. The dance is both a cultural and religious expression, showcasing the tribe's vibrant traditions.

Cultural and Spiritual Importance:

• The festival is not only a spiritual gathering but also a cultural celebration, highlighting the traditions and rituals of the Gond tribe.

• It is an occasion for tribal unity, with people from various states coming together to worship and partake in communal festivities.

Conclusion:

Nagoba Jatara is a major tribal event that blends spirituality, tradition, and community. It is a celebration of the Mesram clan's heritage, and plays an essential role in preserving the cultural practices of the Adivasi Gonds in Telangana and beyond. The festival's unique rituals and ceremonies offer a glimpse into the lives and beliefs of one of India's oldest tribal communities.

ASER 2024 : A Glimpse of the Status of Rural School Education

Recent Context:

• ASER 2024 is the 14th nationwide field-based survey that evaluates the status of children's enrollment and learning outcomes in rural India.

• This survey reached 6,49,491 children in 17,997 villages across 605 rural districts.

• ASER 2024 is the 2nd report released after the COVID-19 pandemic, with the previous one being in 2022. It highlights the recovery of school education from pandemic-related disruptions.

What is the Annual Status of Education Report (ASER) ?

• ASER is a nationwide citizen-led household survey on children's schooling and learning in rural India.

• Conducted by Pratham since 2005, annually until 2014, then biennially since 2016; no survey in 2020 due to the pandemic, resumed in 2022 and 2024.

• It measures basic reading and arithmetic skills, school attendance, and other indicators, influencing government policy.

Key Features of the Methodology of ASER:

• A household survey covering rural children in India, with a focus on three age groups: under 6, school-going children (6-14), and older children (15-16).

• Randomly selects 30 villages per district and 20 households per village using the 2011 Census frame.

• Conducts one-on-one assessments of basic reading and arithmetic skills for children aged 5-16, with an additional "Beyond Basics" assessment for 14-16-year-olds.

• District-level organizations or institutions partner with ASER for implementation in each district.

Key Findings of ASER 2024

1. Improvement in Learning Outcomes:

Learning Loss Recovery:

- The share of children in standards III, V, and VIII who could read a Standard II-level text or perform basic subtraction and division had declined between 2018 and 2022 due to COVID-19 disruptions.

- By 2024, this share has either recovered to pre-pandemic levels or improved.

- **Arithmetic Skills Improvement:**

  o **Standard III:**

    * 33.7% of children can perform basic subtraction in 2024 (up from 25.9% in 2022).

    * This is higher than the pre-pandemic rate of 28.2% in 2018.

  o **Standard V:**

    * 30.7% of children can solve a 3-digit by 1-digit division problem (up from 25.6% in 2022).

    * This marks improvement from pre-pandemic rates as well.

- **Reading Skills Improvement:**

  o **Standard III:**

    * 27% of children can read a Standard II-level text in 2024, up from 20.5% in 2022.

  o **Standard V:**

    * 48.8% of children can read a Standard II-level text in 2024, up from 42.8% in 2022.

  o **Government *Vs*. Private Schools:**

    * **Government Schools:**

      1. 44.8% of Standard V children can read a Standard II-level text in 2024 (up from 38.5% in 2022).

      2. This is nearly at the pre-pandemic level of 44.2% in 2018.

    * **Private Schools:**

      1. 59.3% of Standard V children can read a Standard II-level text in 2024 (up from 56.8% in 2022).

      2. However, this still lags behind the pre-pandemic level of 65.1% in 2018.

2. Enrollment Rates:

- **Early Childhood Education (Ages 3-5):**

  Enrollment in preschool is near 80% for children aged 3 and 4.

- **Primary School (Ages 6-14):**

  Enrollment remains high at 98% in the age group 6-14 years.

- **Secondary School (Ages 14-16):**

  o The out-of-school percentage for 15-16-year-olds is now 8% or less for both boys and girls.

  o The gender gap is less than 1%.

- **Pre-Primary Schools:**

  States with above 90% enrollment for children aged five in pre-primary schools include Karnataka, Gujarat, Maharashtra, Kerala, and Nagaland.

3. Private *Vs*. Government Schools:

- **Private School Enrollment:**

  o Enrollment in private schools increased from 25.1% in 2022 to 30.6% in 2024 for children aged 6-14.

  o This rise is likely due to higher income levels in rural areas after the pandemic, leading to an increased preference for private schools.

- **Government School Enrollment:**

  A decline in the share of children enrolled in government schools was observed, as more families shifted to private schools.

4. Attendance Rates:

- **Student Attendance:**

  Increased from 72.4% in 2018 to 73% in 2022 and further to 75.9% in 2024.

- **Teacher Attendance:**

  Increased from 85.1% in 2018 to 86.8% in 2022 and 87.5% in 2024.

5. Digital Access and Skills:

- **Smartphone Access:**

  Over 90% of rural adolescents (aged 14-16) have access to a smartphone.

- **Digital Skills:**

  82.2% of children aged 14-16 can use a smartphone.

- **Gender Gaps:**
  - o 36.2% of boys own a smartphone compared to 26.9% of girls.
  - o 80.1% of boys can browse the internet for information, while 78.6% of girls can.
- **Usage of Digital Devices:**
  - o 57% of teenagers use smartphones for education-related activities.
  - o 76% use smartphones for social media.

6. Improvement in School Facilities:

- Midday Meals, Toilets, Drinking Water, Libraries:
  - o Consistent improvements in services such as midday meals, drinking water, usable toilets, and libraries in schools.
  - o **Usable toilets:** 79% of schools had usable toilets in 2024, an increase from 74.2% in 2018.
  - o **Libraries:** 17.5% of schools had no library in 2024, down from 25.8% in 2018.

Impact of National Education Policy (NEP) 2020:

The National Education Policy (NEP) 2020 prioritizes Foundational Literacy and Numeracy (FLN), particularly for primary school children. This has significantly influenced the recovery in learning outcomes.

- **NIPUN Bharat Mission (2021):**
  - o Aimed at improving foundational literacy and numeracy by 2026-27.
  - o By Grade 3, every child should be able to:
    - * Read with comprehension,
    - * Write,
    - * Perform basic math operations.
    - * Learn life skills.
- **Government Initiatives Under NEP 2020:**
  - o 83% of schools reported receiving directives to implement FLN activities.
  - o 78% of schools had at least one teacher trained in FLN.
  - o 75% of schools received relevant learning materials.
  - o Three-month "school readiness" programs for incoming first-grade children were conducted in government schools.

These efforts have contributed to the improvements in learning outcomes observed in ASER 2024.

What is the National Education Policy (NEP) 2020?

- NEP 2020 is India's comprehensive education reform policy, replacing the 1986 policy, aiming to create a holistic, flexible, and multidisciplinary education system aligned with 21st-century needs.

Key Highlights of NEP 2020:

School Education Reforms:

- New 5+3+3+4 structure replaces the 10+2 system.
- Focus on foundational literacy and numeracy (FLN) by Grade 3.
- Multilingualism with mother tongue or regional language as the medium of instruction till at least Grade 5.
- Vocational education introduced from Grade 6, including coding and internships.

Higher Education Reforms:

- Holistic, multidisciplinary education without rigid subject divisions.
- Multiple entry and exit options for students.
- Academic Bank of Credits (ABC) for a digital record of student credits.
- Top global universities allowed to set up campuses in India.

Digital & Technology Integration:

- Establishment of the National Educational Technology Forum (NETF) to enhance e-learning.

Governance & Implementation:

- Creation of the Higher Education Commission of India (HEC) as a single regulator for higher education.

Challenges Persisting as per ASER 2024:

1. Learning Gaps:

- Despite progress, many students still face significant learning challenges:
  - o 76.6% of Class III students in government schools cannot read a Class II-level text.
  - o 55.2% of Class V students in government schools cannot read a Class II-level text.

2. State Disparities:

- Significant differences in educational performance across states:
  - o For example, reading ability in Standard III in more than half of the states is still behind 2018 levels in 2024.

3. Gender Gaps:

- **Digital Divide:**
  - o Gender gaps are visible in both smartphone ownership and digital skills.
  - o 36.2% of boys own smartphones, compared to 26.9% of girls.
  - o Similarly, 80.1% of boys are proficient in browsing the internet for information, compared to 78.6% of girls.

4. Infrastructure Gaps:

- Inadequate Infrastructure:
  - o 77% of schools have drinking water facilities.
  - o 79% of schools have usable toilets.
  - o Schools in rural areas continue to face challenges with basic infrastructure.

Way Forward:

1. Addressing Poor Learning Outcomes:

- **Remedial Programs:** Implement programs like Teaching at the Right Level (TaRL) and activity-based learning to target students at different learning levels.
- **Interactive Learning:** Focus on interactive methods of teaching, such as phonics-based reading.

2. Strengthening Foundational Literacy and Numeracy (FLN):

- Continue the effective implementation of the NIPUN Bharat Mission and integrate interactive and engaging learning methods for young children.

3. Improving Teacher Training:

- Provide teachers with training in using technology-based tools for teaching.
- Ensure ongoing professional development in FLN strategies.

4. Bridging the Digital Divide:

- Promote affordable digital devices and internet connectivity in rural areas.
- Integrate digital literacy into the curriculum to ensure that all children develop essential digital skills.

5. Improving School Infrastructure:

- Focus on electrification of schools.
- Ensure the construction of toilets, libraries, and the availability of drinking water in every school.

Conclusion :

The ASER 2024 report illustrates the significant progress made in rural education, especially post-pandemic, in areas such as learning outcomes, digital access, and school facilities. However, challenges persist, such as learning gaps, state disparities, gender inequalities, and inadequate infrastructure. To address these, targeted interventions, improved teacher training, and better infrastructure are crucial for ensuring that every child receives quality education in rural India.

□□□

Economic

Baanknet Portal

Overview:

The government has recently launched a revamped e-auction portal, named 'Baanknet', in Delhi. This portal aims to streamline the process of property auctions by public sector banks (PSBs), providing a one-stop platform for buyers and investors.

About Baanknet Portal:

- **Purpose**: Baanknet is an e-auction platform that consolidates information on properties put up for auction by public sector banks (PSBs).
- **One-Stop Destination**: The portal offers a wide range of properties available for auction, including:
  - o **Residential Properties**: Flats, independent houses, open plots.

- o **Commercial Properties**: Shops, buildings, industrial land.
- o Vehicles and Plant & Machinery.
- o Agricultural and Non-Agricultural Land.

Features of the Baanknet Portal:

1. **User-Friendly Interface**: The portal offers an improved and enhanced user experience with seamless navigation through the pre-auction, auction, and post-auction processes.

2. **Automated Payment Gateway**: Integrated payment options and Know Your Customer (KYC) tools for secure transactions.

3. **Microservices Architecture**: Built on a microservices-based architecture, the platform allows third-party integration through open APIs.

4. **Analytics and MIS Reports**: The portal features a dashboard with Spend Analytics and access to various Management Information System (MIS) Reports for users.

5. **Customer Support**: It provides a dedicated helpdesk and call center facility, along with a callback request option, ensuring support for users.

6. **Streamlined Process**: By consolidating all property listings in one place, the portal simplifies the process for finding and participating in e-auctions, making it easier for buyers and investors.

7. **Impact on Banks**: The portal aids the recovery process of PSBs by improving their balance sheets, thereby enhancing credit availability for businesses and individuals.

Significance:

- **122,500+ Properties**: Over 122,500 properties have already been migrated to the portal for auction.

- **Boost to PSBs**: The portal is crucial in improving the financial health of PSBs by helping them recover non-performing assets (NPAs), which in turn enhances credit flow to the economy.

What are Public Sector Banks (PSBs)?

Public Sector Banks (PSBs) are banks where the majority stake is owned by the Government. They form the largest component of the Indian banking system, accounting for over 70% of deposits and advances made by Scheduled Commercial Banks (SCBs) in India. PSBs play a crucial role in the financial inclusion and credit delivery system in the country.

Conclusion:

The Baanknet Portal significantly enhances the process of property e-auctions by PSBs, making it easier for buyers and investors to access a wide range of properties. By improving transparency and accessibility, it supports the recovery efforts of public sector banks, ultimately contributing to the broader economic growth and credit availability in India.

Logistics Ease Across Different States (LEADS) 2024

Overview:

The Union Minister of Commerce & Industry recently released the "Logistics Ease Across Different States (LEADS) 2024" report in New Delhi. This is the 6th edition of the LEADS report, aimed at evaluating and improving logistics performance in India.

About Logistics Ease Across Different States (LEADS) 2024:

- **Conception**: LEADS was conceived by the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry, in 2018, based on the Logistics Performance Index (LPI) of the World Bank.

- **Objective**: The report evaluates logistics performance across four key pillars:
  1. Logistics Infrastructure
  2. Logistics Services
  3. Operating and Regulatory Environment
  4. Sustainable Logistics (newly introduced)

- The report highlights initiatives taken by States and Union Territories (UTs) in improving logistics and identifies opportunities for further improvement.

Key Highlights of LEADS 2024:

Coastal Group:

- **Achievers**: Gujarat, Karnataka, Maharashtra, Odisha, Tamil Nadu

- **Fast Movers**: Andhra Pradesh, Goa

- **Aspirers**: Kerala, West Bengal

Landlocked Group:

- **Achievers**: Haryana, Telangana, Uttar Pradesh, Uttarakhand
- **Fast Movers**: Bihar, Himachal Pradesh, Madhya Pradesh, Punjab, Rajasthan
- **Aspirers**: Chhattisgarh, Jharkhand

North-Eastern Group:

- **Achievers**: Assam, Arunachal Pradesh
- **Fast Movers**: Meghalaya, Mizoram, Nagaland, Sikkim, Tripura
- **Aspirers**: Manipur

Union Territories:

- **Achievers**: Chandigarh, Delhi
- **Fast Movers**: Dadra and Nagar Haveli and Daman and Diu, Jammu and Kashmir, Lakshadweep, Puducherry
- **Aspirers**: Andaman and Nicobar Islands, Ladakh

Sustainable Logistics:

- This new pillar focuses on making logistics, goods transportation, and related practices environmentally sustainable. The goal is to minimize the environmental impact of logistics operations while balancing operational efficiency with environmental responsibility.

What is Sustainable Logistics?

- Sustainable logistics refers to the practice of minimizing the environmental impact of logistics operations, which includes transportation, warehousing, and distribution of goods.
- It involves adopting practices that reduce carbon footprints, energy consumption, and waste, while still ensuring that logistics systems are efficient and cost-effective.
- The key focus is on eco-friendly transportation methods, green infrastructure, and eco-conscious practices throughout the logistics chain.

Conclusion:

The LEADS 2024 report provides critical insights into the logistics performance of different states and UTs in India. By evaluating logistics infrastructure, services, regulatory environment, and sustainability practices, it aims to enhance India's logistics sector and promote economic growth through improved logistics efficiency across the country. The introduction of the Sustainable Logistics pillar further emphasizes the importance of eco-friendly logistics for a sustainable future.

State Bank of India's (SBI's) Two New Deposit Schemes

Overview:

The State Bank of India (SBI) has launched two new deposit schemes—Har Ghar Lakhpati and SBI Patrons—designed to offer customers enhanced financial flexibility and value.

About Har Ghar Lakhpati Scheme:

- **Type**: Pre-calculated recurring deposit scheme
- **Objective**: To help customers accumulate Rs 1 lakh or multiples thereof.
- **Key Features**:
  - Simplifies the process of achieving financial goals.
  - Allows customers to plan and save effectively.
  - Available to minors, encouraging early financial planning and savings habits.
  - **Minimum tenure**: 12 months (1 year)
  - **Maximum tenure**: 120 months (10 years)

About SBI Patrons Scheme:

- **Target Group**: Senior citizens aged **80 years and above**.
- **Type**: Specialized fixed deposit scheme
- **Key Features**:
  - Offers enhanced interest rates to senior citizens.
  - Recognizes long-standing relationships with the bank.
  - Available to both existing and new term deposit customers.
  - **Additional benefit**: Earns 10 basis points higher interest rate compared to the regular senior citizens' deposit rates.

What is a Recurring Deposit?

- A Recurring Deposit (RD) is a type of term deposit offered by banks and financial institutions.

- It allows individuals to save money systematically by making fixed monthly deposits for a predetermined period.
- At the end of the tenure, the depositor receives the principal amount along with interest.

Conclusion :

The launch of Har Ghar Lakhpati and SBI Patrons schemes by SBI caters to the diverse needs of customers, offering financial growth opportunities for both young savers and senior citizens. These initiatives reflect the bank's commitment to promoting financial inclusion and ensuring that people at different life stages have access to personalized savings solutions. Whether it's helping individuals build wealth steadily over time or offering enhanced benefits to elderly depositors, SBI's new schemes present valuable tools for long-term financial security.

Export Inspection Council

Overview:

The Export Inspection Council (EIC) has recently initiated a detailed gap assessment study focusing on food testing infrastructure for exports, ensuring the quality and safety of exported products from India.

About Export Inspection Council:

- **Establishment**: The EIC was established by the Government of India under Section 3 of the Export (Quality Control and Inspection) Act, 1963.
- **Purpose**: It ensures the sound development of India's export trade through quality control and inspection.
- **Official Export-Certification Body**: The EIC acts as the official body for certifying the quality and safety of products exported from India.
- **Head**: The Council is headed by a Chairman, while the Director of Inspection & Quality Control is the Executive Head responsible for the daily operations.

Functions of the Export Inspection Council:

- **Quality and Safety Assurance**: EIC ensures that products notified under the Export (Quality Control and Inspection) Act, 1963 meet the requirements of importing countries in terms of quality and safety.
- **Certification**: The EIC provides mandatory certification for various food items, such as:
  - Fish and fishery products
  - Dairy products
  - Honey
  - Egg products
  - Meat and meat products
  - Poultry meat products
  - Animal casing, gelatine, ossein, crushed bones, feed additives, and pre-mixtures.
- **Voluntary Certification**: Other food and non-food products are certified on a voluntary basis.
- **Export Inspection Agencies (EIAs)**: There are several EIA offices located in major cities (Mumbai, Kolkata, Kochi, Delhi, Chennai) and 30 sub-offices, supported by NABL accredited laboratories.
- **Headquarters**: The EIC is headquartered in Delhi.
- **Nodal Ministry**: **Ministry of Commerce and Industry**.

What is the Quality Council of India (QCI)?

The Quality Council of India (QCI) was set up in 1997 jointly by the Government of India and the Indian industry, represented by major industry associations like ASSOCHAM, CII, and FICCI. The first Chairman of QCI was Mr. Ratan Tata.

Conclusion:

The Export Inspection Council plays a crucial role in maintaining the quality and safety of products exported from India. By ensuring that Indian products meet the international standards required by importing countries, the EIC supports the country's export sector. Its efforts to enhance food testing infrastructure will further strengthen the export quality framework, enabling Indian products to maintain a competitive edge in the global market.

World Gold Council (WGC)

Overview:

In November 2024, central banks around the world added 53 tonnes of gold to their reserves. Of this, the Reserve Bank of India contributed 8 tonnes, as reported by the World Gold Council (WGC).

About World Gold Council (WGC):

- **Nature**: The WGC is a nonprofit association comprising the world's leading gold producers. It operates as a market development organization for the global gold industry.
- **Members**: It has 33 members, many of which are prominent gold mining companies.
- **Formation**: It was established in 1987 by some of the most innovative mining companies globally, with the goal to promote the use and demand for gold through marketing, research, and lobbying efforts.
- **Headquarters**: London, United Kingdom.

Functions of WGC:

1. **Market Development**: The WGC focuses on maximizing the potential growth of the gold industry by monitoring existing gold consumption patterns and defending its usage.
2. **Gold Standards**: It sets up gold standards and proposes policies to ensure fairness, sustainability, and ethical practices in the gold mining industry.
3. **Promoting Gold Usage**: The WGC works to enhance gold's demand across various sectors, including individual use, industrial applications, and institutional investments.
4. **Research and Reports**: The organization provides comprehensive analyses of the gold market, including quarterly reports on gold demand trends analyzed by sector and geography.
5. **Innovation**: The WGC co-sponsors research for the development of new uses for gold and for creating innovative products containing gold.
6. **Global Authority**: It is regarded as the global authority on gold, offering critical insights into the gold market and influencing its policies.

Key Contributions:

- **First Gold ETF**: The WGC was responsible for the creation of the first gold exchange-traded fund (ETF).

What is an Exchange-Traded Fund (ETF)?

An Exchange-Traded Fund (ETF) is an investment vehicle that pools a group of securities into a fund. As the name suggests, it is traded like a stock on an exchange, allowing investors to buy and sell units of the fund throughout the trading day.

Future of Jobs Report 2025

Overview:

The World Economic Forum's (WEF) Future of Jobs Report 2025 reveals that artificial intelligence (AI), big data, and security management specialists will be among the fastest-growing job sectors in the next five years. The report provides insights into the global workforce's transformation, highlighting the major changes expected in the job market by 2030.

Key Highlights of the Future of Jobs Report 2025:

- **Global Data Collection**:

  The report is based on data from over 1,000 leading global companies, representing 14 million workers across 22 industry sectors and 55 economies worldwide.

- **Job Disruption by 2030**:
  - The report predicts that 22% of jobs will be disrupted by 2030 due to technological advancements and changing economic factors.
  - 170 million new jobs will be created, but 92 million jobs will be displaced, resulting in a net increase of 78 million jobs.

- **Key Drivers of Change**:

  Technological change, geoeconomics fragmentation, economic uncertainty, demographic shifts, and the green transition are the primary factors expected to reshape the global labor market by 2030.

- **Fastest-Growing Job Roles**:

  AI and machine learning specialists, software and application developers, and FinTech engineers will experience significant growth in job opportunities.

- **Frontline Job Growth**:

  Farmworkers, delivery drivers, construction workers, salespeople, food processing workers, and care economy jobs (e.g., nursing professionals, social workers) are expected to see the largest growth in terms of job volume.

- **Decline of Traditional Roles**:

  Graphic designers and administrative assistants are expected to face significant job losses due to automation.

- **Skill Gap**:
  o The report highlights that the skill gap will be the most significant barrier to business transformation.
  o By 2030, nearly 40% of the skills required for future jobs will be new or evolving, necessitating workers to adapt to rapid technological changes.

- **Reskilling and Upskilling**:

  The report emphasizes that 59% of the global workforce will require reskilling or upskilling to remain competitive by 2030.

- **Top 10 Fastest-Growing Skills by 2030**:
  o AI and big data will top the list, followed by networks and cybersecurity.
  o Technological literacy, creativity, and resilience, flexibility, and agility will also see rapid growth in demand.

- **Automation Impact**:

  41% of companies plan workforce reductions as automation becomes more widespread, leading to the reshaping of jobs and roles within organizations.

What is the World Economic Forum (WEF)?

- **Definition**: The World Economic Forum (WEF) is an international non-governmental organization that promotes public-private cooperation.

- **Founded**: It was established in January 1971 by Klaus Schwab, a German engineer and economist.

- **Mission**: The WEF engages political, business, cultural, and other leaders of society to shape global, regional, and industry agendas. The organization focuses on addressing global challenges through collaborative initiatives.

- **Key Feature**: While influential, the WEF has no independent decision-making power but plays a significant role in facilitating discussions and solutions on global issues.

Conclusion:

The Future of Jobs Report 2025 underscores the profound transformation the global job market will undergo by 2030. With technology driving much of the change, professionals will need to adapt by acquiring new skills, especially in fields like AI, big data, and cybersecurity. Companies and workers alike will have to prioritize reskilling and upskilling to remain competitive in an increasingly automated and technology-driven world.

Indian Customs Electronic Gateway (ICEGATE)

Overview:

The Indian Customs Electronic Gateway (ICEGATE) has been involved in resolving discrepancies in gold counting error numbers due to the migration of data transmission mechanisms from SEZ to ICEGATE. This highlights the portal's critical role in streamlining India's customs processes.

About Indian Customs Electronic Gateway (ICEGATE):

- **Established**: ICEGATE was launched in 2007.

- **Purpose**: It is the national portal for Indian Customs, operated by the Central Board of Indirect Taxes and Customs (CBIC).

- **Functions**: ICEGATE provides e-filing services for Trade, Cargo Carriers, and other Trading Partners.

- **Primary Role**:
  o It serves as a centralized hub for all electronic interactions between Indian Customs and the trading community.
  o It facilitates the exchange of information between external trading partners involved in international trade and the Indian Government's Customs Department.

Key Features:

- **Integration with Partner Agencies**: ICEGATE is linked with multiple partner agencies like:
  o RBI (Reserve Bank of India)
  o Banks
  o DGFT (Directorate General of Foreign Trade)
  o DGCIS (Directorate General of Commercial Intelligence and Statistics)
  o Ministry of Steel

- o Directorate of Valuation
- o Other Partner Government Agencies involved in EXIM (Export-Import).
- **Trade Facilitation**: ICEGATE streamlines customs procedures, enhancing trade facilitation and promoting transparency and efficiency in cross-border trade activities in India.

What is the Export-Import Bank of India (EXIM Bank)?

The Export-Import Bank of India (EXIM Bank) is India's premier export finance institution.

- **Establishment**: EXIM Bank was established by the **Government of India** under the Export-Import Bank of India Act, 1981.
- **Ownership**: It is wholly owned by the Government of India.
- **Role**: EXIM Bank supports and promotes India's exports by providing financial assistance, facilitating trade, and aiding in the development of the country's international trade relations.

The Indian Customs Electronic Gateway (ICEGATE) plays a pivotal role in modernizing India's customs infrastructure by enhancing the efficiency of customs procedures and trade processes. In tandem, the Export-Import Bank of India (EXIM Bank) strengthens India's global trade connections through financial support for exports. Together, these institutions contribute to the smooth functioning of India's cross-border trade ecosystem.

Remission of Duties and Taxes on Exported Products (RoDTEP) Scheme

Context:

Due to ongoing global economic uncertainties, industry stakeholders have called on the government to extend the *RoDTEP Scheme* for export-oriented units (EOUs) and Special Economic Zones (SEZs) until the end of September 2025.

About the RoDTEP Scheme:

- **Introduction:** The *RoDTEP Scheme* was introduced through an amendment to India's *Foreign Trade Policy 2015-20* and came into effect from January 1, 2021.
- **Primary Objective:** The scheme aims to refund various duties and taxes that exporters incur but which are not reimbursed under any existing mechanism. It targets making Indian exports more competitive by reducing the overall tax burden.

- **Administration:** Managed by the *Department of Revenue* under the *Ministry of Finance*.
- **WTO Compliance:** The scheme complies with the rules set by the *World Trade Organization* (WTO), ensuring that no taxes or duties are applied to exports, aligning India's policies with global standards.
- **Background:** The RoDTEP Scheme replaced the *Merchandise Export Incentive Scheme* (MEIS) following a WTO ruling that challenged India's export subsidies under MEIS. The new scheme ensures compliance with global trade regulations while supporting exports.

Tax Refund Mechanism under RoDTEP:

- **Refund Coverage:** The scheme reimburses exporters for duties, taxes, and levies that are not refunded through any other mechanism at the central, state, or local levels, covering both direct and indirect taxes incurred during production and distribution processes.

Eligibility Criteria:

- **Scope:** The RoDTEP Scheme applies to all sectors involved in the export of goods, provided the goods are manufactured in India.
- **Eligible Exporters:**
  - o Both *merchant exporters* and *manufacturer exporters* are eligible.
  - o Exporters must have directly shipped the goods abroad.
- **Priority Sectors:** Labor-intensive industries, including marine, leather, gems and jewellery, and agriculture, will receive priority support.
- **Other Beneficiaries:**
  - o *Special Economic Zone (SEZ)* units and *Export-Oriented Units (EOUs)* are eligible for benefits.
  - o Goods exported via e-commerce platforms also qualify for the scheme.
- **Exclusions:** Re-exported products are not covered.

Refund Process:

- **Rebate Calculation:** The rebate is calculated as a percentage of the FOB (freight on board) value of exports.
- **Issuance Method:** Remissions are granted in the form of *e-scrips*—electronic certificates with monetary

value, maintained in an electronic ledger by the *Central Board of Indirect Taxes and Customs (CBIC)*.

- **Usage of e-Scrips:** These can be used to pay basic customs duties on imports or can be transferred electronically to other parties.

What sectors benefit from the RoDTEP scheme?

- The scheme primarily benefits:
- o **Labor-intensive sectors:** Marine, leather, gems and jewellery, agriculture, and more.
- o **Other sectors:** Electrical and electronics, automobiles, machinery, and plastics.

Conclusion:

The RoDTEP Scheme plays a pivotal role in boosting India's export sector by offering tax relief and creating a more favorable export environment. By ensuring compliance with international trade norms and supporting various industries, the scheme aids Indian exporters in becoming more competitive globally.

Asset Reconstruction Companies (ARCs)

Overview:

- The Reserve Bank of India (RBI) recently introduced new regulations to improve the settlement process for dues owed to Asset Reconstruction Companies (ARCs). These rules aim to make the process more structured, transparent, and accountable.

About Asset Reconstruction Companies (ARCs):

- An Asset Reconstruction Company (ARC) is a specialized financial institution that acquires bad debts (Non-Performing Assets, or NPAs) from banks and other financial institutions at an agreed value. The primary objective is to recover these debts or associated securities by managing or restructuring them.
- **Role in Banking Sector**: ARCs help banks clean up their balance sheets by purchasing distressed financial assets and attempting to recover the funds. This provides banks with liquidity and helps reduce the burden of bad loans.
- **Legal Framework**: ARCs are registered with the RBI and regulated under the Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interest Act, 2002 (SARFAESI Act). They operate under the supervision of the RBI.

Key Functions of ARCs:

- **Acquisition of Financial Assets**: ARCs purchase NPAs from banks.
- **Debt Restructuring**: ARCs may restructure the debts to improve the recovery process.
- **Enforcement of Security Interest**: ARCs can enforce the security interest attached to the debts.
- **Management Changes**: ARCs can take over the management of the borrowing entity to improve operations and recover dues.

Funding and Operations:

- **Raising Funds**: ARCs can raise funds from Qualified Buyers (such as financial institutions, banks, insurance companies, etc.) to purchase debts. However, they are prohibited from raising funds through deposits.
- **Minimum Net Owned Fund (NOF)**: ARCs must have a minimum NOF of Rs 300 crore to commence operations. They also need to maintain a capital adequacy ratio of 15% of total risk-weighted assets on an ongoing basis.

New Rules Issued by the RBI:

- **Structured Settlement Approach**: The RBI's new guidelines require ARCs to adopt a structured and transparent policy for the settlement of dues owed by borrowers. This includes:
- o **Board-Approved Policy**: Each ARC must have a policy that addresses one-time settlements, sacrifices based on exposure categories, and the methodology for valuing securities.
- o **Independent Advisory Committee (IAC)**: For settlements involving amounts greater than Rs 1 crore, an independent advisory committee must evaluate the borrower's financial position and recovery potential.
- o **Board's Role**: The ARC's board of directors must review the IAC's recommendations and make a final decision, which must be documented.
- o **Transparency**: ARCs must provide detailed quarterly reports on recovery trends, settlements, and compromise cases, including analysis of fraud and wilful default cases.

Special Considerations for Wilful Defaulters or Fraud Cases:

- Even if the settlement amount is low, cases involving wilful defaulters or fraud will follow the same rigorous procedures as high-value settlements.

What is the difference between asset reconstruction and securitisation?

- **Asset Reconstruction**: It refers to the process of acquiring distressed financial assets (like loans, advances, or bonds) to recover funds. This often involves restructuring or management of the debts to facilitate recovery.

- **Securitisation**: This refers to the process of acquiring financial assets by issuing security receipts to Qualified Buyers. These receipts represent a share in the underlying financial assets, allowing ARCs to pool assets and sell the rights to their future income to investors.

Entity Locker

Overview:

The National eGovernance Division (NeGD), under the Ministry of Electronics and Information Technology (MeitY), has developed a new platform called Entity Locker. This initiative is part of India's broader efforts to enhance digital governance and improve ease of doing business in the country.

About Entity Locker:

- **Description**: Entity Locker is a secure, cloud-based solution designed to simplify the storage, sharing, and verification of documents for a wide range of entities, including:
  - Large organisations
  - Corporations
  - Micro, Small, and Medium Enterprises (MSMEs)
  - Trusts, startups, and societies

- The platform aims to transform the management and verification of business/organisation documents, making it more efficient and secure.

- It is a vital component of India's Digital Public Infrastructure, aligning with the Union Budget 2024-25's vision to enhance digital governance.

Key Features of Entity Locker:

- **Integration with Government Databases**: The platform offers real-time access and verification of documents by integrating with multiple government and regulatory systems.

- **Secure Document Sharing**: It provides consent-based mechanisms for securely sharing sensitive information.

- **Aadhaar-Authenticated Access**: Role-based access management ensures accountability through Aadhaar authentication.

- **Encrypted Cloud Storage**: Users get 10 GB of encrypted cloud storage for securely managing documents.

- **Legally Valid Digital Signatures**: It supports legally valid digital signatures to authenticate documents.

Benefits:

- **Simplified Document Sharing**: It streamlines the process of document sharing with business partners and stakeholders.

- **Regulatory Compliance**: The platform comes with built-in features that simplify adherence to regulations and reporting requirements.

- **Accountability and Tracking**: It ensures accountability by tracking all document-related activities.

- **Reduced Administrative Overhead**: It consolidates document storage and security, reducing operational complexities.

- **Operational Efficiency**: The platform minimizes document processing times and helps avoid operational bottlenecks.

- **Seamless Integration with Government Systems**: It integrates with various government organizations like:
  - Ministry of Corporate Affairs (MCA)
  - Goods and Services Tax Network (GSTN)
  - Directorate General of Foreign Trade (DGFT)
  - Other regulatory bodies, making document access quick and efficient.

Supported Use Cases:

- **Vendor Verification**: It helps with vendor verification on procurement portals.

- **Loan Applications for MSMEs**: Facilitates expedited loan applications for MSMEs.

- **FSSAI Compliance**: Supports FSSAI compliance documentation.

- **GST, MCA, and Tendering**: Streamlines vendor verification and registration for GSTN, MCA, and tendering processes.

What is the Entity Locker?

- Entity Locker is a secure online platform designed for storing and sharing documents for various types of entities, including MSMEs, large businesses, societies, and charitable trusts.

- It simplifies the management, verification, and sharing of critical documents, while ensuring security and compliance with regulatory standards.

In conclusion, Entity Locker is a cloud-based document storage and sharing platform developed to streamline the process of managing and verifying documents for businesses, especially MSMEs. It integrates with government databases and offers secure, encrypted storage, reducing administrative burden and enhancing operational efficiency.

Diamond Imprest Authorisation (DIA) Scheme

Overview:

The Commerce Ministry of India has recently introduced the Diamond Imprest Authorisation (DIA) Scheme to enhance the global competitiveness of India's diamond industry, ensuring its continued leadership in the sector.

About Diamond Imprest Authorisation (DIA) Scheme:

- **Objective**: The scheme allows for the duty-free import of natural cut and polished diamonds specifically for export purposes. This aims to improve the efficiency and competitiveness of India's diamond industry in the global market.

- **Implementation Date**: The scheme will come into effect from April 1, 2025.

Key Features of the Scheme:

- **Duty-Free Import**: The scheme permits the duty-free import of natural cut and polished diamonds that are less than ¼ carat (25 cents).

- **Export Obligation**: Exporters must meet a 10% value addition obligation, ensuring that a certain percentage of the imported diamonds' value is added before re-exporting.

- **Eligibility Criteria**:
  o **Export House Status**: Only diamond exporters with Two Star Export House status and above are eligible to avail of the benefits of this scheme.
  o **Annual Exports Requirement**: Exporters must have an annual export value of at least US $15 million to qualify.

- **Response to Global Trends**: The scheme is introduced in response to policies by natural diamond mining countries like Botswana, Namibia, and Angola, where manufacturers are required to open facilities for cutting and polishing diamonds, ensuring value addition.

Support for MSME Exporters:

- The DIA scheme is designed with MSMEs in mind, helping smaller exporters compete with larger industry players. This provides a level playing field, which is crucial for the survival and growth of MSMEs in the diamond industry.

Aims of the Scheme:

- The scheme is intended to retain India's position as a global leader in the diamond industry's value chain, from mining to cutting and polishing, enhancing India's dominance in global diamond exports.

What is a Diamond?

A diamond is a naturally occurring mineral composed of carbon atoms arranged in a crystal lattice structure known as the diamond cubic crystal system. This unique structure gives diamonds:

- Extreme hardness, making them the hardest known natural material.
- High thermal conductivity.
- Optical brilliance (exceptional shine and clarity).

In conclusion, The Diamond Imprest Authorisation (DIA) Scheme aims to boost India's diamond industry by facilitating the duty-free import of diamonds for export purposes while maintaining strict export obligations. It will help ensure that India retains its global leadership in the diamond value chain and provide support to MSMEs by making the industry more competitive.

National Mineral Development Corporation (NMDC)

Overview:

India's state-run miner NMDC is set to extract 6,500 carats of diamonds, valued at $3.4 million, this fiscal year from its mine located near the Panna Tiger Reserve in Madhya Pradesh.

About National Mineral Development Corporation (NMDC):

- **Incorporation**: Founded in 1958 as a fully owned public enterprise by the Government of India.
- **Administrative Control**: NMDC operates under the **Ministry of Steel**, Government of India.
- **NAVRATNA Status**: In 2008, NMDC was categorized as a "NAVRATNA" public sector enterprise, which is a recognition given to India's top-performing public enterprises.

Key Activities and Operations:

- **Mineral Exploration**: NMDC is involved in exploring a wide range of minerals, including:
  - Iron ore (India's largest producer)
  - Copper
  - Limestone
  - Gypsum
  - Magnesite
  - Tin
  - Graphite
  - Rock phosphate
  - Dolomite
  - Bentonite
  - Diamond
  - Tungsten
  - Beach sands
- **Iron Ore Production**: NMDC is the largest producer of iron ore in India, producing over 45 million tonnes annually from its mechanized mines in:
  - Bailadila Sector (Chhattisgarh)
  - Donimalai (Bellary-Hospet region, Karnataka)

- **Diamond Mining**: NMDC operates the only mechanized diamond mine in India at Panna, Madhya Pradesh.
- **Low-Cost Production**: It is regarded as one of the low-cost producers of iron ore globally.
- **High-Grade Iron Ore**: The majority of NMDC's high-grade iron ore production is sold to the Indian domestic steel market, through long-term sales contracts.
- **Rating**: All of NMDC's mining complexes have received the prestigious 5-Star rating from the Indian Bureau of Mines, Ministry of Mines.
- **Headquarters**: The registered office is located in Hyderabad, Telangana.

What is NMDC famous for?

NMDC is famous for being India's largest producer of iron ore, a position it has held due to its large-scale, mechanized mining operations and its contribution to the Indian steel industry.

In conclusion, National Mineral Development Corporation (NMDC) is a prominent public sector enterprise responsible for the exploration and production of several minerals in India. It is the largest producer of iron ore in India and also operates the only mechanized diamond mine in the country. With a broad portfolio of minerals and a reputation for low-cost production, NMDC plays a vital role in India's mining industry.

Airport Economic Regulatory Authority (AERA)

Overview:

The Airport Economic Regulatory Authority (AERA) is an important regulatory body in India that oversees the economic functioning of major airports. Recently, Parliament's Public Accounts Committee (PAC) directed AERA to provide a detailed response regarding the User Development Fee (UDF) charged by airport operators, including its calculation criteria, total revenue, and utilization.

About AERA:

- **Constitution**: AERA was established under the Airports Economic Regulatory Authority of India Act, 2008, following the recommendations of the Naresh Chandra Committee, which was tasked with shaping the roadmap for India's civil aviation sector.

- **Independence**: AERA functions as an independent regulatory body, ensuring the economic regulation of major airports across India.

- **Headquarters**: The headquarters is located in Delhi.

Main Functions:

AERA is responsible for regulating the tariffs and charges at major airports in India. These include:

- **Aeronautical services**: Charges related to air traffic management, aircraft landing and parking, and ground handling services.

- **Additional Fees**: It regulates other fees such as the development fee and passenger service fee. For airports that do not fall under the major category, tariffs are determined by the Airports Authority of India (AAI).

Objectives:

- To create a level playing field and ensure healthy competition among major airports.

- To promote investment in airport infrastructure and facilities.

- To ensure that transparent regulations are in place to balance the interests of both service providers and consumers.

Major Airports:

- According to the 2008 Act, an airport is classified as a major airport if its annual passenger traffic exceeds 15 lakhs.

- In 2019, this threshold was increased to 35 lakh annual passengers to account for growing demand.

Conclusion :

The Airport Economic Regulatory Authority (AERA) plays a crucial role in regulating the economic aspects of major airports in India, ensuring transparency, fairness, and healthy competition. Its oversight helps balance the needs of airport operators and the consumers, making it a key component in the development of India's aviation sector.

Tobacco Board Focuses on Sustainability and Growth; Exports Reach ₹ 12,005 Crores in 2023-24
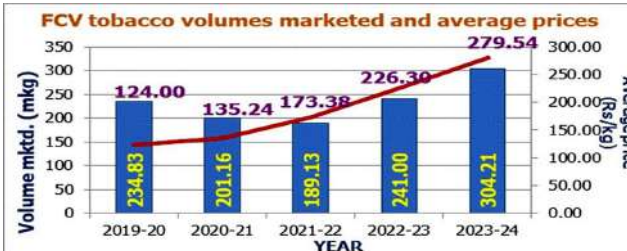
- The Tobacco Board has been at the forefront of strategic initiatives aimed at promoting the sustainability and growth of India's tobacco industry.

- These measures include crop planning, production regulation, and export promotion to ensure the industry's long-term viability.

Key Developments:

1. **Strategic Initiatives for Sustainability and Growth**:

o The Tobacco Board, established in 1976 under the Tobacco Board Act, plays a key role in regulating tobacco farming and ensuring fair and remunerative prices for tobacco farmers.

o The Board works closely with farmers, providing assistance and financial support through banks to ensure high-quality tobacco production that meets the standards of both domestic and international markets.

o The Board's extension and developmental activities promote sustainable cultivation practices, ensuring the tobacco industry's future growth.

2. **Tobacco Exports Achieve Record Highs**:

o India is the 2nd-largest producer of tobacco in the world, following China, and the 4th-largest producer of Flue-Cured Virginia (FCV) tobacco globally.

o The tobacco sector continues to be a significant contributor to India's foreign exchange.

o In 2023-24, tobacco exports reached a record ₹ 12,005.89 crore (approximately $1.45 billion), marking an impressive growth of 87% compared to ₹ 6,408.15 crore in 2019-20.

o The export volume has also surged from 218.84 million kg in 2019-20 to 315.51 million kg in 2023-24.

3. **Doubling of Tobacco Farmers' Income**:

o The income of Flue Cured Virginia (FCV) tobacco farmers has more than doubled in the past five years.

o From ₹ 124 per kg in 2019-20, the price paid to FCV tobacco farmers has increased to ₹ 279.54 per kg in 2023-24.

o This achievement is a direct result of effective government policies and efficient market mechanisms that have significantly improved the livelihoods of approximately 83,000 farmers.

o The introduction of an IT-enabled electronic auctioning system by the Tobacco Board has played a crucial role in ensuring better price discovery and securing fair remuneration for farmers.

4. **Record-Breaking 2023-24 FCV Tobacco Season**:

o Despite facing challenges such as natural calamities, FCV tobacco farmers in Andhra Pradesh recorded a historic production of 215.35 million kg of tobacco in the 2023-24 season.

o Farmers realized an average price of ₹ 288.65 per kg, the highest-ever recorded price for FCV tobacco, generating ₹ 6,313.58 crore in earnings.

o This represents an increase of ₹ 62.92 per kg compared to the previous season's average.

o The auctions for the 2023-24 crop ran for 178 days, from 29th February to 14th October 2024, with 43,021 farmers participating across 16 auction platforms.

5. **Supportive Welfare Measures for Farmers**:

o The Tobacco Board has extended various welfare measures to tobacco farmers, including financial assistance in the form of grants and loans during difficult times.

o In the 2023-24 season, 38,751 registered growers benefitted from a penalty waiver for the sale of 76.84 million kg of excess tobacco, resulting in savings of ₹ 184 crore for the farmers.

o The Tobacco Board also contributed ₹ 92.70 lakh to the Chief Minister's Relief Fund in Andhra Pradesh to assist victims of recent cyclones, demonstrating its commitment to the welfare of the farmers and communities.

6. **Focus on Sustainable Practices**:

o The Tobacco Board continues to emphasize sustainable tobacco farming by encouraging the adoption of eco-friendly cultivation practices.

o This not only enhances the quality of tobacco but also ensures the long-term viability of the industry in a changing environmental landscape.

o The Board's efforts also include promoting organic tobacco cultivation and reducing the environmental impact of tobacco farming through better crop management practices.

Industry Impact and Future Outlook (Tobacco Industry)

- **Economic Contributions:**

  o The tobacco industry significantly contributes to India's economy:

    * Provides income to hundreds of thousands of farmers.

    * Contributes to foreign exchange earnings through exports.

  o Growth in production and exports reflects effective strategies by the Tobacco Board and supportive government policies.

- **Farmer Welfare and Income Growth:**

  o The income of FCV (Flue-Cured Virginia) tobacco farmers has doubled due to:

    * Targeted support and efficient market systems.

    * Rising prices, leading to better livelihoods for farmers.

  o The sector shows potential for continued income growth for farmers.

- **Sustainability in Tobacco Cultivation:**

  o The Tobacco Board focuses on sustainable practices:

    * Promotes eco-friendly farming methods.

    * Ensures long-term sustainability amidst growing global environmental concerns.

    * Responds to increasing demand for responsibly produced goods.

- **Challenges and Resilience:**
  - o Natural calamities pose challenges, yet tobacco farmers in Andhra Pradesh have shown:
    - * Resilience and adaptability.
    - * Record-high production and prices in the 2023-24 season demonstrate the strength of the industry and its support systems.

In conclusion, the Tobacco Board's strategic initiatives have played a pivotal role in driving the growth of the tobacco industry, ensuring better returns for farmers, and contributing significantly to India's foreign exchange. With continued support for sustainable practices and export growth, the tobacco sector is well-positioned for further success in the years to come.

EDITORIALS

Crux of The Hindu & Indian Express

Economic

Cabinet Approves Extension of One-Time Special Package on Di-Ammonium Phosphate (DAP)

Cabinet approves
Extension of One-time Special Package on Di-Ammonium Phosphate (DAP) beyond the NBS subsidy for the period from 01.01.2025

- It aims to ensure sustainable availability of **DAP at affordable prices** to the farmers

- The Special package on DAP at ₹ 3,500 per MT will be provided for the period 01.01.2025 till further orders, beyond the approved NBS subsidy

Overview:

- On January 1, 2025, the Union Cabinet, under the leadership of Prime Minister Narendra Modi, approved the extension of the One-Time Special Package on Di-Ammonium Phosphate (DAP) fertilizer.

- This extension is for the period from January 1, 2025, onwards, until further orders, to ensure sustainable availability of DAP at affordable prices for farmers.

- The special package will continue the subsidy of ₹ 3,500 per metric ton (MT) of DAP over and above the existing Nutrient Based Subsidy (NBS).

- The estimated budgetary requirement for this extended support is approximately ₹ 3,850 crore.

What is Di-Ammonium Phosphate (DAP) ?

Di-Ammonium Phosphate (DAP) is a widely used chemical compound primarily as a fertilizer in agriculture. It is an inorganic salt with the chemical formula $(NH_4)_2HPO_4$. DAP is one of the most popular phosphorus-based fertilizers because it contains two essential nutrients for plant growth: nitrogen (N) and phosphorus (P).

- **Nitrogen (N)**: 18% of the fertilizer content is nitrogen, which is crucial for the growth of leaves and overall plant health.

- **Phosphorus (P)**: 46% of the fertilizer content is phosphorus, which promotes root development, flowering, and fruiting.

Key Characteristics of DAP:

- **Appearance**: DAP is typically found as a white to off-white crystalline powder or granules.

- **Solubility**: It is highly soluble in water, which allows plants to absorb the nutrients quickly.

- **pH**: When dissolved in water, DAP tends to increase the pH of the soil, making it slightly alkaline.

Uses:

1. **Fertilizer**: DAP is most commonly used in agriculture as a source of phosphorus and nitrogen. It's especially effective for crops that need a high amount of phosphorus, such as corn, wheat, rice, and soybeans.

2. **Soil Improvement**: It is also used to improve the quality of soil by enhancing its nutrient profile and promoting healthy root systems.

3. **Hydrogenation and Acid Reactions**: DAP has some industrial applications, such as in water treatment and as a flame retardant in certain materials.

Production Process:

DAP is usually produced by neutralizing phosphoric acid (H_3PO_4) with ammonia (NH_3). This process forms ammonium phosphate (the DAP compound).

Advantages:

- **High Nutrient Content**: The high percentage of nitrogen and phosphorus in DAP means fewer applications are needed compared to other fertilizers.

- **Fast-Acting**: Due to its high solubility, DAP provides quick nutrient availability for plants.

Disadvantages:

- **Soil Alkalinity**: Prolonged use can make the soil slightly more alkaline, which may not be ideal for certain crops that prefer acidic soil.

- **Cost**: As with many high-nutrient fertilizers, DAP can be expensive for farmers in some regions.

Key Points:

1. **Objective**:

   The primary goal of this extension is to ensure the availability of DAP at affordable prices to farmers, particularly given the volatility in global markets and geopolitical constraints that have impacted fertilizer prices worldwide.

2. **Package Extension**:

o The subsidy of ₹ 3,500 per MT for DAP will be extended for an indefinite period starting from January 1, 2025.

o The special package aims to provide financial relief to farmers, keeping the prices of DAP fertilizer at reasonable levels.

3. **Financial Implications**:

o The tentative financial implication for this extension is approximately ₹ 3,850 crore.

o When combined with the package approved earlier in July 2024, the total amount spent on the special package for DAP from April 2024 to January 2025 will exceed ₹ 6,475 crore.

4. **Background of DAP Subsidy**:

o DAP is a key phosphatic fertilizer that is used extensively by farmers for crops like wheat, paddy, and groundnut.

o Since April 2010, the subsidy on phosphatic and potassic fertilizers (P&K fertilizers), including DAP, has been governed under the Nutrient Based Subsidy (NBS) Scheme.

   i. The Nutrient Based Subsidy (NBS) scheme is a government program that provides a fixed subsidy on Phosphatic and Potassic (P&K) fertilizers.

   ii. The scheme was implemented on April 1, 2010.

   iii. The subsidy is based on the nutrient content of the fertilizer and is decided annually or biennially.

o In 2024, despite geopolitical tensions and global price volatility, the Indian government kept the price of DAP unchanged, offering farmers substantial relief by maintaining the price at affordable levels during both the Kharif and Rabi seasons.

5. **Impact on Farmers**:

o The extension of this package ensures farmers continue to receive DAP at subsidized prices, which is crucial for their agricultural productivity.

o This move also emphasizes the government's commitment to farmers' welfare and to keeping the cost of essential agricultural inputs low, even amidst challenging external factors.

Benefits of the Extension:

- **Affordability**: The continued subsidy ensures that DAP is available to farmers at reasonable and affordable prices, which is vital for maintaining their crop yields and productivity.

- **Sustainability**: The extension guarantees the sustainable supply of DAP fertilizer over an extended period, ensuring that farmers can rely on consistent input prices and supply.

- **Farmer Welfare**: The primary focus is on ensuring that farmers are not burdened by high fertilizer costs, which could otherwise hurt their financial stability and crop production.

Implementation Strategy:

- The special package will continue to offer a subsidy of ₹ 3,500 per MT of DAP over and above the existing NBS subsidy for the period from January 1, 2025, until further instructions.

- The Department of Fertilizers will oversee the smooth distribution and availability of DAP under this package to ensure that farmers across the country can access it without disruptions.

Conclusion:

The government's decision to extend the One-Time Special Package on DAP ensures that Indian farmers will continue to receive critical fertilizers at affordable prices,

even amid challenging global conditions. This move aligns with the government's broader agenda of farmer welfare and aims to maintain the economic viability of agriculture in India. The financial implications, exceeding ₹ 6,475 crore for the period since April 2024, reflect the significant commitment made by the government to secure the livelihoods of farmers.

PLI Scheme 1.1 for Specialty Steel Launched by Union Minister Shri H.D. Kumaraswamy

- On January 6, 2025, Union Minister for Steel and Heavy Industries, Shri H.D. Kumaraswamy launched PLI Scheme 1.1 for Specialty Steel at Vigyan Bhavan, New Delhi.

- The scheme aims to boost domestic production, reduce imports, and position India as a global steel powerhouse.

- The PLI Scheme 1.1 has been introduced as the second round of the Production Linked Incentive (PLI) Scheme for specialty steel, following the success of the first round initiated in 2021.

Key Highlights of the Scheme

- **Scheme Duration**:

    The scheme will be implemented from FY 2025-26 to FY 2029-30.

- **Objective**:

    o Promote the production of value-added steel grades in India.

    o Reduce imports of specialty steel and promote self-reliance (Atmanirbhar Bharat).

    o Promote innovation, strengthen domestic production, and increase exports.

- **Target Areas**:

    PLI Scheme 1.1 covers five product categories:

    1. Coated/Plated Steel Products

    2. High Strength/Wear-resistant Steel

    3. Specialty Rails

    4. Alloy Steel Products & Steel Wires

    5. Electrical Steel

- These products are widely used in industries such as white goods, automobiles, transformers, and other niche sectors.

Key points of the Scheme

- **Application Window**:

    Open from January 6, 2025, to January 31, 2025.

- **Funding**:

    The scheme will continue to operate under the originally allocated funds of ₹ 6,322 crore.

- **Changes to the Scheme**:

    Based on industry feedback, several changes have been introduced to make the scheme more investor-friendly:

    o Reduction in investment and capacity thresholds for certain sub-categories.

    o Carry-forward option for excess production to the next year for incentive claims.

    o Augmentation of existing capacities will now be allowed to participate in the scheme, requiring 50% of the threshold investment as per the updated guidelines.

- **Important Sub-Categories**:

    o **Cold-Rolled Grain-Oriented Steel (CRGO)**: This is a high-value steel used for power transformers.

    o India's steelmakers currently do not produce CRGO, but the scheme aims to make the country self-reliant in this key product.

    o The investment threshold has been reduced to ₹ 3,000 crore with a capacity of 50,000 tonnes.

Expected Impact of PLI Scheme 1.1

1. **Domestic Production**:

    o The scheme aims to foster domestic production of high-quality specialty steel, which will reduce India's reliance on imports and improve self-sufficiency in steel manufacturing.

2. Investment and Employment:

o In the first round, ₹ 27,106 crore was committed, with 24 million tonnes of downstream capacity creation.

o As of November 2024, ₹ 18,300 crore has already been invested, creating 8,300 direct jobs.

o This indicates the positive impact of the scheme on economic growth and employment generation.

3. Incentive Distribution:

o Excess production in a given year can be carried forward to the next year, ensuring that companies are not penalized if they exceed their committed production in a good year but fall short in the following year.

4. Global Competitiveness:

o The scheme will help Indian steel compete globally by improving the value-added product mix, which will result in higher exports of specialty steel.

Background of the PLI Scheme for Specialty Steel

1. First Round:

o The first round of the PLI Scheme for specialty steel was notified on July 29, 2021 with an initial outlay of ₹ 6,322 crore.

o The goal was to promote the production of value-added steel in India and help the Indian steel industry progress technologically, reduce imports, and promote self-reliance.

2. Achievements:

o As of November 2024, the first round saw a commitment of ₹ 27,106 crore by 26 companies for 44 projects.

o It led to the creation of 24 million tonnes of downstream capacity and the generation of 8,300 direct jobs.

o The estimated payout for the first round's participants is ₹ 2,000 crore.

PLI Scheme 1.1 – Key Changes

• **Increased Flexibility for Investors**:

The Ministry has made several adjustments to attract more industry participation. Key changes include:

o Lower investment and capacity thresholds for certain categories, such as Cold-Rolled Grain-Oriented Steel (CRGO).

o Carry-forward of excess production: Companies can carry over any excess production to the following year, helping them meet their production targets even if they fall short in the next year.

• **Investment in Existing Capacities**:

Companies looking to augment their existing capacities can now participate in the scheme, making it more accessible for companies that are not installing entirely new mills.

Future of PLI Scheme for Specialty Steel

The PLI Scheme 1.1 is part of the Indian government's efforts to:

• Enhance self-reliance in steel production.

• Increase global competitiveness of Indian steel products.

• Support job creation and boost economic growth in India.

Through this scheme, India is moving closer to becoming a global steel powerhouse while also reducing its dependency on imports, making it an important step toward achieving the Atmanirbhar Bharat vision.

Conclusion

The PLI Scheme 1.1 for Specialty Steel, launched by Shri H.D. Kumaraswamy, is a crucial initiative aimed at revitalizing India's steel industry. By promoting investment, innovation, and technology advancement, the scheme will strengthen India's position in the global steel market, reduce imports, and create a sustainable, self-reliant steel production ecosystem.

India's Economic Growth Outlook for 2025 and 2026 - UN Report

WHAT THE REPORT SAYS

■ Capital expenditure on infrastructure development expected to have strong multiplier effect on growth in the coming years

■ Expansion in the manufacturing and services sectors to continue to drive economy

■ Strong export growth in services and certain goods categories, such as pharmaceutical and electronics, to bolster economic activity

■ Favourable monsoon rains in 2024 have improved summer-sowing areas for all major crops, boosting agricultural output expectations for 2025

Overview:

• According to the United Nations (UN) World Economic Situation and Prospects 2025 report, India's economy is expected to grow by 6.6% in 2025 and 6.7% in 2026.

• The growth is supported by strong private consumption, investment growth, and government-driven infrastructure development.

Key Points:

1. Growth Forecast for India:

*   The UN's growth forecast for India in 2025 is 6.6%, slightly increasing to 6.7% in 2026.

*   The growth drivers include:

    o   Strong private consumption.

    o   Continued investment growth, particularly in infrastructure.

    o   The public sector plays a key role in funding major projects, including those related to physical infrastructure, digital connectivity, and social infrastructure like water supply and sanitation.

2. Economic Slowdown in 2024-25:

*   The First Advance Estimates by the National Statistics Office predict a slower growth of 6.4% for India in 2024-25, which is lower than the Reserve Bank of India's (RBI) projection of 6.6%.

*   This slowdown marks the lowest growth rate in four years.

3. Infrastructure and Investment:

*   Capital expenditure on infrastructure is expected to have positive multiplier effects on growth.

*   Investment in manufacturing and services sectors will continue to support economic activity, alongside a strong export performance in sectors like pharmaceuticals and electronics.

4. Agricultural Outlook:

*   The favorable monsoon rains in 2024 have improved conditions for summer sowing of crops, boosting expectations for higher agricultural output in 2025.

5. Regional Economic Outlook (South Asia):

*   South Asia's economic growth in 2025 is projected at 5.7%, driven largely by India's performance.

*   Growth in the region is expected to remain robust, with a slight increase to 6% in 2026.

6. Risks to Economic Outlook:

*   The report highlights several risks to global and regional growth:

    o   Geopolitical tensions may escalate.

    o   Deceleration in external demand.

    o   Ongoing debt challenges.

    o   Social unrest in some regions.

*   **Climate change risks**: The region is highly vulnerable to extreme weather events, which could disrupt economic activity.

7. Inflation Outlook:

Consumer price inflation in India is forecast to decrease from an estimated 4.8% in 2024 to 4.3% in 2025, staying within the 2-6% range set by the RBI.

8. Global Economic Outlook:

Global growth is expected to remain at 2.8% in 2025, the same as in 2024.

9. Opportunities for Resource-Rich Countries:

*   India, as a resource-rich country, can leverage rising demand for critical minerals to boost economic growth, create jobs, and increase public revenues for investments.

*   However, these opportunities come with significant risks, including environmental and social impacts.

*   The report urges governments to adopt forward-looking policies and comprehensive regulatory frameworks to ensure sustainable and equitable extraction of resources.

Conclusion :

India's economic growth is expected to remain strong in 2025 and 2026, driven by robust private consumption, infrastructure investment, and export growth. However, challenges such as geopolitical tensions, inflation, and climate risks could impact the outlook. The UN report emphasizes the need for sustainable growth policies, especially for resource-rich countries like India, to ensure long-term benefits from emerging opportunities.

Global Labour Market Recovery Slow, India an Exception: ILO Report

Introduction

- The International Labour Organization (ILO) released its report, World Employment and Social Outlook: Trends 2025, highlighting the challenges in the global labour market as economies struggle to recover from the COVID-19 pandemic.

- The report paints a mixed picture of the world's recovery, but it notes India's exceptional growth in labour and economic performance.

Key Highlights :

1. **Global Economic Growth and Labour Markets**:

o The global economy is growing more slowly, with economic growth expected to be 3.2% in 2024, slightly down from 3.6% in 2022.

o Despite this slow growth, global employment grew in line with the growing labour force in 2024, keeping the unemployment rate steady at 5%.

o However, youth unemployment remained high at 12.6%, showing limited improvement.

2. **India's Economic and Labour Market Performance**:

o India stands out as a major driver of growth in Southern Asia. The report notes that India's GDP growth is expected to be 6.9% in 2024 and 6.4% in 2025, one of the fastest in the world.

o India's growth is driven by strong domestic demand, public investment, and eased monetary policies.

o This growth is crucial for the overall performance of the Southern Asia region, which is forecasted to grow by 6.2% in 2024 and 5.8% in 2025.

o A significant factor behind India's labour market recovery is the increased female participation in the workforce.

3. **Challenges Facing Global Labour Markets**:

o Geopolitical tensions, the costs of climate change, and debt issues are putting pressure on global labour markets, slowing recovery.

o Informal work and working poverty have returned to pre-pandemic levels, especially in low-income countries, which are struggling to create decent jobs.

o Even though inflation has decreased globally, it remains high, reducing the value of wages in many countries.

4. **Global Jobs Gap**:

The global jobs gap—the number of people who want to work but cannot find a job—reached a record 402 million in 2024. This includes:

o 186 million unemployed people

o 137 million temporarily unavailable to work

o 79 million discouraged workers who have stopped looking for work.

5. **Gender Inequality in the Workforce**:

o The report notes that while labour force participation has increased in high-income countries, especially among older workers and women, the gender gap remains significant. Women are still underrepresented in the workforce, limiting progress in improving living standards.

o However, India has seen an increase in female workforce participation, helping drive economic growth.

Recommendations for Improving Global Labour Markets

The ILO calls for urgent action to address these challenges:

1. **Boost Productivity**: Member countries should invest in skills training, education, and infrastructure to support economic growth and job creation.

2. **Expand Social Protection**: Governments need to provide better social security and safe working conditions to reduce inequality.

3. **Effective Use of Private Funds**: Low-income countries can utilize remittances and diaspora funds to support local development.

4. **Tackling Climate Impact and Social Cohesion**: According to Gilbert F. Houngbo, ILO Director-General, tackling labour market challenges is essential to avoid further strain on social cohesion and to address the impacts of climate change and debt. The goal is to create a fairer, more sustainable future.

Conclusion :

The ILO's report shows that while the global labour market recovery remains slow, India continues to be an exception, with strong economic growth and a rising workforce, especially among women. However, challenges like youth unemployment, informal work, and gender inequality continue to limit progress. To address these issues, countries are urged to boost productivity, improve social protection, and invest in skills and education to create a more sustainable and inclusive future.

What is the World Economic Forum Annual Meeting, Set to Begin in Davos?

Introduction

• The World Economic Forum (WEF) Annual Meeting is happening from January 20 to 24, 2025, in Davos, Switzerland.

• This is a global event where leaders from politics, business, and society come together to discuss important world issues.

• Key figures attending this year include European Commission President Ursula von der Leyen, China's Vice Premier Ding Xuexiang, and Indian Union Minister Ashwini Vaishnaw, who will lead the Indian team.

• Also, the Chief Ministers of Maharashtra, Telangana, and Andhra Pradesh, will attend.

• The discussions will focus on topics like inclusive growth, investment in infrastructure, and making technology accessible.

Who Started the WEF and Why?

• The WEF was started in 1971 by Professor Klaus Schwab, a German professor in mechanical engineering and public administration.

• Initially, it was called the European Management Forum, and its purpose was to help European companies improve their management practices by learning from the U.S.

• However, the forum soon grew to cover more important topics like economic and social issues.

• One of Schwab's main ideas is stakeholder capitalism, which means businesses should not only focus on making money for their shareholders but also work for the benefit of all those involved with the company, such as employees, suppliers, and local communities.

What Happens at the WEF?

• The WEF Annual Meeting brings together about 3,000 people to discuss global issues in over 500 sessions.

• These people include business leaders, politicians, investors, economists, and journalists. The forum is a chance for them to work together and come up with solutions for big challenges the world faces.

In the past, Davos has hosted important meetings, such as:

• In 1992, Nelson Mandela met with South African leaders at the forum for the first time, which was an important step in the country's political change.

• In 1998, leaders discussed the creation of the G20, a group of 20 countries that now meet regularly to talk about the global economy.

Recent topics at the WEF include Artificial Intelligence, climate change, and the slowdown of China's economy.

Who Pays for the WEF and Why Davos?

• The WEF is mainly funded by big companies with annual revenues of more than $5 billion.

• These companies support the forum's activities.

• The meeting is held in Davos because of its peaceful setting, which helps people focus on important discussions.

• The town is also famous as the setting for the novel "The Magic Mountain", where the main character goes to Davos for a short stay but ends up staying much longer.

• This calm environment is ideal for big global conversations.

Important Moments in WEF History

The WEF has often been the place for major talks:

• North and South Korea had their first meetings in Davos.

- In 1990, leaders from East and West Germany met in Davos to talk about reunification.
- The idea for the G20 was discussed at the WEF in 1998, which later became a key group for addressing global financial issues.

Main Topics for the 2025 WEF Meeting

This year's WEF meeting will cover important issues, such as:

- Economic recovery after the pandemic and growth for everyone.
- Technology advances like Artificial Intelligence and their impact on our lives.
- Geopolitical challenges, especially in areas like Eastern Europe and Asia.
- Climate change and how the world can work together to solve it.

Conclusion :

The World Economic Forum Annual Meeting in Davos is an important event where world leaders come together to talk about the world's biggest challenges. It helps people from different sectors meet, share ideas, and find ways to work together for the good of everyone. This year's meeting will focus on shaping the future of the world's economy, technology, and international relations.

When-listed Platform: SEBI's New Initiative

Latest Development:

- The Securities and Exchange Board of India (SEBI) is planning to launch a new platform known as the "when-listed" platform. This platform will facilitate the trading of shares of companies that have completed their initial public offering (IPO) but have not yet been listed on the stock exchanges.

About the When-listed Platform:

1. **Purpose and Function:**
   o The when-listed platform is designed for trading shares of companies that have closed their IPOs but are not yet listed on stock exchanges.
   o The goal is to reduce grey market activity, which is largely unregulated and significantly influences the listing prices and investor behavior during the IPO process.

2. **Current Timeline for IPO Listings:**
   o Presently, after an IPO is closed, shares are required to be listed on trading platforms within T+3 days (where T is the closing day of the offer).
   o Shares are allotted on T+1 day. However, between the allotment and listing day, shares are often traded in the grey market, which operates outside the official stock exchange framework.

What is the Grey Market?

- The grey market refers to the unofficial trading of securities before they are listed on a stock exchange. This market operates on demand and supply and is unregulated.
- Many investors check the premium offered in the grey market before making decisions about investing in an IPO, as it indicates the expected market demand for the stock post-listing.

Key Facts:

- **When-listed Platform:** SEBI aims to launch a platform that will allow pre-listing trades of IPO shares, providing an official alternative to the grey market.
- **Grey Market:** This unregulated market occurs between the allotment of shares and the official listing on stock exchanges.
- **Current IPO Listing Process:** Presently, IPO shares are listed within T+3 days, and allotment occurs on T+1 day. The grey market fills the gap in between, leading to potential issues with price manipulation.
- **SEBI's Effort:** To curb grey market activity, SEBI is developing the when-listed platform, aiming to regulate and bring transparency to pre-listing trades.

Conclusion :

The when-listed platform by SEBI is a significant step toward enhancing transparency in the trading of IPO shares. By providing a regulated environment for shares between IPO allotment and listing, SEBI hopes to reduce the influence of the unregulated grey market, benefiting both investors and the overall market ecosystem.

❑❑❑

Blue Baby Syndrome

WHAT IS A BLUE BABY SYNDROME?
CAUSES, SYMPTOMS, AND TREATMENT

Overview:

High nitrate levels have been found in the groundwater of 440 districts across India, which can lead to health issues like blue baby syndrome in infants, making the water unsafe for drinking.

About Blue Baby Syndrome:

- **Also Known As**: Cyanosis
- **Definition**: A condition in babies where the skin appears blue or purple-tinged.

What Causes Blue Baby Syndrome?

- The bluish hue occurs because of poorly oxygenated blood.
- Normally, blood is pumped from the heart to the lungs, where it receives oxygen and is circulated throughout the body. When there's an issue with the heart, lungs, or blood, the blood may not receive proper oxygen.
- **Causes**:
  o Congenital heart defects (present at birth)
  o Environmental or genetic factors
  o Acquired methemoglobinemia (more common than the congenital form), which can be caused by exposure to various substances, including nitrate-contaminated water.

Symptoms of Blue Baby Syndrome:

- **Blue discoloration** of the skin around the mouth, hands, and feet
- Other potential symptoms include:
  o Difficulty breathing   o Vomiting
  o Diarrhea   o Lethargy
  o Increased salivation
  o Loss of consciousness   o Seizures

- In severe cases, it can lead to **death**.

Treatment:

- Treatment depends on the cause of the syndrome:
  o Congenital heart disease may require surgery to correct abnormalities.
  o Severe cases may require methylene blue injections administered by a doctor.

What is Methylene Blue ?

Methylene blue (MB) is a synthetic dye used in various scientific, medical, and industrial applications. In medicine, it is used to treat conditions like methemoglobinemia and is administered via injection for severe cases of blue baby syndrome.

Methylcobalamin

Overview:

The Food Safety and Standards Authority of India (FSSAI) recently provided clarity on the use of methylcobalamin, a form of vitamin B12, highlighting its importance and regulatory status.

About Methylcobalamin:

- **Vitamin B12 Form**: Methylcobalamin is a naturally occurring form of vitamin B12, which is essential for human health.
- **Sources**: It can be obtained through supplements as well as food sources like fish, meat, eggs, milk, and milk products.
- **Structure**: It consists of a distinctive methyl group ($-CH_3$) bonded to the cobalt atom. This structure differentiates it from other forms of vitamin B12 like cyanocobalamin, adenosylcobalamin, and hydroxocobalamin.

- **Health Functions**:
  o DNA synthesis and red blood cell production.
  o Crucial for neurological function.
  o Regulates body functions such as cell growth, blood formation, and protein synthesis.

- **Deficiency**: Lack of vitamin B12 can lead to serious health issues, often requiring supplementation to prevent complications.

Uses of Methylcobalamin:

- **Supplementation**: Used to treat vitamin B12 deficiency.

- **Neuropathy Treatment**: Helpful for patients with diabetes and other neuropathies.

- **Red Blood Cell P**roduction: Vital for the creation of red blood cells, preventing anemia.

- **Neurological Health**: Plays a significant role in preventing and treating neurological illne**sses**.

- **Mental Health**: Participates in the production of neurotransmitters such as serotonin and dopamine, which are crucial for mood regulation, emotions, and mental health.

What is the Food Safety and Standards Authority of India (FSSAI)?

- The FSSAI is an autonomous body under the Ministry of Health and Family Welfare, Government of India.

- It was established under the Food Safety and Standards Act, 2006, which consolidates statutes related to food safety and regulation in India.

Conclusion:

Methylcobalamin, as a bioactive form of vitamin B12, plays a significant role in various bodily functions, including red blood cell production, neurological health, and mental well-being. Its usage in supplements is critical for addressing vitamin B12 deficiency and preventing related health issues. The clarity provided by the FSSAI on its use ensures better regulation and consumer safety. Whether through diet or supplementation, ensuring adequate intake of methylcobalamin is essential for maintaining overall health.

Quadrantid Meteor

Overview:

The Quadrantid Meteor Shower marks the first meteor shower of the year, and it is set to occur this month. It is one of the most intense meteor displays but has a brief peak lasting only a few hours.

About Quadrantid Meteor:

- **Occurrence**: The Quadrantids happen every year in early January and are among the most intense annual meteor showers.

- **Name Origin**: The name "Quadrantids" comes from the now-obsolete constellation Quadrans Muralis, which was named in 1795 by French astronomer JJ Lalande.

- **Discovery**: The meteor shower was first observed in the 1830s by Belgian astronomer Adolphe Quetelet.

- **Origin**: The shower originates from the northeast corner of the Boötes constellation.

- **Source**: It is believed that the Quadrantids emerged from **asteroid 2003 EH1**, which is thought to be a fragment of an extinct comet that broke apart around **1490-91**.

- **Peak Activity**: During its peak, observers can witness **60 to 120 meteors per hour**, although visibility largely depends on location and timing.

- **Visibility this Year**: This year, viewing conditions are expected to be particularly favorable in North America, especially in Mississippi. Additionally, parts of Canada, Northern Europe, Russia, China, Japan, and Korea are also likely to experience the meteor shower.

What is a Constellation?

- A constellation is a group of stars that form a recognizable pattern or shape when viewed from Earth.

- Each constellation is defined by a specific set of stars, and their positions relative to each other create the pattern or shape.

Conclusion:

The Quadrantid Meteor Shower offers a spectacular start to the year with its brief but intense peak. Its historical significance and unique origin, along with favorable viewing conditions this year, make it an exciting event for skywatchers across the globe.

What is an Atomic Clock?

Overview:

A new atomic clock built at a top-secret UK lab is set to enhance the security of military operations through experimental quantum technology. The clock's development is part of ongoing advancements in precision timekeeping and quantum technology.

About Atomic Clock:

- **Definition**: An atomic clock is a timekeeping device that uses the vibrations of atoms, specifically the oscillations of electrons in atoms, to measure time.

- **Accuracy**: It is the most accurate time-measuring device available, with an error margin of just a few billionths of a second per day, far surpassing the precision of conventional clocks.

- **Precision**: Atomic clocks are significantly more accurate than mechanical clocks because atomic oscillations occur at much higher frequencies and are extremely stable.

Working of an Atomic Clock:

- **Atom Used**: The clock typically uses cesium atoms, which have a highly stable frequency of electron vibrations.

- **Mechanism**:

  o A microwave cavity is used to contain cesium vapor.

  o A microwave signal is directed into the cavity, causing the cesium atoms to vibrate.

  o The atoms emit radiation at a very specific frequency, which is detected and compared with a standard frequency.

o The difference is used to adjust the timekeeping of the atomic clock.

Applications of Atomic Clocks:

1. GPS Systems:

o Atomic clocks are crucial for **GPS technology** as they enable the measurement of time delays in signals traveling from satellites to receivers on Earth, helping to pinpoint locations with high accuracy.

2. Telecommunications Networks:

o Used to synchronize signal timings across long-distance communication networks.

3. Scientific Research:

o Essential for precise timing in experiments studying atoms, molecules, and other quantum phenomena.

What is Quantum Technology?

- Quantum technology refers to technologies based on the principles of quantum mechanics (the physics of subatomic particles).

- It includes quantum entanglement and quantum superposition, enabling advancements in areas like computing, communication, and sensing.

Conclusion:

The development of atomic clocks represents a breakthrough in precision timekeeping with significant implications for fields such as military security, navigation systems, and scientific research. With its foundation in quantum mechanics, this technology continues to pave the way for advancements in quantum technology.

Tidal Tails

Overview:

Astronomers have discovered a nascent ultra-diffuse galaxy forming at the tip of a record-breaking tidal tail extending from the galaxy NGC 3785, located about 430 million light-years away in the Leo constellation.

About Tidal Tails:

- **Definition**: Tidal tails are thin, elongated regions of stars and interstellar gas extending into space. These are formed when galaxies undergo close encounters or mergers, leading to gravitational interactions that distort and stretch the outer regions of the galaxies.

- **Formation**: Tidal tails are created when two galaxies interact, with gravitational forces pulling material such as gas and stars from the outer regions. Typically, two tidal tails are formed: one trailing and one preceding each galaxy.

- **Persistence**: Even after the galaxies merge, these tails can persist, serving as a signature of recent merger activity.

- **Examples of Galaxies with Tidal Tails**:
  - Tadpole Galaxy
  - Mice Galaxies

- **Stellar Formation in Tidal Tails**:
  - Around 10% of stellar formation in galaxies with tidal tails takes place within the tail.
  - Approximately 1% of all stellar formation in the known universe occurs in tidal tails.

- **Scientific Significance**: Studying tidal tails helps astronomers understand how galaxies interact, merge, and evolve over time.

What is a Galaxy?

- A galaxy is a system of stars and interstellar matter that makes up part of the universe. These systems can be enormous, containing hundreds of billions of stars.

- Galaxies usually exist in clusters, which can span hundreds of millions of light-years across.

Conclusion:

The discovery of tidal tails and their role in galaxy formation and evolution provides valuable insights into the complex interactions between galaxies. Studying these features not only helps us understand the dynamics of galactic mergers but also sheds light on stellar formation processes that occur in unusual environments. As astronomers continue to explore these cosmic phenomena, they will enhance our understanding of the broader universe and the forces that shape it over cosmic time.

What is Gravitational Lensing?
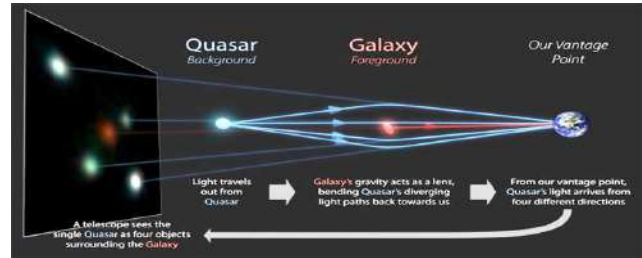
Overview:

Physicists recently used a telescopic technique called gravitational lensing to study a distant galaxy, resulting in the discovery of 44 previously unknown astral bodies. This finding showcases the power of gravitational lensing in exploring the universe.

What is Gravitational Lensing?

- Gravitational lensing is an astronomical phenomenon where the light from a distant background source, such as a star or galaxy, is bent and magnified due to the gravitational field of a massive object, such as another galaxy or a galaxy cluster, situated between the observer and the background source.

- **Cause:** The bending occurs because massive objects cause a curvature in spacetime, the fabric that combines space and time into a single entity. This curvature affects the path of light traveling through it, bending its trajectory.

Gravitational Lensing Theory:

- **Einstein's Prediction**: Gravitational lensing was first predicted by Albert Einstein in 1915 as part of his general theory of relativity. According to this theory:
  - Space and time are fused into a single entity called spacetime.
  - Massive objects cause spacetime to curve, and this curvature is what we experience as gravity.
  - As light travels through this curved spacetime, its path will bend near massive objects.

- **Observable Effects**:
  - The most dramatic effects of gravitational lensing occur when light from a distant source (like a star, quasar, or galaxy) passes near a massive object (like another galaxy or galaxy cluster). This phenomenon is called a lensing object.

o The lensing effect can cause the distant object to:

  * Appear at multiple points in the sky.

  * Shift its apparent position in the sky.

  * Form spectacular shapes, like Einstein rings or crosses, formed by the same object.

- **Cosmic Magnification**: Gravitational lensing can also amplify the light from the background source, acting as a natural cosmic magnifying glass. This magnification allows astronomers to observe objects that are otherwise too faint to detect.

Significance of Gravitational Lensing:

- **Astronomical Tool**: Gravitational lensing has become an important tool in cosmology and astronomy, especially for studying the early universe. It allows astronomers to study distant galaxies and celestial bodies that are too faint or far away to be observed directly with conventional instruments.

- **James Webb and Hubble Space Telescopes**: Gravitational lensing plays a critical role in enhancing the ability of space telescopes like the James Webb Space Telescope (JWST) and the Hubble Space Telescope to observe the faint light from the earliest galaxies formed in the universe.

What is the James Webb Space Telescope (JWST)?

- **Definition**: The James Webb Space Telescope (JWST) is the most powerful space telescope ever built, launched on December 25, 2021. It is a collaborative project developed by NASA, the European Space Agency (ESA), and the Canadian Space Agency (CSA).

- **Capabilities**:

  o JWST is designed to observe the universe in infrared light, enabling it to detect faint light from distant celestial objects.

  o Its primary mission is to explore the early universe, including the formation of the first galaxies, stars, and planetary systems.

- **Significance**: JWST will revolutionize our understanding of space, helping scientists observe phenomena that were previously beyond our reach due to its advanced infrared detection capabilities.

Conclusion:

Gravitational lensing is a remarkable phenomenon that demonstrates Einstein's theory of general relativity in action. By bending and magnifying light from distant objects, it allows astronomers to study the universe's most distant and faintest objects. With tools like the James Webb Space Telescope and Hubble Space Telescope, gravitational lensing is helping unlock the mysteries of the cosmos and deepen our understanding of the early universe.

Ebola - Key Facts

Overview:

Ebola is a severe and often deadly disease caused by a group of viruses called Orthoebolaviruses (formerly known as ebolavirus). Recently, researchers have developed the first nanobody-based inhibitors that target the Ebola virus, marking progress in the fight against this deadly disease.

What is a Virus?

A virus is a microscopic organism composed of genetic material (either DNA or RNA) encased in a protective shell called a capsid. Some viruses also have an envelope derived from the host cell membrane.

- **Inability to Reproduce Alone**: Viruses cannot reproduce by themselves. They must invade a host cell (such as a human, plant, or animal cell) and hijack the cell's machinery to reproduce and propagate.

- **Infectious Nature**: Viruses infect hosts and can lead to a wide range of diseases, including the Ebola virus.

About Ebola:

- **Discovery**: The Ebola virus was first identified in 1976 in the Democratic Republic of the Congo (DRC), near the Ebola River, which gives the virus its name.

- **Geographic Location**: Ebola outbreaks primarily occur in sub-Saharan Africa.
- **Affected Species**: The virus can infect humans and various primates (such as gorillas, monkeys, and chimpanzees).

Transmission:

1. **Natural Hosts**: Fruit bats from the Pteropodidae family are believed to be the natural hosts of the Ebola virus.
2. **Animal to Human**: Humans can contract Ebola through close contact with the blood, bodily fluids, organs, or tissues of infected animals, such as bats, monkeys, chimpanzees, and forest antelopes.
3. **Human to Human**: Once Ebola enters the human population, it spreads through direct contact with the bodily fluids (blood, vomit, saliva, etc.) of infected individuals, both living and deceased.

Ebola Symptoms:

- Symptoms generally appear within 2 to 21 days after infection.
- **Common symptoms include:**
  o Fever
  o Diarrhea
  o Vomiting
  o Bleeding (internally and externally)
  o In many cases, death follows due to organ failure and other complications.
- The average case fatality rate is about 50%, though this can vary by outbreak.

Treatment:

- **No Cure**: Currently, there is no known cure for Ebola, but there are experimental treatments being tested.
- **FDA-approved treatments**: For the Zaire strain of Ebola, two monoclonal antibody treatments—Inmazeb and Ebanga—have been approved by the FDA, though further research is needed.
- **Supportive Care**: Treatment mainly focuses on supportive care:
  o Fluid and electrolyte balance
  o Blood transfusions and plasma to control bleeding
- The outcome depends on factors such as:
  o How much virus a person was exposed to initially
  o How early treatment is initiated
  o The person's age and immune response

Foot and Mouth Disease (FMD)

CLINICAL SIGNS OF FOOT & MOUTH DISEASE
- tongue & mouth lesions/ blisters
- drooling
- reduced food intake
- lesions/ blisters
- reduced milk production
- lesions/ blisters
- lameness
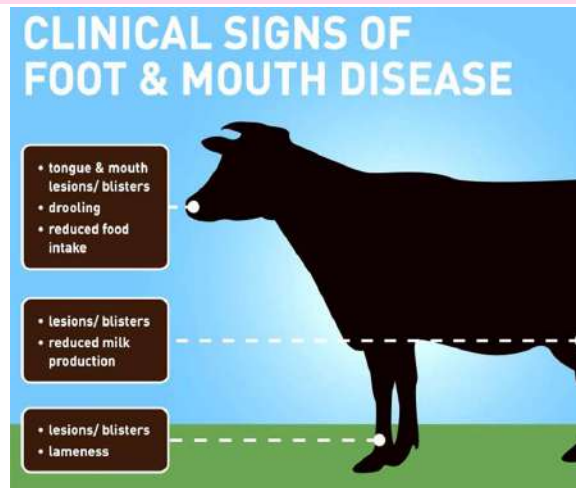
Overview:

Germany has recently experienced its first outbreak of Foot-and-Mouth Disease (FMD) in nearly 40 years, affecting water buffalo near Berlin. This highlights the ongoing global challenge posed by FMD.

About Foot-and-Mouth Disease (FMD):

- **Nature**: FMD is a severe and highly contagious viral disease that affects livestock, including cattle, swine, sheep, goats, and other cloven-hoofed ruminants.
- **Non-Affected Species**: It does not affect horses, dogs, or cats.
- **Susceptibility**: Intensively reared animals are more susceptible than traditional breeds.
- **Economic Impact**: The disease has a significant **economic impact**, disrupting livestock production and international trade in animals and animal products.
- **Global Circulation**: FMD circulates in 77% of the global livestock population, mainly in Africa, the Middle East, Asia, and limited regions of South America.
- **No Human Threat**: FMD does not pose a human health or food safety threat and is not related to hand, foot, and mouth disease (a common viral illness in children).
- **Causative Organism**: The disease is caused by an aphthovirus of the family Picornaviridae, and there are seven strains (A, O, C, SAT1, SAT2, SAT3, and Asia1), each endemic to different countries.
- **Immunity**: Immunity to one strain does not offer protection against others.

Transmission:

- FMD is transmitted through excretions and secretions from infected animals, including aerosolized virus that can infect other animals via respiratory or oral routes.

- Although the disease is rarely fatal in adult animals, it can lead to high mortality rates in young animals.

Symptoms:

- **Primary Symptoms**:
  - Fever
  - Blister-like sores on the tongue, lips, mouth, teats, and between the hooves.

- **After Effects**: Ruptured blisters can cause extreme lameness, making the animals reluctant to move or eat.

- Other symptoms include hypersalivation, loss of appetite, weight loss, growth retardation, depression, and a significant drop in milk production (which can persist even after recovery).

- **Production Losses**: FMD causes severe production losses. Although most animals recover, they may remain weakened and debilitated.

Vaccination and Treatment:

- **Vaccines**: Vaccines for FMD are available but must be matched to the specific strain and subtype of the virus causing the outbreak.

What is the World Organisation for Animal Health (WOAH)?

The World Organisation for Animal Health (WOAH), formerly known as the Office International des Epizooties (OIE), is an international organization focused on improving animal health worldwide.

- **Founded**: WOAH was established in 1924 to address rinderpest outbreaks in livestock.

- **Renaming**: In 2022, the organization was renamed to WOAH to reflect its global role in animal health.

- **Mission**: WOAH works to prevent, control, and eliminate animal diseases, including zoonotic diseases (diseases that can spread from animals to humans).

- **Key Role**: WOAH plays a critical role in monitoring and addressing global animal health challenges, such as FMD, to mitigate their impact on both livestock industries and public health.

Foot-and-Mouth Disease (FMD) remains a critical concern for global agriculture, with its ability to disrupt livestock production, trade, and economies. The World Organisation for Animal Health (WOAH) continues to play a key role in addressing such outbreaks through monitoring, vaccination, and support for affected regions.

Silver Nanowire-Based Conductive Ink Technology

Overview:

- **Indigenous Development**: The silver nanowire-based conductive ink technology was recently transferred to two startups during an event at NIT Warangal.

- This marks a significant step toward reducing India's dependency on foreign materials and advancing the country's technological capabilities in the electronics sector.

About Silver Nanowire-Based Conductive Ink Technology:

- **Development**: The technology was developed under a project funded by the Ministry of Electronics and Information Technology (MeitY), Government of India.

- **Key Benefits**: The conductive ink technology is designed to reduce India's dependency on imports while tapping into the growing demand for advanced electronic materials.

- **Applications**:
  - **Flexible Electronics**: Used in products such as foldable devices, touchscreen displays, and computer keyboards.
  - **Wearable Devices & Sensors:** Ideal for use in the growing market for wearables and health sensors.
  - **Solar Panels & Display Technologies:** Enhances the performance of solar panels and displays.

- o **RFID Tags & Windshield Defrosters:** Applied in technologies such as RFID systems and automotive defrosters.
- **Market Growth**: The global market for silver nanowire-based conductive ink is projected to exceed $16.87 billion by 2032, driven by the rising demand in electronics, semiconductors, solar photovoltaics, and RFID markets.

Economic Impact:

- **India's Import Statistics**: India currently imports conductive ink worth approximately $15.72 million annually. The USA, China, Netherlands, UK, and Taiwan are the major exporters to India.

What is Radio Frequency (RF)?

- **Definition**: Radio Frequency (RF) refers to the rate of oscillation of electromagnetic waves in the range of 3 kHz to 300 GHz.
- **Applications**: RF is widely used for communications transmission and broadcasting, facilitating everything from radio and television broadcasts to wireless communication and satellite transmissions.

The silver nanowire-based conductive ink technology developed in India promises to significantly reduce the country's reliance on imports for advanced electronic materials, while supporting various industries including flexible electronics, wearables, and solar energy. As demand for these technologies grows, India is poised to tap into the billion-dollar market. In parallel, radio frequency technology continues to be integral to global communications infrastructure.

National Organ and Tissue Transplant Organization (NOTTO)
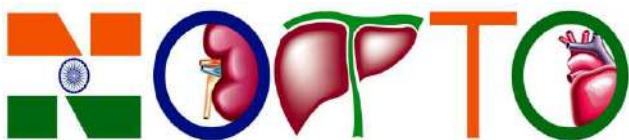
National Organ and Tissue Transplant Organization

Overview:

- The National Organ and Tissue Transplant Organization (NOTTO) recently announced that central government employees who donate organs will receive 42 days of special casual leave as an incentive for organ donation.

About National Organ and Tissue Transplant Organisation (NOTTO):

- **Establishment**: NOTTO was established under the Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India.
- **Role**: It is the apex organization responsible for implementing the National Organ Transplant Program (NOTP) and ensuring compliance with the Transplantation of Human Organs and Tissues Act (THOTA) 1994.
- **Functions**:
  - o NOTTO provides a systematic and efficient mechanism for organ procurement and distribution across India.
  - o It manages the national registry of organ and tissue donors and recipients.

Key Divisions:

1. **National Human Organ and Tissue Removal and Storage Network**:
- o This division serves as the central hub for coordinating and networking organ and tissue procurement and distribution activities in India.
- o It also handles the registry of organ and tissue donations and transplants in the country, as mandated by the Transplantation of Human Organs (Amendment) Act 2011.
2. **National Biomaterial Centre (National Tissue Bank)**:
- o This division focuses on tissue donation and the registration of tissue banks.
- o It works to bridge the gap between tissue demand and supply, ensuring quality assurance in the availability of various tissues.
- o **Activities include:**
  - * Coordination for tissue procurement and distribution.
  - * Screening, removal, storage, and preservation of tissues.
  - * Laboratory screening and sterilization of tissues.
  - * Maintaining records and ensuring data protection and confidentiality.

* Developing guidelines, protocols, and standard operating procedures for tissue banking.
* Training personnel involved in tissue banking and transplantation.

When was the National Organ and Tissue Transplant Organisation (NOTTO) established ?

• NOTTO was established based on the 2011 Amendment of the Transplantation of Human Organs Act (THOA) 1994, which provided the legal framework for its creation.

• The National Organ and Tissue Transplant Registry (NOTTR) was set up in 2015 to further strengthen the organ transplant system in India.

The National Organ and Tissue Transplant Organisation (NOTTO) plays a vital role in the regulation and facilitation of organ and tissue donation and transplantation in India. It oversees a well-organized network for organ procurement, distribution, and registry maintenance, while also focusing on quality management in tissue banking. Additionally, the recent announcement of special casual leave for government employees who donate organs serves as an encouragement to promote organ donation in the country.

What are Small Language Models (SLMs) ?

What Makes Small Language Models so Attractive?

Accessible and Affordable — They can be run (in inference mode) on limited resource regimes (such as laptops and/or small GPUs).

Easier to Customize — Small models can typically be fine-tuned on just a single GPU.

More Energy Efficient — Small language models require fewer computational resources making them more energy-efficient.

Cheaper to Develop — These models only require a relatively small number of GPUs.

Valuable for Educational Purposes — They are more manageable and thus easier to understand and tweak.

Context:

After the release of large language models (LLMs), several Big Tech firms also introduced Small Language Models (SLMs).

About Small Language Models (SLMs):

• **Definition: SLMs** are a specialized subset within artificial intelligence (AI), specifically designed for Natural Language Processing (NLP).

• **Functionality:** SLMs are AI models that process and generate human language but are designed with fewer parameters compared to their larger counterparts like GPT-3.

• **Characteristics:**
  o They are smaller in size because they are trained on smaller datasets compared to large language models (LLMs).
  o Compact architecture and require less computational power, making them lighter and more efficient.
  o Ideal for applications that have limited computing power or memory.
  o Efficiency and specificity distinguish SLMs from LLMs, as they are built to excel at specific language tasks.
  o Curated data sources are used to train SLMs, focusing on tasks requiring high efficiency in a specific domain.

What is an example of an SLM?

An example of a Small Language Model would be one tuned for specialized tasks such as:

• **Programming support agents**: These SLMs can assist with specific programming languages, libraries, and use cases.

• **Vision models**: These can interact with radiologists and extract useful knowledge from medical imagery to support diagnostic tasks.

Key Benefits of SLMs:

• **Efficiency: SLMs** are optimized for specific tasks, performing well with fewer resources.

• **Compactness:** Their smaller size makes them easier to deploy in environments where computational resources are limited.

• **Task-Specific:** They are built to handle specialized tasks effectively, in contrast to LLMs, which aim to handle a wide range of tasks.

Conclusion:

Small Language Models (SLMs) offer a compact, efficient alternative to larger models, excelling in specific language tasks with less computational overhead. Their ability to specialize in particular domains or use cases makes them valuable tools for applications with limited resources or particular needs, enhancing AI's versatility across industries.

Purulia Observatory

Overview:

A new observatory has been set up by the S. N. Bose Centre for Basic Sciences (SNBCBS) in Purulia district, West Bengal. The observatory aims to enhance scientific observations and contribute to astronomical research in eastern India and beyond.

About Purulia Observatory:

- **Location**: The observatory is situated on Panchet Hill in Purulia district, West Bengal.

- **Equipment**: It is equipped with a 14-inch diameter telescope, designed for high-quality scientific observations.

- **Altitude and Coordinates**: The observatory stands at a height of 600 meters above sea level and is located at a longitude of approximately 86° E.

- **Scientific Importance**:
  - o This observatory is significant because there are very few observatories located along the 86° East longitude, which stretches from the Arctic Ocean in the north to Antarctica in the south.
  - o By filling this geographical gap, the Purulia Observatory will play an essential role in enhancing global astronomical research.

- **Role in Education and Training**:

  Apart from scientific observations, the observatory will focus on training students in handling telescopes, recording data, and conducting astronomical research. It will serve as a valuable resource for both research and education.

Similar Observatories in India:

India is home to several prominent observatories, including:

1. **ARIES Observatory**, Nainital, Uttarakhand – Known for optical and infrared astronomy research.

2. **Vainu Bappu Observatory**, Kavalur, Tamil Nadu – Famous for its optical telescope.

3. **Indian Astronomical Observatory (IAO)**, Hanle, Ladakh – Located in one of the highest-altitude sites in the world, it is a crucial center for optical and infrared astronomy.

Key Concept : Observatories in India

- Observatories play a critical role in advancing the understanding of celestial bodies, tracking astronomical events, and training the next generation of scientists. They contribute significantly to both national and international research.

Which is the highest telescope observatory in India?

- **Indian Astronomical Observatory, Hanle (Ladakh)**:
  - o Established in 2001 by the Indian Institute of Astrophysics, this observatory is located on Mt. Saraswati (also called Digpa-ratsa Ri), Hanle, at an elevation of 4,500 meters.
  - o It is the second-highest optical telescope in the world, making it an essential site for astronomical observations.

Conclusion:

The Purulia Observatory will be a valuable addition to India's astronomical infrastructure, especially in the eastern region. Its strategic location and advanced equipment will enable it to fill a critical gap in the global network of observatories along the 86° East longitude. The observatory's role in education, training, and scientific research will be instrumental in furthering India's contributions to space science.

Telecom Technology Development Fund (TTDF) Scheme

Overview:

The Centre for Development of Telematics (C-DOT) has recently signed an agreement with the Indian Institute of Technology Delhi (IIT Delhi) to develop "Building Blocks for THz Communication Front Ends" for 6G under the Telecom Technology Development Fund (TTDF). This initiative aims to advance the development of telecommunication technologies in India.

About Telecom Technology Development Fund (TTDF):

- **Establishment**: The Telecom Technology Development Fund (TTDF) is set up under the Universal Services Obligation Fund (USOF), which is managed by the Department of Telecom (DOT), Government of India.

- **Purpose**:
  - The fund is aimed at promoting a robust ecosystem for research, design, prototyping, testing, and manufacturing in the telecommunication sector.
  - It supports activities such as proof of concept testing, IPR (Intellectual Property) creation, security, certification, and field testing in the telecom domain.

Aims of TTDF:

1. **Research and Development in Rural Areas**:

   The fund aims to fund R&D specific to rural communication technology applications, ensuring that telecommunication advancements benefit rural areas in India.

2. **Building Synergies**:

   It aims to form synergies among academia, startups, research institutes, and industry players to develop and enhance the telecommunication ecosystem in India.

3. **Promoting Indigenous Manufacturing and Technology Ownership**:
   - TTDF seeks to encourage indigenous manufacturing and reduce reliance on imports, promoting a culture of technology co-innovation.
   - It aims to create opportunities for boosting exports and the creation of Intellectual Property (IP) in the telecom sector.

4. **Support to Domestic Entities**:

   The following Indian entities are eligible for support under this fund:
   - Domestic Companies focused on telecom R&D and use case development.
   - Startups and MSMEs involved in telecommunication technologies.
   - Academic Institutions and R&D Institutes engaged in telecom research.
   - Government Entities: Central and State government entities, PSUs, Autonomous Bodies, Section 8 companies, and SPVs with a focus on telecom research.

Key Features:

- **Focus on Telecom R&D**: The fund prioritizes research and development efforts that align with India's goals for self-reliance and technological innovation.

- **Support for Startups and MSMEs**: The TTDF provides critical financial and technical support to emerging telecom startups and small businesses, thereby fostering innovation and entrepreneurship in the telecom sector.

- **Technology Co-Innovation**: The fund promotes collaboration between industry players and academic institutions, encouraging the co-creation of cutting-edge technologies in telecommunications.

What is the Telecom Technology Development Fund (TTDF)?

- The Telecom Technology Development Fund (TTDF) is established under the Universal Services Obligation Fund (USOF) with the objective to fund research and development (R&D) in rural-specific communication technologies.

- It also aims to foster collaboration between academia, start-ups, research institutes, and the industry to build and advance the telecom ecosystem in India.

Conclusion:

The Telecom Technology Development Fund (TTDF) plays a crucial role in accelerating India's telecom research and technological advancements. It supports both indigenous technology development and the creation of a self-sustaining telecom ecosystem, helping India move toward self-reliance in telecom technology and boosting exports. With its focus on rural-specific applications, the fund also aims to bridge the digital divide in the country.

Atomic Energy Commission (AEC)

Overview:

The Atomic Energy Commission (AEC) has been re-constituted by the government recently. This marks an important development in the governance of India's atomic energy sector.

About Atomic Energy Commission (AEC):

- The AEC is the governing body of the Department of Atomic Energy (DAE), which is a government department in India responsible for atomic energy.

- **Formation**:
  o The AEC was initially set up in August 1948 as part of the Department of Scientific Research, which was created earlier in June 1948.
  o On August 3, 1954, the Department of Atomic Energy (DAE) was officially formed under the direct control of the Prime Minister through a Presidential Order. This order directed that all atomic energy-related business of the Government of India be handled by the DAE.

- **Mandate**:
  o The DAE is responsible for the development of nuclear power technology and the non-power applications of atomic energy.
  o The atomic power-related functions include:
    * Exploration, identification, and processing of uranium and atomic minerals.
    * Fabrication of nuclear fuel.
    * Heavy water production.
    * Construction and operation of nuclear power plants.
    * Nuclear fuel reprocessing and waste management.
  o In addition to power applications, the DAE is also involved in:
    * Research and development for fast reactors and fusion technologies.
    * Work in fields like accelerator technology, laser technology, advanced electronics, materials science, and biological sciences.
    * The application of isotopes and radiation technologies in areas like health care, food and agriculture, industry, and the environment.

- **Formation of the AEC**:
  o According to a government resolution dated March 1, 1958, the AEC was formally established within the DAE.
  o The AEC is responsible for formulating the policies for the DAE.

- **Chairman and Members**:
  o The Secretary to the Government of India in the DAE serves as the ex-officio chairman of the AEC.
  o Other members of the AEC are appointed on a yearly basis by the AEC chairman, with approval from the Prime Minister.

- **Headquarters**: The AEC is based in Mumbai, Maharashtra.

Who was the First Chairman of the AEC?

- The first Chairman of the Atomic Energy Commission (AEC) was Homi Jehangir Bhabha. He served as the Chairman from 1948 to 1966.

Conclusion:

The Atomic Energy Commission (AEC) plays a crucial role in India's atomic energy sector, overseeing both nuclear power and non-power applications. With its roots in the late 1940s, the AEC continues to guide the development of nuclear technologies and research in India, with the chairman being a key figure in shaping policies for the country's atomic energy initiatives.

What is Huntington's Disease (HD) ?
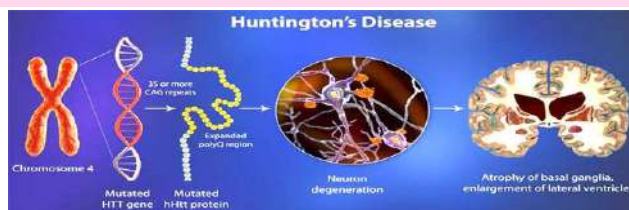
Overview:

New research has recently uncovered the delayed effects of the genetic mutation in the development of Huntington's Disease (HD), shedding light on how the disease progresses over time.

About Huntington's Disease (HD):

- Huntington's Disease (HD) is a genetic condition that primarily affects brain cells.

- **Inheritance:** HD is an inherited condition, meaning if one of your parents has HD, you have a 50% chance of developing it as well.

- **Affected Brain Regions:** The disease primarily impacts the basal ganglia, the part of the brain responsible for regulating voluntary movement, and the cortex, the brain region involved in memory, thinking, and decision-making.
- **Progression**: Over time, brain cells in these regions lose function and eventually die, leading to the progressive loss of motor and cognitive abilities.

What Causes Huntington's Disease?

- HD is caused by a genetic mutation in the HTT gene.
- The HTT gene normally produces a protein called huntingtin, which is crucial for the proper functioning of nerve cells (neurons).
- In individuals with HD, the mutation prevents the production of huntingtin in its proper form, causing the protein to fold incorrectly. This defective protein damages and kills neurons.
- The basal ganglia and brain cortex are particularly affected, which is why HD leads to problems with movement, thinking, and memory.

How Common is Huntington's Disease?

- HD is relatively rare, affecting an estimated 3 to 7 out of every 100,000 people.
- The disease is more common among people of European ancestry.

Symptoms of Huntington's Disease:

- **Movement**: Common symptoms include chorea (uncontrollable dance-like movements) and abnormal body postures.
- **Cognitive and Emotional**: As the disease progresses, it affects behavior, emotion, thinking, and personality.
- Other Symptoms: Additional symptoms can include:
  o Tremors (uncontrolled muscle movements).
  o Unusual eye movements, which can appear early in the disease.
- **Progression**: As the disease advances, individuals may require constant assistance and supervision due to its debilitating effects.
- **Life Expectancy**: People typically die within 15 to 20 years after symptoms first appear, with the disease progressively worsening.

Treatment:

- Currently, there is no cure for Huntington's Disease. However, treatment options are available to help manage the symptoms:
  o Medications such as haloperidol, tetrabenazine, and amantadine are useful for controlling abnormal movements caused by HD.
  o These drugs can help alleviate symptoms but cannot stop or reverse the underlying disease.

What is the average age of Huntington's Disease diagnosis?

- The average age of onset for Huntington's disease symptoms is 45 years.
- However, about 25% of people affected by HD experience symptoms after the age of 50.
- It's also possible to receive a diagnosis before the onset of symptoms, as changes in brain function and brain volume can occur years before symptoms appear.

Conclusion:

Huntington's Disease is a devastating genetic condition that leads to the progressive degeneration of brain cells, affecting movement, memory, and cognition. While there is no cure, treatment options are available to help manage symptoms, offering some relief to those affected by the disease. The early onset of symptoms, typically around the age of 45, poses significant challenges for both individuals and their families.

ISRO's Third Launch Pad

ON A MORE DIRECT ROUTE
Second spaceport will be used for smaller rockets

WHAT'S THE DIFFERENCE
➤ Dogleg manoeuvre is a sharp turn that causes the rocket to deviate from a straight flight path
➤ This manoeuvre requires more fuel in the rocket which eats into the payload capacity of the launcher

When rockets are launched from Kulasekarapattinam, this manoeuvre is not required as there is no landmass along the flight path in the southward direction

In polar missions, a PSLV from Sriharikota must perform a dogleg manoeuvre to avoid flying over Sri Lanka, to protect it from rocket debris

Overview:

The Union Cabinet has recently approved the establishment of the Third Launch Pad (TLP) at the Satish Dhawan Space Centre (SDSC) of the Indian Space Research Organisation (ISRO), located in Sriharikota, Andhra Pradesh.

About the Third Launch Pad (TLP):

- The Third Launch Pad project aims to build the necessary infrastructure at Sriharikota for ISRO's Next Generation Launch Vehicles (NGLV).

- **Standby Purpose**: It will also serve as a standby launch pad for the existing Second Launch Pad (SLP) at Sriharikota, ensuring increased launch capacity.

- **Support for Human Spaceflight**: TLP will significantly contribute to enhancing India's capability to carry out human spaceflight missions in the future.

Implementation Strategy and Targets:

- The TLP will be designed to be universal and adaptable, supporting various types of vehicles:
  - o NGLV (Next Generation Launch Vehicles)
  - o LVM3 (Launch Vehicle Mark 3) with semi-cryogenic stage
  - o Scaled-up configurations of NGLV.

- The development will involve maximum industry participation, leveraging ISRO's prior experience in establishing launch pads and sharing existing facilities from other launch complexes.

- **Duration for Completion**: The TLP is planned to be established within 48 months (or 4 years).

Funding:

- The total cost for establishing the Third Launch Pad and its associated facilities is Rs. 3984.86 crore.

Significance:

- **Boost to Indian Space Ecosystem**: The new launch pad will increase launch frequencies, thus enhancing India's launch capacity and enabling the country to undertake human spaceflight and space exploration missions.

Background:

- Currently, India relies on two operational launch pads:
  1. **First Launch Pad (FLP)**: Established 30 years ago, primarily used for PSLV and SSLV.

  2. **Second Launch Pad (SLP)**: Established nearly 20 years ago, it supports GSLV and LVM3 missions and also functions as a backup for PSLV.

- SLP has been crucial in enabling commercial missions and national missions, including the Chandrayaan-3 mission.

How many launching pads are there in India?

- India has three major rocket launching sites:
  1. Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram (Thumba), Kerala.
  2. Satish Dhawan Space Centre (SDSC), Sriharikota, Andhra Pradesh.
  3. Dr Abdul Kalam Island, Odisha.

Conclusion:

The establishment of the Third Launch Pad (TLP) at Sriharikota will significantly enhance India's space capabilities, allowing for increased frequency of launches and the ability to undertake ambitious human spaceflight and exploration missions. This will also ensure that ISRO's space transportation system remains resilient and adaptable for the future.

SCOT Mission

Overview:

- SCOT Mission is a space surveillance initiative by the Indian space startup Digantara.

- It is one of the world's first commercial Space Situational Awareness (SSA) satellites.

- Launched aboard SpaceX's Transporter-12 mission.

- The mission focuses on tracking Resident Space Objects (RSOs), particularly smaller objects in Low Earth Orbit (LEO).

Key Features of SCOT:

- Purpose-built for tracking small RSOs.

- Provides higher revisit rates and better tracking accuracy compared to current systems.

- Designed to monitor objects as small as 5 cm orbiting Earth.

- Deployed in a sun-synchronous orbit for enhanced tracking efficiency.

- Overcomes the limitations of traditional systems like restricted fields of view (FoV) and weather/geographic constraints.

Importance and Support:

- Aims to improve space operations and national security.

- Backed by Aditya Birla Ventures and SIDBI.

- Enhances space surveillance by ensuring safer space operations.

Related Developments:

- Along with Digantara, two other Indian space startups deployed their satellites on SpaceX's Transporter-12 rocket:

    o **Pixxel:** Deployed the first three satellites of its Firefly constellation.

    o **XDLINX Spacelabs:** Developed ELEVATION-1, a satellite for Almagest Space Corporation.

What is a Space Camera?

- A space camera is an optical payload or imaging system aboard satellites that captures detailed images of Earth.

- Equipped with advanced sensors and lenses, these cameras are essential for Earth observation and other space missions.

Surgical Tele-Robotic System

Overview:

India's first indigenous surgical tele-robotic system, SSI Mantra, successfully performed two complex heart surgeries with the patient located in Jaipur and the operating surgeon in Gurgaon. This marks a significant milestone in India's medical technology sector.

About Surgical Tele-Robotic System (SSI Mantra):

- **Developer**: The system, SSI Mantra, was developed by SSI Ltd, a medical technology company in India.

- **Approval**: It has received approval from the Central Drugs Standard Control Organisation (CDSCO), certifying it as a Class B and Class C surgical device, ensuring its safety, efficacy, and regulatory compliance for use in hospitals across India.

- **Functionality**: The system allows surgeons to perform complex surgeries remotely. For instance, it can be used for Totally Endoscopic Coronary Artery Bypass (TECAB), a highly intricate heart surgery.

Advantages of the Surgical Tele-Robotic System:

1. **Reduced Time of Operation**: The system helps streamline surgery procedures, cutting down the time required for complex operations.

2. **Better Precision**: The robotic system ensures higher precision in surgeries, improving outcomes.

3. **Minimal Invasive Trauma**: Compared to traditional surgery, it causes less trauma to the body, with smaller incisions, reduced blood loss, and a quicker recovery time.

4. **Lower Risk of Infection**: Due to smaller incisions, the risk of infection is minimized.

Challenges:

- **Latency Time**: Delays in signal transmission between the surgeon and the robot could potentially complicate the surgery.

- **Connectivity**: Good, uninterrupted connectivity is crucial to ensure that the robotic system works efficiently during surgeries.

- **Technical and Medical Preparedness**: Surgeons need to be prepared for unforeseen medical or technical issues that may arise during telesurgery.

- **Higher Costs**: The system involves significant capital and operational costs, making it more accessible in metro and tier-1 cities, limiting its reach to more remote areas.

What is Tele-Robotic Surgery?

- Tele-robotic surgery, or telesurgery, is an advanced surgical system that combines wireless networking and robotic technology to enable surgeons to perform surgeries on patients located in different geographical locations.

- It allows remote surgery, overcoming the barriers of distance and enabling specialized care to be delivered from afar.

In conclusion, SSI Mantra represents a breakthrough in India's medical field, leveraging robotics and telecommunication to transform surgery, offering advantages like precision, reduced recovery time, and remote accessibility, although it still faces challenges in terms of cost and connectivity.

Forever Chemicals

Overview:

The European Commission plans to propose a ban on the use of PFAS (Perfluoroalkyl and Polyfluoroalkyl Substances), commonly known as "forever chemicals," in consumer products, with exceptions for essential industrial applications.

What are Forever Chemicals?

- PFAS are a group of toxic, man-made chemicals known for their hazardous effects on both the environment and human health.
- They are referred to as "forever chemicals" because of their ability to persist in the environment for long periods, including in air, water, and soil, without breaking down.

Environmental and Health Impacts:

- PFAS are harmful to all organisms, including humans, due to their environmental persistence.
- **Health Risks**: Exposure to PFAS has been linked to a variety of serious health issues, such as:
  - Decreased fertility
  - Developmental effects in children
  - Hormonal interference
  - Increased cholesterol levels
  - Higher risk of certain cancers

Applications of PFAS:

PFAS chemicals are widely used across multiple industries due to their ability to resist extreme temperatures, corrosion, and staining. Common uses include:

- Cosmetics
- Non-stick cookware
- Aircraft
- Wind turbines

Environmental Persistence:

PFAS are notorious for migrating to the soil, water, and air during production and use, contributing to their widespread contamination.

Global Concern:

PFAS are listed under the Stockholm Convention, which addresses persistent organic pollutants that pose a risk to human health and the environment.

Chandra X-Ray Observatory

Overview:

An international team of researchers using NASA's James Webb Space Telescope (JWST) and the Chandra X-ray Observatory has recently discovered a bizarre black hole that could provide key insights into the genesis and growth of supermassive black holes.

About Chandra X-Ray Observatory:

- The Chandra X-Ray Observatory is one of NASA's premier space telescopes designed to detect X-ray emissions from extremely hot regions in the Universe, such as:
  - Exploded stars
  - Galaxy clusters
  - Matter around black holes
- **Launch and Orbit**:
  - It was launched on July 23, 1999, aboard the Space Shuttle Columbia (STS-93).
  - Because X-rays are absorbed by Earth's atmosphere, the observatory must orbit 139,000 km (86,500 miles) above the Earth's surface.
- **Significance**:
  - As part of NASA's Great Observatories, Chandra works alongside the Hubble Space Telescope, the Spitzer Space Telescope, and the now-deorbited Compton Gamma Ray Observatory.
  - Chandra is the world's most powerful X-ray telescope, with eight times greater resolution than previous X-ray telescopes, enabling it to detect sources more than 20 times fainter than any of its predecessors.
- **Purpose**:

  It allows scientists to obtain X-ray images of exotic environments to deepen our understanding of the structure and evolution of the universe.

NVS-02 Satellite Launch

In January, 2025, the Indian Space Research Organisation (ISRO) successfully launched the NVS-02 satellite using the Geosynchronous Satellite Launch Vehicle (GSLV). This satellite is an essential part of India's NavIC navigation system, which plays a critical role in enhancing the country's satellite-based navigation capabilities.

NVS-02 Satellite:

NVS-02 is the second satellite in the second generation of NavIC satellites. This new series is being developed to replace older satellites in the Indian Regional Navigation Satellite System (IRNSS), India's regional satellite-based navigation network.

- **Launch Vehicle**: GSLV-F15
- **Orbit**: Geosynchronous Transfer Orbit (GTO)
- **Predecessor**: NVS-01 (launched in 2023)
- **Mission Goal**: To strengthen and enhance the capabilities of NavIC for better navigation and timekeeping.

Key Features of NVS-02 Satellite

1. **Weight and Power**:
   o Weight: 2,250 kg
   o Power Capacity: 3 kW
2. **Navigation Payload**:
   o Frequency Bands: L1, L5, and S bands for navigation signals
   o Ranging Payload: C-band (like its predecessor NVS-01)
3. **Advanced Atomic Clock**:
   Equipped with a Rubidium Atomic Frequency Standard (RAFS) for accurate timekeeping.
4. **Lifespan**:
   Designed to operate for 12 years.
5. **Orbital Position**:
   Positioned at 111.75°E in orbit, replacing the older IRNSS-1E satellite.

Significance of NVS-02 Satellite

- **Improvement in NavIC Services**:

  NVS-02 enhances the accuracy and reliability of the NavIC system, which is used for various applications such as navigation, fleet management, emergency services, mobile location tracking, and precision agriculture.

- **Global Compatibility**:

  The addition of L1 band signals makes NavIC more compatible with global navigation systems, thereby improving its international integration and wider service adoption.

- **Technology Advancement**:

  NVS-02 features an indigenously developed, high-precision atomic clock (RAFS), which improves timekeeping accuracy, ensuring the satellite system operates with greater precision over an extended period.

Conclusion

The successful launch of the NVS-02 satellite marks a significant step in India's space journey. With advanced features, better performance, and enhanced compatibility with global systems, NVS-02 strengthens India's satellite navigation capabilities. This satellite not only replaces an older one but also ensures the continued growth and reliability of the NavIC system, which will have far-reaching benefits for various industries and sectors.

Deep Ocean Mission – Advancing India's Blue Economy

The Deep Ocean Mission is a significant initiative launched by the Government of India to support the country's Blue Economy initiatives. This multi-ministerial, multidisciplinary programme is aimed at better understanding the deep sea living and non-living resources of the Indian Ocean.

Key Details of the Deep Ocean Mission

- **Mission Objective**:

  The mission seeks to develop technologies for deep-sea mining, ocean exploration, and the conservation of marine biodiversity, with a focus on the Indian Ocean.

- **Cost and Duration**:

  The mission is a Central Sector Scheme with an estimated cost of Rs 4,077 crores. The project will span two phases from 2021 to 2026.

- **Nodal Ministry**:

  The Ministry of Earth Sciences (MoES) is the nodal ministry responsible for implementing the mission, in collaboration with other institutions.

Six Major Components of the Deep Ocean Mission

1. **Development of Technologies**:

   This includes the creation of technologies for deep-sea mining, manned submersibles, and underwater robotics.

2. **Ocean Climate Change Advisory Services**:

   Developing advisory services to understand and address the impacts of climate change on the ocean.

3. **Exploration and Conservation of Deep-Sea Biodiversity**:

   Innovating technologies for exploring and conserving the biodiversity of the deep ocean.

4. **Deep Ocean Survey and Exploration**:

   Conducting extensive surveys to explore the deep-sea regions and understand their resources.

5. **Energy and Freshwater from the Ocean**:

   Exploring ways to extract **energy** and **freshwater** from the ocean in a sustainable manner.

6. **Advanced Marine Station for Ocean Biology**:

   Establishing advanced research stations for studying ocean biology and supporting ocean-based scientific research.

Samudrayaan Project – Manned Ocean Exploration

As part of the Deep Ocean Mission, the Samudrayaan Project focuses on developing a manned submersible capable of carrying three people to a depth of 6,000 meters in the ocean. This submersible, called Matsya 6000, is equipped with a suite of scientific sensors for ocean exploration and observation.

- **Key Features of Matsya 6000**:
  o The vehicle design has been completed.
  o Key components like the underwater battery, propulsion system, underwater communication devices, and power distribution systems have been developed.
  o The personnel sphere is designed for operations at 500 meters depth.

Significance and Impact

The Deep Ocean Mission aims to harness both living and non-living resources from the deep ocean, contributing to India's sustainable growth. By tapping into deep-sea resources, the mission could provide solutions for energy and freshwater needs while protecting marine biodiversity. Additionally, the development of technologies like manned submersibles will position India as a leader in deep-ocean exploration.

Conclusion

The Deep Ocean Mission is a forward-looking project that combines technological innovation with environmental sustainability. By unlocking the potential of the deep oceans, India aims to not only advance its Blue Economy but also contribute to global ocean knowledge and conservation efforts.

ISRO's SpaDeX Mission for Space Docking : A Leap Toward the Future of Space Exploration

Date: December 30, 2024

- The Indian Space Research Organisation (ISRO) achieved a milestone with the successful launch of the SpaDeX mission (Space Docking Experiment) on December 30, 2024.

- This mission shows India's advancement in space docking technology, a crucial capability for future space exploration, particularly for long-term missions, space station assembly, and interplanetary travel.

Mission Overview:

The SpaDeX mission is designed to test the first-ever space docking technology developed by India. This marks a major step for ISRO in the global space race, positioning India alongside the US, Russia, and China as one of the few countries capable of conducting such intricate operations in space.

- **Launch Vehicle:** The PSLV-C60 (Polar Satellite Launch Vehicle), ISRO's workhorse rocket, was used for this mission. It was launched from the Satish Dhawan Space Centre in Sriharikota, India.

- **Primary Objective:** To demonstrate space docking, where two satellites will connect and operate together in orbit. This technology is crucial for future missions involving large space structures, including the Bharatiya Antariksh Station (BAS) and interplanetary exploration.

  The mission's success lays the foundation for future space infrastructure that could revolutionize satellite servicing, space station assembly, and more advanced space exploration projects.

Key Mission Components:

1. **PSLV-C60 Rocket**:

* **Launch Vehicle**: The PSLV-C60 is ISRO's most reliable and versatile rocket used for deploying satellites into polar orbits and geosynchronous orbits. It was chosen for this mission due to its track record of successful launches.

* **Satellite Deployment**: The rocket successfully deployed two small satellites into Lower Earth Orbit (LEO):

  o **SDX01 Chaser Satellite**: Designed to approach and dock with the Target satellite.

  o **SDX02 Target Satellite**: Equipped with systems for maintaining the correct orbit and distance during the docking process.

2. **Docking Process**:

* The SDX01 Chaser satellite will gradually close the distance to the SDX02 Target satellite.

* The mission aims to reduce the distance in a step-by-step process, with the final docking taking place at a distance of 3 meters.

* Over 7-8 days, the Chaser will reduce the distance incrementally:

  5 km $\rightarrow$ 1.5 km $\rightarrow$ 500 meters $\rightarrow$ 225 meters $\rightarrow$ 15 meters $\rightarrow$ 3 meters

* Once docked, both satellites will exchange electrical power for a brief period before undocking and continuing on their separate paths.

3. **Docking Date**:

* The final docking is scheduled for January 7, 2025, which will be a critical demonstration of ISRO's space docking capabilities.

What is Space Docking and Why is It Important ?

- Space Docking involves two spacecraft connecting while in orbit, allowing them to operate together and perform complex tasks. This technology is essential for:

  * **Building Space Stations**: Docking is required to assemble and maintain space stations, which are made up of multiple modules docked together in orbit.

  * **Interplanetary Missions**: Docking allows multiple spacecraft to combine resources for long-term missions to the Moon, Mars, or other destinations.

  * **Payload Transfer**: Docking enables the transfer of large payloads or modules, which cannot be launched in a single spacecraft.

- **Why It Matters**:

  * Docking technology is fundamental for future space stations and interplanetary missions.

  * It supports the Bharatiya Antariksh Station (BAS), India's first space station, scheduled to begin in 2028.

  * It makes India competitive in the global space race, joining the ranks of the United States, Russia, and China in advanced space technologies.

The SpaDeX Mission : Components and Technology

1. **SDX01 Chaser Satellite**:

* **Tracking and Docking**: Equipped with high-resolution cameras for visual tracking and docking assistance. The Chaser satellite will gradually approach the Target satellite and attempt to dock.

* **Docking Mechanism**: It uses sophisticated guidance systems to ensure precise and safe docking.

2. **SDX02 Target Satellite**:

* **Multispectral Payload**: The Target satellite is equipped with instruments to monitor Earth's natural resources, vegetation, and space radiation.

* **Propulsion System**: It contains propulsion to maintain an optimal distance and relative motion with the Chaser satellite during the docking procedure.

3. **Docking Process**:

* After the two satellites are placed in a 475 km circular orbit, the docking procedure will begin with a 20 km separation between the satellites.

* The Chaser satellite will gradually reduce the distance by using its thrusters to counter the relative motion and avoid drifting.

* After the final docking, electrical power will be transferred between the two satellites before undocking and continuing separate missions.

Scientific and Technological Innovations:

1. **POEM (PS4 Orbital Experiment Module)**:

* A testing platform for 24 different technologies contributed by ISRO, Indian startups, and academic institutions.

* These include technologies for satellite servicing, space sustainability, and biological studies.

2. **CROPS (Compact Research Module for Orbital Plant Studies)**:

* Focuses on plant growth in microgravity, which is vital for growing food during long-duration space missions.

* This research can help scientists understand the effects of microgravity on plant cells and develop systems for growing food in space.

3. **Robotic Arms**:

* **Debris Capture Arm**: Designed to capture space debris, an increasing concern for spacecraft safety and the preservation of the space environment.

* **Moveable Robotic Arm**: Tested for satellite servicing tasks like repairing, refueling, and maintaining satellites in orbit.

4. **Other Experiments**:

* **Amity University**: Studying plant cell behavior in microgravity to compare how cells behave in space versus on Earth.

* **RV College of Engineering, Bengaluru**: Studying gut bacteria growth curves in space to investigate how microorganisms behave in the absence of gravity.

* **Synthetic Aperture Radar**: Testing radar systems for Earth observation, focusing on natural resource monitoring and vegetation mapping.

5. **Green Propulsion System**:

* The mission includes the demonstration of a green propulsion system that uses environmentally friendly propellants as opposed to traditional toxic chemicals used in conventional rockets.

Future Impact: How Docking Will Shape India's Space Program

1. **Bharatiya Antariksh Station (BAS)**:

* The BAS, India's first space station, will consist of multiple modules that need to be docked together in orbit.

* The success of the SpaDeX mission is a key step toward ensuring that India can assemble large space structures and operate them safely in orbit.

2. Chandrayaan-4 Mission:

* ISRO's Chandrayaan-4 mission, set to bring lunar samples back to Earth, will rely on docking technology to connect modules in space for safe sample transfer and return.

3. Heavy Payload Missions:

* Docking allows multiple spacecraft to combine resources for carrying out complex tasks that would otherwise require too large a spacecraft to be launched in a single mission.

* This is essential for interplanetary missions, including those targeting Mars or the Moon.

India's Position in Global Space Exploration

• **Global Significance**: The successful completion of this docking experiment will make India the 4th country globally to possess docking technology, joining the ranks of the United States, Russia (formerly the USSR), and China. This positions ISRO as a leader in space technologies, enhancing its credibility and capabilities in global space initiatives.

• **Technological Leadership**: The SpaDeX mission reinforces India's role as a global technology innovator in space. It paves the way for international collaborations in the areas of satellite servicing, space station construction, and interplanetary exploration.

• **Private Sector and Research Collaboration**: The SpaDeX mission highlights the growing involvement of Indian startups and academic institutions in the country's space program. This collaboration will help further drive innovation and technology development within India's growing space industry.

Conclusion : A Landmark in India's Space Journey

The SpaDeX mission marks a pivotal point in ISRO's journey, showcasing India's capacity for space docking technology. With this successful demonstration, ISRO is not only paving the way for future space missions, including Chandrayaan-4 and the Bharatiya Antariksh Station, but is also securing India's position as a global leader in space exploration.

Crux of The Hindu & Indian Express

Science & Technology

Norovirus Surge in the US : Symptoms, Transmission, At-Risk Groups and Preventive Measures

• In December 2024, A significant surge in norovirus outbreaks was observed across parts of the United States this winter, with an uptick in cases reported by the Centers for Disease Control and Prevention (CDC).

• As the winter months started, the number of norovirus cases has surged, notably since early December, prompting concerns about the spread of this highly contagious stomach virus.

Recent Surge in Norovirus Outbreaks: CDC Data

• According to the CDC, there was a notable increase in norovirus outbreaks reported during the week of December 5, 2024.

• The number of outbreaks surged to 91, up from 69 outbreaks the week before, marking a 25% increase.

• Historically, the first week of December has seen fewer than 65 outbreaks, making this rise particularly concerning.

- This increase in cases signals that the virus is spreading across the country, especially as outbreaks are common during the winter months, typically peaking between November and April.
- Outbreak Statistics: On average, the U.S. sees about 2,500 norovirus outbreaks annually.
- These outbreaks are most common in congregate settings such as cruise ships, nursing homes, schools, and correctional facilities, where individuals are in close proximity to one another.

What is Norovirus ? Understanding the Symptoms and How It Spreads ?

- Norovirus is the leading cause of foodborne illness in the U.S., accounting for approximately 58% of food-related infections each year, according to CDC data.
- It is highly contagious, and even a small number of viral particles—sometimes as few as 10—are enough to cause illness.

Symptoms of Norovirus:

The symptoms of norovirus typically manifest within 12 to 48 hours after exposure to the virus and include:

- Sudden onset of vomiting
- Diarrhea
- Nausea
- Stomach pain and cramping
- Body aches
- Headache
- Fever

In most cases, the illness lasts for 1 to 3 days, and people typically recover without requiring medical intervention. However, the virus can still lead to serious health complications such as dehydration, especially in vulnerable populations.

Transmission: How Does Norovirus Spread?

Norovirus is known for its highly contagious nature. The virus spreads through several methods:

1. **Person-to-person contact**: The virus spreads easily when infected individuals come into close contact with others, such as through shared food, utensils, or close interactions.
2. **Contaminated surfaces and objects**: Norovirus can survive on surfaces for days, making it easy to spread through touching contaminated objects like doorknobs, countertops, and handrails.
3. **Contaminated food or water**: The virus can be transmitted through food and water that has been contaminated by infected individuals.

Outbreaks are particularly common in closed environments like cruise ships, schools, nursing homes, and correctional facilities, where people are in close quarters and the virus can spread rapidly.

Who is at Risk?

While norovirus can affect anyone, certain groups are more vulnerable to severe illness, particularly those who are prone to dehydration:

- **Older adults** (aged 65 and above) are more likely to experience severe dehydration and complications.
- Young children and infants are at higher risk for dehydration due to their smaller body size and greater fluid turnover.
- Individuals with weakened immune systems, such as those undergoing cancer treatment or with chronic illnesses, are also at higher risk for complications.

The most significant health concern for those infected with norovirus is dehydration caused by vomiting and diarrhea, which can lead to serious health issues if left untreated.

What to Do If You're Sick: Managing Symptoms

There is no specific antiviral treatment for norovirus, so managing the symptoms involves focusing on rehydration to prevent dehydration. The CDC recommends the following:

1. **Hydration**:
   o Drink fluids like water, oral rehydration solutions (ORS), and clear broths to replenish lost fluids.
   o Avoid drinks like coffee, tea, and alcohol, which can worsen dehydration.
2. **Seek medical attention** if symptoms of severe dehydration occur. These symptoms include:
   o Decreased urination
   o Dry mouth and throat
   o Dizziness or lightheadedness
   o Fatigue or weakness
   o For children: unusual sleepiness, fussiness, or crying with little or no tears.

If these symptoms are severe, it's important to seek medical care immediately, as dehydration can be life-threatening, especially for children and elderly individuals.

Preventive Measures: How to Protect Yourself:

Preventing the spread of norovirus primarily involves good hygiene practices and sanitation. Here are the key preventive steps:

1. **Hand Hygiene**:
   o Wash hands thoroughly with soap and warm water for at least 20 seconds, especially before eating and after using the restroom.
   o Hand sanitizers are less effective against norovirus, so handwashing with soap and water is the most reliable preventive measure.

2. **Disinfecting Surfaces**:
   Frequently clean and disinfect high-touch surfaces like doorknobs, light switches, and countertops. Use a household disinfectant that is proven to be effective against norovirus.

3. **Food Safety**:
   o Avoid preparing food if you are feeling sick, and ensure that food is properly cooked and handled to prevent contamination.
   o Do not share food, drinks, or utensils with anyone who is sick.

4. **Stay Home When Sick**:
   If you are experiencing symptoms of norovirus, stay home to avoid spreading the virus to others, especially in crowded environments like schools or workplaces.

5. **Enhanced Hygiene in Communal Settings**:
   In high-risk environments like schools, nursing homes, and cruise ships, extra care should be taken to disinfect shared areas and encourage frequent handwashing among staff and residents.

Conclusion: Staying Vigilant Against Norovirus

The rise in norovirus outbreaks across the United States serves as a reminder of how easily the virus spreads, especially in close-quarters settings. While most individuals recover without long-term complications, the virus poses a significant risk to vulnerable populations such as the elderly, young children, and those with weakened immune systems.

Human Metapneumovirus (HMPV), As Cases Emerge from China

1. Introduction: The Growing Concern

• Recently, cases of Human Metapneumovirus (HMPV) have emerged in China, raising concern among health officials.

• As respiratory infections rise in the winter months, China's disease control authorities have launched a monitoring system for pneumonia of unknown origin.
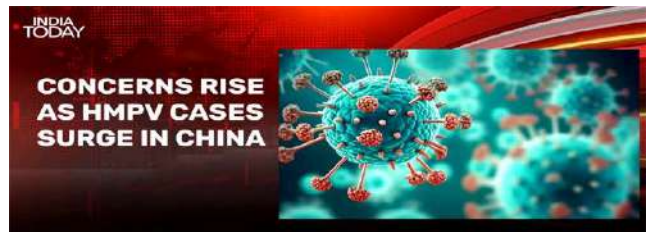
• This system aims to help track and manage new pathogens.

• One of the key viruses detected is HMPV, which has shown an upward trend, especially in northern provinces and among children under 14.

• Although social media posts suggested that China had declared an emergency over HMPV, there has been no official confirmation of such a declaration.

• However, authorities are carefully monitoring the situation as respiratory infections are expected to increase through winter and spring.

2. What is Human Metapneumovirus (HMPV)?
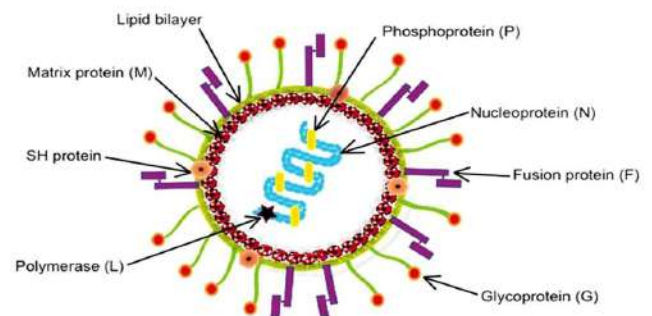
A model structure of Human Metapneumovirus

Human Metapneumovirus (HMPV) is a respiratory virus that causes infections similar to the common cold. It was first identified in 2001 and belongs to the Pneumoviridae family, which also includes:

• Respiratory Syncytial Virus (RSV)

• Measles

• Mumps

HMPV can affect both the upper (nose, throat) and lower respiratory tract (lungs) and is most commonly seen during the winter and early spring months. Children, the elderly, and people with weakened immune systems are at a higher risk of infection and complications.

3. Signs and Symptoms of HMPV

The symptoms of HMPV typically resemble those of a common cold but can range from mild to more severe. Common symptoms include:

- Cough
- Runny or blocked nose
- Sore throat
- Fever
- Wheezing

The incubation period for HMPV is generally 3 to 6 days. In most cases, the infection resolves on its own within a few days with rest and supportive care at home. However, in some individuals, complications like bronchitis or pneumonia can develop, requiring medical treatment.

4. How Does HMPV Spread?

HMPV is primarily spread through respiratory droplets when an infected person coughs or sneezes. It can also be transmitted via:

- Close contact with an infected person (e.g., shaking hands, hugging)
- Touching contaminated objects (e.g., doorknobs, phones, keyboards) and then touching your mouth, nose, or eyes

Because the virus spreads through these common actions, personal hygiene is crucial in preventing transmission.

5. Treatment of HMPV

Currently, there is no specific antiviral medication to treat HMPV, nor is there a vaccine for prevention. Treatment focuses on managing symptoms. Most people recover with the help of:

- Over-the-counter medications for fever and pain relief
- Decongestants to ease breathing difficulties

Since antibiotics are ineffective against viral infections, they are not prescribed for HMPV unless there is a secondary bacterial infection.

6. Prevention of HMPV

Preventing the spread of HMPV largely involves general precautions to avoid respiratory infections:

- Frequent hand washing with soap and water
- Avoid close contact with infected individuals
- Avoid touching your face, particularly the eyes, nose, and mouth
- Wearing a mask if you suspect you may be infected, to prevent spreading the virus to others

People with pre-existing lung conditions, such as asthma or Chronic Obstructive Pulmonary Disease (COPD), should take extra care to avoid exposure to the virus.

7. Monitoring and Response: India's Vigilance

- In response to reports from China, India's National Centre for Disease Control (NCDC) under the Union Health Ministry is actively monitoring respiratory infections and seasonal influenza cases within the country.
- The NCDC is also in touch with international health agencies to stay updated on the situation.
- According to official sources, while there has been a rise in acute respiratory infections (including HMPV, RSV, and seasonal influenza) in China during December, the overall scale and intensity of these diseases is reportedly lower than in the previous year.
- Health officials expect a seasonal increase in respiratory pathogens across the northern hemisphere during the winter period.

Conclusion: Global Health Monitoring

The emergence of HMPV cases in China highlights the continuous challenge of managing respiratory infections, especially during the colder months. Although HMPV is generally mild, it can lead to serious complications, particularly for vulnerable groups. As no vaccine or specific antiviral treatment is available, prevention through hygiene and social distancing remains key.

A Major Discovery of Dark Oxygen with Wide-Impact Consequences

1. Background: The Discovery of Dark Oxygen

- For a long time, scientists believed that oxygen could only be produced through photosynthesis, which depends on sunlight. However, a new discovery has changed this understanding.

- **What Was Found?**
  - Scientists found that metal lumps (called nodules) on the ocean floor are capable of producing oxygen in total darkness.
  - This process happens through electrolysis, where the metal lumps break down seawater into hydrogen and oxygen.

- **Why It Matters**: This finding challenges the belief that sunlight is necessary for oxygen to be created and opens up new possibilities for understanding how oxygen can exist in dark places, both on Earth and on other planets.

2. The Role of Metal Nodules in Oxygen Production

- **What Are Metal Nodules?**
  - These are naturally occurring lumps of metal found on the ocean floor, especially in regions like the Clarion-Clipperton Zone, located between Hawaii and Mexico.
  - These nodules are formed when metals dissolved in seawater collect over millions of years around debris such as shells and rocks.

- **How Do They Work?**
  - The metal nodules create an electric current that breaks down seawater molecules through a process called electrolysis.

  - This results in the production of hydrogen and oxygen gases—creating oxygen in deep, dark parts of the ocean, where sunlight cannot reach.

  - This process was first observed at a depth of 5 km (3.1 miles) below the ocean surface.

3. Scientific Reactions and Controversy

- The research team published their findings in Nature Geoscience in 2024.

- The discovery sparked a worldwide debate among scientists. Many were skeptical, as oxygen production in the deep, dark ocean was thought to be impossible without sunlight.

- Some scientists, like Michael Clarke from the Metals Company (a Canadian deep-sea mining company), questioned the research.

- They suggested that the oxygen observed was simply gas bubbles created during the sampling process, not actual oxygen produced by the nodules.

- They also raised concerns about the methods used in the experiments.

- Prof. Sweetman and his team defended their findings, arguing that they had ruled out the possibility of bubbles interfering with their measurements.

- They are now conducting further experiments to prove that the nodules are indeed producing oxygen.

4. Significance for Life on Earth and Beyond

- The discovery of oxygen production in the deep ocean without sunlight could change how we think about life on Earth and elsewhere in the universe.

- The process of oxygen generation in the deep ocean suggests that similar processes might exist on other planets or moons, such as Europa (a moon of Jupiter) or Enceladus (a moon of Saturn), where there are subsurface oceans. Life could potentially exist there, even without sunlight.

- If oxygen can be produced in these dark, deep environments, it may provide the right conditions for microbial life to survive on distant planets. Prof. Sweetman's team is collaborating with NASA to explore whether such processes could support life on other worlds.

5. The Deep-Sea Ecosystem and Seabed Mining

- The discovery comes at a time when companies are exploring deep-sea mining to extract metal-rich nodules from the ocean floor.

- These nodules contain important metals like nickel, cobalt, and copper, which are used to make batteries for electric vehicles and renewable energy systems.

- Environmental Impact: There are concerns that mining these metal nodules could harm delicate ecosystems at the ocean's depths. The oxygen-producing process is thought to play a key role in supporting life in these ecosystems, and disturbing the nodules could have serious environmental effects.

- More than 900 marine scientists from 44 countries have signed a petition calling for a pause in deep-sea mining.

- They argue that more research is needed to understand the potential environmental risks before mining can take place.

6. Research Plans and Exploration

- **New Research Mission**: Prof. Sweetman and his team are planning further research trips to study oxygen production at even deeper parts of the ocean—at depths greater than 10 km (6.2 miles)—using specially designed submersible vehicles.

- **Collaborations with NASA**: The team is also working with **NASA** experts to investigate whether similar oxygen-producing processes might be occurring on moons and planets in our solar system.

- Their goal is to see if microbial life could exist in subsurface oceans, such as those beneath the icy crusts of Europa or Enceladus.

Conclusion

The discovery of dark oxygen, produced by metal nodules on the deep ocean floor, has the potential to change our understanding of life on Earth and beyond. The finding suggests that oxygen can be created in dark environments without sunlight, which could expand the possibilities for life on other planets.

Is the Ongoing 'Planet Parade' Rare?
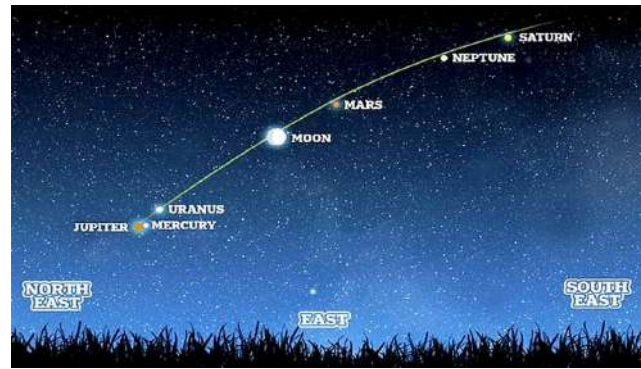
1. What is a 'Planet Parade' ?

- A 'planet parade' occurs when several planets in our solar system are visible in the night sky at the same time.

- It is not an official term in astronomy, but it refers to a rare event when multiple planets can be seen aligning or forming an arc across the sky.

- A radio astronomer and in-charge of the SciPOP outreach program at the Inter-University Centre for Astronomy & Astrophysics (IUCAA), explains that planets move at different speeds across the sky, and sometimes they align, allowing us to see many of them at once.

- This can occur either in the morning sky or the evening sky.

2. Current 'Planet Parade'

June 23 looking southeast 45 minutes before sunrise

- For the past few days, four planets — Venus, Saturn, Jupiter, and Mars — have been visible to the naked eye.

- Uranus and Neptune are also visible, but require a telescope or even a pair of binoculars to be seen.

- These 6 planets are forming a breathtaking arc across the night sky, providing a spectacular viewing experience for skywatchers.

3. Are Planet Parades Rare?

- Planet parades are not extremely rare. According to NASA, these multi-planet viewing opportunities don't happen every year, but they are not a once-in-a-lifetime event either.

- The last such planet parade occurred in May-June 2024, when all the planets of the solar system were visible in the morning sky.

- This current event has been ongoing since December, and it's not a one-day phenomenon.

- In fact, Mercury, the fifth planet visible to the naked eye, will appear in the evening sky after February 20.

- Alignment of planets is often talked about, but according to NASA, there is nothing special about the way planets appear to align.

- The alignment is simply due to the plane of the solar system, causing planets to always appear in a sort of line.

4. How to View the Planets

- There are eight planets in the solar system: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Neptune, and Uranus.

- Of these, five planets can be seen with the naked eye — Venus, Mars, Jupiter, Saturn, and Mercury (which will be visible later). The other two, Neptune and Uranus, require a telescope or binoculars to be seen clearly.

- Planets are generally visible a few hours after sunset, when the sky is dark enough. Clear skies and the absence of light pollution are ideal for viewing.

- This is why the best places to observe the planets are areas far from cities and towns.

- To distinguish between planets and stars, look for twinkling.

- Stars twinkle, while planets shine with a constant brightness. Planets are usually also brighter than stars.

- There are now many mobile apps and websites available to help identify the exact locations of celestial bodies in the sky.

Conclusion :

The current planet parade is a stunning display, with Venus, Saturn, Jupiter, and Mars visible to the naked eye, and Uranus and Neptune requiring a telescope for viewing. While planet parades are not extraordinarily rare, they do not occur every year, making this a special event for skywatchers. Be sure to take advantage of this opportunity before it ends in February.

WASP-127b: An Overview of the Giant Exoplanet

Recent Discovery:

- Scientists have recently detected supersonic winds on WASP-127b traveling at speeds of 33,000 km per hour.

- These winds are among the fastest observed on any known planet. The discovery adds to our understanding of exoplanetary atmospheres and their extreme weather systems.

Key Features of WASP-127b:

1. **Location and Size:**

   o **Distance:** Approximately 520 light-years from Earth.

   o **Size:** The planet has a diameter about 30% larger than Jupiter's, but with only 16% of Jupiter's mass, making it one of the puffiest planets ever observed.

2. **Type of Planet:**

   o **Category:** WASP-127b is classified as a hot Jupiter, which refers to a gas giant that orbits very close to its host star, leading to extremely high temperatures.

3. **Orbit and Rotation:**

   o **Orbital Distance:** It orbits its star at about 5% of the distance between Earth and the Sun.

   o **Orbital Period:** The planet completes an orbit around its star roughly every four days.

4. **Day-Night Cycle:**

   o Like our moon, WASP-127b has a tidally locked rotation, meaning one side of the planet perpetually faces its star (the "day side"), while the opposite side is in constant darkness (the "night side").

Atmospheric and Environmental Conditions:

1. **Temperature:**

   o The average atmospheric temperature is around 2,060°F (1,400K or 1,127°C).

   o The polar regions of WASP-127b are slightly cooler compared to the rest of the planet.

2. Composition:

o **Atmosphere:** Similar to Jupiter, WASP-127b is composed mostly of hydrogen and helium. However, its atmosphere also contains traces of more complex molecules such as carbon monoxide and water vapor.

3. Lack of Solid Surface:

o As a gas giant, WASP-127b lacks a solid surface. Its atmosphere transitions into denser, more pressurized gas as one moves deeper into the planet.

Supersonic Winds:

- The supersonic winds detected on WASP-127b are the fastest jet streams observed on any known planet. These winds encircle the planet at its equator and move at a velocity of **33,000 km per hour**.

Importance of the Discovery:

- This discovery of supersonic winds on WASP-127b helps scientists learn more about extreme weather and atmospheric dynamics on distant planets. The study of such planets could offer insight into the behavior of gas giants and inform future space exploration.

Conclusion:

WASP-127b is a remarkable planet, offering valuable data about the nature of gas giants, extreme weather patterns, and planetary atmospheres. Its supersonic winds and unique characteristics make it a key object of study for astronomers and planetary scientists.

DeepSeek : A Chinese Artificial Intelligence Company

Overview:

- DeepSeek is an AI startup based in Hangzhou, China, that has recently gained global attention for its innovative and low-cost AI models.

- The company introduced its AI models-DeepSeek-V3 and DeepSeek-R1 (a reasoning model)-which are seen as potential competitors to OpenAI's advanced models like GPT-4.

- What sets DeepSeek apart is its ability to achieve similar performance to OpenAI's models at a fraction of the cost.

Key Features of DeepSeek

1. Founding and Focus:

o DeepSeek is a startup from Hangzhou, China, which has launched a series of AI models that excel in tasks such as math, coding, and reasoning.

o Its models are powered by a low-cost Large Language Model (LLM) infrastructure, which makes them more affordable than many global counterparts.

2. Comparative Edge Over Global LLMs:

o DeepSeek's models are designed to be far more cost-effective than competitors like OpenAI's GPT-4.

o **Training Cost Comparison:**

  * DeepSeek: $6 million

  * Global LLMs (e.g., GPT-4 by OpenAI): ~$100 million

- This significant cost difference is primarily due to DeepSeek's use of older-generation hardware (NVIDIA H800 chips) compared to the more advanced GPUs used in OpenAI's models.

3. Cost and Accessibility:

o Subscription Cost:

  * DeepSeek: $0.50 per month

  * OpenAI's ChatGPT: $20 per month

o The affordability of DeepSeek's services allows for broader accessibility, especially in regions with budget constraints.

4. Training and Performance:

o **Training Approach:** DeepSeek uses reinforcement learning to enable its models to self-improve and adapt, which contrasts with the supervised learning model used by OpenAI.

- **Performance:** DeepSeek's models are comparable to OpenAI's o1 model in many performance metrics, though they are not yet as advanced as the o3 model.
- **Scalability:** DeepSeek focuses on creating smaller, faster models (SLMs), which are more resource-efficient and scalable.

DeepSeek's AI Models

DeepSeek has developed a series of open-source models, each tailored to different tasks:

- **DeepSeek Coder:** A model designed for coding-related tasks.
- **DeepSeek LLM:** A 67-billion-parameter model intended to compete with other large language models.
- **DeepSeek-V2:** A cost-effective model with strong performance in a variety of tasks.
- **DeepSeek-Coder-V2:** A 236-billion-parameter model designed for complex coding challenges.
- **DeepSeek-V3:** A 671-billion-parameter model capable of coding, translation, and generating essays/emails.
- **DeepSeek-R1:** A reasoning model aimed at challenging OpenAI's o1 model.
- **DeepSeek-R1-Distill:** A fine-tuned version of DeepSeek-R1, based on synthetic data generated by R1.

Challenges and Concerns

1. **Censorship and Bias:**
- DeepSeek adheres to China's strict digital content regulations, which means it avoids providing direct answers on sensitive political topics.
- This adherence to government censorship raises concerns about biases in the AI's output.
- There are fears that DeepSeek's models might carry a pro-China bias due to government influence over the technology.

2. **Security Risks:**
- Experts have expressed concerns over potential security risks, particularly related to data privacy and the ethical use of AI.
- Given DeepSeek's origin in China, these concerns are amplified due to the broader context of global geopolitical tensions.

What is an LLM (Large Language Model) ?

- A Large Language Model (LLM) is a type of artificial intelligence model that is trained on massive datasets containing text data.
- LLMs use deep learning techniques, particularly neural networks, to understand, generate, and process human language.
- These models have billions (or even trillions) of parameters, which allow them to perform a wide range of language-related tasks, including text generation, translation, question answering, and more.
- **Examples:** OpenAI's GPT-4, DeepSeek's models, and Google's PaLM are examples of LLMs that have revolutionized natural language processing (NLP) tasks.

Differences Between Large Language Models (LLMs) and Small Language Models (SLMs):

- **Model Size:**
  - LLMs are characterized by having billions to trillions of parameters, which allows them to handle complex tasks and capture intricate patterns in the data.
  - They excel in a wide range of tasks, including writing essays, translations, and answering detailed questions.
  - SLMs (Small Language Models), on the other hand, have fewer parameters (often in the millions or tens of millions).
  - These models are generally faster and more efficient but may struggle with the complexity and nuances of larger tasks compared to their larger counterparts.

Global Impact and Geopolitical Considerations

- **Sputnik Moment:** The launch of DeepSeek has been compared to the impact of the Soviet Union's Sputnik launch in the 1950s, marking a shift in the technological competition between global powers, particularly between the US and China.
- **Market Disruption:** The introduction of DeepSeek's AI models caused a significant drop of $600 billion in the market value of Nvidia, a leading manufacturer of AI chips.

- This highlights the growing importance of AI in shaping the tech market and how companies like DeepSeek are challenging established industry giants.

- **Policy Implications:** DeepSeek's rapid advancements could trigger further restrictions on AI and semiconductor technology exports from the US to China, heightening the ongoing rivalry between the two nations.

❑❑❑

Ecology & Environment

Shendurney Wildlife Sanctuary

Overview:

A recent four-day faunal survey conducted at the Shendurney Wildlife Sanctuary has provided significant findings, enriching the sanctuary's biodiversity records. This underscores the ecological importance of the sanctuary and the need for continued conservation efforts.

About Shendurney Wildlife Sanctuary:

- **Location**: Situated in the southern part of the Western Ghats in Kollam district, Kerala.
- **Area**: Spans approximately 172 square kilometers.
- **Part of Agasthyamala Biosphere Reserve**: Shendurney is an integral part of the Agasthyamala Biosphere Reserve, a UNESCO recognized area due to its rich biodiversity.

Geography and Drainage:

- The sanctuary is predominantly hilly, with a landscape interspersed with ravines and valleys.
- **Major rivers** flowing through the sanctuary are:
  o Shendurney
  o Kazhuthuruthy
  o Kulathupuzha

- These rivers converge to form the Kallada River, which plays a significant role in the hydrology of the region.

Flora of Shendurney Wildlife Sanctuary:

- The vegetation is diverse and includes:
  o Tropical evergreen forests
  o Semi-evergreen forests
  o Moist deciduous forests
- **Chenkurunji (Gluta travancorica)**: The name "Shendurney" is derived from this tree species, which is endemic to the region and found abundantly within the sanctuary.

Fauna of Shendurney Wildlife Sanctuary:

The sanctuary is home to a wide variety of wildlife:

- **Mammals**:

  Elephants, tigers, leopards, gaurs (Indian bison), sambar deer, barking deer, wild boars, and bonnet macaques.

- **Endemic Species**: The sanctuary supports a significant population of Nilgiri langurs and lion-tailed macaques, both of which are endemic to the Western Ghats.

- **Birds**: Over 200 species of birds are found in the sanctuary, including:
  o Great Indian hornbill
  o Malabar pied hornbill
  o Grey-headed bulbul
  o White-bellied treepie
  o Various species of woodpeckers, flycatchers, and raptors.

Significance:

Shendurney Wildlife Sanctuary plays a crucial role in the conservation of the unique biodiversity of the Western Ghats, a biodiversity hotspot. The sanctuary is not only vital for wildlife conservation but also contributes to the hydrological balance of the region through its river systems.

Which are the sanctuaries located in the Agasthyamalai Biosphere Reserve ?

The Agasthyamalai Biosphere Reserve includes three wildlife sanctuaries:

1. Shendurney Wildlife Sanctuary
2. Peppara Wildlife Sanctuary
3. Neyyar Wildlife Sanctuary

These sanctuaries together contribute to the preservation of the rich flora and fauna of the region, including several endemic species.

Conclusion:

Shendurney Wildlife Sanctuary is a crucial ecological area within the Agasthyamala Biosphere Reserve, with its diverse flora and fauna. The sanctuary's role in conserving the Western Ghats' biodiversity is paramount, and continued research and conservation efforts will help preserve this unique ecosystem for future generations.

Pallas's Cats

Overview:

The recent snow leopard survey in Himachal Pradesh, India, provided the first photographic evidence of the Pallas's cat, highlighting the importance of conserving lesser-known species in the Indian Himalayas. The discovery underscores the need for greater attention to the preservation of these elusive animals in the region.

About Pallas's Cat:

- **Scientific Name**: Otocolobus manul, also known as manul.
- **Named After**: The species is named after Peter Simon Pallas, a German zoologist who first described it in 1776 from specimens collected near Lake Baikal, Russia.

Distribution:

- **Primary Range**: Pallas's cat is native to Central Asia, with populations in Mongolia, China, Russia (bordering Mongolia and China), Kazakhstan, and Kyrgyzstan.

- **Habitat**: These cats typically inhabit mountainous plains and semi-desert foothills, often at high altitudes.

Physical Features:

- **Size**: Pallas's cat is similar in size to a domestic cat, with a head and body length of 45 to 60 cm (18 to 24 inches), and a tail length of 23 to 30 cm. It typically weighs between 2.5 to 3.5 kg (5.5 to 7.7 pounds).
- **Appearance**:
  - o **Color**: Its fur is typically silvery gray or light brown.
  - o **Distinctive Features**: It has a broad head with high-set eyes and low-set ears. The tail is ringed and tipped with black.
  - o The underparts have longer fur (about twice as long as the upperparts), which is thought to be an adaptation for crouching and lying on cold ground, offering thermal insulation.

Conservation Status:

- **IUCN Red List**: **Least Concern**, meaning the species is not currently at significant risk of extinction.
- **CITES**: **Appendix II**, indicating the species is not necessarily threatened with extinction but may become so unless trade is closely regulated.

What is a snow leopard?

A snow leopard (scientifically classified as Panthera uncia or Uncia uncia) is a large, long-haired Asian cat belonging to the Felidae family. They are native to high-altitude regions of northern and central Asia, including the Himalayan mountain range. In the Himalayas, snow leopards are found in alpine areas, typically above the tree line, at elevations up to 18,000 feet. These cats are distributed across 12 countries, including China, Bhutan, Nepal, India, Pakistan, Russia, and Mongolia.

Conclusion:

The discovery of Pallas's cat in Himachal Pradesh adds a significant milestone in understanding the biodiversity of the Indian Himalayas. Despite being classified as Least Concern, the species' elusive nature and unique habitat underscore the need for ongoing conservation efforts in the region. The snow leopard survey not only uncovered the presence of this rare species but also highlighted the rich, diverse fauna in the area, making it crucial to protect these ecosystems.

Brazilian Velvet Ant

Overview:

Scientists recently discovered that the dark markings on the Brazilian Velvet Ant, a species of fluffy wasp, reflect less than 1% of light. This remarkable feature highlights the unique adaptations of this species and adds to our understanding of its behavior and evolutionary traits.

About Brazilian Velvet Ant:

- **Species**: Brazilian Velvet Ant is a type of velvet ant, which is a group of parasitic wasps. These wasps are known for their defensive adaptations, including bright coloration and a formidable sting.

- **Appearance**: Velvet ants are wasps, some of which are wingless. They are named for their distinct, fuzzy exteriors, often resembling velvet. The Brazilian Velvet Ant is particularly known for its black and white markings.

- **Habitat**: It is typically found in the Caatinga, a shrub desert in Brazil, known for its arid conditions.

Characteristics:

- **Mobility**: Brazilian Velvet Ants are highly mobile and are capable of covering significant distances while in pursuit of their hosts on the ground.

- **Activity Pattern**: They are mostly active during the early morning and late afternoon, when sunlight is subdued. This behavior likely helps them avoid the extreme heat of the day and makes it easier for them to hunt for hosts.

Unique Finding:

- The black parts of female Brazilian Velvet Ants have been found to be ultrablack, meaning they absorb almost all visible light.

- This ultrablack pigmentation is rare in the animal kingdom and serves several purposes:
  - **Camouflage**: It helps the ant evade predators by absorbing light and blending in with its surroundings.
  - **Temperature Regulation**: The ultrablack coloration could aid in temperature regulation, helping the ant manage heat in the desert environment.
  - **Mate Attraction**: The contrast between the ultrablack and lighter parts of the ant may be visually enticing, potentially playing a role in attracting mates.

Why Is This Finding Unique?

- The presence of **ultrablack pigmentation** in animals is extremely rare. In species that exhibit this trait, the ultrablack helps in various ways, including camouflage, temperature regulation, and sometimes mate selection.

- The discovery of this trait in the Brazilian Velvet Ant adds to the understanding of how certain species have evolved remarkable adaptations to survive in harsh environments.

What is a Parasite?

- A parasite is an organism that lives on or inside another organism (called the host) and benefits by obtaining its food or other resources at the expense of the host.

- Parasites can affect the health of their hosts and can be found in various forms, such as bacteria, fungi, or animals like the Brazilian Velvet Ant.

Conclusion:

The Brazilian Velvet Ant is an intriguing species, particularly due to its ultrablack pigmentation and unique adaptations. These discoveries emphasize the complexity of evolutionary traits in the animal kingdom, particularly in harsh environments like the Caatinga desert. The velvet ant's behavior, mobility, and physical traits showcase the intricacies of nature's survival strategies.

Banded Royal Butterfly

Overview:

Tripura achieved a significant milestone in biodiversity documentation with the first-ever recording of the Banded Royal butterfly (Rachana jalindra indra) in the Sepahijala Wildlife Sanctuary, marking an important discovery for the state.

About Banded Royal Butterfly:

- **Scientific Name**: *Rachana jalindra*
- **Family**: Lycaenidae (Blue butterflies)
- **Habitat**:
  - Found in forests, particularly in the Western Ghats, Northeast India, Sri Lanka, Myanmar, Thailand, and Malaysia.
  - Prefers dense vegetation and is often seen resting on leaves.
- **Subspecies in India**:
  - **R. j. macantia**: Found in southwest India to Goa.
  - **R. j. tarpina**: Found in the Andaman Islands.
  - **R. j. indra**: Found in Orissa, lower West Bengal, Assam, Meghalaya, and Jharkhand.
- **Appearance**:
  - **Upper Side**: Males have a deep purple or bluish sheen with dark brown borders; females are more brownish with white markings.
  - **Under Side**: Pale brown with distinct white bands across the wings, giving it the "banded" appearance.
- **Legal Status**: Protected under Schedule II of the Indian Wildlife (Protection) Act, 1972.

Key Facts about Sepahijala Wildlife Sanctuary (SWL):

- **Location**: Situated 25 km from Agartala, Tripura.
- **Area**: Approximately 18.53 sq. km.

- **Sections**: Divided into five sections:
  - Carnivore Section
  - Primate Section
  - Ungulate Section
  - Reptile Section
  - Aviary Section
- **Key Features**:
  - Clouded Leopard National Park, part of SWL.
  - **Two natural lakes**: Abasarika and Amrit Sagar.
  - **Flora**: Over 456 plant species, including bamboo, grasses, and medicinal plants.
  - **Fauna**: Habitat for primates like Rhesus macaques, Spectacled langurs, Leopards, Clouded leopards, Jungle fowls, and the rare crab-eating mongoose (last seen in the 1930s).

What is the Indian Wildlife (Protected) Act, 1972?

The Wildlife (Protection) Act, 1972 was enacted by the Government of India to protect the wildlife of the country and control illegal activities like poaching, smuggling, and illegal trade in wildlife and its derivatives. The Act was amended in January 2003, making the penalties for offences more stringent. It aims to protect endangered flora and fauna and safeguard ecologically important protected areas.

Conclusion:

The discovery of the Banded Royal butterfly in Tripura highlights the rich biodiversity of the state and emphasizes the importance of preserving protected areas like the Sepahijala Wildlife Sanctuary. With the legal protection offered by the Wildlife (Protection) Act, conservation efforts in India can help safeguard these rare species for future generations.

Vembanad Lake

Vembanad Lake, located in Kerala, is facing environmental threats due to climate change and pollution. The lake's ecosystem is being severely affected by waste from slaughterhouses and shrimp peeling sheds, which is rapidly shrinking the lake's size and impacting its biodiversity.

Key Details About Vembanad Lake:

- **Location & Size:**
  - Vembanad is the longest lake in India and the largest lake in Kerala.
  - It spans **2,033 sq.km**, covering several districts: **Alappuzha, Kottayam**, and **Ernakulam**.

- **Alternative Names:**
  It is also referred to as Vembanad Kayal, Vembanad Kol, Punnamada Lake (in Kuttanad), and Kochi Lake (in Kochi).

- **Formation:**
  - The lake is formed by the confluence of four rivers: Meenachil, Achankovil, Pampa, and Manimala.
  - It has an outlet to the Arabian Sea in the west.

- **Prominent Features:**
  - **Islands**: Vembanad Lake surrounds the islands of **Pathiramanal**, **Perumbalam**, and **Pallippuram**.
  - **Backwaters**: The lake is a well-known backwater stretch, popular among tourists.

- **Cultural Importance:**
  Vallam Kali (Nehru Trophy Boat Race): A traditional Snake Boat Race is held annually in August in Vembanad Lake, attracting large crowds.

- **Biodiversity Significance:**
  Kumarakom Bird Sanctuary: Located on the eastern shore of the lake, it is a haven for migratory birds.

- **Environmental Significance:**
  Ramsar Site: The lake was designated as a Ramsar Site of international importance in 2002. This acknowledges the lake's role in preserving biodiversity and its wetland ecosystem.

What is a Ramsar Site ?

- The Ramsar Convention is an international treaty that focuses on the conservation and sustainable use of wetlands.

- Ramsar Sites are wetlands of international importance, designated because they meet specific ecological criteria. These criteria include:
  - Representation of rare or unique wetland types.
  - International importance for conserving biological diversity.

Ramsar sites play a critical role in sustaining ecosystems, protecting species, and promoting environmental health.

Environmental Concerns:

- **Climate Change**: The lake's ecosystem is sensitive to changes in temperature, rainfall patterns, and sea level rise, which threaten its biodiversity.

- **Pollution**: Waste from shrimp peeling sheds and slaughterhouses is adding to the pollution levels in the lake, further damaging its water quality and aquatic life.

Conclusion:

Vembanad Lake, a vital ecological, cultural, and economic resource in Kerala, is facing growing environmental challenges. Preservation efforts are crucial to maintain its status as a Ramsar Site and protect its rich biodiversity and cultural significance.

Nitrogen Use Efficiency

Overview:

Recent research has shown that reducing nitric oxide (NO) levels in plants can significantly enhance nitrogen uptake and Nitrogen Use Efficiency (NUE) in crops like rice and Arabidopsis. This approach promises to improve crop yields while reducing nitrogen inputs, offering a more sustainable solution for agriculture.

What is Nitrogen Use Efficiency (NUE)?

- **Definition**: Nitrogen Use Efficiency refers to how effectively a plant uses nitrogen (applied or fixed) for producing biomass. It is typically measured as the ratio of crop yield to the amount of nitrogen absorbed by the plant from the soil or atmosphere.

- **Importance**: NUE is a key trait in crop breeding programs aimed at improving agricultural productivity. It focuses on:
  - Increasing crop yield without excessive nitrogen input.
  - Reducing the reliance on nitrogen fertilizers, thus lowering operational costs for farmers.
  - Minimizing the environmental impact, especially nitrogen pollution and greenhouse gas emissions.

Challenges with Traditional Nitrogen Fertilization Methods:

- **High Costs**: Traditional practices rely heavily on inorganic nitrogen fertilizers, which can be costly for farmers.

- **Environmental Impact**:

  o The production of nitrogen fertilizers emits nitrogen oxides (NOx), which contribute to air pollution and global warming.

  o Excessive fertilizer use leads to nitrogen runoff, contaminating water bodies and contributing to eutrophication (over-fertilization of water bodies), harming aquatic life.

Therefore, improving NUE is critical for both economic and environmental sustainability.

Highlights of the Recent Study:

- **New Approach**: The study focuses on a novel method of improving NUE by modulating nitric oxide (NO) levels in plants.

- **Mechanism**:

  Nitric oxide (NO) plays a significant role in regulating the activity of high-affinity nitrate transporters (HATs), which are essential for efficient nitrogen uptake by plants.

  o By controlling NO levels, researchers can enhance the activity of HATs, leading to better nitrogen absorption, especially in low-nitrogen environments.

- **Sustainability**: This approach diverges from traditional nitrogen fertilization methods, offering a more sustainable solution for increasing crop yields while minimizing the need for excessive nitrogen inputs.

- **Global Impact**: As the world faces growing concerns over food security, this research offers a promising pathway for improving agricultural productivity while addressing environmental concerns.

Significance of Nitric Oxide (NO) in Plants:

- **Role in Physiology**: Nitric oxide is a key signaling molecule in plants, influencing several vital processes.

- **In Nitrogen Uptake**: NO is involved in activating high-affinity nitrate transporters (HATs) that facilitate nitrogen uptake, particularly under conditions of nitrogen deficiency.

What is Liquid Nitrogen?

- **Definition**: Liquid nitrogen (LN) is nitrogen in its liquid state, which is colorless, odorless, non-corrosive, non-flammable, and extremely cold.

- **Properties**:

  o It is a cryogenic liquid, meaning it is a liquefied gas with a boiling point below $-90°C$ ($-130°F$).

  o Liquid nitrogen is widely used in industries like cryogenics, food preservation, and medical applications (e.g., cryopreservation of cells).

Conclusion:

The latest research on Nitrogen Use Efficiency (NUE) offers exciting prospects for sustainable agriculture. By focusing on regulating nitric oxide levels in plants, scientists aim to improve nitrogen uptake efficiency, reduce dependency on synthetic fertilizers, and mitigate their environmental impact. This is a promising step toward addressing global food security challenges while ensuring environmental sustainability.

Tipeshwar Wildlife Sanctuary
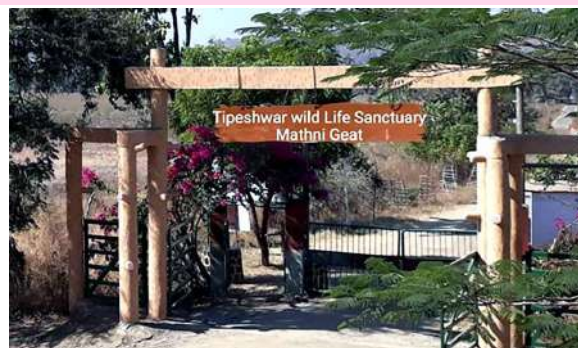
A male tiger born in the Tipeshwar Wildlife Sanctuary in Yavatmal, Maharashtra, has embarked on an extraordinary journey, traveling an unusual distance of 500 kilometers to reach the Solapur district of Maharashtra. This rare movement has attracted attention to the sanctuary and its significance in wildlife conservation

Key Details About Tipeshwar Wildlife Sanctuary:

- **Location**:

  The sanctuary is situated in the Yavatmal district of Maharashtra, a region known for its diverse wildlife and ecosystems.

- **Rivers and Water Supply**:

  o Tipeshwar is nourished by several rivers, including Purna, Krishna, Bhima, and Tapti, which provide essential irrigation to the area.

- o Due to this abundant water supply, the sanctuary is often referred to as a Green Oasis in Southern Maharashtra.

- **Geological Formation**:

  The sanctuary is located in a basalt region, created by volcanic lava flow millions of years ago, contributing to its unique landscape and biodiversity.

- **Vegetation**:

  - o The area is hilly and undulated, with vegetation types varying according to the altitude, contributing to its rich ecological diversity.

  - o The sanctuary is home to a variety of floras, including herbs, grasses, and bamboo forests.

- **Fauna**:

  Tipeshwar shelters a variety of wildlife, including:

  - o **Mammals:** Hyenas, Chital (Spotted Deer), Black buck, Sambar, Wild boar, Jackal, Bear, and Wild cats.

  - o **Birds:** Peacocks and other avian species.

  - o **Other species:** Blue bull (Nilgai), Monkeys, and more.

Significance of the Male Tiger's Journey:

- The tiger's journey of 500 kilometers from the Tipeshwar Wildlife Sanctuary to Solapur indicates the movement and territorial behavior of big cats.

- It highlights the need for preserving wildlife corridors that allow such movements and the importance of wildlife conservation efforts in maintaining the balance between animal populations and their habitats.

What is Basalt Rock?

- **Definition**: Basalt is an extrusive igneous rock, meaning it forms from the rapid cooling of lava at or near the Earth's surface.

- **Characteristics**:

  Basalt has a dark color and a fine-grained texture due to the rapid cooling process.

  - o It is one of the most abundant types of rock found in the Earth's crust.

  - o Known for its durability, basalt is often used in construction and landscaping.

Conclusion:

The Tipeshwar Wildlife Sanctuary, with its rich biodiversity, water resources, and unique geological features, plays a critical role in wildlife conservation in Maharashtra. The recent journey of the tiger underscores the importance of ensuring safe wildlife corridors to facilitate the movement of animals and preserve their natural habitats. The sanctuary's varied ecosystems and abundance of flora and fauna make it a valuable conservation site in India.

Global Energy Alliance for People and Planet

Overview:

The Global Energy Alliance for People and Planet (GEAPP) has signed a Multi-Donor Trust Fund agreement with the International Solar Alliance (ISA) to mobilize $100 million for high-impact solar energy projects. This partnership aims to accelerate clean energy adoption and support the global community in meeting climate goals.

About Global Energy Alliance for People and Planet (GEAPP):

- **Mission**: GEAPP is an alliance comprising philanthropy, governments, technology, policy, and financing partners. Its mission is to help both emerging and developed economies transition to clean energy systems that foster inclusive economic growth and support climate goals.

- **Goals**:

  - o Reduce 4 gigatons of future carbon emissions.

  - o Expand clean energy access to one billion people.

  - o Create 150 million new jobs in the clean energy sector.

Initiatives Announced by GEAPP:

1. **Multi-Donor Trust Fund**:

- o GEAPP has strengthened its partnership with ISA by signing a Multi-Donor Trust Fund to mobilize $100 million for solar energy projects.

o **GEAPP's Role:** Through its Project Management Unit, GEAPP will provide governance oversight, facilitate fundraising efforts, and leverage its expertise in energy transition planning, financing, and project implementation.

2. **DUET (Digitalization of Utilities for Energy Transition)**:

o **Objective**: This program focuses on the digitalization of grid systems through advanced technology.

o **Features**: It involves the development of a technology suite that captures data from grid assets, integrates smart sensors for real-time data monitoring, and conducts load flow analysis to minimize transmission and distribution losses.

o **Goal**: To optimize grid performance and reduce energy losses, facilitating a smoother transition to clean energy.

3. **ENTICE 2.0 (Energy Transitions Innovation Challenge)**:

o **Objective**: ENTICE 2.0 is a platform designed to identify, nurture, and scale innovative solutions aimed at accelerating the energy transition.

o **Launch and Focus**:

* First launched in 2023, it focused on scaling innovations within India's startup ecosystem.

* ENTICE 2.0 will kick off in January 2025 and will go beyond the previous iteration by concentrating on scaling investable opportunities in the clean energy sector.

What is the International Solar Alliance (ISA)?

• The International Solar Alliance (ISA) is an intergovernmental organization focused on promoting solar energy across the world.

• **Launch:** The ISA was launched in 2015 by the Prime Minister of India and the President of France at the United Nations Climate Change Conference in Paris.

• **Purpose**: The ISA aims to promote the deployment of solar energy, particularly in countries with high solar potential, in order to meet global climate goals and improve energy access.

Conclusion:

The Global Energy Alliance for People and Planet (GEAPP) is taking significant strides toward achieving clean energy goals through various initiatives, including partnerships like the Multi-Donor Trust Fund with the International Solar Alliance and programs like DUET and ENTICE 2.0. These efforts will help drive the transition to sustainable energy systems, boost job creation, and reduce global carbon emissions, contributing to a more sustainable and inclusive energy future.

Miyawaki Technique

Overview:

The Miyawaki Technique has been used to create 56,000 square meters of dense forests in Prayagraj over the last two years, in preparation for the Mahakumbh 2025. This technique is a solution for rapidly growing forests in urban and limited spaces.

About Miyawaki Technique:

• **Origin**: Developed by Akira Miyawaki, a renowned Japanese botanist, in the 1970s.

• **Purpose**: It is a revolutionary method for creating dense forests in relatively small areas, especially urban spaces or barren land.

• **Process**: Often called the 'pot plantation method', this technique involves planting trees and shrubs very close together, accelerating their growth by creating a natural forest environment.

• **Growth Rate**: Plants grow 10 times faster than they would in a traditional planting process, making it a highly effective solution for land restoration in urban settings.

• **Mimicry of Natural Forests**: The technique uses a mix of native species, which encourages the growth of a natural ecosystem in a short time.

Miyawaki Technique Advantages:

1. **Accelerated Forest Growth**: Trees planted using this method absorb more carbon, grow faster, and create richer biodiversity compared to traditional forests.

2. **Improvement of Soil Quality**: The technique enhances the quality of the soil, making it more fertile and supportive of diverse plant life.

3. **Enhanced Biodiversity**: By using native species, the Miyawaki method promotes a **richer ecosystem**, supporting a variety of plant and animal species.

4. **Urban Green Transformation**: In urban areas, it has successfully transformed polluted, barren lands into lush green ecosystems, improving the environment.

5. **Pollution Control**: It helps in reducing industrial waste, curbing dust, eliminating foul odours, and reducing air and water pollution.

6. **Soil Erosion Prevention**: The dense planting helps to prevent soil erosion and maintain an ecological balance.

7. **Environmental Restoration**: This technique is widely used for environmental restoration, creating sustainable green spaces in urban environments.

What is Ecology?

Ecology is the scientific study of the relationships between living organisms (including humans) and their physical environment. It focuses on understanding the connections between plants, animals, and the world around them.

- **Goal**: Ecology seeks to understand how different species interact with each other and their environment, and how they are affected by factors like climate, soil, and water.

- **Applications**: Knowledge of ecology is essential for managing environmental issues like pollution, biodiversity conservation, and ecosystem restoration, which the Miyawaki Technique directly supports by fostering healthier ecosystems in urban areas.

The Miyawaki Technique stands out as a powerful tool for urban environmental restoration, enhancing biodiversity, improving air quality, and mitigating pollution. Its success in Prayagraj and other urban areas demonstrates its potential in addressing environmental challenges in densely populated regions.

Desert National Park (DNP)
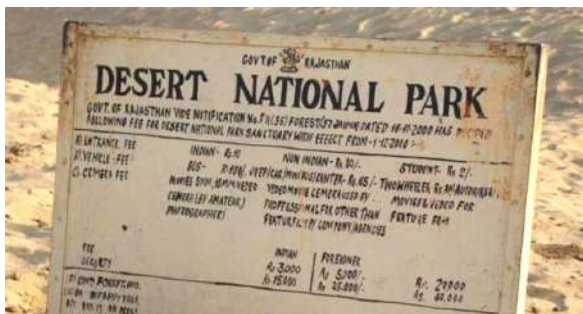
Overview:

The Desert National Park (DNP) in Rajasthan has witnessed a significant conservation milestone with the sighting of 12 Great Indian Bustards (GIBs) recently, signaling positive progress in the conservation of this critically endangered species.

What is the Great Indian Bustard?

The Great Indian Bustard (GIB) is a large bird native to the Indian subcontinent and is one of the heaviest flying birds.

- **Habitat**: It is primarily found in the Thar Desert of Rajasthan, where it forms a significant portion of the remaining viable population.

- **Population**: The current viable population of the Great Indian Bustard in India is estimated to be between 100-150 individuals, with about 100 individuals residing in Rajasthan's desert region.

- **Physical Description**: The Great Indian Bustard has a horizontal body, long legs, and a striking, ostrich-like appearance.

- **Conservation Status**: It is classified as Critically Endangered by the IUCN Red List, with its population facing rapid decline due to habitat loss, hunting, and disturbances from human activities.

About Desert National Park (DNP):

- **Location**: DNP is located in the Thar Desert, near Jaisalmer, Rajasthan.

- **Size**: It is one of India's largest national parks, covering an area of over 3160 sq. km.

- **Climate**: The park is situated in an extremely hot and arid region, receiving very little rainfall (less than 100mm annually).

Topography:

- The park is characterized by sandy, undulating terrain with a mix of craggy rocks, salt lake bottoms, intermediary areas, and fixed dunes.

- Sand dunes make up about 20% of the park's area.

- There are three main lakes in the sanctuary: Rajbaugh Lake, Malik Talao Lake, and Padam Talao Lake.

- Fossils from the Jurassic Period are a unique feature found in the park.

Vegetation:

- The vegetation of the park primarily consists of thorn forests, as categorized by Champion and Seth in 1968.

- The flora includes open grasslands, thorny bushes, plantations, and dunes.

- **Key Flora**:
  - o Dhok, Ronj, Salai, and Palm trees.
  - o Khejri (Prosopis cineraria), a revered tree protected by the local Bishnoi community.

Fauna:

- **Wildlife**: DNP is home to various species such as Chinkara, Desert Fox, Bengal Fox, Indian Wolf, Desert Cat, and Hare.

- **Endangered Species**: The park is especially known for being a habitat of the critically endangered Great Indian Bustard (GIB), which is found in relatively fair numbers.

- **Reptiles**: Several species of reptiles thrive in the park, including the Spiny-tailed Lizard, Monitor Lizard, Saw-scaled Viper, Russell Viper, and Karit.

The Desert National Park (DNP) plays a crucial role in the conservation of the Great Indian Bustard, which is emblematic of the park's rich biodiversity. The park's unique topography and vegetation offer a rare glimpse into desert ecosystems and contribute to the preservation of both flora and fauna in one of India's most challenging environments.

Copernicus Climate Change Service (C3S) - Key Facts

Overview:

- According to the Copernicus Climate Change Service (C3S), 2024 has been recorded as the hottest year since global temperature tracking began in 1850, highlighting the urgency of climate change monitoring and response.

About Copernicus Climate Change Service (C3S):

- **Part of Copernicus Earth Observation Programme**: C3S is one of the six thematic services offered by the Copernicus Earth Observation Programme of the European Union.

- **Managed by ECMWF**: The service is implemented by the European Centre for Medium-Range Weather Forecasts (ECMWF), which operates on behalf of the European Commission.

- **Mission**: C3S provides authoritative climate data and tools, offering insights into past, present, and future climate conditions globally, benefiting societies, industries, and governments.

- **Free & Open Access**: C3S offers free, open access to climate data and tools via the Climate Data Store, which is continuously updated with global datasets on climate change impacts.

- **Data Offerings**:
  - o **Historical Data**: Past climate observations and reanalyses.
  - o **Current & Future Data**: Seasonal forecasts, climate model projections, and up-to-date datasets.
  - o **Visualization Tools**: C3S provides tools and expert guidance to convert complex datasets into visual products, such as maps and charts, helping users understand climate trends.

- **Users**: Scientists, consultants, planners, policymakers, media, and the public benefit from C3S data for a variety of local and global needs.

Key Features of the Copernicus Programme:

- **Earth Observation**: The programme uses a variety of data from satellite Earth observation (e.g., Sentinel satellites) and in-situ data from sensors on the ground, in the air, and at sea.

- **Access**: The data collected by Copernicus is available to users freely, and the information is processed to provide near-real-time insights.

- **Collaboration**: The programme is coordinated by the European Commission in partnership with organizations like the European Space Agency (ESA) and other EU agencies.

What is the World Climate Research Programme (WCRP)?

- The World Climate Research Programme (WCRP) is an international scientific initiative designed to improve understanding of the Earth's climate system and enhance the ability to predict future climate conditions.

- **Established**: It was founded in 1980 by the World Meteorological Organization (WMO) and the International Council for Science (ICSU), now part of the International Science Council (ISC).

- **Objective**: WCRP fosters international scientific collaboration to understand the dynamic interactions between natural and human systems that influence global climate.

The Copernicus Climate Change Service (C3S) is a vital tool for understanding and responding to global climate change. By offering open access to high-quality climate data and providing powerful tools for visualization and analysis, it supports scientists, governments, and the public in addressing the challenges of climate change. As part of the broader Copernicus Earth Observation Programme, C3S works to enhance climate prediction and resilience globally, building on the collaborative efforts of organizations like the European Space Agency (ESA) and the World Climate Research Programme (WCRP).

Indravati National Park

Context: Five Maoists, including two women, were killed in an encounter with security forces inside *Indravati National Park* in Chhattisgarh's Bijapur district on 13th January 2025.

Which is the largest national park in Chhattisgarh?

The largest national park in Chhattisgarh is Guru Ghasidas National Park.

About Indravati National Park:

- **Location:** Bijapur district, Chhattisgarh, India.

- **Establishment:**
  o The park was established in 1981.
  o Declared as a *Tiger Reserve* in 1983 under *Project Tiger*.

- **Name Origin:** Derived from the *Indravati River*, which flows from east to west and forms the northern boundary of the park with Maharashtra.

Topography:

- **Terrain:** The park features mainly undulating hilly terrain with altitudes ranging between 177 to 599 meters above sea level.

Vegetation:

- **Forest Types:**
  1. Moist Mixed Deciduous Forest with Teak
  2. Moist Mixed Deciduous Forest without Teak
  3. Southern Dry Mixed Deciduous Forest

Flora:

- Common species include:
  Teak, Achar, Karra, Kullu, Shisham, Semal, Haldu, Arjun, Bel, Jamun, and others.

Fauna:

- The park is home to one of the last populations of the rare *wild buffalo*.

- **Other notable species:**
  Nilgai, Black Buck, Sambar, Gaur, Tiger, Leopard, Chital, Sloth Bears, and more.

Significance:

Indravati National Park is an important sanctuary not only for its biodiversity, including rare and endangered species, but also for its role in conservation efforts as part of India's *Project Tiger*. Its geographical location and varied ecosystem make it a vital area for wildlife protection.

Hollongapar Gibbon Wildlife Sanctuary

Context:

The Standing Committee of the National Board for Wildlife (NBWL), chaired by the Union Environment Minister, has approved a proposal for oil and gas exploration in the eco-sensitive zone of the Hollongapar Gibbon Wildlife Sanctuary in Assam's Jorhat district.

About Hollongapar Gibbon Wildlife Sanctuary:

- **Location:** Situated in the Jorhat district of Assam, India.

- **Significance:** This sanctuary is notable for being the only one in India named after a gibbon, as it holds the densest population of gibbons in Assam.

- **Topography:** The sanctuary lies at an altitude of 100 to 120 meters (330 to 390 feet). The land gently slopes from the southeast to the northwest.

- **River:** The Bhogdoi River runs along the sanctuary, creating waterlogged areas that are home to semi-hydrophytic plants.

Flora:

- **Upper Canopy:** Dominated by the *Hollong* tree.
- **Middle Canopy:** Mainly consists of *Nahar* trees.
- **Lower Canopy:** Composed of evergreen shrubs and herbs.

Fauna:

- **Unique Species:**
  o **Hoolock Gibbons:** The sanctuary is home to India's only species of gibbons, the western hoolock gibbon (Hoolock hoolock).
  o **Bengal Slow Loris:** It is also the habitat for the only nocturnal primate in Northeast India, the Bengal slow loris (Nycticebus bengalensis).
- **Other Wildlife:**
  o Indian elephants, tigers, leopards, jungle cats, wild boar.
  o Various species of civet, squirrels, and macaques (e.g., stump-tailed and northern pig-tailed macaques).

Key Facts About the National Board for Wildlife (NBWL):

- **Constitution:** The NBWL is constituted by the Central Government under *Section 5A* of the *Wildlife (Protection) Act, 1972*.
- **Role:** The NBWL's approval is mandatory for:
  o Construction of tourist facilities.
  o Changes to protected area boundaries.
  o Destruction or diversion of wildlife habitats.
  o De-notification of Tiger Reserves.
- **Composition:** The NBWL is a 47-member committee, headed by the Prime Minister of India, with the Environment Minister as the vice-chairperson.

  What is the Hollongapar Gibbon Wildlife Sanctuary famous for?

  The sanctuary is renowned for its rich biodiversity, particularly as it is home to:

- The *western hoolock gibbon* (*Hoolock hoolock*), India's only species of ape.

- The *Bengal slow loris* (*Nycticebus bengalensis*), the only nocturnal primate found in the northeastern states of India.

Conclusion:

The *Hollongapar Gibbon Wildlife Sanctuary* is a critical biodiversity hotspot in Assam, housing unique species like the hoolock gibbons and Bengal slow loris. The recent approval for oil and gas exploration in the sanctuary's eco-sensitive zone has raised concerns regarding the preservation of its fragile ecosystem.

◉ EDITORIALS

Crux of The Hindu & Indian Express

↓ Ecology & Environment ↓

Bharat Cleantech Manufacturing Platform

Context:

The Union Minister of Commerce & Industry recently launched the Bharat Cleantech Manufacturing Platform, aiming to promote the growth of India's cleantech sector.

About Bharat Cleantech Manufacturing Platform:

- **Objective:** The platform is designed to strengthen India's cleantech value chains in key sectors such as solar, wind, hydrogen, and battery storage.
- **Collaboration and Innovation:** The platform will provide Indian firms with opportunities to collaborate, co-innovate, and finance projects, while also enabling the sharing of ideas, technologies, and resources.

Significance of the Platform:

- The platform aims to establish India as a global leader in the sustainability and cleantech sectors, positioning the country as an attractive destination for business and investment in these industries.

India's Clean Energy Targets:

- **Target:** India aims to achieve 500 gigawatts of clean energy by 2030.
- **Achievements:**
  o India has been one of the best-performing countries in fulfilling its Nationally Determined Contributions (NDCs) as part of the Paris Agreement.

- India achieved its renewable energy target by 2022, 8 years ahead of schedule.
- India has the largest interconnected grid in the world, showcasing its commitment to renewable energy.
- Gujarat was one of the first states to adopt solar power on a large scale.

What is Cleantech Manufacturing?

- Cleantech manufacturing refers to the production of products or services that improve operational performance, productivity, or efficiency, while reducing costs, energy consumption, waste, and environmental pollution.
- Cleantech innovations aim to create more sustainable and environmentally friendly solutions across various industries.

Conclusion:

The Bharat Cleantech Manufacturing Platform is a significant step towards strengthening India's position in the global cleantech market, promoting collaboration, innovation, and financing in clean energy sectors like solar, wind, and hydrogen. With ambitious clean energy targets and a proven track record, India is poised to be a leader in sustainable development and green technologies.

Great Barrier Reef

Overview:

- The Great Barrier Reef is undergoing significant changes due to climate change and other human-induced factors, as highlighted in a recent study. These shifts are affecting the life on the reef, which is one of the most diverse and important ecosystems in the world.

About the Great Barrier Reef:

- Located in the Coral Sea off the northeastern coast of Australia, the Great Barrier Reef is a complex ecosystem consisting of coral reefs, shoals, and islets.
- It holds the title of the largest and longest reef complex in the world, and it is the largest living structure on Earth. The reef covers an area of about 350,000 square kilometers, representing around 10 percent of the world's coral reef ecosystems.

- The Great Barrier Reef is so vast that it is visible from space, made up of nearly 3,000 individual reefs. These reefs are categorized into two main types:
  1. **Platform Reefs** – Formed from radial growths.
  2. **Wall Reefs** – Result from elongated growths, typically found in areas with strong water currents. Additionally, there are fringing reefs located along the sub-tidal rock of the main coastline or continental islands.

Ecological Diversity:

- The Great Barrier Reef is home to an incredible variety of marine life. It contains:
  - 400 types of coral.
  - 1,500 species of fishes.
  - 4,000 species of mollusks.
- It also serves as a critical habitat for species that are threatened with extinction, including the dugong (also known as the sea cow) and the large green turtle.

Conservation and Protection:

- A significant portion of the Great Barrier Reef is designated as a marine protected area. It is managed by the Great Barrier Reef Marine Park Authority of Australia to safeguard its ecological integrity and ensure its sustainable management.
- In 1981, the United Nations Educational, Scientific and Cultural Organization (UNESCO) declared the Great Barrier Reef a World Heritage Site in recognition of its outstanding universal value as an ecological treasure.

Why is the Great Barrier Reef important?

- The Great Barrier Reef plays a crucial role in maintaining marine biodiversity, supports the livelihoods of millions of people through tourism and fishing, and serves as an indicator of the health of the global ocean ecosystem.
- However, due to rising sea temperatures, pollution, and overfishing, it is facing several threats that require concerted global efforts to protect and preserve its unique ecosystems.

Lake Naivasha

Overview:

- Lake Naivasha, located in Kenya, is facing significant ecological challenges due to the invasive water hyacinth that has spread across large parts of the lake. This aquatic plant poses a threat to the lake's ecosystem and the livelihoods of people who depend on it.

About Lake Naivasha:

- **Geographical Location**: Lake Naivasha is a shallow freshwater lake situated in the southern Rift Valley of Kenya.

- **Origin**: It is considered to have recent geological origins, making it a relatively young lake in terms of geological history. The lake is surrounded by extinct or dormant volcanoes, adding to its unique landscape.

- **Water Sources**: It is fed by the Malewa and Gilgil Rivers, which originate from the Aberdare Mountains of central Kenya, ensuring a consistent flow of freshwater into the lake.

Flora and Fauna:

- **Flora**: The lake is surrounded by papyrus reeds (Cyperus papyrus), with other submerged plants like Potamogeton species and the invasive water hyacinth (Eichhornia crassipes), which forms floating rafts across the lake.

- **Fauna**: Lake Naivasha is home to a diverse array of waterbirds and large mammals, including hippos and flamingos. The lake plays an essential role in supporting the local wildlife population.

Economic Importance:

Lake Naivasha is not only a vital ecological site but also a significant economic resource for local industries. The lake supports:

o **Flower growing**: The lake's freshwater is crucial for large-scale flower production, especially for export purposes.

o **Fishing**: Local fishing activities are important for the livelihoods of communities around the lake.

o **Geothermal power generation**: The area also hosts geothermal energy plants, which contribute to Kenya's power generation capacity.

Environmental Concerns - Water Hyacinth:

- Water Hyacinth (Eichhornia crassipes) is an invasive aquatic plant native to South America. It was introduced to Kenya in the 1980s and has since become a significant environmental problem.

- This plant thrives in polluted water and grows rapidly, forming dense mats on the surface of the water, which block sunlight from reaching underwater plants and disrupt airflow in the water. This leads to a decline in water quality, affecting aquatic life.

- The spread of water hyacinth has become one of the primary concerns for the health of Lake Naivasha and the surrounding ecosystem.

Conservation Status:

- Lake Naivasha has been designated as a Ramsar Site, which means it is recognized internationally for its importance as a wetland of ecological significance.

Why is Lake Naivasha famous?

- Lake Naivasha is famous for its large populations of hippos and flamingos, making it a popular tourist destination.

- Its diverse wildlife and scenic beauty contribute to its reputation as an important ecological and recreational site.

Experts on GM Crop Committees to Declare Conflict of Interest

1. Background:

- The Union Ministry of Environment, Forest and Climate Change (MoEFCC) has amended the rules governing the selection of experts to the Genetic Engineering Appraisal Committee (GEAC).

- The GEAC is the apex technical body responsible for regulating genetically modified (GM) seeds and crops in India.

- The amendments are aimed at ensuring that members of this committee maintain impartiality and avoid any conflicts of interest that could affect their decision-making.

- These changes follow a **Supreme Court ruling** in **July 2023**, which highlighted the importance of addressing potential conflicts of interest in the GM crop approval process.

2. Key Provisions of the New Rules:

(a) Disclosure of Conflict of Interest:

- An expert member appointed to the GEAC is now required to disclose any personal or professional interests that could conflict with their duties on the committee.

- Experts must disclose any direct or indirect association with matters under discussion in the GEAC meetings before the meeting takes place.

(b) Recusal Requirement:

- If an expert has a potential conflict of interest, they are required to recuse themselves from the meeting unless specifically requested by the committee to stay and participate.

- This ensures that the objectivity of the decision-making process is not compromised.

(c) Professional Affiliation Disclosure:

- All expert members must fill out a declaration form that details their professional affiliations over the last decade prior to joining the committee.

- This is designed to provide a full transparency record of any associations that might raise concerns about biases or conflicts.

3. Context Behind the Amendment:

(a) Supreme Court Order in July 2023:

- The Supreme Court of India delivered a split verdict on July 23, 2023, regarding the approval of GM mustard for environmental release.

- In 2022, the Central Government granted conditional approval for the environmental release of GM mustard seeds, which are genetically modified to improve crop yields and resistance to pests.

- The case raised concerns regarding scientific integrity and the possibility of conflict of interest in the decision-making processes surrounding the approval of GM crops.

- The split verdict from the Supreme Court did not resolve the issue of the approval but ordered that a national policy on GM crops should be formulated by the Centre. It also emphasized the need for a transparent system to address issues of conflict of interest among experts.

(b) Coalition for GM-Free India Allegations (2013):

- The issue of conflict of interest gained prominence following allegations by the Coalition for GM-Free India in 2013.

- The activist group alleged that one of the members of a Technical Expert Committee appointed by the Supreme Court had direct ties to Monsanto, a multinational agricultural biotechnology company. Monsanto was alleged to have funded the organization of the said expert.

- Monsanto was involved in the development of GM crops and agricultural chemicals. In 2018, Monsanto was acquired by Bayer CropScience, which continues to engage in similar biotechnology and agrochemical activities.

- The group argued that such affiliations could undermine the credibility of the expert's participation in GM crop approvals, particularly when the organization had a vested interest in the approval of GM crops.

4. Significance of the Amendment:

(a) Increased Transparency and Accountability:

- The new rules aim to enhance transparency in the GEAC's decision-making process.

- By requiring experts to disclose any potential conflicts, the amendments help ensure that decisions regarding GM crops are based solely on scientific evidence and environmental considerations, not on personal or commercial interests.

(b) Strengthening Public Trust:

- Public concerns about the safety of genetically modified organisms (GMOs) are widespread, especially regarding the environmental and health risks associated with their release.

- The reforms in the selection process of experts will help build public confidence in the regulatory process by ensuring that objective and unbiased decisions are made by the committee.

(c) Addressing Past Allegations:

- The Coalition for GM-Free India and other activist groups have been vocal in challenging the approval of GM crops, particularly in the absence of stringent conflict-of-interest guidelines.

- The Supreme Court's 2023 ruling and the consequent changes to the GEAC's operating rules seek to resolve these concerns and avoid the perception that the approval process is unduly influenced by corporate interests, especially from companies like Bayer (formerly Monsanto).

5. Legal and Political Implications:

(a) Supreme Court's Directives:

- While the July 2023 Supreme Court ruling did not directly approve or reject GM mustard, it made it clear that the government must formulate a national policy for GM crops.

- One of the primary concerns raised by the court was the conflict of interest among experts involved in the approval process. The court also recommended improving governance and transparency in the decision-making process.

(b) National Policy on GM Crops:

- The Supreme Court's order directs the government to create a national policy on GM crops, outlining the legal and regulatory frameworks under which such crops can be approved, studied, and released into the environment.

- The policy is expected to address scientific, environmental, and health concerns while ensuring that conflicts of interest are effectively managed.

6. Broader Implications for GM Crop Regulation in India:

(a) GM Crop Safety and Regulation:

- The regulation of GM crops in India has been under scrutiny for years, especially with concerns over their environmental impact, potential for cross-contamination, and long-term health effects.

- The GEAC's approval of GM crops, such as GM mustard, has been controversial, with environmentalists and farmers' groups questioning the need for genetically modified solutions when organic and traditional agricultural practices could suffice.

(b) The Role of the GEAC:

- The GEAC plays a key role in regulating the approval and release of GM crops in India. It is responsible for assessing the safety of GM crops concerning their environmental and health impacts.

About GEAC (Genetic Engineering Appraisal Committee)

- **Full Name:** Genetic Engineering Appraisal Committee (GEAC)

- **Functions:**
  o **Primary Role:** Appraisal of activities involving the large-scale use of hazardous microorganisms and recombinant DNA technologies in research and industrial production, focusing on environmental impact.
  o **Secondary Role:** Appraisal of proposals relating to the release of genetically engineered (GE) organisms and products into the environment, including experimental field trials.

- **Governing Body:**
  Operates under the Ministry of Environment, Forest and Climate Change (MoEF&CC).

- **Establishment :**
  Functions as per the Rules, 1989.

- **Composition:**
  o **Chairperson:** Special Secretary/Additional Secretary of MoEF&CC.
  o **Co-Chairperson:** Representative from the Department of Biotechnology (DBT).
  o **Members:** Currently consists of 24 members.

- **Meeting Frequency:** The committee meets every month to review applications in the areas mentioned above.

Conclusion:

The amendment to the GEAC rules marks a significant shift towards greater transparency and accountability in the decision-making process related to genetically modified crops in India. By mandating the disclosure of conflicts of interest and requiring expert members to recuse themselves when necessary, the government seeks to ensure that the regulatory process remains fair and unbiased.

Sustainable Nano Catalyst Developed to Minimize Environmental Impact

Overview:

- Scientists at the Institute of Nano Science and Technology (INST) have developed a new copper-based catalyst with a star-like shape.

- This new catalyst is designed to make industrial chemical processes more sustainable and cost-effective, reducing harm to the environment.

- The research was published in Nanoscale 2024.

Key Details:

1. **Copper-Based Nano Catalyst:**

o Scientists have made a copper oxide catalyst that has a unique star-like structure.

o This catalyst is aimed at improving industrial chemical reactions in a more environmentally friendly way.

2. **Sporopollenin as Template:**

o Sporopollenin is a natural material found in plant spores.

o It is used as a template for growing the copper oxide in a nanostar shape.

o The surface of the sporopollenin is treated with PEI (polyethyleneimine), which helps copper oxide to grow and form the nanostructures needed for the catalyst.

3. **Environmentally Friendly Features:**

o The catalyst works well in water-based reactions and does not require harmful chemicals or high temperatures, which are often needed by regular catalysts.

o This makes it more sustainable as it avoids harsh chemicals and reduces energy consumption.

o The catalyst can be reused up to five times, showing its durability and long-term efficiency.

4. **Applications:**

The catalyst can be used in many different fields, such as:

o **Organic reactions** in industries like pharmaceuticals and materials.

o **Cleaning up pollutants** in the environment (environmental remediation).

o **Electronics** for improving the development of smaller, efficient devices.

o **Improving chemical analysis** in techniques like **Surface-enhanced Raman Spectroscopy (SERS)**.

5. **Use of Biomass Waste:**

o The development uses sporopollenin, a form of biomass waste, showing how waste material can be turned into something useful.

o This approach follows the circular economy concept, where waste is reused to create valuable products.

6. **Alignment with Sustainable Development Goals (SDGs):**

This new catalyst directly helps achieve the Sustainable Development Goals (SDGs), such as:

o **SDG 12 - Responsible Consumption and Production**: By reducing the need for harmful chemicals and materials.

o **SDG 13 - Climate Action**: By lowering energy use and environmental pollution in industrial processes.

Conclusion:

This new copper-bUSAased nano catalyst is an important step towards more sustainable industrial processes. By using natural waste materials and reducing the need for harsh chemicals, it helps to protect the environment. Its applications in pharmaceuticals, electronics, and environmental cleanup make it a valuable tool for many industries, supporting the global movement towards a greener and more sustainable future.

Indore and Udaipur Earn Global Recognition for Wetland Conservation

CONSERVATION TO GET A BOOST

➤ Udaipur is **surrounded by 5 lakes**, which also **conserve many fish species and attract migratory birds**

➤ **First batch of wetland cities** from China, France and Sri Lanka, among others, was **notified in 2018**

➤ **Ramsar Conference** of the Parties in 2015 (COP12) **passed the establishment of Wetland City Accreditation system globally**

➤ **Second batch** of cities from Japan, Morocco, Iraq, Spain, and others was **declared in 2022**

Overview:

- Prime Minister Narendra Modi recently praised Indore and Udaipur for becoming the first two Indian cities to

be included in the global list of wetland cities under the Ramsar Convention on Wetlands.

- This recognition, awarded to 31 cities worldwide, highlights India's growing focus on wetland conservation alongside urban development.

What is Wetland City Accreditation (WCA)?

- Wetland City Accreditation (WCA) is a program that recognizes cities for their efforts in managing and protecting wetlands.

- The program was introduced in 2015 during the 12th Conference of the Ramsar Convention in Uruguay.

- Cities that receive this recognition show a commitment to sustainable development and are seen as examples for others to follow.

- This recognition lasts for 6 years, after which cities must apply for renewal.

What is a Wetland?

- Wetlands are areas where water is found either permanently or seasonally. These areas are home to many plants and animals.

- Types of Wetlands include marshes, swamps, and bogs.

- Wetlands are important because they help with water purification, flood control, and biodiversity.

Importance of Wetlands in Indore and Udaipur

Indore:

- **Sirpur Lake**:
  - Located in Indore, Sirpur Lake is a Ramsar site, meaning it has international importance.
  - It supports a variety of water birds and plays a key role in the city's biodiversity.
  - There are plans to develop Sirpur Lake into a bird sanctuary, which will make it an even more important spot for conservation and tourism.

Udaipur:

- Udaipur is famous for its beautiful lakes, including Pichola Lake, Fateh Sagar, Rang Sagar, Swaroop Sagar, and Doodh Talai.

- These lakes are not only important for the city's heritage but also help in managing water resources and protecting the city from extreme weather events like droughts and heatwaves.

- The wetlands in Udaipur support local wildlife and are crucial for maintaining climate resilience.

Benefits of Wetlands for Cities:

1. **Flood Control**: Wetlands absorb excess water during rains, helping to reduce the risk of flooding in cities.

2. **Water Purification**: Wetlands filter out harmful substances from water, improving its quality.

3. **Biodiversity Support**: Wetlands provide habitats for many species, including migratory birds and other wildlife.

India's Wetland Conservation and Ramsar Sites

Ramsar Convention:

- The Ramsar Convention is an international treaty signed in 1971 in Ramsar, Iran, aimed at protecting wetlands around the world.

- It helps countries to conserve wetlands, which are valuable for their role in flood control, water purification, and providing wildlife habitats.

- India became a signatory in 1982 and has since been working to increase the number of Ramsar sites in the country.

India's Ramsar Sites:

- As of January 2025, India has 85 Ramsar sites.

- India has been steadily adding Ramsar sites, with 26 sites between 1982-2013 and 59 new sites between 2014-2025.

- Tamil Nadu has the highest number of Ramsar sites, followed by Uttar Pradesh.

Why Wetland Conservation is Important for India

- **Water Security**: Wetlands are essential for managing water resources in India. They help recharge groundwater and reduce soil erosion.

- **Climate Resilience**: Wetlands act as natural buffers against extreme weather events like floods and droughts, helping cities become more resilient to climate change.

- **Biodiversity**: Wetlands support many species of plants, animals, and birds, contributing to biodiversity and ecological balance.

- **Urban Livability**: Wetland conservation improves the quality of life in cities by providing clean air and water, and supporting local wildlife.

Conclusion:

The recognition of Indore and Udaipur as Ramsar-accredited wetland cities is an important step for India. It highlights how cities can grow and develop while still protecting natural resources and supporting sustainable practices. Wetlands are a key part of India's climate strategy, helping cities manage water, reduce flooding, and preserve biodiversity for future generation

Asian Waterbird Census

Recent Development:

- As part of the Asian Waterbird Census 2025, a record-breaking 39,725 birds belonging to 106 species were sighted in the Coringa Wildlife Sanctuary and its adjoining wetlands.

About Asian Waterbird Census:

1. **Purpose and Scope:**

o The Asian Waterbird Census (AWC) is a citizen-science program designed to support the conservation and management of wetlands and waterbirds worldwide.

o It is an annual event that contributes to the International Waterbird Census (IWC), which is a global effort to monitor waterbird populations.

2. **Initiation and Growth:**

o The census was initiated in 1987 in the Indian subcontinent and has since expanded across Asia, covering regions from Afghanistan to Japan, Southeast Asia, and Australasia.

o The census now covers the entire East Asian-Australasian Flyway and a significant portion of the Central Asian Flyway.

3. **India's Role:**

o In India, the census is conducted under the auspices of the Bombay Natural History Society (BNHS) and the Wildlife Institute of India (WII) in early January each year.

Key Organizations Involved:

1. **Bombay Natural History Society (BNHS):**

o BNHS is a Non-Governmental Organisation (NGO) in India, focused on conservation and biodiversity research.

o It has been designated as a 'Scientific and Industrial Research Organisation' by the Department of Science and Technology.

o BNHS is also the Indian partner of BirdLife International.

2. **Wildlife Institute of India (WII):**

The WII is an autonomous institution established in 1982 under the Ministry of Environment, Forests, and Climate Change, Government of India. It is dedicated to wildlife research and conservation.

Key Facts:

- **Census Coverage:** The Asian Waterbird Census spans countries across Asia, from Afghanistan to Japan, Southeast Asia, and Australasia, covering key migratory bird flyways.

- **Coringa Wildlife Sanctuary:** In 2025, the census reported a record number of 39,725 birds from 106 species in the Coringa Wildlife Sanctuary and nearby wetlands.

- **Citizen-Science Contribution:** The census is a citizen-science initiative, which involves local communities, conservationists, and scientists in monitoring waterbird populations.

- **Role of BNHS & WII:** In India, the Bombay Natural History Society (BNHS) and the Wildlife Institute of India (WII) play key roles in organizing and conducting the census.

Conclusion:

The Asian Waterbird Census is an important conservation tool, not only helping to monitor waterbird populations but also raising awareness about the protection of wetlands. The participation of various organizations, especially in India through BNHS and WII, ensures that this citizen-science initiative continues to contribute to global waterbird monitoring efforts.

❏❏❏

Geography

Central Groundwater Board (CGWB)

Overview:

As of 2023, 440 districts in India face excessive nitrates in their groundwater, up from 359 districts in 2017. This increase highlights growing concerns over groundwater contamination and sustainability. The Central Groundwater Board (CGWB) plays a pivotal role in managing, monitoring, and protecting India's groundwater resources.

What is CGWB?

The Central Groundwater Board (CGWB) is a scientific body functioning under the Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, Government of India. It serves as the national apex agency responsible for the scientific management of groundwater resources across the country.

Mandate of CGWB:

CGWB is tasked with:

1. **Exploration and Assessment**: Identifying and assessing the availability of groundwater across India.

2. **Groundwater Management**: Developing and disseminating technologies for the sustainable development of groundwater, including its protection from pollution.

3. **Augmentation and Conservation**: Focusing on the replenishment and conservation of groundwater resources, ensuring their equitable distribution.

4. **Monitoring and Regulation**: Continuously monitoring groundwater quality and quantity, and regulating its use through coordination with state governments.

Core Responsibilities:

- **National Aquifer Mapping and Management (NAQUIM)**: CGWB creates Aquifer Maps and Management Plans to ensure efficient groundwater use and management.

- **Groundwater Exploration**: Identifying groundwater-worthy areas and potential aquifers for future development.

- **Geophysical Surveys**: Using scientific techniques to locate groundwater-bearing zones.

- **Periodic Groundwater Assessment**: Regularly assessing the status of groundwater resources across India.

- **Groundwater Quality and Level Monitoring**: Monitoring data from observation wells to track changes in groundwater quality and levels.

- **Regulation and Control**: Collaborating with State Governments to regulate and control groundwater development through policies and practices.

- **Water Conservation**: Encouraging artificial recharge techniques and promoting water conservation measures.

- **R&D and Technology Application**: Conducting research and implementing new technologies in groundwater management.

- **Knowledge Dissemination**: Sharing data and providing training for capacity building in groundwater management.

Organization Setup:

- **Head**: The Chairman of CGWB oversees its operations.

- **Members**: The Board consists of five members with expertise in various disciplines.

- **Headquarters**: Located in Bhujal Bhawan, Faridabad, Haryana.

- **Team Composition**: CGWB is made up of professionals like hydrogeologists, chemists, engineers, hydrologists, and other specialists.

Major Activities:

1. **Aquifer Mapping**: Preparation of detailed maps that identify areas suitable for groundwater extraction.

2. **Exploration and Surveys**: Conducting surveys to identify aquifers and groundwater resources.

3. **Data Collection**: Monitoring water quality and levels across India, offering comprehensive data for public and governmental use.

4. **Collaboration with States**: Working closely with state governments to ensure that groundwater management policies are implemented effectively.

5. **Artificial Recharge**: Implementing techniques to artificially recharge groundwater and ensure sustainability.

What is an Aquifer?

An aquifer is a geological formation that contains water, either in rock or sediment. Water enters aquifers through precipitation that filters through soil. Aquifers supply water to springs and wells and are crucial for both natural ecosystems and human use.

Conclusion:

The Central Groundwater Board is integral in managing India's groundwater resources sustainably, with a focus on conservation, quality control, and equitable distribution. By utilizing advanced technologies like GIS, remote sensing, and geophysical surveys, CGWB is making strides toward safeguarding this vital resource against depletion and contamination.

Tobacco Board of India

Overview:

The Tobacco Board of India has been actively involved in ensuring the sustainability and growth of the tobacco industry in India, through various strategic initiatives aimed at improving the production, export, and regulation of tobacco.

About Tobacco Board of India:

- **Establishment**: The Tobacco Board of India was established on 1st January 1976 by the Tobacco Board Act, 1975 (Act 4 of 1975), making it a statutory body under the Indian government.

- **Leadership**: The Board is headed by a Chairman.

- **Responsibilities**: The Board plays a key role in the development of the tobacco industry in India.

Functions of the Tobacco Board of India:

1. **Export Promotion**: The Board is primarily responsible for the export promotion of all varieties of tobacco and related products.

2. **Regulation of FCV Tobacco**: It regulates the production and distribution of Flue Cured Virginia (FCV) tobacco, which is a key variety of tobacco used in the manufacture of cigarettes.

3. **Support to Farmers**:

o The Board ensures fair and remunerative prices for tobacco farmers.

o **Financial Assistance**: It provides farmers with necessary financial assistance through banks, helping them access inputs for producing quality tobacco.

o **Sustainable Practices**: It encourages sustainable tobacco cultivation practices by engaging in extension and development activities.

4. **Quality Assurance**: The Board assists farmers in producing tobacco that meets the quality standards required by importing countries, ensuring that the tobacco produced can be exported.

5. **Farming System Support**: Ensuring the smooth functioning of the tobacco farming system and promoting a fair and sustainable production cycle.

Headquarters and Nodal Ministry:

- **Headquarters**: Located in Guntur, Andhra Pradesh.

- **Nodal Ministry**: The Ministry of Commerce and Industry is the nodal ministry overseeing the operations of the Tobacco Board.

India's Tobacco Industry:

- India is the 2nd largest producer of tobacco in the world, only behind China.

- India is the 4th largest producer of Flue Cured Virginia (FCV) tobacco globally, after China, Brazil, and Zimbabwe.

- India is also the 2nd largest exporter of unmanufactured tobacco (in terms of quantity), following Brazil.

What is Nicotine?

Nicotine is a naturally occurring alkaloid found in plants of the nightshade family, particularly in tobacco plants. It is widely used recreationally due to its stimulant and anxiolytic (anti-anxiety) properties. As a pharmaceutical drug, nicotine is used in products for smoking cessation, helping to relieve withdrawal symptoms for individuals attempting to quit smoking.

Conclusion:

The Tobacco Board of India plays a significant role in managing the production, regulation, and export of tobacco in India, supporting farmers while promoting sustainable practices. India's position as a major player in the global tobacco market highlights the importance of the Board's efforts to maintain quality standards and ensure fair practices within the industry.

Banana Cultivation

Overview:

India has achieved a tenfold increase in banana exports over the past decade, according to the Agricultural and Processed Food Products Export Development Authority (APEDA). The country aims to reach $1 billion in banana exports within the next five years, highlighting the significant growth and potential of banana cultivation in India.

About Banana:

• Banana is a tropical fruit crop and the second most important fruit crop in India, following mango. It plays a key role in the country's agricultural economy.

Required Climatic Conditions:

• **Temperature**: Bananas thrive in a temperature range of 15ºC to 35ºC with relative humidity of 75-85%.

• **Climate**: They prefer tropical humid lowlands, growing well from sea level to 2000 meters in elevation.

Soil Requirements:

• Bananas require deep, rich loamy soil with a pH between 6.5 - 7.5.

• The soil should have good drainage, adequate fertility, and sufficient moisture.

• Saline and calcareous soils are not suitable for banana cultivation.

Varieties Cultivated in India:

India grows a wide variety of bananas, each with unique characteristics. Some notable varieties include:

• Dwarf Cavendish
• Robusta
• Monthan
• Poovan
• Nendran
• Red banana
• Nyali
• Safed Velchi
• Basrai
• Ardhapuri
• Rasthali
• Karpurvalli
• Karthali
• Grand Naine

Major Banana Producing States in India:

• Andhra Pradesh
• Maharashtra
• Gujarat
• Karnataka
• Kerala These states are major contributors to India's banana production, which is one of the highest in the world.

What is the Agricultural and Processed Food Products Export Development Authority (APEDA)?

• APEDA was established by the Government of India under the Agricultural and Processed Food Products Export Development Authority Act of 1985.

• It functions under the Ministry of Commerce and Industry and is responsible for promoting the export of agricultural and processed food products, including bananas, from India.

• APEDA works to enhance India's share in the global export market by improving product quality, fostering international trade, and providing support to farmers and exporters.

Conclusion:

Banana cultivation is a major agricultural activity in India, contributing significantly to both domestic consumption and exports. With the increase in exports and a target of reaching $1 billion in the next five years, banana production continues to be an important sector in India's agricultural economy. The government's focus, along with support from bodies like APEDA, is likely to boost the industry's growth and global presence.

Project VISTAAR

IIT Madras has recently collaborated with the Ministry of Agriculture and Farmers' Welfare on Project VISTAAR (Virtually Integrated System to Access Agricultural Resources). This initiative aims to enhance the efficiency of the agricultural extension system using digital tools.

About Project VISTAAR:

- **Purpose**: A digital platform designed to integrate information about start-ups in the agriculture and allied sectors.

- **Key Features**:
  o A database containing details of over 12,000 start-ups in agriculture and farming.
  o It provides farmers and stakeholders with easy access to technological solutions and services offered by these start-ups.
  o Aims to improve the agricultural extension system through digitalisation.

- **Significance**:
  o The platform aims to expand outreach and help farmers access high-quality advisory services related to crop production, marketing, value addition, and supply chain management.

  o It also provides information on government schemes for agriculture, rural development, and allied sectors, helping farmers make informed decisions.
  o The digitalisation of agricultural services will augment the current extension system, providing timely, accurate, and contextual information to support farmers more effectively.

Polavaram Project

Overview:

The Telangana government has decided to collaborate with experts from the Indian Institute of Technology, Hyderabad (IIT-H) to study the potential impacts of the construction of the Polavaram Project on the Godavari River.

About Polavaram Project:

- **Location**: The project is situated on the Godavari River, spanning the West Godavari and East Godavari districts of Andhra Pradesh.

- **Purpose**: The Polavaram Project is a multi-purpose irrigation project aimed at addressing water scarcity, improving agricultural productivity, and generating power.

- **Dam Specifications**:
  o The dam will have a span of 1.2 km.
  o It features a pier height of 54 meters and includes 48 radial gates (each measuring 16m x 20m).

- **Flood Resilience**: Designed to withstand floods occurring once in 1000 years, the Polavaram Spillway is set to have the highest discharge capacity globally, at 50 lakh cusecs, surpassing the Three Gorges Dam in China.

- **National Project Status**: The project has been granted national project status by the central government.

Objectives:

- The project aims to develop an irrigation potential of 436,825 hectares.

- It is also designed to generate 960 MW of hydropower.

- The project will provide drinking water to 28.5 lakh people across 611 villages.

- Additionally, it plans to divert 80 TMC of water to the Krishna River Basin.

- The project will help in the management of floodwaters from the Godavari River, reducing risks to surrounding communities.

What is Hydropower?

Hydropower, also known as hydroelectric power, is one of the oldest and largest sources of renewable energy. It utilizes the natural flow of moving water, such as rivers or waterfalls, to generate electricity.

Conclusion:

The Polavaram Project is a significant infrastructural endeavor designed to improve water management, agricultural productivity, and power generation in the Godavari River region. With its massive flood discharge capacity and national project status, it aims to provide long-term benefits in terms of irrigation, hydropower, and drinking water supply, while also playing a critical role in flood management.

Banihal Bypass

Overview:

The Union Minister for Road Transport and Highways recently announced the completion of the Banihal Bypass, a vital 4-lane, 2.35 km stretch on NH-44 that will help ease traffic congestion in Banihal, Jammu & Kashmir.

About Banihal Bypass:

- **Length**: 2.35 kilometers (4-lane bypass).

- **Cost**: Rs 224.44 crore.

- **Location**: Situated on the Ramban-Banihal section of NH-44.

- The bypass is constructed to tackle the long-standing issue of traffic congestion caused by roadside markets and shops, ensuring unhindered traffic flow.

- The bypass includes 4 viaducts (spanning 1,513 meters) and 3 culverts to manage water flow and maintain road stability.

- This infrastructure reduces travel time and alleviates congestion, facilitating smoother passage for both tourists and defense vehicles heading towards the Kashmir Valley.

Key Facts about NH-44:

- NH-44, formerly NH 7, is the longest national highway in India, stretching 3,745 kilometers.

- It connects Srinagar in Jammu & Kashmir to Kanyakumari in Tamil Nadu, traversing 11 states.

- The highway is important for its strategic connectivity and passes through major cities such as Agra, Delhi, Hyderabad, and Bangalore.

- NH-44 is an amalgamation of seven previously existing national highways, making it a crucial corridor for both transportation and trade.

What is Kashmir Valley?

- The Kashmir Valley is a region in Jammu & Kashmir, India, known for its scenic beauty, rich culture, and historical significance.

- Surrounded by the Pir Panjal Range to the southwest and the Himalayas to the northeast, the valley is nourished by the Jhelum River, making it an important water source.

Conclusion:

The Banihal Bypass is a significant infrastructural development that promises to alleviate traffic issues in the region and ensure smoother connectivity on NH-44. This project, in turn, supports both economic activity and strategic mobility in the region.

Mucuna bracteata

Overview:

The Tamil Nadu Forest Department, in collaboration with an NGO from Kanniyakumari, is conducting a pilot project to remove Mucuna bracteata from rubber plantations and forest areas in the district.

About Mucuna bracteata:

- **Definition**: Mucuna bracteata is an invasive leguminous vine introduced to rubber plantations to control weeds and regulate nitrogen levels due to its drought tolerance.

- **Invasion**: Initially introduced as a beneficial crop, it has now become a threat by overtaking the rubber trees and spreading across parts of the Western Ghats, particularly in regions like Kaliyal, Kadayalumoodu, Aarukani, Kodayar, and Kulasekaram.

- **Impact on Trees**: The plant covers and smothers native trees, affecting their growth and blocking sunlight. It is especially invasive in areas close to the Kalakkad-Mundanthurai Tiger Reserve, which is a critical tiger habitat.

- **Other Invasive Plants**: Similar invasive plants in the region include Lantana and Parthenium.

- **Main Habitat**: Mucuna bracteata thrives in the rainforest of Kanniyakumari, especially in abandoned rubber plantations.

What are Leguminous Crops?

- Leguminous crops belong to the pea family (Leguminosae).

- These plants have root nodules that house rhizobium bacteria, which fix nitrogen from the atmosphere.

- The nitrogen fixed by these bacteria enriches the soil, improving its fertility. When plant residues decompose, they further contribute to soil nitrogen levels.

Conclusion:

The Mucuna bracteata plant, originally introduced to improve rubber plantations, has now become a significant environmental threat by displacing native vegetation and impacting local ecosystems. Addressing its spread is critical for preserving biodiversity, especially in areas near protected tiger habitats.

Soapstone, Formation, Application, Soapstone Reserves in India

Overview:

The Uttarakhand High Court recently expressed concern over the unregulated soapstone mining in the Bageshwar district, which is home to more than 160 mines. This highlights the growing issue of illegal mining and the need for regulation in soapstone extraction.

What is Soapstone?

- **Alternate Name**: Soapstone is also known as Steatite.

- **Composition**: It is a metamorphic rock primarily composed of talc, a naturally occurring mineral. Soapstone may also contain other minerals, depending on the source of the quarry, such as micas, chlorite, amphiboles, quartz, magnesite, and carbonates.

- **Appearance and Uses**:
  - Soapstone is commonly used in construction and design for applications like countertops, sinks, hearths, and sculptures.
  - Its smooth texture and attractive appearance make it suitable for artistic and functional purposes in various designs.

How Does Soapstone Form?

- **Formation Process**:
  - Soapstone forms mainly at convergent plate boundaries, where the Earth's crust is subjected to intense heat and pressure.
  - In this environment, rocks like peridotites, dunites, and serpentinites are metamorphosed into soapstone.
  - On a smaller scale, soapstone can also form when siliceous dolostones are altered by hot, chemically active fluids in a process called metasomatism.

- **Properties**:

  Soapstone is known for being relatively soft, dense, and highly heat-resistant. These properties make it ideal for various industrial and artistic applications.

Soapstone Reserves in India:

- According to the Indian Bureau of Mines, India has substantial soapstone reserves, primarily located in the following states:

  o **Rajasthan**: 57% of the country's soapstone reserves.

  o **Uttarakhand**: 25% of the country's soapstone reserves.

- **Major Producing Countries**:

  o China, India, Brazil, USA, and Finland are the top producers of soapstone globally.

Applications of Soapstone:

- **Powdered Soapstone**: In its powdered form, soapstone is often combined with corn starch to make baby powder.

- **Industrial Uses**:

  o Soapstone is used as a thickening agent and lubricant.

  o It is a key ingredient in products like ceramics, paint, roofing material, and various cosmetics.

- **Talc**: The talc component of soapstone has various applications in industries such as cosmetics, pharmaceuticals, and more.

What are Minerals?

- Minerals are naturally occurring, homogeneous solids with a definite chemical composition and a highly ordered atomic arrangement.

- They are typically formed by inorganic processes and can be found in nature in various forms, such as metals, gemstones, and rocks.

Conclusion:

Soapstone is a versatile and valuable resource, widely used in construction, art, and industrial products. While India holds significant reserves of soapstone, especially in Rajasthan and Uttarakhand, concerns over unregulated mining need to be addressed. Its applications, particularly in cosmetics and pharmaceuticals, also underscore its economic importance. Ensuring sustainable mining practices and regulating the soapstone industry will be key to its long-term viability and preservation.

Polar Vortex

What is the polar vortex?

The polar vortex is a large area of cold air high up in the atmosphere. It normally spins above the North Pole.

A chunk of the polar vortex sometimes slides down toward the U.S. This helps funnel bitterly cold Arctic air over the central and eastern U.S.

Arctic air over North Pole

Polar vortex

Jet stream

USA

North Pole

Polar vortex shifts

Jet stream

H
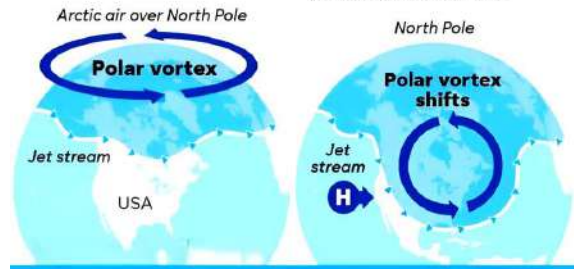
Overview:

- The Polar Vortex recently caused a surge of subfreezing temperatures in some of the southernmost parts of the United States.

- This weather phenomenon is a large-scale atmospheric event that affects regions beyond the poles.

About Polar Vortex:

- The Polar Vortex is a large area of low pressure and cold air that surrounds both the Arctic and Antarctic poles. It is a key feature of the Earth's climate system, particularly during winter months.

- **Location and Structure**:

  o The polar vortex extends from the tropopause (the boundary between the stratosphere and troposphere) upwards through the stratosphere and into the mesosphere (over 50 km above Earth's surface).

  o While it is always present near the poles, it weakens in summer and strengthens in winter, particularly in the Northern Hemisphere.

What is the Stratosphere?

The stratosphere is the second layer of the Earth's atmosphere, located just above the troposphere and below the mesosphere.

- **Altitude**: It starts at the tropopause (about 8-16 km above Earth's surface) and extends to the stratopause, which is around 50 km above Earth.

- **Ozone Layer**: The stratosphere contains the ozone layer, which absorbs ultraviolet (UV) radiation from the Sun. This helps to heat the layer, causing

temperatures to increase as altitude increases in the stratosphere.

- **Temperature**: Unlike the troposphere, where temperature decreases with altitude, the stratosphere experiences warming due to the presence of ozone.

- **Air Flow**:
  o The term "vortex" refers to the counter-clockwise flow of air within the vortex, which helps to keep cold air confined near the poles.
  o Jet streams, which are strong winds found in the upper atmosphere (around 30,000 feet), can pull cold air from the vortex southward, leading to severe cold spells in regions not typically exposed to such low temperatures.

- **Winter Impact**:
  o During winter, the polar vortex can expand, pushing Arctic cold air further south, leading to extreme cold in parts of North America, Europe, and Asia.
  o These cold air surges are often associated with large outbreaks of Arctic air that can result in dangerous temperature drops.

- **Southern Hemisphere**:
  o The Antarctic Polar Vortex is more consistent because Antarctica is surrounded by ocean, unlike the Arctic, which is bordered by both land and water.
  o Although cold-air outbreaks do occur in the Southern Hemisphere, they are less frequent and typically affect less populated areas than in the Northern Hemisphere.

Human Impact:

The primary danger associated with the polar vortex is the extreme cold temperatures that can occur when it expands. These conditions can cause disruptions to daily life, such as:

- Freezing weather in areas unaccustomed to such temperatures.
- Health risks, including frostbite and hypothermia.
- Power outages due to the stress on energy infrastructure.

Anji Khad Bridge - Key Facts

Overview:

The Anji Khad Bridge, India's first cable-stayed rail bridge, showcases the engineering excellence of Indian Railways. It is a significant part of the Udhampur-Srinagar-Baramulla Rail Link (USBRL) Project and enhances connectivity between the Kashmir Valley and the rest of India.

About Anji Khad Bridge:

- **Location**: The bridge is located in Reasi district, Jammu and Kashmir, crossing the Anji River, a tributary of the Chenab River.

- **Purpose**: As part of the USBRL project, the bridge aims to improve rail connectivity in the region, particularly between Katra and Reasi, which is essential for the development of Jammu and Kashmir.

- **Engineering Challenge**: Constructed in the Himalayan terrain, the bridge had to overcome challenging geological conditions, including seismic activity and fragile rock formations.

- **Collaboration**: Indian Railways collaborated with IIT Roorkee and IIT Delhi for site-specific investigations, ensuring the stability and safety of the bridge.

Features of Anji Khad Bridge:

- **Design**: The bridge is an asymmetrical cable-stayed bridge supported by a central pylon, making it both an engineering marvel and a visually striking structure.

- **Dimensions**:
  o **Span**: 725.5 meters
  o **Main Pylon**: 193 meters tall, with the top of the pylon soaring 331 meters above the riverbed.

- **Resilience**: The bridge is designed to withstand wind speeds of up to 213 km/h and support train operations at speeds of up to 100 km/h.

- **Structural Components**:
  - A 120-meter approach viaduct on the Reasi side
  - A 38-meter approach bridge on the Katra side
  - A 473.25-meter cable-stayed segment crossing the valley
  - A 94.25-meter central embankment connecting the main structure to the viaduct

What are Cable-Stayed Bridges?

Cable-stayed bridges are a type of bridge where the deck (the part that carries traffic) is supported by cables that are directly attached to one or more towers.

- **Design**: These bridges typically have tall towers (called pylons), and cables that radiate from the tower to the deck, forming a series of diagonally arranged lines that support the bridge.
- **Support System**: Each cable is connected to the tower at one end and the deck at the other, providing a strong, efficient structure capable of supporting heavy loads.
- **Advantages**: Cable-stayed bridges are known for their aesthetic appeal, cost-effectiveness, and ability to span long distances without the need for many support piers, making them suitable for challenging terrains like mountains or rivers.

The Anji Khad Bridge is a notable achievement in railway infrastructure in India, demonstrating the country's progress in engineering, particularly in challenging terrains. Its innovative cable-stayed design and resilience are key factors in making it an iconic structure for the region's connectivity.

What is Mission Mausam ?
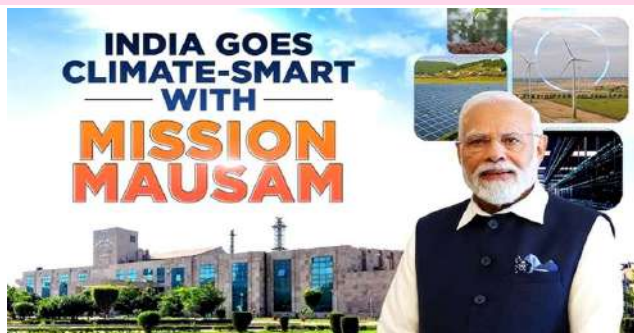
Context:

Prime Minister Narendra Modi launched Mission Mausam during the 150th foundation day celebrations of the India Meteorological Department (IMD).

About Mission Mausam:

- **Objective:** The mission aims to enhance India's capabilities in weather and climate-related science, research, and services. It aspires to make India a "Weather-ready and Climate-smart" nation.
- **Funding:** The programme has an allocation of Rs 2,000 crore over a span of two years.
- **Implementing Agencies:** The India Meteorological Department (IMD), Indian Institute of Tropical Meteorology (IITM), and the National Centre for Medium-Range Weather Forecasting (NCMRWF) will be the key agencies implementing the programme.

Goals and Focus:

- **Forecasting Accuracy:** Improve the accuracy of weather predictions and provide near real-time local weather forecasts.
- **Technological Development:** The mission will focus on the development of advanced weather surveillance technologies, including next-generation radars, satellites, and high-performance computing systems.
- **Climate Change Challenges:** The mission aims to tackle challenges posed by climate change by enhancing the spatial and temporal accuracy of forecasts.
- **Air Quality Data:** One of the key components is providing air quality data to inform long-term weather management strategies.
- **Stakeholder Empowerment:** The mission aims to equip stakeholders, including citizens and last-mile users, with the tools and knowledge to manage extreme weather events and mitigate climate change impacts.

Key Facts About the India Meteorological Department (IMD):

- **Establishment:** Founded in 1875, the IMD is India's national meteorological service, responsible for weather forecasting and related scientific research.
- **Leadership:** The Director General of Meteorology heads the IMD.
- **Regional Centres:** The IMD has six regional meteorological centres located in Mumbai, Chennai, New Delhi, Calcutta, Nagpur, and Guwahati.

- **Mandate:**
  - o Provide weather forecasts for activities like agriculture, shipping, aviation, and offshore oil exploration.
  - o Issue warnings about severe weather phenomena, including cyclones, dust storms, heavy rains, and heatwaves.
  - o Conduct research in meteorology and allied fields.

Conclusion:

Mission Mausam is a transformative initiative aimed at enhancing India's weather prediction capabilities and climate resilience. Through advanced technologies and collaborative efforts, the mission seeks to improve forecasting accuracy, empower stakeholders, and address the challenges posed by climate change and extreme weather events.

Sada Region

Overview:

The Sada region in Maharashtra is undergoing a transformation in its land-use patterns. Croplands are being converted into orchards and residential areas, which could impact the region's biodiversity and local ecosystem.

About Sada:

- **Geographical Features**: Sada is a flat-topped landform that has been shaped by centuries of erosion. Locally, it is known as "Sada," meaning a large flat area.
- **Location**: It is located in the Konkan region of Maharashtra, which is famous for its coastal landscape.
- **Comparison with Plateaux**: The topography of Sada resembles plateaux, such as the "pathar" in Satara district. A famous example of a pathar is the **Kaas Plateau**, known for its seasonal transformation and biodiversity.

Characteristics of Sada:

1. **Seasonal Transformation**:
   - o The Sada region is mostly barren during the dry season but undergoes a dramatic transformation during the monsoon months.
   - o The monsoons bring lush greenery and a variety of endemic flora to life, making the region ecologically significant.

2. **Soil and Hydrology**:
   - o Sada features a highly weathered lateritic soil layer, which is crucial for water retention. This soil acts as a natural catchment area, absorbing rainwater and aiding in groundwater recharge.

3. **Biodiversity**:
   - o The Sada landscape supports a rich diversity of flora and fauna. It hosts 459 plant species, including 105 endemic to the Konkan region.
   - o The region is also home to 31 species of reptiles, 13 species of amphibians, 169 species of birds, and 41 species of mammals.

4. **Cultural and Historical Significance**:
   - o The Sada area also contains ancient geoglyphs, which are artworks dating back roughly 10,000 years. These geoglyphs offer insight into the region's ancient cultures and traditions.

Impact of Land-Use Changes:

- The conversion of croplands into orchards or residential areas may have long-term consequences for the biodiversity of the region.
- Habitat loss, alteration of soil properties, and potential water resource depletion could affect both the flora and fauna of the region.

Key Concept: Plateau.

- A plateau is an elevated flatland that stands above the surrounding area. It is a flat-topped tableland, often surrounded by steep slopes.
- **Characteristics**: Plateaux typically have one or more steep sides and can form due to various geological processes, such as volcanic activity or erosion.

Conclusion:

The Sada region's unique ecological and geological features make it an important area for conservation. Changes in land use and development must be carefully monitored to ensure that the region's biodiversity and hydrological balance are preserved. The region's role as a natural catchment area and its rich biodiversity highlight its significance both locally and globally.

What is a Mud Volcano ?

Overview:

In early 2023, a mud volcano eruption in the Caspian Sea led to the formation of a temporary 'ghost island' that eroded away by the end of 2024. This event brought attention to the phenomenon of mud volcanoes, which are different from typical volcanic eruptions and have unique characteristics.

About Mud Volcanoes:

- A mud volcano is a small cone-shaped formation made of mud and clay. These volcanoes usually have a height of just a few meters or even smaller, with some only reaching a few decimeters.

- Mud volcanoes have shallow craters, which may erupt mud intermittently. These eruptions help rebuild the cones, though they erode relatively easily over time.

- **Types of Mud Volcanoes:**
  - **Hot Spring Activity**: Some mud volcanoes are created by hot spring activity, where large amounts of gas and small amounts of water chemically react with surrounding rocks, producing boiling mud.
  - **Porridge Pot**: A type of mud volcano that forms a basin of boiling mud, which erodes chunks of the surrounding rock.
  - **Paint Pot**: A basin of boiling mud that is colored yellow, green, or blue due to minerals from the surrounding rocks.

- **Non-Igneous Mud Volcanoes**: In certain oil-field regions, mud volcanoes form without any volcanic origin. These regions are often young, with soft and unconsolidated formations. Under compactional stress, methane and hydrocarbon gases mix with mud and force their way upward, erupting as mud in a cone-like shape.

The mud produced in these eruptions is often hot and may create an accompanying steam cloud.

- **Hazards of Mud Volcanoes**: While mud volcanoes are not as hazardous as real volcanoes because they don't erupt lava or ash, they can still pose dangers:
  - The large volume of mud erupted can flood areas, displace people, and bury infrastructure and agriculture.
  - Large mud volcanoes can pose serious hazards, but their impact is usually local, affecting only areas within a few hundred meters of the eruption.

- **Global Distribution**: There are about 1,000 mud volcanoes found on land and in shallow water around the world. Countries where mud volcanoes are found include:
  - **Europe & Asia:** Ukraine, Italy, Romania, Azerbaijan, Iran, Pakistan, Indonesia, China.
  - **North & South America:** Alaska, California, Trinidad, Venezuela, Colombia.

Mud Volcanoes in India:

In India, there are notable mud volcanoes, including:

1. **Baratang Island** (Andaman and Nicobar Islands) is home to one of the most famous mud volcanoes in the country.

2. **Tinsukia District** (Assam) also has mud volcanoes, specifically in the Namrup and Makum areas.

3. There are also reports of mud volcanoes in parts of Arunachal Pradesh, but these are not as widely known or studied as those in Assam and the Andaman Islands.

Conclusion:

Mud volcanoes are unique geological formations that erupt mud and gas instead of typical volcanic materials like lava or ash. Though not as hazardous as regular volcanoes, their eruptions can still cause damage, particularly by flooding areas with mud. While mud volcanoes are present around the world, countries like India also have notable examples, such as those in the Andaman Islands and Assam.

Siachen Glacier

Overview:

Recently, the Siachen Glacier was equipped with 4G and 5G services by a private telecom firm in India.

About Siachen Glacier:

- **Location**: The Siachen Glacier is a piedmont glacier located in the Karakoram Range.

- **Geographical Importance**: It lies in the Himalayan region, often referred to as the "Third Pole," due to the large amount of freshwater stored in its glaciers. This region contains more freshwater than any place on Earth except the polar ice caps.

- **Position**: The glacier lies between:
  - Saltoro Ridge (a subrange of the Karakoram) to the west.
  - The main Karakoram Range to the east.

- **Length**: It is the second longest nonpolar glacier in the world, after the Fedchenko Glacier in Tajikistan.

- **Origin**: The glacier originates at the base of the Indira Col West, a low point on the Indira Ridge.

- **Strategic Importance**:
  - The Siachen Glacier dominates the Shaksgam Valley (ceded to China by Pakistan in 1963) in the north.
  - It controls the routes coming from Gilgit-Baltistan to Leh from the west.
  - It also dominates the ancient Karakoram Pass on the eastern side.

- **Source of River**: It is the primary source of the Nubra River, which is 80 km long and a major tributary of the Shyok River.

- **Military Importance**: The glacier is known as the world's highest battleground. In 1984, India took control of it from Pakistan under Operation Meghdoot.

Why is Siachen so important for India?

- **Strategic Location**:
  - The Saltoro Ridge in the Siachen Glacier serves as a barrier that prevents Pakistan-Occupied Kashmir from connecting directly with China, preventing the two from forming a geographic military alliance.

- Siachen also allows India to monitor Pakistan's Gilgit-Baltistan territories, which adds to India's strategic advantage in the region.

Conclusion:

The Siachen Glacier holds immense strategic, geographical, and military importance for India, not only due to its role in freshwater storage but also because of its control over vital routes and its position as a military stronghold. With the introduction of advanced telecom services, it further enhances India's capabilities in the region.

Indian Sustainable Natural Rubber (iSNR) Platform

Overview:

- The Rubber Board of India recently introduced two initiatives: iSNR (Indian Sustainable Natural Rubber) and INR Konnect. These initiatives are aimed at improving the sustainability of India's rubber industry and enhancing its global competitiveness.

Indian Sustainable Natural Rubber (iSNR) Platform:

- The iSNR platform is primarily focused on facilitating the compliance of Indian rubber with the European Union Deforestation Regulation (EUDR). This regulation ensures that rubber products imported into the EU are sourced sustainably and do not contribute to deforestation.

- The platform simplifies the compliance process for stakeholders, particularly those in the rubber supply chain, ensuring that Indian rubber meets the standards required for export to EU markets.

- A key feature of the iSNR platform is the issuance of a traceability certificate. This certificate confirms the origin of the rubber products and ensures that they comply with the EUDR, thereby enhancing the transparency and credibility of India's rubber exports.

- The initiative aims to make Indian natural rubber a competitive and responsible choice in the global market, setting higher standards for sustainability in rubber production and helping to foster long-term growth for the rubber industry in India.

INR Konnect Platform:

- INR Konnect is a web-based platform that connects rubber growers—especially those with untapped

rubber holdings—with interested adopters (buyers or plantation managers). This connection helps to maximize plantation productivity by facilitating better management practices and increasing efficiency.

- The platform ensures that all parties involved are credible and trustworthy, with the Rubber Board certifying the participants and providing training in areas like sustainable practices and production management. This ensures that the rubber produced is of high quality and aligns with sustainable development goals.

- Additionally, the platform offers a comprehensive database of certified tappers—those skilled in harvesting rubber—making it easier for growers to find qualified workers for their plantations.

What is India's position in natural rubber production?

- India is the third largest producer of natural rubber in the world. It is also the fourth largest consumer of natural rubber.

- In terms of total rubber consumption (both natural and synthetic rubber), India holds the fifth largest position globally. This highlights the significance of rubber in India's economy, both as an essential raw material and as a critical part of the manufacturing sector.

Eruption of Mount Ibu

Overview:

Mount Ibu, located in eastern Indonesia, has been highly active recently, erupting over a thousand times this month, according to official reports.

About Mount Ibu:

- **Location**: Situated on the northwest coast of Halmahera Island, Indonesia.

- **Elevation**: A 1,325-meter (4,347-foot) stratovolcano with a truncated summit and several large nested summit craters.

- **Geological Significance**: Mount Ibu is part of the Pacific Ring of Fire, a region known for frequent seismic and volcanic activity.

Volcanic Activity:

- Mount Ibu has a history of frequent eruptions, primarily characterized by lava flows, ash plumes, and pyroclastic activity.

- The volcano has erupted numerous times in the past, contributing to its reputation as an active and hazardous site.

What are Stratovolcanoes?

- Stratovolcanoes (or composite volcanoes) are steep-sided, symmetrical cones formed by alternating layers of lava flows, volcanic ash, and other eruptive materials.

- These volcanoes are typically found above subduction zones and are common in volcanically active regions like the Ring of Fire.

- Stratovolcanoes have steep sides and are prone to explosive eruptions due to the build-up of gas in the viscous magma. They are usually composed of a mix of lava and pyroclastic material.

- The most common rock type in stratovolcanoes is **andesite**, though they can erupt various types of rocks depending on their tectonic setting.

Geological Context:

- The Ring of Fire is a volcanic belt that outlines much of the Pacific Ocean, characterized by frequent earthquakes and volcanic activity. It is home to many of the world's most active volcanoes, including Mount Ibu.

China's Approval of the World's Largest Dam on the Brahmaputra River

Why in News :

1. In December 2024, China approved the construction of the world's largest hydropower project on the Brahmaputra River (known as Yarlung Zangbo in Tibet), located near the Indian border.

2. The project, estimated to cost $137 billion, will be the largest infrastructure project ever conceived, surpassing even the scale of China's Three Gorges Dam.

3. This has raised significant concerns for India and Bangladesh, both of which depend on the Brahmaputra for water resources, agriculture, and hydropower.

Key Points of Project :

Dam Location	Near the **Tibetan Himalayas**, where the Brahmaputra takes a **U-turn** before entering India.
Cost	**$137 billion (1 trillion yuan)**, making it the world's largest infrastructure project.
Annual Power Generation	**300 billion kWh** – enough to supply electricity for **300 million people**.
Capacity	Expected to generate **70 million kilowatts**, more than three times the Three Gorges Dam.
Engineering Challenges	**Seismic activity** due to the region's tectonic plate boundary, requiring advanced techniques.
Tunnels	**4-6 tunnels**, each 20 km long, to divert 2,000 cubic meters of water per second.

Strategic and Environmental Goals:

1. Energy Security & Carbon Goals:

a. This hydropower project is central to China's energy transition, helping reduce reliance on coal and contributing to carbon neutrality.

b. By generating significant renewable energy, the project supports China's low-carbon strategy and its drive toward green energy.

2. Economic Impact:

a. **Revenue**: The dam is expected to generate 20 billion yuan ($3 billion) annually for Tibet Autonomous Region, contributing to its economic development.

b. **Job Creation**: Thousands of new jobs will be created in engineering, construction, and support services, boosting local economies.

3. Infrastructure Development:

The dam will provide critical electricity, water conservancy, and transport infrastructure, strengthening Tibet's connectivity with surrounding regions.

4. Ecological Impact:

The project is designed to be environmentally friendly, focusing on ecological protection. However, concerns remain about the impact on local biodiversity and river ecosystems.

Hydropower Potential of the Brahmaputra:

1. The Brahmaputra River is one of the world's most hydropower-rich rivers, with an extraordinary vertical drop of 2,000 meters over 50 km in the selected area. This makes it an ideal location for large-scale hydropower generation.

2. The dam will use tunnels to divert water from the river, creating the potential for generating an immense amount of electricity—around 70 million kilowatts, which is three times the capacity of China's Three Gorges Dam.

Geopolitical Implications :

Country	Concerns
India	- Potential control over **water flow**, affecting the **Brahmaputra** in **Arunachal Pradesh**. - **Flooding risk** in border areas during hostilities. - India's own **hydropower projects** on the Brahmaputra in Arunachal Pradesh.
Bangladesh	- Disruption to the **water flow** could affect agriculture, drinking water, and flood control.
China's Response	- China has committed to **data sharing** via the **Expert Level Mechanism (ELM)**, established in **2006**, to exchange **hydrological information** with India and Bangladesh during **flood seasons**.

Environmental Considerations:

1. Potential Risks:

a. The Tibetan Plateau is seismically active, which raises concerns about the stability of the dam during earthquakes.

b. The impact of the dam on local wildlife and ecosystems is another significant concern. Despite this, Chinese authorities have assured that the project will focus on environmental protection.

2. Green Energy Strategy:

a. This dam will be integral to China's green energy goals, alongside efforts to develop solar and wind energy in surrounding areas.

b. The goal is to create a complementary energy mix based on hydropower, wind, and solar.

Engineering Challenges and Solutions:

1. **Seismic Risks:** The construction site lies in a seismically active area, requiring extensive earthquake-resistant engineering.

2. The Chinese government has promised that extensive geological explorations and advanced engineering will mitigate such risks.

3. **Tunnel Construction:** Drilling 4-6 tunnels through the Namcha Barwa Mountain to divert water is a huge engineering challenge.

4. The tunnels will be 20 km long each, requiring cutting-edge techniques to ensure structural integrity.

Impact on National Security:

1. **National Security Concerns**: China has stated that the project will also serve its national security interests, especially related to water control.

2. The ability to manage water flow along the Brahmaputra gives China leverage over downstream countries like India and Bangladesh.

3. **Strategic Importance**: The dam will allow China to ensure its water security, which is particularly critical as South Asia experiences increasing water scarcity and climate stress.

Future Diplomatic and Regional Cooperation:

1. **India-China Dialogue**:

a. The Expert Level Mechanism (ELM) has been in place since 2006, enabling China to provide hydrological data to India during the flood season. This has helped mitigate risks related to water management.

b. However, concerns persist about data transparency and China's control over the Brahmaputra's flow.

2. **Regional Cooperation on Water Sharing**:

a. For sustainable management of the Brahmaputra, robust water-sharing agreements between China, India, and Bangladesh are critical.

b. As China moves forward with the world's largest hydropower project, it may create opportunities for further regional cooperation on trans-boundary rivers.

Conclusion :

China's approval of the world's largest dam on the Brahmaputra River marks a major milestone in its energy strategy. The project promises significant benefits in terms of hydropower generation, economic growth, and regional development. However, its scale and strategic location bring with them substantial geopolitical and environmental risks, particularly for India and Bangladesh, both of which share the river. Effective data-sharing and cooperation between China, India, and Bangladesh will be essential to mitigate these risks and ensure the sustainable management of this critical resource.

Landslide Dams Threat in Uttarakhand

- A landslide dam happens when a large landslide blocks a river, forming a natural barrier.

- While these dams can create temporary lakes, they are unstable and can break easily.

- When these dams collapse, they can cause Landslide Lake Outburst Floods (LLOFs), which can harm areas downstream.

- Uttarakhand, with its mountainous landscape, is highly vulnerable to these events.

- A study by researchers at IIT Roorkee highlights the increasing risk, especially in the Garhwal region, where landslide dams are a serious concern.

Key Findings of the IIT Roorkee Study

- **Most Vulnerable Rivers**:

  The research, published under the title "Landslide Dam Studies in Uttarakhand, India: Past, Present, and Future", identifies the Alaknanda River as the most vulnerable to landslide-induced dams. Other rivers at risk include:

  o Mandakini River

o Dhauliganga River

o Bhagirathi River

- **Geographical Risk**:

    o Uttarakhand's unique topography — narrow valleys, steep slopes, and deep gorges — significantly increases the risk of landslide dams.

    o In such narrow valleys, landslides are more likely to block rivers, leading to the creation of unstable lakes that can rupture without warning.

- **Climate Change and Increased Vulnerability**:

    o The study also finds that climate change is exacerbating the problem.

    o Warmer temperatures and unpredictable weather patterns, including heavy rainfall and cloudbursts, have increased the frequency of landslides in the region.

    o Climate-induced changes, such as glacial melting, also contribute to unstable land conditions, making landslide dams more frequent and dangerous.

Chamoli District: The Epicenter of Landslide Dams

- **Chamoli's High Risk**:

    o Chamoli district has been identified as the most vulnerable area for landslide dams in Uttarakhand, with other high-risk districts including Rudraprayag and Uttarkashi, all located in the Garhwal region.

    o These areas have witnessed the most frequent and severe incidents of landslide dam formation.

- **Historical Example: Gohna Tal**:

    o One of the most notable landslide dam incidents in the region was the formation of Gohna Tal in 1893, which was created by a large landslide blocking the flow of a river in Chamoli district.

    o The lake created by this blockage partially breached in 1894 and fully ruptured in 1970, leading to massive downstream flooding.

    o This breach impacted areas as far as Haridwar, around 200 km away.

    o Gohna Tal serves as a chilling reminder of the danger that long-standing landslide dams pose.

- **Landslide Dam Formation Timeline**:

    o Landslide dams have been forming in the region for centuries, with some occurrences dating back to the Last Glacial Maximum (LGM) period (29,000-19,000 years ago).

o Significant events, however, have been recorded more recently, particularly since the 19th century. This highlights the growing frequency of such occurrences.

Triggers and Impact Factors

- **Seasonal Triggers**:

    The monsoon season — particularly the month of August — is the peak period for landslide dam events. During this time, heavy rainfall triggers landslides, which may block rivers and create natural dams.

- **Cloudbursts and Debris Slides**

    o In addition to heavy rainfall, cloudbursts are a common trigger for landslides.

    o The study points out that debris slides, which are the most common type of landslide in Uttarakhand's hills, often block rivers, forming unstable natural dams.

    o These debris slides are made of soil, rocks, and trees, and their unpredictability makes them particularly dangerous.

- **Climate Change**:

    Increased rainfall intensity and the higher frequency of cloudbursts, both linked to climate change, are exacerbating the risk. The more intense weather patterns destabilize slopes, leading to more frequent landslides and, consequently, more landslide dams.

Human Activities and Their Role

1. **Deforestation**:

o The rapid deforestation in the region, primarily driven by infrastructure development and agriculture, has weakened the soil's natural resilience.

o The roots of trees help hold the soil together, preventing landslides.

o When these forests are cleared, the slopes become much more prone to failure, leading to more frequent landslides and dam formations.

2. **Road Construction and Hydropower Projects**:

o Infrastructure development such as road construction in steep, mountainous areas disrupts the natural landscape, making it more susceptible to landslides.

o The construction of hydropower projects also alters river flows and puts pressure on the natural environment, contributing to the risk of landslide dams.

Preparedness and Mitigation Measures

- **Unpredictability of Landslide Dam Stability**:
  - o A major challenge in managing landslide dams is their unpredictability.
  - o The stability of these dams is difficult to assess, and they can fail suddenly, triggering destructive floods.
  - o Since these dams can exist for decades before breaching, it's crucial to continuously monitor their condition.

- **Importance of Preparedness**:
  - Despite a decrease in major incidents since 2018, the study underscores the importance of disaster preparedness.
  - The unpredictable nature of landslide dam breaches means that local authorities must have effective early warning systems in place.
  - Communities in high-risk areas like Chamoli, Rudraprayag, and Uttarkashi should be regularly educated on evacuation procedures and the signs of an impending dam breach.

- **Monitoring and Risk Assessment**:

  The study emphasizes the need for continuous monitoring of rivers and valleys that are susceptible to landslide dams. Technologies like remote sensing and drone surveillance can help detect landslides before they block rivers, allowing authorities to take precautionary measures in time.

Conclusion: The Way Forward

Landslide dams are an ongoing threat in Uttarakhand, particularly in the Alaknanda River basin, where Chamoli district is the most vulnerable. The increased frequency of such events, driven by climate change and human activity, underscores the urgency for enhanced disaster management strategies. While historical events like the Gohna Tal breach provide important lessons, the unpredictability of landslide dam formation means that early detection, monitoring, and community preparedness will be the key to reducing the impact of future disasters.

EDITORIALS

Crux of The Hindu & Indian Express

Geography

Southern California Wildfires 2025: Why Are They Happening in Winter and Why Are They So Intense ?

Introduction

- In January 2025, Southern California, particularly Los Angeles, is facing some of the most destructive wildfires in recent history.

- Palisades fire, Eaton fire, Sunset fire, Hurst fire, and Lidia fire have claimed 10 lives, forced over 130,000 people to evacuate, and destroyed many homes, including those of high-profile celebrities like Paris Hilton, Adam Brody, and Billy Crystal.

- What makes these fires particularly alarming is that they are happening in winter, a time not typically associated with wildfires in California.

- So, why are these fires occurring in winter, and why are they so fierce and destructive?

- This event is getting attention not only for its unusual timing but also because of several factors that have combined to make this wildfire season so deadly.
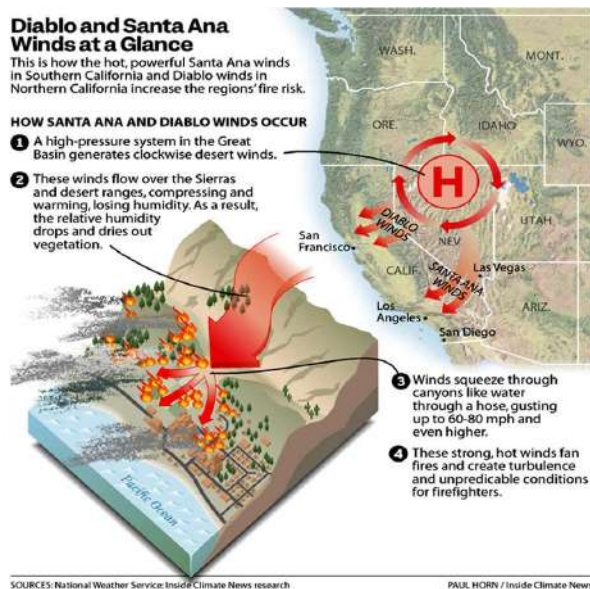
Key Factors Behind the Severity of the Wildfires

Although the exact cause of the fires is still under investigation, experts believe there are three key factors that have contributed to the intensity and rapid spread of these wildfires:

1. Wet Weather Followed by Extremely Dry Conditions

- **Wet Winters of 2022-2023**:
  - Southern California experienced unusually wet winters in 2022 and 2023, which resulted in an abundance of vegetation—trees, shrubs, and grasses grew thick and healthy.
  - This lush landscape created an abundance of fuel for wildfires.

- **Dry Winter of 2024**:
  - However, the current winter (2024) has been exceptionally dry.
  - This means the vegetation that grew during the wet seasons has now dried out completely, creating highly flammable kindling for wildfires.
  - Dry vegetation is much more susceptible to burning, helping fires spread faster.

- **Rainfall Statistics**:
  - According to NASA, Southern California has received very little rain since October 2024.
  - Daniel Swain, a climate scientist, stated that this winter has seen the driest start to the water year on record.
  - For example, Los Angeles International Airport (LAX) recorded just 0.03 inches (0.08 cm) of rain since October 1, making it the driest start in National Weather Service records dating back to 1944.

2. The Role of Santa Ana Winds

Diablo and Santa Ana Winds at a Glance
This is how the hot, powerful Santa Ana winds in Southern California and Diablo winds in Northern California increase the regions' fire risk.

HOW SANTA ANA AND DIABLO WINDS OCCUR

❶ A high-pressure system in the Great Basin generates clockwise desert winds.

❷ These winds flow over the Sierras and desert ranges, compressing and warming, losing humidity. As a result, the relative humidity drops and dries out vegetation.

❸ Winds squeeze through canyons like water through a hose, gusting up to 60-80 mph and even higher.

❹ These strong, hot winds fan fires and create turbulence and unpredictable conditions for firefighters.

SOURCES: National Weather Service; Inside Climate News research   PAUL HORN / Inside Climate News

- **What Are Santa Ana Winds?**
  - The Santa Ana winds are strong, dry winds that blow across Southern California from October to January.
  - These winds occur when high-pressure systems in the Great Basin desert create a clockwise air circulation, which pushes dry air towards the coast.
  - These winds are common in this season, but this year they have been unusually strong.

- **How Santa Ana Winds Impact Wildfires**:
  - As the winds blow across the Sierra Nevada and Santa Ana Mountains, they pick up speed and dry out, becoming hot and fast-moving.
  - Once they reach Southern California, they carry flames across the region, helping the fire spread quickly.
  - These winds also dry out the vegetation even more, making the forests, grasslands, and shrubs more flammable.

- **Intensity of Winds**:
  - The strong Santa Ana winds have been crucial in the spread of the current wildfires.
  - These winds, combined with dry vegetation, have allowed flames to spread quickly across populated regions like Hollywood Hills and Los Angeles, making it difficult for firefighters to keep up.

3. The Impact of Climate Change

- **Global Warming and Wildfires**:
  - Experts agree that climate change is contributing to the growing frequency and intensity of wildfires globally.
  - In California, rising global temperatures are causing warmer springs and summers, and triggering early snowmelt in the mountains.
  - These conditions extend the fire season and increase the opportunities for wildfires to ignite and spread.

- **Longer Wildfire Seasons**:
  - A 2021 study in Nature Scientific Reports found that California's wildfire season has grown longer in recent decades.

* The study showed that the annual wildfire season has lengthened by several weeks over the past 20 years, with the peak fire season shifting from August to July.
* This is largely due to warmer temperatures and earlier snowmelt, which result in drier conditions for longer periods.
* These longer dry seasons make it easier for vegetation to dry out and catch fire.

- **More Intense Fires**:
  * As a result of warmer temperatures and longer dry seasons, the vegetation in California faces more moisture stress, making it more vulnerable to burning.
  * Fires are not only starting earlier but are also becoming more intense as hotter, drier conditions create a perfect environment for wildfires to thrive.

- **Global Warming and Extreme Weather**:
  * Climate change is causing more extreme weather events, and California's wildfires are part of this global trend.
  * The growing threat of wildfires due to climate change has placed additional pressure on firefighting efforts, as fires grow larger, more frequent, and harder to control.

Why Are These Fires So Dangerous?

The combination of dry vegetation, strong winds, and climate change has created an ideal environment for wildfires to spread rapidly. The following factors make these fires particularly dangerous:

1. **Rapid Spread**:
   * The Santa Ana winds have helped the fires spread quickly.
   * Once the fires started, the winds pushed flames rapidly through dry vegetation, reaching populated areas like Hollywood Hills, where they damaged homes, including those of Paris Hilton and Adam Brody.

2. **Difficult to Control**:
   * The fires have spread so rapidly and with such intensity that firefighters have struggled to keep up.

* As a result, over 130,000 people have been forced to evacuate from the affected areas.

3. **Health and Safety**:
   * The thick smoke from the fires has contributed to poor air quality, impacting the health of residents and firefighters in the area.
   * The scale of the disaster has also put immense pressure on emergency services and complicated rescue operations.

Pink Fire Retardant to Help Control the Fires

As the wildfires rage across Southern California, authorities have been using planes and helicopters to drop large amounts of pink fire retardant in an attempt to control the spread of the flames. This method has been widely used, but concerns about its environmental impact are growing.

What is Pink Fire Retardant?

- **Composition**: The pink fire retardant, such as the Phos-Chek brand, is made from a mix of chemicals, primarily ammonium phosphate.
- These chemicals help stop the spread of fires by coating plants and making it harder for fires to burn by limiting the oxygen they need to sustain.
- Why is it Pink ? The pink color is added to make the fire retardant visible.
- This helps firefighters see where the retardant has been dropped and plan their next steps in fighting the fire.

How Pink Fire Retardant Works

- **Fire Suppression**: Pink fire retardant is sprayed ahead of the fire to coat vegetation, slowing the fire's progress.
- By creating a barrier, it gives firefighters time to manage the fire.
- **Effectiveness**: While the fire retardant does help slow down fires, its effectiveness is unclear.
- Studies show that its success depends on factors such as weather, terrain, and vegetation.
- A U.S. Forest Service study found that the conditions where retardants work best are becoming rarer due to climate change.
- **Difficulty in Measuring Success**: Since fire retardants are used along with other firefighting methods, it's hard to measure how much of a difference they actually make in putting out the fire.

Environmental and Health Concerns

Though pink fire retardants are useful in controlling fires, they raise several environmental and health concerns:

1. **Toxicity of Heavy Metals**:

* Pink fire retardants contain chromium and cadmium, two heavy metals linked to cancer and damage to the kidneys and liver.

* A 2024 study by the University of Southern California (USC) found that 850,000 pounds of these toxic metals have been released into the environment since 2009.

2. **Harm to Aquatic Life**:

* When fire retardants wash into rivers and streams, the heavy metals can harm or kill fish and other aquatic life.

* These chemicals disrupt ecosystems and can also affect water quality, making the water unsafe for both wildlife and humans.

3. **Soil and Long-Term Pollution**:

* Fire retardants can also affect the soil.

* The chemicals can seep into the ground and remain there for years, harming plants and soil health.

* They can also lead to algal blooms in water, further polluting the environment.

4. **Ongoing Environmental Damage**:

* Fire retardants don't break down quickly, meaning they stay in the environment, continuing to pollute the soil and water.

* From 2009 to 2021, over 440 million gallons of fire retardant were used across U.S. lands, releasing more than 400 tons of heavy metals into the environment.

Scale of Fire Retardant Use

* **Increasing Usage**: As wildfires become more frequent and intense due to climate change, the use of fire retardants is expected to increase. More than 440 million gallons of fire retardant have been used across the U.S. from 2009 to 2021, raising concerns about the long-term environmental impact of these chemicals.

Kappad and Chal Beaches Earn Blue Flag Certification
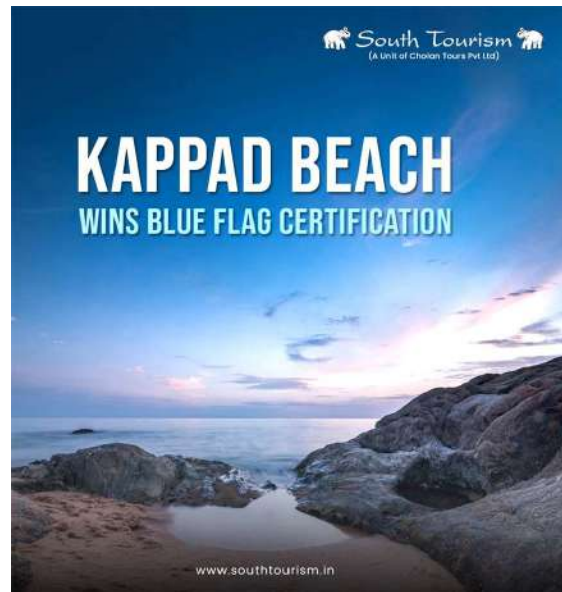
* In a remarkable achievement, Kappad Beach in Kozhikode and Chal Beach in Kannur, both located in the state of Kerala, have been awarded the prestigious Blue Flag certification by the Foundation for Environmental Education (FEE), Denmark.

* The Blue Flag status recognizes these beaches for meeting international standards related to environmental management, water quality, eco-friendly practices, tourist safety, and sustainability.

* This certification not only highlights the state's commitment to environmental conservation but also strengthens its position as a global leader in sustainable tourism.

Key Aspects of the Blue Flag Certification

* **Global Recognition**: The Blue Flag is an internationally recognized eco-label granted to beaches, marinas, and boating operators that meet 33 stringent criteria set by the Foundation for Environmental Education (FEE). These criteria cover four broad areas:

   o **Water Quality**: Ensuring that the water at these beaches meets stringent environmental standards.

   o **Environmental Education and Information**: Providing information to the public about sustainability, environmental issues, and the significance of the area.

o **Environmental Management**: Incorporating practices for environmental protection, waste management, and conservation.

o **Safety and Services**: Ensuring that beaches are safe, clean, and equipped with necessary amenities for tourists.

- **Benefits to Kerala's Tourism**:

o The Blue Flag certification enhances the global appeal of Kerala's tourism, particularly focusing on eco-conscious travelers who prioritize sustainability.

o It contributes to the promotion of Responsible Tourism (RT) by showcasing eco-friendly initiatives at Kappad and Chal beaches.

o These beaches now serve as models for responsible tourism, showing how environmental conservation and tourism can coexist harmoniously.

- **Sustainable Practices at Kappad and Chal Beaches**:

o Both beaches have implemented environmentally friendly practices, including maintaining a clean environment, using renewable energy sources, promoting waste segregation, and preserving the local ecosystem.

o Eco-friendly infrastructure like solar-powered lights and water conservation systems, alongside safety measures such as lifeguards, first-aid services, and emergency response protocols, ensure a secure and sustainable environment for visitors.

- **Kerala's Commitment to Sustainable Tourism**:

o Kerala has long been a proponent of eco-tourism, and the Blue Flag certification further solidifies its reputation as a state that prioritizes the protection of its natural resources.

o This achievement is seen as a milestone in Kerala's journey towards becoming a global leader in promoting sustainable tourism while maintaining the integrity of its pristine beaches and landscapes.

About the Blue Flag Certification

- The Blue Flag program was first established in 1985 in France.

- Its aim is to promote sustainable development in coastal areas and inland waterways by adhering to a set of rigorous environmental, educational, and safety criteria.

- The program expanded internationally in 2001, and now it covers beaches, marinas, and sustainable tourism boats across more than 40 countries.

- The certification not only helps to maintain the natural beauty of beaches but also educates visitors on the importance of sustainability and environmental responsibility.

Other Indian Beaches with Blue Flag Certification

In addition to Kappad and Chal, several other beaches in India have received the Blue Flag certification. These include:

- Shivrajpur Beach (Gujarat)

- Ghoghla Beach (Diu)

- Kasarkod and Padubidri Beaches (Karnataka)

- Rushikonda Beach (Andhra Pradesh)

- Golden Beach (Odisha)

- Radhanagar Beach (Andaman & Nicobar)

- Kovalam Beach (Tamil Nadu)

- Eden Beach (Puducherry)

- Minicoy Thundi Beach (Lakshadweep)

- Kadmat Beach (Lakshadweep)

These beaches are recognized for their commitment to environmental preservation, cleanliness, and sustainability.

India's First Blue Flag Beach: Chandrabhaga Beach (Odisha)

- India's first Blue Flag certified beach was Chandrabhaga Beach, located along the Konark coast in Odisha.

- This certification set a precedent for other beaches in India to adopt the principles of environmental conservation and responsible tourism, paving the way for Kerala's recent achievement with Kappad and Chal beaches.

Conclusion:

The Blue Flag certification of Kappad and Chal Beaches signifies a major step in Kerala's journey toward achieving sustainable tourism. The recognition of these beaches sets a global benchmark for tourism destinations, encouraging the adoption of best practices in environmental conservation, sustainability, and tourist safety. Kerala's success in securing Blue Flag status for these beaches not only boosts its tourism industry but also highlights the importance of protecting natural resources while providing a memorable experience for visitors.

BHEL Commissions Hydroelectric Project in Bhutan: Key Developments and Impact

BHEL successfully commissions Unit-1 & 2 of 6X170 MW Punatsangchhu-II Hydroelectric Project (PHEP-II) in Bhutan

BHEL achieves major milestone: Successfully commissioned Units 1 & 2 (2x170 MW) of Punatsangchhu-II Hydroelectric Project (PHEP-II) in Bhutan's Wangdue district. This greenfield project marks another engineering feat in Indo-Bhutan hydropower cooperation.

- In January 2025, Bharat Heavy Electricals Limited (BHEL) successfully commissioned 2 units of the Punatsangchhu-II Hydroelectric Project (PHEP-II) in Bhutan, marking a significant achievement in the company's portfolio.

- The project is part of a bilateral agreement between the Government of India and the Royal Government of Bhutan, aimed at strengthening energy cooperation between the 2 nations.

- This success further solidifies BHEL's presence and contribution to Bhutan's energy infrastructure.

Key Aspects of the PHEP-II Project

- **Project Overview**:
  - o **Location**: The Punatsangchhu-II Hydroelectric Project is situated in the Wangdue district of Western Bhutan, a region known for its hydroelectric potential.
  - o **Capacity**: The project has a total installed capacity of 1,020 MW, with 6 units of 170 MW each.
  - o **Annual Power Generation**: Once fully commissioned, the project is expected to generate 4,357 GWh (Gigawatt-hours) of electricity annually, making it a significant contributor to Bhutan's power grid and export capacity.

- **Technological Excellence**:
  - o **Francis Turbine**: The turbines used in the project are Francis Type turbines, designed to operate at a rated head of 241 meters, which is the highest for any such turbine in Bhutan.
  - o The turbines are engineered to deliver high efficiency and performance, designed to the unique topographical and hydrological conditions of the site.

- **BHEL's Role in the Project**:
  - o BHEL was responsible for the design, manufacture, supply, installation, and commissioning of the electro-mechanical works for the project.
  - o This includes 6x170 MW vertical Francis turbines, matching synchronous generators, a SCADA system for control and monitoring, generator transformers, shunt reactors, and auxiliary systems.
  - o The equipment for the project was manufactured in BHEL's plants located in Bhopal, Jhansi, Rudrapur, Bengaluru, and its transmission business group.
  - o On-site commissioning was carried out by BHEL's Power Sector Eastern Region division based in Kolkata.

- **Commissioning Timeline**:
  - o Unit 1 and Unit 2 of the PHEP-II were successfully synchronized on December 16 and 17, 2024, respectively.

o The full commissioning of all 6 units will complete the project, contributing to the power supply in Bhutan and its energy exports.

BHEL's Ongoing Contribution to Bhutan's Energy Sector

- BHEL's involvement in Bhutan's hydroelectric sector dates back to several key projects, including:
  o Chukha (4x84 MW)
  o Kurichhu (4x15 MW)
  o Tala (6x170 MW)
  o Mangdechhu (4x180 MW)
- With the commissioning of PHEP-II, BHEL's contribution to Bhutan's total installed power capacity now stands at an impressive 89%.
- This shows BHEL's important role in helping Bhutan achieve its energy goals and strengthen its position as a regional leader in hydroelectric power generation.
- Additionally, BHEL is working on another major project, the Punatsangchhu-I Hydroelectric Project (PHEP-I), which has a capacity of 6x200 MW.
- This will further extend BHEL's contribution to Bhutan's energy infrastructure.

BHEL's Role in India-Bhutan Energy Cooperation

- The commissioning of PHEP-II is a significant milestone in the long-standing energy cooperation between India and Bhutan.
- Bhutan, a country with abundant hydropower resources, has been a key partner in India's energy import strategy, with much of Bhutan's hydroelectric output being exported to India.
- This partnership not only helps Bhutan generate revenue but also aids India in meeting its energy demands.
- BHEL's contributions to these projects strengthen the bilateral relationship and ensure a reliable energy supply for both countries.

BHEL: A Leading Public Sector Enterprise

- BHEL is a state-run company involved in the design, engineering, manufacturing, construction, testing, and servicing of products and services for the core sectors of the economy, including power, transmission, transportation, and infrastructure.

- As of September 2024, the Government of India holds a 63.17% stake in the company, which remains one of India's largest public sector enterprises.

Conclusion : BHEL's Strategic Role in South Asia's Energy Landscape

The successful commissioning of the Punatsangchhu-II Hydroelectric Project marks a significant achievement for BHEL in its ongoing efforts to support Bhutan's hydropower capabilities. With nearly 89% of Bhutan's installed capacity being contributed by BHEL, the company has firmly established itself as a leader in the region's energy sector.

NBWL Rejects Mining Proposal Near Kedarnath Sanctuary

1. Overview :

- The National Board for Wildlife (NBWL) has rejected a proposal from the Uttarakhand government to allow soapstone mining on agricultural land at Pokhani, located about 2.2 km from the Kedarnath Wildlife Sanctuary (KWLS).
- **Decision Timeline**: This decision was made during an NBWL meeting on December 24.
- **Concerns**: Environmentalists and wildlife advocates welcomed the rejection, stressing the risks that mining could pose to the sanctuary's delicate ecosystem.

2. Kedarnath Wildlife Sanctuary (KWLS) and Its Importance

- **Location and Species**: The Kedarnath Sanctuary is located at an altitude of around 7,000 feet in the Indian state of Uttarakhand.
- It is home to several endangered species, including the Himalayan musk deer and Himalayan tahr, both listed on the International Union for Conservation of Nature (IUCN) Red List.
- **Environmental Sensitivity**: Although the exact eco-sensitive zone (ESZ) of the sanctuary is not clearly defined, guidelines from the Ministry of Environment state that any area within 10 km of protected zones is considered part of the ESZ and is protected from harmful activities like mining.

3. The Mining Proposal and Its Rejection

- **Initial Proposal**: In 2023, the Uttarakhand government proposed allowing mining in Pokhani, which falls within the ESZ of the Kedarnath Sanctuary.

- This proposal sparked concerns among conservationists about the environmental damage it could cause.

- **Defense of the Proposal**: The Uttarakhand Mines Director defended the proposal during the meeting, arguing for the economic benefits of the mining project.

- However, the standing committee of NBWL ultimately rejected the mining proposal, citing the environmental risks involved.

4. Impact on Local Ecology and Communities

- **Environmental Risks**: Environmentalists praised the NBWL's decision, highlighting the significant risks that mining activities pose to the local ecosystem, wildlife, and the health of surrounding communities.

- They warned that such activities could disrupt the habitat of endangered species in the sanctuary.

- **Mining in Uttarakhand**: There are growing concerns about the impact of unregulated mining in the state, particularly in the Bageshwar district of Kumaon, where over 160 operational mines have been reported.

- The Uttarakhand Disaster Management Authority has highlighted the damage caused by mining, including cracks in houses, damaged roads, and destroyed agricultural fields in vulnerable villages.

5. About the National Board for Wildlife (NBWL)

- **Formation and Purpose**: The NBWL was established by the Central Government under Section 5A of the Wildlife (Protection) Act, 1972 (WLPA).

- It replaced the Indian Board for Wildlife formed in 1952. The NBWL serves as India's top advisory body on wildlife conservation, particularly in Protected Areas (PAs).

- **Role in Wildlife Protection**: The NBWL advises the government on policies related to wildlife conservation and is responsible for approving projects within protected areas.

- Projects like tourist lodges, boundary alterations, and any destruction or diversion of wildlife habitats must be approved by the NBWL.

- **Statutory Role**: According to the WLPA, no construction, boundary changes, or habitat destruction in protected areas can happen without NBWL's approval.

6. Structure of the NBWL

- **Composition**: The NBWL is made up of 47 members, including the Prime Minister as chairperson and the Minister of Environment, Forest, and Climate Change as vice-chairperson.

- Other members include government officials, the Chief of Army Staff, and environmental experts.

- **Additional Members**: The Central Government also nominates 10 experts in conservation, ecology, and the environment. The Additional Director General of Forests (WL) is the Member-Secretary.

7. The Standing Committee of NBWL

- **Independent Body**: The Standing Committee of NBWL is an independent group within the board.

- It has up to 10 members, and its primary role is to handle project clearances, while the full NBWL focuses on policy decisions related to wildlife protection.

- **Chairperson**: The Minister of Environment, Forest, and Climate Change chairs the Standing Committee.

8. Importance of NBWL's Role

- **Statutory Body**: The NBWL is a statutory body, meaning its powers and functions are legally defined by the Wildlife (Protection) Act, 1972. Its approval is necessary for any significant projects affecting wildlife sanctuaries or national parks.

- **Impact on Projects**: Without the NBWL's approval, construction, destruction, or any diversion of wildlife habitat cannot take place, ensuring that wildlife conservation remains a priority in India's policymaking.

Conclusion:

The rejection of the soapstone mining proposal near the Kedarnath Wildlife Sanctuary by the National Board for Wildlife (NBWL) is an important step toward protecting the region's ecology and endangered species. It reflects a growing awareness of the dangers of unregulated mining activities in Uttarakhand and the need to balance development with environmental conservation. The role of the NBWL is critical in ensuring that **protected areas** remain safe from harmful activities, supporting the long-term preservation of India's natural heritage.

Explained : What is blue carbon ?
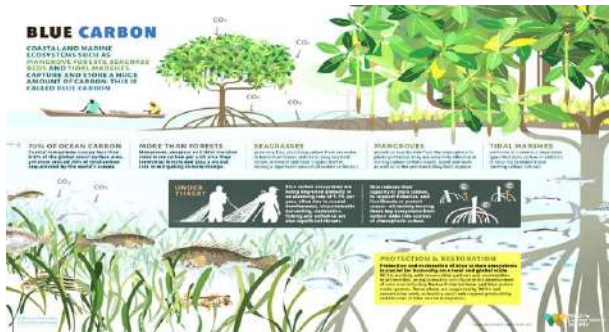
1. A report titled Blue Carbon and its role in Carbon Sequestration published in June 2024 revealed that mangroves alone have the capacity to store more than 1,000 tons of carbon per hectare.

2. They also store 3 to 5 times more carbon per equivalent area than tropical forests, as per the article Coastal Blue Carbons, by the National Oceanic and Atmospheric Administration (NOAA).

What is Blue Carbon ?

• Blue carbon refers to the carbon captured and stored by coastal ecosystems, specifically mangroves, seagrasses, and salt marshes.

• These ecosystems act as some of the most effective carbon sinks, sequestering large amounts of carbon dioxide from the atmosphere and helping to mitigate climate change.

• The importance of blue carbon is gaining increasing recognition in global climate action strategies.

Blue Carbon Ecosystems : Mangroves, Seagrasses and Salt Marshes

• **Mangroves, Seagrasses, and Salt Marshes**: These ecosystems collectively make up the "blue carbon" ecosystem.

  They are important in the fight against climate change due to their remarkable ability to capture and store carbon, which helps to offset global emissions.

• Global Mangrove Restoration Potential: If 10% of degraded mangroves worldwide were restored, it could sequester an additional 1.6 billion tons of carbon.

• **Additional Environmental Benefits of Mangroves:**

  o **Soil Erosion Prevention:** The roots of mangrove trees stabilize coastal soils, reducing erosion and protecting shorelines from storm surges.

  o **Marine Life Habitat:** Mangrove forests provide vital habitats for a wide range of marine species, contributing to biodiversity and providing breeding grounds for fish, crustaceans, and other marine organisms.

Economic and Policy Challenges

• **Mangrove Loss and Degradation**:

  o **Myanmar's Mangrove Loss**: Myanmar has lost a significant portion of its mangrove forests.

  o Once home to over 1.2 million hectares of mangroves, only less than 500,000 hectares remain.

  o The Ayeyarwady Delta alone has seen a 64% loss of its 270,000 hectares of mangroves in just 35 years.

  o Causes include agricultural expansion, aquaculture, and coastal development driven by economic pressures and population growth.

  o **Global Drivers of Mangrove Loss:** Agricultural land demand, particularly for rice and shrimp farming, has been responsible for 38% of global mangrove loss.

• **Challenges in Carbon Credit Systems**:

  o **Blue Carbon Credits**: These are instruments used in carbon markets to represent the carbon sequestered by coastal ecosystems, like mangroves and seagrasses.

  o They are used to offset emissions from industries and businesses.

  o However, blue carbon credit systems face significant economic policy hurdles, such as:

    * **High Costs and Complex Verification**: The process of generating and verifying blue carbon credits is complex, expensive, and often lacks transparency.

    * **Transparency Issues**: For example, the REDD+ project in Cambodia faced issues in proving that its carbon credits contributed effectively to environmental restoration, raising doubts about the integrity of such programs.

* **Corruption and Mismanagement**: In Bangladesh's Sundarbans mangrove forest, corruption in the Bangladesh Forest Department (BFD), including illegal logging, bribery, and mismanagement, has severely undermined conservation efforts, accelerating the degradation of this critical ecosystem.

Innovative Solutions and Progress in Blue Carbon Initiatives

1. **Australia's Blue Carbon Method**:

o The Blue Carbon Method was developed by the Australian government as part of the Emissions Reduction Fund to simplify the process of including coastal wetland restoration in carbon markets.

o This has encouraged investments in the restoration of ecosystems like mangroves and seagrasses.

o The South Australia Tidal Restoration Project is an example of successful coastal ecosystem restoration, which has received positive results due to clear guidelines and robust verification practices.

o Carbon Credit Issuance: As of December 2024, the Australian Carbon Credit Unit Scheme (ACCU) has issued approximately 16.45 million ACCUs through such projects.

2. **Technological Innovations**:

o **A**I and Remote Sensing: AI mapping technologies are now used to monitor seagrass meadows and other coastal ecosystems, allowing for more effective tracking of ecosystem health and carbon sequestration.

o Blockchain for Transparency: Blockchain technology is being applied to ensure transparency in the verification and transaction of carbon credits, which helps build trust in the integrity of the carbon credit market.

3. **Community-Driven Restoration**:

o **Indonesia's MERA Program**: The Mangrove Ecosystem Restoration Alliance (MERA) has been instrumental in restoring mangrove areas in Indonesia.

o This initiative has improved local economies through sustainable fisheries.

o By early 2024, 262 hectares of mangroves had been restored, and plans were in place for restoring 398,779.78 hectares.

o **Community Impact**: MERA's success has connected environmental health with economic stability, benefiting local communities by enhancing fisheries and providing other economic incentives.

Economic Imperative of Blue Carbon

• **Global Market Potential**:

o According to McKinsey Sustainability, the global market potential for blue carbon credits could reach $50 billion by 2030.

o This indicates a significant financial opportunity for nations and businesses to invest in the restoration and conservation of blue carbon ecosystems.

• **Co-Benefits of Blue Carbon**:

o Beyond carbon sequestration, blue carbon ecosystems offer several co-benefits, including job creation, sustainable tourism, and enhanced fisheries management, which make them appealing to both governments and private investors.

o India's Eco-Tourism: In India, restored mangrove ecosystems are increasingly being viewed as a valuable asset for eco-tourism.

o The country's government has provided funding for mangrove restoration under the Coastal Regulation Zone Policy reforms introduced in 2023. This has helped attract both national and international investment.

• **The MISHTI Scheme in India**:

o Launched in 2023, the Mangrove Initiative for Shoreline Habitats and Tangible Incomes (MISHTI) aims to restore 540 sq km of mangroves across nine states and four Union Territories in India by 2028.

o By December 2024, 250 sq km of mangroves had already been restored under the MISHTI program.

o This initiative is expected to continue making significant strides toward restoring India's vital coastal ecosystems.

• **Economic Return on Investment**:

According to a report by the OECD (2024), every $1 invested in blue carbon restoration can yield up to $6 in economic returns, demonstrating the high economic value of investing in blue carbon restoration projects.

Conclusion :

Blue carbon ecosystems, such as mangroves, seagrasses, and salt marshes, play a critical role in addressing climate change by sequestering vast amounts of carbon. They offer invaluable environmental benefits like soil erosion prevention and marine biodiversity support, but challenges remain, including degradation, lack of transparency in carbon credit systems, and economic policy bottlenecks.

Organophosphate: A Toxic Chemical in Pesticides

Recent News:

• Doctors in Jammu and Kashmir's Baddal village recently suggested that organophosphate poisoning could be responsible for the 17 deaths that caused widespread panic in the village.

About Organophosphate:

1. Chemical Composition:

o Organophosphates are a group of chemicals primarily used in pesticides and insecticides.

o They are formed through esterification, where phosphoric acid reacts with alcohol to create chemical compounds that are effective in pest control.

2. Applications:

o These compounds are commonly used to protect crops from pests and to control insect-borne diseases.

o Organophosphates also have applications in plastics and solvents manufacturing.

3. Mode of Exposure:

o Organophosphates are easily absorbed into the body through inhalation or ingestion, making them highly toxic to humans and animals.

Impact of Organophosphate on Human Health:

1. Neurological Effects:

o Organophosphates disrupt the transmission of nerve signals in both humans and animals, which can be fatal.

o They specifically affect the nervous system, leading to conditions like neuropathy due to inhibition of neuropathy target esterase.

2. Toxicity Symptoms:

Exposure can result in severe neurotoxicity, impacting the peripheral and central nervous systems, causing symptoms such as muscle weakness, breathing difficulties, and even death in extreme cases.

Key Facts:

• **Use in Agriculture:** Organophosphates are widely used in pesticides and herbicides to protect crops and control pests, though their toxic nature poses risks.

• **Chemical Formation:** They are formed through esterification, a reaction between phosphoric acid and alcohol.

• **Health Impact:** These chemicals can cause fatal neurotoxicity by interfering with nerve signal transmission.

• **Exposure Risks:** Organophosphates are easily absorbed by the body through breathing or ingesting contaminated substances.

Conclusion:

Organophosphates, while useful in agriculture and pest control, pose serious health risks due to their toxicity. The recent deaths in Baddal village highlight the dangers of organophosphate exposure, particularly in unregulated environments. Proper handling and safety measures are essential to prevent harmful effects on human health.

❏❏❏

Internal Security

Neptune Missile

Ukraine's Neptune missile

The truck-launched RK-360 anti-ship cruise missile gives Ukraine a flexible, powerful punch against Russia's fleet.

Booster rocket

Fins (unfold after launch)

MS-400 turbofan jet engine

High-explosive warhead
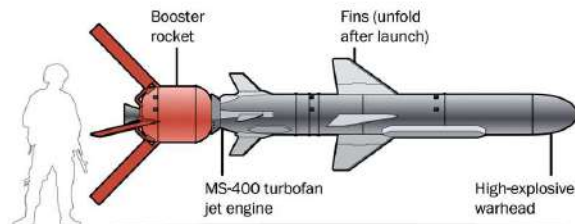
In service: 2021-present
Designer: Luch Design Bureau, Kyiv
Range: About 200 miles
Weight: About 2,000 pounds

Source: Military-Today.com

WILLIAM NEFF/THE WASHINGTON POST

Context:

Recently, in a joint operation between the Security Service of Ukraine (SBU) and the Ukrainian Navy, a Neptune missile successfully hit an ammunition storage depot in Russia's Rostov region.

About the Neptune Missile:

- **Name:** R-360 Neptune

- **Country of Origin:** Ukraine

- **Type:** Subsonic cruise missile

- **Primary Purpose:** Initially developed as an anti-ship missile, it was later adapted for land-attack missions.

- **Design Origin:** The missile's design is based on the Russian *Kh-35* cruise missile, NATO codename *AS-20 Kayak*.

- **Service Introduction:** The Neptune missile system entered service with the Ukrainian Navy in March 2021.

Key Features:

- **Weight:** 870 kg

- **Length:** 5.05 meters

- **Speed:** Can reach speeds of up to 900 km/h.

- **Altitude:** Flies at altitudes ranging from 10 to 300 meters, dropping to just 3 meters in the final phase of its approach to evade enemy air defenses.

- **Range:** Maximum operational range of 400 km.

- **Warhead Weight:** Combat payload of 350 kg (150 kg in the anti-ship variant).

- **Guidance Systems:**

  o A satellite positioning system guides the missile during the initial flight phase.

  o In the terminal phase, the missile is guided by an infrared homing system for precision targeting.

Strategic Importance:

The Neptune missile system significantly enhances Ukraine's defensive and offensive capabilities, especially in targeting naval and land-based assets with high precision. Its ability to avoid enemy air defense systems makes it a powerful weapon for modern warfare.

Does India have cruise missiles?

Yes, India possesses several advanced cruise missiles, including:

1. **BrahMos:** A supersonic cruise missile developed jointly with Russia, known for its speeds of Mach 2.8–3.0 and a range of 450–800 km. It is one of the fastest supersonic missiles globally.

2. **BrahMos-II:** A hypersonic version of BrahMos currently under development, expected to reach speeds of Mach 7.

3. **Nirbhay:** A long-range subsonic cruise missile designed for stealth and precision, with a range of 1,000–1,500 km.

Conclusion:

The Neptune missile is a crucial addition to Ukraine's defense arsenal, with its advanced features and high accuracy making it a formidable weapon. Similarly, India's development of advanced cruise missiles like BrahMos and Nirbhay reflects its growing missile capabilities, which contribute to its strategic defense posture.

Trajan Gun

Overview:

- The Trajan Gun is a 155 mm towed artillery gun system.

- It has been jointly developed by India and France.

- Recently, it received an export order from Armenia.

Key Features of Trajan Gun:

- Manufactured in India by Larsen & Toubro (L&T) and KNDS France.

- 52-calibre towed gun with a range of over 40 kilometers (depending on ammunition).

- The gun system has undergone rigorous testing by the Indian Army, meeting all qualitative requirements.

- Indigenously developed subsystems include:

  o Auxiliary Power Unit

  o Control Panel

  o Rolling Gear Assembly

- Features a modular design, making it easy to transport and deploy.

- Equipped with an automated loading system for rapid firing rates.
- Capable of operating in diverse terrains including marshy lowlands and high-altitude cold deserts.
- Integrates with advanced targeting and fire-control systems that are compatible with modern military networks.

What is the meaning of an Artillery Gun?

- Artillery refers to large-caliber guns with big barrels used in land battles.
- It can be moved to different locations for strategic advantage.
- The term also refers to the army unit that operates these heavy guns.

Bangladesh's Plan to Buy Abdali Missiles from Pakistan

According to Sources, Bangladesh Plans to Buy Abdali Missiles from Pakistan

1. Background:

- **Rising Tensions**: Bangladesh is reportedly considering buying Abdali Short-Range Ballistic Missiles (SRBMs) from Pakistan due to growing tensions with India.
- These missiles, also known as Hatf-2, are believed to be intended as a deterrent against potential Indian aggression.
- **Purpose**: Bangladesh's aim is to strengthen its defense and create a military balance with India, especially near their border.

2. Abdali Missiles:

- **Range**: The Abdali SRBMs have a range of about 400 km, which can cover parts of northeastern India, including major cities.
- **Design**: These missiles are designed for quick use in battlefield situations.
- Though their range is relatively short, they can still be dangerous if deployed near the India-Bangladesh border.
- **Developed by Pakistan**: The missiles are made by Pakistan's Space Research Commission (SUPARCO) and are already used by the Pakistani Army, known as Hatf-2 within their forces.

3. Security Concerns for India:

- **Threat to Northeastern India**: Even though the Abdali missiles have a short range, they could still be used to target important areas in northeastern India, like **Assam** and **Tripura**, which are close to Bangladesh.
- **Psychological Deterrent**: The presence of these missiles in Bangladesh would act as a psychological threat to India, signaling Bangladesh's growing military capabilities.
- **Regional Arms Race**: Experts warn that Bangladesh acquiring these missiles might spark an arms race in the region, forcing India to strengthen its missile defense systems and possibly increase offensive capabilities.

4. Implications for Regional Security:

- **Shifting Balance**: Bangladesh's acquisition of the Abdali missiles could change the security balance in South Asia, particularly in India's favor.
- Although these missiles would not significantly affect Pakistan, they could raise tensions with India, especially if deployed near the border.
- **Strategic Edge**: The missiles give Bangladesh a tactical advantage, especially in quick battlefield reactions, but their limited range means they are primarily useful against India.

5. Political Context:

- **Deteriorating India-Bangladesh Relations**: Relations between India and Bangladesh have worsened, especially after the removal of Prime Minister Sheikh Hasina and the rise of an interim government led by Nobel laureate Muhammad Yunus.

- **Communal Violence**: India has criticized the Yunus-led government for not addressing communal violence against Hindus in Bangladesh, which has made ties even more strained.

- **India's Military Build-Up**: India has been rapidly expanding its military infrastructure near the Bangladesh border, increasing tensions further.

6. Potential Global Reactions:

- **Pakistan's Motivation**: Pakistan may be willing to sell these missiles to Bangladesh to deepen ties with Dhaka, especially as it looks to counterbalance India's regional influence.

- **Global Arms Control**: Although Bangladesh and Pakistan are not part of the Missile Technology Control Regime (MTCR), selling these missiles could attract international attention and debate about arms control in the region.

7. Impact on India's Security Strategy:

- **Missile Defense**: India is likely to strengthen its missile defense systems in the northeastern states if Bangladesh acquires these missiles.

- This could include deploying more advanced technology to prevent potential missile threats.

- **Offensive Capabilities**: India may also increase its own offensive missile capabilities to deter any potential threats from Bangladesh.

Conclusion:

If Bangladesh goes ahead with purchasing the Abdali SRBMs from Pakistan, it could significantly affect India's security, especially in the northeastern region. Though the missiles have a short range, they could change the balance of power in the region and force India to boost its defense capabilities. This move comes at a time when India-Bangladesh relations are already strained due to political differences and security concerns. If Bangladesh deploys these missiles, it could also spark a regional arms race and add to tensions between the two countries.

Launch of BHARATPOL Portal : Strengthening Law Enforcement in India

1. On January 7, 2025, Union Home Minister Shri Amit Shah officially launched the BHARATPOL portal, a significant development by the Central Bureau of Investigation (CBI) in New Delhi.

2. This initiative aligns with the government's ongoing efforts to strengthen law enforcement capabilities and improve the efficiency of international police cooperation.

3. The BHARATPOL portal will provide India's law enforcement agencies (LEAs) with access to real-time international assistance, facilitating better coordination in the fight against cross-border crimes.

Context and Government's Efforts

1. Under the leadership of Prime Minister Shri Narendra Modi, the central government has undertaken multiple initiatives to modernize and empower India's law enforcement infrastructure.

2. The launch of the BHARATPOL portal is part of these broader efforts to enhance India's police capabilities in handling complex, transnational crimes.

3. These crimes include cyber-crime, financial crimes, drug trafficking, human trafficking, online radicalization, and organized crime.

4. The portal aims to address the increasing challenges posed by these crimes, which often require swift international collaboration.

5. With transnational crime syndicates operating across borders, faster access to global police networks like INTERPOL is critical.

How BHARATPOL Works

1. **Real-Time Access to International Cooperation**:

    The BHARATPOL portal will streamline the process of accessing international police assistance, making it easier for India's law enforcement agencies to request help in criminal investigations. This includes accessing important INTERPOL notices, such as:

    o **Red Notices** (for seeking the arrest of fugitives)

    o Other **color-coded INTERPOL notices** related to different types of criminal alerts.

2. **Collaboration with INTERPOL**:

    o The CBI, serving as the National Central Bureau (NCB) of India for INTERPOL, plays a vital role in facilitating cooperation between Indian law enforcement and global counterparts.

    o Through the BHARATPOL portal, police officers across India will have direct access to INTERPOL's network, ensuring quicker and more efficient responses to criminal investigations.

3. **Unified Platform for Stakeholders**:

    The portal will unify multiple stakeholders involved in criminal investigations:

    o CBI (Central Bureau of Investigation)

    o INTERPOL Liaison Officers (ILOs) at the Central, State, and Union Territory levels

    o Unit Officers (UOs) at the district and police station levels, such as Superintendents of Police (SPs) and Commissioners of Police.

4. This integration aims to replace the traditional methods of communication (e.g., letters, faxes, emails) with a more efficient, real-time system, thus enhancing collaboration and reducing delays.

Addressing the Growing Threat of Transnational Crimes

The portal is designed to meet the rising demand for rapid responses in international criminal investigations, especially with the growing footprint of crimes such as:

*   **Cybercrime**: With the increasing reliance on digital platforms, cybercriminals often operate across national borders, requiring quick international action.

*   **Financial Crimes**: Money laundering, fraud, and other financial crimes often involve multiple countries and require coordinated global efforts.

*   **Drug and Human Trafficking**: International syndicates involved in trafficking require fast cross-border cooperation to dismantle.

*   **Online Radicalization**: Terrorist activities and online radicalization require swift action to prevent further harm.

The BHARATPOL portal will enable Indian police officers to receive quicker responses, whether they are seeking information, issuing arrest warrants, or coordinating investigations with foreign counterparts.

Enhancing Police Efficiency and Effectiveness

The portal will act as a transformative tool for field-level police officers, making them more effective in combating crimes and security challenges. By providing:

*   Faster access to international assistance.

*   Improved real-time coordination between local law enforcement agencies and international police networks.

The BHARATPOL portal will significantly enhance the efficiency and speed with which crimes are investigated and addressed, particularly those involving international elements.

Award Ceremony: Police Medals for Distinguished Service

In addition to the launch of the BHARATPOL portal, Shri Amit Shah will present Police Medals to 35 CBI officers who have been awarded:

*   President's Police Medals for Distinguished Service.

*   Union Home Minister's Medal for Excellence in Investigation.

These awards recognize the exceptional service and dedication of CBI officers in enhancing the country's criminal justice system.

Event Attendance and Significance

The event will be attended by several dignitaries and senior officers from various government ministries and organizations, including:

*   Ministry of Home Affairs (MHA)

*   Ministry of External Affairs (MEA)

*   Department of Personnel and Training (DoPT)

*   Central Vigilance Commission (CVC)

*   Central Police Organizations (CPOs)

These representatives will participate in the event to underline the importance of inter-agency cooperation in law enforcement and acknowledge the significance of the BHARATPOL portal in strengthening India's response to international crime.

Conclusion: A Major Step Forward for India's Law Enforcement

The BHARATPOL portal marks a transformative leap in the modernization of India's law enforcement infrastructure. By providing real-time access to international cooperation and facilitating quick responses to transnational crimes, the portal will enhance the country's ability to handle increasingly complex criminal investigations.

33 Outposts Moved Closer to LAC as Part of Forwardisation: ITBP

Overview:

- The Indo-Tibetan Border Police (ITBP) has moved 33 border outposts (BOPs) closer to the India-China border as part of its forwardisation plan.
- This initiative aims to enhance border surveillance, patrolling efficiency, and resource management along the Line of Actual Control (LAC).
- The announcement was made by the Director General of ITBP, Rahul Rasgotra, during the force's Raising Day Parade on January 7, 2025.

Key Features of the Forwardisation Plan:

1. Forwardisation Plan:
o Under the forwardisation plan, 56 border outposts (BOPs) will be moved closer to the India-China border to improve ease of patrolling and reduce the time taken to access the LAC.
o 33 BOPs have already been relocated, with the remaining 23 to be moved in the future.

o The aim is to ensure better border surveillance, quick response times, and operational efficiency for patrolling units.

2. Strategic Importance:
o The India-China border covers 3,488 km, and the ITBP guards it through 197 BOPs situated at high-altitude locations ranging from 9,000 ft to 18,750 ft.
o The BOPs, previously located 15-40 km away from the LAC, were facing operational challenges due to the long distances between the posts and the actual border, which delayed patrolling and surveillance efforts.
o Moving the BOPs closer to the LAC will reduce the time spent traveling to patrolling areas and improve overall border security.

3. New Battalion Raising:
o For operational efficiency and enhanced border security, the Home Ministry approved the establishment of seven new battalions for ITBP.
o Of these, six battalions have already been raised in Arunachal Pradesh, and the seventh battalion will be raised in Sikkim later this year.
o These seven battalions, comprising nearly 9,000 personnel, will be instrumental in strengthening border security along the India-China border.

4. Vibrant Village Programme:
o In addition to improving border security, the ITBP has signed Memoranda of Understanding (MoUs) with the Uttarakhand and Arunachal Pradesh governments as part of the Vibrant Village Programme.
o These MoUs aim to buy local produce from border villages for the ITBP, creating employment opportunities for locals and ensuring a steady supply of quality products for the force.
o There are plans to extend these MoUs to the Himachal Pradesh and Sikkim governments in the future.

5. Patrolling and Surveillance:
o Between April 1, 2023, and March 31, 2024, the ITBP conducted 6,561 patrols along the India-China border, ensuring continuous monitoring of the region.
o The relocation of BOPs closer to the LAC will further enhance the patrolling capabilities and improve border surveillance, making it more effective and timely.

About Indo-Tibetan Border Police (ITBP)

Overview:

- The Indo-Tibetan Border Police (ITBP) is one of India's Central Armed Police Forces (CAPFs), tasked with guarding the country's border with China, specifically the Tibet Autonomous Region.

- Established in 1962, the ITBP has evolved into a specialized mountain force, responsible for safeguarding a significant stretch of the India-China border.

Key Features of the Indo-Tibetan Border Police (ITBP):

1. **Background and Formation:**

- The ITBP was raised in 1962, following the Sino-Indian War of 1962, to protect India's border with China's Tibet Autonomous Region.

- Initially raised under the CRPF Act, it became a separate entity with the enactment of the ITBPF Act in 1992, with the relevant rules framed in 1994.

- In 2004, the ITBP was recognized as a full-fledged central armed police force under the Ministry of Home Affairs.

2. **Motto:**

The ITBP's motto is "Shaurya-Dridhata-Karma Nishtha", which translates to "Valour – Determination – Devotion to Duty". This reflects the force's core values of courage, commitment, and service.

3. **Role and Responsibilities:**

- The ITBP is primarily responsible for guarding the 3,488 km long India-China border, which spans from Karakoram Pass in Ladakh to Jachep La in Arunachal Pradesh.

- The force is deployed at altitudes ranging from 9,000 ft to 18,750 ft, making it one of the most challenging operational environments for any border security force.

- It is responsible for border security, surveillance, patrolling, and management of border outposts (BOPs) along the LAC (Line of Actual Control).

4. **Specialized Mountain Force:**

- The ITBP is a specialized mountain force, with most officers and personnel being professionally trained mountaineers and skiers.

- This training enables them to operate efficiently in difficult, high-altitude terrains, and to manage challenges such as harsh weather conditions and treacherous landscapes.

5. **Organizational Structure:**

- The ITBP is headed by a Director General, who works under the Ministry of Home Affairs.

- As a central armed police force, it plays a vital role in the security and surveillance of India's border regions.

6. **Headquarters:**

The headquarters of ITBP is located in New Delhi.

7. **Deployment and Operations:**

- The ITBP guards the border through 197 Border Outposts (BOPs) that are spread across various sectors of the India-China border.

- These BOPs are strategically placed to ensure continuous monitoring of the LAC and to respond swiftly to any security challenges.

India Successfully Tests Nag Mark 2 Anti-Tank Guided Missile

NEW VERSION OF 'NAG MK 2' TESTED SUCCESSFULLY
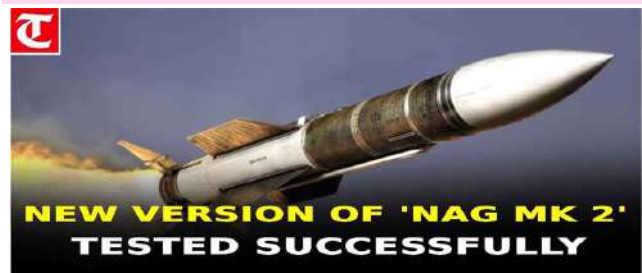
1. **Date of Test:** January 13, 2025

2. **Conducted by:** Defence Research and Development Organisation (DRDO)

3. **Location:** Pokhran, Rajasthan

4. On January 13, 2025, India successfully conducted field trials of the Nag Mark 2, a third-generation Anti-Tank Guided Missile (ATGM) developed indigenously by the Defence Research and Development Organisation (DRDO).

5. This achievement marks a significant advancement in India's defense capabilities, particularly in anti-tank warfare, and strengthens the country's position in modern military technology.

Key Highlights of the Nag Mark 2 Trials:

- **Successful Performance:**
  - The missile hit all targets accurately during the trials, which were conducted at both maximum and minimum range limits.
  - The success in both range conditions showcases its high precision and operational reliability.

- **Precision and Reliability:**
  - The Nag Mark 2 demonstrated exceptional accuracy in targeting and destroying enemy tanks and armored vehicles, even in challenging battlefield conditions.
  - The missile's reliability under field conditions further assures its effective deployment in real-world scenarios.

- **Fire-and-Forget Technology:**
  - The fire-and-forget capability allows the operator to lock onto a target before firing.
  - Once launched, the missile autonomously guides itself to the target, requiring minimal input from the operator.
  - This feature makes the Nag Mark 2 highly effective in dynamic, fast-changing combat environments, ensuring that it remains a reliable weapon against swiftly evolving threats.

Nag Mark 2 Development and Features:

- **Designed for Modern Armoured Vehicles:**
  - The Nag Mark 2 is specifically designed to neutralize modern tanks and armored vehicles, even those protected by advanced Explosive Reactive Armour (ERA).
  - This capability makes it highly effective against technologically advanced enemy armor.

- **Specialized in Anti-Tank Warfare:**

  As a key component of India's anti-tank strategy, the Nag Mark 2 missile provides a potent tool to counter the armored threats faced by the Indian Army, especially along India's borders, which are vulnerable to tank invasions or other armored threats.

- **Integration with NAMICA:**
  - The missile is integrated with the Nag Missile Carrier (NAMICA) Version 2, a specialized vehicle designed to launch the missile.
  - The NAMICA Version 2 allows the missile to be launched from a mobile platform, providing improved mobility and greater flexibility on the battlefield.
  - The combination of the missile and the launch vehicle ensures that the weapon system is highly adaptable to different tactical situations.

Strategic Importance of Nag Mark 2:

- **Strengthening India's Defence Capabilities:**
  - The successful trials of the Nag Mark 2 missile significantly enhance India's ability to counter armoured threats from neighboring countries, especially in regions with complex terrain, such as the mountainous borders of the northern states.
  - By increasing the precision and effectiveness of anti-tank weapons, India can bolster its defense preparedness in areas that are often subject to heightened military tensions.

- **Boosting Self-Reliance in Defence:**
  - The successful development and testing of the Nag Mark 2 missile is a crucial step towards achieving self-reliance in defense production, in line with India's Atma Nirbhar Bharat (Self-Reliant India) initiative.
  - By developing its own advanced military technologies, India can reduce its dependence on foreign weapons and enhance local defense production, which is vital for national security and economic growth.

- **Enhancing Indigenous Technological Capabilities:**
  - The Nag Mark 2 missile's advanced fire-and-forget technology, guidance systems, and integration with mobile launch platforms highlight India's growing technological capabilities in the defense sector.
  - These advancements not only enhance India's defense preparedness but also place it in a stronger position to contribute to global defense markets in the future.

Key Features of the Nag Mark 2:

1. **Fire-and-Forget Technology:**

o   This advanced technology allows the missile to be fired and then autonomously guided to the target without further operator input, making it highly effective in unpredictable and rapidly changing battlefield environments.

2. **Versatility and Targeting:**

o   The Nag Mark 2 is designed to target and destroy modern armored vehicles, including tanks equipped with Explosive Reactive Armour (ERA), ensuring its effectiveness in a wide range of combat scenarios.

o   This capability makes it adaptable to various operational requirements, from high-intensity warfare to low-intensity border conflicts.

3. **Platform Compatibility – NAMICA:**

o   The missile is deployed from the Nag Missile Carrier (NAMICA), a mobile platform that allows the missile to be launched quickly and efficiently, even in remote or challenging terrains.

o   The integration of NAMICA Version 2 with the missile enhances its flexibility and operational effectiveness on the battlefield.

4. **Precision Targeting:**

o   Equipped with an advanced guidance system, the missile is capable of striking with high accuracy, ensuring that the missile hits its target even under challenging battlefield conditions.

o   This feature is crucial for minimizing collateral **damage** while effectively neutralizing enemy armor.

Conclusion:

The successful field trials of the Nag Mark 2 missile represent a major step forward for India's defense capabilities. The missile's advanced features, including fire-and-forget technology, precision targeting, and effective integration with the NAMICA platform, make it a powerful asset for the Indian Army. This success also highlights India's increasing self-reliance in defense manufacturing and the country's growing technological expertise in the military sector.

Indian Naval Ship Mumbai to Participate in Multinational Exercise LA PEROUSE

1. Overview of INS Mumbai's Participation

•   INS Mumbai, an indigenously designed and built guided missile destroyer, is participating in the 5th edition of the Multinational Exercise LA PEROUSE.

The first edition of La Pérouse joint exercise, initiated by France in 2019.

•   The exercise, which began on January 16, will continue till January 24.

•   This exercise will include participation from naval personnel, surface assets, and sub-surface assets from various maritime nations, including:

o   Royal Australian Navy

o   French Navy

o   Royal Navy (UK)

o   United States Navy

o   Indonesian Navy

o   Royal Malaysian Navy

o   Republic of Singapore Navy

o   Royal Canadian Navy

2. Objective of the Exercise

•   The primary goal of LA PEROUSE is to develop Maritime Situational Awareness by improving cooperation in areas such as:

o   Maritime surveillance

o   Maritime interdiction operations

o   Air operations

•   The exercise also focuses on training, progressive learning, and information sharing among participating navies.

•   It provides an opportunity for these like-minded navies to strengthen planning, coordination, and information exchange, enhancing their tactical interoperability.

3. Types of Exercises Conducted

•   LA PEROUSE will feature complex and advanced multi-domain exercises, including:

o   Surface warfare

o   Anti-air warfare

o   Air-defense

o   Cross-deck landings

o   Tactical maneuvers

- Additionally, constabulary missions like VBSS (Visit, Board, Search, and Seizure) operations will be conducted to enhance operational readiness in maritime security tasks.

4. Significance of Indian Navy's Participation

- The participation of the Indian Navy in the exercise demonstrates the high levels of synergy, coordination, and interoperability between the Indian Navy and other like-minded navies.
- It also highlights their commitment to a rules-based international order in the maritime domain.

5. Alignment with India's Vision of SAGAR

- This exercise aligns with India's vision of SAGAR (Security and Growth for All in the Region), which focuses on enhancing maritime cooperation and collaboration.
- It emphasizes the importance of ensuring a safer and secure Indo-Pacific region, promoting peace and stability in the region through greater cooperation among navies.

Conclusion

The Indian Navy's participation in the LA PEROUSE exercise reflects the growing global cooperation in maritime security. By engaging with other world-leading navies, India reaffirms its commitment to promoting security, peace, and collaboration in the Indo-Pacific region. The exercise is not only an opportunity for improving tactical capabilities but also a platform for strengthening global partnerships in maritime operations.

EDITORIALS

Crux of The Hindu & Indian Express

Internal Security

Taiwan's NASAMS Deployment to Strengthen Air Defense

1. Overview

- **Taiwan's Air Defense Upgrade**: Taiwan has decided to deploy the National Advanced Surface-to-Air Missile System (NASAMS) in key areas like Taipei's Songshan District and New Taipei's Tamsui District to protect against aerial threats.
- **Major Arms Deal**: The system was bought through a deal with the United States, worth NT$10.31 billion (around US$312.9 million).
- This deal will run until 2034, aiming to improve Taiwan's defense as China increases military pressure.
- **Threat from China**: China claims Taiwan as part of its territory and has increased military activity around the island, making air defense systems like NASAMS crucial for Taiwan's protection.

2. Importance of NASAMS for Taiwan

- **Better Air Defense**: NASAMS is designed to protect Taiwan from a range of aerial threats, including fighter jets, helicopters, drones, and missiles.
- The system will be especially important for protecting Taipei and the Presidential Office.
- **Supporting Existing Systems**: NASAMS will work alongside Taiwan's current defense systems, such as the Patriot PAC-3, Tien Chien II, and Tien Kung (Sky Bow) missile systems, adding an extra layer of protection against missiles and drones.

3. How NASAMS Works

- **Flexible and Easy to Move**: NASAMS is a mobile, self-contained system, meaning it combines radar, launchers, and a control center in one unit, making it easy for small groups of soldiers to operate.
- **Range and Accuracy**:
  o It can detect and target threats up to 20 miles (32 km) away and at heights ranging from 1,000 feet to 50,000 feet.
  o The system uses AIM-120 AMRAAM missiles, which can hit targets even if they are not in the direct line of sight.
  o NASAMS can track and target up to 75 kilometers (47 miles) away with its radar and can target several threats at once.

- **Works with Other Systems**: NASAMS can be part of a larger Integrated Air Defense System (IADS), connecting different radars, sensors, and weapons for a more efficient defense system.

4. NASAMS' Proven Success

- **Used in Ukraine**: NASAMS has been successful in Ukraine, where it intercepted Russian missiles and drones. This success made the system attractive to Taiwan, as it faces similar threats from China.

- **High Success Rate**: NASAMS has a 100% success rate in intercepting Russian cruise missiles and drones. This track record shows how reliable the system is in protecting against advanced missile attacks.

5. How NASAMS Strengthens Taiwan's Defense

- **Defending Against China**: NASAMS will help Taiwan defend against China's growing missile power, including cruise missiles, ballistic missiles, and drones. This will protect important military sites and air bases from attack.

- **Working with the U.S.**: By buying NASAMS, Taiwan strengthens its relationship with the United States, as the system is also used to protect Washington D.C., including important sites like the White House and U.S. Capitol. This connection helps Taiwan align with U.S. military technology.

6. Taiwan's Security Concerns

- **Rising Tensions with China**: Taiwan's decision to buy NASAMS reflects the growing military threat from China, which has been holding military drills near Taiwan. China has stated its goal of bringing Taiwan under its control, possibly by force.

- **Lessons from Ukraine**: Taiwan sees similarities with Ukraine, which faced Russian aggression. To strengthen its defense, Taiwan is seeking weapons like Patriot missiles, HIMARS rocket systems, and Abrams tanks—similar to those used by Ukraine.

- **Defending Against Multiple Threats**: The NASAMS system is part of Taiwan's broader strategy to counter China's missiles, fighter jets, and drones. It strengthens Taiwan's ability to protect itself from various types of attacks.

7. Impact on Regional Security

- **Deterring China**: By deploying NASAMS, Taiwan sends a strong message to China, showing that it is serious about defending its airspace. The system increases the cost for China if it tries to escalate tensions.

- **Stabilizing the Region**: Taiwan's improved defense also helps maintain regional stability in East Asia, where China's growing military power is a concern for many countries. Other nations may also consider improving their defenses in response to Taiwan's moves.

Conclusion:

The purchase of NASAMS is a major step forward for Taiwan's defense, offering advanced protection against a range of aerial threats from China. With its proven success in Ukraine and its ability to work alongside other defense systems, NASAMS will help Taiwan defend its airspace and key infrastructure. This move also strengthens Taiwan's military ties with the United States, showing its commitment to self-defense while contributing to regional security.

Pralay Missile & Republic Day 2025 Highlights

1. Pralay Missile to Debut at Republic Day Parade

- The Pralay missile, an indigenously developed short-range, quasi-ballistic missile, will make its first appearance at the Republic Day Parade in 2025.

- This marks a significant moment for India's indigenous defense technology.

- **Key Features of Pralay Missile**:
  o **Range**: 150-500 km.
  o **Payload Capacity**: 500-1,000 kg, capable of carrying conventional warheads.
  o **Guidance**: Equipped with advanced guidance systems for high precision, offering a Circular Error Probable (CEP) of less than 10 meters.
  o **Speed**: Reaches terminal speeds of Mach 6.1.
  o **Mobility**: Can be launched from a mobile launcher, enhancing flexibility in deployment, especially along sensitive borders like the Line of Control (LoC) and Line of Actual Control (LAC).

o **Capabilities**: Can target radar installations, command centers, airstrips, and more. Its ability to alter its path mid-flight adds to its versatility.

- **Context**: This missile showcases India's growing self-reliance in defense and strategic capabilities.

The inclusion of Pralay signals a leap in strengthening India's deterrent posture.

2. Republic Day Parade 2025: A Grand Display

- **Theme**: The parade will blend military strength with cultural heritage, emphasizing India's unity and diversity.

- **Cultural Significance**:
  o 2 special tableaus will commemorate 75 years of the Indian Constitution.
  o 5,000 folk and tribal artists will perform, representing 45 tribal cultures, including Indonesian traditions.
  o International Representation: An Indonesian contingent of 160 marchers and 190 band members will participate, enhancing bilateral relations.

- **Military Display**:
  o Key military assets include BrahMos missiles, multi-barrel rocket launchers, T-90 tanks, and Nag missiles.
  o The Pralay missile will be highlighted for its strategic significance.

- **Participation**:
  o 18 marching contingents, 15 bands, and 31 tableaus will be featured.
  o The parade will be attended by over 1 lakh spectators, including 10,000 special guests.
  o Marching contingents will represent various ministries and services, reflecting India's diverse defense and cultural fabric.

3. Tri-Service Representation & Global Participation

- **Tri-Service Contingent**: The parade will feature a joint representation from India's Army, Navy, and Air Force, symbolizing defense cohesion.

- **Navy Tableau**: For the first time, the Indian Navy will present its own dedicated tableau.

- **International Contingents**: The Indonesian contingent's participation will symbolize strengthening ties between India and Southeast Asia, adding a global dimension to the parade.

4. Absence of ALH and Tejas Fighter Jet

- **ALH Grounded**: The Advanced Light Helicopter (ALH) will be absent due to ongoing safety checks after a recent crash.

- The helicopter is still undergoing necessary evaluations, making it unavailable for the parade.

- **Tejas Fighter Jet**: While other advanced aircraft will be displayed, Tejas, India's indigenous fighter jet, will also not be part of the flypast this year.

5. The Push for Jointness

- **Unified Display**: The Republic Day Parade aims to reflect India's increasing focus on jointness across the military services.

- It is an effort to demonstrate how different branches of the defense forces collaborate to ensure national security.

6. Pralay Missile: Historical Context

- **Development**: The Pralay missile is part of India's ongoing efforts to strengthen its indigenous defense production.

- It was developed by the Defence Research and Development Organisation (DRDO), drawing from technologies developed in the Prithvi Defense Vehicle.

- **Strategic Deployment**: It is designed for use along critical borders, including LAC and LoC, enhancing India's capability to respond swiftly to regional threats.

7. India's First Ballistic Missile

- **Prithvi Missile**: India's first ballistic missile was the Prithvi, developed as part of the Integrated Guided Missile Development Programme (IGMDP), initiated in 1983 under Dr. A.P.J. Abdul Kalam.

- This was a pivotal step in India's missile development journey and laid the groundwork for future advancements like Pralay.

Conclusion:

The Republic Day 2025 Parade will be a significant event, celebrating both military advancements like the Pralay missile and India's rich cultural diversity. The Pralay missile's debut underscores India's self-sufficiency in

defense technology and its growing military capabilities. With a strong mix of domestic achievements and international partnerships, the parade will be a showcase of India's strength, unity, and future aspirations on the global stage.

Indian Navy Completes Hydrographic Survey of 25,000 sq. Nautical Miles of Mauritius

Context :

- The Indian Navy's INS Sarvekshak, a hydrographic survey vessel, has successfully completed the final phase of a significant survey operation in Mauritius, covering 25,000 square nautical miles of its maritime territory.
- The survey's final report, including newly prepared nautical charts and survey equipment, was formally handed over to the President of Mauritius, Dharambeer Gokhool, by the Indian High Commissioner to Mauritius, during a formal ceremony on January 23, 2025.
- This initiative is part of India's strategy to boost its defence exports and assist littoral states (countries bordering the ocean) in strengthening their maritime capabilities.
- India's efforts also include capacity building in coastal security, maritime surveillance, and resource management in the region.

Significance of the Survey:

- The completion of the hydrographic survey holds great strategic and practical importance for Mauritius.
- The newly developed nautical charts will aid in:
  - o The development of maritime infrastructure.
  - o Resource management for marine resources.
  - o Coastal development planning for sustainable growth.
- This survey is an extension of India's ongoing efforts to promote maritime development and enhance regional cooperation in the Indian Ocean region.

India-Mauritius Bilateral Relations:

- The hydrographic survey is a significant reflection of the strong maritime cooperation between India and Mauritius.
- This strengthens their enduring partnership, particularly in the fields of:
  - o Maritime security and regional stability.
  - o Capacity building and knowledge sharing in oceanography and marine technology.
- **Indian Navy's Role**: The Indian Navy regularly conducts hydrographic surveys in the exclusive economic zones (EEZs) of friendly nations.
- Over the past 5 years, India has carried out joint survey operations covering 89,000 sq. km and produced 96 charts, underlining its commitment to maritime cooperation in the region.
- The survey is part of India's broader strategy under the SAGAR (Security and Growth for All in the Region) initiative, aimed at enhancing maritime security and promoting economic growth in the Indian Ocean Region (IOR).

Defence and Security Cooperation:

- India and Mauritius share an extensive and deepening defence cooperation, which includes joint training, exchange of knowledge, and technical assistance.
- Mauritius has an International Liaison Officer at India's Information Fusion Centre for Indian Ocean Region (IFC-IOR), based in Gurugram, India.
- Mauritius is also equipped with radar centers as part of India's coastal radar surveillance system.
- Mauritius Police Force operates Indian-made defense equipment, such as Advanced Light Helicopters (ALH)-MkIII and a Dornier Do-228 aircraft, both supplied by Hindustan Aeronautics Limited (HAL).

Conclusion:

This hydrographic survey conducted by the Indian Navy strengthens India's relationship with Mauritius and exemplifies its role as a security provider and capacity builder in the Indian Ocean Region. The successful completion of this survey, along with the development of essential maritime tools and infrastructure, marks a significant step in promoting regional stability, sustainable development, and cooperative security in the Indian Ocean.

India Joins €7.1 Billion Eurodrone Programme as Observer

Introduction:

- India has officially become an observer state in the €7.1 billion Eurodrone programme, also known as the Medium Altitude Long Endurance Remotely Piloted Aircraft System (MALE RPAS).

- This initiative is managed by the Organisation for Joint Armament Cooperation (OCCAR) and led by Airbus Defence and Space, based in Taufkirchen, Germany.

1. Background of India's Participation

- **Request Date:** India made a formal request to join the Eurodrone programme in August 2024.

- **Acceptance Date:** India's participation as an observer was approved just before Aero India 2025, Asia's largest military aviation exhibition held in Bangalore.

- **Current Status:** India joins as an observer state, which allows it to contribute to technical discussions and gain access to expertise, but without full participation in decision-making or production.

2. Key Points of the Eurodrone Programme

The Eurodrone programme is a major defense project led by European countries aiming to develop advanced remotely piloted aircraft systems (RPAS).

2.1 Participating Countries and Organizations

- **Primary Nations Involved:** Germany, France, Italy, and Spain.

- **Lead Entity:** Airbus Defence and Space (Germany).

- **Subcontractors:**
  - o Leonardo (Italy)
  - o Dassault Aviation (France)
  - o Airbus (Spain)

- **Managing Organization:** Organisation for Joint Armament Cooperation (OCCAR), based in Bonn, Germany.

2.2 Program Objectives and Purpose

- **Primary Use:** Eurodrone will be designed for various long-endurance missions, including:
  - o Intelligence, Surveillance, Target Acquisition, and Reconnaissance (ISTAR)
  - o Maritime Surveillance
  - o Anti-Submarine Warfare
  - o Airborne Early Warning

- **Sovereignty:** The Eurodrone is conceived as a "European Programme for European Sovereignty," aiming to reduce reliance on non-European platforms.

- **Endurance and Flight Time:** The drone can stay airborne for up to 40 hours, which provides superior endurance compared to existing systems.

2.3 Capabilities of the Eurodrone

- **Payload Capacity:** The drone can carry a maximum payload of 2.3 tonnes.

- **Design:** The aircraft is equipped with a twin-engine configuration to ensure reliability and safety in various environmental conditions, including severe weather.

- **Operational Features:**
  - o Designed to operate safely in non-segregated airspace (i.e., airspace that is not restricted for military or other specific uses).
  - o **Secure Communication:** Emphasizes secure connectivity, ensuring that all data handling and communications are exclusively under the control of the operating nation or entity.

2.4 Project Timeline

- **Preliminary Design Review (PDR):** The Eurodrone passed its PDR in 2024.

- **First Flight:** Scheduled for 2026.

- **Initial Deliveries:** Expected to begin around 2028.

- **Operational Service:** Full operational deployment of the Eurodrone is expected by 2030.

3. Cost and Funding

- **Total Programme Value:** €7.1 billion (approximately ₹ 62,000 crore).

- **Objective:** The programme aims to develop, produce, and support 20 systems, with each system consisting of:
  - o 3 UAVs (Unmanned Aerial Vehicles)
  - o 2 Ground Stations

4. India's Strategic Interest and Collaboration

India's entry into the Eurodrone programme represents a significant strategic move to enhance its defense capabilities and foster closer cooperation with European defense technology providers.

- **Previous Partnerships:**
  - o **Russia:** India previously participated in Russia's Su-57 fighter programme but withdrew in 2018.
  - o **United States:** In October 2024, India signed a contract with the US for the acquisition of 31 Predator drones.
  - o **Indigenous UAVs:** India continues to work on its own UAV programs, such as Tapas and Rustom, although progress has been slow.

4.1 Benefits for India

- **Enhanced Defense Cooperation:** This collaboration with Europe complements other defense initiatives, such as the C-295 aircraft project between Tata and Airbus, Rafale M purchase for naval operations, and potential deals for additional Scorpené-class submarines.
- **Secured Data and Operations:** Eurodrone's sovereign design ensures India will have full control over its data and operational sovereignty in the future.

4.2 Observer Role Details

- As an observer, India will have access to technical expertise and contribute to the discussions about the system's development.
- However, it will not be directly involved in the production phase of the project.
- Cost Implications: India will need to bear some of the costs related to participation, especially for technical expertise and consultancy.

5. Eurodrone and Europe's Collective Defense Strategy

- The Eurodrone programme is part of Europe's broader defense strategy to reduce reliance on non-European UAV systems, particularly American and Israeli platforms like the Reaper (US) and Heron (Israel).

- Eurodrone, in this sense, is a critical move to establish greater European sovereignty in defense technology.

5.1 Other European Defense Projects

- **Eurofighter Typhoon:** A European fighter jet developed collaboratively.
- **European Patrol Corvette (EPC):** A naval project for the development of next-generation European corvettes.
- **Future Combat Air System (FCAS):** A project focused on creating next-generation fighter aircraft for European air forces.

Conclusion: India's Growing Defense Ties with Europe

India's participation in the Eurodrone programme as an observer demonstrates its growing defense collaboration with Europe. This partnership not only enhances India's technological expertise in UAVs but also strengthens its position in future defense procurements and joint ventures with European countries. The Eurodrone system, with its advanced capabilities and European focus on sovereignty, provides India with an opportunity to benefit from cutting-edge technology while contributing to Europe's collective defense framework.

❏❏❏

History, Art & Culture

Rani Velu Nachiyar

Overview:

The Prime Minister of India recently remembered the courageous Rani Velu Nachiyar on her birth anniversary, recognizing her significant contributions to Indian history and her fight against British colonialism.

About Rani Velu Nachiyar:

- **Birth and Early Life**: Rani Velu Nachiyar was born on January 3, 1730, to the Raja and Rani of the Ramnad kingdom. She was the only child of Raja Chellamuthu Vijayaragunatha Sethupathy and Rani Sakandhimuthal of the Ramnad kingdom.

- **Marriage**: At the age of 16, she married Muthu-vaduganananthur Udaiyathevar, the prince of Sivaganga.

- **Title**: Known by Tamils as Veeramangai (meaning "brave woman"), she was renowned for her courage and leadership.

- **Training in Warfare**: She was trained in various martial arts, including Valari (a weapon technique) and Silambam (stick fighting). She was also skilled in horse riding, archery, and other forms of warfare.

- **Scholar**: Apart from her military expertise, Rani Velu Nachiyar was a scholar who mastered several languages, including English, French, and Urdu.

- **Resistance Against the British**: She is celebrated as the first queen to fight for freedom from the British in India. She collaborated with Hyder Ali and Gopala Nayaker to wage a successful war against the British.

- **Administration**: In 1780, she granted powers to the Marudu brothers to help govern the country, marking her as a progressive leader.

What is Silambam?

- **Silambam** is a traditional and scientific martial art originating from Tamil Nadu.

- It involves the use of a stick (traditionally bamboo) for combat and is believed to have been promoted during the reigns of the Pandyas, Cholas, and Cheras.

- It is recognized for its discipline, technique, and focus on improving physical and mental strength.

Conclusion:

Rani Velu Nachiyar stands as a symbol of bravery and resilience. Her contributions to the fight against British colonialism, her leadership skills, and her empowerment of local governance have left an indelible mark on India's history. Her legacy continues to inspire generations, especially in the context of female empowerment and national resistance.

Saint Narahari Tirtha

Overview:

A significant discovery was made by the Team of Research on Culture and Heritage (TORCH), which recently unearthed a three-foot idol of the 13th-century saint Narahari Tîrtha.

About Saint Narahari Tirtha:

- **Time Period**: Narahari Tirtha was a prominent philosopher and saint during the 13th century.

- **Philosophical Affiliation**: He was a Dvaita Vedanta philosopher and a disciple of Madhvacharya, the founder of the Dvaita school of philosophy.

- **Role in Madhva Tradition**: Narahari Tirtha played a pivotal role in spreading Dvaita Vedanta philosophy in eastern India, especially in the Kalinga region (modern-day Odisha and Andhra Pradesh).

- **Origins**: He is believed to have originated from Chikakolu (now Srikakulam), with aristocratic ancestors from the Gajapati Empire in Odisha.

- **Support to the Eastern Ganga Dynasty**: Historical records suggest that Narahari Tirtha assisted the Eastern Ganga dynasty kings for three decades, ensuring the adherence to Sanatana Dharma and improving the temple administration.

- **Honorific Titles**: Narahari Tirtha was often honored with titles like "Loka Suraks%aGa Ati NipuGa%" and "Yo Avati Kalinga Bhu Sambhavân".

- **Influence on VaicGavism**: Narahari Tirtha's prolonged presence in the region helped establish the influence of Acharya Ramanuja's VaicGavism in a secular, non-interfering manner.
- **Literary Contributions**: Narahari Tirtha wrote fifteen books, though only two have survived: the Gita Bhasya and Bhavaprakasika.
- **Music and Dance**: He is credited with composing the first Devaranamas in Kannada and contributed to the development of two art forms: Yakcagana Bayalama (a dance-drama) and the classical dance style of Kuchipudi.
- **Final Resting Place**: After his passing, Narahari Tirtha was consecrated at a rock near Chakratirtha in Hampi, on the banks of the Tungabhadra River.

What is Indian Philosophy?

- **Indian Philosophy** refers to the diverse philosophical traditions that emerged in the Indian subcontinent, including Hindu, Buddhist, and Jain philosophies.
- The term "Darsana" is used for Indian philosophy, which is often translated as philosophy but more accurately means "intuitive vision" or "insight" into reality and existence.

Conclusion:

Saint Narahari Tirtha's contributions to Dvaita Vedanta, the spread of VaicGavism in eastern India, and his influence on temple administration have left a lasting legacy. His philosophical writings and promotion of art forms like Yakcagana Bayalama and Kuchipudi reflect his multifaceted contributions to Indian culture and spirituality.

Namdhari Sect

Overview:

Recently, the Punjab Chief Minister paid tribute at a function organized at the Namdhari Shaheed Smarak in Malerkotla to mark the Kuka Martyrs' Day.

About Namdhari Sect:

- The Namdhari sect was founded by Satguru Ram Singh in 1857 during Baisakhi.
- He challenged the existing social norms, advocated for social reforms, and resisted British rule in several ways.
- The Namdharis are also known as "Kukas" due to their distinctive style of reciting the Gurbani (teachings of the Sikh Gurus) in a high-pitched voice, known as the "Kook" in Punjabi.
- The Namdhari Sikhs believe in the Guru Granth Sahib as the Supreme Gurbani, but they also maintain the belief in a living human Guru.
- **Religious Practices**:

  They consider the cow sacred, are teetotalers, and abstain from tea and coffee.
- The sect's headquarters is located in Bhaini Sahib, Ludhiana, near the village of Raiyaan, where Satguru Ram Singh was born.

History of Kuka Martyrs' Day:

- On January 13, 1872, about 200 Namdharis, led by Kuka Hira Singh and Lehna Singh, arrived in Malerkotla after a protest against cow slaughter in the town. The Namdharis had long been campaigning for a ban on cow slaughter.
- On January 15, 1872, the Kukas clashed with government officials. On the same day, a 150-strong Kuka group also attacked the Malaudh Fort in Ludhiana, which was controlled by a local ruler loyal to the British.
- In retaliation, the British authorities executed 49 Kukas on January 17, and another 17 on January 18.

What is the Guru Granth Sahib?

- The Guru Granth Sahib is the primary holy book of the Sikhs, regarded as the living Guru by Sikhs.
- It was composed over several years (1469–1708) and is a voluminous text of 1430 pages.
- It was compiled by the fifth Sikh Guru, Guru Arjan Dev (1563–1606), and includes hymns from the earlier Sikh Gurus, as well as contributions from Hindu and Muslim saints, providing spiritual and moral guidance.

Conclusion:

The Namdhari sect is a significant spiritual and social movement within Sikhism, rooted in the principles of reform, resistance against oppression, and devotion to the teachings of the Sikh Gurus. Kuka Martyrs' Day serves as a poignant reminder of the sacrifices made by the Namdhari Sikhs in their fight for social justice, religious freedoms, and the protection of sacred values, particularly in their resistance against cow slaughter.

Kalaripayattu

Overview:

Kerala's martial art form, Kalaripayattu, has become a point of controversy ahead of the 38th edition of the National Games in Uttarakhand, starting January 28. The martial art has been at the center of discussions as it garners attention on the national stage.

About Kalaripayattu:

- **Origin**: Kalaripayattu is one of the oldest and most scientifically developed martial art forms in the world. It focuses on mind-body coordination, aiming to develop both physical and mental strength.

- **Place of Origin**: It originated in Kerala, India, and is still widely practiced there today.

- **Meaning**: The term **Kalari** refers to a traditional gymnasium in Malayalam, where the martial art (Payattu) is taught.

Mythological Connection:

According to mythology, Parasurama, the warrior sage, is credited with establishing Kalaripayattu.

Four Stages of Kalaripayattu:

1. **Maippayattu**: This is the body conditioning phase where practitioners prepare their bodies for combat. It is a fundamental stage before advancing to the next.

2. **Kolthari**: In this stage, practitioners are taught techniques for attack and self-defense using wooden weapons like short and long sticks.

3. **Angathari**: After mastering wooden weapons, sharp metal objects are introduced for combat. This phase involves overcoming the fear of fighting with dangerous, sharp weapons.

4. **Verumkai**: The final stage focuses on bare-hand fighting. It involves research-based techniques where students learn about body anatomy to identify vulnerable points to strike.

Ethnic Styles:

Kalaripayattu is practiced in various styles across Kerala, with notable regional styles including:

- Vattenthirippu Style (Northern Kerala)
- Arappukkai Style (Central Kerala)
- Pillathangi Style (Southern Kerala)

Historical Spread:

- It is believed that Kalaripayattu was introduced to China in the 5th century AD at the Shaolin Temple by Bodhidharma, a Buddhist monk who originally hailed from Thanjavore (now part of Tamil Nadu, formerly part of Kerala).

- This influenced the development of Chinese martial arts.

Who is the father of Kalaripayattu?

The father of Kalaripayattu is believed to be Parasurama, the legendary warrior sage from Indian mythology.

Kalaripayattu is a traditional and scientific martial art that originated in Kerala. It involves a progressive training system that includes physical conditioning, weaponry, and bare-hand fighting. Its rich cultural heritage and historical spread to other parts of Asia, including China, make it an integral part of martial arts history.

Digital Maha Kumbh 2025: A Blend of Tradition and Technology

Making of Maha Kumbh

Digital Kumbh

1.5 lakhs	2600+	24x7	10
Tentage & Toilets Being Monitored	Crowd Monitoring Setup Cameras	ICCC Monitoring	Digital Lost & Found Centres

The Maha Kumbh Mela 2025 in Prayagraj, Uttar Pradesh, will combine spirituality with modern technology, improving the experience for millions of pilgrims. The government is using new technology to make the event safer, easier, and more convenient for everyone.

Maha Kumbh 2025 : Key Facts

Event Duration	**Start Date**: January 13, 2025 (Paush Purnima Snan) **End Date**: February 26, 2025 (Maha Shivratri)
Location	**Triveni Sangam**, Prayagraj, Uttar Pradesh (Confluence of Ganges, Yamuna, and Sarasvati rivers)
Estimated Devotees	40-45 crore pilgrims
Purpose of the Event	Religious pilgrimage for the attainment of **salvation** (moksha) through holy dips in sacred rivers
Festival Rotation	Held every 12 years at four sacred sites: 1. **Haridwar** (Ganges) 2. **Ujjain** (Shipra) 3. **Nashik** (Godavari) 4. **Prayagraj** (Ganges, Yamuna, Sarasvati)

1. Cyber Security Measures

- **Cyber Experts**: A team of 56 specialists will monitor and protect the online environment to stop scams and fraud.

- **Maha Kumbh Cyber Police Station**: A special police station will be set up to deal with online fraud, fake websites, and scams on social media.

- **Awareness Campaigns**: 40 Variable Messaging Displays (VMDs) will show warnings about online safety and how to avoid online tricks.

- **Cyber Helpline (1920)**: A helpline available 24/7 to help with cyber-related issues like fraud or suspicious websites.

- **Monitoring Fake Websites**: Cyber experts will keep an eye on social media platforms like Facebook, X (formerly Twitter), and Instagram to find and block fake websites.

- **Promoting Safe Websites**: Pilgrims will be encouraged to use only official government websites for safe online transactions.

2. Immersive Digital Experiences

- **360-Degree VR Stalls**: Ten virtual reality stalls will let people experience major events like:
  * The Peshwai (grand procession of Akhadas)
  * Holy bathing days (Snaan)
  * Ganga Aarti and other rituals.

- **Drone Light Show**: A stunning evening light show with 2,000 drones will tell the stories of "Prayag Mahatmyam" and "Samudra Manthan" (Churning of the Ocean), showing the spiritual importance of Prayagraj.

3. Infrastructure and Land Digitalization

- **Online Land & Facility Booking**: A website will help institutions book land and services online. Over 10,000 institutions will use this system.

- **Drone Surveys**: Drones will map the land before and after the monsoon to make planning easier.

- **Online Application Process**: People can track their land booking requests online, avoiding long queues.

- **GIS-Based Maps**: Google Maps will show important places like:
  * Police stations, hospitals, and emergency services.
  * Food courts, toilets, parking, and vending areas.
  * Roads, bridges, and other key facilities to help people get around.

4. Enhanced Security Arrangements

- **Remote-Controlled Life Buoys**: Life-saving buoys will be sent to the river to help rescue people in trouble, especially during the holy bathing.

- **Underwater Drones**: Drones will monitor the river 24/7 and send live updates to the control center to keep everyone safe.

- **AI-Powered Cameras**: Smart cameras will watch for unusual behavior and alert authorities to act quickly if needed.

- **Drones & Anti-Drone Technologies**: Drones and technologies to stop them will be used for extra security and surveillance.

5. Lost and Found Services

- **Digital Registration**: Lost pilgrims will be registered in a central system. Their details will be shared on social media and through public announcements.

- **Police Assistance**: If a person is not found after 12 hours, police will help to make sure they are safe.

6. Online Stay Booking

- **Booking Platforms**: Pilgrims can book their stay through websites like IRCTC, Make My Trip, Go IBIBO, or the official Maha Kumbh app (booking window: Jan 10 - Feb 28, 2025).

- **Tent City Security**: CCTV cameras and first-aid services will ensure the safety and comfort of pilgrims staying in the Tent City.

Conclusion

The Maha Kumbh Mela 2025 will mix old traditions with modern technology. The use of digital tools for safety, land management, and helping pilgrims will make the event smooth and memorable for everyone. This blend of faith and technology will show how technology can improve large events, making them safer, more organized, and easier for all to enjoy.

Excavation at Ratnagiri – Unearthing Ancient Buddhist Relics

A view of the excavation site in Ratnagiri, Odisha

1. Recent Discoveries at Ratnagiri

- **Excavation Site**: The Archaeological Survey of India (ASI) resumed excavations at the Ratnagiri Buddhist Complex in Jajpur District, Odisha, in December 2024, after a 60-year gap.

- The aim was two-fold: to discover more of the ancient complex and to explore Odisha's historical connections with Southeast Asia.

- **Key Findings**:
  - **Colossal Buddha Head**: Approximately 3-4 feet tall, this discovery is a significant symbol of Buddhism's presence and influence in the region.
  - **Massive Palm**: Measuring 5 feet in length, this unusual find adds to the mystery and significance of the site.
  - **Ancient Wall and Buddhist Relics**: Remnants of structures and inscribed Buddhist relics dating back to the 8th-9th Century AD were also discovered.

2. Historical Significance of Ratnagiri

- **Location and Background**: Ratnagiri, part of the Diamond Triangle of Odisha (along with Udaygiri and Lalitgiri), is located about 100 km northeast of Bhubaneswar. It has been a prominent Buddhist site for centuries.

- **Previous Excavations**: The last major excavations were between 1958 and 1961 by archaeologist Debala Mitra,

which unearthed significant structures like a brick stupa, monastic complexes, and numerous votive stupas.

- **Current Goals**: The current excavation focuses on exploring partially visible structures, potential shrine complexes or chaitya halls (Buddhist prayer halls), and the ceramic assemblage to further understand the site's cultural context.

3. Cultural and Trade Links with Southeast Asia

- **Historical Context**: Odisha, historically known as the kingdom of Kalinga, had extensive maritime and trade links with Southeast Asian countries.
  - o **Trade Goods**: Items such as pepper, cinnamon, silk, and jewelry were exchanged between Kalinga and regions like Bali, Java, Sumatra, and Burma (Myanmar).
  - o **Baliyatra Festival**: Odisha celebrates an annual festival, Baliyatra, to commemorate these ancient maritime links.
- **Role of Kalinga**: While there is no direct evidence of Buddha visiting Odisha, Kalinga played a pivotal role in spreading Buddhism across Southeast Asia due to its trade links.
- Notably, Tapassu and Bhallika, two merchant brothers from Odisha, are believed to be among the first disciples of Buddha.

4. Ratnagiri and the Legacy of Buddhism

- **Buddhism in Odisha**: Odisha, particularly during the reign of Mauryan Emperor Ashoka (261-232 BCE), saw the rise of Buddhism.
- Ashoka, after his conquest of Kalinga, embraced Buddhism and helped spread it across his empire, influencing Southeast Asia, Sri Lanka, and Central Asia.
- **Flourishing Under the Bhaumakara Dynasty:** Buddhism thrived in Odisha under the Bhaumakara dynasty (8th-10th Century), and Ratnagiri became a major center of Buddhist learning.
- Scholarly Significance: Scholars believe that Ratnagiri rivaled Nalanda as a center of Buddhist learning.
- The region was significant for the development of Mahayana and Tantrayana (Vajrayana) sects, which incorporated mystical elements of Buddhism.

5. Ratnagiri's Role in Ancient Buddhist Studies

- **Centers of Learning**: Experts like Thomas Donaldson suggest that Ratnagiri was comparable to Nalanda in its role as a learning hub.
- Some of the texts studied here were related to Mahayana and Tantrayana Buddhism.
- **Historical Visitors**: The renowned Chinese monk Xuanzang (Hiuen Tsang), who visited India in the 7th century, might have visited Ratnagiri, highlighting its prominence as a Buddhist educational site.

6. Focus on Southeast Asian Material Culture

- **Material Evidence**: The current excavation seeks to discover more material culture from Southeast Asia, which has been less explored in previous digs.
- This could provide valuable insights into the cultural exchanges between India and Southeast Asia, especially through trade and religion.
- **Buddhist Cultural Framework**: ASI officials aim to better understand the cultural framework of the site, particularly in relation to the Buddha head and other relics.

7. Future Prospects of Excavation

- **Continued Excavation**: The excavation efforts will continue for another month or two, with plans for further exploration depending on the findings.
- If the current findings justify it, additional excavation steps will be taken.
- **Further Insights Expected**: Experts hope that the discoveries will provide more information about the lifestyle, religion, art, and architecture of the Buddhist community in ancient Odisha.
- The excavations may also reveal whether the site holds even older relics, predating the 5th century.

Conclusion:

The excavation at Ratnagiri holds immense historical, cultural, and scholarly value. The recent discoveries of a colossal Buddha head and giant palm offer a glimpse into the region's significant role in the development of Buddhism and its ancient trade links with Southeast Asia. Ratnagiri, once a prominent center of Buddhist learning, continues to reveal its rich past through these excavations, shedding light on a pivotal period of Indian and global religious history.

Lezim Dance: A Traditional Folk Dance of Maharashtra

Recent Controversy:

- A recent scene featuring Lezim dance in the Bollywood film *Chhava*—based on the life of Chhatrapati Sambhaji Maharaj, the Maratha ruler—has stirred controversy in Maharashtra.

About Lezim Dance:

1. **Origin and Name:**

   Lezim is a folk dance from Maharashtra, performed with a unique musical instrument called the Lezim. This instrument consists of a wooden stick with jingling cymbals attached to it, which the dancers carry while performing.

2. **Dance Form and Structure:**

   o Lezim is a blend of physical exercise and dance. The formations often involve dancers in pairs (twos and fours) or sometimes in a circle.

   o It is typically accompanied by a dhol or dhalgi (a small drum), but unlike many other folk dances, there is often no song accompaniment, although some performances now include singing.

Musical Instruments:

1. **Lezim (Instrument):**

   o The Lezim, a traditional instrument, is a wooden stick with cymbals fixed on it. Historically, it was used in many folk dances, though it is now mostly seen during Ganesha processions.

2. **Dholki (Drum):**

   o A dholki, a small drum, provides the percussive rhythm during the dance, enhancing the performance.

Health Benefits of Lezim Dance:

- Lezim is not just a cultural activity but also offers numerous health benefits, particularly in improving cardiovascular health. Due to its dynamic movements, it serves as a vigorous physical exercise.

Types of Lezim Dance:

1. **Military Lezim:**

   Popular in Baroda, this version of Lezim was originally used as a martial art for defense purposes.

2. **Talathekya:**

   A variation of the dance that includes specific movements and formations.

3. **Samanyajananna:**

   A more common version, performed widely at cultural gatherings and festivals.

Chhatrapati Sambhaji Maharaj:

- Chhatrapati Sambhaji Maharaj was the eldest son of Chhatrapati Shivaji Maharaj. He ascended to the throne after a bloody succession battle with his half-brother Rajaram in 1681.

- He was a contemporary of Mughal emperor Aurangzeb, and their rivalry led to frequent clashes as Aurangzeb sought to expand the Mughal empire into the Deccan region.

Key Facts:

- **State:** Lezim is a traditional folk dance from Maharashtra.

- **Instruments:** The dance is performed using the Lezim (wooden stick with cymbals) and the dholki (drum).

- **Physical Benefits:** Lezim is both a dance and a vigorous physical exercise, promoting cardiovascular health.

- **Cultural Significance:** The dance is performed during various cultural festivals, especially during Ganesha processions.

- **Types of Lezim:** There are three main types: Military Lezim, Talathekya, and Samanyajananna.

- **Chhatrapati Sambhaji Maharaj:** The Maratha ruler whose life inspired the controversy surrounding the Lezim dance in the film *Chhava*.

Conclusion:

Lezim dance is an integral part of Maharashtrian culture, blending traditional performance with physical fitness. The ongoing controversy surrounding its portrayal in Bollywood highlights its deep cultural significance, while its health benefits continue to make it a popular and meaningful tradition.

❏❏❏

Chapter 1 : Historical Perspectives on Indian Knowledge Systems (IKS)

Introduction

- Indian Knowledge Systems (IKS) represent a vast, ancient tradition that has shaped India's intellectual, cultural, and spiritual heritage.

- It combines both spiritual and material knowledge, impacting not only India but also global thought.

- In 2020, the Ministry of Education in India set up the IKS division to document and promote this rich heritage for modern times.

- As the Ishavasyopanishad teaches, true knowledge (vidya) is a balance of spiritual and material understanding, which leads to a harmonious life.

1. Characteristics of Indian Knowledge Systems

Holistic Knowledge

- IKS is holistic, meaning it integrates both spiritual (higher knowledge) and material (practical knowledge) aspects.

- The goal of IKS is to help individuals and society live well, achieve liberation (freedom from suffering), and lead a balanced life.

Continuity and Adaptability

- IKS has been passed down orally for thousands of years before being written down in texts like the Vedas and Puranas.

- Despite being ancient, IKS has adapted over time to meet the changing needs of society, yet core ideas remain intact.

2. Key Components of Indian Knowledge Systems

Vedas:

- The Vedas are the oldest and most important texts in IKS. They are made up of:
  - Rigveda
  - Yajurveda
  - Samaveda
  - Atharvaveda

- These texts cover a wide range of subjects, including spirituality, rituals, governance, and natural sciences.

Upvedas

- The **Upvedas** are specialized knowledge systems that include:
  - Ayurveda (medicine)
  - Dhanurveda (warfare and archery)
  - Gandharvaveda (performing arts like music and dance)
  - Shilpaveda (architecture)

Upanishads

- The Upanishads are philosophical texts that discuss the nature of reality, consciousness, and liberation.

- They introduce the concepts of paravidya (higher knowledge) and aparavidya (lower, material knowledge).

Puranas

- The Puranas are narrative texts that tell stories of the creation and destruction of the universe, and they also cover cultural history and societal norms.

- For example, the Brahma Vaivarta Purana discusses concepts that resemble modern scientific ideas, like time relativity.

3. Contributions of Indian Knowledge Systems

a. Philosophy and Ethics

- Indian philosophy balances spiritual wisdom with material concerns.

- The Bhagavad Gita, a key text, provides ethical guidance on duty, life, and the importance of balance.

b. Mathematics and Astronomy

- Indian scholars like Aryabhatta, Varahamira, and Baudhyana contributed significantly to mathematics (like trigonometry and calculus) and astronomy (like time measurement and celestial movement).

c. Medicine

- Ayurveda is a traditional medical system focusing on balance in the body, mind, and spirit.
- Sushruta is famous for his pioneering surgical techniques, including cataract removal.
- The Siddha system, practiced in Tamil Nadu, emphasizes holistic health with herbal treatments.

d. Arts and Culture

- Natya Shastra, written by Bharat Muni, covers drama, music, dance, sculpture, and architecture, connecting them to spiritual and religious themes.

e. Technology and Crafts

- Indian innovations in fields like metallurgy (e.g., the Iron Pillar of Delhi), weaving (e.g., Muga silk), and ceramics from regions like Assam are famous for their advanced technology.

4. Historical Timelines and Documentation

Oral Tradition

- For thousands of years, knowledge was passed orally from teacher to student, which kept it alive through generations.

Documented Texts

- The Vedas were written around 1500 BCE, though they are thought to be much older.
- Puranas were written between 4th century BCE and 11th century CE, documenting creation myths and the evolution of society.
- The Ramayana and Mahabharata not only tell epic stories but also offer moral guidance.

Challenges during the Colonial Period

- During British rule, IKS faced a decline in study due to the focus on Western education.
- This led to the misunderstanding and loss of many traditional practices and knowledge.

5. Modern Relevance and Revival

a. Recognition and Integration

- International Yoga Day (June 21) is a global celebration of Indian practices like yoga, which promote physical and mental health.
- Practices like organic farming and traditional medicine are being recognized for their contributions to sustainability and health.

b. NEP 2020 and Policy Frameworks

- The National Education Policy (NEP) 2020 encourages integrating IKS into education systems, promoting the link between traditional knowledge and modern science.
- The policy supports interdisciplinary research, bringing together ancient wisdom and modern technological advancements.

c. Practical Applications

- Sustainable architecture, inspired by ancient practices, is gaining traction.
- Ayurveda and Siddha systems are being used for preventive healthcare.
- Ethical frameworks from the Bhagavad Gita and Upanishads are applied in modern issues like business ethics and personal development.

d. Interdisciplinary Research

- IKS is being used in areas like environmental conservation, artificial intelligence, and ethical technology to address global challenges.

e. Tribal and Regional Knowledge

- Efforts are being made to revive local knowledge systems from regions like Northeast India and Tamil Nadu, integrating these into the broader knowledge landscape.

6. Challenges and Opportunities

Challenges

- Fragmented documentation and loss of oral traditions are making it hard to access and understand some parts of IKS.
- Misinterpretations and incomplete knowledge transmission due to colonial influence are still present.

Opportunities

- Collaboration between scholars, institutions, and communities can help restore and preserve IKS.
- Digitizing ancient texts and preserving oral traditions can make IKS more accessible.
- Applying IKS to modern challenges, such as climate change, health, and education, could provide sustainable solutions.

Conclusion

Indian Knowledge Systems offer a wealth of knowledge that has influenced human thought for thousands of years. By incorporating IKS into modern education and research, India can address global challenges in a sustainable and innovative way. The NEP 2020 and other initiatives provide a framework to revive this ancient knowledge, ensuring its relevance in the future.

Chapter 2 : Decolonization of the Mind Through Indian Knowledge Systems (IKS)

Introduction

- India, known as Gyan-Bhoomi (Land of Knowledge), is the birthplace of rich intellectual traditions in philosophy, science, art, medicine, and spirituality.

- Indian Knowledge Systems (IKS) form a structured framework based on ancient texts like the Vedas, Upanishads, and Nyaya Shastra.

- However, during colonial rule, these systems were marginalized in favor of Eurocentric ideas, promoting a sense of inferiority among Indians.

- Decolonizing the mind means reviving IKS, reshaping the way we view knowledge, and reclaiming India's intellectual identity on the world stage.

1. Indian Knowledge Systems Through the Ages

i. Ancient Period: Foundation of Knowledge

Philosophical Foundations:

o **Vedas and Upanishads**: These texts explored the nature of existence, the concept of the self (Atman), and the ultimate reality (Brahman). They introduced ideas about both the inner world (spirituality) and the outer world (cosmos).

o **Nyaya**: A logic-based philosophy that promotes scientific inquiry and structured thinking, helping people understand and reason about the world.

o **Advaita Vedanta**: A philosophy that argues for the oneness of Atman (individual soul) and Brahman (universal soul), emphasizing unity and non-duality.

Scientific and Mathematical Achievements:

o **Zero and the Decimal System**: Indian mathematicians were among the first to discover zero as a concept, and they developed the decimal system, revolutionizing mathematics.

o **Ayurveda**: A holistic health system that emphasizes prevention and well-being rather than just treatment.

o **Astronomy**: Indian scholars like Aryabhata proposed heliocentric theories and made precise calculations about the movements of celestial bodies.

Sustainability and Ecological Wisdom:

o **Sustainable agriculture**: Indian knowledge systems emphasized farming practices that worked in harmony with nature's cycles of renewal.

o **Community-based resource management**: Ancient practices, such as forest and water management, were based on sustainable and cooperative approaches that maintained balance with the environment.

ii. Medieval Period: Cultural Evolution

Bhakti Movement:

o The Bhakti movement emphasized devotion (Bhakti) and equality, promoting vernacular language literature that made spirituality accessible to the masses.

o Saints like Kabir, Guru Nanak, and Chaitanya Mahaprabhu focused on unity, faith, and liberation, aiming for social harmony and a universal sense of brotherhood.

Jainism and Buddhism:

o **Jainism**: Centered around the dualism of Jiva (soul) and Ajiva (non-soul), promoting non-violence (ahimsa) and self-discipline.

o **Buddhism**: Rejected the idea of a permanent self, focusing on the importance of karma (action) and ethical living as the path to liberation.

iii. Modern Period: Revival and Challenges

Colonial Disruption:

o **Macaulay's Minute (1835)** aimed to replace traditional Indian education with Western models, setting up schools that focused on Eurocentric curriculum, and marginalizing Indian knowledge.

o During British rule, indigenous industries like textiles and metallurgy were systematically dismantled, and traditional education systems were replaced with colonial institutions that alienated Indians from their own heritage.

Modern Thinkers and Philosophers:

o **Swami Vivekananda**: Advocated for rational education and a universal religion based on Indian humanism and spiritual ideals.

o **Sri Aurobindo**: Combined idealism and pragmatism, emphasizing spiritual growth through creativity and practical action.

o **Sarvepalli Radhakrishnan**: Grounded his philosophy in Advaita Vedanta, advocating for truth, unity, and diversity in philosophical and social thought.

2. Impact of Colonization on Indian Knowledge Systems

i. Cultural Subjugation

• Colonialism labeled Indian traditions as inferior, promoting Western ideals and creating a sense of cultural subjugation.

• Indian scholars and thinkers were often reinterpreted through a Eurocentric lens, like referring to Chanakya as "India's Machiavelli," which reduced his true depth and context.

ii. Economic and Educational Disruption

• Colonial policies led to the decline of indigenous industries, such as textiles, metallurgy, and local craftsmanship.

• Traditional education institutions were replaced with colonial schools that did not teach the native knowledge systems, distancing Indians from their own heritage and intellectual legacy.

iii. Mental Colonization

• **Edward Said's Orientalism**: Highlighted how the West perpetuated stereotypes of the East as backward, exotic, and primitive, which influenced colonial attitudes.

• **Frantz Fanon's Colonial Alienation**: Addressed how colonized societies internalized a sense of inferiority, seeing their own culture and knowledge as inferior to Western ideals.

3. Decolonization of the Mind through IKS

i. Reviving Cultural Identity

• The decolonization of the mind begins with restoring pride in India's intellectual traditions. This can be done through education reforms that emphasize indigenous knowledge.

• Promoting the use of regional languages and encouraging vernacular literature will help reconnect people with their cultural roots and diverse intellectual heritage.

ii. Educational Reforms

• To decolonize education, it is necessary to incorporate Indian philosophies, sciences, and arts into school curricula.

• Interdisciplinary research centers focused on IKS should be established to promote the study of Indian thought and knowledge systems alongside Western sciences.

iii. Global Relevance of IKS

• Ayurveda and Yoga have already become popular global health practices, highlighting the universality of Indian wisdom in the modern world.

• Indian ecological practices, such as sustainable farming and water management, can provide solutions for current environmental challenges like climate change and resource depletion.

iv. Sustainability and Holistic Development

• IKS aligns with the global Sustainable Development Goals (SDGs) by emphasizing community-based resource management and ethical consumerism, promoting a holistic approach to development.

• Indian systems encourage balance between economic growth, social equity, and environmental health.

v. Philosophical Guidance

• Indian philosophies like Nyaya (logic) and Vedanta (spiritual wisdom) offer frameworks for ethical reasoning, mindfulness, and a deeper understanding of existence.

- Rediscovering this ancient wisdom can help address modern existential challenges, such as mental health, ethical dilemmas, and social conflict.

Conclusion :

The decolonization of the Indian mind is not just about reclaiming lost heritage but also about embarking on a journey of self-realization and global intellectual leadership. By reviving and integrating Indian Knowledge Systems (IKS), India can empower itself and the world, offering solutions to sustainable development, health, ethics, and environmental challenges. This process will help India rediscover its cultural roots, contribute to global discourse, and provide valuable insights for humanity's future.

Chapter 3 : Emotional Intelligence in Public Administration : A Buddhist Approach

Introduction

- Emotional Intelligence (EI) is the ability to understand and manage one's emotions and the emotions of others.

- In public administration, EI is crucial because decisions made by public administrators affect the whole society.

- It involves being self-aware, empathetic, and able to manage emotions in challenging situations.

- A Buddhist approach to EI can provide valuable insights into managing emotions in a way that promotes fairness, balance, and ethical governance.

- Buddhist teachings focus on mindfulness, emotional control, and ethical behavior, which align well with the demands of public administration.

1. Emotional Intelligence in Public Administration

i. Importance of EI in Governance

- **People-Centered Role**: Public administration deals with people and their issues, requiring administrators to engage with empathy and understanding.

- **Trust and Cooperation**: When administrators use EI, it helps build trust with the public, encourages cooperation, and ensures decisions are fair.

- **Ethical Decision-Making**: EI helps ensure that decisions are made fairly, considering the needs of all citizens, not just the interests of a few.

ii. Key Components of EI for Administrators

- **Self-Awareness**: Knowing your own emotions and recognizing when you might be influenced by them helps avoid bias and unfair decisions.

- **Empathy**: Understanding the emotions and concerns of citizens allows administrators to respond with care and fairness.

- **Emotion Regulation**: Being able to control your emotions, especially in stressful situations, helps maintain professionalism and clear judgment.

iii. Role of EI in Democratic Leadership

- **Promotes Inclusivity**: Administrators with EI are better at considering the needs of all groups in society, fostering fairness.

- **Conflict Mediation**: EI helps administrators resolve disputes by understanding different perspectives and finding common ground.

- **Building Shared Values**: Leaders with EI can unite people around common goals, ensuring collaboration for the public good.

2. Buddhist Philosophy on Emotional Intelligence

i. Understanding the Mind

- **Buddhist Teachings on Emotions**: Buddhism teaches that emotions can either be virtuous (kusala) or non-virtuous (akusala).

- These emotions affect behavior, and understanding them helps with emotional regulation.

- **Mental Afflictions**: Buddhism identifies six root mental afflictions—attachment, anger, pride, ignorance, doubt, and distorted views (klesa)—that disturb the mind and hinder clear thinking.

ii. Roots of Mental Afflictions

- These negative emotions, or klesas, can cloud judgment and lead to irrational decisions.

- Buddhist practices focus on reducing these afflictions to make better choices.

iii. Counteracting Negative Emotions

- **Mindfulness**: Being aware of your thoughts and feelings helps you recognize negative emotions before they affect your behavior.

- **Compassion and Wisdom**: Buddhist teachings emphasize cultivating compassion for others and wisdom in decision-making, helping administrators act with fairness and clarity.

3. Buddhist Practices for EI in Public Administration

i. Developing Equanimity

- **The Eight Worldly Concerns**: Buddhism teaches that people experience eight concerns: gain and loss, fame and disrespect, pleasure and pain, and praise and criticism.

- **Balancing Emotions**: By learning to remain balanced despite these fluctuating emotions, administrators can avoid being biased or making self-serving decisions.

ii. Practical Applications for Public Administrators

- **Limiting Desires**: By learning to be content with what is necessary rather than constantly seeking more, administrators make decisions based on ethics, not personal gain.

- **Introspection**: Reflecting on your actions regularly helps cultivate gratitude, humility, and awareness of areas for improvement.

- **Embracing Change**: Understanding that change is part of life and accepting it with a calm attitude prevents emotional distress in challenging situations.

4. Relevance of Buddhist Teachings to Public Administration

i. Mindful Decision-Making

- **Long-Term Focus**: Buddhist teachings encourage administrators to think beyond short-term gains and consider the long-term welfare of society.

- This helps ensure decisions are beneficial to future generations.

ii. Conflict Resolution

- **Understanding and Compassion**: Buddhist teachings emphasize compassion and understanding, helping administrators mediate conflicts effectively by addressing the needs and concerns of all parties involved.

iii. Sustainable Leadership

- **Resilience and Adaptability**: Buddhist practices help leaders remain resilient in the face of challenges and adaptable to changing situations.

- This quality is essential for dealing with the dynamic nature of public administration.

Conclusion :

Integrating Emotional Intelligence (EI) with Buddhist teachings creates a powerful approach for ethical and effective public administration. By fostering mindfulness, compassion, and equanimity, administrators can make better decisions, manage conflicts more effectively, and lead with fairness and integrity.

Chapter 4 : Sanskrit as a Knowledge System

1. Role of Mnemonic Techniques in Knowledge Preservation

- **Mnemonic Innovation**:
  - Vedic scholars developed advanced techniques to ensure that Vedic texts were passed down accurately.
  - These methods helped preserve not only the words but their precise pronunciation and meaning.
  - Techniques like Padapatha (word-by-word recitation) and Krama Patha (sequential recitation) helped maintain the exactness of texts.

- **Oral Tradition**:

  Sanskrit's oral tradition placed a strong emphasis on accuracy in pronunciation, as even a slight mistake could alter the meaning or effectiveness of the knowledge being transmitted.

2. Bhasa as a Universal Communication System

- **Dynamic Concept of Bhasa**:
  - In Indian thought, Bhasa (language) is seen as a universal and evolving system of communication, transcending specific languages like Hindi or English.

- o Rather than seeing individual languages as separate, Indian tradition reveres Bhasa as a broader concept that connects all forms of communication.

- **Bhasa as Divine**:

  In texts, language is often personified as divine—Saraswati, the goddess of knowledge, represents Bhasa, emphasizing the sacred role of language in carrying knowledge.

- **Absence of Sanskrit as a Proper Noun**:

  - o Sanskrit is not always treated as a distinct language in ancient texts.

  - o Instead, it is viewed as a refined form of Bhasa, focusing on the concept of language itself rather than a specific language name.

3. Sanskrit and Vedic Philosophy on Language

- **Unity in Diversity**:

  - o Indian philosophy sees all languages as different versions of a single system rooted in the divine idea of Bhasa.

  - o The various languages are viewed as forms of expression of the same universal truth.

- **Language and Knowledge**:

  - o Knowledge is abstract until it is conveyed through language.

  - o Sanskrit plays a key role in precisely recording and sharing complex ideas, making abstract concepts understandable and accessible.
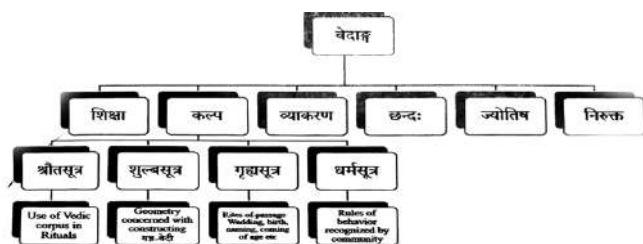
4. Limitations of Bhasa as a Carrier of Knowledge

- **Ambiguity**:

  - o **Synonyms**: Multiple words may represent the same concept, for example, jal, neer, and pani all mean water, which can lead to confusion.

  - o **Homonyms**: One word may have multiple meanings, leading to misinterpretation.

- **Temporal and Spatial Evolution**:

  - o Pronunciations, meanings, and usage of words may change over time or in different regions.

  - o For example, the word Dharma may have different meanings across cultures and time periods.

- **Risk of Knowledge Loss**:

  If language evolves too much without standardization, the true essence of the encoded knowledge can be lost or distorted.

5. Sanskrit and the Development of Vyakaran (Grammar)

- **Sabdashastra: The Science of Words**:

  - o The study of grammar (Vyakaran) began as a discipline (Vedanga) to help preserve the accurate pronunciation and interpretation of Vedic texts.

  - o **Panini's Ashtadhyayi**: Panini's work is one of the most complete and sophisticated grammar texts, serving as a blueprint for understanding Sanskrit in its finest form.

- **Methodology of Vyakaran**:

  - o Words are broken down into two parts:

    - * **Root (Dhatu)**: The core part of the word.

    - * **Suffix (Pratyaya)**: Added to give grammatical meaning.

  - o **Sutra Style**: Grammar rules are written in concise sutras (short formulas), making them easy to memorize.

  - o **Default-Exception Format**: General rules are stated first, followed by exceptions, making it clear and comprehensive.

6. Key Features of Vyakaran

- **Compact Yet Comprehensive**:

  Panini's grammar consists of 4,000 sutras, detailing every aspect of the language concisely.

- **Adaptability**:

  Though Sanskrit has evolved, Vyakaran provides a framework for understanding its timeless form and its modern adaptations.

- **Role in Refinement**:

  The word Sanskrit itself means refined, indicating that the language has been perfected through the rules of Vyakaran.

7. Sanskrit's Contribution to Knowledge Systems

- **Linguistics**:

  Panini's grammar is considered the foundation of modern linguistic studies, including phonetics, syntax, and semantics.

- **Science and Mathematics**:

  Works like Aryabhatiya (mathematics and astronomy) and Sushruta Samhita (surgery) use Sanskrit for clear and precise communication of complex ideas.

- **Philosophy and Ethics**:

  Sacred texts like the Upanishads and the Bhagavad Gita delve into deep philosophical ideas, using Sanskrit's precise vocabulary and structure to express complex concepts.

- **Influence on Indo-European Languages**:

  Sanskrit is the root language for many languages in India and Europe, preserving ancient linguistic structures and roots.

8. Adopting an Indian Perspective on Language

- **Sanskrit: Timeless, Not Static**:

  o Sanskrit is seen as a living language that continues to evolve and influence modern Indian languages while retaining its classical essence.

  o Just like the tributaries of the Ganga are seen as parts of the river itself, modern variants of Sanskrit are seen as connected to the ancient language, continuing its legacy.

- **The Sanskrit Debate: Dead or Alive?**:

  o Sanskrit is not "dead"; it is seen as a timeless variant of Bhasa that transcends the traditional idea of being alive or dead.

  o Its principles are embedded in modern Indian languages, maintaining its relevance today.

- **Knowledge Beyond Borders**:

  By emphasizing Bhasa over specific languages, Indian thought highlights the idea that communication is universal and constantly evolving, transcending linguistic boundaries.

Conclusion :

Sanskrit, as a knowledge system, is not just a language but a dynamic system of communication. It serves as the foundation for preserving and transmitting knowledge through its precise grammar (Vyakaran) and timeless structure. Sanskrit's role in linguistics, philosophy, science, and ethics has shaped global knowledge systems, making it an invaluable treasure for humanity. By viewing Sanskrit as an evolving entity rather than a static language, we can better appreciate its lasting impact on global intellectual heritage.

Chapter 5 : Cooperative Approach to Jan Aushadhi Kendras

Introduction

- The Jan Aushadhi Scheme, launched in 2008 and revamped in 2016 as Pradhan Mantri Bharatiya Jan Aushadhi Pariyojana (PMBJP), aims to provide affordable, high-quality generic medicines to the masses.

- The initiative helps reduce the financial burden of medicines, especially for rural and urban populations.

- With the establishment of the Ministry of Cooperation in 2021, Primary Agriculture Credit Societies (PACS) have been included in the scheme, giving a strong push to rural healthcare accessibility.

1. Key Features of PMBJP

- **Objective**:

  o To reduce the out-of-pocket expenses for medicines for both rural and urban populations.

  o To provide generic drugs at prices 50-90% lower than branded medicines.

- **Implementation Framework**:

  o PMBI (Pharmaceuticals and Medical Devices Bureau of India) manages the scheme with systems like SAP-based inventory management and NABL-accredited labs for ensuring quality.

- o The scheme offers over 1,800 medicines and 285 surgical devices.

- **Financial Model**:
  - o PACS earn a 20% margin on the Maximum Retail Price (MRP) of each drug.
  - o Assistance schemes offer financial support like ₹ 5 lakhs for stock purchases and ₹ 2 lakhs for IT and infrastructure setup.

- **Technology Integration**:

  The Jan Aushadhi Sugam Mobile App helps users locate stores, check medicine availability, and compare prices easily.

2. The Role of PACS in the Jan Aushadhi Scheme

- **Why PACS?**
  - o PACS have strong networks in rural areas and have been a part of India's cooperative movement for a long time.
  - o They already handle diverse activities, such as credit distribution, seed supply, and fair-price shops, making them well-suited to run Jan Aushadhi Kendras.

- **Process for PACS Participation**:
  - o **Eligibility**: PACS need to employ pharmacists with qualifications like B.Pharma or D.Pharma.
  - o **Requirements**: PACS need to submit PAN details, Aadhaar, bank details, and pay a fee of ₹ 5,000.
  - o **Operational Framework**: PACS must acquire a drug license, upload it to the Jan Aushadhi portal, use POS software for inventory, and place orders for medicines through PMBI.

- **Current Status**:
  - o Uttar Pradesh is leading with over 5,200 PACS acting as service centers.
  - o 464 PACS have been approved, and 36 PACS Kendras are already operational.

3. Advantages of the Cooperative Approach

- **Rural Outreach**:

  PACS offer last-mile connectivity, bringing affordable medicines to rural and remote areas where access to healthcare is limited.

- **Economic Empowerment**:

  Jan Aushadhi Kendras help PACS generate revenue, boosting their financial health and sustainability.

- **Enhanced Pharmaceutical Care**:

  PACS provide pharmaceutical services through qualified pharmacists who can offer healthcare advice to customers.

- **Awareness Generation**:

  PACS can educate rural populations about the benefits of using generic medicines and help change perceptions about their quality.

4. Challenges and Solutions

- **Supply Chain Gaps**:
  - o **Issue**: Frequent stockouts and delays in restocking of popular medicines.
  - o **Solution**: Improving inventory management systems and ensuring timely payments to vendors to avoid interruptions in supply.

- **Delay in Incentives**:
  - o **Issue**: Financial incentives for PACS and pharmaceutical vendors are sometimes delayed.
  - o **Solution**: Establishing a transparent and time-bound incentive disbursal mechanism to ensure timely payments.

- **Awareness and Patient Load**:
  - o **Issue**: Low public awareness about Jan Aushadhi Kendras.
  - o **Solution**: Conducting nationwide campaigns to promote the availability of generic medicines and increase footfall to these centers.

5. Way Forward

- **Improved Coordination**:

  Better collaboration between the Department of Cooperation and PMBI to tackle operational challenges and improve efficiency.

- **Infrastructure Support**:

  Expanding IT infrastructure and POS systems to ensure smooth and efficient operations in every Kendra.

- **Training Programs**:

  Providing skill development opportunities for PACS members to enhance their ability to manage Jan Aushadhi Kendras effectively.

Conclusion

The integration of PACS into the PMBJP scheme holds immense potential for improving healthcare access, especially in rural areas. By leveraging the reach and cooperative spirit of PACS, Jan Aushadhi Kendras can ensure affordable and high-quality medicines for all. Addressing operational challenges, such as supply chain issues and public awareness, will help make the scheme sustainable and achieve its goal of making healthcare more accessible and affordable for everyone.

Chapter 6 : Global Capability Centers (GCCs) : India's Leadership

Introduction

- India is a leader in the Global Capability Centers (GCCs) space, hosting over 1,800 GCCs, which represent more than 50% of the world's total GCCs.

- This remarkable number showcases India's role as a significant hub for global business operations, particularly in fields like research and development, innovation, and high-value services.

- GCCs contribute massively to the Indian economy, providing direct employment to 1.9 million people, and creating a multiplier effect that benefits local economies across India.

- The market size of GCCs has grown significantly, from $19.6 billion in 2014-15 to $60 billion in 2022-23, marking an 11.4% annual growth rate (according to NASSCOM-KPMG).

- Notably, for every $1 invested in GCCs, the output generated is $3 in economic value.

- Additionally, each job in GCCs creates about five indirect jobs in sectors such as retail, real estate, and hospitality.

1. Key Enablers for GCC Growth

- **Ease of Doing Business**:

  o The SPICe+ Framework simplifies the process of starting a company, making it faster and easier.

  o The Jan Vishwas Act (2024) removed penalties and criminal charges for many business rules, reducing complications for businesses.

- **Make in India**:

  o India allows 100% foreign ownership in many sectors, making it easier for international companies to do business here.

  o Special Economic Zones (SEZs) offer tax exemptions and other benefits to businesses, making India more attractive for investment.

- **Digital India Initiatives**:

  o Skill India Digital (2023) focuses on developing digital skills for the future, in partnership with private organizations and educational institutions.

  o India is investing in artificial intelligence (AI) and other new technologies, aiming to lead the world in these areas.

India's Global Capacity Centres
GCCs in India – From Outsourcing To Outpacing
Number of GCCs
1000 (2015), 1800 (2024), 2400 (2030 Estimated)
Market Size
$19.8 Billion (2014-16), $60 Billion (2022-23), CAGR 11.4%
Sources EY 2003 Report, JLL India, NASSCOM–KPMG 2024 Report

2. India's Competitive Advantage

- **Shift to High-Value Services**:
  - GCCs in India are now focusing on Research and Development (R&D) and Intellectual Property (IP) creation, rather than just basic services.
  - They are becoming Centers of Excellence (COEs), meaning they focus on high-level, innovative work that adds value.

- **Growth in Smaller Cities**:
  - Cities like Ahmedabad, Kochi, and Visakhapatnam are becoming popular for setting up GCCs because they offer lower costs and a good talent pool.
  - This shift helps local economies by creating jobs and driving demand for services like real estate, transportation, and retail.

- **Outperforming Global Competitors**:
  - Countries like Malaysia, Vietnam, and the Philippines focus mostly on low-cost labor and simple services.
  - India stands out because it has advanced digital infrastructure, high-speed internet, and modern office spaces, giving it an edge over these countries.

3. Economic and Social Impact of GCCs

- **Job Creation**:
  GCCs directly employ 1.9 million people in India, and every job in a GCC creates five indirect jobs in other areas like retail and hospitality.

- **Innovation Ecosystems**:
  GCCs work with startups, universities, and research centers, helping create innovative solutions that mix global knowledge with local needs.

- **Infrastructure Development**:
  The rise of GCCs in smaller cities has improved infrastructure, boosting the local economy and improving services like transportation and housing.

4. Challenges and Opportunities

- **Challenges**:
  - **Talent Retention**: There is a lot of global competition for skilled workers, which makes it hard to keep top talent in India.
  - **Infrastructure Gaps**: Some smaller cities still lack the infrastructure needed to support GCCs fully.
  - **Policy Alignment**: India needs to continuously update its policies to meet the changing needs of global businesses.

- **Opportunities**:
  - **Skill Development**: India should focus on developing more digital and technological skills to keep up with the changing job market.
  - **Smart Cities**: Investing in smart cities with better technology and connectivity could help support the growth of GCCs.
  - **Policy Updates**: Regularly updating policies with input from businesses will help India stay competitive on the global stage.

Conclusion :

India's GCC ecosystem shows how the country is leading in the global economy. By having a skilled workforce, modern digital infrastructure, and smart government policies, India has become a global hub for innovation and business. This leadership helps drive economic growth, create jobs, and improve infrastructure, making India an essential part of the global economy.

❑❑❑

Persons in News

Indonesian President Prabowo Subianto : Chief Guest for Republic Day 2025

Indonesian President Prabowo Subianto will be the chief guest at India's 76th Republic Day on January 26, 2025, marking his first official visit to India. The visit aims to strengthen the growing ties between India and Indonesia, which have evolved into a Comprehensive Strategic Partnership. Both nations will discuss boosting cooperation in economic, cultural, and strategic areas, with a focus on mutual growth, regional stability, and promoting peace and sustainable development in the Indo-Pacific region.

South Korea Arrests Impeached President Yoon Suk Yeol

On January 15, 2025, South Korea arrested impeached President Yoon Suk Yeol on charges of insurrection, following his declaration of martial law in December 2024, which led to his impeachment and sparked political unrest. Yoon voluntarily surrendered to avoid violence during the arrest, which involved over 3,000 police officers. His legal team argues the arrest is unlawful, and authorities now have 48 hours to decide on extending his detention. Pro-Yoon protests erupted near his residence, reflecting deep political divisions. The Constitutional Court is still deciding whether to permanently remove or reinstate Yoon following his impeachment.

V Narayanan

- On January 7, 2025, V Narayanan was appointed as the new Chairman of ISRO (Indian Space Research Organisation) and Secretary of the Department of Space, starting his role on January 14, 2025. He replaces S Somanath and brings a lot of experience in rocket technology and space missions at an important time for India's space program.

- Narayanan, from Nagercoil, Tamil Nadu, studied mechanical engineering and aerospace engineering. He joined ISRO in 1984 and has held key positions, including Director of the Liquid Propulsion Systems Centre (LPSC). He has led important projects like the GSLV Mk III, Chandrayaan missions, and Gaganyaan, which are key to ISRO's success.

- He has received several awards for his work, including the Gold Medal from the Astronautical Society of India and an Honorary Doctorate from Sathyabama University. Under his leadership, ISRO plans to continue developing satellite technology, human space missions, and work with other countries on space projects.

President Joe Biden

- On January 5, 2025, President Joe Biden awarded the Presidential Medal of Freedom to 19 individuals at a ceremony in the White House, honoring their contributions in areas like politics, entertainment, and sports. Among the recipients were Hillary Clinton, philanthropist George Soros, and the posthumous award for Robert F. Kennedy. Other notable figures included Lionel Messi, Jane Goodall, and Denzel Washington. Messi could not attend due to prior commitments.

- The Presidential Medal of Freedom is the highest civilian award in the U.S., given to people who have made significant contributions to the country, world peace, or culture. Established in 1945 by President Truman and renamed in 1963 by President Kennedy, the medal features a white star with gold eagles surrounding it.

- The President decides who gets the award, often based on recommendations or personal choice. This selection process is broad and informal. Biden's recent choices reflect support for the political and cultural status quo, including awarding Republican leader Mitt Romney, a critic of Donald Trump.

- The medal has been given to influential figures such as Oprah Winfrey, Bill Gates, and Muhammad Ali. It can also be awarded to non-U.S. citizens and military personnel. The medal can be given "with distinction," a higher honor at the President's discretion.

Dr. K.S. Manilal

- Dr. K.S. Manilal, a respected botanist, passed away on January 1, 2025, at the age of 86 in Thrissur, Kerala. He was known for his extensive work on the ancient botanical manuscript Hortus Malabaricus, which documents the medicinal plants of Kerala. Dr. Manilal dedicated over 35 years to researching, translating, and annotating this 17th-century work, making significant contributions to the understanding of Kerala's plant biodiversity.

- Born in Kerala, Dr. Manilal earned his doctorate from Sagar University and began his academic career at Kerala University in 1964. He authored over 200 research papers and 11 books, including Flora of Calicut and Flora of Silent Valley. His work led to the discovery of 19 new plant species, with four named after him.

- He was a leader in the botanical community, serving as the founding president of the Indian Association for Angiosperm Taxonomy and as chief editor of its journal, Reedia. He also chaired the Botanical Society of India. Dr. Manilal received several awards, including the Padma Shri in 2020 and the Officer of the Order of Orange-Nassau from Queen Beatrix of the Netherlands in 2012.

- After retiring, he founded the Centre for Research in Indigenous Knowledge, Science, and Culture (CRIKSC), which continues to promote indigenous knowledge and culture through its journal Samagra. Dr. Manilal's legacy lives on through his work and the many students he inspired.

❑❑❑

Current Affairs MCQ's

1. Which of these countries have not developed the Space Docking Technology?
   (A) USA
   (B) Russia
   (C) China
   (D) France
   Ans. (D)

2. The Space Docking technology is essential for which of the following?
   1. Space Stations
   2. Interplanetary missions
   3. Sample bring back missions
   (A) Only 1
   (B) Only 1 & 2
   (C) Only 1 & 3
   (D) All of the above
   Ans. (D)

3. Consider the following statements and mark the correct one:
   1. The PM Internship scheme aims at providing internship to 1 crore youth in private companies over the next 5 years.
   2. The PM internship scheme also aims to bridge the skill gap.
   (A) Only 1
   (B) Only 2
   (C) Both 1 & 2
   (D) Neither 1 nor 2
   Ans. (C)

4. Who of the following is not eligible for benefits under PM Internship scheme:
   1. Any graduate.
   2. Any person whose family income is exceeding Rs. 8 Lakh per annum for FY 24.
   (A) Only 1
   (B) Only 2
   (C) Both 1 & 2
   (D) Neither 1 nor 2
   Ans. (B)

5. How is Norovirus spread from person to person?
   1. By eating contaminated food.
   2. By coming in close contact with the infected person.
   (A) Only 1
   (B) Only 2
   (C) Both 1 & 2
   (D) Neither 1 nor 2
   Ans. (C)

6. Consider the following statements and mark the correct one:
   1. The Maha Kumbh is an event that happens once in 12 years.
   2. The purpose of this event is the attainment of salvation (moksha) through holy dips in sacred rivers.
   (A) Only 1
   (B) Only 2
   (C) Both 1 & 2
   (D) Neither 1 nor 2
   Ans. (C)

7. Consider the following pairs and mark how many of them are correct?

Place	River
1. Haridwar	Ganga
2. Nashik	Shipra
3. Ujjain	Godavari

   (A) Only 1 pair is correctly matched
   (B) Only 2 pairs are correctly matched
   (C) All the pairs are correctly matched
   (D) None of the pairs are correctly matched
   Ans. (A)

8. Consider the following statements and mark the correct one:
   1. Countries with higher government restrictions tend to have higher levels of social hostilities.
   2. Countries with lower scores on GRI & SHI indices generally have fewer conflicts related to religion.
   (A) Only 1
   (B) Only 2
   (C) Both 1 & 2
   (D) Neither 1 nor 2
   Ans. (C)

9. Which of these pairs is not matched correctly?
   (A) Jawaharlal Nehru : Shanti Van
   (B) Rajiv Gandhi : Vijay Ghat
   (C) Indira Gandhi : Shakti Sthal
   (D) Charan Singh : Kisan Ghat
   Ans. (B)

10. Consider the following statements wrt UDISE+ and mark the correct one:
    1. The overall school enrollment is on a decline since 2018-19.
    2. The enrollment among girls has declined more than the boys in percentage terms.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (D)

11. Consider the following statements and mark the correct one.
    1. Tobacco Board of India is a statutory body.
    2. The job of the board is regulating tobacco farming and ensuring fair and remunerative prices for tobacco farmers.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (C)

12. Which country is the largest producer of Tobacco in the world?
    (A) India
    (B) China
    (C) USA
    (D) Brazil
    Ans. (B)

13. Consider the following statements and mark how many of them are correct?
    1. DAP is not soluble in water.
    2. DAP contains 46% Phosphate & 18% Nitrogen.
    3. DAP makes the soil slightly acidic.
    (A) Only 1 statement is correct.
    (B) Only 2 statements are correct
    (C) All the statements are correct.
    (D) None of the statements are correct.
    Ans. (A)

14. In which year was the Nutrient Based Subsidy Scheme of the government launched?
    (A) 2014
    (B) 2019
    (C) 2025
    (D) None of the above
    Ans. (D)

15. Consider the following statements and mark the correct one:
    1. The GEAC is the apex technical body responsible for regulating genetically modified (GM) seeds and crops in India.
    2. The GEAC operates under the administrative control of Ministry of Science & Technology.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (A)

16. Which of these GM Crop is available for commercial cultivation in India presently?
    (A) Mustard
    (B) Cotton
    (C) Brinjal
    (D) Both A & B
    Ans. (B)

17. Which of the following is/are the objectives of RCIC?
    1. Address labour shortages.
    2. Promote economic development
    3. Boost population growth in underrepresented areas.
    (A) Only 1 & 3
    (B) Only 1 & 2
    (C) Only 2 & 3
    (D) All of the above
    Ans. (D)

18. Which of these can be the potential benefits of the RCIC scheme?
    1. Easy access to Permanent Residency.
    2. It can lead to long term Residency.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (C)

19. Consider the following statements and mark the correct one:
    1. The Three Gorges Dam is constructed on the Yarlung Tsangpo river.
    2. The Three Gorges Dam is the largest dam of the world.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (B)

20. On which of the following rivers is 'The Great Bend' located?
    (A) Yarlung Tsangpo
    (B) Yangtze River
    (C) Yellow River
    (D) Mekong River
    Ans. (A)

21. Consider the following statements wrt Open Digital Kit & mark the correct one:
    1. It is a digital tool adopted to increase accountability of the government.
    2. It is available with multilingual capabilities.
    3. It takes into account beneficiaries surveys.
    (A) Only 1
    (B) Only 1 & 2
    (C) Only 2 & 3
    (D) All of the above.
    Ans. (D)

22. Which of these can be the symptoms of HMPV?
    1. Fever
    2. Runny nose
    3. Diarrhea
    4. Wheezing.
    (A) Only 1 & 2
    (B) Only 1,2 & 4
    (C) Only 1,2 & 3
    (D) All of the above
    Ans. (B)

23. Consider the following statements wrt Abdali missile and mark the correct one:
    1. Abdali missiles are short range ballistic missiles.
    2. They are also known as Hatf 2.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (C)

24. Which ministry has launched two new categories of visas for foreign students to study in India?
    (A) Ministry of Education
    (B) Ministry of Home Affairs
    (C) Ministry of External Affairs
    (D) None of the above
    Ans. (B)z

25. Consider the following statements and mark how many of them are correct?
    1. The e student visa facility is extended to the dependants of the foreign students who will be studying in Indian Universities.
    2. The e student x visa will be available to international students who have been admitted to full-time undergraduate, postgraduate, PhD, or other formal programs at recognized educational institutions in India.
    3. The Study in India portal is managed by Ministry of Education.
    (A) Only 1 statement is correct
    (B) Only 2 statements are correct
    (C) All the statements are correct
    (D) None of the statements are correct
    Ans. (A)

26. Consider the following statements and mark the correct one:
    1. The constitution of India mandates minimum 33% reservation of seats for women in Panchayats.
    2. The Panchayat se Parliament tak initiative aims to connect grassroot women leaders with the legislative processes.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (C)

27. Consider the following features of Landslide Dams and mark the correct ones:
    1. Landslide dams can create temporary lakes.
    2. Landslide dams can cause Landslide Lake Outburst floods.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (C)

28. Which of these lakes is an example of Landslide Dam lake?
    (A) Sat Tal
    (B) Nainital
    (C) Roopkund Lake
    (D) Gohna Tal
    Ans. (D)

29. Which of these can be the reasons for Landslide Dams formation?
    1. Deforestation.
    2. Climate Change
    3. Road construction
    (A) Only 2
    (B) Only 1 & 2
    (C) Only 1 & 3
    (D) All of the above
    Ans. (D)

30. Which organisation in India serves as the National Central Bureau for INTERPOL in India?
    (A) National Investigation Agency
    (B) Central Bureau of Investigation
    (C) Central Vigilance Commission
    (D) Indian Army
    Ans. (B)

31. Which of these are the objectives of BHARAT POL?
    1. Faster access to international assistance.
    2. Improved real-time coordination between local law enforcement agencies
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (C)

32. Consider the following objectives of the Product Linked Incentive Scheme and mark the correct one:
    1. Achieve Atma Nirbharta.
    2. Increase production capacities.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (C)

33. Which steel grade is used in the Power Transformers?
    (A) Cold-Rolled Grain-Oriented Steel (CRGO)
    (B) High Strength/Wear-resistant Steel
    (C) Electrical Steels
    (D) None of the above
    Ans. (A)

34. Which of these countries is a founding member of BRICS?
    (A) UAE
    (B) South Africa
    (C) Ethiopia
    (D) None of the above
    Ans. (D)

35. Which of the following can be the consequences of Indonesia joining BRICS?
    1. Increased trade with BRICS countries.
    2. Increased access to financing.
    3. Increasing Palm Oil exports from Indonesia
    (A) Only 1 & 2
    (B) Only 1
    (C) Only 2 & 3
    (D) All of the above.
    Ans. (D)

36. Which of these winds are associated with the ongoing wildfires in USA?
    (A) Chinook
    (B) Santa Ana winds
    (C) Norther
    (D) Sirocco
    Ans. (B)

37. Which of these factors are responsible for the ongoing wildfires in California region?

1. Increased intensity of offshore local winds
2. Climate Change
3. Wet winter

(A) Only 1 & 2
(B) Only 2
(C) Only 1
(D) All of the above

Ans. (A)

38. Which chemical composition is found in Pink Fire Retardants?

(A) Ammonium Nitrate
(B) Ammonium
(C) Nitrogen
(D) Ammonium Phosphate

Ans. (D)

39. Consider the following statements about INTERPOL and mark the correct one:

1. INTERPOL is a body under the UN.
2. It is headquartered in Paris.

(A) Only 1
(B) Only 2
(C) Both 1 & 2
(D) Neither 1 nor 2

Ans. (D)

40. Consider the following statements wrt Silver Notice and mark the correct one:

1. The Silver Notice is a new tool introduced by Interpol to locate assets linked to criminal activities.
2. Italy is the first country to request the issue of Silver Notice.

(A) Only 1
(B) Only 2
(C) Both 1 & 2
(D) Neither 1 nor 2

Ans. (C)

41. Which of these is a criteria for beaches to be recognised as Blue Flag Beach?

1. Environment Sustainability
2. Safety measures on the beach
3. Water Quality

(A) Only 3
(B) Only 1 & 3
(C) Only 1 & 2
(D) All of the above

Ans. (D)

42. Consider the following pairs and mark how many of them are correctly matched:

Beach	State
1. Radhanagar	Andaman & Nicobar Island
2. Kovalam	Kerala
3. Eden	Tamil Nadu

(A) Only 1 pair is correctly matched.
(B) Only 2 pairs are correctly matched.
(C) All the pairs are correctly matched.
(D) None of the pairs are correctly matched.

Ans. (A)

43. In which of these domains can Big Data be used?

1. Traffic Management
2. Urban Planning
3. Healthcare

(A) Only 2 & 3
(B) Only 3
(C) Only 1 & 2
(D) All of the above

Ans. (D)

44. Consider the following statement wrt UN CEBD and mark the correct one:

1. It was formed in 2014.
2. The advisory board of UN CEBD handles day to day affairs of UN CEBD.

(A) Only 1
(B) Only 2
(C) Both 1 & 2
(D) Neither 1 nor 2

Ans. (A)

45. Consider the following statements and mark the correct one:
  1. The Punatsangchhu-II Hydroelectric Project is situated in the Wangdue district of Eastern Bhutan.
  2. The Punatsangchhu-II Hydroelectric Project is one of the largest HEP installed by India in bhutan.
  (A) Only 1
  (B) Only 2
  (C) Both 1 & 2
  (D) Neither 1 nor 2
  Ans. (B)

46. Consider the following statements about BHEL and mark the correct one:
  1. BHEL is a state run company involved in design, engineering, manufacturing, construction, testing, and servicing of products and services for the core sectors of the economy.
  2. BHEL has 51% govt. shareholding.
  (A) Only 1
  (B) Only 2
  (C) Both 1 & 2
  (D) Neither 1 nor 2
  Ans. (A)

47. Which European nationality colonised Sri Lanka before the Britishers?
  (A) French
  (B) Portuguese
  (C) Dutch
  (D) Spanish
  Ans. (C)

48. Arrange these geographical entities from North to South
  1. Palk Strait
  2. Mannar Island
  3. Delft Island
  (A) 1>2>3
  (B) 1>3>2
  (C) 2>3>1
  (D) 3>1>2
  Ans. (B)

49. Which of the following are risks to economic growth of the Indian Economy in FY 25 & FY 26?
  1. Geopolitical Tensions
  2. El Nino
  3. Climate Change
  (A) Only 1
  (B) Only 3
  (C) Only 1 & 3
  (D) All of the above
  Ans. (C)

50. Consider the following features of Nag Mark 2 missile and mark the correct one:
  1. It is anti tank guided missile.
  2. It is in the Fire & Forget missile.
  (A) Only 1
  (B) Only 2
  (C) Both 1 & 2
  (D) Neither 1 nor 2
  Ans. (C)

51. Which of these is a defining feature of Nag Missile Carrier (NAMICA) Version 2?
  (A) It enables launching of Nag Mark 2 from fighter jets.
  (B) It enables launching of Nag Mark 2 from naval ships.
  (C) It enables launching the missile from a mobile platform that allows the missile to be launched quickly and efficiently.
  (D) None of the above
  Ans. (C)

52. Which of these infrastructure projects is not built by India?
  (A) Garland Road
  (B) Zaranj Delaram Highway
  (C) Parliament House of Afghanistan
  (D) Salma Dam
  Ans. (A)

53. Which of these were the reasons for India not recognising Taliban?
  1. Extreme interpretation of Islamic law.
  2. Oppression of women
  3. Their links to terrorist organizations.
  (A) Only 3
  (B) Only 1 & 3
  (C) Only 2 & 3
  (D) All of the above
  Ans. (D)

54. Diego Garcia is under administrative control of which country?
   (A) USA
   (B) UK
   (C) Mauritius
   (D) None of the above
   Ans. (B)

55. Arrange these islands in the Indian Ocean Region completely lie south of equator?
   1. Mauritius   2. Chagos Archipelago
   3. Seychelles   4. Madagascar
   (A) Only 2 & 3   (B) Only 3 & 4
   (C) Only 1 & 4   (D) All of these
   Ans. (D)

56. Which of the following is/are the applications of Nano Catalyst?
   1. Pharma industry
   2. Cleaning up pollutants in the environment
   3. Electronics
   (A) Only 2 & 3
   (B) Only 3
   (C) Only 2
   (D) All of the above
   Ans. (D)

57. Recently EmpowHer Biz initiative was in news. Which organisation launched it?
   (A) Ministry of Social Justice
   (B) Confederation of Indian Industry
   (C) NITI Aayog
   (D) None of the above
   Ans. (C)

58. Consider the following statements and mark the correct one:
   1. The EmpowHER Biz initiative aims to empower women entrepreneurs by providing a comprehensive support system to help them establish themselves in the retail business.
   2. The focus is on providing mentorship, training, and access to digital tools, financial literacy, and business development resources.
   (A) Only 1
   (B) Only 2
   (C) Both 1 & 2
   (D) Neither 1 nor 2
   Ans. (C)

59. Which of these is a possibility of outcomes of discovery of dark oxygen?
   1. Possibility of extraterrestrial life.
   2. Microbial proliferation.
   (A) Only 1
   (B) Only 2
   (C) Both 1 & 2
   (D) neither 1 nor 2
   Ans. (C)

60. Consider the following statements wrt Dark Oxygen & mark the correct one:
   1. Dark Oxygen is produced by some varieties of plants in absence of light.
   2. Discovery of Dark Oxygen has posed questions about the generation of Oxygen by plants in presence of sunlight.
   (A) Only 1   (B) Only 2
   (C) Both 1 & 2   (D) Neither 1 nor 2
   Ans. (B)

61. Consider the following statements wrt Planet parade and mark the correct one:
   1. A planet parade occurs when several planets in our solar system are visible in the night sky at the same time.
   2. It is an official term in astronomy.
   (A) Only 1   (B) Only 2
   (C) Both 1 & 2   (D) Neither 1 nor 2
   Ans. (A)

62. Consider the following statements and mark the correct one:
   1. Planet parade is an annual phenomenon.
   2. Planet Parade is a one day phenomenon.
   (A) Only 1
   (B) Only 2
   (C) Both 1 & 2
   (D) Neither 1 nor 2
   Ans. (D)

63. Which of these countries' Navy is not participating in the La Perouse naval exercise?
   (A) Australia
   (B) UK
   (C) Germany
   (D) Indonesia
   Ans. (C)

64. Which of the following is a criteria for an entity to be labelled as a startup in India?
    1. Should be a private entity.
    2. Turnover less than 100 crore.
    3. Valuation less than 1 bn USD.
    4. Company's age should be minimum 10 years.
    (A) Only 1,2 & 4
    (B) Only 1 & 2
    (C) Only 1 & 3
    (D) All of the above
    Ans. (B)

65. Consider the following statements about Fund of Funds for Startups and mark the correct one:
    1. The Fund of Fund for Startups is managed by SEBI.
    2. The Fund of Funds for Startups was inaugurated in 2016 with a corpus of Rs. 10000 crore.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (B)

66. Which organisation releases World Employment and Social Outlook Report?
    (A) International Labour Organisation (ILO)
    (B) World Economic Forum
    (C) ILO & World Bank
    (D) None of the above
    Ans. (A)

67. Consider the following statements and mark the correct one:
    1. World Economic Forum is headquartered in Davos.
    2. World Economic Forum is an NGO funded by European companies.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (D)

68. Consider the following statements wrt UGC Act, 1956 & mark the correct one:
    1. The UGC Act empowers the UGC to set standards for appointments.
    2. The UGC Act makes UGC responsible for allocating funds to universities for their development.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (B)

69. Which of these is not mentioned in the UGC Act, 1956?
    (A) Setting standards for Research
    (B) Financing
    (C) Appointment of Vice Chancellor
    (D) All of the above are mentioned in the Act.
    Ans. (C)

70. Which of these countries is not part of the India Middle East Europe Economic Corridor (IMEC)?
    (A) Jordan
    (B) Israel
    (C) UK
    (D) Italy
    Ans. (C)

71. Consider the following statements and mark the correct one:
    1. IMEC is a multimodal transport corridor connecting Asia Africa & Europe.
    2. IMEC was announced under India's G20 leadership in 2022.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (B)

72. Consider the following statements and mark the correct one:
    1. Pralay is a short range ballistic missile.
    2. It can be launched from a mobile missile launcher.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (B)

73. In which border has the Pralay missile been deployed?
    (A) Indo Bangladesh
    (B) Indo Nepal
    (C) Indo China
    (D) Indo Myanmar
    Ans. (C)

74. Which of these places in Odisha is not part of the Diamond Triangle?
    (A) Ratnagiri   (B) Udaygiri
    (C) Lalitgiri   (D) Puri
    Ans. (D)

75. Recently, Buddha's head & palm has been excavated from Ratnagiri. What does it signify?
    1. Odisha as a major Buddhist center in ancient India.
    2. Links with Southeast Asia
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (C)

76. Consider the following statements wrt National Voters Day and mark the correct one:
    1. The day is being celebrated in India since 2014.
    2. Election Commission of India was established on this day (25 January) in 1950.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (B)

77. Consider the following statements and mark the correct ones:
    1. In India, there are more women than men in the electoral roll.
    2. India has the highest voter base in the world.
    3. More than 50% of voters in India are youth (18-29 years of age)
    (A) Only 1 & 2
    (B) Only 2 & 3
    (C) Only 2
    (D) All of the above.
    Ans. (C)

78. Which of these are the applications of Hydrographic surveys?
    1. Establishing sea routes.
    2. Mining resources from sea bed
    3. Laying down communication infrastructure.
    (A) Only 1
    (B) Only 2 & 3
    (C) Only 1 & 3
    (D) All of the above.
    Ans. (D)

79. In which city is the Organisation for Joint Armament Cooperation (OCCAR) based?
    (A) Bonn   (B) Paris
    (C) Taufkirchen   (D) None of these
    Ans. (A)

80. Which country has produced the Heron UAV?
    (A) USA   (B) Germany
    (C) Russia   (D) Israel
    Ans. (D)

81. Consider the following statements and mark the correct one:
    1. The citizenship by birth is not mentioned in the constitution of the USA.
    2. According to the US laws, any person born in USA to American citizens will be getting citizenship by birth.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) neither 1 nor 2
    Ans. (D)

82. Frequently H1B visa is in news. This visa belongs to which category?

   (A) Temporary Work Visa

   (B) Tourist Visa

   (C) Spouse Visa

   (D) None of the above

   Ans. (A)

83. Consider the following statements and mark the correct one:

   1. India grants unrestricted birthright citizenship.

   2. The constitution of India mentions about citizenship by birth.

   (A) Only 1

   (B) Only 2

   (C) Both 1 & 2

   (D) Neither 1 nor 2

   Ans. (B)

84. What is common between India & USA citizenship laws wrt citizenship by birth?

   (A) Children of illegal immigrants are granted citizenship by birth.

   (B) Children born to diplomats are not given citizenship by birth.

   (C) Citizenship by birth post commencement of the respective constitutions is mentioned in their Constitutions.

   (D) None of the above

   Ans. (B)

85. Consider the following statements and mark the correct one:

   1. Blue Carbon is the carbon stored in marine ecosystems.

   2. Marine Ecosystems can store more carbon than terrestrial ecosystems.

   (A) Only 1

   (B) Only 2

   (C) Both 1 & 2

   (D) Neither 1 nor 2

   Ans. (C)

86. How many of these can be the impacts of mangrove ecosystem restoration?

   1. Enhanced Tourism

   2. Increased fish yields.

   3. Achieving Net Zero target will be easier.

   (A) Only 1 of these.

   (B) Only 2 of these.

   (C) All of these.

   (D) None of these

   Ans. (C)

87. Ayeyarwady Delta, often seen in news lies in which country?

   (A) China

   (B) Laos

   (C) Thailand

   (D) Myanmar

   Ans. (D)

88. Where was the inaugural summit of Non Alignment Movement hosted?

   (A) Bandung

   (B) Belgrade

   (C) New Delhi

   (D) Accra

   Ans. (B)

89. Which of these countries is not a member of East Asia Summit?

   (A) Australia

   (B) Indonesia

   (C) India

   (D) All of the above are members of East Asia Summit.

   Ans. (D)

90. Which cities in India have been accredited as the Wetland cities?

   (A) Udaipur & Bharatpur

   (B) Udaipur & Ujjain

   (C) Udaipur & Indore

   (D) None of the above

   Ans. (C)

91. Which state in India has the highest number of Ramsar sites in India?

    (A) Gujarat

    (B) Odisha

    (C) West Bengal

    (D) None of the above

    Ans. (D)

92. A pilgrim going for the Kailash Mansarovar Yatra from India to China passes through which pass?

    (A) Khardung La

    (B) Jelep La

    (C) Nathu La

    (D) Baralacha La

    Ans. (C)

93. Which of these rivers do not originate from the Kailash Mansarovar?

    (A) Yarlung Tsangpo

    (B) Indus

    (C) Yangtse

    (D) Sutlej

    Ans. (C)

94. Consider the following statements and mark the correct option:

    Assertion (A): Deepseek is more cost effective as compared to Open AI.

    Reasoning (R): DeepSeek uses of older-generation hardware.

    (A) Both A & R are true and R is the correct explanation of A.

    (B) Both A & R are true and R is not the correct explanation of A.

    (C) A is true R is false

    (D) A is false R is true

    Ans. (C)

95. Which of these are correctly matched?

    1. DeepSeek Coder: A 67-billion-parameter model intended to compete with other large language models.

    2. DeepSeek LLM: A model designed for coding-related tasks.

    (A) Only 1

    (B) Only 2

    (C) Both 1 & 2

    (D) Neither 1 nor 2

    Ans. (D)

96. Which organisation publishes the ASER Report?

    (A) Ministry of Education

    (B) PRATHAM NGO

    (C) Ministry of Science

    (D) Teach India Foundation.

    Ans. (B)

97. Consider the following statements wrt ASER and mark the correct one:

    1. It is a survey related to education at the primary level only.

    2. It is an annual survey.

    (A) Only 1

    (B) Only 2

    (C) Both 1 & 2

    (D) Neither 1 nor 2

    Ans. (D)

98. What is the aim of NIPUN Bharat?

    (A) Increasing access to vocational studies

    (B) Skill Development at school level

    (C) Improving foundational literacy & numeracy

    (D) None of the above

    Ans. (C)

❏❏❏

VAJIRAO & REDDY INSTITUTE

India's Top Potential Training Institute for IAS

SINCE-1989
36 Years of Excellence

Once again Vajirao & Reddy IAS Creates a New History !...

1 Rank — ADITYA SRIVASTAVA

2 Rank — ANIMESH PRADHAN

4 Rank — PK SIDHARTH

6 Rank — SRISHTI DABAS

7 Rank — ANMOL RATHORE

8 Rank — ASHISH KUMAR

13 Rank — MEDHA ANAND

14 Rank — SHAURYA ARORA

15 Rank — KUNAL RASTOGI

16 Rank — AYAN JAIN

17 Rank — SWATI SHARMA

20 Rank — AKASH VERMA

21 Rank — PURURAJ SINGH

22 Rank — ANSHUL BHATT

AIR 23 — SAURABH SHARMA
AIR 24 — PRAJNANANDAN GIRI
AIR 25 — RITIKA VERMA
AIR 26 — RUPAL RANA
AIR 27 — NANDALA SAIKIRAN
AIR 28 — PAWAN KUMAR GOEL
AIR 29 — SALONI CHHABRA
AIR 30 — GURLEEN
AIR 31 — VISHNU SASIKUMAR
AIR 34 — ZUFISHAN HAQUE
AIR 35 — ABHINAV JAIN

AIR 36 — AYUSHI PRADHAN
AIR 38 — ANIMESH VERMA
AIR 39 — DEEPTI ROHILLA
AIR 40 — ARCHANA P P
AIR 41 — T BHUVANESHRAM
AIR 42 — KHODE SAMEER PRAKASH
AIR 43 — THAKUR ANJALI
AIR 44 — AKANCHHA SINGH
AIR 46 — BHAWESH
AIR 47 — BASANT SINGH
AIR 48 — ANSHUL HINDAL
AIR 50 — K N CHANDANA JAHNAVI
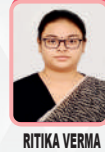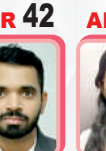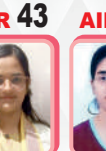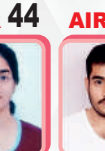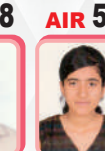
Begin your IAS preparation with "Vajirao & Reddy Institute" having "35 years of Excellence" and add your name to the List of UPSC Top Rank Holders

To avoid waiting Grab Token Number

Admission Open
New Batch ▶
Offline & Online LIVE

11 MONTH COMPLETE COURSE PROGRAMME
Morning/Evening Batch :

3 YEAR FOUNDATION COURSE (For College Students)
Morning/Evening Batch :

15 MONTH WEEKEND COURSE PROGRAMME
Morning/Evening Batch :

For New Batch Registration Scan QR Code
Or
visit : **www.vajiraoinstitute.com**

Salient Features

* Each part of General Studies covered in continuous classes.
* Facility to every students revise offline classes on Vajirao learning app.
* Maximum opportunity for students to interact with the faculty.
* Exclusive Study material (Printed Notes & Current Affairs Assignment).
* Vajirao IAS Pre-cum-Mains GS 18 Set Printed Notes.
* Mains Exam Test Series questions according with UPSC pattern with through coverage of the entire syllabus, detailed model answers.
* Emphasis on answer writing practice.

* Senior Expert faculty.
* Subject wise Test.
* Dedicated Current Affairs classes.
* Rich library for every student.
* CRUX of NCERT 10 Set Printed Notes.
* Monthly Current Affairs Magazine.
* Subject Oriented Mentorship Program.
* Hostel facility available in Campus.

19/1A Shakti Nagar, Near Delhi University Campus Nagia Park Delhi **011-42547314, 89-8888-5050, 89-8888-6060**