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The New Learning Mantra

A still life composition of historical artifacts. In the foreground, a brown leather flask with a metal cap stands on the left. A rolled-up scroll in reddish-brown leather lies horizontally in the middle ground. Below the scroll, an old map with a grid is spread out. A metal ring and a chain are scattered on the map. In the background, a sword with a dark hilt and a scabbard is visible. The background wall has a patterned wallpaper.

HISTORY- ARTS AND CULTURE



**BODA TYOHAR FESTIVAL CELEBRATES
HATTI CULTURE**

FIRST SHAHI SNAN OF MAHAKUMBH 2025

**BHASHINI REVOLUTIONISES MAHAKUMBH
EXPERIENCE**

KASHI TAMIL SANGAMAM 3.0 LAUNCH

KUKA MARTYRS' DAY

ETIKOPPAKA BOMMALU



BODA TYOHAR FESTIVAL CELEBRATES HATTI CULTURE

The Boda Tyohar festival, celebrated by the Hatti tribes in Himachal Pradesh's Trans-Giri region, commenced with vibrant enthusiasm. This festival is the largest annual celebration for the Hatti community, which consists of approximately three lakh members. The festival, known locally as Magho ko Tyohar, spans the entire month of Magha and is marked by three distinct mini-festivals, each with unique customs and rituals.

- **About Boda Tyohar:** Boda Tyohar kicked off on the eve of Posh Dwadashi, which fell on a Friday this year. The festival holds immense cultural significance for the Hatti community, showcasing their rich traditions and communal spirit. The celebrations are deeply rooted in centuries-old customs, denoting the importance of family and community bonds.
- **Bodhto – The Beginning of Festivities:** The first day of the festival is known as Bodhto. On this day, families prepare traditional dishes such as Pude, Bedoli, Patanday, Dhroti, and Gudoli. These dishes are offered to the deities as a mark of respect and gratitude. The community comes together to celebrate, reinforcing their cultural identity and shared heritage.
- **Bhatioj – Community Gatherings:** The following day is called Bhatioj. Celebrations commence at the Sanjha Angan, a communal courtyard typically owned by the village head, known as Siyana. Villagers gather at temples dedicated to Kul Devtas, including Shirgul Maharaj and Mahasu Maharaj. After a communal meal, the evening

is filled with singing and dancing, which continues until dawn. This day puts stress on the vital role of women in Hatti culture, as they participate actively in the festivities.

- **Saje ka Duna – Gifts and Traditions:** On the morning after Bhatioj, men visit their married sisters, bringing gifts of meat, jaggery, and wheat flour, collectively known as Saje ka Duna. This exchange strengthens familial ties. The sisters visit their parental homes to collect their share of the meat, reinforcing the importance of family connections during the festival.
- **Geet – Musical Celebrations:** Married women join in the Geet celebrations, where local composers present newly composed songs. This musical aspect of the festival marks the cultural creativity of the Hatti community. The songs often reflect the themes of love, family, and nature, enriching the festival's atmosphere.
- **Khoda Festival – The Grand Feast:** The festival reaches its zenith on the eighth day with the celebration of Khoda. This event is marked by inviting friends and family for a grand feast. The communal aspect of dining is central to Hatti culture, encouraging unity and togetherness among the community members.
- **Boidoot – Continuing the Tradition:** Following the Khoda festival, the Boidoot celebrations begin, lasting until the end of the Magha month. During this time, every household invites family members and close relatives for communal dinners at least once throughout the month. This tradition emphasises hospitality and the importance of maintaining family connections

FIRST SHAHI SNAN OF MAHAKUMBH 2025



The Mahakumbh Mela in Prayagraj commenced with its first amrit snan on January 14, 2025. This ritual bath, known as shahi snan, marks event in Hindu traditions and draws thousands of devotees. The Kumbh Mela occurs every 12 years at four sacred locations, with Prayagraj being one of them. The first dip is reserved for sadhus from various akhadaas, who are considered the royalty of this religious gathering.

- **About Amrit Snan:** Amrit snan, or royal bath, is a ritualistic dip in holy rivers during the Kumbh Mela. It is believed that bathing during this period washes away sins. The term 'amrit' signifies the nectar of immortality, which is central to Hindu beliefs about the Kumbh. The significance of this ritual is heightened by its timing, which aligns with auspicious planetary movements.
- **Significance of Makar Sankranti:** Makar Sankranti, celebrated on January 14, marks the transition of the Sun into Capricorn. This day is as it heralds the end of winter and the beginning of warmer days. It is also considered a time for spiritual renewal. The festival is associated with the idea of Uttarayan, or the gods' daytime, which is deemed auspicious for rituals and celebrations.
- **Important Dates for Bathing:** Several auspicious bathing dates occur during the Kumbh Mela. Following Makar Sankranti, Mauni Amavasya falls on January 29, and Vasant Panchami on February 3. The final date is Shiv Ratri on February 26, marking the conclusion of the Kumbh Mela. Each of these dates is believed to hold special spiritual



merit for devotees participating in the ritual baths.

- **Role of Sadhus in the Kumbh Mela:** Sadhus, or holy men, play a central role during the Kumbh Mela. They belong to various akhadaas, which are spiritual groups that embody different sects of Hinduism. The first dip taken by these sadhus is a symbol of their spiritual authority. Their participation adds to the grandeur and sanctity of the event, attracting thousands of devotees who seek

blessings and spiritual merit.

- **Conclusion of the Kumbh Mela:** As the Mahakumbh Mela progresses, it will culminate in various rituals and celebrations. The spiritual significance of the event continues to resonate with devotees, making it a very important aspect of Hindu culture. The participation in the rituals, especially during auspicious dates, is believed to bring immense spiritual benefits and blessings.

BHASHINI REVOLUTIONISES MAHAKUMBH EXPERIENCE

The Mahakumbh festival in Prayagraj, scheduled from 13 January to 26 February 2025, marks spiritual gathering. The Ministry of Electronics and Information Technology (MeitY) has introduced the Bhashini platform to enhance communication for millions of attendees. This initiative offers real-time translation and voice-enabled assistance in 11 languages, ensuring that all visitors can engage meaningfully.

Multilingual Accessibility: Bhashini provides multilingual support, allowing visitors to communicate in their native languages. Attendees can register lost or found items through kiosks or mobile applications. This feature aims to streamline the experience for everyone, particularly those who may not be fluent in Hindi or English.

- **Digital Lost & Found Solution:** A key highlight of the Bhashini platform is the Digital Lost & Found Solution. This feature enables users to report lost items or register found belongings using voice-based registration. The system supports real-time text and voice translation, facilitating effective communication among attendees and staff.
- **Kumbh Sah'Al'yak Chatbot:** The Kumbh Sah'Al'yak chatbot, launched by Prime Minister Narendra Modi, employs advanced AI technologies, including Llama LLM. This voice-enabled chatbot assists attendees

with navigation and information in multiple languages. By catering to diverse linguistic needs, it enhances the overall experience for pilgrims.

- **Emergency Helpline Integration:** The UP 112 emergency helpline has integrated the Bhashini platform to address language barriers. The 'CONVERSE' feature allows seamless communication between devotees and police officers. This ensures that grievances are understood and resolved efficiently, promoting safety and support during the event.
- **Technological Commitment:** MeitY's incorporation of Bhashini at Mahakumbh 2025 demonstrates a commitment to technological innovation. The platform aims to enhance inclusivity and accessibility for both domestic and international visitors. By breaking down language barriers, Bhashini enriches the spiritual journey for all attendees.
- **Future of Digital Inclusion:** Bhashini's implementation aligns with the vision of Digital India. The platform aims to empower citizens by connecting them to digital initiatives in their own languages. This initiative encourages participation from startups and promotes a digital government ecosystem, encouraging collaboration among various stakeholders.

KASHI TAMIL SANGAMAM 3.0 LAUNCH

The Kashi Tamil Sangamam (KTS) 3.0 registration portal has been launched by Union Minister for Education, Dharmendra Pradhan. The event is set to take place from 15th to 24th February 2025 in Varanasi, Uttar Pradesh. This initiative aims to strengthen cultural ties between Tamil Nadu and Kashi, celebrating their shared heritage.

- **Event Dates and Registration:** KTS 3.0 will be held from 15th to 24th February 2025. Registrations are open until 1st February 2025 via the portal kashitamil.iitm.ac.in.
- **Significance of KTS 3.0:** This edition coincides with the Mahakumbh and is the first Sangamam after the 'Pran Pratishtha' of Shri Ram Lalla in Ayodhya. It aims to celebrate the legacy of Maharishi Agasthyar.
- **Delegates and Participants:** Around 1000 delegates from Tamil Nadu will attend, including students, farmers,

professionals, and women. An additional 200 Tamil-origin students from various universities will also participate.

- **Activities and Exhibitions:** The event will feature exhibitions on Sage Agasthyar's contributions, seminars, workshops, and book releases. Competitions and awareness programs will take place in Tamil Nadu prior to the event.
- **Government Collaboration:** KTS 3.0 is organised by the Ministry of Education in collaboration with various ministries and the Government of Uttar Pradesh. It aims to encourage cultural exchange and learning.
- **Previous Editions:** The Kashi Tamil Sangamam has been celebrated twice before, in 2022 and 2023, with approximately 4000 delegates participating in both editions. The events received positive responses from



attendees.

- **Implementing Agencies:** IIT Madras and Banaras Hindu

University (BHU) are the implementing agencies for KTS 3.0, facilitating participation and organisation of the event.

KUKA MARTYRS' DAY

On January 17, 2025, Punjab Chief Minister Bhagwant Mann paid tribute to the Kuka martyrs at the Namdhari Shaheed Smarak in Malerkotla. This event marked the anniversary of the execution of 66 Namdhari Sikhs in 1872, denoting their struggle against British colonial rule.

- **Background of the Namdharis:** The Namdhari Sikhs, also known as Kukas, were founded by Satguru Ram Singh in 1857. They are recognised for their distinctive high-pitched recitations of Gurbani. The sect arose in response to social issues, advocating against alcohol and meat consumption.
- **Kuka Movement and Rebellion:** The movement called for boycotting British goods and services. It gained momentum in the 1870s, leading to violent confrontations with British authorities. The Kukas aimed to protect cows and sought a ban on cow slaughter.
- **Events of January 1872:** On January 13, 1872, about 200 Namdharis, led by Hira Singh and Lehna Singh, clashed with government officials in Malerkotla. Their protests escalated into violence, leading to a failed attack on Malaudh Fort.

- **British Retaliation:** In retaliation, British Deputy Commissioner John Lambert Cowan ordered the execution of 66 Kukas. On January 17 and 18, they were brutally executed by cannon fire in front of spectators.
- **Notable Martyrs:** Among the martyrs was 12-year-old Bishan Singh, who refused to renounce his faith. His courageous defiance included tugging Cowan's beard, leading to his brutal execution. Another martyr, Waryam Singh, demonstrated extraordinary bravery despite his stature.
- **Aftermath of the Kuka Revolt:** Following the executions, Satguru Ram Singh and other leaders were exiled to Rangoon, never to return. The Namdharis believe Ram Singh will return one day, mourning his absence by wearing white.
- **Current Status of Namdhari Sect:** Today, there are approximately 200,000 Namdharis in Punjab. The sect has experienced internal divisions since the death of Satguru Jagjit Singh in 2012, with factions led by Thakur Dilip Singh and Sangrur Uday Singh.

ETIKOPPAKA BOMMALU

Etikoppaka Bommalu is a traditional wooden toy craft from Andhra Pradesh. Recently showcased during the **76th Republic Day** parade, these toys represent a blend of cultural heritage and sustainable artistry. The craft has evolved over 400 years, with artisans dedicated to creating intricate and vibrant wooden toys. The toys often depict mythological figures, animals, and household items, all crafted with care and precision.

- **Historical Context:** The origins of Etikoppaka Bommalu trace back to ancient civilisations, including the Indus Valley. The craft has been passed down through generations, preserving techniques and designs that reflect the region's rich cultural narrative. The artisans of Etikoppaka have maintained a connection to their environment, using local materials and traditional methods.

- **Materials Used:** The primary material for these toys is the wood of the Ankudu tree (*Wrightia tinctoria*). This soft and malleable wood is ideal for intricate carvings. Artisans employ natural dyes sourced from seeds, leaves, and bark to achieve vibrant colours. The final touch involves a lacquer-turning technique using lac resin, which provides a safe, non-toxic finish.
- **Recognition and Impact:** In 2017, Etikoppaka toys received a Geographical Indication (GI) tag, affirming their authenticity and cultural significance. This recognition has helped combat counterfeit products and increased the global demand for these toys. The unique craftsmanship has attracted international collectors and eco-conscious consumers. Their exquisite designs and commitment to sustainability make them highly sought after in international markets.



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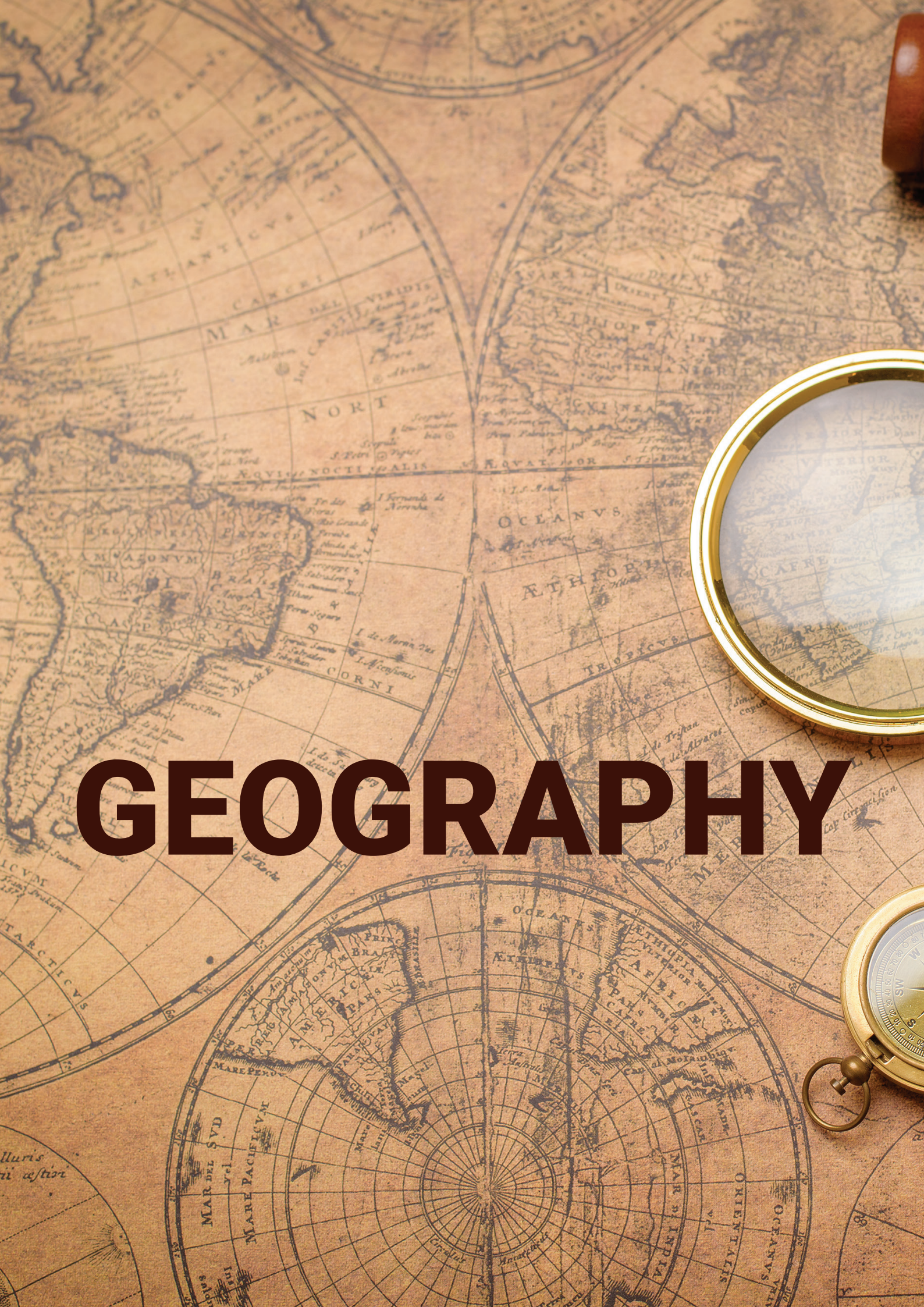
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GEOGRAPHY





SARASWATI RIVER

HOTAN PREFECTURE

**NATIONAL RIVER INTERLINKING
PROJECT**

SADA

KUMANI BANK MUD VOLCANO



SARASWATI RIVERT

CONTEXT: A sudden geological event in Jaisalmer, Rajasthan caused water and gas to erupt during tube well drilling, igniting debate about the resurfacing of the Saraswati River.

About Saraswati River:

- **Origin and flow:**
 - o Originates from Kapal Tirth in the Himalayas, near Kailash, flowing southward towards Mansarovar.
 - o Passes through Haryana, Rajasthan, and Gujarat, with traces seen near Badrinath, Uttarakhand.
 - o Saraswati river is also known as Guptagamini river.
- **Historical Context:**
 - o Mentioned in the Rigveda, particularly in the Nadistuti

Sukta hymn, as a “perfect mother and supreme goddess.”

- o Played a vital role in the Harappan Civilization, with numerous settlements along its course.

Ghaggar-Hakra River System:

- o Believed to be the remnant of the Saraswati River.
- o The Ghaggar originates from the Shivalik Hills in Himachal Pradesh and flows through Punjab, Haryana, and Rajasthan.
- o Post the Ottu barrage, it becomes the Hakra River, which dries up in the Thar Desert.

HOTAN PREFECTURE

CONTEXT: India has lodged a protest with China over the establishment of two new counties, He’an and Hekang, in the Hotan Prefecture, which encompasses parts of the disputed Aksai Chin region.

This area is administered by China but claimed by India as part of Ladakh.

About Hotan Prefecture:

What it is: Hotan Prefecture is an administrative division in southwestern Xinjiang, China, and encompasses disputed territories like Aksai Chin.

Location: Located in the Tarim Basin, it borders Tibet to the south, and Ladakh and Gilgit-Baltistan to the west. The region spans vast deserts and mountainous terrains.

History:

- Aksai Chin became a contentious area during the Sino-Indian War of 1962.
- Administered by China since 1962, Hotan was designated as a prefecture in 1971.

Geographical Features:

- Taklamakan Desert: A vast desert covering the northern part of the prefecture.
- Kunlun Mountains: Form the southern border, offering a natural divide from Tibet.
- Oases: Hotan city and other settlements thrive on oases, enabling agriculture and trade.
- Demographics: Predominantly Muslim Uyghurs inhabit the prefecture, living in oases between the Taklamakan Desert and Kunlun Mountains.

NATIONAL RIVER INTERLINKING PROJECT

CONTEXT: Prime Minister in December laid the foundation stone for the Ken-Betwa River Link Project, which aims to solve the water scarcity in the Bundelkhand region.

Origin of the Idea of Interlinking Rivers:

- **Sir Arthur Cotton (19th Century):** Proposed inter-basin water transfer to address irrigation challenges in India.
- **M. Visvesvaraya (Early 20th Century):** Advocated linking rivers to solve water scarcity and flooding issues.
- **K.L. Rao (1970s):** Suggested a National Water Grid to transfer surplus water to drought-prone regions.
- **Dinshaw J. Dastur (1980):** Expanded the idea with plans for Himalayan and Peninsular links.
- **National Perspective Plan (1980):** Formalized by the Ministry of Water Resources with the establishment of the National Water Development Agency (NWDA) in 1982.

Components of the Interlinking of Rivers Project:

- **Himalayan Rivers Component:**
 - 14 proposed links, including Ganga-Brahmaputra

basin rivers.

- Focus: Flood control, hydropower generation, and water transfer to central India.
- **Peninsular Rivers Component:**
 - 16 proposed links, including Krishna, Godavari, and Cauvery rivers.
 - Aim: Irrigation, drought mitigation, and inter-basin water sharing

Benefits of Interlinking Rivers:

- **Flood and Drought Mitigation:** Redistributes excess water from flood-prone regions like Bihar to drought-prone areas like Bundelkhand.
- **Boost to Agriculture:** Increases irrigated land, ensuring food security and reducing dependency on monsoons.
- **Hydropower Potential:** Facilitates the generation of renewable energy from dams and reservoirs.
- **Economic Growth:** Improves water availability for industries, enabling regional economic development.



- **Waterway Expansion:** Promotes inland navigation, reducing transportation costs and environmental impact.
- **Challenges of Interlinking Rivers:**
 - **Environmental Concerns:** Loss of biodiversity, deforestation, and threats to protected areas like the Panna Tiger Reserve.
 - **High Costs:** Massive financial burden for construction, maintenance, and rehabilitation of displaced communities.
- **Social Displacement:** Large-scale projects can displace populations, affecting livelihoods and social structures.
- **Inter-State Disputes:** Conflicts over water-sharing agreements may escalate, as seen in the Cauvery and Krishna River disputes.
- **Ecosystem Disruption:** Alters riverine ecosystems, impacting aquatic life and the health of downstream deltas.

SADA

CONTEXT: The unique flat-top landscapes called sada, located in the Konkan region of Maharashtra, are rich in biodiversity and cultural significance.



About Sada:

- What it is: Flat-top plateaus formed by centuries of erosion, locally called sada, meaning a large flat area.
- Located in: Found in the Konkan region of Maharashtra, particularly in Ratnagiri district, between the Arabian Sea and the Western Ghats.
- How they are established: Created due to geological weathering of lateritic soil and erosion processes over centuries.
- Other names: Similar to pathar plateaus, such as the Kaas Plateau in Satara district.
- Geographical features:
 - o Rocky terrain with lateritic soil, transforming into lush biodiversity hubs during monsoons.
 - o Serve as freshwater catchments due to their unique geology.

KUMANI BANK MUD VOLCANO

CONTEXT: The Kumani Bank mud volcano, located off Azerbaijan's eastern coast, erupted in 2023, creating a short-lived island, popularly termed a "Ghost Island." By the end of 2024, this ephemeral island had largely eroded back into the sea.

About Kumani Bank Mud Volcano:

- **Located in:** Situated approximately 25 km (15 miles) off the eastern coast of Azerbaijan in the Caspian Sea.
- **What is a Ghost Island?**
 - o A Ghost Island refers to a temporary landmass created by volcanic activity, particularly mud volcanoes, that erodes back into the water over time.
- **Ephemeral Nature:**
 - o The island formed in 2023, measuring 400 meters (1,300 feet) across.
- **Significance:**
 - o By late 2024, it had nearly disappeared into the sea.
 - o Geological Insights: Helps scientists understand tectonic processes and subsurface pressure dynamics.
 - o Martian Analogs: Provides clues about similar features on Mars, aiding in planetary exploration studies.
 - o Environmental Impact: Linked to the South Caspian Basin's hydrocarbon system, contributing to methane and gas emissions.
 - o Regional Importance: Highlights Azerbaijan's unique geological landscape, which boasts 300+ mud volcanoes, the largest concentration globally.

"Intelligence plus character-that is the goal of true education. — Martin Luther King Jr.



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POLITY AND GOVERNANCE





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18TH PRAVASI BHARATIYA DIVAS

CONTEXT: The Pravasi Bharatiya Divas (PBD) is a significant platform that celebrates the contributions of the Indian diaspora to their homeland while fostering cultural, economic, and political ties. The 18th PBD convention, inaugurated by Prime Minister Narendra Modi, underscored the vital role played by the diaspora in shaping India's development journey.



PRAVASI BHARATIYA DIVAS (PBD): AN OVERVIEW

What is Pravasi Bharatiya Divas?

Pravasi Bharatiya Divas, observed on January 9 every two years, aims to enhance the engagement between the Indian government and the global Indian community. The date marks Mahatma Gandhi's historic return to India from South Africa in 1915, symbolizing the transformative role of Indians abroad in national progress.

Historical Background

- The concept of PBD was proposed by a High-Level Committee on Indian Diaspora in 2002, chaired by LM Singhvi.
- In 2003, under the leadership of former Prime Minister Atal Bihari Vajpayee, the first PBD was celebrated in New Delhi.
- Since 2015, PBD conventions have been held biennially, organized by the Ministry of External Affairs in collaboration with stakeholders like the Confederation of Indian Industry (CII).

Objectives of PBD

- Reconnecting overseas Indians with their ancestral homeland.
- Acknowledging the contributions of Non-Resident Indians (NRIs) and Persons of Indian Origin (PIOs) to India's growth.
- Promoting mutual collaboration for India's socio-economic development.

Pravasi Bharatiya Samman Awards (PBSA)

The Pravasi Bharatiya Samman Award is the highest honor conferred upon overseas Indians by the President of India during the PBD convention. It recognizes outstanding contributions in diverse fields such as community service, science, technology, and healthcare.

Highlights of PBSA 2025

- 27 recipients from 24 countries, showcasing a global representation of excellence.
- Notable awardees include:
 - **Lekh Raj Juneja (Japan):** Recognized in the Science & Technology category.
 - **Robert Masih Nahar (Spain):** Honored for community service, especially his efforts to promote cricket in Catalonia.
 - **Syed Anwar Khursheed (Saudi Arabia):** Acknowledged for his medical services to the Saudi royal family.

The Indian Diaspora: A Global Force

Population Distribution

- United States: 54 lakh
- UAE: 35 lakh
- Canada: 28 lakh
- Saudi Arabia: 24 lakh

Economic Contributions

In 2023, the Indian diaspora remitted a record \$125 billion, significantly supporting India's economy.

Diplomatic and Political Influence

The Indian diaspora plays a vital role in shaping bilateral relations and strengthening India's global standing. Events like the 2019 "Howdy Modi" in Texas, where PM Modi and then US President Donald Trump addressed a massive gathering, exemplify their impact on international diplomacy.

Government Classification of Overseas Indians

The Indian government categorizes overseas Indians into:

- **Non-Resident Indians (NRIs):** Indian citizens residing abroad.
- **Overseas Citizens of India (OCIs):** Foreign nationals of Indian origin eligible for OCI registration under the Citizenship Act, 1955.

Notably, the Persons of Indian Origin (PIO) category was merged with OCI in 2015, streamlining the classification.

Highlights of the 18th PBD Convention

Theme: Diaspora's Contribution to a Viksit Bharat (Developed India)

Chief Guest: Christine Carla Kangaloo, President of Trinidad & Tobago, delivered a virtual address.

Prime Minister's Address

1. India's Advocacy for Global Peace:

PM Modi emphasized the importance of moving from Yuddha (war) to Buddha (peace), inspired by Emperor Ashoka's transformation at Dhauli in Odisha.

2. India's Global Leadership:

- Representing the Global South in initiatives like granting permanent G20 membership to the African Union.



- o Advocating the principle of “humanity first” in international engagements.

3. Focus on Historical Diaspora Journeys:

- o Exhibition on the migration of Gujaratis to Oman 250 years ago.
- o Proposal to create a database on Girmitiyas (indentured laborers) to study their contributions and challenges.

4. Vision for a Developed India by 2047:

PM Modi acknowledged the diaspora’s role in realizing the vision of a developed India by its centenary of independence.

CONCLUSION: The Pravasi Bharatiya Divas serves as a testament to the enduring bond between India and its diaspora. It celebrates their contributions while fostering mutual growth and collaboration. As India envisions a “Viksit Bharat” by 2047, the role of overseas Indians becomes increasingly significant in driving global partnerships and advancing national progress. The PBD convention not only strengthens these ties but also highlights the shared vision of a prosperous and peaceful future

ARE FORMER PRIME MINISTERS MANDATED MEMORIALS?

CONTEXT: The Congress party has raised concerns over the cremation and memorial arrangements for former Prime Minister Manmohan Singh, highlighting the lack of specific rules regarding memorials for ex-PMs and the departure from past practices in his case.

MAJOR POINTS:

1. Funeral and Memorial Arrangements for Former PM Manmohan Singh:

- Passing and Funeral: Manmohan Singh passed away on December 26; a state funeral was held at Nigambodh Ghat on December 28, a first for any former PM.
- Congress Demand: Congress President Mallikarjun Kharge requested a designated place for the funeral and a memorial, terming the absence of such arrangements an “insult.”
- Government Response: MHA announced that space for a memorial would be allocated after forming a trust, while the cremation took place as planned.

2. Rules and Trends for PM Memorials:

- No Specific Rule: There is no guideline mandating the allocation of memorials for former PMs, though it has been a convention.
- Past Trends:
 - o Most former PMs, except Vishwanath Pratap Singh, have memorials, primarily in Delhi.

- o Examples: Jawaharlal Nehru (Shanti Vana), Indira Gandhi (Shakti Sthal), and Atal Bihari Vajpayee (Smriti Sthal).
- o In 2013, due to space constraints, it was decided that all future memorials would be built at Smriti Sthal.

3. Maintenance of Memorials:

- Primarily maintained by respective State Governments or local municipalities.
- Central Government oversees major samadhis near Rajghat and select others like Morarji Desai’s Abhay Ghat and Rajiv Gandhi Memorial in Sriperumbudur.

4. Delays and Comparison:

- Atal Bihari Vajpayee’s memorial was built within 45 days of his cremation, funded by a private trust.
- No timeline was announced for Manmohan Singh’s memorial by December 30, 2024.

CONCLUSION: The absence of a designated site for the funeral and memorial of Manmohan Singh underscores the lack of clear rules for honouring former Prime Ministers in India. While conventions have been followed in the past, the delays and deviations, in this case, highlight the need for standard guidelines to ensure the dignified and uniform treatment of leaders who hold such significant national stature.

BOMBAY HC: LOUDSPEAKER USE NOT INTEGRAL TO RELIGIOUS PRACTICE

CONTEXT: In a significant ruling, the Bombay High Court has declared that the use of loudspeakers is not an essential religious practice. The court directed the state government to take necessary measures to curb noise pollution emanating from places of worship, irrespective of religious affiliation.

Essential Religious Practices Doctrine: An Overview and Latest Developments

The doctrine of Essential Religious Practices (ERP) is a judicial framework established by the Supreme Court of India to determine which religious practices are constitutionally protected under Articles 25 and 26 of the

Indian Constitution. This doctrine balances individual rights to religious freedom with the state’s role in maintaining public order and implementing social reforms.

What Are Essential Religious Practices?

Under the ERP doctrine, only practices deemed essential and integral to a religion qualify for protection under the freedom of religion provisions in the Constitution. This ensures that practices with no fundamental religious significance can be regulated or restricted in the interest of social harmony, public health, and morality.



Key Features of the ERP Doctrine

1. Protection of Religious Freedom:

Articles 25 and 26 safeguard religious practices that are fundamental to a religion's belief system. These protections are, however, subject to public order, morality, and health.

2. Distinction Between Essential and Non-Essential Practices:

The doctrine bifurcates religious practices into those that are essential to a religion and those that are not, offering constitutional protection only to the former.

3. State's Role in Social Reforms:

The doctrine empowers the state to regulate or prohibit non-essential religious practices to promote equality and social justice.

4. Judicial Determination:

The judiciary plays a central role in determining what qualifies as an "essential" practice, often analyzing historical, theological, and cultural evidence.

Historical Context

Shirur Mutt Case (1954): The Genesis of ERP Doctrine

The ERP doctrine was first articulated in the landmark case *The Commissioner, Hindu Religious Endowments, Madras v. Sri Lakshmindra Thirtha Swamiar of Shirur Mutt (1954)*.

- The court held that essential practices are those integral to a religion, as determined by its scriptures, beliefs, and traditions.
- Practices not deemed essential are open to state regulation.

Criticism of the Doctrine

- **Inconsistency:** Courts have been criticized for their lack of uniformity in applying the doctrine.
- **Judicial Overreach:** Some argue that courts should not interpret theological questions, as doing so interferes with religious autonomy.

Notable Case Laws

1. Durgah Committee, Ajmer v. Syed Hussain Ali (1961):

The Supreme Court ruled that only those practices integral to the religion's core are protected.

2. Ismail Faruqui v. Union of India (1994):

The court held that a mosque is not an essential part of Islam for offering prayers, as prayers can be offered anywhere.

3. Seshammal v. State of Tamil Nadu (1972):

The court examined the practice of wearing veils and ruled it was not an essential practice of Hinduism.

4. Indian Young Lawyers Association v. State of Kerala (Sabarimala Case, 2018):

The Supreme Court ruled that the exclusion of women of menstruating age from the Sabarimala temple was not an essential practice of Hinduism and violated gender

equality.

5. Karnataka Hijab Ban Case (2022):

The hijab's status as an essential practice of Islam was debated, with the Karnataka High Court ruling that it is not essential. The case remains a subject of contention and appeal.

Recent Developments: Bombay High Court on Loudspeakers Court's Observations

- The Bombay High Court recently ruled that the use of loudspeakers is not an essential religious practice under Article 25.
- It emphasized that noise pollution caused by loudspeakers is a public health hazard and should be strictly regulated, regardless of religious affiliation.

Case Background

- Residents of Kurla East, Mumbai, filed a plea highlighting noise pollution from places of worship exceeding permissible decibel limits.
- Permissible limits are set at 55 decibels during the day and 45 decibels at night in residential areas.

Court Directives

1. Law enforcement agencies must measure noise levels using decibel meters or mobile apps.
2. Violations should initially result in warnings, with repeated offenses leading to equipment seizure, fines, or license cancellation.
3. Authorities must ensure complainants' anonymity to protect them from retaliation.

Challenges in Applying the ERP Doctrine

1. Judicial Subjectivity:

Determining whether a practice is essential often requires subjective interpretations of religious texts and traditions.

2. Overlapping Rights:

Balancing religious freedom with other fundamental rights, such as equality and non-discrimination, remains challenging.

3. Lack of Consensus:

Even within religious communities, there is often disagreement about what constitutes an essential practice.

4. Impact on Social Reforms:

Practices such as triple talaq and temple entry restrictions for women have raised debates about whether certain traditions should be reformed to align with constitutional values.

Essential Religious Practices FAQs

Q1: What is the ERP doctrine?

The ERP doctrine determines which religious practices are protected under Articles 25 and 26, safeguarding only those deemed essential to a religion.

Q2: What was the Shirur Mutt case about?

This 1954 case established the ERP doctrine, ruling



that only integral practices are constitutionally protected.

Q3: What did the Seshammal case decide?

The 1972 case ruled that wearing a veil is not an essential practice of Hinduism, emphasizing the doctrine's selective application.

Q4: Is hijab an essential practice of Islam?

The hijab's status as an essential religious practice remains contested, with courts examining its religious and constitutional implications.

Q5: What is Article 25?

Article 25 guarantees all individuals the freedom of conscience and the right to freely profess, practice, and

propagate religion, subject to public order, morality, and health.

CONCLUSION: The Essential Religious Practices doctrine remains a cornerstone of India's constitutional framework, balancing religious freedom with societal interests. While it has been instrumental in safeguarding fundamental rights, its application has sparked debates about judicial overreach, inconsistency, and the need for social reforms. Moving forward, courts must exercise caution and adopt a nuanced approach to ensure that religious practices align with constitutional principles while respecting cultural diversity.

CLASSIFYING DENOTIFIED TRIBES

CONTEXT: Denotified Tribes (DNTs), Semi-Nomadic Tribes (SNTs), and Nomadic Tribes (NTs) have historically faced social ostracization due to their wrongful classification as "criminal tribes" under colonial-era laws. After three years of extensive research, the Anthropological Survey of India (AnSI) and Tribal Research Institutes (TRIs) have systematically categorized 268 such communities across India. This effort marks a significant milestone in recognizing their identity and ensuring access to welfare benefits.

Recognizing these gaps, the Indian government formed a **Special Committee under NITI Aayog in 2019**, assigning AnSI and TRIs the task of ethnographic classification.

KEY FINDINGS OF THE STUDY

- **268 Communities Identified:** This is the first systematic documentation of DNTs, SNTs, and NTs.
- **179 Communities Recommended for SC/ST/OBC Inclusion:** These communities are now proposed for integration into reservation categories to access welfare schemes.
- **63 Communities Found Untraceable:** Some groups have likely merged into other communities, changed names, or migrated.
- **Political and Legal Implications:** The classification has sparked debates about reservations, affirmative action, and equitable distribution of benefits.

DENOTIFIED TRIBES - MEANING

- **DE notified Tribes (DNTs)**, also known as *Vimukta Jati*, are the tribes that were originally listed as "Criminal Tribes" and "addicted to the systematic commission of non-bailable offences."
- Once a tribe became "notified" as criminal, all its members were required to register with the local magistrate, failing which they would be charged with a "crime" under the Indian Penal Code.



HISTORIC BACKGROUND AND NEED FOR CLASSIFICATION

During British rule, the Criminal Tribes Act of 1871 labeled several nomadic and semi-nomadic communities as "criminal," subjecting them to constant surveillance and repression. After India's independence, the Act was repealed in 1949, but the stigma persisted, and these tribes struggled for official recognition.

Several commissions have attempted to address the classification issue:

- **Kaka Kalelkar Commission (1955)** – Highlighted the socio-economic deprivation of DNTs.
- **Mandal Commission (1980)** – Recommended reservation benefits but failed to classify DNTs distinctly.
- **Renke Commission (2008)** – Identified 1,500 DNTs and emphasized their exclusion from existing welfare structures.
- **Idate Commission (2017)** – Documented 1,200 DNTs and found that 267 communities lacked formal classification.

Tribal Communities



Notified Tribes

Denotified Tribes

Nomadic Tribes

IMPACT ON RESERVATION AND WELFARE POLICIES

If implemented, this classification will enable DNTs to access education, employment, and government welfare schemes designated for Scheduled Castes (SCs), Scheduled Tribes (STs), and Other Backward Classes (OBCs). However, there are competing views on how they should be classified:

1. **Support for Inclusion in SC/ST/OBC Lists**
 - Ensures access to reservation benefits in education and employment.
 - Grants legal recognition and identity to these communities.



2. Demand for a Separate Reservation Category

- Some activists argue that merging DNTs into SC/ST/OBC groups may dilute reservation benefits for existing beneficiaries.
- Advocates propose a distinct category for DNTs, similar to SCs and STs, to ensure exclusive welfare measures.

Challenges and Concerns

- **Political Controversies:** Some states like Uttar Pradesh, Haryana, Madhya Pradesh, and Gujarat have raised concerns over the impact of classification on existing reservation quotas.
- **Delays in Implementation:** Despite multiple commissions highlighting their struggles, DNTs have yet to receive consistent government support.
- **Historical Misclassification:** Some DNTs were erroneously classified as castes in the census, leading to confusion over their identity and legal status.

Next Steps and Government Action

The AnSI and TRIs have submitted their final report to the **Special Committee under NITI Aayog**, which is now reviewing recommendations. If approved:

- State Governments will have a structured framework for including DNTs in reservation lists.
- New Welfare Policies may be introduced to address their socio-economic disparities.
- A Separate Reservation Category Debate could gain momentum, altering the political landscape of affirmative action policies in India.

DENOTIFIED TRIBES: CONSTITUTIONAL AND JUDICIAL PERSPECTIVES

Constitutional Provisions

- **Article 46:** Mandates the state to promote the economic and educational interests of Scheduled Castes, Scheduled Tribes, and other weaker sections.
- **Article 340:** Provides for the appointment of commissions to investigate the conditions of backward classes.
- **Article 342:** Defines Scheduled Tribes and allows the President to specify tribes in states and union territories.

Judicial Interventions

- **State of Bombay v. FN Balsara (1951):** Acknowledged the historical injustice done to DNTs under colonial laws.

- **Budhan Choudhry v. State of Bihar (1955):** Emphasized the need for equal protection of law for marginalized communities.
- **Indra Sawhney v. Union of India (1992):** Clarified the criteria for backward class classification and affirmed the role of commissions in ensuring fair representation.

FAQs on Denotified Tribes Classification

Q1. What is the significance of classifying denotified tribes?

Ans. It provides these communities with access to reservation benefits, social welfare schemes, and legal recognition, helping them overcome historical marginalization.

Q2. How many communities have been newly classified?

Ans. A total of 268 communities have been documented, with 179 recommended for inclusion in SC, ST, or OBC lists.

Q3. Why do some activists oppose this classification?

Ans. Some activists argue that instead of being merged into SC/ST/OBC lists, DNTs should have a separate reservation category to prevent dilution of existing benefits.

Q4. What are the major challenges in implementing this classification?

Ans. Political debates, delays in implementation, and historical misclassification pose significant hurdles.

Q5. What is the next step in this classification process?

Ans. The NITI Aayog's Special Committee is reviewing recommendations before the government makes a final decision on their official classification and inclusion in reservation policies.

CONCLUSION: The systematic classification of Denotified, Semi-Nomadic, and Nomadic Tribes represents a crucial step toward rectifying historical injustices and ensuring inclusive development. However, its success depends on timely implementation, political will, and legal clarity. The government's final decision will have a profound impact on India's reservation policies, social equity, and the future of these historically marginalized communities.

This classification marks a turning point in the struggle for justice for Denotified Tribes, paving the way for equitable access to government support and social upliftment.



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FOURTH BRANCH INSTITUTIONS: UPHOLDING ACCOUNTABILITY AND DEMOCRACY

CONTEXT: In a recent address, Justice P.S. Narasimha emphasized the critical role of Fourth Branch Institutions, highlighting the need for strengthening them.



BACKGROUND & ORIGIN of FOURTH BRANCH INSTITUTIONS

- The concept of “Fourth Branch of Government” emerged with the recognition of entities beyond the traditional branches of government – legislative, executive, and judiciary – that wield significant influence on governance.
- Historically, the media, particularly the press, was considered the “Fourth Estate,” emphasizing its role in informing the public and holding governments accountable.
- The 20th century witnessed the rise of independent regulatory agencies, such as the Federal Reserve in the US. These bodies, created to regulate specific sectors of the economy, possess significant powers, including rule-making and enforcement, effectively expanding the scope of governance beyond the traditional three branches.
- These agencies, while not directly part of the legislative or executive branches possess significant powers to regulate industries, make rules, and enforce regulations.

WHAT ARE FOURTH BRANCH INSTITUTIONS?

The concept of “Fourth Branch Institutions” refers to entities that operate independently of the traditional branches of government (legislature, executive, and judiciary) yet play a crucial role in upholding accountability, transparency, and democratic principles. These institutions, which may or may not be explicitly mentioned in the Constitution, are considered vital for the effective functioning of a democratic system.

Key Examples:

- **Electoral Commission of India (ECI):** The ECI, responsible for conducting free and fair elections, exemplifies a quintessential Fourth Branch institution. Its independence is crucial for ensuring the integrity of the electoral process and upholding democratic values.
- **Comptroller and Auditor General of India (CAG):** The CAG acts as the guardian of public funds, auditing government expenditures and ensuring financial accountability. Its reports have exposed numerous instances of corruption and mismanagement, playing a vital role in enhancing transparency and public trust.
- **Central Vigilance Commission (CVC):** The CVC investigates corruption allegations against government officials, contributing to a clean and efficient government.
- **Regulatory Bodies:** Independent regulatory bodies like the Reserve Bank of India (RBI), the Securities and Exchange Board of India (SEBI), and the Telecom Regulatory Authority of India (TRAI) play a crucial role in regulating specific sectors of the economy, ensuring fair competition, and protecting consumer interests



Reasons for the Rise of the “Fourth Branch” Concept:

- **Increasing Complexity of Governance:** The growing complexity of modern societies, with its intricate web of regulations, technologies, and global interconnectedness, has necessitated the creation of specialized institutions to address specific challenges.
- **Need for Expertise:** Many areas of governance require specialized knowledge and expertise that may not be readily available within the traditional branches of government. Independent agencies, staffed with experts, can provide this specialized knowledge and ensure informed decision-making.
- **Enhanced Accountability:** The rise of independent regulatory agencies and other institutions is partly a



response to the need for greater accountability and transparency in government. These institutions can act as checks and balances on the power of government, ensuring that decisions are made in the public interest.

- **Democratization of Governance:** The concept of a “Fourth Branch” reflects a broader trend towards democratization, where power is not solely concentrated in the hands of elected officials but also shared with other actors, including independent institutions and civil society organizations.

SIGNIFICANCE AND CHALLENGES:

- **Upholding Democratic Values:** These institutions act as checks and balances on the power of the government, ensuring transparency, accountability, and adherence to the rule of law.
- **Ensuring Independence:** Maintaining the independence of these institutions is crucial for their effectiveness. Political interference and undue pressure can undermine their ability to function impartially.
- **Building Capacity:** Strengthening the institutional capacity of these bodies through adequate funding, recruitment of qualified personnel, and continuous professional development is essential for their effective functioning.
- **Addressing Concerns:** Concerns have been raised regarding potential biases, lack of diversity, and delays in decision-making within some of these institutions.

JUSTICE P.S. NARASIMHA'S PERSPECTIVE:

In a recent address, Justice P.S. Narasimha emphasized the critical role of Fourth Branch Institutions, highlighting the need for:

- **Maintaining Independence:** He stressed the importance of protecting these institutions from political interference and ensuring their autonomy.
- **Building Capacity and Expertise:** He emphasized the need to enhance the domain expertise and institutional capacity of these bodies.
- **Promoting Diversity:** He highlighted the importance of ensuring diversity in the composition of these institutions.
- **Avoiding “Retirement Homes”:** He cautioned against these institutions becoming mere “retirement homes” for civil servants and judges, advocating for merit-based appointments and a focus on expertise.

CONCLUSION: In essence, the concept of a “Fourth Branch” reflects the evolving nature of governance in modern societies. It acknowledges the need for specialized expertise, independent oversight, and enhanced accountability in an increasingly complex and interconnected world.

Fourth-branch institutions play a pivotal role in strengthening democracy and ensuring good governance in India. By upholding their independence, enhancing their capacity, and addressing the challenges they face, we can ensure that these institutions continue to serve the public interest effectively.

FUTURE OF JOBS REPORT 2025

CONTEXT: The World Economic Forum’s “Future of Jobs Report 2025” paints a picture of a rapidly evolving job market. Driven by technological advancements like AI and automation, the report predicts significant job displacement alongside the creation of new roles.

OVERVIEW: The World Economic Forum’s “Future of Jobs Report 2025” provides a critical analysis of the evolving job market, highlighting the profound impact of technological advancements, particularly artificial intelligence (AI), on the workforce.

Key Findings:

- **Job Market Transformation:** The report predicts significant job displacement alongside the creation of new roles. While 92 million jobs are expected to be displaced by 2030, 170 million new roles will emerge, resulting in a net job growth. However, this transition will require significant workforce adaptation.
- **Technological Disruption:** AI and machine learning are driving this transformation, automating routine tasks and reshaping the demand for skills. Roles in AI, big data, and cybersecurity are projected to experience the most rapid growth.
- **Skill Gap:** The report emphasizes the critical importance of

addressing the skills gap. Nearly 40% of the skills required for future jobs will be new or evolving, necessitating significant reskilling and upskilling initiatives across the global workforce.

- **Frontline Worker Growth:** While technological roles are in high demand, the report also highlights the significant growth in demand for frontline roles such as farmworkers, delivery drivers, and healthcare workers.

The World Economic Forum (WEF)

The World Economic Forum is a leading international organization that brings together global leaders from business, government, academia, and civil society to address critical global challenges. Founded in 1971, the WEF plays a crucial role in:

- **Shaping Global Agendas:** The Forum convenes leaders to discuss and address pressing global issues such as climate change, economic growth, and social inequality.
- **Promoting Public-Private Cooperation:** The WEF facilitates dialogue and collaboration between businesses, governments, and other stakeholders to find solutions to global challenges.
- **Driving Innovation:** The Forum fosters innovation and entrepreneurship by connecting businesses, investors,



and policymakers.

Key WEF Reports:

The Global Risks Report: Analyzes the most pressing global risks facing humanity, including environmental, economic, and geopolitical challenges.

Assesses the competitiveness of countries based on various factors such as innovation, infrastructure, and market efficiency.

The Travel & Tourism Competitiveness Report: Ranks countries based on their travel and tourism competitiveness.

•The Global Gender Gap Report: Measures gender equality across various dimensions, including economic participation, political empowerment, and health.

The “Future of Jobs Report 2025” provides valuable insights into the evolving nature of work and the critical need for individuals, businesses, and governments to adapt to the changing landscape. By fostering dialogue and collaboration among stakeholders, the World Economic Forum plays a vital role in shaping a more inclusive and sustainable future of work for all.

INTERPLAY OF VOTER IDS AND AADHAAR: SHOULD THEY BE LINKED?

CONTEXT: The debate over linking Voter IDs (EPIC) with Aadhaar has resurfaced amid allegations of electoral roll manipulation in the run up to Delhi elections.

Understanding Voter IDs and Aadhaar

- Voter ID (EPIC): The Election Commission of India (ECI) provides every registered voter with a unique identification number known as the Electoral Photo Identity Card (EPIC). This 10-digit alphanumeric code ensures each voter is uniquely identifiable.
- Aadhaar Card: Issued by the Unique Identification Authority of India (UIDAI), the Aadhaar card is a 12-digit unique identification number linked to an individual's biometric and demographic data. It serves as proof of identity and residence but not citizenship.

Historical Context of Aadhaar-Voter ID Linking

1 Initial Efforts in 2015:

The Election Commission launched the National Electoral Rolls Purification and Authentication Program (NERPAP) to eliminate duplicate entries in electoral rolls by linking Voter IDs with Aadhaar. Within three months, over 300 million voters were linked.

2. Supreme Court Intervention:

In 2015, the Supreme Court halted the program, ruling that Aadhaar's mandatory use should be restricted to welfare schemes and PAN linking.

3. Revival Post-2018:

After the 2018 Puttaswamy judgment upheld the constitutional validity of Aadhaar, the Representation of the People Act, 1950, was amended in 2021 to allow voluntary linking of Aadhaar with Voter IDs.

Current Process of Aadhaar-Voter ID Linkage

1. Submission of Aadhaar:

- New voters can provide Aadhaar during registration using Form 6.
- Existing voters can use Form 6B for Aadhaar authentication.
- Those without Aadhaar can submit alternative documents, such as PAN cards, driving licenses, or passports.

2. Voluntary Nature:

The Election Commission clarified in 2023 that linking Aadhaar is optional, and no voter will be excluded for failing to provide it. However, outdated forms have caused confusion among voters.

Benefits of Linking Aadhaar with Voter IDs

1. Eliminating Duplicates:

Linking Aadhaar can remove duplicate or fraudulent voter entries, ensuring cleaner electoral rolls. Over 650 million Aadhaar numbers have already been linked.

2. Enhancing Electoral Integrity:

Accurate voter data can reduce impersonation and strengthen the fairness of elections.

3. Improving Administrative Efficiency:

A streamlined voter database can minimize administrative challenges during elections, making the process smoother.

Challenges of Aadhaar-Voter ID Linkage

1. Data Accuracy Issues:

Errors in Aadhaar data, even minor ones, can lead to wrongful deletion or rejection of legitimate voter entries.

2. Citizenship Verification:

Aadhaar is proof of residence, not citizenship. This limitation does not address the presence of non-citizens on electoral rolls, which requires separate measures by the EC.

3. Privacy Concerns:

With electoral rolls shared widely among political parties, linking Aadhaar poses risks of misuse of personal data, even if Aadhaar numbers are linked only on the backend.

4. Public Misconceptions:

Many voters worry that Aadhaar linkage could compromise the secrecy of their votes, reducing trust in the electoral system.

Recommendations for a Balanced Approach

1. Clear Communication:

Launch public awareness campaigns to educate voters on the voluntary nature of Aadhaar linkage, its benefits, and data security measures.



2. Updating Forms:

Update registration forms to explicitly state that providing Aadhaar is optional, as clarified by the EC in 2023.

3. Strengthening Data Security:

Implement robust safeguards to prevent misuse of Aadhaar-linked voter data, ensuring voter privacy and confidence.

4. Independent Citizenship Verification:

Develop separate mechanisms to verify voter citizenship, independent of Aadhaar linkage, to address non-citizen entries in electoral rolls.

What is an EPIC Number on a Voter ID?

The EPIC (Electoral Photo Identity Card) number is a unique 10-digit alphanumeric code assigned to every registered voter by the Election Commission of India. It helps

ensure that every voter is uniquely identifiable.

What is the First Past the Post (FPTP) System?

The FPTP system, also known as the simple majority system, is a voting method where the candidate receiving the highest number of votes in a constituency is declared the winner. This system is commonly used in elections in India and other democracies.

CONCLUSION: The right to vote is a cornerstone of India's democracy, and ensuring free and fair elections is paramount. While linking Voter IDs with Aadhaar offers potential benefits like cleaner electoral rolls and reduced impersonation, it must be handled cautiously. Addressing privacy concerns, correcting data errors, and clarifying the voluntary nature of the process are crucial steps to build public trust. A balanced and transparent approach will not only improve electoral integrity but also strengthen India's democratic framework.

POLAVARAM PROJECT

CONTEXT: "The Telangana government has engaged experts from the Indian Institute of Technology, Hyderabad (IIT-H), to conduct a comprehensive study assessing the environmental and ecological impact of the Polavaram project on the Godavari River."

Polavaram Project: A Multi-Purpose Infrastructure on the Godavari River

The Polavaram Project, a national project of India, is a multi-purpose irrigation and hydroelectric project situated on the Godavari River in Andhra Pradesh.

Key Features:

- **Massive Dam:** The project involves the construction of a large dam with a span of 1.2 kilometers, equipped with 48 radial gates to manage water flow.
- **Flood Control:** Designed to withstand extreme flood events with a return period of 1,000 years, the Polavaram Spillway is projected to have the highest discharge capacity globally, surpassing even the 3 Gorges Dam in China.
- **Hydropower Generation:** The project aims to generate 960 MW of hydroelectric power, contributing to the region's energy needs.

Objectives:

- **Irrigation:** To expand irrigation potential, benefiting 4,36,825 hectares of agricultural land.
- **Drinking Water Supply:** To provide drinking water to 2.85 million people across 611 villages.
- **Water Transfer:** To divert 80 TMC (Thousand Million Cubic Feet) of water to the Krishna River basin.
- **Flood Mitigation:** To significantly reduce flood risks to communities residing along the Godavari River.

Telangana's Initiative:

Recognizing the project's potential impacts, the Telangana government has taken a proactive step. They have engaged experts from the Indian Institute of Technology, Hyderabad (IIT-H), to conduct a comprehensive study assessing the environmental and ecological consequences of the Polavaram project on the Godavari River.

CONCLUSION: The Polavaram Project, a significant undertaking on the Godavari River, aims to address various challenges, including irrigation, drinking water supply, and flood control. As the project progresses, independent assessments like the one initiated by the Telangana government are crucial to ensure its environmental sustainability and long-term viability.



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RETIRED JUDGES TO ASSIST COURTS IN ADDRESSING CASE BACKLOG

CONTEXT: The appointment of ad hoc judges, as permitted under Article 224A of the Indian Constitution, is a significant yet rarely utilized mechanism to address judicial backlogs in High Courts. Recently, the Supreme Court proposed revisiting guidelines for such appointments, emphasizing the need to tackle mounting pendency of cases effectively.

Ad Hoc Judge Appointments: Key Insights and Details

Constitutional Provision for Ad Hoc Judges

Article 224A:

- o Empowers the Chief Justice of a High Court to request retired judges to serve temporarily with the President's approval.
- o Both the retired judge and the President must consent to the appointment.
- o Ad hoc judges enjoy full jurisdiction, powers, and privileges but are not considered permanent judges.

PROCEDURE FOR APPOINTMENT

1. Memorandum of Procedure (MOP) 1998:

- o After obtaining the retired judge's consent, the Chief Justice sends the recommendation to the state's Chief Minister.
- o The Chief Minister forwards the recommendation to the Union Law Minister, who consults the Chief Justice of India (CJI).
- o The CJI's advice is sent to the Prime Minister, who advises the President.

2. Collegium's Role:

- o The Supreme Court ruled in *Lok Prahari Through Its General Secretary S.N. Shukla IAS (Retd.) v. Union of India* (2021) that recommendations must go through the Supreme Court collegium (CJI and two senior-most judges).

Supreme Court Guidelines and Criteria for Ad Hoc Appointments

1. Criteria for Appointment:

- o High Court vacancies must exceed 20% of its sanctioned strength.
- o Over 10% of pending cases must be more than five years old.
- o Article 224A can only be invoked after regular judge appointment processes have been initiated and remain pending.

2. Panel Maintenance:

- o Chief Justices are recommended to maintain a panel of retired or soon-to-retire judges.
- o Appointments should last 2-3 years, with 2-5 ad hoc judges per High Court.

3. Periodic Reviews:

- o The process and effectiveness of ad hoc appointments should be subject to periodic reviews to ensure efficiency.

Past Instances of Ad Hoc Judge Appointments

1. **Justice Suraj Bhan (1972):** Appointed to Madhya Pradesh High Court to hear election petitions.
 2. **Justice P. Venugopal (1982):** Appointed to the Madras High Court, with a renewed term in 1983.
 3. **Justice O.P. Srivastava (2007):** Appointed to the Allahabad High Court for the Ayodhya title suits.
- Notably, these are the only recorded instances of Article 224A usage, highlighting its status as a "dormant provision."

Importance of Ad Hoc Judge Appointments

1. Tackling Judicial Backlogs:

- o Ad hoc judges are a temporary solution to address pendency in High Courts, where vacancies are often around 40%.

2. Maintaining Judicial Efficiency:

- o They provide immediate relief in cases where the judiciary is overburdened, ensuring timely justice delivery.

3. Complementary Role:

- o While not a permanent solution, ad hoc appointments can act as a stopgap until regular vacancies are filled.

Challenges in Implementation

1. Limited Invocation:

- o Despite its potential, Article 224A is rarely invoked, limiting its impact on pendency issues.

2. Need for Coordination:

- o The multi-step appointment process requires significant coordination among the judiciary, executive, and retired judges.

3. Potential Over-Reliance:

- o Frequent use of ad hoc appointments may divert attention from addressing systemic issues in regular judge recruitment.

CONCLUSION: Ad hoc judge appointments under Article 224A are a vital constitutional provision to mitigate judicial delays and ensure timely delivery of justice. While its usage has been limited, the Supreme Court's recent efforts to revisit and streamline the process are steps in the right direction. However, to maximize its effectiveness, this mechanism must be complemented by robust judicial reforms, expeditious filling of vacancies, and measures to enhance overall judicial efficiency.



REVISED PROCESS FOR CHIEF ELECTION COMMISSIONER APPOINTMENT UNDER THE 2023 ACT

CONTEXT: The appointment process for the Chief Election Commissioner (CEC) has undergone a major shift with the introduction of the Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service, and Term of Office) Act, 2023. This reform aims to broaden the scope of selection while addressing concerns raised by the Supreme Court regarding independence and transparency in appointments.

BACKGROUND OF THE NEW APPOINTMENT PROCESS:

The Chief Election Commissioner (CEC) and other Election Commissioners (ECs) are crucial for ensuring free and fair elections in India. Article 324 of the Indian Constitution empowers the President to appoint the CEC and ECs, subject to any law enacted by Parliament. Until now, no such law existed, and appointments were based on the recommendations of the Prime Minister.

In 2023, the Supreme Court's ruling in the **Anoop Baranwal v. Union of India** case emphasized the need for a transparent appointment process to safeguard the Election Commission's independence. The Court established an interim committee consisting of the Prime Minister, the Leader of the Opposition in the Lok Sabha, and the Chief Justice of India (CJI) to advise the President on appointments. In response, Parliament enacted the Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service, and Term of Office) Act, 2023, introducing a new framework for appointments.

Key Features of the 2023 Act:

1. Eligibility Criteria:

The Act mandates that only current or former Secretary-level officers are eligible for the positions of CEC and ECs, ensuring that senior bureaucrats with extensive experience are considered.

2. Search Committee Formation:

- A Search Committee, chaired by the Minister of Law and Justice, will identify and recommend a panel of five names.
- This panel is submitted to a Selection Committee for final decision-making.

3. Selection Committee Composition:

The Selection Committee includes:

- o The Prime Minister (Chairperson)
- o A Cabinet Minister (nominated by the PM)
- o The Leader of the Opposition in the Lok Sabha

This committee has the authority to choose from the recommended panel or nominate an external candidate.

4. Broadening the Candidate Pool:

The Act allows the appointment of individuals outside the Election Commission, moving away from the traditional practice of appointing the senior-most Election Commissioner

as the next CEC.

CONCERNS AND CRITICISMS:

1. Exclusion of the Chief Justice of India (CJI):

- o The Act disregards the Supreme Court's recommendation to include the CJI in the Selection Committee, which aimed to ensure non-partisan appointments.
- o Critics argue that this omission could undermine the credibility and independence of the Election Commission.

2. Executive Dominance:

- o By allowing a significant role for the Executive in the appointment process, the Act raises concerns about potential partisanship and favoritism.
- o Former CEC O.P. Rawat has highlighted the risk of political influence in future appointments.

3. Pending Legal Challenges:

- o The exclusion of the CJI from the Selection Committee has been challenged in the Supreme Court. The Court is scheduled to hear these petitions in February 2025, which could impact the current framework.

SIGNIFICANCE OF THE ACT:

The Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service, and Term of Office) Act, 2023, marks a significant departure from the past practices. It seeks to broaden the scope of selection and enhance inclusivity by involving a wider pool of candidates.

However, the Act also invites scrutiny due to concerns about the erosion of institutional autonomy and the potential for Executive overreach. These debates are particularly pertinent as the Election Commission continues to face criticism on issues such as the credibility of electronic voting machines (EVMs) and voter roll management.

Additional Insights:

• Article 326 of the Indian Constitution:

Elections to the Lok Sabha and State Legislative Assemblies are based on adult suffrage, ensuring universal voting rights for all citizens above a certain age.

• Sixty-First Amendment:

The Constitution (Sixty-First Amendment) Act, 1988, lowered the voting age from 21 to 18 years, expanding democratic participation.

CONCLUSION: The 2023 Act introduces significant changes to the appointment process of the Chief Election Commissioner and Election Commissioners, aiming to align with the Supreme Court's call for reform. While the Act offers greater flexibility and inclusivity, concerns about the exclusion of judicial oversight and the potential for political bias remain unresolved. The pending review by the Supreme Court in



2025 will play a decisive role in shaping the future of this new framework.

THE NATURE OF DISSENT IN THE INDIAN JUDICIARY

CONTEXT: The nature of dissenting opinions in the Indian Supreme Court, contrasts with those of the U.S. Supreme Court. In Indian judiciary dissents arise from various sources, including political viewpoints, social and religious interpretations, and purely intellectual disagreements on legal and constitutional issues.

The Indian judicial system, with its unique selection process for judges, leads to a diverse range of dissenting opinions compared to the U.S., where judicial appointments are heavily influenced by political affiliations.

Key Points:

• **Significance of Dissent:**

- o Dissent is a vital component of a healthy democracy, fostering robust legal discourse and ensuring that diverse perspectives are considered in judicial decision-making.
- o It allows for critical examination of legal arguments, strengthens judicial reasoning, and ultimately contributes to a more just and equitable legal system.

I. **Contrasting Dissent in India and the US:**

• **Political Influence:**

- o **US:** The US system of judicial appointment heavily favors political considerations. Presidents appoint judges who generally align with their political ideologies, leading to predictable and often politically charged dissents. This is evident in landmark cases like **Roe v. Wade** and **Obergefell v. Hodges**, where dissenting opinions often reflect deep-seated ideological divides within the US judiciary.
- o **India:** The Indian judiciary, with its collegium system, aims to minimize direct political influence on judicial appointments. This system, while not without its own set of challenges, strives to ensure that judges are selected based on merit, experience, and integrity, rather than political affiliations. This contributes to a more diverse range of judicial viewpoints and less predictable patterns of dissent.

• **Impact on Judicial Decision-Making:**

- o The political nature of US judicial appointments can sometimes lead to a more polarized and adversarial judicial environment.
- o The collegium system in India, while not entirely free from political considerations, potentially fosters a more nuanced and independent judiciary, where dissenting opinions are more likely to be based on legal and constitutional principles rather than purely political considerations.

II. **Types of Dissent in the Indian Judiciary:**

- **Political Dissent:** While less frequent than in the US, political considerations can still influence some Indian judicial decisions.
 - o The **ADM Jabalpur case** serves as a stark reminder of how political pressures can impact judicial pronouncements. Justice H.R. Khanna's dissent in this case stands as a testament to judicial independence and the importance of upholding fundamental rights, even in times of national emergency.
- **Social and Religious Dissent:**
 - o The **Shayara Bano** case on triple talaq highlights the complexities of navigating religious and social norms within the framework of constitutional rights. The dissenting opinions in this case reflected differing interpretations of religious practices and the role of the judiciary in addressing social issues.
 - o The **Aishat Shifa** case on the hijab ban demonstrates how differing understandings of secularism and the role of religion in public life can lead to diverse judicial opinions.
- **Intellectual Dissent:**
 - o Intellectual disagreements on legal and constitutional interpretations are perhaps the most common form of dissent in the Indian judiciary.
 - o The **Lalta Prasad Vaish** case exemplifies this, where the disagreement centered on the interpretation of a specific constitutional provision and its application to a particular set of facts.

III. **Significance of Dissent in the Indian Judiciary:**

- o **Fostering Robust Legal Discourse:** Dissenting opinions encourage critical examination of legal arguments, leading to a deeper understanding of the issues at hand. They provide alternative perspectives and challenge prevailing legal interpretations.
- o **Strengthening Judicial Reasoning:** The act of writing a dissenting opinion compels judges to rigorously examine the majority opinion, identify potential weaknesses, and articulate their own reasoned conclusions. This process strengthens the overall quality of judicial reasoning.
- o **Promoting Transparency and Accountability:** Publicly expressed dissenting opinions enhance transparency and accountability within the judiciary. They allow the public to understand the different viewpoints considered by the court and appreciate the complexities of legal decision-making.



- o **Upholding Democratic Values:** Dissent is a cornerstone of any healthy democracy. It allows for the expression of diverse viewpoints and ensures that all perspectives are considered in the decision-making process.

political, social, or intellectual grounds, play a crucial role in the evolution of legal thought and the strengthening of democratic principles in India. They demonstrate the importance of open dialogue, critical thinking, and the pursuit of justice within the judicial system.

CONCLUSION: The Indian judiciary, with its unique selection process and diverse perspectives, fosters a rich tradition of dissent. These dissenting opinions, whether arising from

UNITED DISTRICT INFORMATION SYSTEM FOR EDUCATION (UDISE+) REPORT 2023-24

CONTEXT: The UDISE+ report, a comprehensive database maintained by the Ministry of Education, Govt. of India provides crucial insights into the state of school education in India.

The recent report highlights a concerning trend: a significant drop in student enrolment for the 2023-24 academic year compared to previous years.

This decline, exceeding 1 crore students, marks a significant reversal after a period of relatively stable enrolment figures.

What is UDISE+

- **Overview:** UDISE+ is a comprehensive online portal developed by the Indian Ministry of Education to collect and manage data related to schools, teachers, and students across the country.
- **Data Collection:**
 - o Schools collect data using a standardized Data Capture Format (DCF).
 - o Data undergoes a multi-level verification process at the Block/Cluster, District, and State levels.
 - o The State Project Director (SPD) certifies the final data.
- **Scope:** Covers over 14.72 lakh schools, 98.08 lakh teachers, and 24.80 crore students.
- **Significance:** Considered the most trusted pan-India database in school education.

Key Highlights of UDISE+ Report 2023-24

- **Enrollment Trends:**
 - o Total enrollment declined from 25.18 crore in 2022-23 to 24.8 crore in 2023-24.
 - o This represents the first significant decline since the

pandemic.

- o Gender: Boys account for 51.9% of enrollments, and girls for 48.1%.
- **Minority Representation:**
 - o Around 20% of students belong to minority communities.
 - o Muslims constitute the largest minority group (79.6%).
- **Enrollment by Category:**
 - o SC student enrollment decreased from 4.59 crore in 2022-23 to 4.47 crore in 2023-24.
 - o OBC student enrollment decreased from 11.45 crore to 11.2 crore.
- **School Infrastructure:**
 - o Over 90% of schools have basic amenities like electricity and gender-specific toilets.
 - o Access to advanced facilities like computers, internet, and ramps remains limited:
 - 57.2% of schools have functional computers.
 - 53.9% have internet access.
 - 52.3% are equipped with ramps.

CONCLUSION: The UDISE+ 2023-24 report signals a worrying drop in student enrolment in India. This necessitates a deeper analysis to understand the underlying causes.

Key areas for improvement include bridging the digital divide, ensuring accessible infrastructure for all students, and promoting inclusive education.

Addressing these challenges is crucial to ensure equitable access to quality education for all children in India and achieve the goal of a more inclusive and equitable education system.



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UTTARAKHAND MAKES HISTORY WITH UNIFORM CIVIL CODE

CONTEXT: On January 27, 2025, Uttarakhand became the first Indian state to implement the UCC post-Independence. The bill was passed by the Uttarakhand State Assembly in February 2024, excluding Scheduled Tribes (as per Article 342 of the Constitution) and natives who have migrated out of the state to protect their cultural and traditional rights.

Introduction

The Uniform Civil Code (UCC) is a progressive legal framework that seeks to establish a common set of civil laws governing marriage, divorce, inheritance, adoption, and property rights for all citizens, irrespective of religion or community. The objective of the UCC is to promote gender equality, national integration, and a uniform legal system across India.

VISION AND OBJECTIVES OF THE UCC

- **Ensuring Equality:** The UCC eliminates gender discrimination by granting equal rights to men and women in matters of marriage, divorce, and inheritance.
- **Women's Empowerment:** It abolishes regressive practices like polygamy, triple talaq, and halala, ensuring women's rights and dignity.
- **Social Integration:** By applying a common civil law, the UCC fosters national unity and strengthens secularism.
- **Legal Simplification:** The new law replaces complex, religion-based personal laws with a standardized legal framework, making legal processes more accessible and uniform.



KEY PROVISIONS OF THE UTTARAKHAND UCC

Marriage and Divorce Laws

- Legal marriage age: **21 years for men, 18 years for women.**
- **Mandatory marriage registration on the government portal ucc.uk.gov.in.**
- **Prohibited Practices:** Bans polygamy, child marriage, triple talaq, halala, and iddat.

- Divorce procedures streamlined with **equal rights for both partners.**

Inheritance and Property Rights

- Equal **inheritance rights** for sons and daughters.
- Recognizes **children of live-in couples as legitimate**, granting them equal inheritance rights.

Regulation of Live-In Relationships

- **Mandatory registration** for live-in couples aged **21 and above.**
- **Parental consent** required for couples under 21 years.
- Applies to **Uttarakhand residents**, including those in live-in relationships outside the state.
- **Termination** of live-in relationships requires mutual consent and can be done online or offline.
- **Pregnancy notification** must be submitted within **30 days of childbirth.**
- **Housing Rights:** Landlords **cannot deny housing** to registered live-in couples.

LIVE-IN COUPLES MUST REGISTER		
<ul style="list-style-type: none"> > Equal property, inheritance rights for men and women 		<ul style="list-style-type: none"> > In disputes between couples, children can be handed over to grandparent/s
<ul style="list-style-type: none"> > Common legal framework for marriage, divorce for all communities 		<ul style="list-style-type: none"> > Blanket ban on polyandry and polygamy
<ul style="list-style-type: none"> > Registration of all marriages mandatory 		<ul style="list-style-type: none"> > Halala, iddat, triple talaq punishable offences
<ul style="list-style-type: none"> > Declaration & registration must for live-in couples 		<ul style="list-style-type: none"> > Making simpler provisions for adoption
<ul style="list-style-type: none"> > Marriage age for women fixed at 18 years, 21 years for men 		<ul style="list-style-type: none"> > Muslim women allowed to adopt kids
<ul style="list-style-type: none"> > Uniform cooling period for couples seeking divorce 		<ul style="list-style-type: none"> > Maintenance fund for family in case of death of breadwinner
		<ul style="list-style-type: none"> > STs kept out of UCC ambit

UCC Online Portal Features

- **Aadhaar-Based Verification** ensures user authenticity.
- **Multilingual AI Translation** available in **22 languages.**
- **Integrated Database** linked with **13 government departments, including police and courts.**
- **Tatkal Facility** for emergency processing with a nominal fee.

Registration Deadlines

- **Marriages Since 2010:** Must be registered **within six months.**
- **New Marriages:** Must be registered **within 60 days.**
- **Live-In Relationships:** Register within **one month** of UCC implementation.

Registration of Wills

The UCC portal allows **three methods** for registering wills:

1. Online form submission.
2. Uploading a handwritten or typed will.
3. Recording a **three-minute video will.**



Enforcement and Penalties

- **Non-compliance initially warned**, followed by fines for repeated violations.
- Appeals against **rejections must be filed within 30 days**, with decisions taken **within 60 days**.

CONSTITUTIONAL AND JUDICIAL PROVISIONS RELATED TO UCC

Constitutional Provisions

- **Article 44** of the **Directive Principles of State Policy (DPSP)** in the Indian Constitution states: "The State shall endeavor to secure for the citizens a Uniform Civil Code throughout the territory of India."
- **Article 14 & 15** ensure **equality before the law** and prohibit discrimination based on religion, caste, gender, or place of birth.
- **Article 25 & 26** provide **freedom of religion**, but they do not extend to practices that violate public order, morality, or health.

Judicial Precedents

- **Shah Bano Case (1985)**: The Supreme Court ruled in favor of a Muslim woman seeking maintenance under Section 125 of the **Criminal Procedure Code (CrPC)**, emphasizing the need for a UCC to ensure gender justice.
- **Sarla Mudgal Case (1995)**: The Supreme Court held that a Hindu man converting to Islam solely to practice polygamy was unconstitutional, reinforcing the demand for a UCC.
- **Jose Paulo Coutinho Case (2019)**: The Supreme Court reaffirmed that Goa's Civil Code (India's only existing UCC) could serve as a model for a nationwide UCC.

FAQs on Uniform Civil Code

Q1. What are the key rules under the UCC?

A: The UCC establishes uniform laws for marriage, divorce, inheritance, and property rights across all religions, replacing personal laws based on faith.

Q2. What are the potential disadvantages of the UCC?

A: Critics argue that UCC could infringe on religious freedoms, affect cultural diversity, and face resistance from religious communities due to deeply rooted traditions.

Q3. Which countries have implemented a Uniform Civil Code?

A: Countries like France, Turkey, and Ireland have uniform civil codes. However, legal systems vary widely based on historical and cultural contexts.

Q4. Is the UCC possible for the entire country of India?

A: While Article 44 of the Constitution advocates UCC, challenges such as India's vast religious diversity, political opposition, and need for consensus among stakeholders make nationwide implementation complex.

Q5. What are the key benefits of UCC?

A:

- **Gender Equality**: Removes discriminatory laws against women.
- **Legal Clarity**: Unifies multiple religious laws into a single legal framework.
- **National Integration**: Strengthens secularism and ensures equal rights.
- **Modernization of Laws**: Updates outdated practices in family law.

CONCLUSION

The implementation of the Uniform Civil Code in Uttarakhand is a significant step towards legal uniformity and gender justice in India. While it addresses discriminatory personal laws and promotes equal rights, its nationwide adoption remains a matter of debate due to socio-religious complexities. The move by Uttarakhand may serve as a model for other states, paving the way for future discussions on a national UCC. However, successful implementation would require inclusive policymaking, judicial oversight, and active dialogue with all communities to ensure a balanced approach that upholds constitutional values while respecting diversity.

WHAT IS THE GENETIC ENGINEERING APPRAISAL COMMITTEE (GEAC)?

CONTEXT: The Union Ministry of Environment, Forest and Climate Change has revised the guidelines for the selection of experts to serve on the Genetic Engineering Appraisal Committee (GEAC).

Genetic Engineering Appraisal Committee (GEAC)

The GEAC is a statutory body established under the Environment (Protection) Act, 1986. It operates within the Ministry of Environment, Forest, and Climate Change (MoEF&CC) and plays a crucial role in safeguarding the environment from potential risks associated with genetically modified organisms (GMOs).

Key Functions:

- **Environmental Risk Assessment:** The GEAC evaluates the environmental impact of large-scale use of hazardous

microorganisms and genetically engineered organisms in research and industrial production.

- **Field Trials Approval:** It assesses and approves proposals for the release of GMOs and their products into the environment, including experimental field trials.
- **Regulatory Oversight:** The committee has the authority to enforce regulations related to the use, import, and export of GMOs and crops.
- **Mandatory Clearance:** Obtaining clearance from the GEAC is mandatory for the environmental release of any genetically modified crop in India.

Composition:

- Chaired by the Special Secretary/Additional Secretary of the MoEF&CC.



- Co-chaired by a representative from the Department of Biotechnology (DBT).
- Comprises 24 members, including experts from various ministries, research institutions (ICAR, ICMR, CCMB, etc.), and other relevant fields.
- Meets on a monthly basis.

New Rules for Expert Member Selection:

The revised rules emphasize transparency and accountability among GEAC members. Key provisions include:

- **Disclosure of Interests:** Expert members are required to disclose any potential conflicts of interest that could influence their decision-making within the committee.
- **Conflict of Interest Management:** Experts are expected to take necessary steps to ensure that personal interests do not impact their assessments or decisions.
- **Recusal from Discussions:** If an expert member has a direct or indirect association with a matter under discussion, they are obligated to disclose this beforehand and generally recuse themselves from the relevant meeting.
- **Professional Background Verification:** All selected members are required to submit a detailed form outlining their professional affiliations for the past decade to ensure

transparency and identify potential conflicts.

Significance of the New Rules:

These revised rules aim to enhance the credibility and objectivity of the GEAC's decision-making process. By promoting transparency and addressing potential conflicts of interest, the new rules aim to strengthen public trust in the regulatory framework for GMOs in India.

Additional Information:

- The GEAC plays a critical role in ensuring the safe and responsible development and use of biotechnology in India.
- Its decisions have significant implications for agricultural development, food security, and environmental protection.
- The GEAC's role is increasingly important in the context of emerging technologies like gene editing and synthetic biology.

CONCLUSION: The GEAC plays a vital role in regulating the development and use of GMOs in India. The revised rules for expert member selection aim to enhance the transparency and objectivity of the committee's decision-making process, thereby strengthening public trust and ensuring the safe and responsible advancement of biotechnology in the country.



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**STRATEGIC Z-MORH TUNNEL CONNECTS
LADAKH**

**“STRENGTHENING INDO-US NUCLEAR
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STRENGTHENING INDIA-INDONESIA TIES

**THE INDUS WATERS TREATY: DISPUTE
RESOLUTION AND THE NEUTRAL EXPERT**

**US AI EXPORT RULE EXCLUDES INDIA
FROM BENEFITS OF CLOSEST ALLIES**



INDIA, TALIBAN DISCUSS COOPERATION IN DUBAI

CONTEXT: India's recent high-level engagement with the Taliban in Dubai reflects a pragmatic approach to safeguarding strategic and humanitarian interests in Afghanistan. This move highlights India's efforts to address regional security concerns, explore developmental cooperation, and counter shifting geopolitical dynamics.



INDIA-TALIBAN ENGAGEMENT: A NEW CHAPTER IN BILATERAL RELATIONS

Background of India's Engagement with the Taliban

India has historically been cautious in its dealings with the Taliban, primarily due to the group's governance approach and ties with terror organizations. Despite this, India has maintained limited engagement:

- **Initial Contact (2021):** Indian Ambassador Deepak Mittal met Taliban officials in Doha post the group's takeover.
- **Continued Diplomacy (2022):** Joint Secretary J.P. Singh held meetings with Taliban leaders to sustain dialogue.
- **Presence in Kabul:** India stationed a technical team at its embassy to oversee humanitarian projects.

This gradual evolution has now culminated in a high-level meeting in Dubai, signaling a strategic upgrade in India's approach.



Key Highlights of the Dubai Meeting

1. Security Concerns:

- o India prioritized addressing threats from Pakistan-backed terror groups like Lashkar-e-Taiba (LeT) and Jaish-e-Mohammed (JeM).
- o The Taliban acknowledged India's concerns and expressed a commitment to preventing Afghan soil from being used for anti-India activities.

2. Humanitarian and Developmental Aid:

- o India pledged to assess ongoing developmental projects and extend humanitarian aid.
- o Past assistance includes:
 - **Food Aid:** 50,000 metric tons of wheat.
 - **Medical Supplies:** 300 tons of medicines and vaccines.
 - **Disaster Relief:** Earthquake aid and winter essentials.

3. Chabahar Port Cooperation:

- o The use of Iran's Chabahar Port for trade and aid was emphasized as a key logistical channel, bypassing Pakistan.

4. Cultural and Sports Collaboration:

- o India agreed to support Afghan cricket players with training facilities in Noida, strengthening people-to-people ties.

INDIA'S STRATEGIC CALCULATIONS

• Evolving Geopolitical Landscape:

- o Strained Pakistan-Taliban ties offer India an opportunity to reassert influence in Afghanistan.
- o With Iran, Russia, and the U.S. preoccupied with their own challenges, India aims to fill the void.
- o China's growing investments in Afghan mining and infrastructure under the Belt and Road Initiative further emphasize the need for India's active engagement.



• Regional Stability:

- o A stable Afghanistan aligns with India's broader South Asia security interests, minimizing cross-border terror risks.

Challenges to Engagement

• Taliban's Internal Policies:

- o Suppression of women's rights and minorities remains a global concern.



- o Governance issues under the Taliban regime raise ethical and political dilemmas.
- **Security Threats:**
 - o The rise of the Islamic State Khorasan Province (ISKP) in Afghanistan poses direct risks to regional stability.

Opportunities for Collaboration

- **Strengthened Trade and Connectivity:** Leveraging Chabahar Port for enhanced trade routes with Central Asia and Afghanistan.
- **Humanitarian Influence:** Continued aid delivery cements India's role as a responsible regional power.
- **Strategic Dialogue:** Regular contact with Taliban leadership ensures India's security interests are protected.

Key Omissions in the Discussions

While the meeting addressed significant security and developmental issues, critical topics like women's rights, minority inclusion, and broader human rights violations were notably absent from the official statements.

CONCLUSION

India's engagement with the Taliban, marked by the high-level meeting in Dubai, underscores a balanced approach to navigating complex regional dynamics. While avoiding formal recognition of the Taliban regime, India continues to prioritize humanitarian assistance, regional security, and developmental cooperation. As the geopolitical landscape in Afghanistan evolves, India's proactive engagement ensures its strategic interests are safeguarded while contributing to the stability and prosperity of the Afghan people.

INTERNATIONAL ORGANIZATION FOR MIGRATION (IOM)

CONTEXT: "The International Organization for Migration (IOM) plays a crucial role in promoting international cooperation on migration issues, including the implementation of the UN Global Compact for Migration, a framework aimed at addressing the challenges and opportunities of international migration in a comprehensive and humane manner."

OVER VIEW: The International Organization for Migration (IOM), the leading intergovernmental organization on migration within the United Nations system, has significantly increased its humanitarian appeal for Syria, raising the requested funds from \$30 million to \$73.2 million. This move underscores the escalating humanitarian needs within the country and the critical role IOM plays in assisting vulnerable migrants, including refugees and internally displaced persons.

The UN Global Compact for Migration

The UN Global Compact for Safe, Orderly and Regular Migration, adopted in 2018, represents a landmark achievement in international cooperation on migration. This non-binding agreement, negotiated under the auspices of the United Nations, provides a comprehensive framework for addressing the multifaceted challenges and opportunities of international migration.

Key Features of the Global Compact:

- **Holistic Approach:** The Compact covers all dimensions of international migration, encompassing human rights, development, and security concerns.
- **State Sovereignty:** It reaffirms the sovereign right of states to determine their national migration policies while emphasizing the importance of international cooperation.
- **Human Rights-Based Approach:** The Compact is grounded in the principles of human rights, non-discrimination, and responsibility-sharing.
- **Focus on Cooperation:** It recognizes the need for a cooperative approach between countries of origin, transit, and destination to address the challenges and maximize

the benefits of migration.

- **23 Objectives:** The Compact outlines 23 objectives for state action, covering a wide range of issues, including:
 - o Reducing the drivers of irregular migration: Addressing poverty, inequality, and environmental degradation.
 - o Expanding pathways for safe and regular migration: Promoting legal and orderly migration channels.
 - o Protecting the rights of migrants: Ensuring access to essential services, combating discrimination, and preventing human trafficking.
 - o Strengthening international cooperation: Enhancing data sharing, information exchange, and capacity building among countries.

Significance of the Global Compact:

The Global Compact for Migration provides a valuable framework for international cooperation on migration, offering a roadmap for countries to address the challenges of migration in a more humane, orderly, and sustainable manner. While non-binding, it serves as an important political commitment and a guiding framework for national and international policies on migration.

Additional Information:

- The IOM plays a crucial role in supporting the implementation of the Global Compact for Migration, providing technical assistance, capacity building, and policy guidance to member states.
- The Compact has faced challenges, including political opposition and concerns regarding its potential impact on national sovereignty.

CONCLUSION: Despite these challenges, the Global Compact remains a significant milestone in international cooperation on migration, providing a valuable framework for addressing the complex issues surrounding human mobility in the 21st century.



STRATEGIC Z-MORH TUNNEL CONNECTS LADAKH

CONTEXT: The recently inaugurated Z-Morh Tunnel in Jammu and Kashmir's Ganderbal district is a critical infrastructure milestone, enhancing all-weather connectivity between Sonamarg and Ladakh. This engineering marvel not only strengthens India's defense capabilities but also has significant implications for regional tourism, economic development, and strategic preparedness.



Z-MORH TUNNEL: A LANDMARK INFRASTRUCTURE ACHIEVEMENT

Why in News?

Prime Minister Narendra Modi inaugurated the 6.5 km-long Z-Morh Tunnel in the Ganderbal district of Jammu and Kashmir. Constructed at an approximate cost of ₹2,400 crore, the tunnel is an engineering marvel on the Srinagar-Leh National Highway. It ensures seamless connectivity between Gagangir and Sonamarg, providing year-round access to Ladakh and transforming regional mobility. Managed by the National Highways and Infrastructure Development Corporation Limited (NHIDCL), the project commenced in May 2015 and reached completion in 2024.

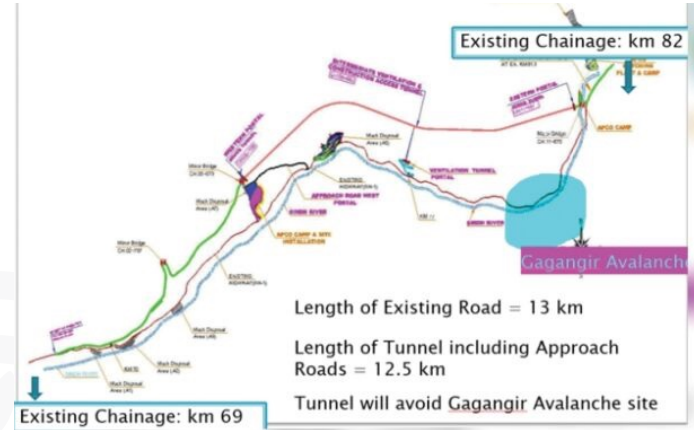


About the Z-Morh Tunnel

- **Strategic Connectivity:** The Z-Morh Tunnel is an integral part of the Zojila Tunnel Project, which aims to establish uninterrupted connectivity between Srinagar and Ladakh, ensuring round-the-year access to the strategically

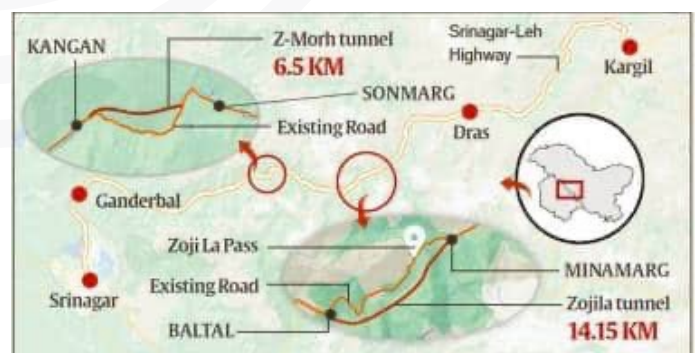
critical region.

- **Origin of the Name:** The name "Z-Morh" stems from the Z-shaped bends on the pre-existing roadway that the tunnel replaces.



Timeline and Challenges

- **Initial Delays:** Initially conceived in 2012 under the Border Roads Organisation (BRO), the project faced hurdles due to financial and administrative challenges with its first contractor, Tunnelway Ltd.
- **Retendering in 2019:** Following the financial stress of IL&FS in 2018, the project was retendered, causing further delays.
- **Completion Timeline:** Initially targeted for completion by 2016-17, the tunnel's inauguration was delayed until 2024, while the Zojila Tunnel is expected to be completed by December 2026.
- **Soft Opening:** A trial run was successfully conducted in February 2024, but the official launch was postponed due to the Model Code of Conduct in Jammu and Kashmir.



Technological Highlights

The Z-Morh Tunnel employs advanced engineering solutions to enhance travel safety and efficiency:

- **Two-Lane Tunnel:** With a 7.5-meter-wide parallel escape passage for emergencies, the tunnel prioritizes passenger safety.
- **Optimized Travel Experience:** Capable of accommodating speeds of up to 70 km/h, the tunnel reduces travel time between Srinagar and Sonamarg. It is designed to handle up to 1,000 vehicles per hour.



- **Real-Time Technology:** Equipped with state-of-the-art systems for real-time monitoring and communication, it offers uninterrupted connectivity and safer travel.

SIGNIFICANCE OF THE Z-MORH TUNNEL

1. Strategic Importance

- Located at an altitude of 8,650 feet, the Z-Morh Tunnel is vital for India's defense infrastructure, ensuring all-weather connectivity to the Union Territory of Ladakh, a region critical for national security.
- The tunnel bypasses treacherous landslide-prone and avalanche-hit zones, providing uninterrupted access to Baltal and Ladakh for military and civilian traffic.
- Together with the Zojila Tunnel, it fortifies India's strategic readiness, allowing efficient troop deployment to key areas like the Siachen Glacier and Turtuk sub-sector amid ongoing tensions with China and Pakistan.

2. Reduced Dependence on Air Transport

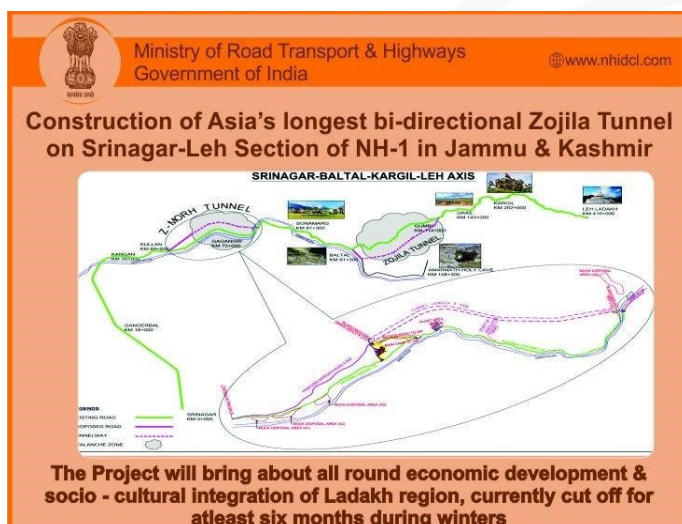
- By enabling road transportation for troops, equipment, and supplies, the tunnel significantly reduces reliance on Indian Air Force operations. This enhances cost efficiency and extends the operational life of military aircraft.

3. Boost to Winter Tourism

- The Z-Morh Tunnel eliminates snow-related disruptions, enabling year-round access to Sonamarg.
- It positions Sonamarg as a premier winter tourism hub for activities like skiing and adventure sports, complementing Gulmarg and diversifying Jammu and Kashmir's tourism portfolio.

4. Economic Impact

- By improving regional accessibility, the tunnel bolsters local livelihoods, promoting tourism-related industries and facilitating the development of winter sports infrastructure.
- Its completion is anticipated to drive significant economic growth in the region, paving the way for further investments in connectivity and infrastructure.



CONCLUSION: The Z-Morh Tunnel represents a paradigm shift in connectivity and development in the Jammu and Kashmir region. By overcoming logistical challenges, it establishes an all-weather link to Ladakh, bolstering national security and creating unprecedented economic opportunities. Beyond its strategic and defense significance, the tunnel is poised to transform Sonamarg into a year-round tourism hotspot, bringing tangible benefits to the local economy and fostering inclusive growth in the region. Together with the Zojila Tunnel, it sets the stage for a new era of regional integration, economic prosperity, and strategic preparedness.

“STRENGTHENING INDO-US NUCLEAR TIES: US EASES CURBS TO ADVANCE INDO-US NUCLEAR DEAL

CONTEXT: The United States is working towards removing regulatory hurdles to deepen civil nuclear collaboration with India, a key step in advancing the Indo-US Civil Nuclear Agreement. This move includes delisting Indian nuclear institutions from the US Entity List, addressing long-standing legal and technical barriers, and fostering innovation through joint efforts like the iCET framework.

Why in News?

The United States has announced measures to ease regulatory restrictions that hinder civil nuclear collaboration with India. US National Security Advisor Jake Sullivan revealed plans to remove key Indian nuclear institutions such as the Bhabha Atomic Research Centre (BARC), Indira Gandhi Atomic Research Centre (IGCAR), and Indian Rare Earths Limited (IREL) from the US Entity List. This move seeks to strengthen ties under the Indo-US Civil Nuclear Agreement and enable deeper collaboration between Indian institutions and American nuclear companies.

Understanding the US Entity List

About the List

The US Entity List identifies foreign individuals, businesses, and organizations subject to export restrictions and licensing requirements for specific technologies and goods.





Purpose of the List

Compiled by the Bureau of Industry and Security (BIS) under the US Department of Commerce, the list aims to:

- Prevent the proliferation of weapons of mass destruction (WMDs).
- Counter activities threatening US national security or foreign policy interests.
- Restrict trade with entities involved in terrorism or espionage.

Indo-US Civil Nuclear Agreement: An Overview

Significance of the 2008 Deal

The Indo-US Civil Nuclear Agreement was a historic milestone in bilateral relations. It allowed India, despite being a non-signatory to the Non-Proliferation Treaty (NPT), to engage in nuclear trade. Key features of the agreement include:

- Access to nuclear fuel, technology, and reactors for civilian purposes.
- Commitment to separating civilian and military nuclear programs under International Atomic Energy Agency (IAEA) safeguards.

WHY THE DEAL

- The Indo-US Civilian Nuclear Deal signed by George Bush and Manmohan Singh on July 18, 2005, was meant to remove a major irritant—India's nuclear ambitions—that had held hostage relations between the two.
- To do that, the US had to dismantle the complex architecture that it had set up to isolate India after its 1974 nuclear test and deny it access to civilian nuclear technology from any other country as well.
- That involved amendments to be passed in the US Atomic Energy Act to allow US companies to trade with India. Also a waiver in the 45-nation Nuclear Suppliers Group.

WHY INDIA WAS KEEN ON IT

- The nuclear power sector had suffered a severe setback and was facing a crippling shortage of fuel. Also, India couldn't import new technology or reactors from other countries.
- It was a good deal as it allowed India access to civilian nuclear technology while keeping its option to develop its nuclear weapons programme without hindrance.

WHY THE US PUSHED FOR IT

- The US was looking for a strong counterweight to China and its growing dominance in Asia and the world. India was key to its strategic gameplan in the region.
- The nuclear deal would remove the years of mistrust between the two apart from allowing US firms to compete for nuclear and defence projects.

Progress So Far

While the deal initially generated significant enthusiasm, its operationalization has been slow. Though India signed agreements with multiple nations for nuclear fuel and reactor technology, there has been limited success in building reactors or attracting substantial US investments.

Challenges to Indo-US Nuclear Cooperation

Key Legal Barriers

1. US Regulatory Restrictions (10CFR810):

US regulations under the Atomic Energy Act of 1954 prohibit American vendors from manufacturing nuclear equipment or performing design work in India. These restrictions hinder joint projects and India's participation in the nuclear supply chain.

2. India's Civil Liability for Nuclear Damage Act, 2010:

This legislation holds nuclear suppliers liable for damages in case of accidents, deterring foreign players like GE-Hitachi, Westinghouse, and Orano from investing in India's nuclear sector.

Technological and Financial Constraints

• Outdated Reactor Technology:

India's reliance on Pressurized Heavy Water Reactors (PHWRs) limits its competitiveness against countries like the US, Russia, and France, which lead in Light Water Reactor (LWR) technology.

• High Costs and Public Resistance:

Nuclear energy faces economic challenges due to high costs of reactor construction and public opposition fueled by safety concerns post-Fukushima (2011).

Opportunities for Collaboration

Role of the iCET Framework

The US-India Initiative on Critical and Emerging Technology (iCET) seeks to overcome existing barriers and promote innovation. A breakthrough under iCET could lead to:

- Deployment of American reactors in India.
- Co-production of nuclear components.
- Strengthening both nations' competitiveness in the global nuclear market.



Focus on Small Modular Reactors (SMRs):

India is emerging as a hub for manufacturing Small Modular Reactors (SMRs) with capacities ranging from 30 MWe to 300 MWe. SMRs are cost-effective, scalable, and ideal for export to developing nations.

Advancing LWR Technology:

Collaborating on advanced Light Water Reactors (LWRs) could modernize India's nuclear program while leveraging its cost-efficient manufacturing capabilities to reduce expenses for US companies.

Strategic Implications

1. Reducing Dependency on China:

The partnership aligns with shared efforts to counter China's dominance in sectors like SMRs and supply chains.

2. Enhancing Security in the Indo-Pacific:

Strengthened nuclear collaboration bolsters strategic ties and promotes stability in the Indo-Pacific region.

CONCLUSION

The US decision to ease restrictions on India's nuclear institutions marks a pivotal step towards realizing the full potential of the Indo-US Civil Nuclear Agreement. While challenges persist—ranging from legal hurdles to technological and financial constraints—the partnership offers immense opportunities for both nations to advance nuclear energy, strengthen economic ties, and reinforce strategic cooperation. By addressing these barriers, India and the US can pave the way for a future marked by sustainable and mutually beneficial collaboration in nuclear energy.

U.S. EXIT FROM WHO: IMPACT ON GLOBAL HEALTH

CONTEXT: The United States, under President Donald Trump, has once again announced its withdrawal from the World Health Organization (WHO), citing concerns over financial burden, political bias, and dissatisfaction with the WHO's response to the COVID-19 pandemic. This move has reignited debates about global health governance, U.S. leadership in multilateral organizations, and the impact of such decisions on global health initiatives and geopolitical dynamics.

U.S. Withdrawal from WHO: A Comprehensive Overview

BACKGROUND

On his first day back in office, President Donald Trump issued an executive order to withdraw the United States from the World Health Organization (WHO). This marks Trump's second attempt to sever ties with the global health body, previously announcing a withdrawal during his first term in 2020, a decision that was later reversed by President Joe Biden in 2021.

Trump's latest decision underscores long-standing grievances, including dissatisfaction with WHO's handling of the COVID-19 pandemic, allegations of political bias favoring certain member states, and perceived inequities in financial contributions. The move raises questions about America's commitment to multilateralism and its role in global health diplomacy.

Key Reasons for the U.S. Withdrawal

1. Criticism of the COVID-19 Pandemic Response

Trump has accused the WHO of a delayed and inadequate response to the COVID-19 outbreak, particularly its failure to hold China accountable during the virus's initial spread. This, according to the administration, compromised global efforts to contain the pandemic.

2. Allegations of Political Bias

The Trump administration has expressed concerns over WHO's alleged susceptibility to influence by certain member states, especially China. Critics argue that this undermines the organization's neutrality and effectiveness.

3. Financial Disparities

As the largest contributor to the WHO, the U.S. provided between \$100 and \$122 million annually in assessed dues and nearly \$1.3 billion in voluntary funding during 2022-2023. Trump characterized this as an unfair financial burden, pointing out that China contributes significantly less while allegedly exercising undue influence.

Immediate Actions Under the Executive Order

- **Halt in Funding:** The U.S. will immediately cease all financial contributions to the WHO, potentially depriving the organization of nearly 20% of its budget.
- **Personnel Withdrawal:** American officials stationed at or collaborating with the WHO will be recalled.
- **Pandemic Treaty Withdrawal:** The U.S. will no longer participate in negotiations for the WHO's pandemic treaty aimed at improving global responses to health emergencies.
- **Development of Alternatives:** The administration will explore partnerships with domestic and international organizations to replace WHO functions.

Implications of the Withdrawal

Global Consequences

1. Financial Strain on WHO

The U.S. contributes nearly one-fifth of WHO's funding, which supports critical global health programs such as vaccine research, disease eradication (e.g., polio), and pandemic preparedness. The funding halt will likely disrupt these efforts, particularly in low-resource countries.

2. Program Disruptions in Developing Nations

WHO's initiatives, including immunization campaigns and disease surveillance in countries like India, may face significant setbacks, jeopardizing public health gains in vulnerable regions.

3. Loss of Expertise

The withdrawal severs partnerships between WHO and U.S. institutions like the Centers for Disease Control



and Prevention (CDC), which have historically contributed to global health surveillance and emergency responses.

Domestic Consequences

1. Reduced Access to Global Health Data

The U.S. will lose access to critical information on emerging infectious diseases, potentially leaving it vulnerable to future health threats.

2. Impact on Vaccine Preparedness

By exiting the WHO, the U.S. risks losing access to influenza strain samples used for developing effective vaccines, which could increase preventable illnesses and deaths.

3. Diminished Global Influence

The withdrawal weakens U.S. leadership in shaping global health policies, creating a vacuum that could be filled by other nations, particularly China.

Geopolitical Implications and Opportunities for Emerging Economies

The U.S. withdrawal may bolster China's influence in global health governance. Beijing has already pledged an additional \$30 million in funding to the WHO, solidifying its role as a key player.

For emerging economies like India, this represents an opportunity to step up. India's leadership in vaccine production and its positioning as the "voice of the Global South" could enable it to play a pivotal role in shaping a balanced global health framework.

Challenges for the WHO

While the U.S. withdrawal presents a financial and strategic challenge, the WHO has also faced criticism for its slow response to health crises and inefficiencies in implementing reforms. Experts suggest that meaningful

engagement and collaborative efforts, rather than withdrawal, are essential for driving reforms within the organization.

Way Forward

1. Legal and Constitutional Review

Legal experts question the constitutionality of Trump's unilateral decision to withdraw, as the 1948 Congressional mandate requires a one-year notice and settlement of financial obligations.

2. Reforming WHO

The organization must address inefficiencies, improve transparency, and streamline its emergency response protocols to regain trust and maintain its leadership role in global health.

3. Strengthened Collaboration Among Emerging Economies

Nations like India, South Africa, and Brazil should collaborate to fill the void left by the U.S., ensuring continued support for global health initiatives.

CONCLUSION

The U.S. withdrawal from the WHO reflects broader tensions surrounding global health governance, financial equity, and political influence. While this decision underscores the need for reforms within the WHO, it also highlights the risks of disengagement in an increasingly interconnected world.

To address the challenges posed by this withdrawal, a collaborative and inclusive approach is essential. Emerging economies, particularly India, have a unique opportunity to lead global health efforts, ensuring that critical programs continue to support vulnerable populations worldwide. At a time when collective action is paramount, constructive engagement remains the best path forward for fostering global health security and equity.

WHAT ARE SONOBUOYS?

CONTEXT: "The recent announcement of India-US cooperation on sonobuoy co-production underscores the strategic importance of undersea domain awareness and the growing technological partnership between the two nations in enhancing maritime security."

Sonobuoys: Advanced Acoustic Sensors for Undersea Surveillance

Sonobuoys are sophisticated, expendable acoustic sensors that play a pivotal role in undersea surveillance. These devices are deployed from aircraft or ships to detect, classify, and track underwater vessels, primarily submarines.

Operational Mechanism:

- o Dropped from aircraft or ships in a predetermined pattern, sonobuoys deploy automatically upon water impact.
- o An inflatable buoy with a radio transmitter remains on the surface, enabling communication with the

deploying platform.

- o Underwater sensors descend to a specified depth, passively or actively listening for acoustic signals emitted by submarines or other underwater sources.
 - o Passive sonobuoys detect and transmit the sounds emitted by underwater targets.
 - o Active sonobuoys emit acoustic signals and analyze the returning echoes to detect and locate targets.
 - o Data collected by the sonobuoys is transmitted to the deploying platform, enabling the identification and tracking of underwater threats.
- #### Diverse Applications:
- o Beyond ASW, sonobuoys have valuable applications in scientific research and environmental monitoring.
 - o They are used to study marine mammal behavior, map oceanographic features, and monitor underwater noise levels.



- **Technological Components:**

- o Sonobuoys typically consist of a buoyant housing, hydrophones (underwater microphones) for acoustic signal detection, a power source (battery), and a radio transmitter for data communication.

Significance of India-US Cooperation:

This joint venture marks a significant milestone in the growing defense and technological partnership between India and the United States. By co-producing U.S. sonobuoys, India will gain access to advanced technology, enhance its indigenous defense manufacturing capabilities, and strengthen its maritime security posture in the Indo-Pacific region.

Key Considerations:

- This collaboration will not only enhance India's ASW capabilities but also contribute to regional maritime

security and stability.

- The transfer of technology and knowledge sharing associated with this project will be crucial for India's long-term development of advanced naval technologies.
- The successful implementation of this initiative will depend on factors such as effective technology transfer, interoperability between Indian and U.S. systems, and robust logistical support.

CONCLUSION: sonobuoys are indispensable tools for undersea surveillance and anti-submarine warfare.

The India-US collaboration on sonobuoy co-production will significantly enhance India's naval capabilities while fostering technological advancement and strengthening maritime security in the Indo-Pacific region

WHAT IS THE SILVER NOTICE?

CONTEXT: "Interpol's new Silver Notice, aimed at tracing criminally obtained assets, holds significant potential for India in combating financial crimes and recovering illicitly acquired wealth, as the country participates actively in the pilot project."

Interpol's Silver Notice: A New Tool for Asset Recovery

The International Criminal Police Organization (Interpol) has introduced a new tool in its arsenal to combat financial crime: the Silver Notice. This latest addition to Interpol's suite of color-coded alerts is specifically designed to assist member countries in tracking and recovering assets acquired through criminal activities.

Purpose and Scope:

The Silver Notice enables participating nations to request information on assets linked to various crimes, including fraud, corruption, drug trafficking, and environmental offenses. By facilitating the identification and location of assets such as properties, vehicles, and financial accounts, the Silver Notice aims to disrupt criminal networks and recover illicitly gained wealth.

Implementation:

Launched as part of a pilot project involving 52 countries, including India, the Silver Notice was initiated following a request from Italy to locate the assets of a senior mafia member. The pilot project will run until at least November 2025, with 500 notices available for distribution among participating countries.

Benefits for India:

As a participant in this pilot project, India stands to gain significantly from the implementation of the Silver Notice. With a significant number of fugitive economic offenders and a substantial amount of illicitly acquired wealth transferred offshore, this new tool can prove instrumental in tracing and recovering these assets, strengthening India's efforts to combat financial crime.

CONCLUSION: The Silver Notice holds significant potential for countries like India to combat financial crime and recover illicitly acquired wealth, strengthening law enforcement efforts and contributing to a more just and equitable global financial system."



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WHY INDIA AND BANGLADESH MUST WORRY ABOUT CHINA'S MEGA BRAHMAPUTRA DAM?

CONTEXT: China's decision to construct the world's largest hydropower dam on the Brahmaputra River (Yarlung Tsangpo) in Tibet holds transformative potential for hydropower engineering, renewable energy, and geopolitics in South Asia. This ambitious project comes with profound implications for environmental sustainability, regional development, and international water politics.



IN SHORT

- China plans the world's largest dam on Brahmaputra in Tibet.
- Dam raises geopolitical concerns for India and Bangladesh.
- India plans countermeasures amid ecological and strategic worries.

KEY POINTS

Introduction

- The Brahmaputra dam project in Medog County, Tibet, will cost \$137 billion
- This is part of China's goal to achieve carbon neutrality by 2060, as outlined in its 14th Five-Year Plan.
- Capable of generating up to 60 GW of electricity annually.
- Three times the output of the Three Gorges Dam on the Yangtze River in China.

CHINA'S RATIONALE FOR BUILDING THE DAM

1. Environmental Sustainability:

- o Supports renewable energy goals.
- o Potential annual electricity output of 300 billion kWh.

2. Regional Development:

- o Aims to boost Tibet's economy with job creation and infrastructure improvement.
- o Enhances energy independence and national security.

GEOPOLITICAL AND STRATEGIC CONSIDERATIONS

- Critics argue the dam could be a tool for geopolitical influence, enabling China to manipulate water flows.
- Tensions with downstream nations (India and Bangladesh) over potential ecological and water-flow disruptions.
- **Concerns over China's Water Diplomacy:** Critics argue that China has a history of using trans-boundary rivers

as strategic tools to exert influence over downstream neighbors.

- **Strategic Location and Scale:** The proposed dam at the Great Bend is located on the lower reaches of the Brahmaputra, closer to the Indian border, increasing its strategic significance and potential for impacting India.
- **History of Dam Construction:** China has been gradually increasing its dam-building activities on the Brahmaputra River since the 2010s, starting with smaller projects like the Zam Hydropower Station.
- **Escalating Concerns:** The current project, given its scale and location, represents a significant escalation in China's dam-building efforts on the river, raising concerns about its impact on water flow, downstream ecosystems, and regional stability.
- **Geopolitical Tensions:** The project has heightened geopolitical tensions in South Asia, particularly between India and China, due to its potential to disrupt water flows and its strategic implications.

HISTORICAL CONTEXT OF CHINA'S DAM PROJECTS

- Earlier projects, like the Zam Hydropower Station, were concentrated on the upper Brahmaputra.
- The Medog dam signifies an escalation as it is closer to India's border, raising security and ecological concerns.

STRATEGIC IMPORTANCE OF THE BRAHMAPUTRA

- A lifeline for India and Bangladesh, supporting agriculture, fisheries, and transportation.
- Prone to floods due to high sediment load and seasonal variability.

IMPACT ON INDIA

1. Environmental Risks:

- o Construction in a seismically active zone could trigger earthquakes and landslides.

2. Hydrological Disruptions:

- o Excess water release could worsen monsoonal floods in Arunachal Pradesh and Assam.
- o Water restrictions in dry seasons could affect agriculture and hydropower.

3. Ecosystem Damage:

- o Reduced sediment flow may impact fertility and fish populations in Assam's plains.

4. Geopolitical Leverage:

- o China's control upstream could give it a significant strategic advantage over India.

IMPACT ON BANGLADESH

- Possible exacerbation of floods and salinity intrusion.
- Threats to deltaic agriculture and fisheries.



INDIA'S COUNTERMEASURES

1. **Infrastructure Development:**
 - o A 10 GW hydropower project on the Siang River.
2. **Diplomatic Strategies:**
 - o Strengthening regional cooperation and advocating for equitable water-sharing agreements.
 - o Raising concerns on international platforms like the United Nations.
3. **Data Sharing Agreements:**
 - o Enhancing mechanisms for hydrological cooperation with China.

CONCLUSION: The Brahmaputra super-dam reflects China's technological ambitions and strategic aspirations. While offering renewable energy and economic development, its downstream effects pose significant challenges. India must adopt a mix of strategic infrastructure development, robust diplomacy, and regional cooperation to safeguard its interests while advocating sustainable transboundary water management. The shared resource demands balanced governance to ensure equitable benefits for all riparian states.

WORLD METEOROLOGICAL ORGANIZATION

CONTEXT: The WMO's confirmation of 2024 as the warmest year on record underscores the escalating impacts of climate change and highlights the critical role of international cooperation, facilitated by the WMO, in addressing this global challenge.

THE WORLD METEOROLOGICAL ORGANIZATION (WMO): A KEY PLAYER IN GLOBAL WEATHER AND CLIMATE

The World Meteorological Organization (WMO), a specialized agency of the United Nations, plays a crucial role in understanding and addressing global weather and climate challenges.

- **Origins:** Founded in 1950, the WMO evolved from the International Meteorological Organization (IMO), established in 1873.
- **Mandate:** As the UN's authoritative voice on weather, climate, and hydrology, the WMO focuses on:
 - o Understanding the Earth's atmosphere and its interactions with the oceans.
 - o Facilitating international cooperation in meteorological research and data exchange.

- **Governance:**
 - o The World Meteorological Congress, comprising representatives from all member states, serves as the supreme governing body.
 - o The Executive Council, comprising 36 members, oversees the day-to-day operations.
 - o The Secretariat, headed by a Secretary-General, provides administrative support.
- **Membership:** The WMO boasts a global membership of 193 nations, including 187 Member States and 6 Territories.
- **Headquarters:** Geneva, Switzerland.

What is Meteorology?

Meteorology is the scientific discipline dedicated to studying atmospheric phenomena, specifically within the troposphere and lower stratosphere. It encompasses the systematic observation, analysis, and prediction of weather patterns, including temperature, humidity, wind, precipitation, and atmospheric pressure.



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FENCING THE INDIA-BANGLADESH BORDER: ISSUES AND CHALLENGES

CONTEXT: The long-standing border issues between India and Bangladesh have resurfaced following tensions over the construction of fencing along the India-Bangladesh border. Bangladesh recently summoned India's High Commissioner in Dhaka, alleging that the Border Security Force (BSF) had violated a bilateral agreement. In response, India summoned Bangladesh's Acting High Commissioner to address concerns regarding border security and fencing efforts, particularly in West Bengal's Malda district.



INDIA-BANGLADESH BORDER AND FENCING ISSUES

Overview of the India-Bangladesh Border

The India-Bangladesh border, stretching 4,096.7 km, is India's longest international boundary, passing through the states of:

- West Bengal – 2,216.7 km
- Assam – 263 km
- Meghalaya – 443 km
- Tripura – 856 km
- Mizoram – 318 km

The border comprises diverse geographical features, including plains, hills, forests, and riverine stretches. Due to its porous nature, it remains vulnerable to trans-border crimes, such as illegal immigration, human trafficking, and smuggling.

CURRENT STATUS OF BORDER FENCING

Out of the total 4,096.7 km border, 3,141 km have been fenced, with ongoing efforts to complete the remaining sections, particularly in challenging terrains.

FENCING IN WEST BENGAL

- West Bengal, which shares the longest border segment with Bangladesh, has achieved 81.5% fencing coverage.
- Remaining gaps persist due to:
 - Opposition from local villagers
 - Difficult terrain conditions
 - Ongoing diplomatic discussions with Bangladesh

CHALLENGES IN COMPLETING BORDER FENCING

The Ministry of Home Affairs has highlighted several factors hindering the completion of fencing:

- **Resistance from the West Bengal government** over land acquisition.
- **Villagers' objections** to fencing, citing restrictions on movement and livelihoods.
- **Riverine border sections** (approximately 900 km), where physical fencing is impractical and the BSF's water wing is deployed for security.
- **Disputed territories** and enclaves, which complicate demarcation efforts.

RECENT FENCING INCIDENTS AND DISPUTES

Malda's Kaliachak Block Incident

- The Central Road Works Department and BSF initiated a single-row fence (SRF) construction in Malda's Kaliachak No. 3 block, adjacent to Bangladesh's Shibganj in Rajshahi district.
- Border Guards Bangladesh (BGB) objected, citing a violation of bilateral guidelines.
- Following negotiations, construction resumed without further escalation.

Mekhliganj, Cooch Behar Dispute

- Indian villagers in Mekhliganj began erecting a four-foot-high barbed-wire fence near the Dahagram-Angarpota enclave.
- The objective was to prevent Bangladeshi cattle from grazing on Indian farmlands.
- BGB intervened, leading to renewed tensions.

BORDER MANAGEMENT GUIDELINES AND EXCEPTIONS

1975 India-Bangladesh Border Agreement

The **1975 Joint Guidelines** prohibit any construction, including fencing, within **150 yards of the international boundary (zero line)**. However, interpretations differ:

- India does not classify single-row fencing as a defensive structure, arguing it is meant for crime prevention.
- Bangladesh considers it a violation of the agreement, opposing fencing close to the zero line.

Exceptions to the 150-Yard Rule

- In cases where geography, population, or riverine conditions prevent fencing at 150 yards, India negotiates with Bangladesh for alternative placements.
- Some villages within 20 yards of the border remain



inhabited, requiring fencing near the zero line.

- Gates are installed in fenced areas, allowing regulated movement for local residents.
- In emergencies, BSF is authorized to open gates immediately.

KEY REASONS FOR BANGLADESH'S OPPOSITION

1. Violation of the 1975 Agreement: Bangladesh argues that fencing within 150 yards breaches the guidelines, even when classified as an SRF.
2. Impact on Border Residents: Fencing restricts movement and daily activities of people living along the border.
3. Objection to Smart Fencing: Bangladesh opposes India's smart fencing, which includes CCTV and electronic surveillance, citing concerns over potential monitoring of its territory.
4. Trans-Border Crimes: While India sees fencing as a tool to curb illegal activities, Bangladesh remains skeptical about its necessity.

ISRAEL-HAMAS CEASEFIRE: THREE-PHASE PLAN

CONTEXT: Hamas has agreed to a draft ceasefire agreement in the ongoing Israel-Hamas conflict, with final approval pending from the Israeli Cabinet. The conflict, which began in October 2023, has resulted in significant casualties and humanitarian crises. The proposed ceasefire plan aims to de-escalate hostilities, ensure the release of hostages, and initiate reconstruction efforts in Gaza.

ISRAEL-HAMAS CONFLICT: CEASEFIRE PROPOSAL AND CHALLENGES

Background of the Conflict

Hamas' Attack on Israel

On October 7, 2023, Hamas launched an unprecedented attack on Israel, firing thousands of rockets and infiltrating Israeli territory. The assault led to over 1,200 deaths, including civilians, and the abduction of numerous hostages. Currently, around 100 Israelis remain captive in Gaza, with the military estimating that at least a third of them are dead.

Israel's Military Response

In retaliation, Israel launched a large-scale military offensive targeting Hamas infrastructure. The offensive has led to widespread destruction in Gaza, with The Lancet reporting over 64,000 deaths. Additionally, nearly 90% of Gaza's 2.3 million residents have been displaced, many of whom are living in dire conditions in makeshift tent camps.

Ceasefire Efforts and Global Mediation

The prolonged conflict has drawn international condemnation, with humanitarian concerns mounting. Several ceasefire attempts have been brokered by the United States, Egypt, and Qatar. However, previous negotiations have failed due to deep-seated political tensions and differing conditions set by both parties.

ONGOING DIPLOMATIC ENGAGEMENTS

- The fencing issue has been an ongoing subject in bilateral flag meetings for over five years.
- The BSF and BGB continue negotiations to resolve disputes, balancing security concerns with local community interests.

CONCLUSION: The India-Bangladesh border remains a complex and sensitive region, requiring a balance between national security and bilateral diplomacy. While India views fencing as a necessary measure to curb trans-border crimes, Bangladesh perceives it as a violation of existing agreements and an inconvenience for border residents. The resolution of these disputes depends on sustained diplomatic negotiations, ensuring that security concerns do not overshadow the historically strong India-Bangladesh relationship.



THE PROPOSED THREE-PHASE CEASEFIRE PLAN

The ceasefire proposal is based on a framework suggested by U.S. President Joe Biden in June 2024. However, several unresolved details and the absence of long-term guarantees make its implementation uncertain.

Phase 1: Temporary Ceasefire and Initial Hostage Exchange

- A six-week ceasefire will be enforced, accompanied by a complete Israeli military withdrawal from populated areas in Gaza.
- Hamas will release 33 Israeli hostages, including women, the elderly, and the wounded, in exchange for hundreds of Palestinian prisoners.
- By the end of this phase, all civilian hostages, whether alive or deceased, will be released.
- Humanitarian aid will increase significantly, with 600 aid trucks entering Gaza daily.
- Displaced Palestinians will begin returning to their homes, though extensive destruction poses major resettlement challenges.

Phase 2: Further Hostage Releases and Israeli Withdrawal

- Hamas will release remaining hostages, predominantly male soldiers, in exchange for additional Palestinian



- prisoners.
- Israel will execute a “complete withdrawal” of its forces from Gaza.
- However, this phase does not guarantee the continuation of the ceasefire, leaving open the possibility of renewed conflict.

Phase 3: Reconstruction of Gaza

- A large-scale reconstruction plan for Gaza will be initiated.
- Any remains of deceased hostages will be returned to their families.
- International efforts will focus on rebuilding critical infrastructure and ensuring long-term stability.

CHALLENGES TO CEASEFIRE IMPLEMENTATION

Hamas' Conditions

- Hamas demands a full Israeli military withdrawal and a permanent end to hostilities before releasing remaining hostages.
- This condition has been a major sticking point in past negotiations.

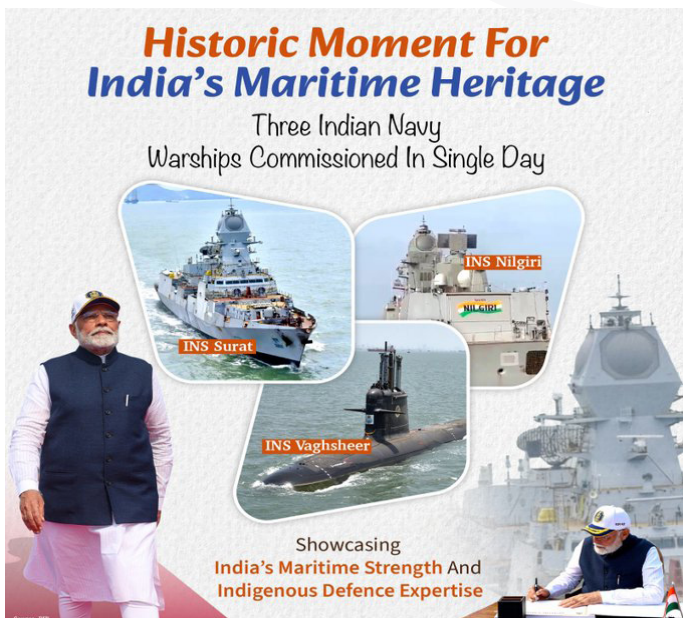
Recurring Obstacles in Past Ceasefires

Previous ceasefire attempts have failed due to:

- Hamas' insistence on Israel's complete withdrawal from Gaza, which Israel has consistently rejected.

INS NILGIRI, INS SURAT, AND INS VAGHSHEER COMMISSIONED

CONTEXT: The Indian Navy recently witnessed a historic moment with the commissioning of three frontline combat vessels – INS Nilgiri, INS Surat, and INS Vaghsheer – at the Naval Dockyard in Mumbai. Prime Minister Narendra Modi presided over the commissioning ceremony, marking the first time a frigate, a destroyer, and a submarine have been commissioned together. These additions bolster India's maritime defense capabilities, reinforcing self-reliance in warship construction and strengthening its strategic influence in the Indian Ocean Region (IOR).



- Israel's firm stance on dismantling Hamas as a precondition for lasting peace.

Political Divisions in Israel

- Far-right Israeli ministers have strongly opposed the ceasefire deal, calling it a surrender to Hamas.
- Prime Minister Benjamin Netanyahu faces internal political pressure, as his coalition government includes the Likud Party, far-right factions, and ultra-Orthodox Jewish leaders.
- The deal could further weaken Netanyahu's fragile coalition, potentially affecting his political future.

CONCLUSION

The proposed ceasefire agreement offers a structured approach to de-escalating the Israel-Hamas conflict through phased negotiations. However, deep-rooted political tensions, opposing demands, and internal divisions in Israel pose significant obstacles to its successful implementation. If realized, the agreement could provide immediate humanitarian relief and lay the foundation for long-term peace efforts. However, the fragile nature of the deal leaves the possibility of renewed hostilities looming over the region.

INS NILGIRI: THE LEAD SHIP OF PROJECT 17A

Overview of Nilgiri-Class Stealth Frigates

INS Nilgiri belongs to the Nilgiri-class stealth frigates, developed under Project 17A, which is an advanced iteration of the Shivalik-class (Project 17). Designed for blue-water operations, these multi-mission frigates are capable of countering both conventional and non-conventional threats.

Key Features and Capabilities

- **Integrated Construction:** Uses modular techniques for faster build times.
- **Advanced Weaponry:** Equipped with supersonic surface-to-surface missiles, Medium Range Surface-to-Air Missiles (MRSAM), upgraded 76 mm guns, and rapid-fire close-in weapon systems.
- **Multi-role Capabilities:** Can undertake anti-surface warfare, anti-air warfare, and anti-submarine warfare.

Construction and Deployment

- **Keel Laying:** December 28, 2017
- **Launch:** September 28, 2019
- **Sea Trials:** Began in August 2023
- **Commissioning:** December 2024

Other Ships in the Nilgiri-Class

Six other frigates – **Himgiri, Taragiri, Udaygiri, Dunagiri, and Vindhyagiri** – are currently under construction at **Mazagon Dock Shipbuilders Limited (MDL), Mumbai, and Garden Reach Shipbuilders and Engineers (GRSE), Kolkata.**



INS SURAT: THE FINAL DESTROYER OF PROJECT 15B

Overview of Project 15B Destroyers

INS Surat is the fourth and final **stealth guided missile destroyer** under **Project 15B**, following INS Visakhapatnam, INS Mormugao, and INS Imphal. It is an upgraded version of the Kolkata-class destroyers built under **Project 15A**.

Key Features and Capabilities

- **India's First AI-Enabled Warship:** Uses indigenous artificial intelligence (AI) solutions for advanced operational efficiency.
- **Technical Specifications:**
 - o **Displacement:** 7,400 tonnes
 - o **Length:** 164 metres
 - o **Speed:** Over 30 knots (56 km/h)
- **Advanced Armaments:** Equipped with cutting-edge surface-to-air missiles, anti-ship missiles, torpedoes, and sophisticated sensor systems for network-centric warfare.

Project 15B: Evolution of Indian Destroyers

- Built as an advanced version of the Kolkata-class (Project 15A) destroyers.
- The contract for four destroyers was signed in January 2011, designed by the Indian Navy's Warship Design Bureau and constructed at MDL.
- Named after major Indian cities representing different regions, ensuring a national representation in naval assets.

Role of Destroyers in Naval Warfare

Destroyers like INS Surat are highly maneuverable and well-armed, providing strong offensive capabilities, endurance, and network-centric warfare potential. They play a critical role in force projection and deterrence in the IOR.

INS VAGHSHEER: THE FINAL SCORPENE-CLASS SUBMARINE

Overview of the Kalvari-Class Submarines

INS Vaghsheer is the **sixth and final submarine** in the Kalvari-class, built under **Project 75**. These **diesel-electric submarines** are designed for stealth and versatility in naval warfare.

Design and Capabilities

- **Scorpene-Class Design:** Developed from the French Naval Group's Scorpene blueprint in collaboration with Spanish entity Navantia.
- **Stealth Features:** Among the quietest diesel-electric submarines, enhancing its ability to evade detection.
- **Multi-role Capabilities:** Capable of anti-surface warfare, anti-submarine warfare, intelligence gathering, area surveillance, and special operations.

Armament and Technology

- **Wire-Guided Torpedoes**
- **Anti-Ship Missiles**
- **Advanced Sonar and Sensor Systems**

Naming and Heritage

- Named after **sandfish**, a species found in the **Indian Ocean**.
- Follows the naming convention of decommissioned submarines, reflecting India's **post-independence Soviet-origin Foxtrot class submarine legacy**.



STRATEGIC AND NATIONAL SIGNIFICANCE

Indigenous Naval Development

- All three warships are **Made in India**, highlighting India's **growing self-reliance in defense manufacturing**.
- The commissioning of these vessels is the **culmination of a decade-long design and development process**, signifying India's long-term commitment to maritime security.

Enhancing India's Naval Power

- These vessels significantly enhance **India's naval strike capability, deterrence, and maritime security presence**.
- Strengthens the **Navy's force level to counter regional and global threats**.

Bolstering Maritime Influence

- Their induction enhances India's **strategic maritime dominance in the IOR and beyond**.
- Reinforces India's position as a **key maritime player in global security architecture**.

CONCLUSION: The commissioning of INS Nilgiri, INS Surat, and INS Vaghsheer marks a significant step forward in India's maritime defense strategy. These warships, designed and built indigenously, showcase India's growing technological prowess and commitment to securing its maritime interests. Their inclusion in the Navy enhances India's deterrence capabilities, strengthens naval operations, and reinforces the nation's vision of becoming a self-reliant defense power with a dominant presence in the Indian Ocean Region.



INDIA'S LARGEST ONLINE IAS COACHING ACADEMY



THE U.S. WITHDRAWAL FROM WHO

CONTEXT: On his first day back in office, President Donald Trump signed an executive order to withdraw the United States from the World Health Organization (WHO), reigniting debates over America's role in global health diplomacy. The decision, driven by concerns over WHO's handling of the COVID-19 pandemic, perceived political biases, and financial burdens, raises significant implications for global health governance, U.S. diplomatic influence, and developing nations relying on WHO's programs.



Background: Trump's Renewed Move to Exit WHO

President Donald Trump, on his first day back in office, signed an executive order to withdraw the U.S. from the World Health Organization (WHO). This marks his second attempt to exit the global health body, following his initial withdrawal announcement in 2020, which was later reversed by President Joe Biden in 2021. The decision reopens discussions on the U.S.'s commitment to multilateral health efforts and its influence in global health diplomacy.

KEY REASONS FOR THE WITHDRAWAL

1. Mishandling of the COVID-19 Pandemic

Trump accused WHO of responding too slowly to the COVID-19 outbreak and failing to hold China accountable for the virus's early spread, undermining global preparedness and response efforts.

2. Alleged Political Bias

The administration claims WHO is disproportionately influenced by certain member states, particularly China, raising concerns about fairness and transparency in its decision-making.

3. Financial Burden on the U.S.

- The U.S. is WHO's largest contributor, providing between \$100-\$122 million annually in assessed dues and nearly \$1.3 billion in voluntary funding (2022-2023).
- Trump views this as an unfair financial burden, especially when compared to significantly lower contributions from countries like China.

IMMEDIATE ACTIONS OUTLINED IN THE EXECUTIVE ORDER

- **Halt in U.S. Funding:** Immediate cessation of all financial contributions to WHO.
- **Personnel Withdrawal:** Recall of U.S. government employees from WHO-related positions.
- **Development of Alternatives:** Identification of other domestic and international partners to replace WHO's functions.
- **Exit from WHO's Pandemic Treaty Negotiations:** Discontinuation of participation in the treaty aimed at improving global pandemic response coordination.

IMPLICATIONS OF U.S. WITHDRAWAL FROM WHO

1. Financial Strain on WHO

The U.S. accounts for nearly 20% of WHO's funding. Losing this revenue may severely impact WHO's ability to support:

- Vaccine research and distribution programs.
- Global disease eradication initiatives, such as polio.
- Pandemic preparedness and emergency response measures.

2. Disruptions in Health Programs for Developing Nations

WHO plays a crucial role in aiding public health programs in developing countries, including India's immunization and disease surveillance efforts. A funding shortfall could hinder these initiatives, particularly in low-income regions.

3. Loss of Expertise and Collaboration

The withdrawal would limit WHO's collaboration with leading U.S. health agencies like the Centers for Disease Control and Prevention (CDC), which provide crucial expertise in disease surveillance and response.

DOMESTIC CONSEQUENCES FOR THE U.S.

1. Reduced Access to Global Health Data

Without WHO membership, the U.S. may lose access to critical information on emerging infectious diseases, increasing its vulnerability to future pandemics.

2. Impact on Vaccine Preparedness

- WHO provides essential influenza strain samples that help develop effective flu vaccines.
- Losing this access could lead to delays in vaccine production and higher mortality rates from preventable diseases.

3. Decline in U.S. Influence on Global Health Policy

By stepping away from WHO, the U.S. may forfeit its leadership role in shaping global health policies. This vacuum could be filled by countries like China, which has already pledged additional financial support to WHO, potentially shifting the balance of influence.



Geopolitical Shifts and the Role of Emerging Economies

The U.S. withdrawal provides an opportunity for other nations, particularly China and the Global South, to assume a more prominent role in global health governance.

- **China's Growing Influence:**
 - o China has pledged an additional \$30 million in funding to WHO.
 - o This move could strengthen its position in global health diplomacy.
- **India's Potential Role:**
 - o As a leading vaccine producer and advocate for the Global South, India could step up to help fill the financial and strategic gap left by the U.S.
 - o Strengthened alliances among emerging economies may create a more balanced global health framework.

Challenges for WHO Post-U.S. Withdrawal

WHO has faced criticism over its slow response to health crises and inefficiencies in implementing reforms. While the loss of U.S. funding may exacerbate these challenges, experts argue that constructive engagement rather than withdrawal would be a more effective approach to drive meaningful reform.

WAY FORWARD

1. Legal and Legislative Review in the U.S.

- Legal experts question whether Trump can unilaterally

withdraw from WHO without Congressional approval.

- The U.S. Congress had mandated in 1948 that withdrawal from WHO requires a one-year notice and the fulfillment of financial obligations.

2. WHO Reforms for Greater Transparency and Efficiency

- Addressing bureaucratic inefficiencies.
- Improving transparency in funding and decision-making.
- Strengthening emergency response protocols.

3. Strengthening Collaboration with Emerging Economies

- Countries like India and South Africa could collaborate to provide alternative funding and strategic support to global health initiatives.
- Strengthening regional health partnerships could mitigate the impact of U.S. disengagement.

CONCLUSION: The U.S. withdrawal from WHO represents a significant shift in global health diplomacy, with far-reaching consequences for international health initiatives, U.S. influence, and geopolitical alignments. While the decision aims to reduce financial burdens and address perceived inefficiencies, it risks undermining global health programs, disrupting pandemic preparedness, and diminishing America's leadership in health policy. Moving forward, the response of emerging economies and the broader international community will determine the extent of the impact and the future of multilateral health cooperation.

RENEWED ENGAGEMENT: INDIA-CHINA RESUMES KEY COOPERATION

CONTEXT: India and China have recently taken diplomatic steps to stabilize their bilateral relationship by resuming key exchanges, including the Kailash Mansarovar Yatra, restoring direct flights, and enhancing trans-border cooperation. However, underlying tensions remain, particularly over border disputes, trade concerns, and strategic interests. This evolving dynamic highlights both progress and persistent challenges in their relationship.

tensions and geopolitical competition. Recent diplomatic interactions between Indian Foreign Secretary Vikram Misri and Chinese officials have led to:



INDIA-CHINA RELATIONS: PROGRESS, CHALLENGES, AND FUTURE PROSPECTS

Diplomatic Engagement and Confidence-Building Measures

India and China have initiated several measures to rebuild trust and stabilize their ties after years of border

- **Resumption of the Kailash Mansarovar Yatra** after a four-year suspension.



- **Restoration of direct flights** between the two countries.
- **Issuance of visas for journalists and think tanks** to enhance dialogue.
- **Renewed trans-border river data sharing** to address hydrological concerns.

These steps indicate an effort to move forward while managing longstanding differences. However, the framing of these developments by both nations reflects distinct diplomatic approaches.

Diverging Perspectives on Bilateral Ties

India's Perspective

India has framed these measures as part of a cautious, people-centric approach to rebuilding trust. New Delhi maintains that diplomatic engagements should address fundamental concerns, particularly border security, market access, and strategic balance. The focus remains on ensuring mutual respect and sensitivity while advancing cooperative mechanisms.

China's Perspective

China, on the other hand, has positioned these developments as part of a broader push for normalization and progress in relations. Beijing emphasizes economic and strategic cooperation while urging India to view ties through a long-term, constructive lens. However, it downplays ongoing territorial disputes and trade asymmetries, presenting an optimistic outlook on engagement.

Key Developments and Their Implications

Resumption of the Kailash Mansarovar Yatra

- India confirmed that the pilgrimage will resume in **summer 2025**, with discussions on logistics underway.
- China emphasized **urgency** in restoring access to the Xizang Autonomous Region, where the yatra takes place.

This move is significant for religious diplomacy, as Kailash Mansarovar is sacred to Hindus, Buddhists, and Jains. However, security considerations and border tensions remain

crucial factors in its implementation.

Restoring Direct Flights and People-to-People Exchanges

- Prior to COVID-19 and the Galwan clash in 2020, India and China had 539 direct flights per month, with a capacity of over 1.25 lakh passengers.
- India insists on negotiating a new framework for air travel agreements, while China links flights to improved media and academic exchanges.

Although a positive step, this measure does not address deeper economic concerns, including restricted market access for Indian companies in China.

Trans-Border River Cooperation and Hydrological Data Sharing

- China has agreed to resume **sharing hydrological data on trans-border rivers**, particularly the Brahmaputra (Yarlung Tsangpo).
- India is concerned about China's construction of massive hydropower projects, which could affect downstream water flow and ecology.

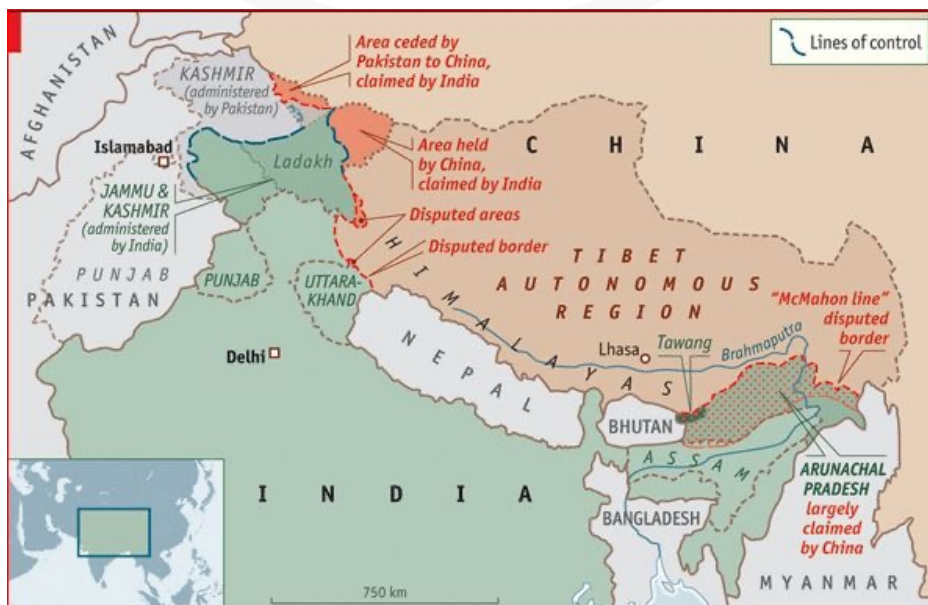
This cooperation is crucial for managing flood risks and water security, but India remains cautious about China's broader hydrogeopolitics in the region.

Border Disputes and Strategic Challenges

Unresolved Border Issues and Military Standoffs

- The **Line of Actual Control (LAC)** remains a major flashpoint, with periodic standoffs in **Ladakh, Arunachal Pradesh, and Sikkim**.
- Since the **2020 Galwan Valley clash**, both sides have maintained high troop deployments along disputed areas.
- Despite **19 rounds of military talks**, a full disengagement has not been achieved.

India insists that peace at the LAC is essential for normalizing relations, while China seeks to separate border tensions from broader diplomatic engagements.





Trade and Economic Imbalances

- Bilateral trade in 2023 reached \$136 billion, but India's trade deficit with China remains a concern at over \$100 billion.
- Indian businesses continue to face barriers in Chinese markets, particularly in IT, pharmaceuticals, and manufacturing.
- India has expressed the need for greater transparency in China's economic policies to create a level playing field.

While economic ties remain robust, the lack of reciprocity in trade and investment policies continues to be a source of friction.

India's Support for China's SCO Presidency

China mentioned that India will actively participate in **Shanghai Cooperation Organization (SCO) meetings** under its presidency. However, India's statement did not address this, reflecting New Delhi's strategic ambiguity toward multilateral engagements dominated by China.

Geopolitical Considerations and Global Alliances

- **India's Indo-Pacific Strategy:** India continues to strengthen ties with the **Quad (US, Japan, Australia)** and enhance partnerships with **ASEAN, France, and the UK** to counterbalance China's growing influence.
- **China's Relations with Pakistan:** China's support for Pakistan, particularly on issues like **CPEC in PoK** and defense cooperation, remains a major strategic challenge for India.
- **BRICS and Global South Engagement:** India and China find common ground in **BRICS expansion and Global South advocacy**, but strategic competition persists in African and Asian markets.

India-China Relationship: FAQs

Q1. What are the latest developments in India-China relations?

India and China have resumed the Kailash Mansarovar Yatra, restored direct flights, reintroduced visas for journalists,

and restarted trans-border river data sharing.

Q2. What are the main sources of conflict between India and China?

Key conflicts include border disputes along the LAC, China's military presence in Aksai Chin and Arunachal Pradesh, trade imbalances, and China's strategic ties with Pakistan.

Q3. What does China import from India?

China imports minerals, chemicals, cotton, ores, and raw materials, while India imports high-value electronic goods, machinery, and APIs for pharmaceuticals.

Q4. What is the official border between India and China called?

The Line of Actual Control (LAC) is the de facto border between India and China, but its exact alignment remains disputed.

Q5. Who is responsible for guarding the India-China border?

The Indian Army, along with the Indo-Tibetan Border Police (ITBP), secures the India-China border, while China's People's Liberation Army (PLA) is responsible on the Chinese side.

Future Outlook and the Path Ahead

India-China relations remain in a **delicate balancing act**, characterized by diplomatic engagements alongside deep-rooted tensions. While recent steps signal a willingness to cooperate on people-to-people exchanges and economic interactions, unresolved **border disputes, trade imbalances, and strategic rivalries** continue to pose significant challenges.

CONCLUSION

India and China's recent diplomatic overtures mark a pragmatic shift toward stabilizing relations, but fundamental differences remain. The **LAC dispute, economic asymmetries, and geopolitical competition** will continue to shape their interactions. Moving forward, both nations must balance cooperation with vigilance to ensure a stable and constructive relationship.



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STRENGTHENING INDIA-INDONESIA TIES

CONTEXT: India and Indonesia have reinforced their diplomatic, economic, and strategic ties, marking a new chapter in their relationship. The Indonesian President's participation as the Chief Guest at India's 76th Republic Day celebrations underscored the 75th anniversary of India-Indonesia diplomatic relations. Both nations have deepened their engagement through defense cooperation, trade expansion, energy security, and multilateral collaboration, highlighting Indonesia's strategic significance in India's Indo-Pacific vision.



INDIA-INDONESIA RELATIONS: STRENGTHENING STRATEGIC TIES

1. Diplomatic Milestone: 75 Years of Friendship

The presence of the Indonesian President at India's 76th Republic Day celebrations emphasized the strong historical and evolving ties between the two nations. Several Memoranda of Understanding (MoUs) were signed in areas such as health cooperation, digital infrastructure, and defense collaboration, further solidifying their Comprehensive Strategic Partnership.

2. Comprehensive Strategic Partnership: Key Pillars of Cooperation

Defense and Security Collaboration

- Strengthening maritime and military cooperation through initiatives like the **Coordinated Patrol, Ex Garuda Shakti (Army), and Ex Samudra Shakti (Naval)**.
- Plans to establish **Bilateral Maritime Dialogue and Cyber Security Dialogue** to address emerging security challenges.
- Ongoing negotiations for **Indonesia's acquisition of the BrahMos missile system**, with an estimated deal value of USD 450 million.

Economic and Trade Relations

- India and Indonesia aim to boost bilateral trade, which stood at **USD 38.8 billion in 2022-23**, by addressing trade barriers and expediting the **ASEAN-India Trade in Goods Agreement (AITIGA) review**.

- Introduction of the **Local Currency Settlement System**, facilitating direct trade transactions in Indian Rupees (INR) and Indonesian Rupiah (IDR) to reduce dependence on third currencies.
- Increased Indian investments in Indonesia, currently amounting to **USD 1.56 billion**, reflecting growing economic interdependence.

Energy and Health Security Cooperation

- Both nations are collaborating on **biofuels and the joint exploration of critical minerals** such as **nickel and bauxite**, essential for clean energy and technology industries.
- MoUs signed for **healthcare cooperation and traditional medicine quality assurance**, focusing on **digital health and capacity-building for healthcare professionals**.

Technological and Digital Infrastructure Cooperation

- India has offered to share expertise in **Digital Public Infrastructure, Quantum Communication, and High-Performance Computing**, enhancing Indonesia's digital ecosystem.

Cultural and Heritage Cooperation

- India has pledged support for the **restoration of the Prambanan Temple** in Indonesia, reinforcing cultural and historical connections.
- Both countries reaffirmed the **"Kashi Cultural Pathway"** principles from the G20 Culture Ministers' Meeting, aimed at restoring heritage structures and facilitating the return of cultural artifacts to their countries of origin.

3. Multilateral Engagement: Strengthening Regional Stability

India and Indonesia actively collaborate in regional and global platforms, emphasizing the importance of **ASEAN centrality** and multilateral initiatives, including:

- **ASEAN Outlook on the Indo-Pacific**
- **India-Indonesia-Australia Trilateral Cooperation**
- **Indo-Pacific Oceans Initiative (IPOI)**
- **BRICS and Indian Ocean Rim Association (IORA)**

4. Historical Evolution of India-Indonesia Relations

Post-Independence Era (1940s-1950s): Early Solidarity

- India was a strong advocate of **Indonesia's independence from Dutch colonial rule**, with Jawaharlal Nehru providing diplomatic support.
- The **1951 Treaty of Friendship** laid the foundation for trade, military, and cultural ties.
- Both nations played a key role in **Non-Aligned Movement (NAM) formation** and co-hosted the **1955 Bandung Conference** advocating anti-colonialism and peaceful coexistence.

Cold War Period (1960s-1980s): Divergence and Reconciliation

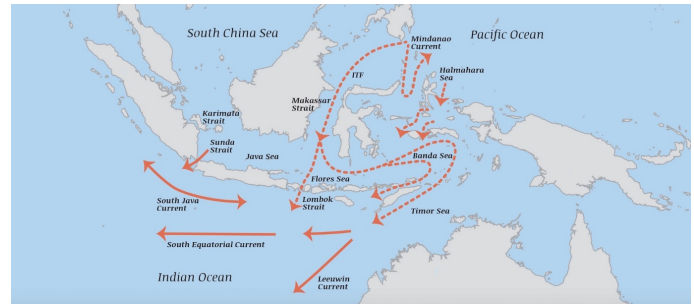
- Relations strained as Indonesia maintained ties with China

and sided with Pakistan during the 1965 India-Pakistan war, providing military aid.

- Under **President Suharto (1966 onwards)**, Indonesia distanced itself from China and worked to rebuild relations with India, culminating in the **1977 maritime boundary agreement**.

Look East and Act East Policies (1990s-Present): Strengthening Ties

- India's **Look East Policy (1991)** and **Act East Policy (2014)** deepened economic and security cooperation with Southeast Asian nations, positioning Indonesia as a key regional partner.
- The establishment of the **Comprehensive Strategic Partnership (2018)** elevated bilateral relations across defense, trade, and multilateral engagement.



Economic and Energy Security

- **Resource-Rich Nation:** Indonesia is a major supplier of **palm oil, tin, rubber, nickel, coal, and copper**, contributing to India's energy and manufacturing sectors.
- **Energy Collaboration:** Joint ventures in biofuels and critical minerals will reduce dependency on other global suppliers and boost clean energy initiatives.

Defense and Security Cooperation

- The **BrahMos missile deal** and joint military exercises enhance defense capabilities, contributing to regional security and counter-terrorism efforts.
- Collaboration in **cybersecurity, intelligence sharing, and maritime surveillance** strengthens mutual security interests.

Cultural and Civilizational Ties

- The shared Hindu-Buddhist heritage, evident in temples like **Borobudur and Prambanan**, fosters cultural diplomacy and people-to-people ties.
- Initiatives like **the restoration of Indonesian temples and the Kashi Cultural Pathway** reinforce historical connections.

CONCLUSION: India and Indonesia's deepening ties reflect a convergence of strategic, economic, and cultural interests, shaping the future of Indo-Pacific geopolitics. With expanding cooperation in defense, trade, and technology, both nations are set to play a pivotal role in regional stability and global governance. Their Comprehensive Strategic Partnership not only enhances bilateral relations but also reinforces a free, open, and rules-based Indo-Pacific, crucial for global peace and economic prosperity.



5. Strategic Significance of Indonesia to India

Geostrategic Importance

- **Gateway to the Indo-Pacific:** Indonesia's control over critical sea lanes like the **Strait of Malacca, Sunda, and Lombok** makes it vital for India's maritime security and regional stability.
- **Maritime Security Partner:** Strengthened defense cooperation ensures a secure and open Indo-Pacific, countering strategic challenges in the region.



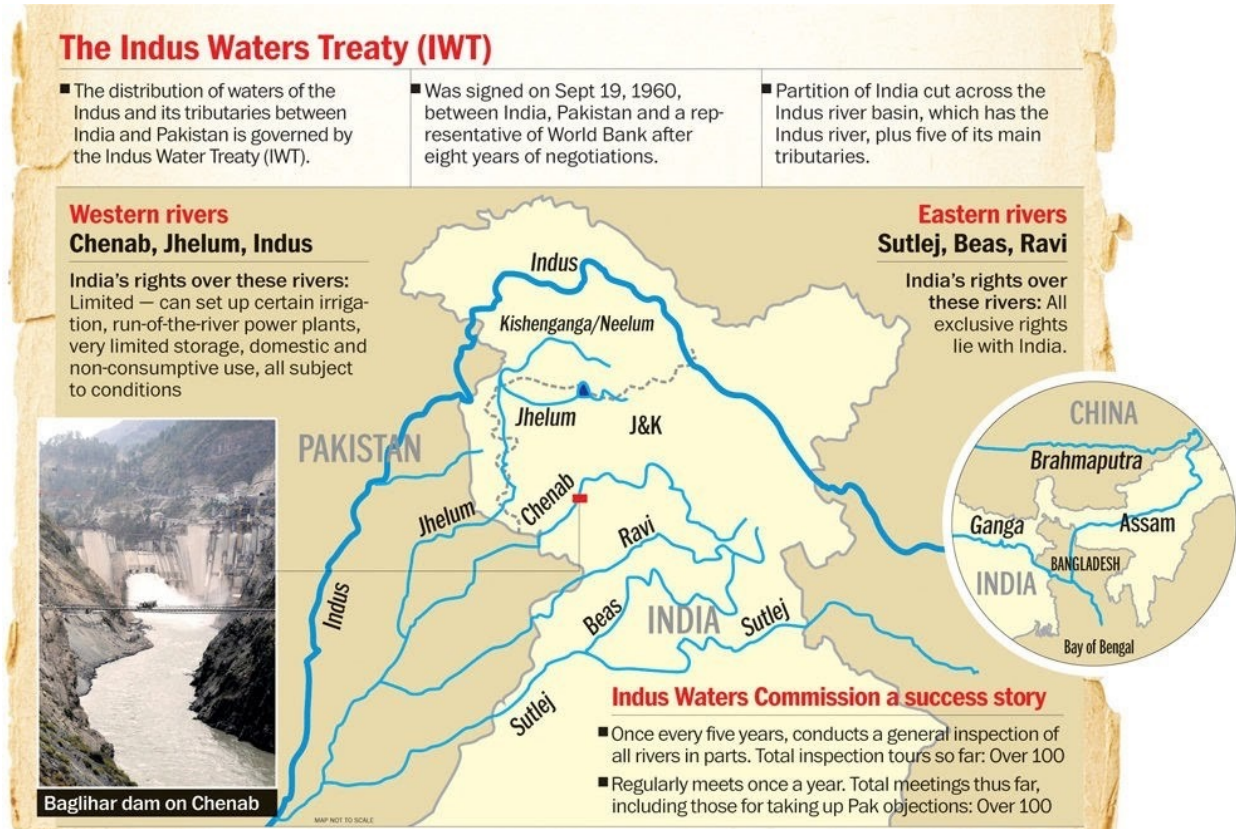
THE INDUS WATERS TREATY: DISPUTE RESOLUTION AND THE NEUTRAL EXPERT

CONTEXT: The Indus Water Treaty (IWT) of 1960, signed between India and Pakistan with the World Bank as a mediator, governs the distribution and management of the Indus River system.

Recent developments in the treaty's dispute resolution mechanism have seen the World Bank-appointed Neutral Expert affirming his authority to adjudicate technical

disputes regarding hydroelectric projects.

This decision, welcomed by India, underscores ongoing differences between the two nations regarding the Kishenganga and Ratle projects, with Pakistan preferring arbitration and India advocating for neutral expert intervention.



INDUS WATER TREATY (IWT) 1960: LATEST DEVELOPMENTS AND DISPUTE RESOLUTION MECHANISM

BACKGROUND: The Indus Water Treaty (IWT), 1960, is a landmark agreement between India and Pakistan, brokered by the World Bank, ensuring equitable water sharing of the Indus River system. The treaty designates three eastern rivers (Sutlej, Beas, Ravi) for India and three western rivers (Indus, Jhelum, Chenab) for Pakistan. Over the years, disputes have arisen over India's hydroelectric projects, with the latest controversy centered on the Kishenganga and Ratle projects.

Recently, Michel Lino, the World Bank-appointed Neutral Expert, affirmed his competence to adjudicate these disputes, a decision aligned with India's stance. This development highlights the structured dispute resolution mechanism under the treaty and ongoing diplomatic and legal challenges.

DISPUTE RESOLUTION MECHANISM UNDER THE IWT

The **Indus Water Treaty (IWT)** provides a three-tiered dispute resolution process to address disagreements over water projects:

- 1. Permanent Indus Commission (PIC)**
 - Notification Process: Both countries must notify and share details of any planned projects on the Indus rivers.
 - Role of PIC: Established under the treaty, the PIC serves as the first forum for resolving technical disputes and ensuring compliance with treaty provisions.
 - Outcome: If disagreements persist, the dispute escalates to the next level.
- 2. Neutral Expert Appointment**
 - World Bank's Role: If the PIC fails to resolve an issue, a Neutral Expert (NE) is appointed by the World Bank.
 - Technical Assessment: The NE evaluates the dispute, provides expert recommendations, and attempts to mediate a resolution.



In parallel, India invoked Article XII (3) of the IWT, issuing formal notices for **treaty review (August 2024) and modification (January 2023)**. Pakistan has not formally responded.

TIME TO RECONSIDER 1960 PACT?

<ul style="list-style-type: none"> > The Indus water treaty between India and Pakistan came into effect from April 1, 1960 > Under the treaty, waters of the eastern rivers of Indus system – Ravi, Beas, Sutlej and their tributaries – allocated to India while western rivers – Indus, Jhelum, Chenab and their tributaries – went to Pakistan 	<ul style="list-style-type: none"> > India is permitted agricultural use of 7 lakh acres over and above the irrigated cropped area (ICA as on Apr 1, 1960. Out of this, only 2.7 lakh can be developed till storage is built and 0.5 MAF released from there every year) > India has to give Pak information of its storage and hydroelectric projects > Where disputes aren't bilaterally resolved, both countries can seek resolution through a neutral expert or court of arbitration. Pak has used this provision twice for Baglihar & Kishenganga hydel projects in J&K
<p>Exceptions provided for some uses of water from western rivers</p> <ul style="list-style-type: none"> > India can construct storage facilities on western rivers up to 3.6 MAF (million acre feet) but no storage has been developed so far 	

NEUTRAL EXPERT'S RULING AND INDIA'S RESPONSE

- Michel Lino, the Neutral Expert, ruled in favor of India, affirming that he holds jurisdiction under Annexure F, Paragraph 7 of the IWT.
- India welcomed the decision, reinforcing its position that the Neutral Expert, not the CoA, is the appropriate authority.
- The Ministry of External Affairs stated that the ruling aligns with India's consistent interpretation of the treaty.

With this ruling, the Neutral Expert will now examine the technical merits of all seven disputes, leading to a final resolution.

CONCLUSION

The Indus Water Treaty (IWT), 1960, remains a cornerstone of India-Pakistan water-sharing agreements, despite recurring disputes. The latest ruling by the Neutral Expert affirms India's stance that technical disputes should be resolved through neutral expertise rather than arbitration. While the World Bank has attempted to balance the interests of both nations, parallel mechanisms remain a point of contention.

- Further Escalation: If the Neutral Expert cannot resolve the matter, it is elevated to the Court of Arbitration (CoA).

3. Court of Arbitration (CoA)

- Final Arbitration: If previous efforts fail, the dispute is referred to the CoA, which serves as the final authority.
- Appointment: The chairperson of the CoA is appointed by the World Bank.
- Binding Decision: The CoA's rulings are final and legally binding on both parties.

This tiered approach ensures a gradual escalation process, prioritizing technical resolution before legal adjudication.

BACKGROUND OF THE DISPUTE: KISHENGANGA AND RATLE HYDROELECTRIC PROJECTS

The latest dispute concerns two hydroelectric projects in **Jammu & Kashmir**:

- **Kishenganga Project** – Located on the Kishenganga River, a tributary of Jhelum.
- **Ratle Project** – Constructed on the Chenab River.

Differing Positions of India and Pakistan

- **India's Stand:** Prefers resolution through a Neutral Expert, as specified in the IWT.
- **Pakistan's Stand:** Advocates for arbitration under the Court of Arbitration (CoA).

Pakistan initially sought a Neutral Expert in 2015 but withdrew its request in 2016 to seek direct arbitration, bypassing the treaty's dispute resolution sequence. India challenged this, leading to the World Bank facilitating both mechanisms in 2022.

PARALLEL MECHANISMS AND LEGAL CHALLENGES

- **Pakistan's direct arbitration move (2016)** bypassed the neutral expert stage, violating **Article IX of the IWT**.
- **World Bank's dual approach (2022)** led to both a **Neutral Expert and a CoA** being facilitated.
- **India refused participation in the CoA**, calling it **illegally constituted** and against treaty provisions.

US AI EXPORT RULE EXCLUDES INDIA FROM BENEFITS OF CLOSEST ALLIES

CONTEXT: The Biden administration, just days before leaving office, introduced the 'Framework for Artificial Intelligence Diffusion,' a new regulatory framework for AI hardware exports. This policy classifies countries into three tiers based on their level of access to US AI technologies, aiming to maintain US control over advanced AI chips and models while addressing national security concerns. The enforcement of these regulations will depend on the policies of the incoming Trump administration.

US AI Export Restrictions: Impact on India and Global AI Landscape

Three-Tier Framework for AI Hardware Export Restrictions

Tier 1: Closest US Allies

- Includes 18 key allies such as Australia, Canada, Germany, Japan, and the UK.
- Minimal security restrictions on AI hardware exports.
- No limits on computing power deployment by US firms.

Tier 2: Majority of Countries (Including India)

- Most countries, including India, fall into this category.
- Capped at importing approximately 50,000 advanced AI chips through 2027, with a possibility of doubling under a US agreement.
- India's initiative to acquire 10,000 GPUs for the IndiaAI Mission may face minor restrictions but is unlikely to be significantly affected.
- Large-scale AI data centers could experience difficulties in expansion, though smaller firms remain unaffected.



Tier 3: Restricted Countries

- Includes China, Russia, North Korea, Libya, and other adversarial nations.
- Nearly total prohibition on the export of US AI technology to these countries.

Special Provision for India and China

The framework introduces a special review mechanism known as the General Validated End User (GVEU), which applies only to India and China.

India's GVEU Authorization

- Indian companies authorized under this provision can use exported AI technology for both civilian and military purposes, excluding nuclear applications.

China's GVEU Authorization

- Chinese firms can only utilize the technology for civilian purposes, with stricter monitoring to prevent military applications.

Why Has the US Imposed These Restrictions?

- **National Security Concerns:** To prevent adversaries such as China, Iran, and Russia from gaining access to cutting-edge AI technologies.
- **Technological Leadership:** Ensures the US maintains its competitive edge in AI innovation and computing power.
- **Trusted Technology Ecosystem:** Balances security concerns while fostering global AI collaboration.



IMPACT ON INDIA

Short-Term Implications

- India's immediate AI plans, including the acquisition of 10,000 GPUs for the ₹10,000-crore IndiaAI Mission, remain largely unaffected.
- Startups, academia, and researchers will continue receiving subsidized AI chips for model training.

Long-Term Challenges

- Large-scale AI infrastructure projects by companies such as Reliance and Yotta may face hurdles due to licensing uncertainties and trade negotiations.

- The expansion of AI data centers requiring hundreds of thousands of GPUs could be slowed if restrictions persist.
- Future scaling may require renegotiations with the incoming US administration.

India's Response and Strategic Options

- **Securing GVEU Authorizations:** India, being a non-re-exporter, could negotiate better terms with US firms like Nvidia and AMD.
- **Policy Advocacy:** Continued diplomatic efforts to ensure AI trade remains favorable for India's burgeoning AI market, projected to grow to \$17 billion by 2027 at an annual rate of 25%-35%.
- **Domestic AI Development:** Increased focus on indigenous AI chip manufacturing and research to reduce dependency on US exports.

Nvidia's Criticism of the AI Export Rules

Nvidia, a dominant player in the AI GPU market, has strongly opposed the new AI diffusion framework, citing several concerns:

- **Excessive Bureaucracy:** The company labeled the 200+ page regulatory document as overly complex, secretive, and lacking proper legislative oversight.
- **Impact on US Competitiveness:** Nvidia argues that these restrictions place unnecessary constraints on semiconductor and software development, potentially weakening US innovation and leadership in AI.
- **Contrast with Trump's Policies:** The company praised the previous Trump administration for fostering AI growth through industry-led competition without compromising national security.
- **Stifling AI Advancement:** Nvidia contends that the new rules could hinder AI development rather than effectively mitigating security risks.

CONCLUSION: The new US AI export restrictions present both challenges and opportunities for India. While immediate AI initiatives remain largely unaffected, long-term AI infrastructure development could face hurdles due to licensing limitations and trade policies. India's strategic approach should focus on securing favorable agreements, enhancing domestic AI capabilities, and leveraging diplomatic channels to ensure a steady supply of AI hardware. Nvidia's criticism further highlights the growing debate on balancing national security with technological innovation, a challenge the incoming US administration will need to address. The evolution of these policies will significantly shape the future of global AI leadership and strategic partnerships.

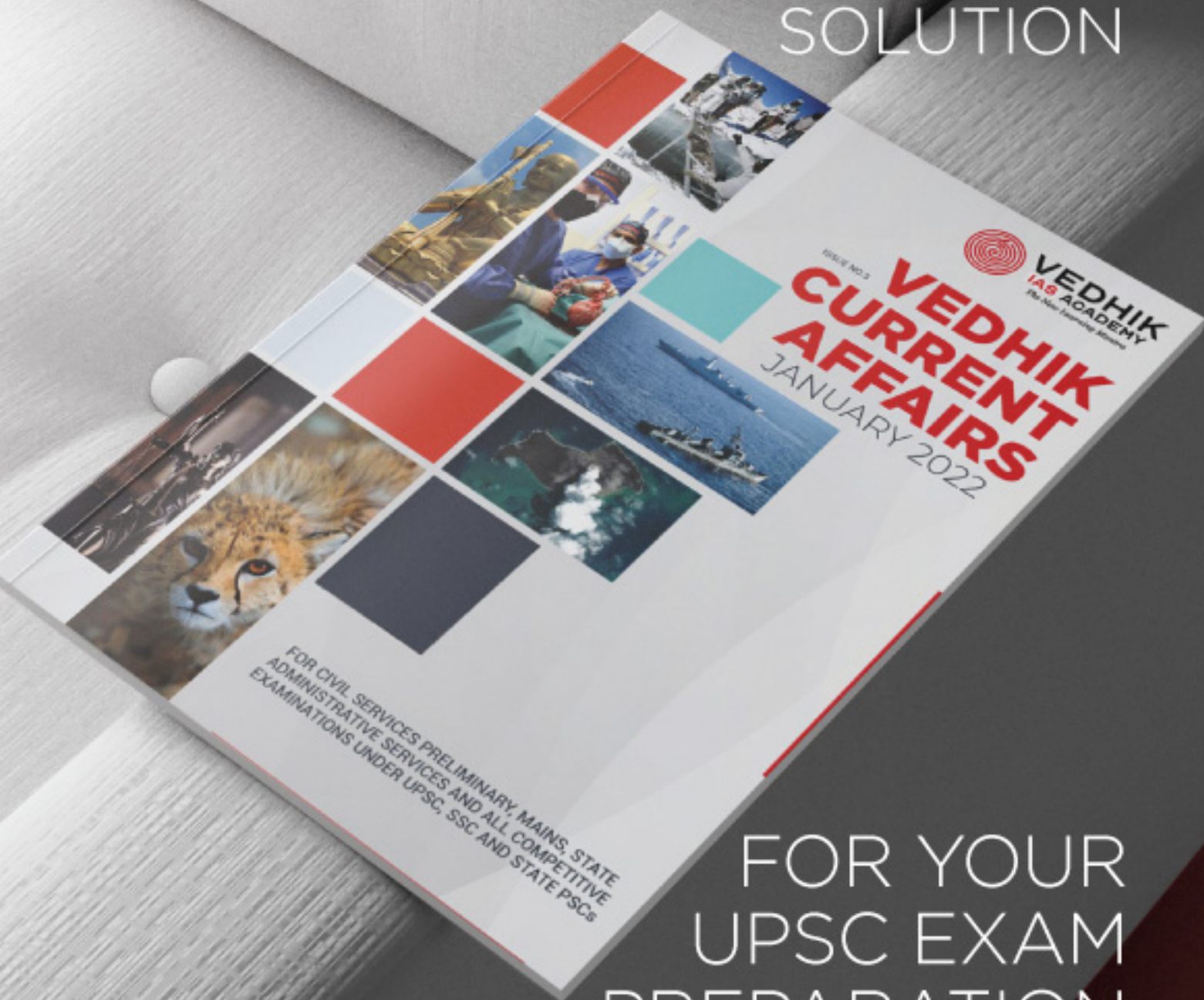


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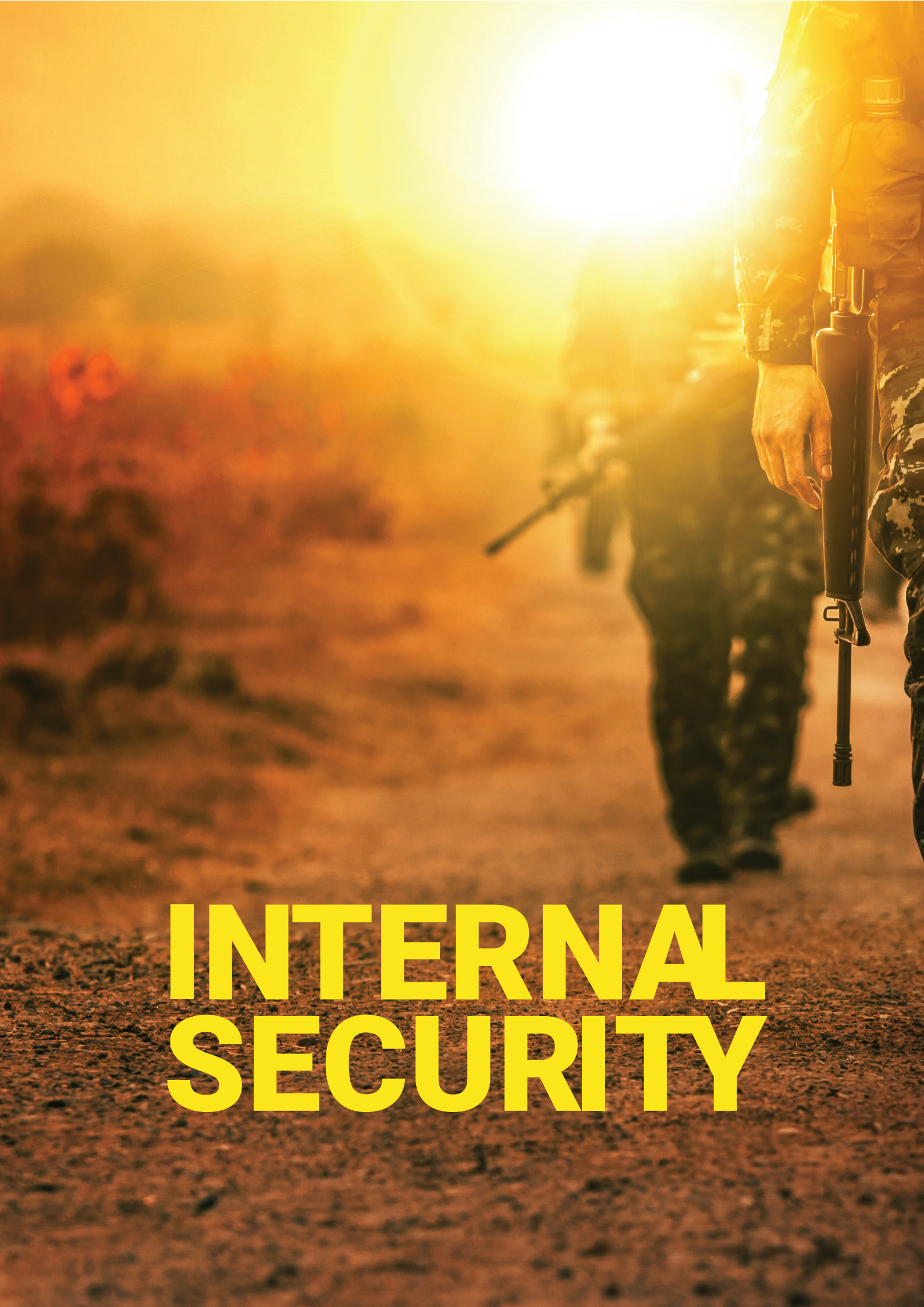
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INTERNAL SECURITY



INS VAGHSHEER

SILVER NOTICE

LA PEROUSE NAVAL EXERCISE 2025

NAG MARK 2 MISSILE

HIMKAVACH

**TRAJAN 155 MM TOWED ARTILLERY GUN
SYSTEM**

**MEDIUM-RANGE SURFACE-TO-AIR
MISSILES (MRSAM)**

PRALAY MISSILE

**INDIA-BANGLADESH BORDER FENCING
DISPUTE**



INS VAGHSHEER

CONTEXT: Mazagon Dock Shipbuilders Limited (MDL) recently delivered the final submarine of the Scorpene class, named INS Vaghsheer to the Indian Navy. India has now joined an exclusive group of nations capable of building submarines of this sophistication.

INS Vaghsheer is the sixth submarine in the Scorpene class. Vaghsheer features advanced acoustic absorption techniques for stealth. The submarine can conduct intelligence gathering and area surveillance. It is fitted with a unique Ku-Band SATCOM system named Rukmini.

Scorpene Class Submarines

OVERVIEW: Advanced diesel-electric vessels featuring state-of-the-art technology, ensuring superior stealth and operational capabilities designed for anti-surface and anti-submarine warfare and enhancing interoperability with naval task forces. Equipped with precision-guided weapons like torpedoes and anti-ship missiles, which can be launched from surface or submerged positions.

- Low radiated noise levels
- Acoustic silencing techniques
- Hydrodynamically optimized shape

Advanced Technology and Systems

A sophisticated Integrated Platform Management System (IPMS) integrate diverse equipment, systems, and sensors into a cohesive platform. The Combat Management System (CMS) further enhances operational effectiveness. Vaghsheer also includes an indigenously developed air conditioning plant and a modern internal communication system.

Significance of the Delivery

The delivery of INS Vaghsheer reinforces India's position in global naval power. It marks the completion of a series of six submarines, including Kalvari, Khanderi, Karanj, Vela, and Vagir. MDL's ability to deliver these submarines puts stress on its status as a premier shipyard in India. The programme demonstrates India's commitment to enhancing its maritime capabilities.

SILVER NOTICE

CONTEXT: Interpol has recently launched its first Silver Notice, a new addition to Interpol's existing suite of colour-coded notices aimed at locating laundered assets across borders to facilitate international cooperation in law enforcement.

Purpose of the Silver Notice

Interpol's General Assembly approved the Silver Notice pilot in 2023. The Silver Notice initiative, announced on January 10, 2025, is part of a pilot project involving 52 member countries, including India. The Silver Notice is designed to assist countries in tracking down assets linked to criminal activities. It allows member nations to request information on properties, vehicles, financial accounts, and businesses associated with individuals involved in serious crimes such as fraud, corruption, and drug trafficking.

Participation and Scope

The pilot project that would run until at least November 2025 includes participation from 52 countries. Each participating country can request up to 500 notices, which will be evenly distributed among them. This collaborative approach aims to enhance the effectiveness of asset tracing on a global scale.

Information Confidentiality

Details regarding the individuals or assets linked to Silver Notices will remain confidential. Interpol will not disclose this information to the public, ensuring that sensitive data is protected during investigations.

Interpol's Approach to Criminal Assets

According to Interpol Secretary General Valdecy Urquiza, targeting the financial gains of criminals is crucial in

combating transnational organised crime. The Silver Notice aims to disrupt criminal networks by recovering illicit profits, as 99% of criminal assets remain unrecovered.

Compliance and Review Process

Before publication, every Silver Notice will undergo a review by Interpol's General Secretariat to ensure compliance with the organisation's rules. This includes verifying that notices are not used for political purposes, in line with Article 3 of Interpol's Constitution.

Overview of Interpol's Colour-Coded Notices

Interpol currently employs several types of notices to facilitate international cooperation:

- Red Notice: Requests the detention of fugitives.
- Yellow Notice: Aids in locating missing persons, especially minors.
- Blue Notice: Collects additional information related to individuals in criminal investigations.
- Black Notice: Seeks information on unidentified bodies.
- Green Notice: Provides warnings about individuals posing a potential threat.
- Orange Notice: Warns of imminent threats to public safety.
- Purple Notice: Shares information on criminal methods and techniques.
- Silver Notice: Help trace assets linked to criminal activities.



LA PEROUSE NAVAL EXERCISE 2025

CONTEXT: Recently, nine Indo-Pacific nations participated in the La Perouse naval exercise, hosted by France in the strategic straits of Malacca, Sunda, and Lombok, crucial for maritime trade between the Indian and Pacific Oceans.

- **Participating Nations:** The exercise involved nine countries – Australia, Canada, France, Indonesia, Malaysia, Singapore, the U.K., and the U.S. Each nation brought specific naval capabilities to strengthen collective maritime security.
- **Strategic Importance of Straits:** The straits of Malacca, Sunda, and Lombok are vital chokepoints for global trade. They face risks from maritime accidents, environmental hazards, illegal immigration, and drug trafficking. The exercise aimed to address these challenges.
- **Focus on Interoperability:** A key objective was to develop interoperability among navies. Participants trained using IORIS (Indo-Pacific Information Sharing platform), a communication system for real-time information exchange during maritime crises. This platform enhances

coordination and situational awareness.

- **Maritime Security Operations:** The exercise included training for maritime security operations, such as searching and intervening on vessels suspected of illicit activities. These operations aimed to enhance cooperation in maritime surveillance and interdiction.
- **Complex Naval Drills:** Participants engaged in advanced multi-domain exercises. These included surface warfare, anti-air warfare, air defence, and VBSS (Visit, Board, Search and Seizure) operations. The drills aimed to improve tactical interoperability among the navies.
- **Indian participation:** The Indian Navy contributed with its guided-missile destroyer INS Mumbai. The exercise aimed to enhance maritime safety and interoperability among participating navies amid rising Chinese naval activities in the region.

La Perouse showcased the commitment of participating navies to a rules-based international maritime order. It brought into light the importance of collective action in maintaining maritime security in the Indo-Pacific region.

NAG MARK 2 MISSILE

CONTEXT: The Defence Research and Development Organisation (DRDO) recently conducted successful field evaluation trials of the third-generation fire-and-forget anti-tank guided Nag Mark II missile at the Pokhran field range in Rajasthan.



Integration with Nag Missile Carrier

The successful evaluations of NAMICA mark a critical step in operationalising the complete weapon system, ensuring that the missile can be effectively deployed in combat situations.

Features of Nag Mark II

- **Fire-and-Forget Technology:** Allows for precision targeting with minimal operator intervention after launch.
- **Versatile Performance:** Neutralise modern armoured vehicles, including those equipped with explosive reactive armour (ERA).
- **Platform Compatibility:** Enhanced battlefield mobility and deployment flexibility with integration of Nag Mark II missile with Nag Missile Carrier (NAMICA) Version 2.

The Nag Mark 2 missile represents advancement in India's defence technology, addressing critical operational needs in anti-tank warfare. Its successful trials mark a very important moment in the nation's journey towards self-sufficiency in defence manufacturing.



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HIMKAVACH

CONTEXT: The Defence Research and Development Organisation (DRDO) has made advancements in military clothing technology.

Overview of HIMKAVACH

HIMKAVACH is a multi-layer clothing system developed by DRDO. It aims to protect military personnel in harsh cold weather environments. This innovative clothing is specifically designed for operational use in the Himalayan region, where temperatures can drop drastically. The system is engineered to function within a temperature range of + 200 C to - 60 0 C. The design focuses on maintaining body heat while allowing for mobility and comfort. This clothing system is crucial for operations in the Himalayan region, where soldiers face extreme weather challenges.

Features of the Clothing System

The HIMKAVACH system incorporates several layers to enhance thermal insulation. Each layer serves a specific purpose, including moisture-wicking, insulation, and wind resistance. The outer layer is designed to repel water and wind

while maintaining breathability. The inner layers trap heats close to the body, ensuring warmth even in frigid conditions.

User Trials and Results

The clothing system underwent rigorous user trials under actual operational conditions. Soldiers tested the garment in various scenarios, simulating real-life military operations. Feedback from users indicated high satisfaction with the system's performance. The trials confirmed that the clothing met all necessary standards for functionality and comfort.

Importance for Military Operations

HIMKAVACH is vital for enhancing the operational readiness of soldiers in cold climates. It provides essential protection against hypothermia and frostbite. The system's design allows soldiers to remain agile while ensuring they are adequately insulated from the elements. This capability is particularly important for missions in the challenging terrain of the Himalayas.

TRAJAN 155 MM TOWED ARTILLERY GUN SYSTEM



Armenia has selected India's Trajan 155 mm towed artillery gun system, marking Armenia's strategic pivot towards India for advanced defence technologies amidst evolving regional security challenges, particularly from Azerbaijan.

Trajan Artillery System Overview

Jointly developed by India's L&T and France's KNDS, Trajan 155 mm towed artillery gun system meets qualitative requirements for varied terrains and modern combat demands. It features a range exceeding 40 kilometres, depending on

ammunition.

Indigenous Development

The Trajan gun system is manufactured in India. Key subsystems, such as the auxiliary power unit and control panel, are indigenously developed. This reflects India's capabilities in low-cost manufacturing and advanced military technology.

Armenia's Defence Modernisation

Armenia is modernising its military due to regional security threats, particularly from Azerbaijan. The Trajan artillery system is part of a broader strategy to enhance its defence capabilities and diversify its arms suppliers beyond Russia. Armenia is exploring additional defence systems from India. This includes the Pinaka Multi-Barrel Rocket Launcher and Arudhra radar systems. Such acquisitions aim to boost Armenia's artillery and aerial defence capabilities.

India's growing defence ties with Armenia reflect its strategy to engage with nations seeking reliable military partnerships signifies the deepening defence ties between India and Armenia, showcasing India's growing influence in the global arms market. This move reduces Armenia's reliance on traditional suppliers and enhances India's strategic footprint in the Caucasus region.

“Intelligence plus character-that is the goal of true education. — Martin Luther King Jr.





MEDIUM-RANGE SURFACE-TO-AIR MISSILES (MRSAM)

Recently, the Indian Ministry of Defence signed contract worth ₹ 2,960 Cr. with Bharat Dynamics Limited for the supply of Medium-Range Surface-to-Air Missiles (MRSAM) to the Navy marking India's commitment to defence self-reliance under the 'Aatmanirbhar Bharat' initiative, aiming to boost domestic manufacturing and create substantial employment opportunities.

Medium-Range Surface-to-Air Missiles (MRSAM)

- **Development:** Defence Research and Development Organisation (DRDO) and Israel Aerospace Industries (IAI)
- **Production:** Bharat Dynamics Limited (BDL).
- **Range:** 1,000 km - 3,000 km.
- **Purpose:** Counter airborne threats such as helicopters, combat jets, cruise missiles, and aircraft.
- **Functionality:** Operates using a proximity fuse, emitting radio waves and activates based on reflected waves

which detonates when the target is nearby.

- **Control:** Remotely operated using radar or directly from close distances (e.g., from a ship).
- **Launch and Weight:** High-response, vertically launched missile weighing 275 kg.

Focus on Indigenous Technology

The MRSAM systems will be produced under the 'Buy (Indian)' category, featuring indigenous content. This aligns with the broader goal of reducing reliance on foreign imports in defence. India's Navy has made substantial strides in indigenisation, constructing 39 out of 40 naval vessels domestically. Notable projects include the aircraft carrier INS Vikrant and nuclear submarines INS Arihant and INS Arighaat.

The defence production in India has surpassed ₹ 1.25 lakh Cr., with equipment exports to over 100 countries. The government is establishing major manufacturing hubs to further enhance production capabilities.

PRALAY MISSILE

CONTEXT: India's first tactical quasi-ballistic missile, Pralay was showcased at the Republic Day parade on 26 January 2025.

The Pralay missile project derived from the Prahaar missile programme, which was first tested in 2011 was sanctioned in 2015. The missile has rapidly progressed to readiness for induction in just seven years.

Overview of Pralay Missile

- Developed by DRDO, tailored for India's defence needs.
- Short-range quasi-ballistic missile with a range of 150-500 km.
- Designed for surface-to-surface operations.
- Can carry warheads weighing 350-700 kg.
- Equipped with a solid propellant rocket motor and advanced technologies.
- Designed to evade interception and can manoeuvre during flight.
- Uses inertial guidance and a radio frequency seeker for

terminal guidance.

Comparison with Global Missiles: Pralay is comparable to China's Dong Feng 12 and Russia's Iskander missile. It addresses the tactical missile capabilities of both China and Pakistan, enhancing India's strategic posture.

Warhead Capabilities: The missile can be equipped with various warheads, including high explosive preformed fragmentation, penetration-cum-blast, and submunition types. This versatility allows it to target enemy positions effectively.

Operational Significance: Pralay aims to boost the Indian Army's war-fighting capabilities. Its deployment is expected to strengthen India's military readiness along critical borders, particularly the Line of Actual Control (LAC) and the Line of Control (LoC).

Launch and Control Features: The missile is equipped with a jet vane system for thrust vector control, allowing for evasive manoeuvres during its terminal phase. It also includes two sets of small fins to reduce its radar signature.



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INDIA-BANGLADESH BORDER FENCING DISPUTE

CONTEXT: Tensions arose when the Border Guards Bangladesh (BGB) attempted to halt the construction of barbed wire fencing along the international border in West Bengal's Malda district.

Background of the Dispute

The India-Bangladesh border spans approximately 4,096.7 km, making it India's longest land border with any neighbour. The border's intricate nature stems from historical events, including the Partition. The 1975 Joint India-Bangladesh Guidelines for Border Authorities restrict the construction of defence structures within 150 yards of the zero line. However, interpretations of what constitutes a defence structure vary between the two nations.

Recent Incidents

In Malda, the BSF, in collaboration with the Central Road Works Department, began erecting a Single Row Fence (SRF) in Kaliachak No 3 block. The BGB intervened, claiming the construction violated the bilateral agreement. Similar tensions occurred in Cooch Behar, where villagers sought to erect fencing to prevent cattle from Bangladesh from damaging their crops.

Significance of fencing:

The BSF argues that fencing is crucial for curbing trans-border crime. According to former officials, the SRF is intended to control animal movement and prevent illegal

activities. The BSF maintains that their fencing does not possess defensive capabilities, contrasting with structures such as concrete walls or bunkers, which are seen as threats by Bangladesh.

Challenges:

Negotiations between the BSF and BGB have often been fraught with misunderstandings. Bangladesh's objections to the SRF are based on two primary concerns – adherence to the 1975 agreement and the inconvenience caused to local residents. The BSF has attempted to clarify that the SRF is not a defensive measure, yet Bangladesh remains unconvinced.

Current status:

As of 2023, approximately 3,141 km of the India-Bangladesh border has been fenced. The ongoing challenges include objections from villagers, geographical difficulties, and negotiations with Bangladesh. Notably, over 900 km of the border is riverine, where fencing is impractical. In such areas, the BSF relies on its water wing for security.

Future implications:

The ongoing negotiations and incidents will likely shape the future of border security and bilateral relations between India and Bangladesh. The complexities of the border, combined with historical agreements, continue to pose challenges for both nations.




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INDIA IN QS WORLD FUTURE SKILLS INDEX

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GOVT BEGINS PROCUREMENT OF 10,000 GPUS UNDER INDIAAI MISSION



GDP GROWTH PROJECTIONS

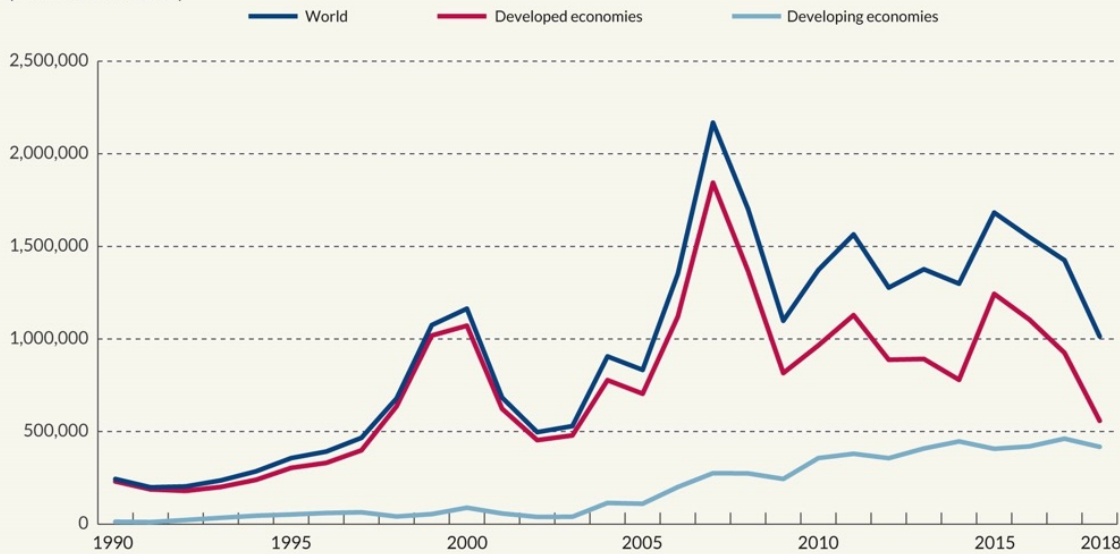
CONTEXT: Recent estimates indicate a real GDP growth of 6.4 % for India in the fiscal year 2024-25, falling short of earlier predictions. This slowdown has raised concerns about the government’s capital expenditure and its impact on future economic performance. The projections for the upcoming fiscal year suggest a reliance on domestic demand and increased government investment to stimulate growth.

- **Current GDP Estimates:** The First Advance Estimates show a real GDP growth of 6.4 % and nominal GDP growth of 9.7 % for 2024-25. This is below the Reserve Bank of India’s revised estimates of 6.6 % and 10.5 %, respectively. Growth is expected to improve slightly in the second half of the year.
- **Sectoral Performance:** The manufacturing sector has seen decline, with growth dropping from 9.9 % in 2023-24 to just 5.3 % in 2024-25. This has contributed to the overall dip in GDP growth.

- **Investment Trends:** Gross Fixed Capital Formation has stabilised around 33.4 % from 2021-22 to 2024-25. A continuation of this rate is anticipated for 2025-26, with a projected real GDP growth of 6.5 %.
- **Government Capital Expenditure:** Government capital expenditure has been negative at -12.3 % for the first eight months of the fiscal year. Current expenditure stands at ₹ 5.14 lakh Cr, only 46.2 % of the budget target.
- **Future Growth Prospects:** The International Monetary Fund projects a steady real GDP growth rate of 6.5 % for India from 2025-26 to 2029-30. This growth may be accompanied by inflation around 4 %, leading to nominal GDP growth of 10.5 % - 11 %.
- **Challenges Ahead:** Achieving a sustained growth rate of 6.5% will be challenging as the economic base expands. Increased government investment is crucial to stimulate private investment.

Global Foreign Direct Investment Decline

FIGURE 1: Global FDI Outflows, 1990-2018.
(Millions of USD)



Source: UNCTAD 2019.

| BertelsmannStiftung

Global foreign direct investment (FDI) experienced a notable decline of eight % in 2024, according to the United Nations Conference on Trade and Development (UNCTAD). This reduction poses risks to achieving the Sustainable Development Goals (SDGs), which heavily depend on international project finance. The challenges in securing international project finance are critical, particularly for infrastructure and energy sectors.

Overview of Foreign Direct Investment

FDI refers to the investment made by a foreign entity in a business or assets in another country. Unlike foreign portfolio investment, which involves purchasing equity shares

without control, FDI grants the investor degree of influence over the operations of the enterprise. It encompasses not only capital inflow but also the transfer of technology, skills, and expertise, making it vital for economic development.

Recent Trends in International Project Finance

In 2024, international project finance witnessed a substantial decline, with the number of deals falling by 26 % and their value decreasing by nearly a third. Developed economies faced a 29 % drop in project finance deals, continuing a downward trend from 2023. Developing economies also struggled, with a 23 % decrease in deal numbers and a 33 % decline in value, primarily due to fewer announcements in Asia.



Impact on Infrastructure Development

Infrastructure investment is crucial for economic growth. However, international project finance in this sector fell by 31 % in number and 26 % in value. Renewable energy projects, which had previously driven growth, also slowed down by 16 % in both metrics. Notably, North America, developing Asia, and Latin America experienced reductions in renewable energy project finance.

Sustainable Development Goals and Investment

The decline in international project finance is particularly concerning for sectors essential to the SDGs in developing countries. In 2024, SDG-related investments dropped by 11 %. While there was some growth in renewable energy and health sectors, critical areas like infrastructure, agrifood systems, and water and sanitation saw fewer projects financed than in 2015, when the SDGs were adopted.

Future Prospects for FDI

Looking ahead to 2025, moderate growth in FDI is anticipated, aided by improved financing conditions. However, geopolitical tensions and global economic instability present ongoing challenges. The persistent decline in international project finance marks the need for diverse strategies to attract and sustain investment, particularly in sectors vital for sustainable development.

Determinants of Foreign Direct Investment

Several factors influence FDI in host countries. A conducive policy framework, political and economic stability, and favourable treatment standards for foreign affiliates are essential. Additionally, international agreements, trade policies, and privatisation strategies are important in determining FDI flows. The advantages of FDI are not uniformly distributed and depend on the host country's infrastructure and regulatory environment.

INDIA'S ECONOMIC GROWTH SURGE

India is poised to remain the fastest-growing major economy, with a projected growth rate of 6.7 % for fiscal years 2026 and 2027. This growth outstrips the global average of 2.7 % and reflects the country's robust services sector and revitalised manufacturing base. Recent World Bank and International Monetary Fund reports highlight India's potential amid a global economic landscape marked by slower growth in other regions.

Global institution Projections

The World Bank's Global Economic Prospects report forecasts India's growth at 6.7 % for FY26 and FY27. This positions India as a mainstay of global economic stability. The report emphasises the importance of government initiatives in driving growth. The International Monetary Fund's World Economic Outlook aligns with the World Bank, predicting 6.5% growth for India in both 2025 and 2026. This consistency showcases India's stable economic fundamentals despite global uncertainties.

- **Key Growth Drivers:** India's growth is supported by a thriving services sector and a strengthening manufacturing base. Government reforms in infrastructure and taxation are very important. Initiatives like PM GatiShakti and the Production Linked Incentive (PLI) Scheme are crucial for enhancing productivity.
- **Private Consumption and Investment:** Private consumption is expected to rise due to a stronger labour

market and improved credit access. Investment growth remains strong, driven by rising private investments and favourable financing conditions.

- **Emerging Markets Contribution:** Emerging markets and developing economies now contribute 45% of global GDP, up from 25% in 2000. India, along with China and Brazil, accounts for about 60% of global growth since the turn of the century.
- **Government Schemes and Reforms:** Visionary government schemes are transforming India's economy. Programs like Startup India and infrastructure projects are encouraging innovation and enhancing manufacturing capabilities.
- **Inclusive Growth Commitment:** India's economic strategy focuses on inclusive growth and innovation. The nation is committed to building a resilient and globally competitive economy through forward-thinking policies and digital transformation.

While India thrives, the global economy is projected to grow at only 2.7% in 2025-26. Emerging markets face challenges in achieving substantial growth and income catch-up with advanced economies. India's trajectory suggests a commitment to sustained growth and resilience. The combination of strategic reforms, infrastructure development, and a focus on entrepreneurship positions India for continued prominence on the global stage.



**INDIA'S LARGEST ONLINE IAS
COACHING ACADEMY**



RETAIL FOOD INFLATION'S IMPACT ON AGRICULTURE

CONTEXT: Retail food inflation in India saw a decline to 8.39 % year-on-year in December 2025. This decrease follows higher inflation rates of 9.04 % and 10.87 % in the previous months. Despite this easing, the future trajectory of inflation remains uncertain, heavily influenced by supply conditions and weather patterns.

Current Agricultural Context

Farmers have sown 320 lakh hectares of wheat in the rabi season, surpassing the 315.63 lakh hectares from the previous year. Acreages for chickpeas, maize, potatoes, onions, and tomatoes have also increased. However, mustard sowing has decreased.

The increase in sown area is attributed to surplus rainfall during the southwest monsoon, which has improved soil moisture and groundwater levels.

Wheat Supply and Prices

Wheat stocks in government warehouses are at 184.11 lakh tonnes, marking the fifth lowest for this date since 2008. Current wholesale prices in Delhi range from Rs 3,150 to Rs 3,200 per quintal, rise from ₹ 2,550 to ₹ 2,600 last year. The government's limited open market sales have contributed to this price increase, as uncertainty looms over the upcoming wheat harvest.

Temperature and Crop Development

Temperature plays important role in wheat grain development. Ideal temperatures should be in the low thirties during March, when grain filling occurs. An early onset of summer or extreme temperatures can adversely affect yields. Delayed sowing this season has raised concerns about potential crop output.

Sugar Production Outlook

India's sugar production for the 2024-25 season is projected at 270 lakh tonnes, a decrease from 319 lakh tonnes in the previous season. Key states like Uttar Pradesh and Maharashtra are expected to see declines due to drought and adverse weather conditions affecting sugarcane growth. Early flowering in cane has also been reported, reducing sucrose accumulation.

Potato Crop Status

Potato planting was delayed by high temperatures, affecting germination and tuber formation. However, improved conditions later in the season have led to larger tubers and better yields. Retail prices for potatoes have fallen, indicating a positive outlook for this crop.

Edible Oils Price Surge

Prices for edible oils remain high, with palm oil at ₹ 145 per kg, soyabean at ₹ 155 per kg, and mustard oil at ₹ 165 per kg. The increase is partly due to higher import duties and changes in palm oil blending regulations in Indonesia. Lower

mustard acreage further complicates the supply situation.

Key Factors Contributing to Food Inflation in India

- **Weather Challenges:** Poor monsoon and heatwaves in 2024 reduced yields of water-dependent crops like cereals, pulses, and sugar. For example, inflation for cereals and pulses reached double digits in April 2024.
- **Fuel Price Impact:** High fuel costs increased agricultural expenses (e.g., transport, machinery). A 1% rise in fuel inflation can cause a 0.13 % rise in food inflation over 12 months.
- **Supply Chain Disruptions:** Transportation issues, labour shortages, and poor logistics led to food scarcity. Perishable items like vegetables suffered the most due to inadequate storage, causing vegetable inflation to reach 27.8 % for six consecutive months.
- **Global Influence:** Despite falling global food prices, domestic prices stayed high due to limited global-to-local price transmission. India imports 60 % of its edible oils and pulses, making it vulnerable to international disruptions like the Russia-Ukraine war.

Government Measures to Control Food Inflation:

- **Subsidized Commodities:** Distribution of cheaper onions, tomatoes, wheat, and sugar.
- **Import Duty Cuts:** Lowered duties to boost supply of pulses.
- **Export Bans:** Restricted wheat (May 2022) and broken rice (Sept 2022) exports to ensure local availability.
- **Ban on Stockpiling:** Limited wheat storage for traders to prevent hoarding.
- **Operation Greens:** Stabilizes prices of Tomato, Onion, and Potato (TOP crops).
- **Minimum Export Price (MEP):** Imposed \$ 800/ton export floor price for onions (Oct-Dec 2023).

Strategies to Tackle Food Inflation

- **Improving Supply Chains:** Strengthen logistics and storage (e.g., refrigerated trucks for perishables).
- **Boosting Agricultural Productivity:** Invest in drip irrigation, modern technology, and research to enhance crop yields.
- **Price Regulation:** Regularly monitor food prices and set fair maximum retail prices (MRPs).
- **Encouraging Crop Diversification:** Promote pulses and drought-resistant crops to reduce dependency on a few commodities.
- **Adopting Climate-Smart Agriculture:** Use rainwater harvesting and crop rotation to adapt to changing weather.
- **Leveraging Technology:** Tools like AmbiTag monitor food during transit to reduce wastage.



US WITHDRAWAL FROM OECD GLOBAL TAX DEAL

CONTEXT: US President Donald Trump, shortly after taking office, issued an executive order withdrawing the United States from the OECD's global tax deal. This agreement, designed to combat tax avoidance by multinational corporations, has been put on hold.

OECD Global Tax Deal

The OECD Global Tax Deal was established to address tax avoidance by large multinational companies. Over 140 countries had signed the deal, aiming for a fairer international tax landscape. It consists of two main pillars:

- Pillar 1 reallocates profits from home countries to jurisdictions where revenue is generated.
- Pillar 2 sets a global minimum corporate tax rate of 15 %.

US Executive Order Details

President Trump's memorandum criticises the global tax deal for undermining US sovereignty and economic competitiveness. The order states that the deal imposes extraterritorial jurisdiction over American income and restricts the US's ability to create tax policies beneficial to American businesses. Consequently, the US will not comply with the deal's stipulations.

Impact on Global Tax Landscape

Experts predict that the US withdrawal will have consequences for the global tax framework. Countries that have already begun implementing the Global Anti-Base Erosion

Model (GloBE) rules may need to revise their strategies to align with the new US stance. Approximately 50 jurisdictions had made progress towards adopting these rules, and they now face uncertainty. India has historically maintained a cautious approach towards adopting GloBE rules. The country has not yet made legislative changes in response to the OECD deal. In the Union Budget 2024, India eliminated the 2 % equalisation levy, which had been a contentious issue with the US. Consequently, the impact of the US withdrawal on India's tax collection is expected to be minimal.

Role of the OECD in Global Economics

The OECD, comprising 37 democracies with market economies, serves as a forum for developing policy standards that promote sustainable economic growth. It facilitates collaboration among governments, enabling them to share experiences and develop high economic policy standards. The OECD has been an important source of evidence-based policy analysis and economic data for over 50 years.

Current OECD Membership and Economic Influence

OECD member countries account for a substantial portion of the global economy, representing three-fifths of world GDP and three-quarters of world trade. The organisation plays a vital role in promoting sound economic policies, innovation, and resource efficiency, thereby influencing global economic dynamics.

SEBI'S WHEN-LISTED TRADING PLATFORM

CONTEXT: The Securities and Exchange Board of India (SEBI) is set to launch a "when-listed" trading platform that aims to regulate the trading of shares between the allotment phase of an initial public offering (IPO) and their official listing on stock exchanges.

- **When-Listed Platform:** The "when-listed" platform will allow investors to trade shares immediately after they are allotted but before they are officially listed. This change seeks to provide a regulated environment for trading, reducing reliance on the unregulated grey market. The current system, which involves a three-day waiting period post-allotment, often leads to informal trading activities that SEBI aims to eliminate.
- **The Grey Market Phenomenon:** The grey market refers to unofficial trading before shares are listed. It operates based on supply and demand, allowing investors to buy or sell shares without formal exchange mechanisms. This market is often characterised by speculative trading, where investors gauge potential profits based on anticipated listing prices. The grey market can create volatility and mislead investor expectations.
- Electronic trading platform Exchange
- **Current IPO Timeline:** Currently, after the closure of

an IPO bidding process, shares are allotted on T+1 day, with listing occurring on T+3 days. The interim period has become a hotspot for grey market trading, where investors engage in unofficial transactions. The "when-listed" platform aims to fill this gap with regulated trading options.

- **Mechanics of Grey Market Trading:** When a company announces an IPO, grey market activities commence with brokers who specialise in these unofficial trades. They establish a price band for the IPO and add a premium. For instance, if the IPO price band is set at Rs 1900-2000, the grey market premium could elevate the price to ₹ 2100-2500. Trades are settled based on the opening price on the official listing day, exposing investors to the risk of losses if the stock opens lower than their grey market purchase price.
- **Benefits for Investors:** The introduction of the "when-listed" facility will allow investors to trade their allotted shares in a regulated market, enhancing transparency and security. According to Buch, once shares are allotted, investors should have the right to sell them in an organised manner rather than relying on informal channels. This shift is expected to stabilise market sentiments and reduce



volatility associated with speculative trading.

- **Industry Perspectives:** The grey market's volatility can skew market perceptions and should be controlled. The establishment of a formal trading platform will not only legitimise trading activities but also protect investor interests by mitigating dubious transactions prevalent in

the grey market.

While the “when-listed” platform is a positive step, market participants urge Sebi to address grey market activities that begin with the announcement of an IPO. A comprehensive approach to regulating these activities could further safeguard retail investors and ensure a fair-trading environment.

RUPEE'S REAL EFFECTIVE EXCHANGE RATE (REER)

CONTEXT: Recently, the Real Effective Exchange Rate (REER) of the Indian rupee - a critical indicator of India's trade competitiveness against other currencies decreased to 107.20 from a peak of 108.14 in November, reflecting the rupee's ongoing volatility amidst global economic shifts, including foreign portfolio investor outflows and fluctuating US Treasury yields.

What is Real Effective Exchange Rate (REER)?

REER measures a currency's value against a weighted average of several foreign currencies, adjusted for inflation. It indicates international competitiveness. A

higher REER suggests reduced export competitiveness and increased import affordability.

REER is calculated by averaging bilateral exchange rates and weighting them according to trade volume. The formula can vary, but it typically reflects the relative importance of each trading partner's currency. REER does not account for factors like tariffs or price changes that can affect trade. It primarily reflects currency value rather than comprehensive trade dynamics.

Effective exchange rate dashboard.



Recent trends in the Rupee

The rupee depreciated by approximately 3 % against the US dollar in 2024. In December, it fell by 1.31 %. The dollar index rose by 2.75 % to 108.48, reflecting a stronger dollar amidst global economic conditions.

Factors Influencing REER

Heavy foreign portfolio investor outflows and a widening trade deficit contributed to the rupee's decline. The US Federal Reserve's unexpected rate adjustments also impacted investor confidence and currency value.

Reserve Bank of India's Actions

In November, the Reserve Bank of India sold a record \$20.2 billion in the spot market to stabilise the rupee. Despite these interventions, the rupee continued to face downward pressure, with net short positions in the forward market increasing.

Future Projections

Economists predict further depreciation of the rupee, estimating a potential decline of 20-30 paise. This projection considers external market conditions and inflation differentials with major trading partners.



INSOLVENCY AND BANKRUPTCY CODE CASES SLOW DOWN

CONTEXT: The Insolvency and Bankruptcy Code (IBC) has been mechanism for resolving distressed debts in India. However, recent trends indicate a decline in its effectiveness.

- **Declining Case Admissions:** The number of cases admitted under the IBC has fallen sharply. In the first half of the fiscal year, only 417 cases were admitted, compared to 501 in the same period last year. This decline marks a growing reluctance among banks to utilise the IBC for recoveries. Delays in the admission process are factor in this trend.
- **Recovery Rates and Delays:** Recovery rates through the IBC have plummeted to 28% in 2023-24, down from 40% the previous year. The IBC mandates a 14-day timeline for case admissions. However, the actual process often extends to 400–600 days. This discrepancy undermines the effectiveness of the IBC and contributes to the erosion of non-performing assets (NPAs).
- **Erosion of Confidence Among Banks:** The declining recovery rates and extended timelines have diminished banks' confidence in the IBC. Many creditors now prefer alternative methods for debt resolution. Bilateral settlements and debt assignments are becoming more common as banks seek quicker and less costly options.
- **Role of Asset Reconstruction Companies:** Asset Reconstruction Companies (ARCs) are emerging as viable alternatives to the IBC. They offer a more efficient

approach to managing distressed assets. The ability to sidestep lengthy processes associated with the IBC is appealing to banks, particularly those with lower claims.

- **Importance of Operational Efficiency:** Experts emphasise the need for enhanced operational efficiency within the NCLT. Strengthening bench strength and streamlining processes are crucial for improving the IBC's effectiveness. Incorporating technology-driven solutions could also facilitate quicker resolutions.
- **Restructuring as a Preferred Approach:** Restructuring loans is increasingly favoured over pursuing insolvency. Many insolvencies arise from liquidity issues rather than mismanagement. The IBC has instilled a sense of discipline among creditors, making restructuring a more attractive option for banks and financial institutions.
- **Strengthening Legal Framework:** Providing immunity to bankers for their commercial decisions is another suggestion from experts. This could encourage timely actions and prudent risk-taking, thereby boosting the resilience of the banking sector.

The Reserve Bank of India (RBI) reported a drop in case admissions to the National Company Law Tribunal (NCLT), reaching a six-year low in 2023-24. Recovery rates for banks through the IBC have also decreased. This shift raises questions about the future role of the IBC in the financial landscape.

INDIA'S FIRST GREEN HYDROGEN HUB LAUNCHED

CONTEXT: The Green Hydrogen Hub (GHH) project has been launched in Pudimadaka, Andhra Pradesh, as part of the National Green Hydrogen Mission. It will be India's first integrated green hydrogen production facility. Prime Minister Narendra Modi will virtually lay the foundation stone on January 8, 2025. The project aims to boost renewable energy capacity and support India's net-zero target by 2070.

Project Overview

The GHH project spans approximately 1,600 acres, located 2 km from the Bay of Bengal. It involves a joint venture between the Andhra Pradesh New & Renewable Energy Development Corporation (NREDCAP) and NTPC Green Energy Limited (NGEL). The project will require an investment of around ₹ 1,84,700 Cr, with the largest phase of investment occurring in 2027.

Capacity and Production

The GHH will feature a capacity to produce 1,500 tonnes per day (TPD) of green hydrogen. Additionally, it will produce 7,500 TPD of green hydrogen derivatives, including green methanol, green urea, and sustainable aviation fuel. This production primarily targets the export market, reinforcing India's position in the global green energy landscape.

Infrastructure Development

The project will include various facilities, such as a green chemical zone with a capacity of 2.5 million tonnes per annum (MTPA), a chemical storage terminal, and port infrastructure. A 7 GW substation and an 80 million litres per day (MLD) desalination plant will also be developed. The overall operational framework aims for completion by 2032.

Employment Opportunities

The GHH project is expected to generate over 57,000 jobs by 2032. This employment boost will impact the local economy, encouraging growth in the region and contributing to India's broader economic objectives.

Environmental Impact

The GHH project aligns with India's target of achieving 500 GW of non-fossil energy capacity by 2030. It aims to facilitate decarbonisation across major sectors and support the nation's quest for energy independence. The Green Hydrogen Hub (GHH) project will also contribute to India's net zero goals by promoting sustainable energy practices.

The Green Hydrogen Hub (GHH) is the first project under the National Green Hydrogen Mission. The project site is 20 km from National Highway-16. It will include a desalination



plant extracting seawater 2 km away. The investment plan spans multiple phases, with a peak in 2027. It aims for 160 GW renewable energy capacity by 2024.

Infrastructure and Utilities

The project will utilise power supplied through the 400kV NTPC Simhadri and 800/765kV Anakapalli

substations. Freshwater will be sourced from the Yeleru canal and the desalination plant. The development of common infrastructure is scheduled between May 2025 and December 2026, including roads, office spaces, and waste management systems.

FUTURE OF JOBS REPORT 2025

CONTEXT: The World Economic Forum's Future of Jobs Report 2025 marks changes in the global labour market. The report indicates that artificial intelligence (AI), big data, and security management specialists will dominate job growth over the next five years.

The World Economic Forum's Future of Jobs Report 2025 forecasts a job disruption affecting 22% of the workforce by 2030, alongside the creation of 170 million new jobs. This transformation is driven by technological advancements, economic factors, and demographic shifts.

Key Findings from the Report

The Future of Jobs Report 2025 is based on data from over 1,000 global companies. These companies represent more than 14 million workers across 22 industries and 55 economies. The report identifies the rapid adoption of digital technologies as a transformative trend for businesses. Employers anticipate that 60% of their operations will be affected by increasing digital access.

Fastest Growing Job Roles

The report lists the top ten fastest-growing job roles expected by 2030:

- Big data specialists
- FinTech engineers
- AI and machine learning specialists
- Software and applications developers
- Security management specialists
- Data warehousing specialists
- Autonomous and electric vehicle specialists
- UI and UX designers
- Light truck or delivery services drivers
- Internet of Things specialists

Skills in Demand

The report marks several skills that will see increases in demand. AI and big data skills are expected to rise by 87%. Networks and cybersecurity skills will grow by 70%. Creative thinking and resilience will also be essential, both increasing

by 66%. Conversely, skills such as dependability and attention to detail will see minimal growth or decline.

Job Market in India

India's job market is influenced by increased digital access and geopolitical tensions. Companies in India are investing heavily in AI, robotics, and energy technologies. The report notes that Indian employers are likely to lead in adopting certain technologies, with 35% expecting advancements in semiconductors and computing.

Declining Job Roles

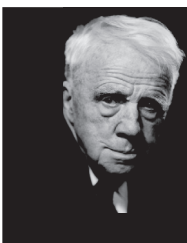
The report also outlines the fastest declining job roles. These include:

- Postal service clerks
- Bank tellers
- Data entry clerks
- Cashiers
- Ticket clerks
- Printing and trades workers
- Legal secretaries

These roles are likely to diminish due to automation and technological advancements. AI and big data skills are projected to rise by 87%. Approximately, 60% of employers believe digital access will transform businesses. India is expected to lead in semiconductor technology adoption. Creative thinking skills will increase by 66%. 22% of jobs are at risk of disruption by 2030.

Future Skills and Adaptation

As industries evolve, workers must adapt by acquiring new skills. Emphasis on upskilling will be crucial, as 77% of employees plan to enhance their capabilities in response to automation. Resilience, flexibility, and a creative mindset will be vital for navigating the changing job landscape. The Future of Jobs Report 2025 serves as a roadmap for understanding how the labour market will shift in the coming years. Adaptation to these changes will be essential for both individuals and organisations.



“Education is the ability to listen to almost anything without losing your temper or your self-confidence.” - Robert Frost



UREA PRODUCTION BOOM IN INDIA

CONTEXT: India's urea production has surged in recent years, despite challenges in the fertiliser sector. The government aims for self-reliance, known as Atmanirbhar, which has driven investments in urea manufacturing.

Recent Developments in Urea Production

From 2011-12 to 2023-24, India's domestic urea production increased from 22 million tonnes to 31.4 million tonnes. During this period, imports decreased from 7.8 million tonnes to 7 million tonnes. The current fiscal year has seen a 31.7 % drop in imports, potentially falling below 5 million tonnes for the first time since 2006-07.

New Urea Plants and Investments

The rise in production is attributed to six new plants established by major companies, including Hindustan Urvarak & Rasayan Ltd (HURL), Chambal Fertilisers, Matix Fertilisers, and Ramagundam Fertilizers. These projects represent investments between Rs 6,000-8,600 Cr. each, collectively producing 7.55 million tonnes in 2023-24. The new plants are energy-efficient, requiring only about 5 giga-calories per tonne of urea.

Location and Capacity of New Plants

The new plants are strategically located in eastern India, including Uttar Pradesh, West Bengal, Bihar, Jharkhand, and Telangana. This contrasts with older facilities primarily serving Punjab and Haryana. Matix Fertilisers, for instance, holds a 20 % market share in Eastern India and is the sole urea producer in West Bengal.

Upcoming Projects and Innovations

A seventh plant is under construction in Talcher, Odisha, at an estimated cost of Rs 17,080.69 Cr. This facility will utilise coal as feedstock, marking a shift from natural gas-based plants. The project is about two-thirds complete and employs a unique coal gasification technology.

Economic Considerations – Make vs Buy

The total investment in these new plants amounts to Rs 61,575 Cr. Currently, importing urea is cheaper at \$370-403 per tonne compared to domestic production costs of around \$ 493 per tonne. However, after accounting for tax exemptions, domestic production costs could drop to \$ 427 per tonne.

Implications of Urea Consumption Trends

India's urea consumption has increased from 29.6 million tonnes to 35.8 million tonnes between 2011-12 and 2023-24. The price of urea has remained frozen since 2012, leading to unsustainable consumption patterns. A more balanced pricing strategy could reduce pressure on both domestic production and imports.

The establishment of LNG terminals and extensive pipeline networks has transformed the economics of urea production. This infrastructure supports a strategy where northern and eastern regions focus on domestic production while southern areas may rely more on imports. The shift towards more sustainable practices in urea consumption and production is essential for the long-term viability of India's agricultural sector.

CORPORATE GOVERNANCE IN INDIA

CONTEXT: The Ministry of Corporate Affairs (MCA) recently appointed 24 new members to the National Company Law Tribunal (NCLT) to enhance the tribunal's efficiency in resolving corporate disputes. This initiative is designed to address the increasing demands for effective handling of insolvency, mergers, and corporate disputes in India.

Implications for Corporate Disputes

The appointments are expected to reduce case pendency at the National Company Law Tribunal (NCLT). They will expedite resolutions, particularly for cases under the Insolvency and Bankruptcy Code (IBC) and the Companies Act. Improved efficiency in the tribunal is vital for encouraging confidence among businesses and investors.

Overview of the Insolvency and Bankruptcy Code (IBC)

The Insolvency and Bankruptcy Code, enacted in 2016, consolidates various laws related to insolvency resolution. It aims to streamline processes for creditors, aiding in the recovery of dues. The IBC is often referred to as India's exit law, addressing challenges in the economy.

Objectives of the IBC:

- Consolidate existing insolvency laws

- Expedite resolution processes
- Protect creditor interests
- Promote entrepreneurship
- Maximise asset value and provide timely recovery procedures for banks and financial institutions

T.K. Vishwanathan led the committee that proposed the Insolvency and Bankruptcy Code (IBC). The National Company Law Tribunal (NCLT) was established on June 1, 2016, to handle corporate disputes. The IBC has been very important in promoting entrepreneurship in India. The National Company Law Tribunal (NCLT) operates under principles of natural justice, not bound by civil procedure rules. The Insolvency and Bankruptcy Board oversees the IBC implementation.

Structure of the NCLT

The NCLT is a quasi-judicial authority that resolves civil disputes under the Companies Act, 2013. It consists of a President and several Judicial and Technical Members, functioning with the flexibility to regulate its procedures. The NCLT plays important role as the adjudicating authority for insolvency resolutions under the IBC.



ANGEL TAX ABOLITION

CONTEXT: The recent abolition of the angel tax in India has sparked a wave of optimism among startups. Many companies are relocating their headquarters back to India, encouraged by government initiatives aimed at improving the ease of doing business.

About Angel Tax

Angel tax, formally known as Section 56 (2) (viib) of the Income Tax Act, was introduced in 2012. It aimed to curb tax avoidance and money laundering by taxing the difference between the fair market value (FMV) of shares and the price at which closely held companies issued them. This provision was often seen as a deterrent for startups, leading many to seek registration in foreign jurisdictions.

Impact of Abolishing Angel Tax

The removal of angel tax has led to a wave of “reverse flipping,” where startups that initially registered abroad are now returning to India. The DPIIT has indicated that this change is positively impacting the equity market. The Ministry of Corporate Affairs is expediting processes to facilitate these transitions, making it easier for startups to operate in India.

Growth of Startups in India

Since the launch of the Startup India initiative in 2016, the number of registered startups has surged to over 157,000 by the end of 2024. In terms of funding, startups received \$ 155 billion in 2024, increase from just \$ 8 billion in 2016. This growth has also led to the creation of over 1.7 million jobs across the country, showcasing the vital role startups play in the Indian economy.

International Collaborations and Opportunities

Countries like Saudi Arabia have shown interest in Indian startups, particularly in events such as the Startup

Mahakumbh. The DPIIT is actively pursuing collaborations that allow foreign sovereign pension funds to invest in Indian startups. This strategy aims to create a global network where startups can address international challenges, thereby enhancing their visibility and potential for growth.

Promoting Manufacturing Startups

The DPIIT has engaged large companies to identify products they can procure from startups to boost manufacturing startups. This initiative seeks to create a symbiotic relationship between established firms and emerging startups, encouraging innovation and economic growth. The term “reverse flipping” refers to startups returning to India from abroad.

Startup India initiative was launched in 2016 to boost entrepreneurship. The Centre’s Fund of Funds Scheme (FFS) supports startups with a corpus of ₹ 10,000 Cr. DPIIT reported over 1.7 million jobs created by startups as of 2024. Angel tax was introduced in 2012 to combat tax avoidance through inflated valuations.

Future Meetings with Alternate Investment Funds

Ahead of the ninth anniversary of the Startup India programme, the DPIIT is convening with alternate investment funds (AIFs) to discuss startup funding. The meeting aims to address capital mobilisation and funding opportunities for startups in smaller cities. Approximately 75 AIFs are expected to participate, denoting the growing interest in supporting the startup ecosystem in India. The Centre’s Fund of Funds Scheme (FFS) is a key component of this initiative, providing financial backing to Sebi-registered AIFs, which in turn invest in startups.

BHARAT CLEANTECH MANUFACTURING PLATFORM

CONTEXT: The Bharat Cleantech Manufacturing Platform was recently launched by Union Minister Piyush Goyal at the Bharat Climate Forum 2025 in New Delhi. This initiative aims to enhance India’s cleantech value chains, focusing on solar, wind, hydrogen, and battery storage sectors.

- **Objective of the Bharat Cleantech Manufacturing Platform:** The platform aims to strengthen India’s position in the global cleantech market. It encourages collaboration among businesses to secure financing and share resources. The initiative is expected to make India an attractive destination for cleantech investments and innovations.
- **Significance of Product Linked Incentives (PLIs):** The Production Linked Incentives (PLIs) could hinder the long-term growth of the clean energy sector. While PLIs can initiate growth, he emphasised the need for the sector to become self-sufficient. The focus should be on sustainable

development rather than reliance on government support.

- **Targets for Clean Energy Capacity:** India aims to achieve 500 gigawatts of clean energy capacity by 2030. Goyal noted that India has already achieved its 2022 clean energy target eight years ahead of schedule. India is on track to meet its ambitious goals with 200 gigawatts currently installed.
- **India’s Performance in Climate Commitments:** India has been a top performer in fulfilling its Nationally Determined Contributions (NDCs) under the Paris Agreement. India is ahead of its targets, showcasing its commitment to addressing climate change proactively.
- **Role of Gujarat in Solar Energy Adoption:** Gujarat has been a pioneer in adopting solar power in India. Goyal credited the state for its early embrace of renewable energy. The affordability of solar energy in India is attributed to the government’s focus on transparency and



fair competition.

The Bharat Cleantech Manufacturing Platform is poised to play an important role in the future of India's cleantech industry. By encouraging innovation and collaboration, it aims

to position India as a leader in sustainable energy solutions. The initiative aligns with the government's broader vision of enhancing the renewable energy sector and contributing to global climate goals.

WHY UNION BUDGET IS PRESENTED ON FEBRUARY 1?

CONTEXT: The Union Budget of India is presented annually, specifically on February 1 since 2017. This date allows the government to make necessary financial adjustments before the fiscal year begins in April. Finance Minister Nirmala Sitharaman will outline India's financial trajectory for the upcoming year. The change to February 1 ended a long-standing colonial practice.

- **Historical context of Budget presentation:** Previously, the Union Budget was presented on the last working day of February. This tradition persisted since colonial times. Arun Jaitley initiated the February 1 budget date change. The Railway Budget merger aimed to improve financial health. The rationale behind this change was to provide the government with more time to implement financial adjustments before the new fiscal year.
- **Reasons for changing the Budget Date:** The primary reason for moving the budget presentation date was to end a colonial-era practice. Additionally, it allowed the government a longer period to implement necessary changes. The previous timing left little room for adjustments, which could impact effective governance.
- **Constitutional Provisions of the Union Budget:** According to Article 112 of the Constitution of India, the Union Budget is known as the Annual Financial Statement. The Constitution does not explicitly mention

the term "budget." Key documents associated with the budget include the Annual Financial Statement, Demands for Grants, and the Finance Bill.

- **Key Budget Documents:** The Union Budget comprises several important documents. These include the Annual Financial Statement, which outlines estimated receipts and expenditures. The Finance Bill contains taxation proposals. Additional documents provide detailed explanations of the budget's provisions and implementation strategies.
- **Budget Preparation and Classification:** The Department of Economic Affairs is responsible for preparing the Union Budget. The budget is classified into two main categories – the Revenue Budget and the Capital Budget. The Revenue Budget includes expected income from taxes, while the Capital Budget focuses on expenses related to government assets and infrastructure development.
- **Parts of the Union Budget:** The Union Budget consists of two main parts. Part A includes the macroeconomic section, which announces government schemes and priorities. Part B involves the Finance Bill, which outlines taxation proposals, including revisions to income tax. Article 110 defines a Finance Bill as a Money Bill. The Union Budget is classified into Revenue and Capital Budgets.

WORLD ECONOMIC FORUM'S GLOBAL COOPERATION BAROMETER 2025

CONTEXT: Recent global dynamics reveal a concerning stagnation in international cooperation, primarily due to escalating geopolitical tensions. The World Economic Forum's Global Cooperation Barometer 2025 indicates that while cooperation has 'flatlined', there are promising developments in climate finance, trade, and innovation.

Overview of the Global Cooperation Barometer

The Global Cooperation Barometer is a comprehensive tool designed to help leaders understand the complexities of global cooperation. The Barometer examines trade and capital flows, innovation and technology, climate and natural capital, health and wellness, and peace and security. The second edition draws on new data, providing an updated view of the cooperation landscape, especially in light of technological advancements.

Current Global Instability

The Barometer's release coincides with global instability. Børge Brende, President and CEO of the World Economic Forum, emphasised the necessity of cooperation to

tackle pressing economic, environmental, and technological issues. The report marks that while cooperation is vital, it is also feasible amid current turbulence.

Trends in Global Cooperation

The analysis reveals that global cooperation has stagnated after a decade of positive trends. This stagnation is largely attributed to a decline in the peace and security pillar, driven by increasing geopolitical tensions. Notably, conflicts in regions such as the Middle East, Ukraine, and Sudan have exacerbated humanitarian crises.

Opportunities Amidst Challenges

Despite the decline in peace and security, the Barometer identifies emerging opportunities for cooperation in areas like vaccine distribution, scientific research, and renewable energy. These collaborative efforts serve as models for future international partnerships, showcasing that cooperation can persist even in challenging circumstances.



Technological Advancements and Cooperation

The Barometer notes advancements in technology and innovation in 2023, largely due to the digitisation of the global economy. This shift has led to increased adoption of new technologies and a decrease in lithium battery prices. However, the rise of emerging technologies, particularly artificial intelligence, poses new challenges and risks, potentially leading to an “AI arms race.”

Climate Cooperation Progress

Cooperation regarding climate goals has improved, with increased financial flows and trade in low-carbon technologies. Nevertheless, urgent actions are necessary to achieve net-zero targets, as global emissions continue to rise. The Barometer stresses that enhanced global cooperation is critical for scaling up technologies and securing the required financing to meet climate objectives by 2030.

Health Cooperation

Post-pandemic health outcomes have shown improvements in life expectancy, although overall progress is slowing compared to pre-2020 levels. While some health cooperation metrics have declined, others, such as child and maternal mortality rates, remain strong. Leaders are urged to invest in global cooperation to strengthen public health systems in light of rising health risks and ageing populations.

Trade and Economic Flows

The report indicates mixed results regarding the flow of goods and services. Goods trade declined by 5 %, influenced by slower growth in China and other developing markets. However, foreign direct investment has surged, particularly in sectors like semiconductors and green energy. Labour migration and remittances have also rebounded, exceeding pre-pandemic levels.

INDIA IN QS WORLD FUTURE SKILLS INDEX

CONTEXT: Recently, India has been recognised as the second most prepared job market globally, following the United States, according to the QS World Future Skills Index. The inaugural index evaluates countries based on their readiness for future job demands, particularly in key sectors such as Artificial Intelligence, digital, and green industries. India’s strong performance marks both its potential and the challenges it faces in aligning education with industry needs.

- **QS World Future Skills Index:** The index assesses countries on four main indicators – Skills Fit, Academic Readiness, Future of Work, and Economic Transformation. India ranks 25th overall but excels in the Future of Work category, scoring 99.1, just behind the US.
- **Key Strengths of India:** India is noted for its robust GDP growth, youthful population, and vibrant start-up culture. It is identified as the most prepared nation alongside Mexico for recruiting in digital roles, showcasing its strong potential in emerging job markets.
- **Challenges in Higher Education:** Despite its strengths, India faces challenges in higher education and industry collaboration. There is a need to enhance partnerships between educational institutions and industries to better

equip graduates with in-demand skills.

- **Innovation and Sustainability Issues:** India scored low on Future-Oriented Innovation and Sustainability metrics, indicating a need for improvement in sustainable practices and innovative solutions. Addressing these areas is crucial for long-term growth.
- **Demographic Advantage:** India’s youthful demographic is asset, providing a dynamic workforce ready for future challenges. This contrasts with many countries facing ageing populations, positioning India favourably for growth in various sectors.
- **Recommendations for Improvement:** To unlock its full potential, India must focus on deeper integration between education and industry, encourage innovation, and expand access to higher education across diverse regions. These steps are essential for preparing a future-ready workforce.

India’s ranking in the QS index marks its capability to prepare for the future job market. With continued efforts in education, sustainability, and innovation, India is poised to become a leader in digital, AI, and green sectors.

INTEREST EQUALISATION SCHEME EXTENSION

CONTEXT: The Indian Commerce Ministry is advocating for a further extension of the Interest Equalisation Scheme (IES) in the upcoming Budget to boost export activities amid ongoing global economic challenges. The scheme, which provides financial support to exporters, is set to expire soon, and stakeholders are urging its continuation to maintain competitiveness in international markets.

- **Background of the Scheme:** The Interest Equalisation Scheme was launched on April 1, 2015. Initially valid for five years, it aimed to support exporters by providing pre-

and post-shipment rupee export credit at lower interest rates. The scheme was extended multiple times, including during the COVID-19 pandemic.

- **Current Status:** As of December 31, 2024, the scheme is scheduled to end. The government has disbursed ₹ 2,641.28 Cr from an allocated budget of ₹ 2,932 Cr for the period from April 2023 to November 2024.
- **Financial Benefits:** Exporters receive a 2 % interest equalisation benefit on rupee export credit for 410 identified tariff lines. MSME manufacturer exporters



benefit from a higher rate of 3 %. The cap for individual exporters has been raised to ₹ 50 lakh per annum per Import Export Code (IEC).

- **Implementation and Monitoring:** The Reserve Bank of India (RBI) administers the scheme through public and private banks. The Directorate General of Foreign Trade (DGFT) and RBI jointly monitor the scheme's implementation and effectiveness.
- **Export Sector Impact:** The scheme targets various sectors, including handicrafts, leather, and textiles,

enhancing their international competitiveness. Exporters argue that the IES is crucial for maintaining market presence against countries like China, where interest rates are lower.

The Commerce Ministry is expected to propose a budget extension for the IES to ensure continued support for exporters. The Federation of Indian Export Organisation (FIEO) advocates for this extension, denoting its importance in turbulent economic times.

INDIA'S MANUFACTURING VISION FOR TIER 2 AND 3 CITIES

CONTEXT: The Government of India is focusing on enhancing manufacturing capabilities in Tier 2 and 3 cities. This initiative aims to boost the country's economic growth by increasing the contribution of manufacturing to the Gross Value Added. The Commerce Ministry has mandated states and Union Territories (UTs) to develop a 'City Level Economic Vision' for 100 selected cities by June 2026.

Strategic Framework Overview

The initiative is part of a broader strategic framework established by the Department of Promotion of Industry and Internal Trade (DPIIT). This framework was discussed at the Fourth National Conference of Chief Secretaries. It targets 1,039 towns, aiming to shift manufacturing focus from traditional industrial hubs to less developed areas.

Importance of Tier 2 and 3 Cities

Tier 2 and 3 cities are vital for India's economic growth. They offer a demographic dividend, an affordable workforce, and potential for industrial expansion. The government believes that addressing infrastructure challenges and enhancing logistics will create a robust manufacturing ecosystem in these areas.

Tailored Approaches for States

States with lower Gross State Domestic Product (GSDP) are encouraged to prioritise capital-efficient and labour-intensive industries. Conversely, states with established manufacturing bases should focus on research and development, high-tech industries, and innovation. This tailored approach allows states to leverage their unique strengths.

Key Enablers for Manufacturing Growth

The government has identified several key enablers necessary for manufacturing growth, including:

- **Industrial Infrastructure:** Development of flexible land lease policies and 100 plug-and-play parks by December 2025.
- **Logistics:** Implementation of a State Logistics Action Plan by June 2026.
- **Ease of Doing Business:** Improvement of the single-window system and reduction of compliance burdens by December 2025.
- **Skilling and Entrepreneurship:** Conducting skill gap studies and establishing 100 new start-up incubation centres by December 2029.

Timelines for Implementation

States and UTs have been given specific timelines to implement various reforms. Key deadlines include:

- **June 2026** – Submission of City Level Economic Vision and State Logistics Action Plan.
- **December 2025** – Development of flexible land lease policies and improvement of the single-window system.
- **December 2026** – Formulation of City Logistics Plans for 25 cities.

Employment Growth Objectives

The government aims to increase the share of manufacturing in employment from 12 % to 22 % by 2047. This goal reflects the stagnant employment share in manufacturing since 1972-73. By expanding manufacturing into Tier 2 and 3 cities, the government anticipates boost in job creation.

The initiative represents a comprehensive effort to decentralise manufacturing in India. By enhancing infrastructure, logistics, and workforce skills in Tier 2 and 3 cities, the government aims to encourage a vibrant manufacturing ecosystem that can contribute substantially to the national economy.

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INDIA'S SEMICONDUCTOR AND ELECTRONICS MANUFACTURING INITIATIVES

CONTEXT: India is making strides in the semiconductor and electronics manufacturing sectors as it prepares for the Union Budget 2025-26. The Union Finance Ministry has brought into light the government's successful policies aimed at boosting investments and job creation through the semiconductor programme and the Production-Linked Incentive (PLI) scheme. These initiatives are crucial for establishing India as a global hub for semiconductor and electronic goods manufacturing.

Semiconductor Programme Overview

The 'Programme for Development of Semiconductors and Display Manufacturing Ecosystem' offers attractive incentives to semiconductor packaging and design companies. Launched in December 2021, the Semicon India Programme has approved five semiconductor projects and supported 16 design companies. This initiative is expected to attract investments of ₹1.52 lakh Cr and create approximately 25,000 direct jobs, along with 60,000 indirect jobs.

- **Production-Linked Incentive (PLI) Scheme:** Under the PLI scheme for electronics, India has achieved production worth ₹6.14 lakh Cr and exports of ₹3.12 lakh Cr. This has led to the creation of over 128,000 direct jobs in the electronics sector, reinforcing India's position as a global manufacturing powerhouse. The PLI scheme aims to provide competitive incentives to companies in the semiconductor and electronics manufacturing sectors.
- **Incentives for Semiconductor Manufacturing:** The semiconductor programme includes fiscal support of up to 50% for setting up semiconductor and display fabrication units. The government collaborates with states to create high-tech clusters with necessary infrastructure. Additionally, fiscal support of 30% is available for capital expenditure in compound semiconductor units.

- **Design Linked Incentive Scheme:** The Design Linked Incentive (DLI) Scheme offers incentives of up to 50% on eligible expenditures for semiconductor design companies. This includes support for Integrated Circuits (ICs), chipsets, and System on Chips (SoCs). The goal is to boost domestic capabilities in semiconductor design and innovation.
- **India Semiconductor Mission:** The India Semiconductor Mission (ISM) will be established to drive long-term strategies for developing a sustainable semiconductor ecosystem. Led by global experts, ISM will act as the nodal agency for implementing semiconductor and display manufacturing schemes efficiently.

Strategic Importance of Semiconductors

In the current geopolitical landscape, semiconductors are vital for national security and economic stability. The development of a robust semiconductor ecosystem will enhance India's self-reliance and integration into global supply chains.

Challenges in the Electronics Sector

Despite growth, India faces challenges such as low net value addition in electronics production, reliance on imports for critical components, and a lack of indigenous semiconductor foundries. These factors hinder the country's ability to fully capitalise on its manufacturing potential.

To advance in semiconductor manufacturing, India must focus on building comprehensive support across the chip-making supply chain, including design, testing, and packaging. Increasing fiscal support and leveraging public sector enterprises can facilitate the establishment of semiconductor foundries. Emphasising a collaborative approach within a trusted semiconductor ecosystem will be essential for India's success in this domain.

GOVT BEGINS PROCUREMENT OF 10,000 GPUS UNDER INDIAAI MISSION

CONTEXT: Recently, the Government of India initiated the bidding process for the procurement of 10,000 graphics processing units (GPUs) under the IndiaAI Mission. The Cabinet in March 2024, has a budget of ₹ 10,372 Cr over five years, aimed at boosting artificial intelligence development in the country. The GPU procurement is a critical step to enhance computing capabilities and support various stakeholders in creating an AI ecosystem.

- **GPU Procurement:** The procurement process involves ten selected companies, including Jio Platforms and Tata Communications, competing for the supply of GPUs. The bidding commenced on January 22, 2025, with results expected within a week. A portion of the mission's budget, about 44 % (₹ 4,563.36 Cr), is allocated for GPU procurement.

- **Importance of GPUs:** GPUs are essential for training and running AI models efficiently. They can process vast amounts of data simultaneously, making them much faster than traditional CPUs. This speed is crucial for developing advanced AI applications across various sectors.
- **Challenges in GPU Procurement:** Despite the ambitious goals, challenges exist. High costs of GPUs, limited availability, and a shortage of skilled AI professionals may hinder progress. Moreover, the existing computing infrastructure in India is minimal, comprising less than 2 % of global capacity.
- **Modifications to Bidding Requirements:** To encourage participation from smaller firms, the government revised the bidding requirements. The average turnover for primary bidders was reduced from ₹ 100 Cr to ₹ 50 Cr,



while non-primary members saw their requirements halved to ₹ 25 Cr.

- **Current Status of AI in India:** AI adoption is on the rise across sectors in India. Initiatives like Digital India and the National AI Strategy are driving this trend. Major cities, such as Bengaluru and Hyderabad, are emerging as AI hubs, supported by research institutions and a growing number of startups.
- **IndiaAI Mission:** The IndiaAI Mission aims to build a robust AI computing infrastructure. The objectives of the IndiaAI Mission include enhancing data quality, encouraging industry collaboration, and promoting indigenous AI technologies. The mission will support sectors like

healthcare, agriculture, and governance by developing foundational AI models.

The IndiaAI Mission is set to create a high-end AI computing ecosystem. Plans include establishing the IndiaAI Innovation Centre and datasets platform, promoting AI education, and providing financing for startups. The government aims to ensure ethical AI practices and address environmental concerns associated with data centres. The mission faces potential obstacles, including limited GPU infrastructure, high implementation costs, and ethical issues related to AI. Additionally, geopolitical factors and regulatory challenges may impede access to essential technologies.

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ECOLOGY





INDIA CUTS GHG EMISSIONS BY 7.93%

2024 NATIONAL GROUNDWATER ASSESSMENT REPORT

GREEN GDP

BANDED ROYAL BUTTERFLY

WORLD'S MOST POLLUTED CITY

NET-ZERO BANKING ALLIANCE

2024: HOTTEST YEAR ON RECORD

2024 GLOBAL WATER MONITOR REPORT

RANKING OF INDIAN CITIES BY AQI

FRESHWATER SPECIES FACING EXTINCTION THREATS

GLOBAL RISKS REPORT 2024

GLOBAL PLASTIC ACTION PARTNERSHIP

ARCTIC BOREAL ZONE BECOMES CARBON SOURCE

HOLLONGAPAR GIBBON SANCTUARY

OLIVE RIDLEY TURTLE



INDIA CUTS GHG EMISSIONS BY 7.93%

CONTEXT: India's 4th Biennial Update Report (BUR-4) revealed a 7.93% decrease in greenhouse gas emissions in 2020 compared to 2019.

BACKGROUND: The UNFCCC, effective from March 1994, aims to curb greenhouse gas emissions globally, with the Paris Agreement (COP21, 2015) targeting temperature rise below 2°C, and 1.5°C, with countries submitting climate targets through NDCs.

India's Climate Action and Emissions Reduction (UNFCCC Report 2024)

• **UNFCCC's Objective:** The UNFCCC, effective from March 21, 1994, aims to stabilize greenhouse gas concentrations and promote global cooperation on climate change and finance.

- **Paris Agreement (COP21):** In 2015, 195 countries adopted the Paris Agreement, aiming to limit global temperature rise to below 2°C, pursuing efforts to limit it to 1.5°C.
- **India's NDCs and BUR-4 Submission:** India submitted its 4th Biennial Update Report (BUR-4) on December 30, 2024, detailing its climate targets and emissions progress.
- **Reduction in GHG Emissions:** India's total GHG emissions reduced by 7.93% in 2020 compared to 2019, with net emissions of 2,437 million tonnes of CO₂e including LULUCF.
- **Energy Sector's Contribution:** The energy sector contributed 75.66% of India's total emissions, while land use activities sequestered 522 million tonnes of CO₂, reducing emissions by 22%.

Climate Action Initiatives for Carbon Neutrality



India's Climate Action Initiatives for Carbon Neutrality

- **Forest Land Diversion & Mitigation Measures:** Addressing forest fragmentation, mandatory afforestation, and eco-restoration with campaigns like "Ek Ped Maa Ke Naam" and the Green Credit Program (2023).
- **Urban Climate Adaptation & Low-Carbon Development:** Mainstreaming adaptation in urban planning, with initiatives like Smart Cities Mission, AMRUT, and Pradhan Mantri Awaas Yojana for sustainable urban development.
- **Air Pollution Control & Clean Air Initiatives:** National Clean Air Programme (NCAP) improves air quality in

131 cities with funding from schemes like SBM (Urban), FAME-II, and SATAT.

- **Coastal Ecosystem Conservation & Resilience:** Programs like MISHTI (2023) restore mangroves across 9 coastal states, with ₹12.55 crores allocated for 3,046 ha. restoration in FY 2024-25.
- **Regulatory Measures for Climate Resilience:** CRZ notifications (2011 & 2019) enhance climate resilience by managing mangroves, coral reefs, and coastal ecosystems under various environmental acts.



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2024 NATIONAL GROUNDWATER ASSESSMENT REPORT

CONTEXT: The Union Minister of Jal Shakti released the 2024 Dynamic Groundwater Resource Assessment Report, highlighting India's groundwater status and management strategies.

BACKGROUND: A joint assessment by CGWB and States/UTs evaluates groundwater recharge and extraction to guide stakeholder interventions. India's annual groundwater recharge is 446.90 BCM, with 406.19 BCM extractable. Current annual extraction is 245.64 BCM, highlighting resource availability.

Groundwater Recharge and Extraction Trends (2017–2024)

- **Increase in Annual GW Recharge (2024 vs. 2017):** Total annual groundwater recharge increased by 15 BCM, while extraction declined by 3 BCM from the 2017 assessment.
- **2024 Assessment Year Trends:** Slight reduction in recharge and an increase in extraction were observed compared to the preceding year (2023).

- **Consistent Growth in Recharge (Tanks, Ponds, and WCS):** Recharge from these sources rose consistently over five assessments, reaching 25.34 BCM in 2024, up 11.36 BCM from 2017.
- **Safe Category Expansion:** Percentage of safe assessment units increased significantly, from 62.6% in 2017 to 73.4% in 2024, showing improvement in groundwater management.
- **Decline in Over-Exploited Units:** Over-exploited assessment units reduced from 17.24% in 2017 to 11.13% in 2024, indicating better extraction control and conservation efforts.

Out of 6746 assessment units in India, 73.4% are 'Safe', while 25.7% face issues like semi-critical, critical, over-exploited, or saline groundwater. Improved groundwater recharge and conservation efforts have reduced over-exploited and critical units compared to 2023.

Central Ground Water Authority (CGWA)

- **Establishment and Purpose:** Established under Section 3(3) of the Environment (Protection) Act, 1986, CGWA regulates and controls groundwater development and management across India.
- **Regulatory Powers:** CGWA exercises authority under Section 5 of the Environment (Protection) Act, 1986, enabling it to issue directives and take measures to protect groundwater resources.
- **Groundwater Extraction Reduction:** In Delhi, groundwater extraction decreased from 127% in 2013 to 99% in 2023, indicating improved groundwater management.
- **Environmental Compensation Collection:** Between 2013 and November 2024, CGWA collected approximately ₹41.74 crore in environmental compensation from entities illegally extracting groundwater nationwide.
- **National Aquifer Mapping Program (NAQUIM):** CGWA is implementing NAQUIM, covering 25.15 lakh square kilometres to assess and manage groundwater resources effectively.

GREEN GDP

CONTEXT: Chhattisgarh became the first state to integrate forest ecosystems into its Green GDP, emphasizing environmental sustainability in economic accounting.

BACKGROUND: Chhattisgarh has introduced a plan linking its forests' ecosystem services, such as clean air, water conservation, and biodiversity, to the state's Green GDP, emphasizing the connection between environmental health and economic growth.

Concept of Green GDP

Green GDP adjusts traditional GDP by accounting for environmental costs, including resource depletion and pollution, to reflect sustainable economic growth.

- **Calculation Method:** Green GDP is calculated by subtracting environmental and social costs from traditional GDP, encompassing natural resource depletion and ecological degradation.
- **China's Initiative:** In 2004, China introduced Green GDP accounting, revealing that pollution-related financial losses amounted to 3.05% of its economy.

- **Global Perspective:** The United Nations' System of Integrated Environmental and Economic Accounting (SEEA) provides guidelines for incorporating environmental factors into national accounts.
- **Critiques:** Challenges in accurately valuing non-market environmental assets and the potential for political resistance have hindered the widespread adoption of Green GDP metrics.

India and Green GDP

India's Green GDP Estimation: In 2019, India's Green GDP was estimated at ₹165.8 lakh crore, reflecting a 91% increase from 2009.

- **Environmental Degradation Costs:** The calculation of Green GDP subtracts costs like carbon dioxide damage, particulate emission damage, and the opportunity cost of energy and forest depletion from traditional GDP.
- **Resource Efficiency Improvement:** Between 2000 and 2017, India's resource use per unit of GDP decreased



from 4.49 kg to 2.83 kg, indicating improved resource efficiency.

- **Policy Recommendations:** Experts suggest establishing a dedicated wing in the Ministry of Environment, Forest

and Climate Change to regularly release Green GDP estimates and create a user-friendly data dissemination platform.

BANDED ROYAL BUTTERFLY

CONTEXT: Tripura has recorded the rare Banded Royal Butterfly, with the study published in the Munis Journal, highlighting its significance in biodiversity research.

BACKGROUND: A study on a butterfly species, first observed in May 2021 in a sanctuary, was published in the Munis Entomology and Zoology journal, emphasizing its legal protection under the Indian Wildlife Act of 1972.

Rachana Jalindra Indra Butterfly

- Three Sub-species of Rachana Jalindra in India: Includes Macantia (south-west India to Goa), Tarpina (Andamans), and Indra (Orissa to lower West Bengal and Bangladesh).
- New Sightings of Rachana Jalindra Indra: The species has been recorded in Assam, Meghalaya, and Jharkhand, expanding its known range.
- Sighted in Sepahijala Wildlife Sanctuary: A butterfly was observed on May 20, 2021, during an opportunistic survey along a forest track.

- Photograph for Identification: A photograph taken during the sighting helped identify the butterfly as Rachana Jalindra Indra by cross-checking with taxonomic literature.
- Legal Protection under Wildlife Act: Rachana Jalindra Indra is protected under Schedule II of the Indian Wildlife (Protection) Act, 1972.



WORLD'S MOST POLLUTED CITY

CONTEXT: Hanoi, Vietnam's capital, has been engulfed in thick smog, becoming one of the most polluted cities, prompting the government to promote electric vehicles (EVs) for relief.

BACKGROUND: Hanoi, a major city in Southeast Asia's fast-growing economy, has been grappling with severe air pollution caused by traffic, trash burning, and industrial activities, leading to respiratory issues, especially among the elderly.

Highlights

- World's Most Polluted City: In early January 2025, Hanoi's PM2.5 levels reached 266 micrograms per cubic meter, making it the most polluted city globally.

- Health Risks: The hazardous air quality poses significant health risks, including respiratory issues, heart disease, and lung cancer, especially for vulnerable populations.
- Primary Pollution Sources: Major contributors to the pollution include heavy traffic, industrial activities, and the burning of waste materials.
- Government Response: Authorities are promoting the adoption of electric vehicles, aiming for at least 50% of buses and 100% of taxis to be electric by 2030.
- Regional Context: Hanoi's air quality issues are part of a broader regional problem, with several Southeast Asian cities ranking among the world's most polluted.

NET-ZERO BANKING ALLIANCE

CONTEXT: Amid global climate collaboration challenges, several European banks are rethinking their membership in the Net Zero Banking Alliance, following major US banks' withdrawal.

BACKGROUND: The NZBA, the largest climate-focused banking alliance, is facing growing discontent as major US and Canadian banks withdraw, prompting European banks to reconsider their participation unless the alliance's rules are revised.

What is Net Zero Banking Alliance?

The Net Zero Banking Alliance, a UN-convened group of global banks, aims to align their activities with net-zero emissions by 2050, offering support for setting science-

based targets by 2030.

- **Formation and Purpose:** Established in April 2021, the NZBA is a UN-convened, bank-led initiative comprising over 140 global banks committed to aligning their lending, investment, and capital markets activities with net-zero greenhouse gas emissions by 2050.
- **Target Setting:** As of May 2024, 97% of the 122 member banks due to have set their first individual sectoral targets had done so. Around four-fifths of the 50 banks due to have set targets covering all or a substantial majority of the carbon-intensive sectors where they have material exposure had done so.



- **Sectoral Focus:** Banks prioritize sectors with the highest greenhouse gas emissions, including energy production, coal, real estate, transportation, and steel industries. More than half of the banks have set decarbonisation targets in these areas.
- **Transition Plans:** Over two-thirds of NZBA members have announced their transition plans, with an additional 25% planning to announce them by the end of the year. 70%

of banks have already developed customer engagement strategies, with an additional 21% in the process of developing them.

- **Progress Reporting:** The NZBA publishes progress reports to assess member banks' efforts in transitioning their financing activities to align with net-zero pathways. The 2024 Progress Report provides an overview of target setting and transition planning among member banks.

Growth and Progress of NZBA since 2021



AWARD FOR ADVANCING ENERGY TRANSITION

CONTEXT: The Global Energy Alliance for People and Planet (GEAPP) won the inaugural World Economic Forum (WEF) award for its contributions to advancing energy transition.

BACKGROUND: The Global Energy Alliance for People and Planet (GEAPP) received the first-ever “Giving to Amplify Earth Action (GAEA) Award” at the World Economic Forum for its impactful public-private-philanthropic partnership in tackling climate change.



GEAPP's Global Impact on Renewable Energy and Sustainability

- **GEAPP's Achievements:** In two years, mobilized \$1.07 billion for 130 projects across 40 countries, reducing

147,000 tons of carbon emissions and improving 2 million lives.

- **Innovative Model for Clean Energy:** GEAPP unites over 50 partners to drive clean energy projects in emerging markets, leveraging blended finance and flexible capital to overcome market barriers.
- **Battery Energy Storage Systems (BESS) Consortium:** Launched in 2023, this initiative involves 15 countries and 20 partners to boost battery storage and renewable energy integration in low- and middle-income nations.
- **Flagship Projects and Expansion:** The BESS Consortium fast-tracked global projects and continues to build a pipeline for future renewable energy solutions.
- **Mission 300 for Energy Access:** GEAPP contributes to “Mission 300” with the World Bank and African Development Bank, aiming to bring energy access to 300 million people in Africa by 2030.

“Intelligence plus character-that is the goal of true education. — Martin Luther King Jr.





Global Energy Alliance for People and Planet

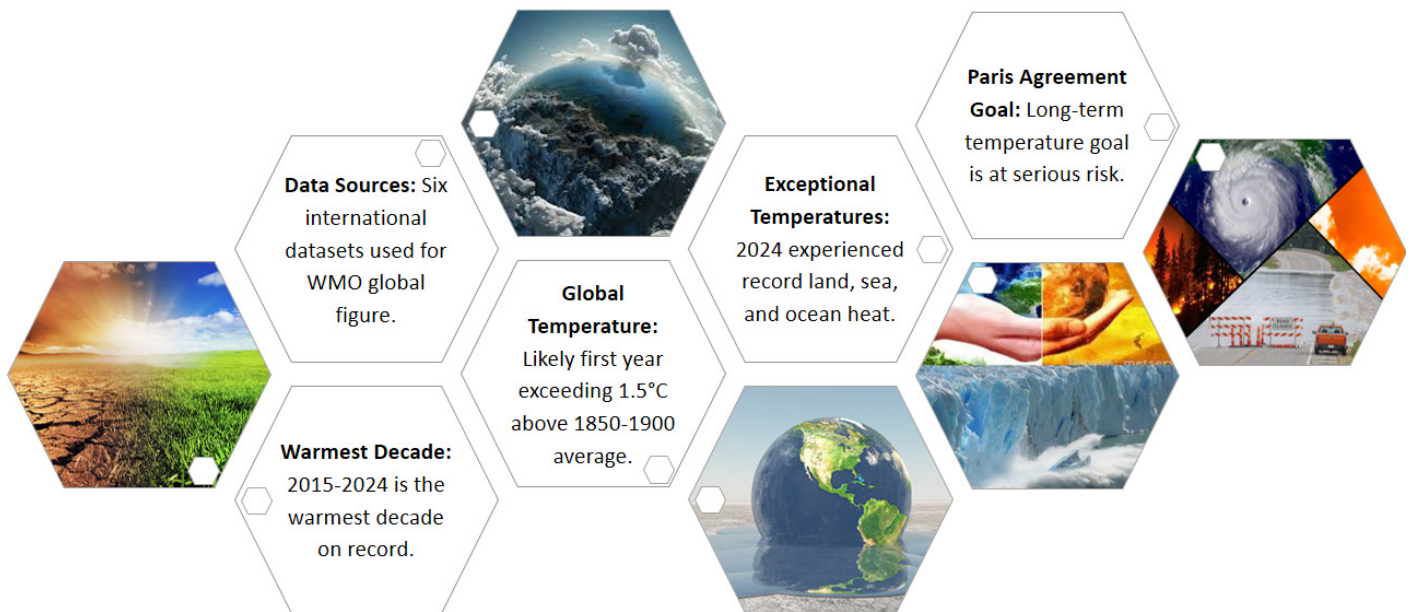
- **Formation and Purpose:** Established in November 2021 at COP26, GEAPP unites philanthropies, governments, and finance institutions to accelerate equitable energy transitions in developing countries.
- **Founding Partners:** GEAPP was founded by the IKEA Foundation, The Rockefeller Foundation, and the Bezos Earth Fund to combat energy poverty and climate change.
- **Targeted Impact:** GEAPP aims to reduce 4 gigatons of carbon emissions, provide clean energy to 1 billion people, and create 150 million jobs.
- **Operational Focus:** GEAPP operates in low- and middle-income countries, focusing on 8 foundation countries including Brazil, India, Nigeria, and South Africa.
- **Core Solutions and Strategies:** GEAPP focuses on Battery Energy Storage Systems (BESS), Distributed Renewable Energy (DRE), and Just Energy Transition, with a strong emphasis on partnerships.

2024: HOTTEST YEAR ON RECORD

CONTEXT: The World Meteorological Organization (WMO) confirmed 2024 as the warmest year on record, according to six global datasets.

BACKGROUND: The WMO reports that the global average surface temperature in 2024 was 1.55°C above pre-industrial levels, marking the first year exceeding a 1.5°C rise.

Climate Change Update: Key Highlights of 2024



2024: Record Ocean Warming and Global Temperature Trends

- **Temperature Assessments:** All six datasets indicate 2024 as the warmest year on record, though methodologies lead to varied results on the 1.5°C anomaly.
- **Coordinated Release:** The release of the six temperature datasets was coordinated to highlight the exceptional conditions experienced globally during 2024.
- **Ocean Warming Contribution:** A study confirms ocean warming in 2024 played a significant role, with the ocean

at its warmest ever, from surface to 2000 meters.

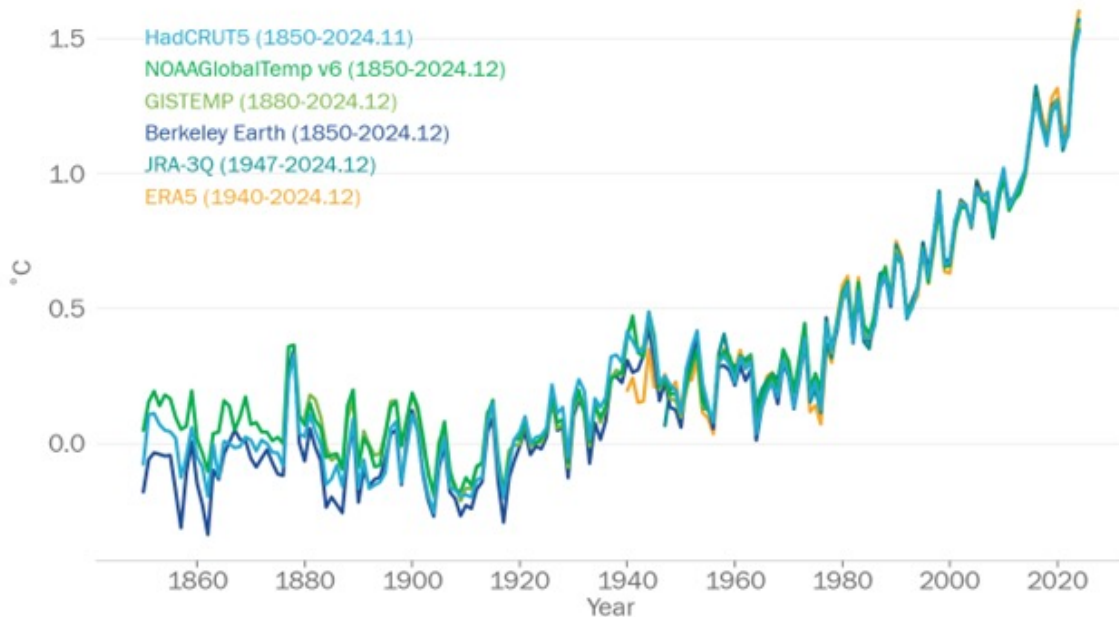
- **Ocean Heat Content Increase:** From 2023 to 2024, ocean heat content in the upper 2000 meters increased by 16 zettajoules, 140 times the world's total electricity generation in 2023.
- **Upcoming Report:** The WMO's 2024 climate report, due in March 2025, will provide detailed climate change indicators, including greenhouse gases, ocean heat, and sea level rise.



INDIA'S LARGEST ONLINE IAS COACHING ACADEMY



Global mean temperature 1850-2024 Difference from 1850-1900 average



_ Pic Credit – World Meteorological Organisation

Tracking Global Temperature and Climate Action in 2024

- **National Climate Action Plans:** Governments are expected to deliver new climate action plans this year to limit global temperature rise to 1.5°C and support vulnerable regions.
- **Exceeding 1.5°C Not Final Goal:** One or more years exceeding 1.5°C doesn't mean failing the Paris Agreement's goal of limiting long-term temperature rise to 1.5°C.
- **Role of Short-Term Spikes:** Natural phenomena like El Niño can cause short-term temperature spikes, such as the El Niño from mid-2023 to May 2024.
- **Urgent Need for Monitoring:** Continuous tracking and monitoring of global warming trends are crucial to help policymakers align with the Paris Agreement's long-term temperature goals.
- **Current Global Warming Level:** In 2024, global warming is assessed to be around 1.3°C above the 1850-1900 baseline, as indicated by an international team of experts.

2024 GLOBAL WATER MONITOR REPORT

CONTEXT: The 2024 Global Water Monitor Report highlights climate change's impact on the global water cycle, providing critical scientific insights on water sustainability.

BACKGROUND: The 2024 Global Water Monitor Report reveals that climate change intensified the global water cycle, leading to severe droughts and floods, causing significant damage.

Impact of Climate Change on Water Disasters in 2024

- **Rising Temperatures and Water Disasters:** Fossil fuel-induced warming is intensifying monsoons, cyclones, and other storm systems, worsening water-related disasters globally.
- **Global Temperature Rise:** Average air temperature over land reached a record 1.2°C above the 1995-2005 average, with 34 countries setting new temperature records.
- **Extreme Rainfall and Drought:** In 2024, record-low precipitation months were 38% more common, while record-high rainfall extremes increased by 52% compared to the 1995-2005 period.
- **Water-Related Disasters in 2024:** Water disasters caused over 8,700 deaths, displaced 40 million people, and inflicted over US\$550 billion in damages, with flash floods and cyclones being the deadliest.
- **Regional Impacts of Water Disasters:** Africa experienced both flooding and drought, while severe drought gripped the Amazon Basin. The Sahel and East Africa saw extreme flooding.
- **Drought Conditions in 2024:** Drought intensified in the Amazon Basin and Southern Africa, while wet conditions led to flooding in parts of the Sahel and East Africa.
- **Outlook for 2025:** Seasonal forecasts signal increased risks of drought in parts of South America, Africa, and Asia, while wetter regions like Europe face elevated flood risks.



Global Water Monitor

- **Formation and Purpose:** Established in 2022, the Global Water Monitor aims to provide free, rapid, and global information on climate and water resources.
- **Consortium Members:** Key members include Australian National University, King Abdullah University of Science and Technology, GloH2O, Haizea Analytics, TU Wien, GFZ, Planet, and Flow matters.
- **Data Sources:** The monitor uses satellite and ground station measurements to provide real-time data on rainfall, temperature, humidity, soil water, river flows, and lake volumes.
- **Annual Reports:** The monitor publishes annual reports detailing global water cycle changes and significant worldwide events, offering valuable insights into climate and water resources.
- **Data Explorer Tool:** The online tool enables users to visualize and download both historical and recent data, supporting detailed analysis of water and climate trends.

RANKING OF INDIAN CITIES BY AQI

CONTEXT: The Central Pollution Control Board (CPCB) released updated Air Quality Index (AQI) data, reflecting the past 24 hours' air quality across Indian cities.

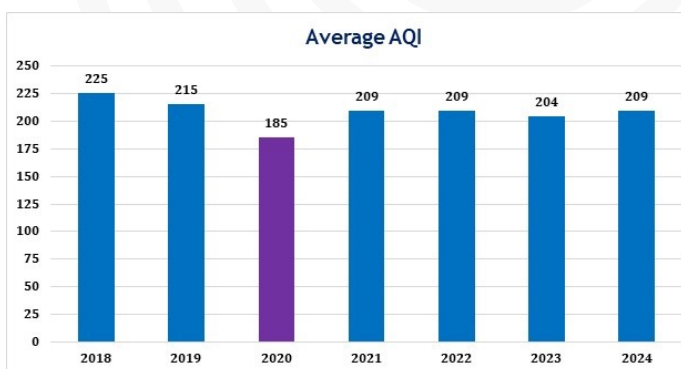
BACKGROUND: Delhi NCR faced severe fog and stagnant winds, worsening air quality to 'severe' levels, with temperatures dropping to 9.6°C and dense fog predicted throughout the day.

Indian Cities' Air Quality Progress Report 2025

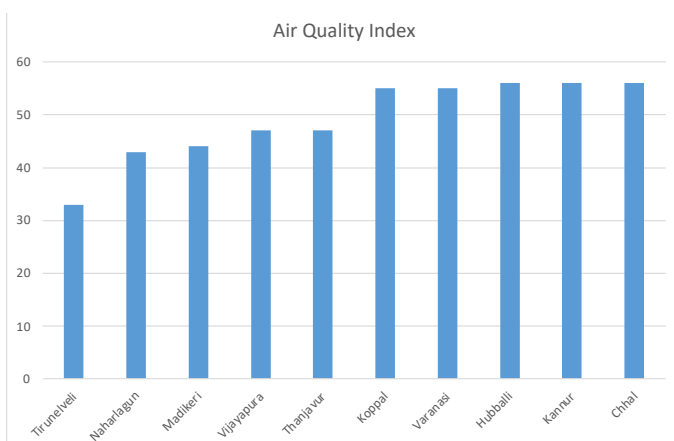
- **Overall PM2.5 Reduction:** Between 2019 and 2024, Indian cities achieved an average 27% reduction in PM2.5 pollution levels, with National Clean Air Programme (NCAP) cities seeing a 24% decline.
- **Top Performers:** Varanasi led with a 76% reduction in

PM2.5 levels, followed by Moradabad at 58%, Kalaburagi at 57.2%, Meerut at 57.1%, and Katni at 56.3%.

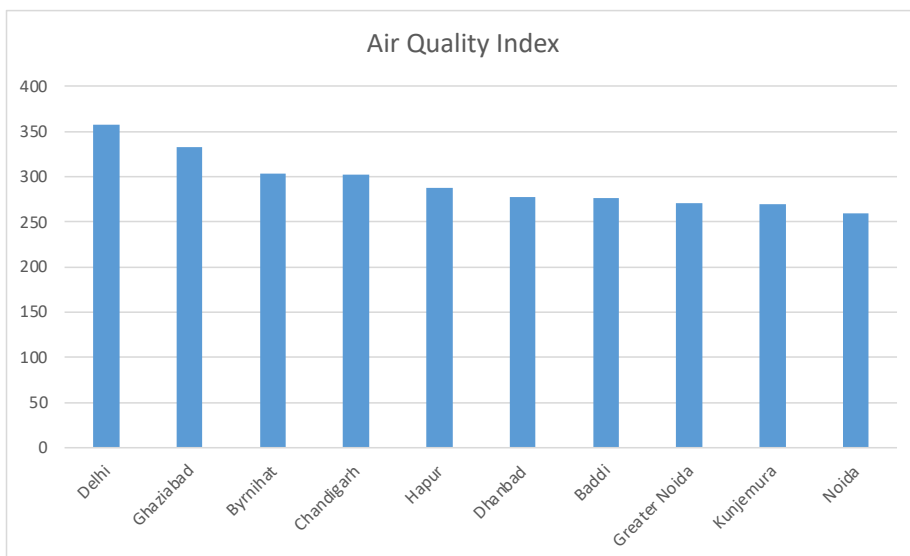
- **Persistent Pollution in Major Cities:** Despite improvements, cities like Delhi (107 $\mu\text{g}/\text{m}^3$), Gurugram (96.7 $\mu\text{g}/\text{m}^3$), and Faridabad (87.1 $\mu\text{g}/\text{m}^3$) continue to face severe air quality challenges.
- **NCAP Targets:** Launched in 2019, the NCAP aimed for a 20-30% reduction in particulate pollution by 2024, later revised to a 40% reduction by 2026.
- **Government Initiatives:** The Indian government is reviewing a \$30 billion program aimed at reducing sulphur emissions from coal-fired power plants, addressing challenges in pollution mitigation.



In 2024, India saw improved air quality with fewer "Poor to Severe" AQI days and record-low farm burnings during paddy harvesting in Punjab, Haryana, and neighbouring states. (Credit: PIB)



Cities with best and cleanest air quality in India



Cities with worst and most polluted air quality.

FRESHWATER SPECIES FACING EXTINCTION THREATS

CONTEXT: The largest global assessment on the IUCN Red List reveals 24% of freshwater species, including fish, dragonflies, and crustaceans, face high extinction risk.

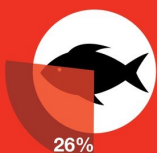
BACKGROUND: As the IUCN Red List marks its 60th anniversary, it stresses the importance of protecting freshwater ecosystems, home to 10% of species, to support biodiversity, water security, and climate goals, with upcoming conservation strategies guiding efforts for 2030 targets.

- **Primary Threats Identified:** The main threats contributing to this risk are water pollution, primarily from agricultural runoff and forestry activities, and the construction of dams disrupting migration routes.
- **Crustaceans Most Affected:** Crabs, crayfish, and shrimps are particularly vulnerable, with 30% of these species classified as threatened.
- **Fish Species at Risk:** 26% of freshwater fish species are threatened, highlighting the urgent need for targeted conservation efforts.
- **Dragonflies and Damselflies:** 16% of dragonfly and damselfly species are threatened, indicating significant challenges for these important aquatic insects.
- **Geographical Hotspots:** Regions such as Lake Victoria, Lake Titicaca, Sri Lanka's Wet Zone, and India's Western Ghats are home to some of the highest freshwater biodiversity but also face severe threats.
- **Underground Water Systems:** Underground water systems worldwide contain more threatened species than previously expected, underscoring the need for comprehensive conservation strategies.
- **Conservation Recommendations:** The study emphasizes the necessity for targeted conservation actions, including habitat protection, pollution control, and sustainable water management practices, to prevent further extinctions.

One quarter of freshwater animals threatened with extinction:



30%
of freshwater crabs, crayfish, and shrimps



26%
of freshwater fishes



16%
of dragonflies and damselflies

IUCN Red List's global assessment of freshwater species

- **High Extinction Risk:** Approximately 24% of nearly 24,000 assessed freshwater species, including fish, crabs, and shrimp, are at high risk of extinction.



GLOBAL RISKS REPORT 2024

CONTEXT: The Global Risks Report, by the World Economic Forum, Marsh McLennan, and Zurich Insurance, highlights severe risks for the next decade amid technological change, economic instability, climate change, and conflict.

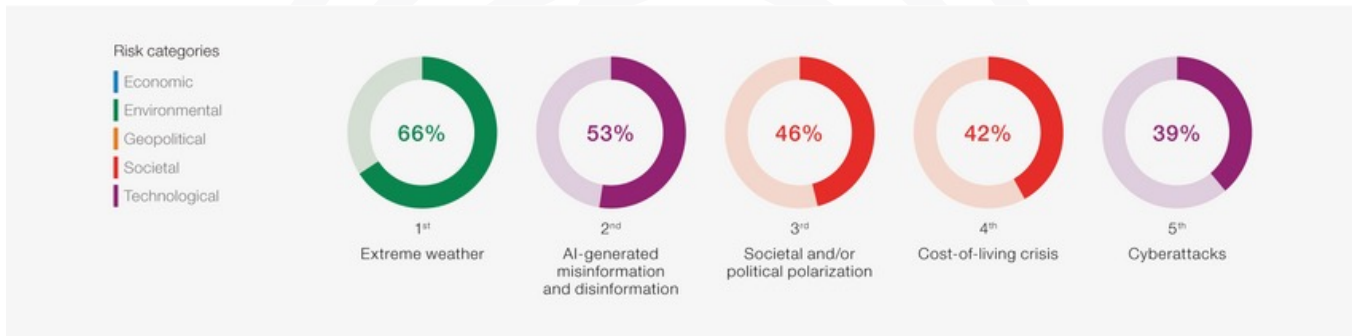
BACKGROUND: The 2023-2024 GRPS results show a largely negative global outlook, with 54% of respondents predicting instability and moderate risks, while nearly two-thirds foresee worsening conditions over the next decade.

Global Risks Shaped by Structural Forces and Environmental Pressures

- **Four Structural Forces:** The report identifies four key forces shaping global risks: climate change, demographic shifts, technological acceleration, and geostrategic changes, over the next decade.
- **Environmental Risks Dominance:** Environmental risks, especially extreme weather, dominate global risk

assessments, with two-thirds ranking extreme weather as the top risk in 2024.

- **El Niño and Environmental Impact:** The ongoing El Niño phase is expected to intensify until May 2024, contributing significantly to environmental risks, especially extreme weather events.
- **Risk Uncertainty and Volatility:** Transitioning global conditions in climate, population, technology, and geopolitics will introduce uncertainty and volatility, affecting societies' ability to manage global risks.
- **Long-term Environmental Threats:** Environmental risks are consistently ranked among the top 10 risks for the long term, with escalating consequences of climate change being a major concern.



Current Risk landscape

Rising Risks: Climate Change, Misinformation, and Polarization of Global Discourse

- **Disagreement on Urgency of Environmental Risks:** Younger respondents prioritize biodiversity loss and ecosystem collapse more than older groups, causing decision-making misalignment and delaying crucial interventions.
- **Climate Tipping Point at 1.5°C:** Research suggests that passing 1.5°C global warming could trigger irreversible changes, with many economies unprepared for “non-linear” socio environmental impacts by the early 2030s.
- **Societal Vulnerability to Rapid Climate Change:** Climate-vulnerable populations will face amplified impacts, with

some regions unable to cope with the overwhelming effects of accelerating climate change.

- **Misinformation and Political Risks:** Misinformation risks will heighten societal divisions during global elections in countries like India, the UK, and the US, causing unrest and undermining government legitimacy.
- **Government Control and Information Repression:** Rising misinformation will lead governments to increasingly control information, potentially infringing on freedoms like press and internet access, worsening societal polarization.



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GLOBAL PLASTIC ACTION PARTNERSHIP

CONTEXT: The Global Plastic Action Partnership, supported by the WEF, expanded to 25 countries with 7 new African members joining the initiative.

BACKGROUND: Seven new countries – Angola, Bangladesh, Gabon, Guatemala, Kenya, Senegal, and Tanzania – join a global effort to tackle plastic pollution, collectively representing over 1.5 billion people, boosting momentum for sustainable waste management solutions.



GLOBAL PLASTIC ACTION PARTNERSHIP

About Global Plastic Action Partnership (GPAP)

- **Establishment and Purpose:** Launched in 2018 by the World Economic Forum, GPAP aims to unite stakeholders to combat plastic pollution through circular economy

solutions.

- **Collaborative Approach:** GPAP brings together businesses, governments, community groups, and experts to develop and implement strategies for reducing plastic waste.
- **Initial Collaborations:** The partnership's first collaboration was with Indonesia, which set a national target to reduce ocean waste by 70% over seven years.
- **Funding and Support:** GPAP is supported by the governments of Canada and the United Kingdom, along with companies like The Coca-Cola Company, Dow Chemical, and PepsiCo Foundation.
- **Global Expansion:** By December 2020, Vietnam joined Indonesia and Ghana in launching a National Plastic Action Partnership, applying GPAP's model to reduce plastic waste.

ARCTIC BOREAL ZONE BECOMES CARBON SOURCE

CONTEXT: Over a third of the Arctic Boreal region, historically a carbon sink, has shifted to becoming a carbon emitter, raising environmental concerns.

BACKGROUND: Research reveals 40% of the 26-million-square-kilometer Arctic Boreal Zone has shifted from a carbon sink to a carbon source, releasing more CO₂ than it absorbs.

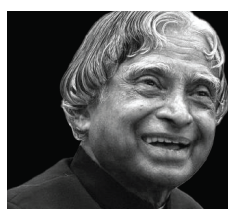
Arctic Tundra Shifts to Net Carbon Source: Key Findings

- **Transition to Net Carbon Source:** Arctic tundra, once a carbon sink, is becoming a net carbon source due to longer growing seasons, microbial activity, and wildfires.
- **Study Duration and Data:** The study analysed data from 200 monitoring sites between 1990 and 2020, tracking carbon dynamics, climate changes, and fire patterns.
- **Regional Carbon Source Distribution:** Carbon emissions were distributed across Alaska (44%), northern Europe (25%), Canada (19%), and Siberia (13%).
- **Non-Summer Emissions Dominate:** Emissions from the non-summer season (September–May) exceeded the carbon absorbed during the summer months (June–August).
- **Impact of Wildfires:** Factoring in wildfire emissions, 40% of the tundra became a net carbon source, up from 30% without fire emissions.
- **NOAA 2024 Arctic Report Alignment:** Findings align with NOAA's Arctic Report Card, linking warming temperatures

and increasing wildfire activity to carbon source shifts in the tundra.

About Arctic Boreal region

- **Geographical Extent:** The Arctic Boreal Zone spans approximately 26 million square kilometers, encompassing tundra, boreal forests, and wetlands across Alaska, Canada, Siberia, and northern Europe.
- **Climate Characteristics:** This region experiences extreme temperature fluctuations, with long, harsh winters and short, cool summers, leading to unique adaptations in flora and fauna.
- **Carbon Sink to Source Transition:** Recent studies indicate that over 30% of the Arctic Boreal Zone has shifted from a carbon sink to a carbon source due to warming temperatures.
- **Permafrost Thawing:** Warming temperatures are causing permafrost to thaw, releasing vast amounts of stored carbon, which exacerbates climate change.
- **Vegetation Changes:** Approximately 49% of the region shows longer growing seasons and increased vegetation, but only 12% acts as a net carbon sink annually.
- **Wildlife Adaptations:** Species such as the Arctic fox, reindeer, and various migratory birds have evolved to survive in this challenging environment, exhibiting unique behavioral and physiological traits.



You have to dream before your dreams can come true..

- A. P. J. ABDUL KALAM



HOLLONGAPAR GIBBON SANCTUARY

CONTEXT: The Centre has approved oil and gas exploratory drilling in the Hollongapar Gibbon Sanctuary, raising concerns over environmental impact.

BACKGROUND: The Hollongapar Gibbon Wildlife Sanctuary in Assam, home to endangered species like the Hoolock gibbon and Bengal slow loris, supports diverse wildlife including elephants, leopards, and macaques, thriving under tall Hollong trees.

About Hollongapar Gibbon Wildlife Sanctuary

- **Location and Size:** Situated in Assam's Jorhat district, the sanctuary spans 20.98 square kilometers, featuring semi-evergreen forests amidst tea gardens and human settlements.

- **Unique Ape Species:** It is India's sole habitat for the western hoolock gibbon (*Hoolock hoolock*), with approximately 125 individuals recorded as of 2023.
- **Diverse Fauna:** The sanctuary hosts various mammals, including elephants, leopards, tigers, and multiple primate species like the Bengal slow loris and stump-tailed macaque.
- **Avian Diversity:** Home to at least 219 bird species, such as the Indian pied hornbill and Kalij pheasant, contributing to its rich biodiversity.
- **Reptilian Presence:** Inhabited by reptiles like the Indian python, common monitor lizard, and Indian cobra, adding to the sanctuary's ecological variety.

Western Hoolock Gibbon



OLIVE RIDLEY TURTLE

CONTEXT: Over 1,000 Olive Ridley turtle deaths on Chennai's coast in January prompted the NGT to warn of a fishing ban during nesting season for rule violations.

BACKGROUND: Over a thousand Olive Ridley turtle deaths on Chennai and Chengalpattu coasts this month, the highest since 2014, highlight concerns for the vulnerable species during their nesting season.

Olive Ridley Turtles: Conservation Challenges amidst Declining Habitats

- **Threats to Habitat and Survival:** Olive Ridley turtles face habitat loss, marine pollution, fishing nets, and shrinking nesting beaches, endangering their vulnerable population.
- **Nesting Challenges on India's Coasts:** These turtles migrate thousands of nautical miles to the Bay of Bengal for nesting, with Odisha's Gahirmatha and Rushikulya being key sites.

- **Mass Deaths Worsen Decline:** Recent turtle deaths in Tamil Nadu, likely from overfishing, highlight the severe threat of trawling and long fishing nets as accidental traps.
- **Impact of Human Activity:** Human activities like beach interference, warmer temperatures, and light pollution disorient turtles, reducing the survival of hatchlings to 1 in 1,000.
- **Expectant Mothers at Risk:** Necropsy of turtle carcasses revealed many were carrying eggs, emphasizing the critical need to protect these endangered creatures during nesting seasons.



Olive Ridley Turtle



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SCIENCE AND TECHNOLOGY



SpaDeX SATELLITES

**UN COMMITTEE ON BIG DATA FOR
OFFICIAL STATISTICS**

GRAPHENE SEMICONDUCTORS

THIRD LAUNCH PAD

**LAUNCH OF INDIAN GENOMIC DATA &
IBDC PORTALS**

RESTART OF VIKAS ENGINE

**TRAI REACHES MILESTONE IN SMS
TRACEABILITY**

QARTEMI

**HUMAN UNDERWATER SUBMERSIBLE
FOR OCEAN EXPLORATION**

HUMAN METAPNEUMOVIRUS (HMPV)

ISRO 100TH MISSION

ShakthiSAT MISSION

**INDIA WELCOMES ITS FIRST 'GEN BETA'
BABY**



SpaDeX SATELLITES

CONTEXT: The Indian Space Research Organisation (ISRO) successfully demonstrated space docking by joining two fast-moving satellites in space.

BACKGROUND: With the launch of the SpaDeX Mission, India is set to become the fourth country after the US, Russia, and China to master space docking, a crucial milestone for future human spaceflights, the Chandrayaan-4 mission, and the construction of the Bharatiya Antariksh Station (BAS).

Docking in Space Missions

- Definition of Docking: Docking is the process where two fast-moving spacecraft are brought into the same orbit

and connected either manually or autonomously.

- **Purpose of Docking:** This process is crucial for missions requiring heavy spacecraft, which may exceed the lifting capacity of a single launch vehicle.
- **Space Station Setup:** Docking is essential for assembling space stations by joining separate modules in space.
- **Crew and Supply Transport:** Docking is used to transport crew and supplies to space stations, ensuring continuous operation and support.

Key Space Docking Milestones

1966 (United States): Gemini VIII Docking: *NASA's Gemini VIII* becomes the first spacecraft to dock with the Agena target vehicle. This mission, commanded by Neil Armstrong, was a crucial step in demonstrating rendezvous and docking for future Moon missions.

1967 (USSR): Kosmos 186 & Kosmos 188 Docking: The Soviet Union demonstrates the first uncrewed, automated docking between the Kosmos 186 and Kosmos 188 spacecraft.

2011 (China): Shenzhou 8 Docking: China demonstrates its docking capability with the unmanned Shenzhou 8 spacecraft docking with the Tiangong 1 space laboratory.

2012 (China): Shenzhou 9 Crew Docking: China performs its first crewed space docking, with astronauts manually joining the Shenzhou 9 spacecraft to the Tiangong 1 space laboratory.

UN COMMITTEE ON BIG DATA FOR OFFICIAL STATISTICS

CONTEXT: India has joined the UN committee on big data for official statistics, enhancing its role in global data-driven decision-making.

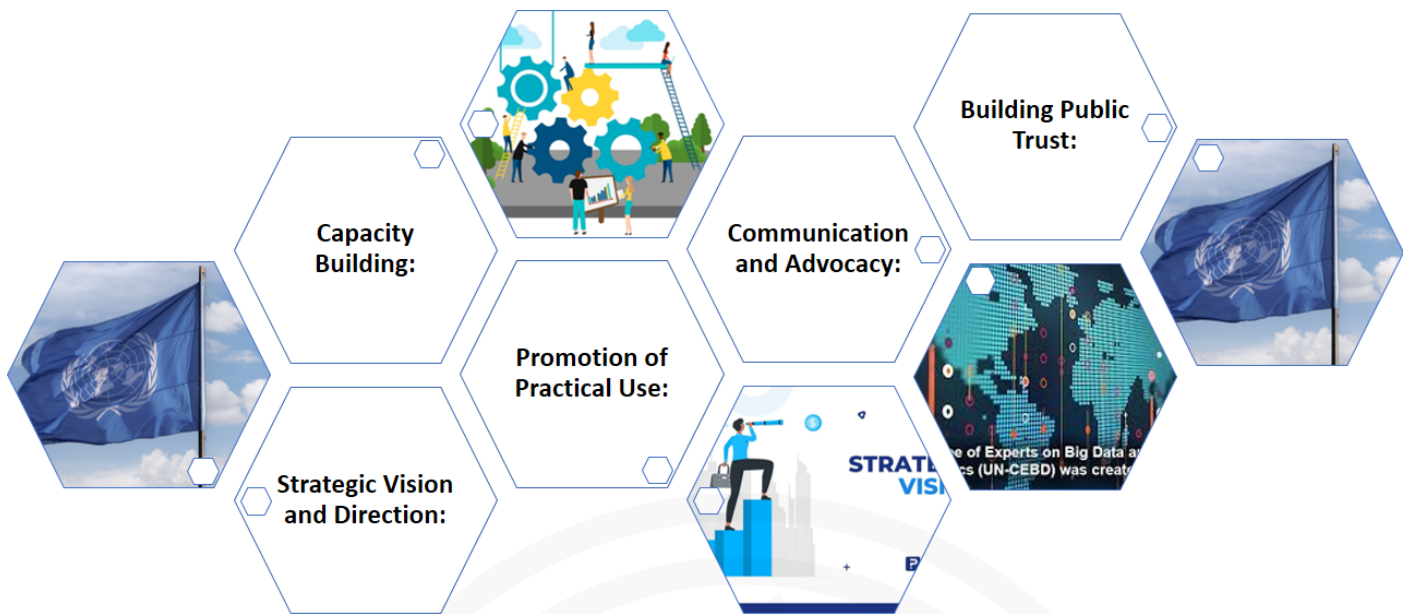
BACKGROUND: India's inclusion in the UN Committee of Experts on Big Data and Data Science for Official Statistics (UN-CEBD) reflects its rising influence in the global statistical community and its commitment to using data and technology for informed decision-making.

India's Strategic Role in Big Data and Data Science for Official Statistics

- **India Joins UN-CEBD:** India has joined the UN Committee of Experts on Big Data and Data Science for Official Statistics (UN-CEBD), enhancing its global statistical influence.
- **Contribution to Global Standards:** India will shape global practices in using Big Data for official statistics, contributing to the monitoring of sustainable development

goals.

- **Pioneering Initiatives:** India's membership underscores its innovative projects, like the Data Innovation Lab, using satellite imagery and machine learning for policy-making.
- **Enhancing Statistical Processes:** India aims to revolutionize official statistics through IoT, satellite imagery, and private sector data, improving accuracy and timeliness for policy decisions.
- **Impact on Governance:** India's engagement will modernize statistical methods, reduce data availability delays, and provide real-time insights for effective, evidence-based policy formulation.



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

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

- **Strategic Vision and Direction:** UN-CEBD provides strategic guidance for a global program on big data for official statistics, including indicators for the 2030 Agenda for Sustainable Development.
- **Promotion of Practical Use:** The committee promotes the practical use of big data sources, addressing challenges such as methodological issues, legal access, privacy concerns, and data security.
- **Capacity Building:** UN-CEBD encourages capacity-building, training, and sharing of experiences to enhance skills in big data utilization.
- **Communication and Advocacy:** The committee fosters communication and advocacy for the use of big data in policy applications, especially for monitoring the 2030 Agenda for Sustainable Development.
- **Building Public Trust:** UN-CEBD works to build public trust in the use of big data for official statistics.

GRAPHENE SEMICONDUCTORS

CONTEXT: Researchers have unveiled the first functional graphene semiconductor, a ground breaking discovery that could revolutionize computing and electronics.

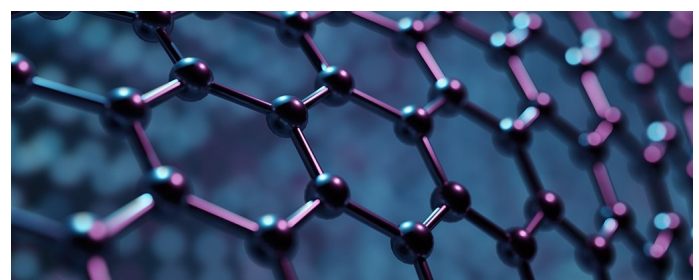
BACKGROUND: Scientists have developed the world's first functional semiconductor made from graphene, offering superior speed and energy efficiency over silicon, signalling a breakthrough for next-generation computing and nano-electronics.

Graphene Semiconductors: Transforming Electronics

- **Exceptional Electrical Conductivity:** Graphene exhibits electrical mobility 250 times greater than silicon, enabling faster and more efficient electronic devices.
- **Flexible and Lightweight:** As a single-atom-thick material, graphene is both flexible and lightweight, ideal for wearable and portable electronics.
- **High Thermal Conductivity:** Graphene's superior thermal conductivity allows for better heat dissipation in

electronic components, enhancing device longevity and performance.

- **Potential Market Growth:** McKinsey estimates that the graphene semiconductor market could reach \$70 billion by 2030, indicating significant industry interest.
- **Challenges to Overcome:** Despite its advantages, graphene faces challenges such as the lack of a natural band gap and high-quality large-scale production hurdles.





Graphene as a Carbon Nanomaterial: Key Insights

- **Exceptional Electrical Conductivity:** Graphene exhibits electrical mobility 250 times greater than silicon, enabling faster and more efficient electronic devices.
- **High Thermal Conductivity:** Graphene's superior thermal conductivity allows for better heat dissipation in electronic components, enhancing device longevity and performance.
- **Flexibility and Strength:** As a single-atom-thick material, graphene is both flexible and strong, ideal for wearable and portable electronics.
- **Energy Storage Applications:** Graphene-based materials improve rechargeable battery energy capacity and charge rate, leading to more efficient energy storage solutions.
- **Environmental Remediation:** Graphene composites are effective in removing heavy metal ions and organic pollutants from water, aiding in environmental clean-up efforts.

THIRD LAUNCH PAD

CONTEXT: The Union Cabinet, chaired by Prime Minister Narendra Modi, approved the establishment of the Third Launch Pad (TLP) at ISRO's Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh.

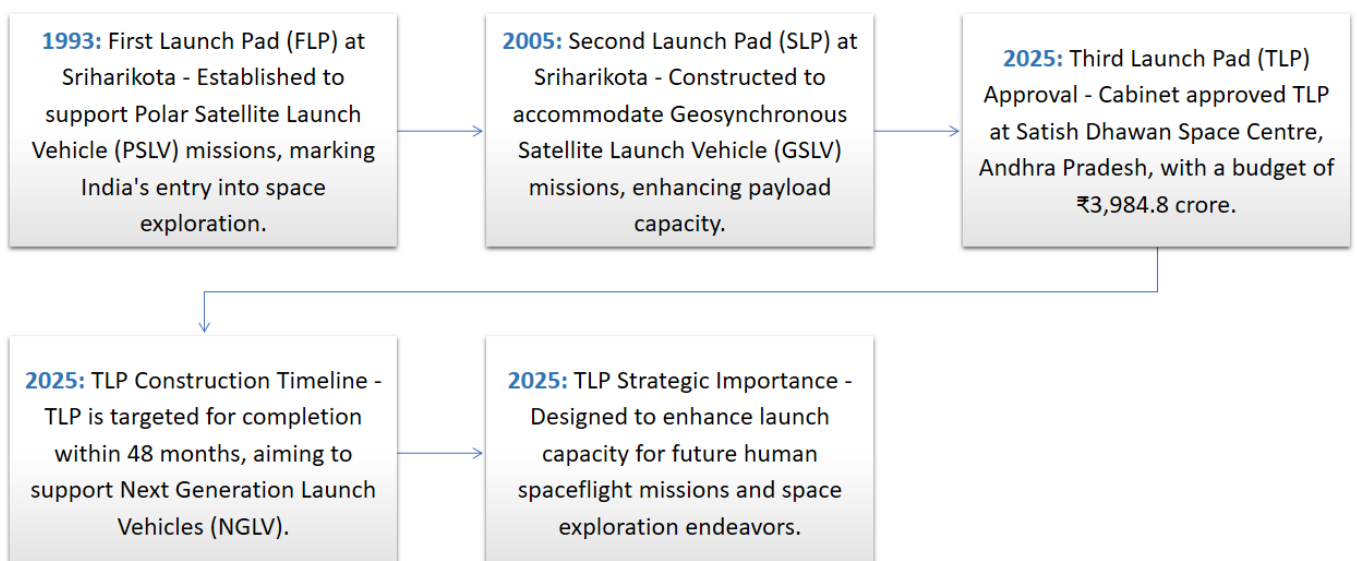
BACKGROUND: The Third Launch Pad project at Sriharikota, Andhra Pradesh, aims to establish infrastructure for ISRO's Next Generation Launch Vehicles, serve as a backup for the Second Launch Pad, and boost India's launch capacity for future human spaceflight missions.

Establishment of India's Third Launch Pad for Future Space Missions

- **Project Overview:** The Third Launch Pad (TLP) is designed for the Next Generation Launch Vehicles (NGLV), including LVM3 vehicles with Semi-cryogenic stages and scaled-up NGLV configurations.

- **Implementation Strategy and Timeline:** The TLP will be developed in 48 months (4 years), utilizing ISRO's experience and industry collaboration to maximize use of existing launch complex facilities.
- **Expenditure and Funding:** The total cost for the TLP is Rs. 3984.86 Crore, covering the launch pad and associated infrastructure to support advanced space missions.
- **Boost to Space Ecosystem:** The project will enhance India's space capabilities, increasing launch frequencies and supporting human spaceflight and space exploration missions, such as Gaganyaan and future lunar missions.
- **Need for a New Launch Pad:** Current launch pads (FLP and SLP) cannot support heavier launch vehicles required for missions like the Bharatiya Antariksh Station (BAS) and the Indian Crewed Lunar Landing by 2040.

Evolution of India's Launch Pad Infrastructure





LAUNCH OF INDIAN GENOMIC DATA & IBDC PORTALS

CONTEXT: Union Minister for Science and Technology, announced at the Genome India Data Conclave in New Delhi that India is now self-reliant in genomic data.

BACKGROUND: Under Prime Minister Narendra Modi's leadership, India unveiled its Genomic Data Set, with Union Minister Dr. Jitendra Singh launching the 'Framework for Exchange of Data Protocols (FeED)' and the Indian Biological Data Centre (IBDC) Portals, providing access to 10,000 whole genome samples for global research.

India's Strategic Advances in Genomics and Bioeconomy

- **Genetic Data Access:** The Indian Biological Data Centre (IBDC) offers 10,000 whole genome sequencing (WGS) samples, enabling genetic research and tailored genomic tools for Indian populations.
- **Precision Genomics:** This initiative will enhance the development of genomic chips specific to India's demographic, improving the accuracy of genetic studies and positioning India as a leader in genomics.
- **Data Sharing Protocols:** The launch of the 'Framework for Exchange of Data (FeED)' under Biotech-PRIDE

Guidelines ensures secure, transparent sharing of high-quality, nation-specific genetic data.

- **Bioeconomy Growth:** India's bioeconomy has surged from \$10 billion in 2014 to \$130 billion in 2024, with expectations to reach \$300 billion by 2030, reflecting strong growth in biotech.
- **Global Biotech Leadership:** India ranks 12th globally and 3rd in the Asia-Pacific region in biotechnology, with over 8,500 biotech startups in 2023, positioning the country to lead the 4th industrial revolution.



Indian Biological Data Centre (IBDC)

- **National Repository:** The IBDC is India's first national repository for life science data, archiving data generated from publicly funded research in India.
- **Government Support:** The IBDC is supported by the Government of India through the Department of Biotechnology (DBT) and is being established at the Regional Centre of Biotechnology (RCB) in Faridabad.
- **Modular Structure:** The IBDC is being developed with a modular design to handle various types of life science data, with dedicated sections for specific data types and access protocols.
- **Curated Data Sets:** In addition to archiving, the IBDC will develop curated data sets to facilitate knowledge discovery across multiple life science domains and offer analysis infrastructure and expertise.
- **Global Data Sharing:** Committed to the FAIR principles (Findable, Accessible, Interoperable, and Reusable), IBDC aims to serve both Indian and global scientific communities.

RESTART OF VIKAS ENGINE

CONTEXT: ISRO successfully demonstrated the restart of its Vikas liquid engine at the ISRO Propulsion Complex in Mahendragiri.

BACKGROUND: ISRO's Vikas engine, which powers the liquid stages of its launch vehicles, successfully completed a key test to validate engine restart for future reusability. The test involved a 60-second firing, followed by a 120-second shut-off and a 7-second restart, with all engine parameters performing as expected.

Advancements in Vikas Engine Technology

- **Engine Design and Development:** The Vikas engine, developed by ISRO, is a liquid-fueled rocket engine based on the European Viking engine.
- **Propellant Specifications:** It utilizes unsymmetrical dimethylhydrazine (UDMH) as fuel and nitrogen tetroxide





(N₂O₄) as the oxidizer.

- Thrust and Performance: The engine produces a thrust of approximately 725 kN, with a specific impulse of 262 seconds at sea level.
- Applications in Launch Vehicles: Vikas engines power the second stage of the Polar Satellite Launch Vehicle (PSLV) and the Geosynchronous Satellite Launch Vehicle (GSLV).
- Recent Developments: In April 2023, ISRO successfully completed a human-rated Vikas engine test campaign for the Gaganyaan program, marking a significant milestone.

TRAI REACHES MILESTONE IN SMS TRACEABILITY

CONTEXT: The Telecom Regulatory Authority of India (TRAI) has implemented a framework to ensure traceability of all commercial SMS, advancing a safer, spam-free messaging ecosystem.

BACKGROUND: TRAI's new initiative enhances consumer protection against spam and improves transparency in commercial messaging. By requiring Principal Entities (PEs) and Telemarketers (TMs) to register message transmission paths via blockchain-based Distributed Ledger Technology (DLT), it ensures traceability, security, and timely SMS delivery without compromising data integrity.

TRAI's Initiative to Combat Spam and Ensure Traceability of Commercial Messages

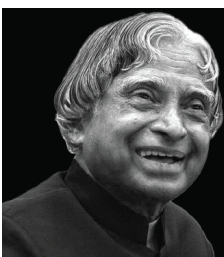
- Directive Issuance and Compliance Deadlines: TRAI mandated the traceability of all commercial messages starting from 1 November 2024, later extending compliance deadlines to 10 December 2024 for smoother onboarding.
- Collaborative Approach for Implementation: TRAI engaged with key sector regulators like RBI, SEBI, IRDAI, and government agencies to promote awareness and accelerate compliance from around 1.13 lakh active PEs.

- Innovative Implementation Strategy: To minimize disruptions, TRAI allowed temporary message delivery through undeclared paths with error codes, enabling corrective actions without affecting critical communications like OTPs.
- Successful Registration of PEs: By 11 December 2024, all major PEs registered their message transmission chains, and SMS traffic sent through unregistered paths began being rejected.
- Commitment to Consumer Trust and Anti-Spam Measures: TRAI's traceability initiative strengthens consumer trust and complements other anti-spam efforts like disconnection of telecom resources used by spammers and URL whitelisting.



Telecom Regulatory Authority of India (TRAI)

- Establishment and Statutory Basis: TRAI was established in 1997 under the Telecom Regulatory Authority of India Act, 1997, as a statutory body.
- Primary Functions: TRAI's functions include regulating telecom services, ensuring compliance with license conditions, and promoting fair competition in the sector.
- Organizational Structure: TRAI comprises a Chairman and up to two full-time Members, appointed by the Government of India.
- Regulatory Authority: TRAI has the authority to issue directions to service providers, ensuring adherence to quality standards and consumer protection.
- Recent Initiatives: In August 2024, TRAI directed telecom carriers to stop spam calls and blacklist fraudulent callers to protect consumers.



You have to dream before your dreams can come true..

- A. P. J. ABDUL KALAM



QARTEMI

CONTEXT: India has approved a living drug to treat blood cancer, marking a significant advancement in cancer treatment.

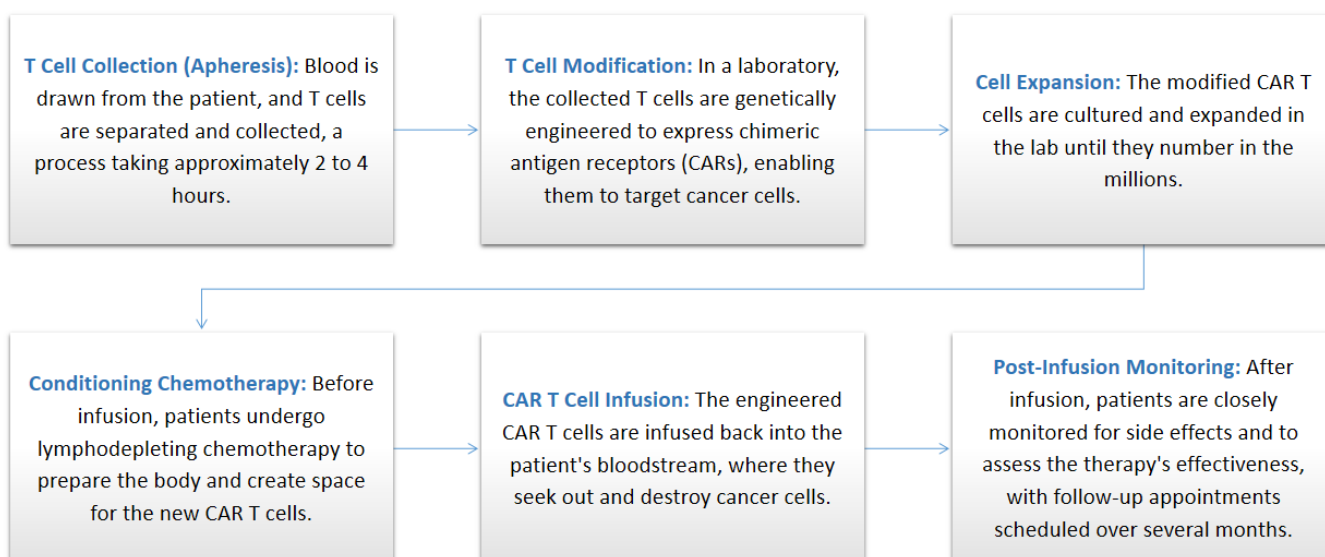
BACKGROUND: Immuneel Therapeutics, a Bengaluru-based biotech startup, has launched Qartemi, a CAR-T cell therapy, for blood cancer patients in India with advanced or relapsed B-cell Non-Hodgkin Lymphoma (B-NHL), marking the approval of the first “living drug” for such patients.

Qartemi: India’s Second CAR-T Cell Therapy for Blood Cancer

Personalized Living Drug for Blood Cancer - Qartemi is a personalized “living drug” designed for advanced or relapsed stages of blood cancer, genetically engineered to target cancer cells.

- India’s Second CAR-T Cell Therapy - It is the second CAR-T cell therapy approved in India, following the approval of NexCAR19 by CDSCO, developed by ImmunoAct.
- Innovative Genetic Engineering - Qartemi involves genetically modifying the patient’s own cells to effectively attack and combat cancer cells, offering a new treatment option.
- NexCAR19 by IIT Bombay and Tata Memorial - The first CAR-T cell therapy, NexCAR19, was developed by ImmunoAct, a collaboration between IIT Bombay and Tata Memorial Hospital.

CAR-T Cell Therapy: A Step-by-Step Guide



HUMAN UNDERWATER SUBMERSIBLE FOR OCEAN EXPLORATION

CONTEXT: India will receive its first human underwater submersible for ocean exploration this year, marking a major milestone in marine research.

BACKGROUND: India will launch its first human-operated underwater submersible as part of the Deep Ocean Mission, set to operate at a depth of 500 meters this year, with plans to reach 6,000 meters by the following year, according to Earth Sciences Minister Jitendra Singh.

About India’s Deep Ocean Mission

- Mission Approval and Budget:** In June 2021, the Cabinet Committee on Economic Affairs approved the Deep Ocean Mission with a budget of ₹4,077 crore for 2021-2026.
- Development of Deep-Sea Technologies:** The mission aims to develop technologies for deep-sea mining,

including a manned submersible capable of reaching 6,000 meters depth.

- Exploration of Polymetallic Nodules:** India plans to explore polymetallic nodules in the Central Indian Ocean Basin, estimated at 380 million metric tonnes, valued at approximately \$110 billion.
- Biodiversity and Resource Assessment:** The mission focuses on assessing deep-sea biodiversity and evaluating resources like energy and freshwater from ocean sources.
- Support for Blue Economy:** By harnessing ocean resources, the mission supports India’s ‘blue economy’ initiatives, promoting sustainable economic growth through marine resources.



HUMAN METAPNEUMOVIRUS (HMPV)

CONTEXT: An outbreak of Human Metapneumovirus (HMPV) in China has raised global concerns, with several countries, including India, closely monitoring its spread.

BACKGROUND: The union health ministry confirmed on Monday that two infants in Bengaluru have contracted Human Metapneumovirus (HMPV), while one case was reported in Gujarat, raising India's total count to three.

Human Metapneumovirus (hMPV): Causes, Spread, and Seasonality

- **hMPV Overview:** Human metapneumovirus (hMPV) causes upper respiratory infections, typically leading to mild illness but can cause severe sickness in some individuals.
- **Virus Family and History:** Belonging to the Pneumoviridae family, hMPV is closely related to respiratory syncytial virus (RSV) and was identified in 2001.
- **Transmission:** hMPV spreads via respiratory droplets from sick individuals and by touching contaminated surfaces, entering the body through eyes, nose, or mouth.
- **Global Presence:** The virus is found worldwide, but only a few countries monitor its trends, leaving gaps in understanding its spread across different regions and

climates.

- **Seasonal Spread:** In temperate regions, hMPV peaks during late winter and spring, coinciding with other respiratory viruses like flu and RSV, but remains active year-round.

Preventing and Managing hMPV Infection

- **Preventive Measures:** To prevent hMPV, wear masks in crowded spaces, improve ventilation, clean hands regularly, and avoid touching face without clean hands.
- **Boosting Immunity:** A strong immune system helps fend off infections – maintain it through a balanced diet, regular exercise, and adequate sleep.
- **Caring for the Sick:** Sick individuals should stay home, cover coughs and sneezes, wear masks, improve ventilation, and disinfect surfaces to prevent spreading the virus.
- **Treatment Options:** There's no vaccine or approved antiviral for hMPV; symptom relief involves over-the-counter medications, rest, and hydration.
- **When to Seek Medical Help:** Most recover in days, but if symptoms worsen or the individual is at higher risk, consult a healthcare provider.

What is Metapneumovirus hMPV

hMPV stands for **Human Metapneumovirus**, a virus that affects the respiratory system. It often causes **cold-like symptoms** and is similar to the flu.



Symptoms hMPV

- Persistent **coughing**
- A spike in **body temperature**
- **Sore throat** that feels painful
- Breathing difficulties or **wheezing**
- Feeling **excessively tired**
- **Shortness of breath**

Groups at Higher Risk

- Young children (under 5 years)
- Older adults (over 65 years)
- Those with a weakened immune system due to other conditions

How Does hMPV Spread?

- Coughing or sneezing droplets
- Contaminated surfaces
- Close contact

Complications

- Bronchitis
- Pneumonia



Prevention



Wash Hand



Sanitizer



Wear Mask



ISRO 100TH MISSION

CONTEXT: On January 29, 2025, the Indian Space Research Organisation (ISRO) marked its historic 100th launch from the Satish Dhawan Space Centre in Sriharikota.

BACKGROUND: On January 29, 2025, the Indian Space Research Organisation (ISRO) celebrated a milestone with its 100th launch. The GSLV-F15 rocket carrying the NVS-02 satellite lifted off from the Satish Dhawan Space Centre at 6:23 AM, marking a successful start to ISRO's 2025 mission under Chairman Dr. V. Narayanan.

- NVS-02 Satellite and GSLV-F15 Launch: A Milestone in India's Space Programme
- NVS-02 Satellite: The second satellite in the NVS series, equipped with navigation payloads in L1, L5, S bands, and a C-band ranging payload.
- Satellite Configuration: Built on the standard I-2K bus platform, NVS-02 weighs 2,250 kg and has a power handling capability of ~3 kW.
- Orbit and Replacement: Positioned at 111.75°E, NVS-02 replaces IRNSS-1E, continuing India's regional navigation satellite system.

- Precision Time Estimation: Uses a mix of indigenous and procured atomic clocks for accurate time synchronization.
- GSLV-F15 Launch: The 17th flight of the GSLV series, marking the 8th operational launch with India's indigenous Cryogenic stage.
- Satellite Development: NVS-02 was designed, developed, and integrated at URSC with collaboration from other satellite work centres.



ShakthiSAT MISSION

CONTEXT: Aerospace startup Space Kidz India launched "ShakthiSAT," a global mission to train 12,000 girls from 108 countries in space technology, aiming for a Chandrayaan-4 satellite launch.

multiple nations, including the UK, UAE, Brazil, and Kenya, focusing on space technology, payload development, and spacecraft systems.

Mission ShakthiSAT: Empowering Girls through STEM and Space Exploration

- Mission Vision: Empowering 12,000 girls from 108 countries through STEM education and space exploration, with a focus on lunar orbit satellite development.
- Global Initiative: Aims to spark global interest in science and technology among young girls, breaking gender stereotypes by involving them in satellite building and launch.
- Promoting Gender Equality: Focuses on promoting gender equality in the space sector and fostering international collaboration through space projects.
- Empowering Young Women: Encourages girls to pursue STEM fields, addressing the gender gap and promoting diversity in the space industry.
- Milestone Achievement: The mission aims to launch a satellite into lunar orbit, marking a significant step in empowering women in space science and technology.



BACKGROUND: The ShakthiSAT mission offers 120 hours of online training for high school girls (14-18 years) across



INDIA'S LARGEST ONLINE IAS COACHING ACADEMY



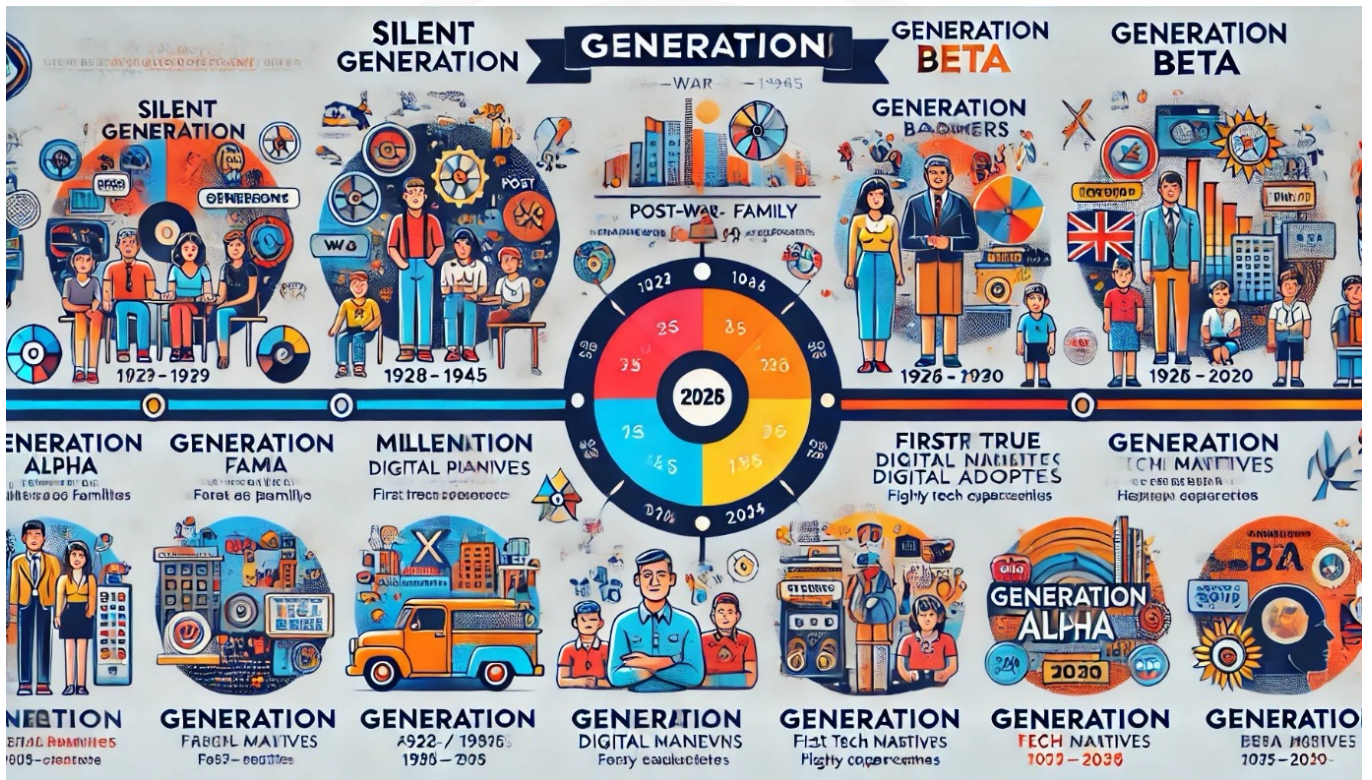
INDIA WELCOMES ITS FIRST 'GEN BETA' BABY

CONTEXT: India marked the shift to Generation Beta with the birth of its first recorded baby, Frankie Remruatdika Zadeng, in Aizawl, Mizoram.

BACKGROUND: India welcomed its first recorded Generation Beta baby, Frankie Remruatdika Zadeng, born in Aizawl, Mizoram, at 12:03 am on January 1, 2025, marking the dawn of a new generational era shaped by technological and societal evolution.

Who are Generation Beta?

- Coined by Mark McCrindle: Generation Beta refers to individuals born between 2025 and 2039, primarily the children of Millennials (Gen Y) and older Gen Z parents.
- Global Population Impact: By 2035, Gen Beta is expected to make up 16% of the world's population, significantly influencing future social and economic landscapes.
- A Key Evolutionary Chapter: McCrindle describes Gen Beta as a crucial phase in history, where digital and physical worlds will merge seamlessly.
- AI-Driven Upbringing: Artificial intelligence will be deeply integrated into their education, workplaces, and entertainment, shaping their experiences from an early age.
- Unparalleled Digital Natives: More than any previous generation, Gen Beta will be immersed in technology, making them the most digitally advanced generation in history.



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A close-up photograph of a person's hands clasped together, wearing a dark blue suit jacket. The background is a solid, lighter blue color. The text 'CSAT' is overlaid in the center in a large, white, bold, sans-serif font.

CSAT



**MASTERING CONCEPTS:
LEARNING THROUGH MCQS
(CALENDARS)**



Mastering Concepts: Learning Through MCQs (CALENDARS)

Problems based on calendars are a common and interesting category in competitive exams, including the UPSC CSAT. These questions test a candidate's ability to analyze dates, identify patterns, and solve logical puzzles related to days, weeks, and months. Understanding the basic principles of the calendar, leap years, and day-date relationships is essential to tackling these problems efficiently. In this section, we will explore useful techniques and shortcuts to solve calendar-based questions, accompanied by illustrative MCQs to enhance understanding and speed up problem-solving skills.

UNDERSTANDING CALENDARS

calendar-based problems often involve understanding key concepts such as leap years, non-leap years, and the calculation of odd days. Let's break down these concepts for clarity:

Leap Year and Non-Leap Year

- **Leap Year:** A year is considered a leap year if it is divisible by 4. However, years divisible by 100 are not leap years unless they are also divisible by 400.
 - o **Examples:** 2000 and 2024 are leap years, but 1900 and 2100 are not.
 - o **Days in a Leap Year:** 366 days.

- **Non-Leap Year (Common Year):** A year that is not a leap year is a non-leap year.
 - o **Days in a Non-Leap Year:** 365 days.

Concept of Odd Days

Odd days refer to the number of extra days beyond complete weeks in a given period. To solve calendar problems, counting these odd days becomes crucial.

Key Facts for Odd Days Calculation:

1. **1 Week = 7 Days:** Hence, any complete week contributes 0 odd days.
2. **1 Non-Leap Year = 365 Days:** Dividing 365 by 7 gives a remainder of 1. Therefore, a non-leap year has 1 odd day.
3. **1 Leap Year = 366 Days:** Dividing 366 by 7 gives a remainder of 2. Therefore, a leap year has **2 odd days**.

Useful Reference Table:

Period	Odd Days
1 Day	1 Odd Day
1 Non-Leap Year	1 Odd Day
1 Leap Year	2 Odd Days
100 Years	5 Odd Days
200 Years	3 Odd Days
300 Years	1 Odd Day
400 Years	0 Odd Days

The number of odd days in 12 months (1 year) depends on whether the year is a leap year or a non-leap year

Non-Leap Year (365 Days)

- January: 3 odd days ($31 \div 7 = 4$ weeks + 3 days)
- February: 0 odd days ($28 \div 7 = 4$ weeks + 0 days)
- March: 3 odd days
- April: 2 odd days
- May: 3 odd days
- June: 2 odd days
- July: 3 odd days
- August: 3 odd days
- September: 2 odd days
- October: 3 odd days
- November: 2 odd days
- December: 3 odd days

Total Odd Days in a Non-Leap Year:

$$3 + 0 + 3 + 2 + 3 + 2 + 3 + 3 + 2 + 3 + 2 + 3 = 1 \text{ odd day}$$

Leap Year (366 Days)

- January: 3 odd days
- February: 1 odd day ($29 \div 7 = 4$ weeks + 1 day)
- March: 3 odd days
- April: 2 odd days
- May: 3 odd days
- June: 2 odd days
- July: 3 odd days
- August: 3 odd days
- September: 2 odd days
- October: 3 odd days
- November: 2 odd days
- December: 3 odd days

Total Odd Days in a Leap Year:

$$3 + 1 + 3 + 2 + 3 + 2 + 3 + 3 + 2 + 3 + 2 + 3 = 2 \text{ odd day}$$



TYPE 1 : TWO YEARS WITH SAME CALENDAR

Certain years share the same calendar, meaning the same days and dates align perfectly. Understanding this pattern helps solve calendar-based problems efficiently. Let's break down how this repetition works

Leap-year : +28

Leap-year +1 : +6

Leap-year +2 : +11

Leap-year +3 : +11

Example Question:

Q1. Which of the following years will have the same calendar as the year 2005?

Answer

2005 (LP + 1 Year)

The previous leap year was 2004, making 2005 an LP + 1 year.

Add 6 years to find the next matching calendar year:

$2005 + 6 = 2011$

Therefore, 2005 and 2011 share the same calendar.

Q2. Which of the following years will have the same calendar as the year 1950?

Answer

1950 (LP + 2 Year)

The previous leap year was 1948, making 1950 an LP + 2 year.

Add 11 years to find the next matching calendar year:

$1950 + 11 = 1961$

Therefore, 2005 and 2011 share the same calendar.

TYPE 2 : TO FIND OUT THE WEEKDAY FOR AN ORIGINAL DATE:

- 1. Identify the nearest century leap year.**
- 2. List the years in multiples of 100 until you reach the closest century year.**
- 3. Take a year earlier than the given year**
- 4. Calculate the number of leap years and non-leap years (NLP), (considering leap years contribute 2 odd days and non-leap years contribute 1 odd day) by dividing it by 4(taking the quotient)**
- 5. Calculate the odd days in the given year**
- 6. Sum the odd days.** If the total exceeds 7, divide the sum by 7 to obtain a remainder less than 7.

Century Year Odd-Days

100	5
200	3
300	1
400	0

Illustration

Q Which day of the week fell on 15th August, 1947?

1. Step 1 : Identify the nearest century leap year.

Nearest century leap year closer to 1947 is 1600

Zero odd days for century leap year

2. List the years in multiples of 100 until you reach the closest century year.

$1600+300=1900$

1 odd day for 300 years

3. Take a year earlier than the given year

Here the given year is 1947 so we need to take a year lesser that is 46 years

4. Calculate the The number of odd days by finding no of leap years and Non Leap years in 46

$46/4$ gives 11 quotient so there are 11Leap Years and 35NLP, A leap year has 2 odd days ie $11*2= 22$ odddays and NLP has 1 odd day= $35*1=35$ odd days

Total odd days = $22+35=57$ odd days

Since 57 is greater than 7 we divide it by 7 ,we get 1 as remainder .So there is 1 odd day in 46 years

5. Calculate the odd days in the given year

- **January:** 31 days

Since 31 divided by 7 gives a remainder of 3, **January has 3 odd days.**

- **February:** 28 days

28 divided by 7 gives a remainder of 0, so **February has 0 odd days.**

- **March:** 31 days

31 divided by 7 gives a remainder of 3, so **March has 3 odd days.**

- **April:** 30 days

30 divided by 7 gives a remainder of 2, so **April has 2 odd days.**

- **May:** 31 days

31 divided by 7 gives a remainder of 3, so **May has 3 odd days.**

- **June:** 30 days

30 divided by 7 gives a remainder of 2, so **June has 2 odd days.**

- **July:** 31 days

31 divided by 7 gives a remainder of 3, so **July has 3 odd days.**

- **August (up to 15th):** 15 days

15 divided by 7 gives a remainder of 1, so August 1-15 has 1 odd day.

Total odd days = $3 + 0 + 3 + 2 + 3 + 2 + 3 + 1 = 17$ odd days

Now, we divide 17 by 7:

$17 \div 7 \rightarrow$ remainder 3

1600 Years + 300 Years + 46 Years + Aug 15,1947

Odd days = $0 + 1 + 1 + 3 = 5$ odd days

Sunday = 0

Monday = 1

Tuesday = 2

Wednesday = 3

Thursday = 4

Friday = 5

Saturday = 6

Therefore 15 Aug 1947 was a Friday

ETHIC





ETHICS IN ARTIFICIAL INTELLIGENCE



ETHICS IN ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) is no longer a concept of the future; it is an integral part of everyday life, transforming industries such as healthcare, finance, transportation, and entertainment. AI's potential to revolutionize these sectors presents significant opportunities, including increased efficiency, improved decision-making, and enhanced customer experiences. However, as AI systems become more autonomous and pervasive, they also raise critical ethical questions that demand attention. The very capabilities that make AI powerful—its ability to learn, predict, and make decisions—also pose challenges in areas like fairness, accountability, transparency, and privacy.

Ethical considerations in AI are complex and multifaceted, as they touch on issues such as bias in algorithms, the need for responsible AI governance, and the protection of individual rights. For instance, AI systems have been known to perpetuate and even amplify societal biases, raising concerns about discrimination in key areas like hiring practices and law enforcement. Moreover, the increasing use of AI in making critical decisions in people's lives—ranging from medical diagnoses to financial transactions—demands transparency in decision-making processes and accountability for potential errors or harm caused. This essay aims to explore the ethical dilemmas that arise from the rise of AI technologies and the need for careful, deliberate regulation to ensure AI's benefits are realized responsibly and equitably.

Bias in AI: Algorithmic Discrimination and Ethical Implications

One of the most pressing ethical concerns in the development and deployment of artificial intelligence (AI) is bias in machine learning algorithms. These algorithms are designed to analyze vast amounts of data to make decisions, often without human intervention. However, if the data used to train these algorithms reflects existing societal biases, the resulting AI systems can inadvertently perpetuate or even amplify these biases. This issue is particularly evident in sectors like hiring, law enforcement, and loan approvals, where AI-driven decisions can have significant, real-world consequences for individuals and communities.

For example, in the hiring process, AI tools used to screen resumes or assess candidate qualifications may inadvertently favour certain demographics over others, particularly if the data used to train these algorithms contains historical biases. This could result in qualified candidates being overlooked based on their gender, race, or socioeconomic background. Similarly, in law enforcement, AI algorithms used for predictive policing or risk assessments can disproportionately target minority communities if they are trained on biased historical crime data. In loan approvals, AI systems may unfairly deny loans to individuals from certain

demographic groups, even if they meet all necessary financial criteria.

The ethical implications of such algorithmic discrimination are profound. It raises concerns about fairness and equal opportunity, particularly for marginalized groups who may already face systemic disadvantages. To mitigate these risks, it is essential that AI systems are trained on diverse and representative datasets that reflect the full spectrum of human experiences. Furthermore, transparency in how AI decisions are made and continuous monitoring for biases are crucial steps in ensuring that AI serves to promote fairness, rather than reinforce existing inequalities. Addressing bias in AI is not just an ethical imperative; it is necessary for creating a more equitable and just society.

Accountability and Responsibility in AI Systems

As artificial intelligence (AI) continues to evolve and assume increasingly autonomous roles, determining accountability and responsibility in the event of a malfunction or harm becomes a complex and pressing issue. AI systems are often designed to make decisions without direct human intervention, from recommending medical treatments to controlling self-driving vehicles. While this autonomous decision-making can lead to efficiencies and innovations, it also creates challenges in establishing clear lines of responsibility when things go wrong.

At the heart of the debate is the question of who is liable when an AI system causes harm or makes a detrimental decision. Developers who design and create the algorithms are often held responsible for ensuring that their systems are robust, fair, and safe. However, when an AI system acts in an unpredictable or harmful manner, the responsibility may not be easily traced to any one party. The organization deploying the AI technology—whether it be in healthcare, finance, or transportation—also plays a critical role in ensuring that the system functions as intended and adheres to ethical guidelines. This raises the question: should organizations be held accountable for the actions of an AI system they deploy, especially when the decision-making process is opaque or complex?

Another consideration is whether AI systems themselves should be held accountable. Some argue that as AI becomes more autonomous, it may be necessary to explore mechanisms where the system could be “responsible” for its actions, similar to how we hold legal entities accountable. However, this concept challenges traditional notions of legal responsibility and ethics, as AI lacks human agency or intent.

To address these concerns, the role of regulatory bodies becomes crucial. Governments and international organizations must establish clear frameworks to govern AI development and deployment, ensuring that all parties—



developers, organizations, and AI systems – are held accountable for their actions. In this evolving landscape, striking the right balance between innovation and accountability will be key to ensuring that AI benefits society without compromising ethics or safety.

Transparency in AI Decision-Making

One of the most pressing ethical concerns surrounding artificial intelligence (AI) is the lack of transparency in how AI systems make decisions. Many AI algorithms, particularly those based on deep learning and neural networks, operate as “black boxes,” meaning their decision-making processes are often opaque and difficult to interpret. This lack of visibility into the inner workings of AI systems can lead to significant issues, especially when these systems are involved in high-stakes domains such as healthcare, criminal justice, and finance.

The opacity of AI algorithms creates a barrier to trust and accountability. When users, whether they are patients, defendants, or loan applicants, are subject to decisions made by AI systems, they often have little understanding of how these decisions are arrived at. This lack of transparency not only undermines confidence in AI systems but also makes it difficult to challenge or appeal decisions that may have serious consequences. For example, if an AI system denies a loan application, it can be challenging for the applicant to understand why the decision was made or to contest it without insight into the reasoning behind it.

To address these concerns, the concept of “explainable AI” (XAI) has emerged as a potential solution. XAI aims to make AI systems more transparent by providing clear, understandable explanations of how decisions are made. By offering users insight into the rationale behind machine-generated decisions, XAI helps to build trust and ensure that decisions are fair, justifiable, and aligned with ethical standards. Furthermore, explainability in AI enables developers and organizations to identify and rectify potential biases or flaws in the system, fostering greater accountability and responsible AI deployment.

Ultimately, the need for transparency in AI decision-making is essential for ensuring that these systems are not only effective but also ethical and aligned with societal values. By prioritizing explainable AI, we can make significant strides toward fostering greater trust and accountability in the use of AI technologies.

Privacy and Data Security in AI

As artificial intelligence continues to evolve and expand across various sectors, it relies heavily on vast amounts of data, including personal and sensitive information. This dependence on data has raised serious concerns about privacy and data security, as AI systems can be vulnerable to breaches, unauthorized surveillance, and misuse of personal data. The ethical dilemma lies in balancing the innovative potential of AI with the need to protect individual privacy

rights, creating a tension between technological advancement and safeguarding citizens’ personal information.

AI systems often require access to large datasets to function effectively, and these datasets can contain personally identifiable information (PII) such as names, addresses, health records, and financial details. In some cases, AI can also aggregate data from multiple sources, potentially creating detailed profiles of individuals without their consent. The collection, storage, and processing of such data expose individuals to the risk of data breaches and unauthorized surveillance. For example, if a healthcare AI system were to be compromised, it could lead to the exposure of patients’ medical histories, resulting in severe consequences for those affected.

To address these concerns, privacy-preserving AI techniques and stronger data protection laws are essential. One potential solution is the use of techniques such as federated learning, which allows AI systems to learn from decentralized data without actually accessing sensitive information. This can help maintain privacy while still enabling AI systems to function effectively. Additionally, governments and regulatory bodies must enact and enforce robust data protection laws to ensure that AI developers and organizations handle personal information responsibly. Laws such as the General Data Protection Regulation (GDPR) in the European Union have set important precedents in protecting individuals’ data privacy.

In conclusion, while AI presents enormous potential for innovation and progress, it is crucial to ensure that privacy and data security are not compromised. Through a combination of privacy-preserving techniques and stronger regulations, we can strike a balance between fostering AI development and protecting the fundamental right to privacy.

Autonomous AI and Its Impact on Employment

The rise of autonomous AI systems presents a profound ethical dilemma, particularly in the context of employment. As AI technologies increasingly perform tasks traditionally handled by human workers, concerns about job displacement, economic inequality, and the future of work have come to the forefront. While AI promises significant benefits in terms of efficiency and productivity, its widespread adoption raises important ethical questions regarding its impact on the labour market and the well-being of workers.

One of the primary concerns is the displacement of jobs, especially in industries where routine tasks are automated. Roles in manufacturing, logistics, customer service, and even professional sectors like finance and law are increasingly being replaced by AI systems and robots. While AI can lead to the creation of new job categories, the transition may not be smooth, as displaced workers may struggle to acquire new skills or find employment in emerging industries. This disruption can exacerbate economic inequality, as low-



skilled workers, who are most vulnerable to automation, may face difficulties in accessing retraining programs or finding well-paying jobs in AI-driven economies.

Ethically, it is crucial to address these disparities and ensure that the benefits of AI are distributed equitably. One potential solution is the concept of “just transition,” which aims to provide displaced workers with the necessary support to adapt to new roles in the evolving workforce. This may involve investing in reskilling programs, ensuring access to new employment opportunities, and providing social safety nets to those impacted by AI-driven job loss. Moreover, policymakers and businesses must collaborate to create an inclusive economic framework that considers the needs of workers and fosters job creation in AI-compatible industries.

In conclusion, while autonomous AI offers transformative potential, it is essential to address its ethical implications on employment by prioritizing fairness, job security, and economic inclusion in the AI-driven future of work.

AI Regulation and Governance

As the use of artificial intelligence (AI) continues to expand across industries, the need for robust regulation and governance has become increasingly critical. The rapid advancement of AI technologies, coupled with their far-reaching impact, raises concerns about their potential for harm if left unchecked. This has prompted governments, organizations, and ethical bodies to consider how best to regulate AI to ensure its development aligns with societal values and safeguards against negative consequences.

At the national level, several countries have introduced or are in the process of creating AI ethics regulations, with a focus on ensuring transparency, accountability, and fairness in AI systems. The European Union, for example, has proposed the Artificial Intelligence Act, which seeks to regulate high-risk AI applications, establish strict oversight, and enforce compliance with ethical standards. Similarly, countries like the United States and China are developing AI policies to govern their respective AI ecosystems, though approaches vary in terms of stringency and focus.

However, current national efforts are often fragmented, and there is a growing recognition of the need for international collaboration on AI governance. The absence of global standards presents a challenge, as AI systems developed in one country may have far-reaching implications beyond its borders. This necessitates the creation of universal guidelines that transcend national boundaries. International cooperation could ensure that AI systems are developed with common ethical principles in mind, preventing the rise of conflicting regulations that may hinder technological progress and global collaboration.

Proposed frameworks for AI governance often emphasize principles such as fairness, accountability, transparency, and privacy protection. To this end, global

institutions such as the United Nations and the Organisation for Economic Co-operation and Development (OECD) have begun discussions on establishing universal AI governance frameworks. These frameworks would help create a cohesive global approach to managing AI risks, balancing innovation with ethical responsibility, and ensuring that AI serves the greater good of humanity.

In conclusion, effective regulation and governance are essential to the responsible development and deployment of AI. Collaborative international efforts are crucial to creating a unified approach that promotes ethical AI practices while mitigating its potential harms.

Conclusion

As artificial intelligence continues to evolve and integrate into various aspects of human life, the ethical implications of its development and deployment have become a critical concern. This essay has explored the major ethical challenges surrounding AI, including bias, accountability, transparency, privacy, job displacement, and the need for regulatory oversight. It has highlighted how AI, while offering immense potential, also presents significant risks that need to be managed carefully to avoid reinforcing societal inequalities, infringing on individual rights, and disrupting existing economic structures.

The ethical dilemmas presented by AI require a holistic, interdisciplinary approach that brings together policymakers, technologists, ethicists, and other stakeholders. By fostering collaboration, we can ensure that AI technologies are developed in a way that reflects shared values and ethical principles. It is crucial for governments and international organizations to create robust regulatory frameworks that promote transparency, fairness, and accountability while protecting individual privacy and security. Furthermore, the development of explainable AI and stronger data protection laws is essential for building public trust and confidence in AI systems.

As we navigate this rapidly advancing technological landscape, continued research, thoughtful regulation, and ongoing public dialogue will be necessary to address the ethical challenges posed by AI. It is not enough to simply innovate—technological progress must be coupled with a commitment to responsible development. By integrating ethical considerations into AI’s design and deployment, we can work towards a future where AI benefits all of humanity while minimizing harm.

In conclusion, while AI holds the promise of transforming industries and improving lives, its ethical challenges cannot be overlooked. Only through a concerted effort to balance innovation with responsibility can we ensure that artificial intelligence contributes positively to society, fostering progress while safeguarding our core values and principles.

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TOPICS OF THE MONTH





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Santhosh Taneja



Joy is the Simplest Form of Gratitude

Power of education in nation-building

Education is the foundation upon which a nation's progress is built. It equips individuals with knowledge, skills, and values that shape their contributions to society. A well-educated population is essential for fostering critical thinking, driving innovation, and cultivating strong leadership, all of which are crucial for national development.

One of the most significant roles of education is its ability to nurture future leaders, policymakers, scientists, and entrepreneurs. In classrooms, students are exposed to diverse ideas and perspectives, allowing them to develop problem-solving abilities and creative thinking. These skills enable them to address social and economic challenges, paving the way for national prosperity. Leaders educated with strong ethical values and a sense of responsibility can drive policies that promote equity, sustainability, and progress. Scientists and innovators contribute to advancements in technology and healthcare, improving the overall quality of life for citizens. Entrepreneurs, in turn, create jobs, boost economies, and drive global competitiveness.

Moreover, quality education serves as a powerful tool for economic growth, social justice, and political stability. Educated individuals are more likely to secure stable employment, contribute to economic productivity, and break the cycle of poverty. A strong education system ensures equal opportunities for all, reducing societal inequalities and fostering social harmony. Politically, an educated citizenry is more aware of their rights and responsibilities, leading to informed decision-making, active civic participation, and stronger democratic institutions.

In conclusion, education is a nation's most valuable asset. By investing in a robust education system, countries can cultivate critical thinkers, innovators, and responsible leaders who will shape a brighter future. The power of education in nation-building is undeniable, making it essential for long-term development and progress.

Role of teachers as nation-builders

Teachers play a crucial role in shaping the future of a nation by instilling values, ethics, and knowledge in young minds. They are more than just educators; they are mentors, guides, and role models who influence students' personal and professional growth. By fostering a love for learning and critical thinking, teachers lay the foundation for a society that thrives on innovation and responsibility.

Inspirational educators have the power to shape students' aspirations and career paths. A dedicated teacher can ignite curiosity, build confidence, and encourage students to pursue their passions. Many successful leaders, scientists, and entrepreneurs credit their teachers for guiding them toward their achievements. By recognizing and nurturing

individual talents, teachers help students unlock their potential and contribute meaningfully to society.

Effective teaching methods play a vital role in enhancing creativity, problem-solving, and decision-making skills. Interactive learning approaches, real-world applications, and critical discussions encourage students to think independently and develop innovative solutions. Teachers who adapt to modern educational strategies, such as experiential learning and technology-driven instruction, equip students with the skills needed to navigate an evolving world.

In addition to academic instruction, teachers instill moral and ethical values that shape responsible citizens. By promoting integrity, empathy, and civic responsibility, they contribute to building a just and progressive society. The influence of teachers extends beyond classrooms, as their teachings resonate throughout a student's life, impacting families, communities, and the nation as a whole.

In conclusion, teachers are the architects of a nation's future. Through their dedication, knowledge, and mentorship, they empower generations to become informed, ethical, and skilled individuals who drive national progress. Investing in teacher training and education reform is crucial for building a strong and prosperous nation.

Curriculum and its impact on national progress

A well-designed curriculum plays a crucial role in shaping a nation's progress by aligning education with its developmental goals. It ensures that students acquire the knowledge and skills necessary to contribute effectively to society. A strong curriculum fosters intellectual growth, economic advancement, and social harmony, laying the foundation for a prosperous future.

Emphasizing STEM (Science, Technology, Engineering, and Mathematics), humanities, and vocational training helps create a well-rounded and skilled workforce. STEM education drives technological innovation and industrial growth, while the humanities develop critical thinking, communication, and cultural awareness. Vocational training equips individuals with practical skills essential for various industries, reducing unemployment and boosting economic productivity. A balanced curriculum ensures that students are prepared for diverse career paths and can adapt to an evolving job market.

Beyond academic and professional skills, moral education plays a significant role in fostering unity, tolerance, and civic responsibility. By teaching ethical values, respect for diversity, and social awareness, the curriculum helps create responsible citizens who contribute to national stability and harmony. A society built on strong moral foundations is more resilient, cooperative, and inclusive.



In conclusion, a nation's progress depends on the quality and relevance of its curriculum. By integrating STEM, humanities, vocational training, and moral education, a country can develop skilled, responsible, and innovative citizens. Investing in curriculum development ensures long-term national growth and stability.

Classrooms as incubators of change

Classrooms serve as the foundation for societal transformation, fostering knowledge, innovation, and social progress. They are not just spaces for academic learning but also incubators of change where young minds develop the skills, values, and mindsets necessary to shape the future. Through inclusive education, digital transformation, and leadership development, classrooms play a crucial role in building an equitable and progressive society.

Inclusive education is a powerful tool for promoting equality and social mobility. By ensuring that students from all backgrounds have access to quality education, societies can break the cycle of poverty and bridge social divides. When classrooms are diverse and inclusive, they encourage mutual respect, empathy, and understanding, creating a more cohesive and just society. Equal educational opportunities empower individuals to contribute meaningfully to national development, regardless of their socioeconomic status.

The digital transformation of education further enhances global competitiveness. The integration of technology in classrooms provides students with access to vast knowledge resources, interactive learning experiences, and real-world applications. Online learning platforms, artificial intelligence, and virtual classrooms have revolutionized education, making it more accessible and dynamic. By equipping students with digital literacy and technological skills, schools prepare them to compete in the global economy and drive innovation in various sectors.

Beyond academics, schools cultivate leadership, teamwork, and social responsibility. Extracurricular activities, collaborative projects, and community engagement programs help students develop essential life skills. Leadership training instills confidence and decision-making abilities, while teamwork fosters cooperation and problem-solving. A strong emphasis on social responsibility encourages students to contribute positively to their communities and the nation at large.

In conclusion, classrooms are the breeding ground for future leaders, innovators, and responsible citizens. By embracing inclusivity, technology, and character development, education becomes a catalyst for lasting social and economic change.

Challenges in education and the need for reform

Education is a fundamental pillar of national development, yet numerous challenges hinder its effectiveness

in many parts of the world. Inadequate infrastructure, outdated teaching methods, and disparities between urban and rural education systems create significant barriers to learning. Addressing these challenges through policy reforms and increased investment is crucial for fostering long-term national success.

One of the primary challenges in education is the lack of adequate infrastructure and resources. Many schools, particularly in developing regions, suffer from overcrowded classrooms, insufficient learning materials, and a shortage of qualified teachers. Without proper facilities such as libraries, laboratories, and technology access, students are deprived of a conducive learning environment. This limits their ability to develop essential skills needed for higher education and the workforce. Improving school infrastructure and ensuring access to modern educational tools can enhance learning outcomes and provide students with better opportunities.

Another major issue is the reliance on outdated teaching methods that fail to engage students effectively. Traditional rote learning often focuses on memorization rather than critical thinking, creativity, and problem-solving skills. As the world evolves rapidly with advancements in technology and new career demands, education must adapt to equip students with relevant knowledge and skills. Modernizing curricula, incorporating digital learning tools, and training teachers in innovative instructional techniques can make education more dynamic and effective.

Additionally, disparities between urban and rural education systems exacerbate social inequalities. Rural schools often lack qualified teachers, access to digital resources, and adequate funding, leading to lower educational attainment among students in these areas. This gap limits social mobility and economic opportunities, reinforcing cycles of poverty. Governments must prioritize equal distribution of resources, teacher training, and digital inclusion to bridge this divide and ensure education reaches all sections of society.

To overcome these challenges, comprehensive policy reforms and sustained investment in education are essential. Governments should allocate higher budgets for education, implement teacher development programs, and integrate technology into learning systems. Public-private partnerships can also play a vital role in improving education infrastructure and expanding access to quality learning.

In conclusion, addressing the challenges in education is crucial for shaping a prosperous and equitable society. By investing in infrastructure, modernizing teaching methods, and reducing educational disparities, nations can empower future generations with the skills and knowledge needed to drive long-term success and progress.

A nation's future is intricately linked to the quality of education it provides. By investing in classrooms, empowering



teachers, and modernizing education, societies can build a prosperous and progressive future. The destiny of a nation

is indeed shaped in its classrooms, where young minds learn, innovate, and prepare to lead.

MULTINATIONAL CORPORATIONS: SAVIOUR OR SABOTEUR

In last week of February 2016, news of hepatitis C patients protesting outside India's patent office in New Delhi was splashed across all major national newspapers in India. The patients were protesting against the American multinational pharmaceutical major Gilead Sciences and the United States government for pressuring the Indian government "to blindly and speedily grant patents" to Gilead's exorbitantly priced drug named Sovaldi, whose generic versions manufactured by pharmaceutical companies in India are used by millions of hepatitis C patients across the world. So who are these multinational corporations that can even influence sovereign governments and impact millions of lives in the process? The term 'Multinational Corporations' (or MNCs) refers to companies that have operations and offices in multiple countries even though headquartered in only one or few of them. Even though the term itself may be of modern origin, such MNCs have existed at least for the past four to five centuries. East India Company, the English trading company that grew its influence in India in the 17th century and laid the foundations of English rule in India, can easily be classified as one.

In today's globalised and increasingly interconnected world such companies are only increasing their tribe. Exchange of goods, services, ideas, labour etc. are being encouraged worldwide; specialization is being touted as the need of the hour and increasingly more and more companies are spreading their influence outside their country of origin. While one country may be specialized in manufacturing of certain types of goods using patented technology, others may have abundant supply of qualified human resources or cheap labour along with market for selling the finished goods. Therefore such difference in availability of resources, skills, markets etc., caused not only by geo-political reasons but by historical reasons like imperialism and colonialism, has meant that companies today are increasingly looking to have a global footprint. Most of the major MNCs today are headquartered in the industrial or developed countries. These companies, armed with the latest technology and surplus capital, are mainly looking towards the markets in less developed and developing economies to expand their operations. A number of MNCs are operating all over the world today. In India, MNCs like Standard Chartered, HSBC, Colgate-Palmolive, Castrol etc., to name a few, have been operating for decades now. However such multinational corporations can be both, a boon as well as a bane, especially for the less developed or developing countries and for a number of reasons which we will be discussing.

Multinational corporations bring with them capital to invest in developing countries. Such capital can be of utmost use in developing economies where capital is scarce and where tremendous growth opportunities exists. Therefore it becomes a win-win situation for both the MNCs and the developing countries as MNCs can deploy their surplus capital for good returns, whereas, the receiving country can expect a boost to its economic growth. However, quick and mass repatriation of such capital in volatile times can be equally harmful to the economy of the developing country. The East Asian crisis of 1997 caused due to such flight of foreign capital from Thailand, South Korea, and Indonesia etc is a good example. Similarly, usage of tax havens to avoid payment of taxes and 'transfer pricings' are also major sources of financial loss caused by MNCs to the developing countries. In recent studies it was also found that majority of the Foreign Direct Investment (FDI) being received from developed world was only a reinvestment of profits by the MNCs and their investors and not a deployment of fresh capital. According to the United Nations Conference on Trade and Development (UNCTAD), the share of reinvested earnings is reported to have accounted for as much as four-fifths of total outflows in 2014 for select developed countries. UNCTAD also underlined the large amount of losses to the exchequer of developing countries (\$100 billion a year) due to the routing of FDI through tax havens.

Another way in which these MNCs can boost the economy of developing countries is via the introduction of state-of-the-art technology that can increase productivity and efficiency while making available better and cost effective products to the customers. However, at the same time, danger persists of some companies bringing in obsolete technology and flooding the market with low quality and potentially harmful goods. If proper care is not taken to enforce modern regulatory standards, poor technology can even lead to industrial accidents, environmental degradation etc. causing severe loss of lives while impacting future generations. India has been on the receiving end of such a disaster in the form of the Bhopal gas tragedy of 1984 where leakage of methyl isocyanate from a pesticide plant of Union Carbide, an MNC, caused tremendous loss of lives, and scarring even the future unborn generations of Bhopal.

MNCs may also seek to exploit weak intellectual property laws in developing countries leading to the patenting of hitherto freely available technology or methods, which may cause an increase in price of related goods and services. MNCs are also reluctant to allow technology transfer to local partner companies in developing countries, rendering



it forever reliant on expensive import of such technologies. Recent struggle by pharmaceutical companies to fight against compulsory licensing norms in India and attempts for ever greening of licenses even with slight variations in drug properties are examples of MNCs only caring for their bottom lines even when millions of lives are at stake.

By allowing MNCs to operate in its markets, a developing country may also benefit by increased competition in such sectors that can mean increased efficiency in domestic firms and better service or increase in choice of goods for the customer. However at the same time, this can destroy the domestic companies leading to the demise of domestic industry and large scale loss of employment in the domestic labour market. Big MNCs with their surplus capital, backing of private equity funds and better technology can sustain the ensuing losses for longer while wiping out the domestic competition who can't match their deep pockets. A good contemporary example can be the e-commerce companies in India like Amazon, E-bay etc. which being backed by big private equity can cause losses to domestic offline retail business by offering huge online discounts to its customers.

Most of the developing economies also have relatively higher unemployment ratios as compared to the first world. MNCs can help by providing employment as they hire the comparatively cheaper labour in emerging economies to produce the required goods and services at low prices. However, an unregulated labour market can only mean exploitation via low paid manual work in harmful conditions.

With an increase in productivity, efficiency, employment etc. the developing country can potentially see an increase in its gross domestic product (GDP), average per capita income, as well as increase in living standards of its people. However, at the same time it can also be a drain on its precious natural resources in the form of neo-imperialism and lead to gross inequality in growth with the majority of capital getting concentrated in the hands of a few 'haves' at the cost of the 'have not's and the underprivileged sections of population.

Multinational Corporations can also harm sovereign interests of a developing country by dragging its government to international arbitration over policies that the MNC perceives harmful to its own interest. In most of these cases, it is a case of the domestic government protecting its poor population over the contractual rights of an MNC. Also, by forming lobbies and associations in the first world countries and then by pressurizing the developing nations to allow concessions; is another way in which MNCs can employ their arm twisting tactics. For e.g. the pharmacy association of the United States has been pressurizing India via the offices of the United States Trade Representative (USTR) to have softer or more lenient IP regime for foreign pharmacy companies.

Therefore, clearly, MNCs have their merits as well as demerits, especially for a developing nation. On one hand with their surplus capital, cutting edge technology, management expertise etc. leads to increased production, productivity, efficiency, employment and better living standards, whereas on the other hand they can also harm by quick flight of money leading to volatility, obsolete technology, exploiting poor regulatory environment, killing indigenous industries etc. However the demerits can be restricted or avoided altogether by having tough yet encouraging regulatory environment in the field of finance, intellectual property, competition laws, labour laws, framing of contracts etc. and by ensuring speedy and just redressal of grievances and disputes. India has been reasonably successful in its liberalization attempts since 1991 mainly due to carefully opening up only specific sectors to foreign investments on a case-by-case basis and in a phased manner and not allowing full Capital Account Convertibility. India has been able to benefit from the dynamicity of MNCs while at the same time allowing enough space for its domestic firms to grow. This is the reason why India today boasts some of its very own home grown MNCs in the form of Tata, Infosys, Reliance, Wipro etc. who are now operating not only in the emerging countries of Africa and South Asia but also in the First World countries of North America and Western Europe.

THE FOCUS OF HEALTHCARE IS INCREASINGLY GETTING SKEWED TOWARDS THE 'HAVES' OF OUR SOCIETY

Good health is one of the most fundamental and basic essential needs of all human beings. That is why, third of the seventeen Sustainable Development Goals adopted by the world leaders last year aims to ensure good health for all. Indian constitution also implicitly recognizes good health as one of the fundamental rights guaranteed under the right to life. In absence of good health all of man's endeavours will be deemed useless. For India to fulfil its dream of becoming a developed and prosperous nation it must take care of the most important of its resources i.e. its human capital. India is on the cusp of demographic dividend with the economically

productive (15-59 years of age) portion of its population going above the 60% mark. But India can fully utilize this potential only if it is successful in providing for its population proper education, skills, nutrition and healthcare. Among all this, importance of healthcare is perhaps the highest as only a healthy person can be productive enough to fully utilize his skills. Therefore healthcare is of paramount importance for an individual to lead a fulfilling life and also for the whole nation to progress. However is the Indian healthcare system itself in a healthy state?



India has a disproportionately high share of health problems and diseases like child stunting, diabetes, tuberculosis, cancer etc. In the recent round of National Sample Survey (NSS) it was found that over 80% of Indians do not have health insurance cover and that a majority of people in the rural areas utilize private sector health services. Given the relatively lower levels of per capita income in rural areas of our country all these findings certainly raise a question over whether the healthcare system in India is increasingly getting skewed towards the population that has the means to afford it. To analyze the nature of the health care sector, we can focus on the three major aspects i.e. accessibility, affordability and quality of the healthcare facilities. On all three fronts Indian health care system has had a mixed record. Accessibility to healthcare facilities is high in urban areas as compared to rural areas. The private sector does not find it viable to increase its penetration in rural areas given the low purchasing power whereas the public sector lacks resources, efficiency and enterprise associated with private sector. This is the reason why as per the NSS survey over 70% of both rural and urban people had to resort to private healthcare facilities despite higher costs associated with them.

Private sector healthcare is more costly as compared to public sector for the obvious reason of absence of state subsidy and the guiding motive of profit and hence scores poorly on the affordability parameter. Even if we go by the stringent parameters of Tendulkar methodology for measuring poverty, over 21% of Indians fail to earn enough to spend more than Rs. 33 per day. In such a situation it would be unrealistic and cruel on the part of state to expect the market driven sector to cater to health care needs of even the marginalized sections of the Indian society. That is why, 'Financial Restriction' was the major reason chosen by respondents in the latest NSS survey for not being able to utilize the healthcare facilities, both in rural as well as urban areas.

On the quality parameter as well the Indian healthcare system falls short. India spends less than 1.5% of its GDP on health which is lower than many of the Sub-Saharan countries with GDP much below India. In such a situation public sector healthcare facilities suffer from resource crunch and poor infrastructure as seen in public hospitals, unhygienic conditions, lack of availability of medicines at public dispensaries etc. Doctor to patient ratio in India is below the minimum benchmark given by WHO of 1:1000. Even the quality of doctors available is rendered questionable given the poor status of medical education in India. Medical Council of India (MCI), the institution responsible for overall supervision and regulation of medical education in India, has itself been mired in serious allegations of corruption, nepotism, fraud etc. Private medical colleges with no infrastructure and ghost faculty that exists only on paper are very much prevalent in a number of states. The poor state of medical education and

its governance can be gauged from the fact that honourable Supreme Court has had to intervene and ask the government for complete overhaul of MCI. In such a scenario the quality of healthcare, especially in public health facilities is indeed quite low. In private sector even though the quality of healthcare is relatively better, question marks are raised over the mushrooming of unregulated clinics and quacks practicing in semi-urban and rural areas.

Therefore, over all three parameters, Indian healthcare system fails to give satisfactory performance. This clearly affects the poor or the marginalized or the 'have-nots' section of the society more as those who can afford to spend on the expensive private health care and live in urban areas or nearby, do have access to good healthcare facilities. In fact medical tourism is an upcoming sector of the Indian economy as costs of the private Indian healthcare system are relatively lower when compared with the first world and without any compromise on quality. Hence it is the 'have-nots' that the government should prioritize its focus on for providing quality healthcare facilities on affordable rates.

The government has taken a number of steps to increase the accessibility and affordability of quality healthcare for the weaker sections of society. Infectious diseases which accounted for most of the disease burden 25 years ago have been substantially reduced through mass immunization and vaccination programs and use of other appropriate treatments. Huge strides have been taken in public health in India due to effectiveness of such quality programs. Small pox was eliminated in 2014 and India achieved polio-free status in 2014. Maternal and neo natal tetanus was eliminated by August 2015.

Even though massive vaccination programs in India have been successful, research says the immunization coverage has only been 65% again putting it out of reach of the ones who probably need it the most. With the introduction of new vaccines and programs like Mission Indradhanush, India rightly aims to increase the immunization coverage to 90% in next few years.

Tax deductions for research and development in the pharmaceutical industry and protective regime of favourable Intellectual Property (IP) laws have been instrumental in developing India as a major global player in the generic drugs industry. This has mainly helped in increasing access to low-cost lifesaving drugs to poor patients, not only in India but many other developing and least developed countries of Asia and Africa as well. However, government needs to continuously safeguard against attempts by strong pharmaceutical lobbies in first world countries to arm twist us into changing our successful and WTO compliant IP regime.

Another way to ensure better health facilities for the 'have-nots' is by increasing penetration of health insurance in our country. Rashtriya Swasthya Bima Yojana (RSBY) that



provides for cashless health insurance at authorized private hospitals for below poverty line families and unorganized sector is one such scheme. Similarly other state run health insurance schemes for central and state government employees, tax incentives announced in Budget 2015-16 related to health insurance etc. are also right steps in this direction. Such schemes if properly implemented can go a long way in bringing quality healthcare within reach for all.

However one side effect of these schemes has been the medical overuse crisis in India. A media report shows that between 2009 and 2015, number of surgeries conducted under government health welfare schemes has shot up remarkably. Surgeries like C-sections, hysterectomies and other emergency surgeries are being performed with abandon and without caring about their side effects on patients. This can potentially lead to a situation in India where the poor have access to complex surgeries but not to basic primary health care. Therefore while the government needs to increase oversight over implementation of its health welfare schemes, at the same time there needs to be a realization that health insurance schemes can only supplement a robust public health setup and not be a substitute for it.

Therefore good health is not only a fundamental right but also a necessity for India in order to augment its human resources capability to emerge as a developed nation.

Presently healthcare in India is lagging behind on accessibility, affordability as well as quality especially for the socio-economically marginalized sections of its society. India cannot merely rely on the private sector to provide healthcare to the 'have-nots' neither is merely relying on expanding penetration of health insurance a solution. India will need to learn from its own successes in public health intervention in the form of mass immunization programs and its success against a number of infectious diseases. If the poor are to be saved from the vicious circle of poverty and poor health feeding upon each other, focus needs to shift to preventive and curative treatments against non-communicable diseases in the public health sector. India needs to at least double its investment in public health facilities and in the overall health sector as a percentage of its GDP. The availability of medicines and doctors and accessibility to public health centers by opening up new hospitals in rural areas needs to be increased. Such investment will provide tremendous long term returns for India not only by increasing productivity of its workforce and hence that of the nation but also via savings in the healthcare expenses. Only with a world-class health setup that leaves no one behind, can India fulfil its constitutional obligation of ensuring Right to Life in a substantive manner as well as take a leap towards truly earning its place among the developed nations!

NATIONAL IDENTITY AND PATRIOTISM

A nation is formed by the set of people who inhabit a certain geographical landmass, are a part of a consolidated political unit, have shared rights and duties, follow a common legal system and so on. But more than all of this, a nation is an expression of people's ideas and aspirations. These ideas have originated, condensed, changed, evolved, lost and re-gained prominence over tens of centuries and so have the geographical boundaries and the political systems associated with them. These very ideas and aspirations of people are expressed in the various symbols and rituals which a nation chooses for itself as its motifs. The internalization of and identification with these symbols and rituals constitutes what is called as national identity at the level of political or even in day to day parlance. The respect, admiration and loyalty towards these symbols and rituals, which are in turn representation of the nation- its people, is what is called patriotism.

National identity, although a collective idea, yet can be read as the most important of the multiple identities an individual subscribes to in contemporary times. It has played an immense role in evolution of the social and the political world as it looks today. Meanwhile, patriotism has been the driving force in formation, articulation and assertion of the national identity. Therefore an essay on 'National Identity and Patriotism' becomes not only an exercise at comprehending

the wider meanings and ramifications of these terms but is also an attempt to look at the debates surrounding these terms in our history and present times. In this process, we have to look at the various theories regarding their origin, story of their growth and conflicting prophecies about their probable future in a globalised and technology driven world. As such this essay also offers a chance to meditate upon the lessons from history and possibilities for future from the perspective of the present.

National identity derives itself from the idea of Nation-State. Nation-State themselves have their own history. While there are various theories regarding the origins of Nation-States, it is generally agreed upon that the bases of the Modern Nation States were laid after the Treaty of Westphalia in 1648. It led to the formation of Classical Nation States of Northern and Western Europe. It also laid the foundation for the growth of Nationalism. This ultimately led to formation and consolidation of Second generation of Nation States such as Italy, Germany, and countries of Central and Eastern Europe. The process of decolonization in the aftermath of Second World War saw the emergence of third generation of nation-states in the African and Asian Continents. The process of the formation of Nation-States continued till the end of 20th century when several new nations emerged in the aftermath



of the decline and disintegration of USSR. The emergence of Kosovo in South-Eastern Europe and Southern Sudan in Africa highlight the fact that the process of Nation-Formation is still on, even in the 21st century.

The history of origin of National identity illustrates the importance of political events in the formation or emergence of modern nation-states. But that politics itself has been a derivative of interplay of diverse factors. National identity as such seems to be a superset of a combination of factors which include linguistic identities, regional loyalties, culture, religion and history.

Linguistic identities have been a feature of several demands of national self-determination. The wave of Nationalism in Europe in 18th and 19th century and the more recent struggle for and foundation of Bangladesh was largely based upon this very premise. One Nation-One Language was also mooted as the idea for the basis of national identity largely based upon the European experience. Similarly regional or ethnic identities have also acted as foundation of national identities. The disintegration of USSR into multiple nation states was seen as the culmination of the struggle for freedom of diverse groups that were ethnically diverse. The making and remaking of various African boundaries is also seen as the result of the assertion of ethnic identities as separate national identity.

Culture has also served as the bedrock of various nationalisms. The diversity of cultures has been seen as a challenge to the formation of a strong singular national identity. This line of argumentation also spilled over to religious identity as well. Religion was used as the basis for the two nation theory which led to the partition of United India into India and Pakistan. The modern state of Israel is also an example of the formation of National identity on the basis of an imagined coherence between Culture and Religion on one hand and Nation-State on the other.

All or any of these identities are given the form of National identity with the help of history. It is history of the Nation which gives legitimacy to national identity and assertion of sovereignty by that nation. Renan has even sarcastically remarked that 'Getting its history wrong is part of being a nation'. This is the reason all nations try to trace their history to a hoary past. Failure of being able to discover or forge one's history is seen as an existential question mark constantly lurking upon its national identity.

Benedict Anderson has famously theorized that 'Nation is an imagined community. It is imagined because the members of even the smallest nation will never know most of their fellow-members, meet them, or even hear of them, yet in the minds of each lives the image of their communion.... Communities are to be distinguished, not by their falsity/genuineness, but by the style in which they are imagined'.

Ultimately it is the width and depth of the imagination of this community which decides the course of a nation. A country like India, with multiple and diverse linguistic, religious and ethnic identities could claim to be a nation only because of the inclusiveness and tolerance that has been its hallmark since centuries.

When various groups feel assured that their identities would not be threatened, but will actually flourish in the idea or imagination of a nation, only then a diverse but united nation like India can sustain and grow. Only an inclusive imagination can breed patriots, since exclusivity breeds division, secession and war. As such Patriotism is not only a display of love and a deep sense of affection for one's country; it is also a feeling of pride. Rabindranath Tagore often used a term 'Deshabhimaan' as a synonym for this word in his works which aptly captures one of the dimensions of this word.

National identity and Patriotism gives a sense of belonging to an individual in the world. It helps a person feel the presence of an extended family around him. Naturally the actions guided by such a philosophy will lead to betterment of a society and progress of the country. It is sometimes wrongly assumed that patriotism is love for one's country at the cost of others. Actually such line of thinking stems from crude understanding of the idea of National Identity and Patriotism. India has a guiding philosophy of 'Vasudhaiva Kutumbakam' i.e. whole world is my family. Only such understanding of patriotism can bring peace and prosperity to the country as well as the world.

Apart from that, excessive pride in a national identity and display of Patriotism may acquire the form of 'ultra-nationalism' and jingoism. Ultra nationalism inevitably turns exclusionary in nature and hence leads not to the assertion but disintegration of national unity and ultimately identity. Similarly jingoism, by constantly falling back upon the idea of ultra-nationalism when faced with any issue or problem of past/present, vitiates the community atmosphere and starts imposing restrictions upon any free speech or dissent. Such extremism leads only to great destruction as exemplified several times in history by various totalitarian regimes such as those of Hitler and Mussolini. One should always keep in mind what Edward R. Murrow, an American journalist said in context of USA during one of the most volatile phases of Cold War. He said 'We must not confuse dissent with disloyalty. When the loyal opposition dies, I think the soul of the nation dies with it.'

The turn of 20th century was seen as a challenge to the age of Nations, as it has been popularly referred to in the parlance of social sciences, due to unhindered rise of globalization, emergence of multinational companies with their revenues several times the GDP of several countries, and the age of internet which connected the world more than ever before. There was also a faction of scholars that saw it



as approaching 'clash of civilizations' where multiple national or other identities are bound to engage in a clash, in order to emerge as the superior-most among all.

However, both prophecies can be seen to be missing the mark. The globalization has not only brought the world closer than ever, it has also sensitized people towards their own identities. It has taught the world to be more appreciative of the diversity of cultures, thoughts and nationalities. The demands for more apt representation from different parts of the world at United Nations and the recent reforms at International Monetary Fund (IMF) aimed at better representation of emerging nations at the international platform are two examples of the above phenomenon. Similarly, the increased contact between the various identities is not leading to any clash of civilizations but, in fact, has resulted in globally coordinated efforts to contain such clashes. Foundation of various international forums and signing of various trans-national treaties to engage with issues of security, energy and environmental concerns are cases in point. The visionary project of Inter-national Solar Alliance (ISA) launched by our Prime minister is an example of how multiple nations are coordinating in the contemporary globalised world to strike a balance between the global concerns of climate change and pressing national energy security concerns.

Towards conclusion, it can be said that National identity and patriotism are deeply humane terminologies. They represent the urge of the humankind to be a part of the collective and contribute meaningfully and loyally to it. Krishna says in Gita, that **there are multiple paths to the same truth**. Similarly, there may be more than one ways of not only subscribing to a national identity but also of displaying the patriotism towards one's country. One must always be ready and vigilant to defend one's national prestige but must not enforce one's own ideas and ideals of national identity and patriotism upon everyone else. The essence of National identity and patriotism, in a country like India, can be best summed up in the lines of the Ancient Philosopher Sun Tzu, who said

"There are not more than five musical notes, yet the combinations of these five give rise to more melodies than can ever be heard.

There are not more than five primary colours, yet in combination they produce more hues than can ever been seen.

There are not more than five cardinal tastes, yet combinations of them yield more flavours than can ever be tasted."

നാമകൃത നീങ്ങളെ തിരിച്ചറിയാൻ രേഖസരം

ഉപരിപഠനം ഇനി
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MODEL QUESTION PAPER-MCQ





Model MCQ – UPSC Prelims Model

Q1. Which of the following is the primary objective of the 'Kyoto Protocol' often seen in news?

- To reduce greenhouse gas emissions globally
- To promote the use of renewable energy sources worldwide
- To regulate the use of fossil fuels in developed countries
- To ensure the equitable distribution of energy resources

Q2. With reference to 'Central Ground Water Authority', consider the following statements.

- The authority operates under the Ministry of Jal Shakti and coordinates with state authorities to manage groundwater resources.
- The authority is created by the executive resolution of the Parliament.
- The authority has implemented water conservation measures and groundwater recharge projects.

How many of the above statement/s is/ are correct?

- Only One
- Only Two
- All the Three
- None of the above

Q3. Which of the following states became the first in India to integrate forest ecosystems into its Green GDP, emphasizing environmental sustainability in economic accounting?

- Kerala
- Chhattisgarh
- Odisha
- Madhya Pradesh

Q4. Consider the following statements regarding the Net Zero Banking Alliance (NZBA):

- The NZBA is a global coalition of banks committed to aligning their lending and investment portfolios with net-zero emissions by 2050.
- The alliance is led by the UN Environment Programme and aims to phase out all fossil fuel financing by 2030.
- Banks under NZBA pledge to set short-term and long-term emissions reduction targets, focusing on the energy and transportation sectors.
- The NZBA's actions are legally binding for member banks, and it provides financial penalties for non-compliance with net-zero goals.

Select the correct statements:

- 1 and 3 only
- 1, 2, and 3 only
- 2 and 4 only
- 1, 3, and 4 only

Q5. The "Global Risks Report" is annually released by which of the following organizations?

- United Nations Environment Programme (UNEP)
- World Economic Forum (WEF)
- International Monetary Fund (IMF)
- World Health Organization (WHO)

Q6. Consider the following statements regarding the Arctic Boreal Zone:

- The Arctic Boreal Zone is characterized by cold, dry climates and is mainly home to coniferous forests and tundra ecosystems.
- This zone is located in the southernmost parts of the Arctic Circle and extends into temperate regions of North America.
- The Arctic Boreal Zone plays a crucial role in regulating global climate by absorbing significant amounts of carbon dioxide.

How many of the above statement/s is/ are correct?

- Only One
- Only Two
- All the Three
- None of the above

Q7. Hollongapar Gibbon Wildlife Sanctuary is located in which state of India?

- Arunachal Pradesh
- Assam
- West Bengal
- Meghalaya

Q8. Which of the following statements correctly describes the concept of "Arribada" as seen in news?

- It refers to the phenomenon of massive migrations of sea turtles for mating, usually occurring in a specific region.
- It is the seasonal migration of birds to tropical forests, contributing to biodiversity and ecosystem stability.
- It is a term used for the synchronized spawning of marine fish in specific areas during specific seasons.
- It refers to the large-scale congregation of humpback whales for feeding purposes in colder ocean waters.

Q9. Consider the following statements regarding space docking:

- Space docking involves the physical joining of two spacecraft in orbit, allowing crew transfer and cargo delivery between them.
- The process of docking is limited to low Earth orbit and does not extend to deep space missions.
- Space docking is primarily used for satellite servicing,



but it has also enabled the construction of large space stations like the ISS.

4. Docking technology relies heavily on autonomous systems, requiring minimal human intervention for successful operation.

Which of the above statements are correct?

- a. 1, 3, and 4 only
- b. 1 and 2 only
- c. 3 and 4 only
- d. 1, 2, and 4 only

Q10. Which of the following statements correctly describes the role of the UN Committee on Big Data for Official Statistics?

- a. The UN Committee on Big Data for Official Statistics focuses on integrating big data for economic and financial reporting to national governments.
- b. The committee provides a platform for discussing the use of big data in statistical systems, enhancing data accuracy and transparency.
- c. The committee primarily aims to regulate the global use of big data in private sectors for commercial analysis and predictions.
- d. The committee develops strategies to limit the use of big data for public welfare projects, ensuring privacy and security concerns are prioritized.

Q11. Consider the following statements regarding graphene semiconductors:

1. Graphene semiconductors have gained attention due to their high electrical conductivity and potential to replace silicon in electronics.
2. Graphene's lack of a bandgap makes it unsuitable for high-speed switching applications in semiconductor devices.
3. The development of graphene semiconductors faces challenges related to the fabrication of large-scale, high-quality graphene sheets for device integration.

How many of the above statement/s is/ are correct?

- a. Only One
- b. Only Two
- c. All the Three
- d. None of the above

Q12. India's third launch pad, often seen in the news, is going to be established in which state?

- A. Tamil Nadu
- B. Kerala
- C. Assam
- D. Andhra Pradesh

Q13. Consider the following statements regarding Indian genomic data:

1. Indian genomic data is crucial for understanding genetic diversity and tailoring healthcare solutions to the country's population.
2. The National Genomic Data Centre of India is a major initiative that collaborates with international organizations for global genetic data sharing.

Identify the correct statement/s

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Q14. Which of the following statements correctly describes the VIKAS engine?

- a. The VIKAS engine is an advanced satellite propulsion system designed for use in long-duration space missions by ISRO.
- b. VIKAS engine is a liquid rocket engine used by ISRO for launching satellites and spacecraft into orbit.
- c. The VIKAS engine is a part of ISRO's Mars mission, specifically designed for interplanetary travel and exploration.
- d. The VIKAS engine is a hybrid rocket engine developed by ISRO to replace solid rocket boosters in satellite launches.

Q15. "QARTEMI," often seen in the news, is a living drug used to treat which disease?

- a. Tuberculosis
- b. Blood cancer
- c. Malaria
- d. Diabetes

Q16. Consider the following statements regarding the One Sun One World One Grid (OSOWOG) initiative:

1. It was put forward by India and launched as part of International Solar Alliance (ISA).
2. It is a trans-national electricity grid supplying solar power across the globe.
3. The first phase of the initiative aims to connect the Asian grid with the African grid.

Which of the statements given above is/are not correct?

- a. 1, 2 and 3 only
- b. 2 only
- c. 1 and 2 only
- d. 3 Only



Q17. Consider the following statements regarding the Scheduled Castes in India:

1. The President of India has the sole power to include or exclude any caste from the Scheduled Caste list without parliamentary approval.
2. The Constitution empowers the Parliament to modify the Scheduled Caste list through legislation.
3. The Scheduled Caste list is uniform across all states and Union Territories in India.

How many of the above statements are correct?

- a. Only one
- b. Only two
- c. All three
- d. None

Q18. Consider the following statements regarding the “doctrine of essentiality”:

1. It is a legal principle used by the Indian Judiciary to decide whether a particular religious practice is considered “essential” to a religion.
2. This doctrine was invented by a seven-judge Bench of the Supreme Court in the ‘Shirur Mutt’ case in 1954.

Which of the statements given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Q19. Consider the following countries:

1. Paraguay
2. Liechtenstein
3. Uzbekistan
4. Afghanistan
5. Bhutan
6. Kazakhstan

Which of the above are doubly landlocked countries?

- a. Only two
- b. Only three
- c. Only five
- d. All six

Q20. Consider the following statements in respect of “Padma Awards”:

1. These awards are titles under the Article 18 (1) of the Constitution of India.
2. Padma Awards, which were instituted in the year 1954, have never been suspended.
3. The number of Padma Awards is restricted to a maximum of five in a particular year in each category.

Which of the above statements are not correct?

- a. 1 and 2 only
- b. 2 and 3 only

- c. 1 and 3 only
- d. 1, 2 and 3

Q21. Consider the following pairs:

Types of Whips	Refers
1. One-line Whip	It just informs members about a vote but permits them to abstain.
2. Two-line Whip	It asks members to be present but does not tell them how to vote.
3. Three-line Whip	It directs members to be present and vote as per the party line.

How many pairs given above are correctly matched?

How many pairs given above are correctly matched?

- a. Only one pair
- b. Only two pairs
- c. All three pairs
- d. None

Q22. Consider the following pairs:

1. Global Lighthouse Network: Joint collaboration of World Economic Forum with the University of Cambridge to scale the use of technologies to augment, empower, and upskill the factory workforce.
2. People as the Future of Manufacturing: Encourages the adoption of advanced Fourth Industrial Revolution technologies in manufacturing.
3. Industry Net Zero Accelerator: Addresses the urgent need for companies to act on their commitments to achieving net-zero emissions due to climate change.
4. Circular Transformation of Industries: Focuses on driving systemic change in industries towards a circular economy.
5. Industrial Strategies for the Future of Supply Chains: Recognizes the need for a reassessment of global supply chain configurations driven by sustainability, resilience, talent, technology readiness, and changing customer demand.

Which among the above pair(s) is / are correctly matched?

- a. 1, 2, 3 and 5 only
- b. 2, 3, 4 and 5 only
- c. 3, 4 and 5 only
- d. All of the above

Q23. Which of the following can aid in furthering the Government’s objective of inclusive growth?

1. Promoting Self-Help Groups
2. Promoting Micro, Small, and Medium Enterprises
3. Implementing the Right to Education Act

Select the correct answer using the codes given below:



- a. 1 only
- b. 1 and 2 only
- c. 2 and 3 only
- d. 1, 2 and 3

Q24. With reference to the Farmer Producers' Organizations (FPOs), consider the following statements:

1. Pivotal role in promoting cluster-based farming, facilitating technology adoption, and helping farmers market their produce.
2. Voluntary organizations controlled by their farmer-members who actively participate in setting their policies and making decisions to improve their own socio-economic situation and that of their communities.
3. Leverage economies of scale in production and marketing to enhance productivity through efficient, cost-effective, and sustainable resource use for ensuring sustainable income-oriented farming.

Which among the above statement(s) is / are true?

- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2 and 3

Q25. The "Gujarat Declaration" released as the outcome of the first WHO Traditional Medicine Global Summit 2023

- a. emphasise the global commitment to fight cervical cancer.
- b. emphasise the global commitment to harnessing the potential of traditional medicine for the betterment of health and well-being worldwide
- c. emphasise the global commitment to fight against Anti-microbial resistance
- d. None of the above

Q26. The Union Ministry for Education and Skill Development & Entrepreneurship launched the Malaviya Mission - Teachers Training Programme (under the University Grants Commission (UGC))

1. The Malaviya Mission aims to provide tailored training programs for teachers and enhance the quality of education at Primary Educational Institutions (PEIs).
2. The program will capacitate 15 lakh teachers across India through 111 Malaviya Mission centres, formerly known as Human Resource Development Centres (HRDCs).
3. The Malaviya Mission seeks to make educators future-ready, improve training quality, build leadership skills, and align with the goals of the National Education Policy (NEP).

Which among the above statement(s) regarding the Malaviya Mission is /are true?

- a. 1 and 2 only
- b. 1 and 3 only

- c. 2 and 3 only
- d. 1, 2 and 3

Q27. Following is a reference: A proposed sea route between Chennai, India, and Vladivostok, Russia, passing through the Sea of Japan, the South China Sea, and the Malacca Strait, expected to shorten the transportation time by up to 16 days, making it more efficient. Which among the following?

- a. India Middle East Corridor
- b. Eastern Maritime Corridor (EMC)
- c. Belt and Road Initiative
- d. International North South Trade Corridor

Q28. The Supreme Court of India constituted the Justice Gita Mittal committee

- a. to conduct investigation into price manipulations by Adani Enterprises.
- b. to recommend guidelines for sub-categorisation of OBCs.
- c. to monitor relief and rehabilitation efforts in Manipur.
- d. None of the above

Q29. With reference to the Pension Fund Regulatory and Development Authority (PFRDA), consider the following statements:

1. Atal Pension Yojana (APY) is a contributory scheme aimed at establishing a universal social security system for workers in the organised sector.
2. Subscribers aged 18 to 40 contribute and receive a fixed pension amount ranging from ₹ 1,000 to ₹ 5,000 after reaching 60.
3. The Pension Fund Regulatory and Development Authority (PFRDA) is a statutory body that regulates India's pension sector.

Which among the above statement(s) is / are true?

- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2 and 3

Q30. With reference to the Incremental Cash Reserve Ratio (I-CRR), consider the following statements:

1. Forced surrender of ₹ 2,000 banknotes following demonetisation.
2. Moderation in public expenditures.
3. Increase in capital inflows.

Which among the above scenario would likely lead the Reserve Bank of India (RBI) to announce the discontinuation of the incremental cash reserve ratio (I-CRR) in a phased manner?

- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only



d. 1, 2 and 3

Q31. With reference to the “Global Biofuels Alliance”, consider the following statements:

1. Accelerate the transition to sustainable biofuels.
2. Reduce the world’s dependency on traditional fossil fuels.
3. Promote a circular economy.
4. Enhance market for biofuels.
5. Provide technical assistance to national biofuel programs.

Which among the above is / are objectives of the Global Biofuels Alliance?

- a. 1, 3 and 4 only
- b. 1, 2, 4 and 5 only
- c. 2, 3 and 4 only
- d. All of the above

Q32. India has formally requested the acquisition of 31 MQ-9B Reaper or Predator-B drones from the United States.

With reference to the ‘MQ-9B Predator Drones’, consider the following statements:

1. Intelligence collection
2. Surveillance and reconnaissance missions.
3. Transportation of troops and light armoured vehicles.

Which among the above is / are applications of the MQ-9B Reaper or Predator-B drones?

- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2 and 3

Q33. With reference to the Shyamji Krishna Varma, consider the following statements:

1. Indian Home Rule Society
2. India House
3. The Indian Sociologist
4. Bombay Arya Samaj

Which among the above organisation(s) are founded by the Shyamji Krishna Varma?

- a. 1, 2 and 3 only
- b. 1, 3 and 4 only
- c. 2, 3 and 4 only
- d. All of the above

Q34. Union Home Minister and Minister of Cooperation inaugurated India’s 1st IFFCO’s Nano DAP (Liquid) plant in Kalol (Gandhinagar), Gujarat. With reference to the Nano DAP and Nano Urea, consider the following statements:

1. Increased Surface Area
2. Improved Solubility
3. Targeted Delivery
4. Reduced Leaching
5. Enhanced Nutrient Uptake

Which among the above is / are objectives of the Nano DAP and Nano Urea?

- a. 1, 2, 3 and 4 only
- b. 1, 3, 4 and 5 only
- c. 2, 3 and 4 only
- d. All of the above

Q35. With reference to the International Energy Agency (IEA), consider the following statements:

1. The International Energy Agency (IEA) was founded in 1974 as an autonomous intergovernmental organisation to ensure the security of oil supplies.
2. India is a member of International Energy Agency (IEA).
3. The International Energy Agency (IEA) publishes World Energy Outlook every year.

Which among the above statement(s) is / are true?

- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2 and 3

Q36. With reference to the Green Energy Corridor (GEC), consider the following statements:

1. Synchronise renewable energy (wind and solar) with conventional power sources
2. Enhance India’s long-term energy security
3. Promote eco-friendly growth by reducing the carbon footprint
4. Create employment opportunities for both skilled and unskilled workers

Which among the above statement(s) is / are true?

- a. 1, 2 and 3 only
- b. 1, 3 and 4 only
- c. 2, 3 and 4 only
- d. All of the above

Q37. Consider the following:

1. Varanasi
2. Srinagar
3. Hyderabad
4. Jaipur
5. Chennai
6. Kozhikode
7. Gwalior

Which among the above is / are part of UNESCO Creative Cities Network?

- a. 1, 2, 3 and 4 only
- b. 1, 5 and 7 only
- c. 3, 4, 5 and 6 only
- d. 2, 4, 5, 6 and 7



Q38. The Houthi rebels hijacked the India-bound cargo ship Galaxy Leader in the Red Sea. With reference to the Houthis, consider the following statements:

1. Houthi rebels are a Sunni Muslim insurgent group based in Yemen.
2. Houthis are part of the Islamic Military Alliance led by Saudi Arabia.

Which among the above statement(s) is / are true?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Q39. The Election Commission of India (ECI) is a constitutional body established by the Constitution of India to conduct and regulate elections in the country. With reference to the Election Commission of India (ECI), consider the following statements:

1. Advises in the matter of post-election disqualification of sitting members of Parliament and State Legislatures
2. Resolves the disputes relating to splits/mergers of recognized political parties
3. Implements the Code of Conduct and punishes any candidate or party that violates it
4. Disqualification of legislative members on grounds of political defection.

Which among the above statement(s) is / are true?

- a. 1, 2 and 3 only
- b. 1, 3 and 4 only
- c. 2, 3 and 4 only
- d. 1, 2, 3 and 4

Q40. With reference to the Electoral Trusts (ET) Scheme, consider the following statements:

1. The Electoral Trusts (ET) Scheme allows companies registered under Section 25 of the Companies Act, 1956, and individuals or entities residing in India to contribute towards Electoral Trusts.
2. The Electoral Trusts needs to contribute at least 95 % of contributions received in a financial year must be donated to political parties registered under the Representation of the People Act, 1951.
3. The Electoral Trusts are not required to report contributors and beneficiaries to the Election Commission of India.

Which among the above statement(s) is / are true?







- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2 and 3

Q41. With reference to 'Sea Buckthorn', consider the following statements:

1. Approximately, 90 % of sea buckthorns are produced along the coastlines of Lakshadweep.
2. Sea Buckthorn produces an orange-yellow coloured edible berry.
3. Sea Buckthorn has many ecological, medicinal and economic benefits.

Which among the above statement(s) is / are true?

- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2 and 3

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OCTOBER 2024**



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Head Office: M4 - Houz New Delhi - 16
Registered Office : Mercy Estate 4th Floor,
Ravipuram, Pin - 682 015



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