CURRENT AFFAIRS

PARIS 2024

WAQF BOARD

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CURRENT EVENTS OF NATIONAL IMPORTANCE

WAQF (AMENDMENT) BILL, 2024

The government on Thursday referred the Waqf (Amendment) Bill, 2024, to a Joint Committee of Parliament. The tabling of the Bill by Union Minister of Minority Affairs Kiren Rijiju was met with strong criticism from the Opposition parties who said the proposed law was "unconstitutional", "anti-minority", and "divisive".

THE EXISTING ACT:

The Bill seeks to amend the 1995 Waqf Act, and proposes sweeping changes to how Waqfs are governed and regulated.

WHAT IS A WAQF PROPERTY?

A Waqf is personal property given by Muslims for a specific purpose —

- Religious
- Charitable or
- For private purposes.

WHO WILL BE THE OWNER OF THE DONATED PROPERTY?

While the beneficiaries of the property can be different, the ownership of the property is implied to be with God.

HOW CAN A WAQF BE DECLARED?

A Waqf can be formed through a deed or instrument or orally, or a property can be deemed to be Waqf if it has been used for religious or charitable purposes for a long period of time.

CAN A WAQF PROPERTY BE REVERSED?

Once a property is declared as Waqf, its character changes forever, and **cannot be reversed.**

THE PAST & EXISTING LAWS WRT WAQF PROPERTY

Waqf properties in India are governed by the Waqf Act, 1995.

PAST LAWS:

- Muslim Waqf Validating Act, 1913
- The Mussalman Wakf Act, 1923.
- After Independence, the Central Waqf Act, 1954, was enacted.

EARLIER AMENDMENTS IN WAQF ACT, 1995:

In 2013, the law was amended to prescribe imprisonment of up to two years for encroachment on Waqf property, and to explicitly prohibit the sale, gift, exchange, mortgage, or transfer of Waqf property.

OTHER PROVISIONS OF THE WAQF LAW

- The Waqf law provides for the appointment of a survey commissioner who maintains a list of all Waqf properties by making local investigations, summoning witnesses, and requisitioning public documents.
- A Waqf property is managed by a mutawalli (caretaker), who acts as a superviser.
  Waqf properties are managed in a way that is similar to how properties under Trusts are managed under the Indian Trusts Act, 1882.
- The Wakf Act states that any dispute related to Waqf properties will be decided by a Waqf Tribunal. The Tribunal is constituted by the state government, comprises three members
  o A chairperson who is a state judicial officer not below the rank of a District, Sessions or Civil Judge, Class I;
  o An officer from the state civil services; and
  o A person with knowledge of Muslim law and jurisprudence.
- The law also has provisions for the constitution and appointment of Waqf Boards, Waqf Councils, Chief Executive Officers for Waqf Boards in the states.
  o The CEOs and parliamentarians who are part of the Waqf Boards must be from the Muslim community.

WHAT ARE THE FUNCTIONS OF THE WAQF BOARD?

- A Waqf Board is a body under the state government, which works as a custodian for Waqf properties across the state.

ARE THERE SEPARATE WAQF BOARDS FOR SHIA & SUNNI MUSLIMS?

In most states, there are separate Waqf Boards for the Shia and Sunni communities.

Almost all prominent mosques in the country are Waqf properties and are under the Waqf Board of the state.

WHAT IS THE COMPOSITION OF A WAQF BOARD?

A Waqf Board is having the following composition :

- Headed by a chairperson.
- One or two nominees from the state government,
- Muslim legislators and parliamentarians
- Muslim members of the state Bar Council.
- Recognised scholars of Islamic theology, and
- Mutawallis of Waqfs with an annual income of Rs 1 lakh and above.

POWERS OF A WAQF BOARD:

A Waqf Board has powers under the law to administer the property and take measures for the recovery of lost properties of any Waqf, and to sanction any transfer of immovable property of a Waqf by way of sale, gift, mortgage, exchange, or lease. However, the sanction shall not be given unless at least two thirds of the members of the Waqf Board vote in favour of such a transaction.

THE PROPOSED CHANGES

The Bill seeks to substantially alter the existing framework of Waqf law. The proposed amendment shifts the power of governing Waqfs from the Boards and Tribunals, which are largely run by the Muslim community, to the state governments.

THE CHANGES:

- The Bill seeks to change the name of the parent Act from the Waqf Act, 1995, to the Unified Waqf Management, Empowerment, Efficiency and Development Act, 1995.
- The proposed Bill would also give the central government the power to "direct the audit of any Waqf at any time by an auditor appointed by the Comptroller and Auditor-General of India, or by any officer designated by the Central Government for that purpose".
- It seeks to introduce three new provisions in the Act:
  - o Section 3A, which states that no person shall create a Waqf unless he is the lawful owner of the property and competent to transfer or dedicate such property. This provision appears to address the assumption that land that does not belong to an individual is not given as Waqf.
  - o Section 3C(1), which states that "government property identified or declared as Waqf property, before or after the commencement of this Act, shall not be deemed to be a Waqf property".
  - o Section 3C(2), which empowers the government to decide if a property given as Waqf is government land. "If any question arises as to whether any such property is a Government property, the same shall be referred to the Collector having jurisdiction who shall make such inquiry as he deems fit, and determine whether such property is a Government property or not and submit his report to the State Government,"

This provision essentially means that the Collector — and not the Waqf Tribunal — will make this determination in case of a dispute. The proposed clause also states that such property "shall not be treated as Waqf property till the Collector submits his report".

- The Bill also redefines how a property is deemed to be in the possession of Waqf. as it seeks to remove the concept of "Waqf by use".
  - o Under the 1995 law, a property by continuous and uninterrupted use by Muslims for religious purposes is "deemed" to be a Waqf property.
    - * This means that a property can be deemed to be a Waqf through use even if the original declaration is suspect. Several mosques and graveyards could fall in this category.
  - o The proposed Bill, by omitting the provisions relating to "Waqf by use," makes a Waqf property suspect in the absence of a valid Waqf Nama.
- The Bill proposes to change the composition of Waqf Boards in states. It proposes to allow even a non-Muslim CEO, and gives the power to the state government to have at least two non-Muslim members to the state Waqf Boards.

JUSTICE HEMA COMMITTEE REPORT

The Kerala High Court on Thursday (August 22) ordered the state to place before it in a sealed cover the entire Hema Committee report, including sections redacted for confidentiality. This order comes while the court considers a Public Interest Litigation (PIL) demanding the initiation of criminal proceedings against the offenders named in the report.

The Justice Hema Committee report was released by the Kerala government on August 19, (4.5 years after it was submitted to the Chief Minister.)

The 233-page document provides a damning indictment of the discrimination and exploitation faced by women in the Malayalam film industry.

THE BACKGROUND

- On February 17, 2017, a leading Malayalam film actress was abducted and sexually assaulted in her car by a group of men. A prominent actor would later be implicated in the case which sparked outrage across Kerala, and brought under the scanner the discriminatory treatment faced by women in the Malayalam film industry.
- The Women in Cinema Collective (WCC), comprising women actors, producers, directors and technicians, was formed in response to this incident.

- On May 18, 2017 the WCC submitted a petition to the Kerala Chief Minister demanding an inquiry into the incident, and larger gender issues plaguing the state's film industry.

- In July, the state government formed a three-member committee headed by Justice K Hema, a retired Kerala High Court judge, to look into issues of sexual harassment and pervasive gender inequality in the Malayalam film industry.

WHAT DOES THE REPORT SAY?

- A culture of sexual harassment pervades the Malayalam film industry.
  - he Committee reported the existence of casting couch (wherein powerful men demand sexual favours from women in return for opportunities in films), frequent suggestive and vulgar comments made by men at the workplace, and drunk male co-actors forcing themselves into rooms of women, among other things.

- A fear of retribution prevents sexual harassment from being reported.
  - Justice Hema writes in the report: "Many who were examined before the committee were afraid to reveal things which they experienced… we realised that their fear is well-founded."
  - Beyond direct retribution, the report also mentions the fear of cyber harassment, especially from toxic fan clubs, as a means by which women are forced into silence.

- An all-male "mafia" of influential actors and producers calls the shots across the industry, and wields their power with impunity.
  - "No man nor woman dare to utter any word which may offend anyone belonging to the power group, because such a person will be wiped off the industry by the powerful lobby," the report says.

- A male-dominated industry has failed to offer even basic facilities to women, including the lack of toilets and changing rooms on sets.
  - The report says that women staff on film sets continue to remain at the mercy of open spaces or shared bathrooms to relieve themselves, often risking UTIs and hospital admission.

- Lack of gender parity with respect to remuneration is primarily due to the absence of written contracts.

LATERAL ENTRY

- The Union Public Service Commission (UPSC) on Saturday (August 17) issued an advertisement seeking applications for "talented and motivated Indian nationals for Lateral Recruitment" to the posts of Joint Secretary, Director, and Deputy Secretary in 24 ministries of the Union government.

CRITICISM:

Congress party chief Mallikarjun Kharge, Bahujan Samaj Party supremo Mayawati, and Samajwadi Party's Akhilesh Yadav, have criticised the policy for not having reservations for Scheduled Caste (SC), Scheduled Tribe (ST), and Other Backward Classes (OBC) candidates.

HOW MANY POSTS & WHO CAN APPLY?

A total of 45 posts have been advertised with individuals having appropriate qualifications and experience from State/UT governments, PSUs, statutory organisations, research institutes and universities, and even the private sector eligible to apply.

The advertisement mentions that all posts are "suitable for candidates belonging to the category of Persons with Benchmark Disability (PwBD)."

WHO ARE LATERAL ENTRANTS?

In 2017, NITI Aayog, in its three-year Action Agenda, and the Sectoral Group of Secretaries (SGoS) on Governance in its report submitted in February, recommended the induction of personnel at middle and senior management levels in the central government.

These 'lateral entrants' would be part of the central secretariat which, till then, had only career bureaucrats from the All India Services/ Central Civil Services.

They would be given contracts of three years, extendable to a total term of five years.

POSITIONS OPEN FOR LATERAL ENTRY

The first vacancies for lateral entrants were advertised in 2018, but only for Joint Secretary level positions. Posts of the rank of Director and Deputy Secretary were opened later.

A Joint Secretary, appointed by the Appointments Committee of the Cabinet (ACC), has the third-highest rank (after Secretary and Additional Secretary) in a Department, and functions as the administrative head of a wing in the Department. Directors are one rank below Joint Secretaries, and Deputy Secretaries are one rank below Directors, although in most ministries, they perform the same job. While Director/Deputy Secretaries are considered middle-level officials in a department, the Joint Secretary-level is where the decision-making starts.

HIERARCHY ➡
- Secretary
- Additional Secretary
- Joint Secretary
- Director
- Deputy Secretary
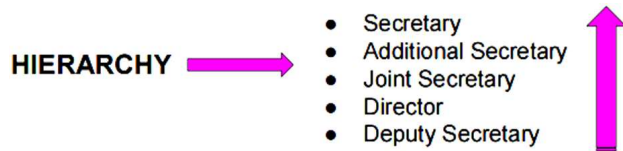
WHY LATERAL ENTRY WAS INTRODUCED?

- **Need for Specialized Knowledge:** Governance is becoming more and more complex requiring specialized skills. For example, increasing penetration of data dominance in our lives.
  - o Generalist officers cannot be always expected to be up-to-date with specialized knowledge.
  - o Therefore, people with expertise and specialist domain knowledge are required to navigate the complex needs of present-day administrative challenges.
- **Filling The Gap:** According to Department of Personnel and Training data, there is a shortage of about 1500 IAS officers. Lateral entry can help bridge this deficit.
- **Bringing a Change in Work Culture:** It will help in bringing change in bureaucratic culture in Government sector culture. This bureaucratic culture is criticized for red-tapism, rule-book bureaucracy, and status-quoist.
- Lateral Entry helps in bringing the values of economy, efficiency, and effectiveness in the Government sector. It will help in building a culture of performance within the Government sector.
- **Participatory Governance:** Presently, governance is becoming a more participatory and multi-actor endeavor. In this context, the lateral entry provides stakeholders such as the private sector and non-profits an opportunity to participate in the governance process.

CRITICISMS OF LATERAL ENTRY

- **Outsourcing Expertise:** There is a difference between bringing expertise and being part of the decision-making process.

  For bringing expertise, the government doesn't strictly need to hire private-sector personnel. Expertise is widely available and used by almost every ministry — expert committees, consultations, think tank engagements, etc.
- **Cumbersome Decision-Making Process:** The success of lateral entry requires an understanding of the system and an ability to work with the "permanent" establishment. No training or orientation is provided for this.

  By the time networks are built, it is time to move on. On past evidence, the lateral entrants who made the biggest impact are those who served in the system for a length of time and at different levels

- **Profit Motive vs. Public Service:** Private sector approach is profit-oriented on the other hand motive of the Government is public service. This is also a fundamental transition that a private sector person has to make while working in government.
- **Conflict of Interest:** Hiring of the private sector into administrative positions raises issues of potential conflict of interest. This issue requires a stringent code of conduct for entrants from private sectors to ensure conflict of interest is not detrimental to the public good.
- **Out of the ambit of Reservation:** Lateral entries have been criticised on the grounds that there are no quotas for SC, ST and OBC candidates in such recruitment.

WHY HAVE THE LATERAL ENTRIES BEEN KEPT OUT OF THE AMBIT OF RESERVATION?

Reservation in public jobs and universities is implemented via what is known as the "13-point roster". According to this policy, a candidate's position on a roster of openings is determined by dividing the quota percentage of their group (SC, ST, OBC, and now EWS) by a hundred.

For example, the OBC quota is 27%. Therefore, OBC candidates are recruited to every 4th post for which a vacancy arises in a department/cadre (100/27=3.7). Likewise, SC candidates, with 15% reservation, are supposed to fill every 7th vacancy (100/15=6.66), ST candidates, with 7.5% reservation, are supposed to fill every 14th vacancy (100/7.5=13.33), and EWS candidates, with 10% reservation, are supposed to fill every 10th vacancy (100/10=10).

According to this formula, however, there is no reservation for up to three vacancies. Files obtained from the DoPT by The Indian Express under the RTI Act state that "In a single post cadre, reservation does not apply. Since each post to be filled under this scheme [lateral entry] is a Single Post, reservation is not applicable".

THE CURRENT SCENARIO

In the current round of recruitment, the UPSC has advertised 45 openings. If these were to be considered as a single group, according to the 13-point roster, six vacancies would be reserved for SC candidates, three for ST candidates, 12 for OBC candidates, and four for the EWS category.

But since these vacancies have been advertised separately for each department, all of them are effectively single-post vacancies, and hence bypass the policy of reservations.

☐☐☐

CURRENT EVENTS OF INTERNATIONAL IMPORTANCE

CHINA'S PERFORMANCE IN OLYMPICS

The United States led the table with 126 medals while China equaled the US in gold medals, with each country winning 40.

MEDAL TABLE	G	S	B	TOTAL
1 United States	40	44	42	126
2 China	40	27	24	91
3 Japan	20	12	13	45
4 Australia	18	19	16	53
5 France	16	26	22	64
7 Great Britain	14	22	29	65

HISTORY OF CHINESE IN THE OLYMPICS

- For a long time, the People's Republic of China (PRC) did not compete in the Olympics as it opposed the International Olympic Committee's (IOC) recognition of the Republic of China (Taiwan).
- Most Western, non-communist countries recognised Taiwan as the official representative of China in international arenas then, including the United Nations.
- In 1979, the same year China established diplomatic ties with the US and ended its recognition of Taiwan, a pact was signed so that both China and Taiwan could compete at the Games.
- The PRC's first Summer Olympics was the 1984 Los Angeles Olympics, where it won 32 medals and 15 of them were gold.
  - o Since then, China has been among the top-performing countries at the Olympics.

Its success has been the result of deliberate policies. For the ruling Communist Party too, the event has been seen as key to its global perceptions.

HOW CHINA DEVELOPED WORLD CLASS ATHLETES?

- China began competing in the Olympics at a time when its economy was undergoing a monumental shift.
  - o In 1978, under President Deng Xiaoping, its economy was opened to the world.
  - o Before this, large sections of the population struggled with poverty, particularly in non-coastal and rural areas.
- At an early age, children were encouraged to enroll in sports like gymnastics and table tennis at specialised training institutions.
- For parents from poorer and rural backgrounds, these centres were attractive options as they provided food and other necessities.
- While the rigorous training produced results and medals, the pressure on athletes to win "for the country" took its toll on many.
  - o There were also cases of state-sanctioned doping.
  - o The small odds of success as a professional athlete meant that children, who spent their youth engaged in sports rather than school, often struggled to find alternative career opportunities later in life.

India and Vietnam Strengthen Strategic Partnership with New Action Plan

Key Points:

Bilateral Meeting and Action Plan:

- Indian Prime Minister Narendra Modi and Vietnamese Prime Minister Pham Minh Chinh met in New Delhi.
- They adopted a new plan of action to enhance and implement the bilateral 'comprehensive strategic partnership' over the next five years (2024-2028).

Areas of Cooperation and MoUs Signed:

- Six MoUs were signed covering areas such as:
  - o Agricultural research
  - o Customs capacity building
  - o Law and justice
  - o Radio & television
  - o Traditional medicines

- India agreed to extend two credit lines to Vietnam, totaling $300 million.

Trade and Economic Relations:
- Over the last decade, two-way trade increased by 85%.
- Vietnam proposed an annual bilateral trade target of $20 billion, up from the current $14.8 billion.
- Both nations agreed on the need for an early conclusion of the ASEAN-India Trade in Goods Agreement review to reach their bilateral trade potential.

Defence and Security:
- An Army Software Park was inaugurated in Nayachang, Vietnam.
- A $300 million credit line agreement was reached to bolster Vietnam's military security.
- Both nations committed to focusing on combating terrorism and enhancing cyber security.

Digital Payment Connectivity:
- The central banks of both countries agreed to establish digital payment connectivity.
- This initiative supports both nations' adoption of digital payments and Vietnam's commitment to cross-border payment connectivity with other ASEAN countries.

Indo-Pacific Cooperation:
- Both sides reaffirmed their commitment to a free, open, rules-based, and prosperous Indo-Pacific.
- PM Modi highlighted that India and Vietnam support development, not expansionism, indirectly addressing China's growing influence in the region.

India's Act East Policy and Indo-Pacific Vision:
- Vietnam is a critical partner for India in its Act East Policy and Indo-Pacific vision.
- Strengthening this strategic partnership is significant for both countries and the broader region.

Implications:
- Enhanced bilateral trade and economic cooperation between India and Vietnam.
- Strengthened defence and security ties, including efforts to combat terrorism and cyber threats.
- Greater digital payment connectivity, promoting financial inclusion and trade facilitation.
- Reinforced commitment to a free and open Indo-Pacific, balancing China's growing influence in the region.
- Progress in India's Act East Policy and Indo-Pacific vision, with Vietnam as a key partner.

Key Facts About Vietnam:
Geography and Wildlife:
- **Capital**: Hanoi
- **Official Language**: Vietnamese
- **Major Mountain Range**: Annam Cordillera
- **Major Rivers**: Mekong River (south) and Red River (north), which form fertile deltas supporting much of the population and agriculture.
- **Notable Wildlife**: Giant catfish, Indochinese tigers, Saola antelopes, and Sumatran rhinos.

Environment:
- Deforestation has reduced forest cover to about 19%.
- Government replanting efforts are underway to restore woodlands.

Government Structure:
- **Socialist state** governed by the Communist Party of Vietnam.
- A president serves as the head of state, while a prime minister runs the government.

Economy:
- **Main exports**: Crude oil, seafood, rice, shoes, wooden products, machinery, electronics, coffee, and clothing.

India-Vietnam Relations
Historical Ties and Diplomatic Relations:
- India and Vietnam share a Comprehensive Strategic Partnership.
- Historical ties date back to the independence struggles of both countries, with exchanges between Mahatma Gandhi and President Ho Chi Minh.
- Diplomatic relations were established in 1972 and elevated to a Comprehensive Strategic Partnership in 2016.
- The development of relations is guided by a "Joint Vision for Peace, Prosperity and People" adopted in 2020.
- In 2022, both countries celebrated the 50th anniversary of diplomatic relations.

Institutional Mechanisms:
- The 18th Joint Commission Meeting (JCM) on Economic, Trade, Scientific, and Technological Cooperation was held on 16th October 2023 in Hanoi.
- Regular meetings, Foreign Office Consultations, and Strategic Dialogues at the Secretary-level help review bilateral cooperation.

Trade, Economic, and Development Cooperation:

- **Trade Statistics (April 2023 to March 2024)**: USD 14.82 billion (India's exports: USD 5.47 billion, Imports: USD 9.35 billion).
- The ASEAN-India Trade in Goods Agreement (2009) provides a preferential trade regime and is under review.
- **Key Exports to Vietnam**: Engineering goods, agricultural products, chemicals, pharmaceuticals, electronic goods, minerals, textiles, and plastics.
- **Key Imports from Vietnam**: Computer and electronic goods, mobile phones, machinery, steel, chemicals, footwear, garments, and wooden products.
- Indian investments in Vietnam: Around USD 2 billion in sectors like energy, mineral processing, agro-processing, IT, auto components, pharmaceuticals, hospitality, and infrastructure.
- Vietnamese investments in India: About USD 28.55 million in consumer goods, electronics, construction, IT, and pharmaceuticals.

Development Partnership:

- Under the Mekong-Ganga Cooperation framework, India has completed about 45 Quick Impact Projects in over 35 provinces of Vietnam, with another 10 projects underway.
- The Mekong-Ganga Cooperation (MGC), established in 2000, includes six member countries and focuses on tourism, culture, education, IT, telecommunications, and transport.
- India supported the conservation and restoration of the UNESCO World Heritage site of 'My Son' in Quang Nam Province, Central Vietnam.

Defence Cooperation:

- Strong defence and security cooperation is based on a 2009 MoU on Defence Cooperation and a 2015 Joint Vision on Defence Cooperation.
- In 2022, both countries signed a new "Joint Vision Statement on India-Vietnam Defence Partnership towards 2030" and a "Memorandum of Understanding on Mutual Logistics Support".
- In 2023, Vietnam was gifted an indigenously built missile corvette INS Kirpan.
- Bilateral military-to-military cooperation includes staff talks, exercises, training, visits, and exchanges such as the VINBAX-2023 Military Exercise and Vietnam's participation in the MILAN international maritime exercise in India (February 2024).

Cultural Exchanges:

- MoUs between Indian and Vietnamese institutions promote academic and cultural exchanges.
- Events like the Northeast India Festival in Ho Chi Minh City enhance bilateral cultural ties.
- Buddhist links and the popularity of yoga in Vietnam reflect ancient civilisational connections.
- The Swami Vivekananda Indian Cultural Centre in Hanoi fosters understanding of India through various cultural programs and activities.

Implications:

- Strong and enduring historical ties and diplomatic relations between India and Vietnam.
- Robust trade and economic cooperation, with a focus on key sectors and development partnerships.
- Deepening defence and security cooperation, including joint exercises and military exchanges.
- Rich cultural exchanges and people-to-people contacts, strengthening the bilateral relationship.
- Shared commitment to a peaceful, prosperous, and rules-based regional order.

INDIA JAPAN 2+2 MINISTERIAL DIALOGUE

The third India-Japan 2+2 ministerial meeting was conducted in New Delhi.

WHAT IS 2+2 MINISTERIAL MEETING?

Two ministers on behalf of India ie Defence & EAM meet their counterparts from the other country. (in this case, Japan)

Minoru Kihara; Kamikawa Yoko; Rajnath Singh; S. Jaishankar
(Def Min)   (EAM)   (Def Min)   (EAM)

The India-Japan 2+2 ministerial meeting was held after a gap of nearly two years, with the last edition held in Tokyo on 8 September 2022.

DOES INDIA HAVE SUCH A DIALOGUE MECHANISM WITH JAPAN ONLY?

India has a 2+2 ministerial level dialogue with the following countries:

- USA
- Japan
- Australia
- Russia

India also has a 2+2 official level dialogue with The UK. (Foreign & Defence Secretaries of the India & UK meet)

WHAT WAS DISCUSSED?

- **QUAD & Indo Pacific:**

Quadrilateral Security Dialogue QUAD - India, US, Australia, Japan
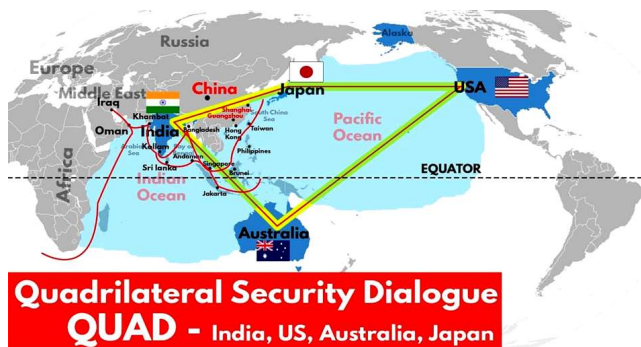
- o In a joint statement Tuesday, both countries reaffirmed their commitment to advancing the Quad, a month after foreign ministers of the grouping met in Tokyo.
- o In the joint statement, the ministers highlighted their common strategic vision towards a free and open Indo-Pacific.
- o They reaffirmed the importance of multilateral defence cooperation and exchanges in the Indo-Pacific region

Space & Cyber Cooperation

- **Root out Terror Safe Havens:**
  - o In the joint statement, the two counties "unequivocally" condemned terrorism. The statement also called for bringing the perpetrators of 26/11 Mumbai terror attack, Pathankot, and other attacks "to justice".
  - o It also called for concerted actions against all UN-listed terrorist groups including Al Qaeda, ISIS/Daesh, Lashkar-e-Tayyiba (LeT), Jaish-e-Mohammad (JeM) and their proxy groups.
  - o The statement also underlined the need to "root out terrorists' safe havens, eliminate terrorist financing channels, and halt cross-border movement of terrorists".
- **Unicorn:**
  - o Japan's 'Unicorn' (Unified Complex Radio Antenna) naval communication antenna were also discussed during the 2+2 ministerial meeting Tuesday.

- o It will accelerate the discussions on the transfer of 'Unicorn', the cutting-edge naval communication antennas for warships. Its ability to integrate multiple antennas is said to enhance a warship's stealth capabilities.
- **Exercise Veer Guardian:**
  - o During the talks, Kihara cited Japan and India's first joint fighter jet exercise as a step in the right direction, according to Yosuke. In January last year, the Japan Air Self Defence Force (JASDF) and Indian Air Force (IAF) held their maiden bilateral air exercise 'Veer Guardian 2023'.

India-Australia RISE Accelerator : Call for Climate Smart Agritech Start-ups and MSMEs

Overview The Atal Innovation Mission (AIM), in partnership with CSIRO Australia, is inviting start-ups and MSMEs from both India and Australia to apply for the Climate Smart Agritech cohort of the India Australia Rapid Innovation and Start-up Expansion (RISE) Accelerator. This initiative, commencing in October 2024, aims to support businesses focused on enhancing agricultural productivity and resilience against climate challenges.

Program Details

- **Launch Date**: October 2024
- **Duration**: 9 months
- **Focus**: Agritech solutions addressing climate variability, resource scarcity, and food insecurity.
- **Components :**
  - o Self-paced online learning
  - o In-person sessions in India and Australia
  - o Immersion weeks, market insights, and mentorship
  - o Field trials and technology pilots in the latter half

Application Details

- **Deadline**: September 15, 2024
- **Cost**: Free for start-ups/SMEs

- **Opportunities**: Includes travel between India and Australia for program activities.

Significance

- **Objective**: To enable start-ups and MSMEs to scale their technologies internationally, addressing agricultural challenges in both countries.
- **Benefits**: Participants receive coaching, mentorship, and potential connections with partners and customers, along with up to INR 45 lakhs in non-equity grants.

About the RISE Accelerator

- **Objective**: A bilateral program aimed at expanding innovative **agritech solutions** between India and Australia, addressing shared environmental and climate issues.
- **Launch**: 2023
- **Focus**: Supporting the validation, adaptation, and piloting of technologies for new markets.

About Atal Innovation Mission (AIM)

- **Purpose**: India's flagship initiative for fostering innovation and entrepreneurship, established in 2016.
- **Goal**: To create a robust ecosystem for innovation across various sectors, including education, research, MSMEs, and industry.

Conclusion : The RISE Accelerator's Climate Smart Agritech cohort represents a key initiative to advance agricultural innovations in India and Australia. By supporting start-ups and MSMEs with novel solutions, the program aims to address critical environmental challenges and promote sustainable agricultural practices.

India-Poland Joint Statement : Establishment of Strategic Partnership

Context :

On August 21-22, 2024, Indian Prime Minister Narendra Modi visited Poland at the invitation of Polish Prime Minister Donald Tusk. This visit marked the 70th anniversary of diplomatic relations between India and Poland. During the visit, the two leaders elevated their bilateral relationship to a "Strategic Partnership," aimed at deepening cooperation across various domains and enhancing global stability.

a. This visit is notable as it is the first visit by an Indian Prime Minister to Poland in 45 years, since Morarji Desai's visit in 1979.

b. This visit is part of Modi's two-nation tour, with Ukraine being the next destination

Agenda:

- **Meetings:** Following his visit to Poland, PM Modi will travel to Ukraine on August 22 to meet President Volodymyr Zelenskyy.
- Return to Poland: After his discussions in Ukraine, PM Modi will return to Poland to continue engagements.

Address to the Indian Diaspora:

- *Event: PM Modi **addressed the Indian community in Warsaw, receiving a warm welcome from the diaspora.***
- *Key Points :*
  o *Bilateral Ties: PM Modi highlighted the strong ties between India and Poland, emphasizing shared democratic values.*
  o *Diaspora Role: He acknowledged the diaspora's contribution to strengthening bilateral relations and the success of Operation Ganga, which evacuated Indian citizens from Ukraine.*
  o *Youth Exchange Program: Announced the Jamsaheb Memorial Youth Exchange Program, aimed at inviting 20 Polish youth to India annually.*
  o *Historical Acknowledgment: Recalled Poland's assistance during the Gujarat earthquake and discussed India's progress and future aspirations, including becoming the third-largest economy by the coming years and achieving developed nation status by 2047.*
  o *Areas of Collaboration: Highlighted potential collaborations in technology, clean energy, and green growth.*

Meeting with Poland's Prime Minister:

- *Participants: PM Modi and Polish Prime Minister Donald Tusk.*

- **Outcomes:**
  - **Strategic Partnership:** Upgraded India-Poland relations to a **"Strategic Partnership."**
  - **Discussion Topics:** Covered trade, investment, science, technology, defense, security, cultural cooperation, and people-to-people ties.
  - **Sectoral Opportunities:** Identified collaboration opportunities in food processing, urban infrastructure, water management, electric vehicles, green hydrogen, renewable energy, AI, and mining.
  - **Cultural Ties:** Emphasized the historical bond between the two countries.

Role in Russia-Ukraine Conflict:
- **Statement by Tusk:** Prime Minister Tusk suggested that India could play a crucial role in resolving the Russia-Ukraine conflict.
- **PM Modi's Stance:** PM Modi's commitment to seeking a peaceful resolution was acknowledged, with expectations that his visit to Ukraine would be 'historic'.

Meeting with Poland's President :
- **Participants:** PM Modi and President Andrzej Duda.
- **Key Points :**
  - **Strategic Partnership:** Discussed upgrading bilateral ties to a Strategic Partnership.
  - **Regional and Global Issues:** Addressed conflicts in Ukraine and West Asia.
  - **Gratitude:PM** Modi expressed thanks for Poland's assistance during Operation Ganga and invited President Duda to visit India.o **Commitment:** Both leaders agreed to enhance cooperation in defense, technology, energy, and the environment.

Engagements with Polish Scholars and Business Leaders:
- **Scholars:** PM Modi met with Polish scholars and Indologists, appreciating their contributions to cultural ties.
- **Business Leaders:** Engaged with Polish business leaders to discuss investment opportunities in India and collaboration in sectors such as IT, hygiene products, and emerging technologies.

Promotion of Kabaddi:
- **Event:** PM Modi met with the Kabaddi Federation of Poland.
- **Highlights:** Commended efforts to popularize Kabaddi in Europe and emphasized the role of sports in fostering cultural exchange.

Historical Background:

1. Diplomatic Relations:
- **Establishment:** India and Poland established formal diplomatic relations in 1954.
- **Embassies:** India opened its embassy in Warsaw in 1957, and Poland established its embassy in New Delhi the same year.

2. World War II Refugee Assistance:
- **Polish Refugees:** During World War II, from 1942 to 1948, over 6,000 Polish women and children were sheltered in India, primarily in the princely states of Jamnagar and Kolhapur.
- Role of Maharaja: Maharaja Jam Saheb Digvijaysinhji Ranjitsinhji of Nawanagar played a crucial role in providing sanctuary to these refugees, notably to over a thousand Polish children who had escaped the war.

3. Maharaja Jam Saheb Digvijaysinhji Ranjitsinhji:
- **Background:** Born in 1895, he was educated in India and the UK and had a notable military career. He succeeded his uncle, cricketer KS Ranjitsinhji, as Maharaja of Nawanagar in 1933.
- **Humanitarian Act:** During WWII, he welcomed Polish children into his state, starting with 170 children in 1942. His compassionate actions created a lasting bond with the Polish people.
- **Posthumous Recognition:** The Maharaja was honored in Poland with a square named after him in Warsaw and a monument in 'Good Maharaja Square.' He was posthumously awarded the Commander's Cross of the Order of Merit of the Republic of Poland. A school in Warsaw is named in his honor, celebrating the historical connection.

Action Plan (2024-2028) for the Implementation of the India-Poland Strategic Partnership

India and Poland have agreed on a comprehensive five-year Action Plan for 2024-2028. This plan aims to guide bilateral collaboration across several key areas.

1. Political Dialogue and Security Cooperation
- **Regular Contacts:** Foreign ministers of both countries will maintain regular interactions through bilateral and multilateral fora.
- **Support for Multilateral Cooperation:** Both sides will consider supporting each other's aspirations on a case-by-case basis in alignment with the United Nations Charter.
- **Annual Political Dialogue:** An annual political dialogue will be held at the level of deputy ministers in charge of foreign relations.

- **Defense Cooperation:** Regular consultations will be encouraged to foster defense industry contacts, modernize military equipment, and address outstanding issues.
- **Joint Working Group:** The next round of the Joint Working Group for defense cooperation is scheduled for 2024.

2. Trade and Investment

- **Sectoral Opportunities:** Cooperation will be explored in high-tech, agriculture, agritech, food tech, energy, climate, green technologies, infrastructure, smart cities, defense, healthcare, pharmaceuticals, and mining during the Joint Commission for Economic Cooperation (JCEC) meeting at the end of 2024.
- **JCEC Meetings:** Meetings of the JCEC will be held at least twice every five years, with the possibility of more frequent meetings if needed.
- **Balanced Trade:** Efforts will be made to balance bilateral trade and address issues to facilitate smooth trade and investment.
- **Economic Security:** Cooperation will focus on increasing supply chain resilience and mitigating trade dependency risks.

3. Climate, Energy, Mining, Science, and Technology

- **Sustainable Solutions:** Expand cooperation in sustainable technological solutions for the circular economy and wastewater management.
- **Energy Security:** Both countries will advance cleaner energy approaches and explore Clean Coal Technologies to reduce environmental impact.
- **Mining Collaboration:** Focus on advanced mining systems, high-tech machinery, pioneering safety standards, and increased cooperation in mining-related industries.
- **Space Cooperation:** Work on a cooperation agreement for the safe, sustainable, and secure use of space and commercial space ecosystems, including human and robotic exploration.
- **International Energy Agency:** Poland acknowledges India's ambition to join the International Energy Agency.

4. Transport and Connectivity

- **Transport Infrastructure:** Explore cooperation in developing transport infrastructure.
- **Flight Connections:** Enhance connectivity and discuss further expansion of flight connections between the two countries.

5. Terrorism

- **Condemnation:** Both sides unequivocally condemn terrorism in all its forms and emphasize that no country should provide a safe haven to terrorists.
- **Concerted Efforts:** Make efforts to designate individuals affiliated with UN Security Council 1267 sanctions committee-listed groups as terrorists.

6. Cyber Security

- **Enhanced Cooperation:** Strengthen interactions and exchanges in ICT-related fields, focusing on international cooperation, legislative and regulatory solutions, judicial and police activities, and responses to cyber-attacks.

7. Health

- **Collaboration:** Strengthen collaboration in health by sharing information, enhancing contacts among health experts, and supporting cooperation between health institutions in both countries.

8. People-to-People Ties and Cultural Cooperation

- **Social Security Agreement:** Implement the Agreement on Social Security and complete respective internal legal procedures.
- **Cultural Exchanges:** Strengthen cooperation between cultural institutions, artists, scholars, and think tanks.
- **Higher Education:** Promote cooperation in higher education and establish partnerships between academic institutions.
- **Language and Cultural Studies:** Work on an agreement for teaching Polish language at Indian universities and emphasize Hindi and Indian studies in Poland.
- **Tourism Promotion:** Expand tourist flows by organizing tourism missions, family trips for influencers and travel agencies, and participating in tourism fairs and roadshows.
- **Cultural Festivals:** Hold cultural festivals in each other's countries to mark the 75th anniversary of diplomatic relations, with dates to be mutually decided.
- **Student Exchange Program:** Promote a student exchange program to foster mutual understanding with younger generations.

9. India-EU Relations

- **Trade and Investment:** Support the early conclusion of India-EU trade and investment negotiations.

- **Trade and Technology Council:** Operationalize the India-EU Trade and Technology Council (TTC).
- **Connectivity Partnership:** Implement the India-EU Connectivity Partnership to advance strategic interests in trade, new technologies, and security.

Way Forward

- **Monitoring and Review:** Regularly monitor the implementation of the Action Plan through annual political consultations.
- **Extension:** The Action Plan will be reviewed and potentially extended for another five-year period by the respective foreign affairs ministers.

This Action Plan represents a significant step in deepening the India-Poland Strategic Partnership and outlines a clear framework for collaboration over the next five years.

Conclusion :

The India-Poland Joint Statement of August 22, 2024, marks a significant milestone in bilateral relations, elevating them to a "Strategic Partnership." This partnership is set to enhance cooperation across multiple sectors, bolster economic ties, and address global challenges together. Both nations have committed to deepening their collaboration through a comprehensive five-year action plan, signaling a new era of mutual growth and stability.

MALAYSIAN PM VISITS INDIA

The Malaysian PM Anwar Ibrahim visits India.

The key outcome among other outcomes was India Malaysia partnership has been upgraded to Comprehensive strategic Partnership.

HISTORY OF THE TIES

Diplomatic Beginnings: India established diplomatic relations with the Federation of Malaya (which later became Malaysia) in 1957. This marked the formal start of bilateral interactions.

1960s Relationship: The relationship between the two countries was notably strong during the 1960s, facilitated by the personal friendship between Indian Prime Minister Jawaharlal Nehru and Malaysian Prime Minister Tunku Abdul Rahman Putra.

- **Recent Initiatives:**
  - PM Abdullah Badawi (2004-2009): Under his leadership, Malaysia actively worked to enhance relations with India through various initiatives.
  - PM Dato' Seri Mohd. Najib Tun Abdul Razak: His tenure also saw efforts to strengthen bilateral ties with India.
- **People-to-People Relations:**
  - Indian Diaspora: Malaysia is home to approximately 2.75 million Persons of Indian Origin (PIOs), making it the second largest PIO community globally and the third largest Indian diaspora worldwide, totaling about 2.9 million. This significant diaspora fosters strong cultural and personal connections between the two countries.
  - Enhanced Strategic Partnership: In November 2015, during Indian Prime Minister Narendra Modi's visit to Malaysia, the bilateral relationship was elevated to an Enhanced Strategic Partnership. This upgrade marked a new phase in the relationship, emphasizing deeper cooperation across multiple sectors.

KEY EVENTS

- **Ceremonial Reception:** Prime Minister Anwar Ibrahim was given a ceremonial welcome at Rashtrapati Bhavan and paid respects at Raj Ghat.
- **Meetings:** Discussions were held with Prime Minister Modi, President Droupadi Murmu, and External Affairs Minister Dr. S. Jaishankar. Prime Minister Anwar Ibrahim also addressed the Indian Council of World Affairs.
- **MoUs Signed:** The leaders witnessed the exchange of several Memoranda of Understanding (MoUs) covering areas such as recruitment, Ayurveda, digital technologies, culture, tourism, and financial services.

KEY OUTCOMES

- **Comprehensive Strategic Partnership:**
  - o The leaders agreed that the Enhanced Strategic Partnership, established in 2015, has evolved into a Comprehensive Strategic Partnership, reflecting deepening bilateral engagement across various sectors.
- **Economic and Trade Relations:**
  - o **Trade Volume:** Bilateral trade has reached a record high of $19.5 billion. Both leaders urged for continued growth in trade and investment, supported by the high-level CEOs Forum.
  - o **Investment:** Growing bilateral investments were welcomed, with encouragement for cooperation across multiple sectors.
  - o **ASEAN-India Trade:** Both sides agreed to expedite the review of the ASEAN-India Trade in Goods Agreement (AITIGA) and strengthen supply chains.
- **Digital and Technological Cooperation:**
  - o **Digital Technologies:** A new MoU was signed, and the formation of a Malaysia-India Digital Council was encouraged to boost collaboration in areas like 5G, quantum computing, and cybersecurity.
  - o **Start-ups:** Discussions between Start-up India and Cradle Fund of Malaysia will continue through an India-Malaysia Start-up Alliance.
- **Defense and Security:**
  - o Both leaders reaffirmed the importance of defense cooperation and agreed to enhance collaboration through regular dialogues, exercises, and R&D.
- **Terrorism and Organized Crime:**
  - o The leaders condemned terrorism and committed to working together to counter terrorism and transnational organized crime, emphasizing information sharing and best practices.
- **Higher Education and Capacity Building:**
  - o **Education:** Malaysia welcomed 100 seats under India's ITEC Programme for training in cybersecurity, AI, and machine learning.
  - o **New Initiatives:** Establishment of the Ayurveda Chair at Universiti Tunku Abdul Rahman and the Tiruvalluvar Chair of Indian Studies at Universiti Malaya was discussed.

- **Climate Change and Sustainable Energy:**
  - o **International Cooperation:** Both countries committed to addressing climate change, recognizing India's leadership in the International Solar Alliance and the Coalition for Disaster Resilient Infrastructure. Malaysia will join the **International Big Cat Alliance** as a founding member.
- **Tourism and People-to-People Exchanges:**
  - o **Visa Regimes:** The relaxation of visa regimes was noted, with a focus on increasing tourism flows. India will designate **2026 as Visit Malaysia year.**
- **International and Multilateral Cooperation:**
  - o **UN Reforms:** Both leaders pledged to work together to enhance multilateralism and support for a reformed UN Security Council, with India appreciating Malaysia's backing for India's permanent membership.

PACIFIC ISLAND FORUM

Why in News?

The annual 53rd meeting of the Pacific Islands Forum (PIF) commenced on August 26 in Nuku'alofa, Tonga, with over 1,500 delegates from around 40 countries in attendance.

- This year's discussions are **focused on:**
  a. Climate change and
  b. The strategic influence battle between China and the US.

THE FORUM

- Formation and Members
- **Established**: 1971
- **Members**: 18 member states- Australia, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Kiribati, Nauru, New Caledonia, New Zealand, Niue, Palau, Papua New Guinea, Republic of Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.

Objectives

- **Goals**: Promote economic growth, improve political governance and security, and enhance regional cooperation.
- **Vision:** A resilient Pacific region characterized by peace, security, social inclusion, and prosperity for all Pacific peoples.
- Decision-Making
- **Process:** Issues are discussed and decisions are made by consensus at the annual meeting. Implemented by the Pacific Islands Forum Secretariat.

MEMBERSCLIMATE CHANGE
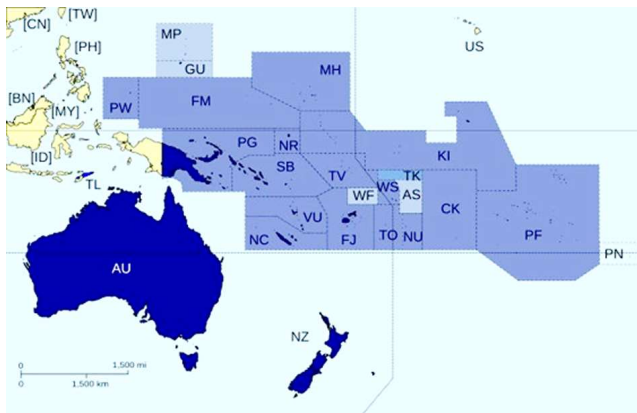
Current Concerns :

- **Impact**: Rising sea levels, ocean warming, and acidification are severely affecting Pacific Islands. The South West Pacific has experienced sea level rises more than twice the global average over the past 30 years.
- **WMO report :** On August 27, a World Meteorological Organization report revealed that faster-than-average sea level rise, ocean warming, and acidification are threatening the Pacific Islands. The South West Pacific was worst hit by sea level rises, in some places by more than double the global average in the past 30 years, according to the analysis.

Responses and Funding

- UN Secretary-General: António Guterres emphasized the urgency of addressing rising sea levels and their effects on coastal communities.
- Pacific Resilience Facility (PRF): A regional fund aimed at climate action, currently $380 million short of its $500 million target.

CHINA - US DYNAMICS

Geopolitical Tensions

- **China's Role**: Strengthened ties with PIF members, including security agreements with the Solomon Islands, raising concerns in Australia and the US.
- **US Presence**: Significant delegation led by Deputy Secretary of State Kurt Campbell.

Forum Dynamics

- **China's Involvement**: Largest-ever delegation from China at this year's meeting.
- **Security Perspectives**: Divergent views on security issues between Pacific nations and major development partners, as noted by Cook Islands Prime Minister Mark Brown.

QUAD

QUAD is a strategic organisation formed by USA, Japan, Australia & India for the Indo Pacific.

Indo Pacific is home to more than 64% of the global population and which contributes over 60% of world's GDP.

About half of the global trade happens through the maritime trade routes in this region.

ABOUT QUAD:

The grouping of four democracies –India, Australia, US and Japan– is known as the quadrilateral security dialogue or quad.

AIM OF QUAD:

The aim of this grouping is to ensure a free and open international order based on the rule of law in the Indo- Pacific.

OBJECTIVES:

- Maritime security,
- Combating the Covid-19 crisis, especially vis-à-vis vaccine diplomacy,
- Addressing the risks of climate change,
- Creating an ecosystem for investment in the region and
- Boosting technological innovation.

EVOLUTION OF QUAD:

- Following the Indian Ocean tsunami, India, Japan, Australia, and the US created an informal alliance to collaborate on disaster relief efforts.
- Quad as a formal group was first mooted by Japanese Prime Minister Shinzo Abe in 2007.
- However, due to Chinese resistance and reluctance shown by India, it could not move ahead.
- Later, during the 2017 ASEAN Summits, all four former members re-joined negotiations to revive the quadrilateral alliance.
- The Quad was upgraded to the ministerial level in September 2019.

S JAISHANKAR'S VISIT TO MALDIVES

S Jaishankar visited Maldives-a first by any Indian minister since the new government in India has come to power. Jaishankar met Muizzu and his counterpart-Moosa Zameer.

SIGNIFICANCE:

The visit is being described as a 'game changing' visit.

WHY IS IT GAME CHANGING?

Muizzu came to power on the plank of India-Out campaign. His pro China & anti India policies had impacted India-Maldives relations negatively in 2023. But things seem to have changed now.

THE INDIA OUT CAMPAIGN

The "India Out" campaign is a recent phenomenon that has emerged in Maldives. It is primarily a political tool used by opposition groups in these countries to criticize their respective governments for perceived over-reliance on India.

KEY POINTS ABOUT THE INDIA OUT CAMPAIGN:

- **Goal:** To undermine the relationship between India and the target country by creating anti-India sentiment.
- **Tactics:** Often involves accusations of Indian interference in domestic politics, economic exploitation, and security threats.
- **Impact:** Can lead to economic repercussions, such as boycotts of Indian products and a decline in tourism.

ACTIVITIES DONE

- As per the Indian PM's initiative- 'Ek ped Maa k Naam' & President Muizzu's initiative of planting 5 million trees, a sapling was planted in Lonuziyaraayi park in Male.
- Two MoU's were signed:
  - o India to train 1000 Maldivian civil servants from 2024-2029.
  - o UPI to be introduced in Maldives.

DEVELOPMENT PROJECTS INAUGURATED

- India funded project of water & sewerage network in 28 islands of Maldives. This was part of Urban development in Maldives.
- Addu detour link bridge project.
- Addu Reclamation & shore protection project.

- High impact Community Development Projects related with:
  - o Mental Health.
  - o Special Education.
  - o Speech Therapy.
  - o Street Lighting

Jaishankar also visited Indian funded Great Male connectivity project which connects Male with adjoining islands of Villingili, Gulhifalhu & Thilafushi.

St Martin's Island and Sheikh Hasina's Controversy

St Martin's Island, a unique coral island in the Bay of Bengal, has recently been involved in a political controversy with former Bangladesh Prime Minister Sheikh Hasina. Rumors suggest that Hasina might have considered giving away the island to the United States to stay in power, sparking public and political debate.

Sheikh Hasina's Statements :

- Former Prime Minister Hasina claimed she could have stayed in power by giving the island to the US and mentioned an offer for an airbase.
- **Denials:** Hasina's son and the US State Department have denied any such plans involving the island.
- **Original Speech:** The claim may be related to a **2023 speech** where Hasina mentioned that while leasing out the island could be a way to maintain power, she would not do so. In her speech, the former prime minister also accused the opposition party, the Bangladesh Nationalist Party (BNP), of wanting to sell the island. She said, "How did the BNP come to power in 2001? They came to power by pledging to sell gas. Now do they want to sell the country or come to power by pledging to sell St Martin's island?"

St Martin's Island

- **Location:** The island is in the northeastern part of the Bay of Bengal, close to the Bangladesh-Myanmar border, about 9 km from the Cox's Bazar-Teknaf peninsula.

- **Size and Features:** It is 7.3 km long and is the only coral island in Bangladesh. It has coral reefs and is a place where sea turtles breed.
- **Population and Tourism:** Around 10,000 people live on the island, and it attracts about 10,000 tourists each day.

Historical Background

- **Geological History:** The island was once part of the **Teknaf peninsula** but was submerged around 5,000 years ago. It started to resurface about 450 years ago.
- **Early Settlements:** Traders from the Arab world settled there in the 18th century, calling it "Jazira" and later "Narikel Jinjira" (Coconut Island). During British rule, it was taken over in 1900, with Bengali and Rakhine fishermen living there.
- **Post-Colonial Changes:** After the 1947 partition of British India, the island became part of Pakistan and then Bangladesh after the 1971 Liberation War.
- **Legal Status:** Bangladesh's control over the island was confirmed by a 1974 agreement with Myanmar and a 2012 ruling by an international tribunal.

Strategic Military Importance

- **Geopolitical Value:** The island's location near the **Strait of Malacca**, a major sea route, makes it strategically important. A **military base** here could help monitor activities in the Bay of Bengal and watch **Chinese** movements.
- **Regional Influence:** Controlling the island could provide important oversight of **trade routes** and military activities in **South Asia**.

Economic and Environmental Contributions

- **Economic Value:** The island is within Bangladesh's **Exclusive Economic Zone (EEZ)**, giving access to marine resources like fish, oil, and gas. It's also a popular spot for tourists.
- **Environmental Importance:** The island's **coral reefs** and marine life are crucial for conservation, making it an important environmental asset.

Maritime Boundary Disputes

- **Contentious Area:** The island's location near Myanmar has led to disputes over maritime boundaries. Despite international rulings, Bangladeshi fishermen face issues with **Myanmar's naval forces**.
- **Rohingya Crisis:** The arrival of **Rohingya refugees** from Myanmar has increased security concerns around the island, with reports of **insurgent groups** trying to take control.

Potential US Interests

- **Strategic Goals:** The US might be interested in the island as part of a plan to counter **China's** influence in South Asia. There are rumors about the US proposing a **military base** or lease.
- **Regional Reactions:** If the US were to have a presence on the island, it could affect relations with countries like **India** and **China** and impact **Indian shipping routes**.

Implications

- **Geopolitical Impact:** The controversy highlights the island's strategic importance. Even though the US denies any plans, the island remains a key player in regional politics.
- **Political Tensions:** The debate over Hasina's alleged statements and the opposition's supposed plans show ongoing political conflicts in Bangladesh and the high stakes in managing the island.
- **Public Impact:** The situation has increased public and political interest in St Martin's Island, showing its importance and the broader issues of national control and resource management.
- **Conclusion** St Martin's Island is strategically important and valuable for its resources and tourism. While there are rumors about US interest, officials from both the US and Bangladesh deny any plans involving the island. The controversy underscores the island's significance in regional politics and economics.

TWO NEW INDIA-US DEFENCE DEALS

During Defence Minister Rajnath Singh's recent visit to the US, India and the US signed two significant agreements:

- Security of Supply Arrangement (SOSA)
- Memorandum of Agreement regarding the Assignment of Liaison Officers.

These agreements are part of an ongoing effort to enhance defence and security cooperation between the two nations, reflecting their deepening strategic partnership.

THE AGREEMENTS

1. Security of Supply Arrangement (SOSA):

- **Purpose:** The SOSA agreement aims to provide reciprocal priority support for goods and services that are crucial for national defence. It is designed to address supply chain disruptions by allowing both countries to source essential industrial resources from one another.
- **Significance:** India becomes the 18th SOSA partner of the US. While SOSA agreements are

important for interoperability, they are non-binding. A binding agreement, the Reciprocal Defence Procurement (RDP) Agreement, is being negotiated.

- **RDP Agreements:** Intended to standardize and rationalize defence equipment with US allies, RDP agreements promote interoperability and streamline procurement processes. The US has signed RDP agreements with 28 countries.

2. Memorandum of Agreement on Liaison Officers:

- **Objective:** This MOU enhances information-sharing and coordination by deploying Indian armed forces officers to key US Commands. The first Liaison Officer will be assigned to the US Special Operations Command in Florida.
- **Impact:** This agreement builds on previous decisions to increase strategic collaboration and aims to strengthen the operational relationship between the Indian and US armed forces.

MILESTONES IN INDIA US DEFENCE RELATIONSHIP

2004 : India & USA pursuing a strategic partnership. [shared values and convergent geopolitical interests.

2013 and 2015 Agreements:

- **Joint US-India Declaration (2013):** Established the vision for enhanced defence cooperation.
- **US-India Defence Relationship Framework (2015):** Committed both countries to greater collaboration in defence.

2023 Roadmap:

- **Focus Areas:** The roadmap outlines priorities such as Intelligence, Surveillance, and Reconnaissance (ISR), Undersea Domain Awareness, and air combat systems. It also supports integrating the Indian defence industry into global supply chains and enhancing naval and maritime infrastructure.

iCET (January 2023):

- **Objective:** The initiative on Critical and Emerging Technologies aims to expand strategic technology partnerships and deepen defence cooperation through co-development and co-production.

INDUS-X (June 2023):

- **Purpose:** Launched during Prime Minister Narendra Modi's visit to the US, INDUS-X is designed to build a defence innovation bridge, promoting technological collaboration and innovation.

FOUNDATIONAL AGREEMENTS

- **GSOMIA (2002):** Facilitates sharing of military information.
- **LEMOA (2016):** Provides reciprocal logistic support between the two militaries.
- **COMCASA (2018):** Ensures secure military communication and access to advanced US defence systems.
- **BECA (2020):** Facilitates the sharing of military data, including maps and imagery.
- **ISA (2019):** Supports the exchange of classified information between defence industries.

ADDITIONAL DEVELOPMENTS

- **Major Defence Partner Status (2016):** India's designation as a Major Defence Partner and subsequent Strategic Trade Authorisation Tier 1 status have significantly enhanced access to advanced military technologies.
- **Defence Trade and Technology Initiative (DTTI):** Signed in 2012 to promote defence trade and industrial cooperation.
- **Recent Procurements:** India's acquisition of MH-60R Seahawk helicopters, Sig Sauer rifles, and M777 howitzers reflects deepening defence ties. Ongoing negotiations include manufacturing GE F-414 engines in India and procuring MQ-9B UAVs.

IMPLICATIONS

The new agreements will likely lead to enhanced operational integration, improved supply chain resilience, and increased strategic collaboration. They are expected to enhance the defence capabilities of both nations and contribute to regional stability, particularly in the Indo-Pacific.

In conclusion, the SOSA and MoA on Liaison Officers represent significant strides in US-India defence relations, building on a decade of growing military cooperation and setting the stage for further collaboration in defence and strategic technologies.

US Navy's New Long-Range Missile : AIM-174B and Its Impact on Indo-acific Tensions

Overview:

The US Navy has introduced a new, extremely long-range air-to-air missile called the AIM-174B. This missile is now the longest-range missile used by the US, and it is being deployed in the Indo-Pacific region to address the growing tensions with China.

Key Points:

1. **Introduction of AIM-174B:**
   - **Capabilities:** The AIM-174B can strike targets up to 400 km (250 miles) away, far surpassing the range of China's PL-15 missile.
   - **Background:** The missile is based on Raytheon's SM-6 air defense missile and has been operational since July. It offers a significant edge over previous US missiles like the AIM-120 AMRAAM.

2. **Advantages for the US:**
   - **Extended Range:** The AIM-174B can hit targets much farther away than the AIM-120, which had a maximum range of about 150 km (93 miles). This extended reach helps protect US aircraft carriers and allows for strikes on important Chinese targets.
   - **Strategic Impact:** By keeping Chinese threats at a greater distance, the AIM-174B helps safeguard US assets and improves US positioning in contested areas like the South China Sea.

3. **Impact on Regional Dynamics:**
   - **Changing the Game:** With the AIM-174B, the US can now stay further from Chinese forces, reducing risks to aircraft carriers. It also puts more pressure on Chinese planes and helps protect Taiwan.
   - **Chinese Response:** The missile could force China to change its military strategies, as it now faces a new threat that can reach its aircraft from much greater distances.

4. **Comparison with Previous Capabilities:**
   - **Old vs. New:** Previously, US aircraft had to operate closer to Chinese forces, which increased their risk. The AIM-174B allows the US to operate more safely and effectively.
   - **Chinese Stealth Aircraft:** While Chinese stealth fighters like the J-20 and its PL-15 missile pose a challenge, the AIM-174B helps level the playing field.

5. **Future Developments:**
   - **US Air Force:** Alongside the AIM-174B, the Air Force is developing the Lockheed Martin AIM-260, another long-range missile designed for stealth aircraft.
   - **China's Advancements:** China is also working on longer-range missiles, but their effectiveness might be limited by the radar capabilities of their launching aircraft.

6. **Production and Versatility:**
   - **Raytheon SM-6:** The AIM-174B is based on the SM-6, which has existing production lines and funding. This versatility could lead to future upgrades, such as adding an anti-radar feature.

Conclusion :

The AIM-174B missile represents a major advancement in US military technology, giving the US a significant strategic advantage in the Indo-Pacific region. Its extended range and capability to protect key assets and strike important targets could change how regional conflicts are managed and force adjustments in Chinese military strategies.

EDITORIALS

Crux of The Hindu & Indian Express

International Issues

ATTACKS IN BALOCHISTAN

On August 26, 2024, Baloch militants in Balochistan's Musakhail district targeted buses and trucks traveling to and from Punjab. They stopped vehicles, checked passengers' identities, and killed 23 people identified as Punjabis. The militants also set fire to 10 vehicles.

Historical Context: This attack is part of a larger pattern of violence in Balochistan, where similar incidents targeting Punjabis have occurred:

- In April 2024, militants killed nine Punjabis near Noshki.
- In October 2023, six Punjabi laborers were killed in Kech district.
- In 2015, 20 workers from Sindh and Punjab were killed near Turbat.

BACKGROUND

- Balochistan has been a hotspot of conflict since Pakistan's creation in 1947.
- The first insurgency began in 1948 after Balochistan's accession to Pakistan was forced.
- Multiple insurgencies followed, including significant ones from 1958-1959, 1962-1963, and 1973-1977. The current phase of insurgency started in 2003.

BALOCH LIBERATION ARMY

- **Goals:** The BLA seeks independence for Balochistan, a resource-rich province in southwestern Pakistan. They argue that the central government exploits Balochistan's resources unfairly.
- **Targets:** The BLA targets key infrastructure, security posts, and Chinese interests in the region. Their attacks have included strikes on the Gwadar port, Pakistani stock exchange, and the Chinese consulate in Karachi.
- **Tactics:** The group has expanded its tactics from guerrilla warfare to include suicide bombings and direct assaults on military and naval bases.

  The BLA's actions have strained relations between Pakistan and Iran, with both countries accusing each other of harboring militants.

REASONS FOR INSURGENCY

- **Ethnic Tensions:** Balochistan's ethnic and cultural identity is distinct from that of Punjabis. The Baloch people have historically felt marginalized within the Pakistani state, which is dominated by Punjabis. The perception of Punjabi dominance extends to politics, bureaucracy, and even sports.
- **Economic Discontent:** Despite Balochistan's rich natural resources, including oil, gold and copper and its strategic location, the province remains underdeveloped and impoverished. The local population feels that they do not benefit from the province's resources, which are often exploited by the central government and external entities like China. For instance, the Gwadar port, a major development project, has been criticized for benefiting outsiders rather than local Baloch.
- **Strategic Importance:** The province's location and resources are vital for Pakistan and China. Balochistan's coastline is near critical shipping lanes, and it plays a significant role in the China-Pakistan Economic Corridor (CPEC).
- **Human Rights Issues:** Balochistan has seen protests over alleged abuses by security forces, including enforced disappearances and extrajudicial killings.

CURRENT STATUS

The Baloch Liberation Army (BLA), a key insurgent group, has claimed responsibility for the recent attack. They have warned of more such actions. The violence is driven by long-standing grievances against the Punjabi-dominated Pakistani state, which many Baloch people feel oppressed their cultural and economic rights.

Conclusion:

The recent attack on Punjabi travelers reflects deep-seated ethnic and economic tensions between Balochistan and the central Pakistani state. The ongoing insurgency is fueled by a complex mix of historical grievances, economic disparity, and ethnic discord.

CANADA'S POLICY OF REDUCING 'LOW WAGE TEMPORARY WORKERS'

On August 26, 2024, Canadian Prime Minister Justin Trudeau announced a policy to "reduce the number of low-wage, temporary foreign workers" in the country.

This policy aims to decrease the proportion of such workers from 6.2% of the population in 2023 to 5% over the next 3 years.

WHO ARE THE TEMPORARY WORKERS?

- **Temporary Work Visa Holders:** Individuals employed in Canada for a fixed term, typically earning between CAD 13-19 per hour (approx Rs 800-1,200 per hour).
- **International Students:** Students who stay in Canada post-graduation on work visas ranging from one to three years while applying for Permanent Residency (PR). They are also permitted to work within restrictions during their studies.
- **Spouse Open Work Permit Holders:** Spouses of international students who are allowed to work in Canada under this permit, often in low-wage jobs.
- **Labour Market Impact Assessment (LMIA) Workers:** Foreign workers hired when Canadian employers cannot find local candidates to fill positions.
- **Special Humanitarian Pathways Arrivals:** Includes those under CUAET (Canada-Ukraine Authorization for Emergency Travel), asylum-seekers, and participants in reciprocal youth programs.

HOW WILL THIS POLICY IMPACT INDIANS?

Canada's decision to reduce low-wage, temporary foreign workers is likely to have significant implications for Indians, who have been a major part of this workforce. Key impacts include:

- **International Students:** Indians make up around 40% of Canada's international student population. Restrictions on temporary workers could limit opportunities for Indian students and their spouses, affecting their income and prospects of transitioning to Permanent Residency.

- **Punjab Impact:** More than 50% of Indian arrivals, including students and low-wage workers, come from Punjab. The policy change is likely to disproportionately affect individuals from this state, who rely heavily on temporary work opportunities.
- **Policy Changes:** Until recently, Canada had no caps on international students or Spouse Open Work Permits. New restrictions, including recent caps and a shift in policy focus, are expected to limit these opportunities.

BROADER IMPLICATIONS
- **Economic Contribution:** Temporary workers play crucial roles in sectors such as construction, early childhood education, and healthcare. The reduction in their numbers could impact these industries, potentially creating labor shortages.
- **Pathway to Permanent Residency:** Canada's Minister of Immigration, Refugees, and Citizenship, Mark Miller, emphasized the need to make the system more efficient. This could involve providing clearer pathways to Permanent Residency for temporary workers, which might mitigate some negative impacts.
- **Policy Directions:** The policy could evolve in 2 directions:
- **Restrictions:** Limiting the entry of new temporary workers and not extending work visas for those already in Canada.
- **Opportunities for PR:** Offering more opportunities for temporary workers to transition to Permanent Residency, thus integrating them into the Canadian economy more fully.

INDIA'S POLICY ON REFUGEES

Former Bangladesh Prime Minister Sheikh Hasina will likely remain in India for some time, as her plans to travel to the United Kingdom faced a "technical roadblock."

WHAT IS THE TECHNICAL ROADBLOCK?

Along with her sister, the ex-PM had reportedly planned to seek asylum in the UK, where members of their family live. However, according to the country's immigration rules, asylum requests can only be processed once a person is in the UK and Hasina does not hold a visa for travelling there.

DOES INDIA HAVE A REFUGEE POLICY?

India has decided to let her stay in the country despite the lack of an official policy on refugees.

The question of how refugees should be treated has come up again in the past, most recently and prominently with the entry of Rohingya refugees from Myanmar.

WHO IS A REFUGEE?

Under the 1951 UN Convention on the Status of Refugees and the subsequent 1967 Protocol, the word refugee pertains to any person who is outside their country of origin and unable or unwilling to return owing to well-founded fear of persecution for reasons of race, religion, nationality, membership of a particular social group or political opinion.

Stateless persons may also be refugees in this sense, where the country of origin (citizenship) is understood as 'country of former habitual residence'. (Oxford Handbook of Refugee and Forced Migration Studies)

WHO ARE THE ROHINGYAS AND HOW IS INDIA DEALING WITH THEM?

The UN has said the flight of the Rohingya following the Myanmar military crackdown in Rakhine state in 2017 had created the world's biggest refugee crisis.

Cox's Bazaar in Bangladesh is the biggest refugee camp in the world today.

Myanmar maintains that the Rohingya, who are predominantly Muslim, are illegal immigrants from Bangladesh.

When it comes to dealing with some 40,000 Rohingya who fled to India, the government's response has been ambiguous.

The government had allowed the UN High Commissioner for Refugees (UNHCR) to carry out verification and provide some of them with identity cards.

There is a demand that they be "deported" immediately.

INDIA, REFUGEES & THE UN CONVENTION
- India has welcomed refugees in the past, with nearly 300,000 people categorised as refugees.
  - This includes the Tibetans, Chakmas from Bangladesh, and refugees from Afghanistan, Sri Lanka, etc.
- But India is not a signatory to the 1951 UN Convention or the 1967 Protocol. Nor does India have a refugee policy or a refugee law.
  - This has allowed India to keep its options open on the question of refugees.
  - The government can declare any set of refugees as illegal immigrants — as has happened with Rohingya despite the UNHCR verification — and decide to deal with them as trespassers under the Foreigners Act or the Indian Passport Act.

- The closest India has come to a refugee policy in recent years is the Citizenship Amendment Act, 2019, which discriminates between refugees based on religion in offering them Indian citizenship.

MALAYSIA'S REVISED 'ORANGUTAN DIPLOMACY'

MALAYSIA'S U-TURN ON ORANGUTAN DIPLOMACY

Context :

Malaysia's original "orangutan diplomacy" was designed to improve its global image by gifting critically endangered orangutans to countries importing Malaysian palm oil, drawing inspiration from China's "panda diplomacy."

a. This initiative aimed to address international concerns about the environmental impact of palm oil production, which has led to significant deforestation and habitat loss for orangutans.

b. However, the plan faced criticism for being hypocritical and ineffective, as it failed to address the core issue of habitat destruction.

c. In response, Malaysia revised the policy to focus on sponsoring orangutans for conservation within Malaysia, aiming to support meaningful conservation efforts and demonstrate a genuine commitment to protecting orangutan habitats.

Context and Rationale:

- **Palm Oil Industry:** Malaysia is the world's second-largest producer of palm oil. The industry faces global scrutiny due to its environmental impact, particularly deforestation, which destroys orangutan habitats.

- **Orangutan Population:** Approximately 120,000 orangutans remain in the wild, found in the rainforests of Borneo and Sumatra. Their numbers are declining due to habitat loss driven by palm oil plantations.

- **Policy Goal:** Ghani's idea aimed to show Malaysia's commitment to sustainable palm oil production and wildlife conservation, addressing international concerns about deforestation and habitat destruction.

Criticism and Controversy:

Primary Concerns:

- **Hypocrisy and Ethics:** Critics argued that the initial policy was hypocritical. Destroying orangutan habitats for palm oil production while giving orangutans as diplomatic gifts was seen as contradictory. The policy was perceived as an attempt to placate international critics without addressing the root environmental issues.

- **Comparison with Panda Diplomacy:** Experts highlighted that Malaysia's approach lacked the infrastructure and conservation measures present in China's panda diplomacy. China's success in panda diplomacy is supported by state-of-the-art facilities and established protected areas, which Malaysia's proposal did not match.

Notable Criticisms:

- **Justice for Wildlife Malaysia:** Described the policy as "obscene" and "repugnant," emphasizing that protecting orangutan habitats should be the priority over symbolic gestures.

- **Conservation Experts:** Stuart Pimm from Duke University criticized the plan, noting that Malaysia's approach was not equivalent to China's well-established panda diplomacy.

Revised Proposal

Updated Approach:

- **Date Revised:** August 18, 2024.

- **New Policy Details:**
  o **Sponsorship Model:** Instead of sending orangutans abroad, palm oil-importing countries can now sponsor orangutans. The funds raised from these sponsorships will be used for orangutan conservation programs within Malaysia.
  o **Conservation Efforts:** Funds will support:
    1. **Ranger Teams:** To monitor the presence, safety, and condition of orangutans in their natural habitats.
    2. **Conservation Programs:** Activities aimed at habitat preservation and reducing human-wildlife conflict.

Rationale for Revision:

- **Addressing Criticism:** The revised policy aims to address concerns about the ethical implications of the initial proposal and focus on substantive conservation efforts rather than symbolic gestures.

- **Enhanced Conservation Commitment:** By keeping orangutans in their natural habitats and using sponsorship funds for conservation, Malaysia hopes to demonstrate a genuine commitment to protecting these endangered species and their environments.

About Orangutans:

Species and Distribution:

- **Species:**
  - o **Bornean Orangutan:** Found in the Malaysian and Indonesian parts of Borneo.
  - o **Sumatran Orangutan:** Native to Sumatra in Indonesia.
  - o **Tapanuli Orangutan:** Inhabits a small area in North Sumatra.
- **Habitat:** Includes lowland peat swamp forests and high-altitude mountainous forests, ranging up to 1.6 kilometers above sea level.

Physical Characteristics:

- **Appearance:** Recognizable by their long, reddish-orange hair. They have long arms, grasping hands and feet with curved fingers and toes.
- **Size:** Adult males can stand up to 1.3 meters tall and weigh up to 130 kg. They develop prominent cheek pads.
- **Lifespan:** Can live up to 50 years in the wild.

Behavior and Diet:

- **Diet:** Primarily fruit and leaves, such as lychees and figs. They also eat nuts, bark, insects, and occasionally bird eggs.
- **Social Structure:** Semi-solitary, with social interactions primarily during periods of high fruit availability.

Conservation Status:

- **IUCN Red List:** All three species of orangutans (Bornean, Sumatran, Tapanuli) are classified as 'Critically Endangered'. This status reflects their high risk of extinction in the wild due to habitat loss, poaching, and other threats.

IUCN Red List

Purpose and Categories:

- **The IUCN Red List:** A comprehensive global inventory of the conservation status of biological species.
- **Categories:**
  - o **Extinct (EX):** No known individuals remaining.
  - o **Extinct in the Wild (EW):** Known only in cultivation, captivity, or outside their natural range.
  - o **Critically Endangered (CR):** Extremely high risk of extinction in the wild.
  - o **Endangered (EN):** High risk of extinction in the wild.
  - o **Vulnerable (VU):** Risk of becoming endangered in the wild.
  - o **Near Threatened (NT):** Likely to become endangered in the near future.
  - o **Least Concern (LC):** Species not currently at risk of extinction.
  - o **Data Deficient (DD):** Lacking sufficient data for assessment.
  - o **Not Evaluated (NE):** Not yet assessed against the criteria.
- **Significance:** The IUCN status helps prioritize conservation efforts and allocate resources effectively to protect species at risk of extinction.

Conclusion:

Malaysia's initial "orangutan diplomacy" faced criticism for being hypocritical, as it involved gifting orangutans while destroying their habitats for palm oil production. In response, Malaysia revised the policy to focus on sponsoring orangutans for conservation within their natural habitats. This shift aims to demonstrate a genuine commitment to addressing environmental concerns and supporting in-situ conservation efforts.

PM'S VISIT TO UKRAINE

On August 23, 2024, Prime Minister Narendra Modi visited Ukraine at the invitation of President Volodymyr Zelenskyy.

- This visit marked the first time an Indian Prime Minister has traveled to Ukraine since diplomatic relations were established in 1992.

BACKGROUND OF THE RELATIONS WITH UKRAINE

India was one of the first countries to recognize Ukraine. Government of India recognized the Republic of Ukraine as a sovereign country in December 1991 and established diplomatic relations in January 1992.

The Embassy of India in Kyiv was opened in May 1992. Ukraine opened its Mission in Delhi in February 1993 – its first in Asia.

• Agreement on Cooperation in Agriculture and Food Industry	• Expands cooperation in agriculture and food industry, including promoting information exchange, joint scientific research, and creating joint working groups.
• Memorandum of Understanding (MoU) on Medical Products Regulation	• Enhances cooperation on medical products with a focus on regulation, safety, and quality. Includes information exchange, capacity building. workshops, and training
• Memorandum of Understanding (MoU) on Indian Humanitarian Grant Assistance	• Establishes a framework for India to provide grant assistance for community development projects in Ukraine, in partnership with the Ukrainian government.
• Programme of Cultural Cooperation (2024-2028)	• Strengthens cultural ties between India and Ukraine, including promoting cultural exchanges and cooperation in theater, music, fine arts, literature, and cultural heritage protection.

BHISHM CUBES

Gift to Ukraine: India handed over 10 BHISHM cubes to Ukraine. These are portable medical facilities designed for trauma care, containing 22 tonnes of medical support equipment and 10 generator sets.

Other Recipients: BHISHM cubes have also been sent to Sri Lanka and Myanmar for emergency medical support.

About BHISHM cubes :

BHISHM cubes are portable hospitals and an easy-to-use, mobile medical facility that can be swiftly deployed to save lives in the most challenging circumstances. It can provide critical medical care to 100 survivors for up to 48 hours, making it a lifeline on remote and tough terrains where immediate medical attention is needed.

OTHER AREAS OF DISCUSSION

Peace and Conflict Resolution:

- **Peace Stance:** PM Modi reiterated India's firm stance for peace in the ongoing Russia-Ukraine conflict. He emphasized that India was not neutral and supported dialogue and diplomacy for conflict resolution.
- **Tributes:** PM Modi paid homage to the victims of the conflict, particularly children, by placing a doll at a memorial and participating in a tribute ceremony at the Martyrologist Exposition.

Diplomatic and Economic Discussions:

- **Trade and Defence:** Discussions between PM Modi and Ukrainian President Volodymyr Zelenskyy focused on enhancing trade, economic, and defense ties.
- **Energy Purchases:** PM Modi and Zelenskyy also discussed India's recent energy purchases from Russia and its impact on the global market.

Cultural and Educational Ties:

- **Cultural Exchange:** PM Modi interacted with Ukrainian students studying Hindi, highlighting the cultural connection between the two nations.
- **Invitation: PM** Modi extended an invitation to President Zelenskyy to visit India, aiming to further strengthen bilateral relations.

Symbolic Gestures:

- **Gandhi Tribute:** PM Modi paid floral tribute to Mahatma Gandhi's statue in Kyiv, emphasizing Gandhi's message of peace.
- **Ukrainian Memorials:** PM Modi and Zelenskyy honored the memory of children lost in the conflict at the Martyrologist Exposition.

Upcoming Engagements:

- **High-Level Meetings:** The visit includes meetings with high-level Ukrainian officials and discussions on enhancing trade and defense cooperation.
- **Public Engagements:** PM Modi is scheduled to meet with the Indian diaspora and attend various cultural events.

SIGNIFICANCE OF THE VISIT

- **Strengthening Ties:** This visit is expected to enhance India-Ukraine relations across multiple sectors.
- **Global Impact:** The focus on peace and humanitarian support reflects India's commitment to global stability and diplomatic engagement in conflict resolution.
- India being project as a Friend of All (Vishvamitra).

QUOTES

PM Modi : "We were not neutral from day one; we have taken a side, and we stand firmly for peace."

External Affairs Minister S. Jaishankar: "This is a landmark visit. PM Modi's engagement covers humanitarian aid, trade, defense, and cultural exchanges."

CONCLUSION :

Prime Minister Modi thanked President Zelenskyy for his hospitality and extended an invitation for him to visit India. The discussions highlighted the depth of India-Ukraine relations and their mutual trust and understanding.

PROTESTS IN UK

The recent protests in the UK were primarily triggered by a tragic incident and fueled by misinformation.

REASONS FOR THE PROTESTS

- **A fatal stabbing:** The initial spark was a knife attack that claimed the lives of three young girls at a dance class.
- **False rumors:** Misinformation spread online falsely linking the suspect to immigration and asylum seekers.
- **Anti-immigration sentiment:** This misinformation ignited anti-immigration sentiment and led to protests targeting asylum seeker accommodation.
- **Violent clashes:** The protests escalated into violent clashes between protesters, police, and counter-protesters.

THE AGE OF (MIS)INFORMATION

It's crucial to emphasize that these protests were driven by false information and do not represent the views of the majority of the UK population.

WHAT IS THE NEWLY FORMED GOVT. DOING?

The government and authorities are working to address the situation, including combating misinformation and providing support to affected communities.

SOUTH CHINA SEA TENSIONS

The post-COVID era has been punishing for global trade.

HOW & WHY?

- Lockdowns and factory closures sparked supply chain delays worldwide and helped fuel decades-high inflation.
- The Suez Canal was closed for a week in 2021 after a container ship got stuck. Attacks on shipping by Yemen-based Houthis and Iran over the past 10 months have forced a rerouting of container vessels from the Red Sea via Africa.
- And now China's military standoffs in the South China Sea could also impact the smooth flow of trade.

THE SOUTH CHINA SEA DISPUTE

- The Philippines has accused Chinese coast guard vessels of "intentionally" colliding with its vessels on a resupply mission in a disputed part of the South China Sea.
- "Four Sha" (Four Sands archipelagos) are the four island groups in the SCS region over which China claims it has "historical rights", named Dongsha Qundao, Xisha Qundao, Zhongsha Qundao and Nansha Qundao.
  - o Internationally they are known as Pratas Islands, Paracel Islands, the Macclesfield Bank area and the Spratly Islands.
- **China** stakes claim to 90% of the South China Sea, and this claim is based on the U-shaped nine-dash line etched on the map in the 1940s by a Chinese geographer.
- The Nine-dash line has a Geopolitical significance.

9 DASH LINESIGNIFICANCE OF SCS

1. **Maritime trade**: The region is one of the busiest sea routes of the world and more than 60% of the global trade passes through this sea.
2. **Natural Reserves:** The region is said to host vast reserves of Oil, Natural Gas, Coral Lime, high Silicate, Sand, quality Gem, natural pearls.

3. **Fishing grounds**: The sea is warm throughout the year and is considered as one of the major commercial fishing regions of the world.

4. **Freedom of Navigation**: Acknowledging the claims of China will affect the freedom of navigation in the region, which may set a wrong precedent for such claims in other parts of the world too.

BIGGEST CHOKEPOINTS IN SCS

- While the main current tensions are between China, the Philippines and Taiwan, the real threat to trade in the South China Sea could come in the Malacca Strait, which lies further south between Malaysia, Indonesia and Singapore.

- Last year, 23.7 million barrels of oil and petroleum products were moved through the strait per day, according to the US Energy Information Administration (EIA). The figure was 13% higher than through the Strait of Hormuz.

- The Malacca Strait is just **64 kilometers wide at its narrowest point** and is already vulnerable to congestion and collisions. Over the years, the waterway has seen many incidents of robbery and piracy.

- Some geopolitical and military experts have predicted that if China were to invade Taiwan, for example, the US and its allies could blockade the Malacca Strait, limiting Chinese access to oil as well as exports from Asia's largest economy.

CONCERNS FOR INDIA

1. **Freedom of Navigation:** India's trade routes pass through the South China Sea, making freedom of navigation a priority.
   (a) Indian vessels need to cross them safe and secure to reach the Pacific nations.
   (b) Nearly 55% of India's trade with the Indo-Pacific region passes through these waters

2. **Economic Interests:** India has economic interests in the region's resources and fisheries.
   ONGC Videsh Limited (ONGC-VL) along with Petrovietnam is exploring for Oil reserves in the region, which could help to secure India's energy needs

3. **Regional Stability:** Tensions can affect the broader Indo-Pacific region.

4. **Strategic Partnerships:** India's alliances with affected nations make it invested in the issue.

5. **Rule of Law:** India supports resolving disputes based on international law.

6. **Act East Policy:** South China Sea is a part of India's regional engagement strategy.

7. **Bilateral Relationships:** India has partnerships with nations involved in the dispute.

WEST ASIA BOILS

The ongoing conflict in West Asia has taken a fresh turn with the killings of some noted personalities by Israel.

ASSASINATION OF HAMAS LEADER: ISMAIL HANIYEH

Ismail Haniyeh, the Qatar-based public face of Hamas, was assassinated in Iran in what might mark a defining moment in the ongoing war between Israel and the Palestinian militant group.

WHERE WAS HANIYEH ASSASSINATED?

Haniyeh was killed in Tehran, where he had gone to attend the inauguration of the newly-elected Iranian President Masoud Pezeshkian.

HAS INDIA ISSUED ANY RESPONSE ON THIS EVENT?

While New Delhi is yet to issue a response with regards to the assassination, Union Transport Minister Nitin Gadkari is also in Tehran at the moment for Pezeshkian's inauguration.

WHAT DOES THIS ASSASINATION MEAN FOR DIFFERENT STAKEHOLDERS?

1. **For Israel: A success**
   On October 7, 2023, Hamas killed at least 1,200 Israeli civilians and military personnel, and took about 250 hostages. Since then, the Israeli military has pounded Gaza with air strikes and ground operations, with the stated aim of going after Hamas leaders. More than 40,000 people have been killed in the process.
   From the Israeli point of view, this is a major victory in its mission to neutralise Hamas — a stated objective behind launching the Operation Swords of Iron. Haniyeh is the most highly placed Hamas figure to have been killed so far.

2. **For Hamas: A provocation**

   From Hamas' perspective, however, this is a major provocation since Haniyeh was the head of its political bureau, based in Qatar. He was the public face of Hamas, and was negotiating the terms of the hostages deal and the ceasefire, while Yahya Sinwar is the military leader who was responsible for the October 7 attacks.

   In a statement, Hamas mourned the death of Haniyeh, saying he was killed in "a treacherous Zionist raid on his residence in Tehran" after attending the swearing-in ceremony of the new Iranian president.

   Hamas official Sami Abu Zuhri told Reuters that the assassination of Haniyeh in Iran is a grave escalation.

3. **Message that Iran not safe**

   The fact that the targeted strike took place in Tehran will be seen as a major escalatory move, both by Hamas and Iran. For Israel, this is a signal that Hamas leaders are not safe in Iran and in Iran's protection.

   In April this year, Iran and Israel had exchanged a round of missile and drone attacks at each other. Temperatures had cooled since then, but this assassination has the potential to trigger further hostilities.

4. **Pressure on Pezeshkian:**

   Within Iran and Hamas, there will now be calls for avenging Haniyeh's death, which are certain to put pressure on the newly-elected moderate President Pezeshkian. The president's election campaign focussed on beginning negotiations with the West, primarily for economic reasons given how damaging Western sanctions have been for Iran. He would have hoped to restart dialogue with Europe, to begin with.

   But, with Haniyeh's assassination, Pezeshkian will be under pressure from the IRGC and the hardliners in the Iranian establishment to respond in kind.

   Iran will "defend its territorial integrity, dignity, honor, and pride, and will make the terrorist occupiers regret their cowardly act" of assassinating Haniyeh in Tehran, President Pezeshkian said on Wednesday.

5. **Lifeline for Netanyahu**

   This assassination gives a lifeline to Israel's Prime Minister Benjamin Netanyahu.

   He has been facing questions about his leadership, and his political survival was at stake. There has been growing pressure on him to finally strike the hostage deal with Hamas, which was being brokered by the US, Egypt and Qatar, among others.

   The assassination has the potential to upend all such efforts for the time being, and it is expected to prolong the war in Gaza.

   This will mean that Netanyahu will likely stay till the war is over.

6. **Questions for Kamala Harris:**

   The campaign for the US elections in November is now at a pivotal stage with Vice President Kamala Harris now the prospective Democratic nominee.

   She has signalled that she will be tougher on Netanyahu, and his war in Gaza, as compared to her predecessor Joe Biden. This is especially crucial as Harris is focussed on getting the support of younger Democratic voters.

   The assassination complicates things for her. She will now have to think and formulate a response, in case there is an escalation in the region.

7. **On West Asia**

   For the region as a whole, the assassination is not good news, especially if Iran and Hamas escalate. Such an escalation will impact all of West Asia.

   Qatar, Turkey, and the Yemeni Houthis have already condemned the assassination, and the top regional players like Saudi Arabia, UAE are watching the events closely.

   After more than nine months of war in Gaza, this is a defining moment — after the development in April when there was a risk of escalation — when the region might get drawn into a broader conflict.8: On India:

   India is still processing the developments, with the South Block mindful of the sensitivities of a response. While New Delhi does not harbour any positive sentiments about the Hamas leaders, it will be careful in its framing — since the matter involves a targeted assassination in a foreign soil.

   The immediate Indian concern will be the peace and stability in the region which is home to about nine million Indian expats, apart from supplying almost two-third of India's crude.

ASSASINATION OF SENIOR HEZBOLLAH LEADER IN LEBANON: FUAD SHUKR

Hezbollah, the Shiite Islamic militant group based in Lebanon, said its senior commander Fuad Shukr was killed in an Israeli airstrike in the capital Beirut, early on Wednesday (July 31).

Israeli Defence Forces (IDF) also posted on their X account how Shukr, Hezbollah's "Most Senior Military Commander" and "Right-Hand Man" of Hezbollah General Secretary Hassan Nasrallah, had been "eliminated".

IS IT SEEN AS A RETALIATION?

The attack is being seen as retaliation for a rocket strike in Israel-controlled Golan Heights on Sunday that led to the deaths of 12 children and teenagers.

WHO ARE THE HEZBOLLAH?

Hezbollah, whose name means 'Party of God', is a Shiite Islamic militant organisation from Lebanon.

The think tank Centre for Strategic and International Studies (CSIS) has described it as "The world's most heavily armed non-state actor, with a large and diverse stockpile of unguided artillery rockets, as well as ballistic, anti air, antitank, and anti shipmissiles"

HISTORY

In modern history, Lebanon was under a French mandate until 1943 and after it ended, power was divided into various religious groups, with posts such as Prime Minister and President of the country reserved for people of particular religious denominations.

Origin of hezbollah:

Hezbollah originated during the Lebanese Civil War (1975-1990), which was a result of "long-simmering discontent over the large, armed Palestinian presence in the country", according to the Council on Foreign Relations (CFR).

- **Palestinian refugees in Lebanon** were targeting Israel & being targeted by them.
- Their presence also led to Israeli forces invading southern Lebanon in 1978 and again in 1982 to expel Palestinian guerrilla fighters.
- This would lead to the formation of Hezbollah, which was also inspired by the formation of a theocratic Islamic government in Iran in 1979. "Iran and its Islamic Revolutionary Guard Corps (IRGC) provided funds and training to the budding militia,"

AIM

It opposes Israel and Western influence in West Asia. It has also, along with Russia and Iran, supported the regime of President Bashar al-Assad in neighbouring Syria during its civil war.

It became more visible in Lebanese politics in the mid-2000s and currently holds 13 of the country's 128-member Parliament. Along with allies, it is part of the ruling government.

But in recent years, there have been protests against its work in the country with worsening issues of unemployment, government debt and poverty.

GLOBAL RECOGNITION OF HEZBOLLAH

Many Western governments characterise it as a terrorist organisation, as does the Gulf Cooperation Council.

MEMBERS OF GULF COOPERATION COUNCIL

1. Bahrain,
2. Kuwait,
3. Oman,
4. Qatar,
5. Saudi Arabia and
6. UAE.

WHY IS HEZBOLLAH IN THE CONFLICT?

The answer lies in the Abraham Accords signed in 2020. (Brokered by USA & signed between Israel & Arab muslim countries like UAE & Bahrain. Later other Arab countries also recognised & established diplomatic relations with Israel)

The Convergence:

According to a Reuters analysis, the motivations of Hamas are related to it opposing the greater engagements between Israel and other West Asian governments in recent years – a significant development considering the fact that most of them lacked diplomatic relations with Israel. It has these goals in common with Hezbollah, which is much better equipped to fight.

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BURNING NEWS

Bangladesh PM Sheikh Hasina Resigns Amid Protests

Sheikh Hasina's Resignation

- **Date of Resignation:** August 5, 2024
- **Reason:** Resignation followed weeks of intense protests related to job quota reforms.
- **Context of Resignation:**
  - o **Protests:** Significant unrest and public pressure regarding the job quota system prompted Sheikh Hasina to resign.
  - o **Exit:** Hasina fled the country using a helicopter and landed at Hindon Air Base near New Delhi, indicating a serious and urgent situation.

Announcement by Army Chief

- **General Waker-Uz-Zaman:** Announced Sheikh Hasina's resignation and outlined the next steps.
- **Next Steps:**
  - o **Formation of Interim Government:** The army chief indicated plans to consult with the president and establish an interim government to manage the country.

Background of General Waker-Uz-Zaman

- **Birth and Family:**
  - o **Born:** 1966, Dhaka.
  - o **Family:** Married to Sarahnaz Kamalika Zaman, daughter of General Muhammad Mustafizur Rahman, former army chief and cousin-in-law of Sheikh Mujibur Rahman.
- **Career:**
  - o **Previous Role:** Served as Chief of General Staff for over six months, handling military operations, intelligence, and defense budget.
  - o **Experience:** Extensive experience in military leadership and UN peacekeeping missions.

Sheikh Hasina's Family Background

- **Early Life:**
  - o **Born:** 1947, East Bengal (now Bangladesh).
  - o **Father:** Sheikh Mujibur Rahman, the founding father and first president of Bangladesh.
- **Family Tragedy:**
  - o **Date:** August 15, 1975.
  - o **Event:** Assassination of Sheikh Mujibur Rahman, his wife, and their three sons by army officials.
  - o **Survivors:** Sheikh Hasina and her younger sister, Sheikh Rehana, who were abroad during the assassination.

The Bangladesh Liberation War (1971)

- **Background:**
  - o **Partition of India (1947):** Creation of India and Pakistan based on religious lines.
  - o **Geographical Disparity:** Pakistan was divided into West Pakistan (now Pakistan) and East Pakistan (now Bangladesh), with East Pakistan feeling economically and politically marginalized.
  - o **Language Movement:** Bengali language movement highlighted cultural differences.
- **War Events:**
  - o **1970 Elections:** Awami League, led by Sheikh Mujibur Rahman, won and demanded autonomy for East Pakistan.
  - o **Operation Searchlight (March 25, 1971):** Brutal crackdown by Pakistani military on Bengali population.
  - o **Mukti Bahini:** Bengali resistance forces fighting for independence.
  - o **Indian Involvement:** India supported Mukti Bahini and intervened militarily in December 1971.
  - o **Victory:** Bangladesh became independent on December 16, 1971.

Key Events in Sheikh Hasina's Political Career

- **Pro-Democracy Protests:**
  - o **Opposition to Military Rule:** Challenged General Hussain Muhammed Ershad's military rule; became a prominent political figure.
- **First Term in Office (1996):**
  - o **Achievements:** Signed a water-sharing deal with India and a peace agreement with tribal insurgents.

- **Criticism:**
  - o **Allegations:** Faced criticism for corruption and excessive accommodation to India.
- **Loss of Power (2001):**
  - o **Defeat:** Lost to Begum Khaleda Zia, leading to political instability and rivalry.
- **Return to Power (2009):**
  - o **Resilience:** Returned to power despite numerous challenges, including arrests and assassination attempts.

Achievements Under Hasina's Leadership

Economic Transformation:

- **Growth:**
  - o **Rapid Expansion:** Under Sheikh Hasina's leadership, Bangladesh has seen remarkable economic growth, becoming one of the fastest-growing economies in Asia. The country's GDP growth rate has consistently outpaced many regional neighbors, showcasing significant economic progress.
  - o **Key Drivers:** This growth has been fueled by various factors, including increased foreign investment, development of key industries, and successful economic reforms. Policies aimed at improving the business environment and infrastructure have played a crucial role.
- **Poverty Reduction:**
  - o **Income Tripling:** The per capita income of Bangladesh has tripled over the past decade, reflecting a substantial increase in the average income of its citizens. This growth in income has contributed to improved living standards.
  - o **Impact on Poverty:** More than 25 million people have been lifted out of poverty during Hasina's tenure. This reduction in poverty is attributed to robust economic growth, social welfare programs, and targeted poverty alleviation initiatives. Programs such as microfinance and social safety nets have played a key role in empowering the poor.

Garment Industry:

- **Importance:**
  - o **Economic Driver:** The garment industry is a cornerstone of Bangladesh's economy. It accounts for a significant portion of the country's exports and contributes greatly to its GDP. The sector employs millions of workers, particularly women, and has been instrumental in driving economic growth.

  - o **Global Standing:** Bangladesh has become one of the world's largest garment exporters, competing with major players like China and Vietnam. The industry's success has helped position Bangladesh as a key player in the global textile market.

Infrastructure Development:

- **Padma Bridge:**
  - o **Project Overview:** The Padma Bridge is a major infrastructure project aimed at connecting the southern part of Bangladesh with the northern regions, enhancing connectivity and promoting economic integration.
  - o **Cost and Funding:** The project costs approximately $2.9 billion and has been financed through a mix of domestic funds, loans, and development aid. It is one of the largest infrastructure investments in Bangladesh's history.
  - o **Impact:** The bridge is expected to boost regional economic development, facilitate trade, and improve transportation efficiency. It will also help in reducing regional disparities and promoting balanced economic growth.

Controversies and Challenges

1. Job Quota Protests:

- **Cause:**
  - o **Dissatisfaction with Quotas:** Protests erupted over the job quota system, which reserved government jobs for certain groups, including descendants of freedom fighters. Critics argued that the system was outdated, created unfair advantages, and did not align with merit-based recruitment.
  - o **Student Involvement:** The protests were led by students and young activists who demanded a reform of the quota system to ensure fairness and transparency in job allocations.

2. Economic Difficulties:

- **Challenges:**
  - o **Inflation:** Rising inflation has eroded purchasing power and increased the cost of living for many Bangladeshis. The global economic environment and domestic policy issues have contributed to this inflationary pressure.
  - o **Declining Foreign Exchange Reserves:** The country has faced challenges in maintaining adequate foreign exchange reserves, which are crucial for stabilizing the currency and supporting international trade.

- o **Rising Foreign Debt:** Increased borrowing to finance development projects and economic initiatives has led to growing foreign debt, raising concerns about debt sustainability and financial stability.

Quota System History:

1. Introduction (1972):

- **Purpose:**
  - o **Initial Quota:** The quota system was established to recognize and reward the contributions of freedom fighters and their families, who played a crucial role in Bangladesh's liberation struggle. It reserved 30% of government jobs for their descendants.

2. Expansion (2011):

- **Extension:**
  - o **Additional Beneficiaries:** Under Sheikh Hasina's administration, the quota system was expanded to include the grandchildren of freedom fighters. This extension aimed to further honor the legacy of those who contributed to the independence movement.

3. 2018 Removal:

- **Withdrawal:**
  - o **Rationale:** The government decided to withdraw the quota system in October 2018, citing concerns about fairness and merit-based recruitment. The move was intended to address issues related to nepotism and favoritism and streamline the hiring process.

4. 2024 Developments:

- **High Court Ruling:**
  - o **Reinstatement:** In June 2024, the High Court ruled to reinstate the 30% quota, arguing that the previous withdrawal was arbitrary. This decision was later adjusted by the Supreme Court.
  - o **Supreme Court Adjustment:** The Supreme Court directed that 93% of government jobs should be based on merit, with 5% limited quotas for freedom fighters and 2% for other categories.

Political Implications:

1. Anti-Government Movement:

- **Demands:**
  - o **Resignation:** The protests evolved into a broader anti-government movement, with demonstrators calling for Sheikh Hasina's resignation. The unrest reflected widespread frustration with the government's policies and practices.

2. Non-Cooperation Movement:

- **Actions:**
  - o **Boycotts:** Protest organizers called for a nationwide non-cooperation movement, which included refusing to pay taxes, utility bills, and closing government and private offices. This strategy aimed to exert additional pressure on the government.

3. Ongoing Issues:

- **Debate:**
  - o **Employment Fairness:** The quota system controversy reflects broader issues related to employment fairness and governance. The ongoing debate highlights the need for reform in recruitment practices and transparency in government operations.

Conclusion:

Sheikh Hasina's resignation marks the end of a significant 15-year tenure characterized by economic growth and increasing authoritarianism. The current unrest shows deep-rooted political and social issues, particularly around the quota system and governance challenges.

BANGLADESH'S (EX) PM FLEES TO INDIA

Bangladesh Army Chief **Waker-uz-Zaman** has taken over the government.

Sheikh Hasina, now the ex PM of Bangladesh, has **fled from Bangladesh & landed in India**. She has also **resigned from the post of PM**. The Bangladesh **Parliament has been dissolved** by the President.

STUDENTS PROTEST IN BANGLADESH

Bangladesh announced it will indefinitely shut down all public and private universities from Wednesday (July 17) after massive country-wide protests against a controversial quota system in government jobs have left at least six dead, and over 400 injured.

REASONS FOR PROTEST

- The protests erupted in the wake of a June 5 ruling by the Bangladesh High Court reinstating the 30% quota for freedom fighters and their descendants in government jobs, which was repealed in 2018 after a massive agitation led by students and teachers.
- Prime Minister Sheikh Hasina further added fuel to the fire by referring to the protestors as 'razakars', a derogatory Bangla word for 'traitors' — with some grim historical baggage.

THE QUOTA SYSTEM IN BANGLADESH

Government jobs, in Bangladesh, are highly coveted as a stable and lucrative source of income. Nearly 400,000 graduates compete every year for around 3,000 such jobs.

Until 2018, 56 per cent of government jobs were reserved for various categories.

- **30%:** were reserved for family members of veterans who had fought for Bangladesh's liberation in 1971.
- **10%:** Women and people from underdeveloped districts.
- **5%:** Members of tribal communities.
- **1%:** Reserved for persons with disabilities.

This left only 44 per cent of all openings available for open admission.

WHY WAS THIS QUOTA CONTENTIOUS?

The freedom fighters' quota was particularly contentious since many people perceived it to be favouring those loyal to Hasina's party, the Awami League, which headed the Bangladeshi liberation struggle.

Adding to people's frustrations were the special examinations for quota candidates, varying age limits for each category, and the fact that there remained many vacancies in quota seats even as eligible candidates in the merit list were unemployed.

WHAT DOES IT MEAN FOR INDIA?

1. THE SITUATION IN BANGLADESH:

The country has been reeling under protests for the last month over the job quota system, and the protests had been the biggest since Hasina was re-elected for the fourth consecutive term since 2008.

She had led the country through economic growth but had also cracked down on the Opposition, media and the civil society.

This had made her unpopular, and the youth coming out on the streets was the tipping point.

2. WHAT DOES HER EXIT MEAN FOR INDIA?

Her departure after a 17-year tenure means that India has lost a trusted partner in the region. Hasina has been a friend to India, and New Delhi has worked closely with her on countering terrorist groups operating out of Bangladesh.

The partnership brought the two countries closer together, and New Delhi had given aid and assistance to Dhaka for a range of projects.

3. INDIA HAS BEEN SUPPORTIVE OF SHAIKH HASEENA:

By being careful with its comments and insisting that the weeks of turmoil in Bangladesh was its internal matter, India has given her tacit support — her openly undemocratic ways notwithstanding.

The West has been questioning Hasina's crackdown against civil society, the opposition, and the media, and has been calling for an end to her authoritarian style of functioning.

India's backing of her, despite allegations of rigging in elections, has been a bone of contention between India and the West.

4. WILL INDIA INSULATE ITSELF FROM HER UNPOPULARITY?

Since she has landed in India, it would mean New Delhi will have to work towards ensuring her safety, and would face some questions from the new regime in Dhaka about giving refuge to an unpopular leader.

There is a real risk of blowback from the Bangladeshi people as well — during the years of Awami League rule, the Bangladeshi opposition has viewed India as backing Hasina, and the West as being on their side.

5. WHO WILL BE IN POWER IN DHAKA?- A MATTER OF CONCERN FOR INDIA.

What attitude they will take towards India will be critical. In the past, when Opposition parties led by BNP-Jamaat or the Army have ruled the country, India has had an unpleasant experience — with anti-India terror outfits operating across the India-Bangladesh border.

This situation could well arise again, and New Delhi cannot afford to have another front open when the LoC and the border with Pakistan is hot again, and

the Indian Army is in a long standoff with the PLA in eastern Ladakh. The Myanmar border is also extremely volatile, and the source of unrest and strife in India's Northeast.

6. WHAT WOULD BE THE ROLE OF THE ARMY CHIEF?

Ahead of his address to the nation, General Waker held a meeting at the military headquarters, at which two important leaders of the main opposition Jatiya Party were invited.

In an major development, the BNP leader Khaleda Zia, who had been arrested in a corruption case, has been released.

CONCERNS FOR INDIA

- India's trade will be impacted.
- Anti India terrorist groups can become more active.
- More immigration into India from Bangladesh.
  - o More than 1 crore Hindus live in Bangladesh. They may be targeted there. They will be left with no choice except to migrate to India.
  - o With CAA in place, Indian citizenship laws are also inclined towards granting citizenship to non muslims from Bangladesh. This will increase pressure on India.
- Overall stability in the region will be negatively impacted.
- Crimes like Human & Drug trafficking, crimes against women, etc can increase.

WHAT CAN INDIA DO?

As of now, India has not done much except for harbouring Sheikh Hasina when she fled from Bangladesh. But India cannot shy away from the situation in the region. India is afterall 'The Big Brother' in the region. (although the itself is diluted by India, but the realities should not be ignored).

Following steps can be taken :

- Establish dialogue (as soon as possible) with the regime in Bangladesh.
- Strengthen Border security.
- Robust intelligence gathering & sharing.
- Give humanitarian assistance & relief to Bangladesh.
- Indulge with global stakeholders to restore normalcy in Bangladesh.
- Free & Fair democracy should be advocated as the way forward.

External Affairs Minister S Jaishankar's statement in Parliament on August 6 was the first detailed articulation of India's position on the situation in Bangladesh. India had thus far insisted that the crisis that had engulfed that country for months was their "internal matter".

KEY TAKEAWAYS

(1) Jaishankar underlined that ties between India and Bangladesh had **developed over the decades**, and had been nurtured by successive governments from the Congress to the BJP, and the coalitions of the late 90s.

"India-Bangladesh relations have been exceptionally close for many decades over many governments. Concern about recent violence and instability…is shared across the political spectrum," he said.

The minister was clearly seeking to generate a broad, non partisan political consensus in India on the situation in Bangladesh.

(2) For the first time, India flagged the "tension" and "polarisation" created by this January's election that brought Sheikh Hasina to power for the fourth time since 2008, and which were widely seen as rigged.

The election result formed the base of the discontent that erupted in the students' protests and street violence after the High Court on June 5 restored a 30% quota in government jobs that has historically benefited supporters of Hasina's Awami League.

"Since the election in January 2024, there has been considerable tensions, deep divides and growing polarisation in Bangladesh politics. This underlying foundation aggravated a student agitation that started in June this year. There

was growing violence, including attacks on public buildings and infrastructure, as well as traffic and rail obstructions. The violence continued through the month of July," —*S JAISHANKAR*

(3) Jaishankar revealed that the Indian government had offered counsel and advice to the Hasina government over the last seven months "in private".

The West, including the United States, had been extremely vocal about Hasina's authoritarian style of governance.

"Throughout this period, we repeatedly counselled restraint and urged that the situation be defused through dialogue," Jaishankar said.

(4) The minister told Parliament that India had also been in touch with political parties opposed to Hasina. This means that New Delhi has had conversations with former Prime Minister Khaleda Zia's BNP and other political outfits who will now be in power — this is important because of concerns that India had over the years put all its eggs in the Awami League basket.

"Similar urgings [for restraint] were made to various political forces with whom we were in touch," the minister told Parliament.

(5) Jaishankar provided an account of the final two weeks of protests that ended with Hasina's fall. He revealed that Hasina had finally resigned after she was nudged by the security establishment — the Bangladesh Army and police brass who met her on Monday morning.

The events of the dramatic last hours of the Hasina government had made it clear that her resignation was the result of a last-minute decision. Jaishankar confirmed it through his statement.

"Despite a [Bangladesh] Supreme Court judgment on 21 July (scaling back the freedom fighters' quota to 5% and leaving 93% seats unreserved), there was no let-up in the public agitation. Various decisions and actions taken thereafter only exacerbated the situation. The agitation at this stage coalesced around a one-point agenda, that is that the Prime Minister Sheikh Hasina should step down,"

(6) Jaishankar underlined the critical importance of the role of the Bangladesh Army chief, which is key to what happens next in that country.

This is an important assessment — and New Delhi will be watching this aspect closely.

"The situation in Bangladesh is still evolving. The Army Chief, General Waker-uz-Zaman, addressed the nation on 5th August. He spoke about assuming responsibility and constituting an interim government,"

(7) The Indian government has put the onus of keeping safe and secure India's diplomatic facilities and its citizens in Bangladesh on the new establishment in Dhaka.

"We are in close and continuous touch with the Indian community in Bangladesh through our diplomatic missions. There are an estimated 19,000 Indian nationals there, of which about 9,000 are students. The bulk of the students have already returned to India in the month of July on the advice of the High Commission," Jaishankar said.

"In terms of our diplomatic presence, in addition to the High Commission in Dhaka, we have Assistant High Commissions in Chittagong, Rajshahi, Khulna and Sylhet.

It is our expectation that the host government will provide the required security protection for these establishments. We look forward to their normal functioning once the situation stabilises,"

(8) The statement raised the issue of Hindus in Bangladesh, which is especially important to the BJP-led government in New Delhi. It acknowledged ongoing efforts by some groups in Bangladesh to take care of minorities, but stressed that the BSF is on alert for any eventuality.

"We are also monitoring the situation with regard to the status of minorities," Jaishankar said.

"There are reports of initiatives by various groups and organisations to ensure their protection and well-being. We welcome that, but will naturally remain deeply concerned till law and order is visibly restored. Our border guarding forces have also been instructed to be exceptionally alert in view of this complex situation,"

(9) Jaishankar called for a continuation of the "strong national consensus" on how to deal with the situation in the important neighbouring country.

"In the last 24 hours, we have also been in regular touch with the authorities in Dhaka. This is the situation as of now. I seek the understanding and support of the House in regard to sensitive issues regarding an important neighbour on which there has always been strong national consensus,"

❐❐❐

ANALYSIS OF CURRENT ISSUES

Indian Polity & Governance

1.2 Lakh 'D' Voters Identified, 41,583 Declared Foreigners

Assam Chief Minister Himanta Biswa Sarma announced that nearly 1.2 lakh individuals in Assam have been categorized as 'D' (Dubious or Doubtful) voters, with 41,583 of them officially declared as foreigners. This update came in response to a query by Leader of the Opposition Debabrata Saikia.

Key Details of the Announcement

D-Voter Statistics:
- **Total Identified:** 1,19,570 people marked as D-voters.
- **Confirmed as Indians:** 76,233.
- **Declared Foreigners:** 41,583.

Legal and Detention Updates:
- **522** individuals detained for two years and 273 detained for three years have been released on bail as per Supreme Court directives.
- Verification of the nationality of declared foreigners is ongoing, with repatriation pending travel permit issuance.

Historical Context:
- From 2001 to August 1 this year, 1,00,076 cases were processed by Foreigners Tribunals (FTs).
- The concept of D-voters was introduced in Assam in 1997 by the Election Commission to identify those unable to prove their Indian nationality.

Who are D-Voters?

Definition and Background :
- **D-Voter Concept:** Unique to Assam, introduced in 1997 to categorize individuals with questionable citizenship status during the National Register of Citizens (NRC) preparation.
- **Legal Framework:** No specific definition in the Citizenship Act, 1955, or the Citizenship Rules of 2003. The rules only mandate a remark for further inquiry in the population register for doubtful citizenship.

Process and Implications:
- **Notification and Hearing:** Individuals classified as D-voters are notified and given a chance to be heard by the Taluk or Sub-district Registrar of Citizenship.
- **Voting Rights:** D-voters cannot vote or run for office until their citizenship is confirmed.
- **Resolution Timeline:** The marking as a D-voter is temporary, and a definitive decision must be made within a specified period. If deemed a foreign national, deportation or detention may follow.

Inclusion in NRC:
- D-voters can apply to have their names included in the NRC after clearing their status with the FTs and having the 'D' prefix removed.

Foreigners Tribunals (FTs)

Purpose and Formation:
- **Established By:** Foreigners (Tribunals) Order of 1964 under Section 3 of the Foreigners' Act, 1946.
- **Role: Quasi-judicial bodies** to adjudicate cases of suspected foreigners. FTs are exclusive to Assam for handling illegal immigrant cases.

Functioning:
- **Composition:** Each FT is headed by a member with judicial experience, including judges, advocates, and civil servants.
- **Powers:** FTs have civil court powers such as summoning and examining witnesses, and requiring document production.
- **Case Disposal:** FTs must dispose of cases within 60 days. If citizenship is not proven, individuals may be sent to a transit camp for deportation.

Conclusion :

The identification of 1.2 lakh D-voters and the declaration of 41,583 as foreigners highlights ongoing challenges in Assam's migration and citizenship issues. The D-voter concept and the role of Foreigners Tribunals underscore the complex and sensitive nature of citizenship verification in the state. As the verification process continues, addressing these issues remains crucial for maintaining electoral integrity and ensuring fair treatment of all individuals involved.

Bharatmala Pariyojana Phase-I Update

PHASE-I OF BHARATMALA PARIYOJANA APPROVED IN CCEA MEETING CHAIRED BY PM. #NewIndia

Components

1 44 Economic corridors Length - 26,200 km
Phase 1: 9,000 km with Outlay of Rs. 1,20,000 cr

2 Inter-corridor - 66 Inter corridor Routes Length - 8,400km
Feeder Roads - 116 Feeder Routes Length - 7,600 km
Phase 1: 6,000 km With Outlay of Rs. 80,000 cr

3 National Corridors Efficiency improvements
Phase 1: 5,000 km with Outlay of Rs. 1,00,000 cr

4 Border & International connectivity roads

5 Coastal & port connectivity roads
Length - km - 2,000 with Outlay of Rs. 20,000 cr

6 Expressways
Length - 800 km with Outlay of Rs. 40,000 cr

7 Around 24,800 kms will be taken up in Ph-I of Bharatmala, in addition to 10,000 kms of balance road works under NHDP, taking the total to 34,800 km at an estimated cost of approx Rs 5,35,000 cr.

Completion Timeline:

- The Bharatmala Pariyojana Phase-I is projected to be completed by 2027-28, according to the Ministry of Road Transport and Highways (MoRTH) annual report 2023-24.

Scope and Progress:

- **Total Length:** 34,800 km across 31 states and UTs, covering more than 550 districts.
- **Awarded Length:** 26,425 km
- **Constructed Length:** 17,411 km
- The program was approved by the Cabinet Committee on Economic Affairs (CCEA) in June 2017.

Financials:

- **Estimated Cost:** Rs 6,92,324 crore
  - **Funding Sources:**
    * Central Road and Infrastructure Fund (CRIF) cess: Rs 2,37,024 crore
    * Remittances: Rs 46,048 crore
    * Additional Budgetary Support: Rs 59,973 crore
    * Monetization of National Highways (Toll-Operate-Transfer model): Rs 34,000 crore
    * Internal and Extra Budgetary Resources (IEBR): Rs 2,09,279 crore
    * Private Sector Investment: Rs 1,06,000 crore
- **Revised Proposal:** Due to cost increases and land acquisition expenses, a revised financial proposal is under process for approval.

Program Components:

- **Economic Corridors:** Development of about 26,000 km, integrating with the Golden Quadrilateral (GQ) and North-South East-West (NS-EW) Corridors.
- **Interstate Corridors:** Approximately 8,000 km
- **Feeder Routes:** About 7,500 km to enhance corridor effectiveness.

Vision 2047:

- **Objective:** To provide access to high-speed corridors within 100-150 km for all citizens and improve passenger amenities with world-class infrastructure.

What is Bharatmala Pariyojana ?

About:

- **Launched:** Ministry of Road Transport and Highways
- **First Phase Announcement:** 2017
- **Original Completion Deadline:** 2022

- **Current Status:** In progress due to slow implementation and financial constraints
- **Integration with PM Gati-Shakti Plan:** Incorporates Bharatmala, Sagarmala, dry/land ports, and other infrastructure projects to improve connectivity and logistics efficiency.
- **Comparison:** Bharatmala focuses on road connectivity and freight/passenger movement; Sagarmala focuses on port modernization and coastal shipping.

Key Features:

1. **Economic Corridors:**
   - **Objective:** Enhance existing infrastructure, multi-modal integration, bridge gaps, and integrate National and Economic Corridors.
   - **Development:** About 26,000 km of economic corridors, including the Golden Quadrilateral (GQ) and North-South and East-West (NS-EW) Corridors.
2. **Inter-State Corridor and Feeder Routes:**
   - **Objective:** Ensure first mile and last mile connectivity.
   - **Development:** 8,000 km of interstate corridors and 7,500 km of feeder routes.
3. **Border and International Connectivity Roads:**
   - **Objective:** Improve border road infrastructure, boost trade with neighboring countries.
4. **Coastal and Port Connectivity Roads:**
   - **Objective:** Enhance port-led economic development and connectivity to coastal areas.
5. **Green-Field Expressways:**
   - **Objective:** Address traffic configuration and choke points with new expressways.

Funding Mechanism:

- **Sources:** Central Road and Infrastructure Fund cess, remittances, additional budgetary support, monetization of national highways, Internal and Extra Budgetary Resources, and private sector investment.

Status (As of March 2024):

- **Contracts Awarded:** 26,425 km
- **Completed:** 17,411 km
- **Total Expenditure:** Rs 4.59 lakh crore
- **Coverage:** 34,800 km across 31 states and UTs, over 550 districts.

Other Similar Initiatives:

1. **Pradhan Mantri Gram Sadak Yojana (PMGSY):**
   - **Initiated:** 2001
   - **Objective:** Connectivity to unconnected habitations.

2. **National Infrastructure Pipeline (NIP):**
   o **Objective:** Provide world-class infrastructure to improve quality of life and attract investments.
   o **Scope:** Includes greenfield and brownfield projects above Rs 100 crore each.

3. **Golden Quadrilateral Project:**
   o **Objective:** Connects Delhi, Mumbai, Chennai, and Kolkata.
   o **Launched:** 2001
   o **Segments:**
      * Delhi–Kolkata: 1,453 km
      * Chennai–Mumbai: 1,290 km
      * Kolkata–Chennai: 1,684 km
      * Mumbai–Delhi: 1,419 km

4. **New Contracting Models:**
   o **Models:** Hybrid Annuity Model (HAM), Toll, Operate, and Transfer (TOT), Infrastructure Investment Trusts (InVITs).

Significance of Road Infrastructure:

1. **Economic Growth and Productivity:**
   o Contributes over 3.6% of GDP.
   o Transports more than 85% of passenger traffic and 65% of freight.
   o Reduces transportation costs, enhances market access, and creates employment opportunities.

2. **Rural Development and Social Equity:**
   o Improves access to essential services in rural areas.
   o Empowers marginalized communities and reduces isolation.

3. **Tourism and Cultural Exchange:**
   o Facilitates tourism and cultural exchange, supporting local economies.

4. **National Security and Defense:**
   o Essential for defense logistics, emergency responses, and troop movement.

Major Concerns Related to Road Infrastructure Development:

1. **Environmental Concerns:**
   o **Issues:** Deforestation, biodiversity loss, pollution, habitat fragmentation, and climate change.
   o **Impact:** Road transport accounts for 12% of India's CO2 emissions.

2. **Social Concerns:**
   o **Issues:** Displacement of communities, safety, and resettlement challenges.
   o **Impact:** High accident rates and potential worsening of poverty.

3. **Economic Concerns:**
   o **Issues:** Cost overruns, delays, and maintenance issues.
   o **Impact:** Budget exceedance by over 40% and rapid road deterioration.

4. **Governance and Policy Issues:**
   o **Issues:** Corruption, substandard infrastructure, and lack of comprehensive planning.
   o **Impact:** Poor project execution and need for integrated transport planning.

78th Independence Day

15 AUG 2024

In 78th Independence Day speech from Red Fort,, Prime Minister Shri Narendra Modi shared his vision for India's future, emphasizing growth, innovation, and leadership across various sectors.

1. Record-Breaking Speech:

a. **Duration**: Prime Minister Narendra Modi delivered his longest Independence Day speech to date, lasting 98 minutes from the historic Red Fort.

b. **Previous Record:** This speech surpassed his previous record of 96 minutes set in 2016.

c. **Average Duration:** Modi's average Independence Day speech duration is 82 minutes, the longest among any Indian Prime Minister.

d. **Shortest Speech:** His shortest speech was delivered in 2017, lasting around 56 minutes.

2. PM modi's Speech Durations Over the Years:

Year	Duration
2014	65 minutes
2015	88 minutes
2018	83 minutes
2019	92 minutes (approx.)
2020	90 minutes
2021	88 minutes
2022	90 minutes
2023	98 minutes (record)

3. Historical Context of Speech Durations:

Longest Speeches:

Speaker	Year	Duration
Jawaharlal Nehru	1947	72 minutes
I.K. Gujral	1997	71 minutes

Shortest Speeches:

Speaker	Year	Duration
Jawaharlal Nehru	1954	14 minutes
Indira Gandhi	1966	14 minutes
Atal Bihari Vajpayee	2002	25 minutes
Atal Bihari Vajpayee	2003	30 minutes
Manmohan Singh	2012	32 minutes
Manmohan Singh	2013	35 minutes

Key points from the Prime Minister's address include:

1. **Ease of Living Mission:** PM Modi outlined his vision to fulfil 'Ease of Living' on a mission mode. He spoke of enhancing the quality of life in urban areas through systematic assessments and improvements in infrastructure and services.

2. **Revival of Nalanda Spirit:** The Prime Minister sought to revive the ancient **Nalanda University** spirit, positioning India as a global education hub by promoting higher learning and research. This builds on the inauguration of Nalanda University in 2024.

3. **Made in India Chip-Semiconductor Production:** PM Modi outlined India's commitment to becoming a global leader in **semiconductor production**, aiming to reduce dependency on imports and enhance technological self-sufficiency.

4. **Skill India:** Referring to the **Budget 2024**, the Prime Minister highlighted landmark initiatives announced by the government to train India's youth and become the skill capital of the world.

5. **Hub of Industrial Manufacturing:** PM Modi envisioned transforming India into a global **manufacturing hub**, leveraging its vast resources and skilled workforce.

6. **"Design in India, Design for the World":** The Prime Minister exalted indigenous design capabilities and urged to create products that cater to both domestic and international markets, coining this phrase.

7. **Leader in Global Gaming Market:** PM Modi said that India must leverage its rich ancient legacy and literature to come up with **Made in India gaming products**. He added that Indian professionals must lead the global gaming market, not just in playing but also in producing games, stating that Indian games should make their mark worldwide.

8. **Green Jobs and Green Hydrogen Mission:** PM Modi emphasized the importance of **green jobs** in India's efforts to combat climate change. He stated that the focus of the country is now on green growth and green jobs, which will generate employment opportunities while contributing to environmental protection. The Prime Minister reiterated India's commitment to becoming a global leader in **green hydrogen production** and creating sustainable employment opportunities in environmental conservation and renewable energy sectors.

9. **Swasth Bharat Mission:** PM said that to achieve the goal of **Viksit Bharat 2047**, India must tread the path 'Swasth Bharat' which has begun with the launch of **Rashtriya Poshan Abhiyan**.

10. **State-level Investment Competition:** The Prime Minister called for state governments to establish clear policies to attract **investments**, offer assurances of good governance, and ensure confidence in the law and order situation.

11. **Indian Standards as Global Benchmarks:** PM Modi spoke on India's aspiration to be recognized for its commitment to quality, stating that **Indian standards** should aspire to become international benchmarks.

12. **Climate Change Targets:** The Prime Minister reiterated the India's ambitious goal of achieving **500 gigawatts of renewable energy capacity** by 2030. He noted that India has been the only country among the G20 nations to meet its **Paris Accord goals**.

13. **Medical Education Expansion:** PM Modi announced plans to add **75,000 new medical seats** in the next 5 years, aiming to enhance the country's medical education capacity and address the growing demand for healthcare professionals.

14. **Inducting Fresh Blood in Politics:** PM Modi gave a call to bring **1 lakh youth** into the political system, specifically those with no history of politics in their families. The Prime Minister said this initiative was aimed at fighting the evils of **nepotism** and **casteism** and inducting fresh blood into India's polity.

15. **Aatmanirbharta in Defence:** PM Modi emphasized the shift from depending on imported weapons to boosting local manufacturing. He praised the **Ministry of Defence** and the **Armed Forces** for their efforts, including the creation of lists for indigenously sourced items, with over 5,600 items to be procured from Indian industries.

16. **Defence Production and Exports:** India's annual **defence production** reached a record Rs 1.27 lakh crore in FY 2023-24. Defence **exports**

also hit a record Rs 21,083 crore, a 32.5% increase from the previous year. In the first quarter of FY 2024-25, exports surged to Rs 6,915 crore, up 78% from the same period last year.

17. **Strength Against Terrorism:** PM Modi recalled the **2016 surgical strike** and the **2019 air strike**, noting India's transformation from a terror victim to a strong, bold nation with a capable Armed Forces that responds decisively to threats.

18. **Role of Women:** He highlighted the increasing leadership roles of women across various sectors, including the **Army**, **Navy**, **Air Force**, and **space**, celebrating the growing influence of '**Nari Shakti**' (women power) in the country's progress.

Conclusion:

Prime Minister Modi's address sets a bold and ambitious agenda for India's future, aiming to enhance quality of life, boost innovation, and strengthen the country's global standing. His vision includes advancements in education, technology, manufacturing, and healthcare, along with a strong commitment to environmental sustainability and improved governance. These goals reflect a comprehensive strategy to drive India toward becoming a global leader and a developed nation by 2047.

EDITORIALS

Crux of The Hindu & Indian Express

Indian Polity & Governance

SEXUAL HARASSMENT OF WOMEN AT WORKPLACE (PREVENTION, PROHIBITION & REDRESSAL) ACT 2013

Also known as the PoSH Act, it came into force from December 9, 2013. The Act provides for the constitution of an Internal Complaints Committee by every employer. The Committee should comprise of representatives of the employer, the employees and someone from outside the institution. It is also mandated that half the members should be women.

An aggrieved woman can file a complaint with the Committee which is duty bound to complete the inquiry into the complaint within 90 days. The Act also prescribes punishment for non- compliance with its provisions as well as for filing frivolous complaints.

THE GENESIS

- **SC 1997 guidelines/Vishakha Guidelines:** While hearing pleas filed against the crime, the

SC noted the **absence of any law** that guarantee against "sexual harassment at workplaces".

The apex court laid down a set of guidelines **to fill the statutory vacuum** till a law could be enacted.

- **The Court drew its guidelines from:**
  o **Article 15** (protection against discrimination on grounds only of religion, race, caste, sex, and place of birth) of the Indian constitution.
  o **International Conventions and norms** such as the General Recommendations of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), which India ratified in 1993.

- **The PoSH Bill:** It was introduced by the **Women and Child Development Ministry** in 2007. It went through several amendments and came into force on **December 9, 2013**, after being enacted by the Parliament.

KEY PROVISIONS

- **Defines sexual harassment:** To include **unwelcome acts** such as physical, verbal/non-verbal conduct - a demand or request for sexual favours, making sexually coloured remarks, showing pornography, etc.

- **Lists down five circumstances that would constitute sexual harassment:**
  o Implied or explicit promise of preferential treatment in employment
  o Implied or explicit threat of detrimental treatment in employment
  o Implied or explicit threat about present or future employment status
  o Interference with work or creating an intimidating or offensive or hostile work environment and
  o Humiliating treatment likely to affect health or safety.

- **Defines an employee (not just in accordance with the company law):** All women employees, whether employed regularly, temporarily, contractually, on an ad hoc or daily wage basis, as apprentices or interns, can seek redressal to sexual harassment in the workplace.

- **Expands the definition of 'workplace':** Beyond traditional offices to include all kinds of organisations across sectors, even non-traditional workplaces (for example, telecommuting) and places visited by employees for work.

INTERNAL COMPLAINTS COMMITTEE & LOCAL COMMITTEE

- The law requires any employer with more than 10 employees to form an ICC, where a formal sexual harassment complaint can be filed by a woman.
- **Composition of ICC:** It is required to consist of a minimum of four members (at least half of whom should be women):
  - o A Presiding Officer who has to be a woman employed at a senior level at the workplace.
  - o Two Members from amongst employees and who have had experience in social work or have legal knowledge.
  - o One "External Member" from NGOs to pre-empt any undue pressure from senior levels.
- Besides, the Act mandates every district in the country to create a LC to receive complaints from women working in firms with less than 10 employees and from the informal sector, including domestic workers, etc.

ROLE OF ICC & LC

- These two bodies have to conduct inquiries in line with the POSH Act and comply with the "principles of natural justice" stated in the Rules of the Act.
- A woman can file a written complaint either to the internal or local complaints committee within three to six months of the sexual harassment incident.
- There are two ways to resolve the issue by the committee –
  - o "Through conciliation" between the complainant and the respondent (which cannot be a financial settlement), or
  - o Committees could initiate an inquiry, taking appropriate action based on what it finds.

DUTIES OF THE EMPLOYER

- An employer has to file an annual audit report with the district officer about the number of sexual harassment complaints filed and actions taken at the end of the year.
- An employer is duty-bound to organise regular workshops and awareness programmes to educate employees about the Act, and conduct orientation and programmes for ICC members.
- If the employer fails to constitute an ICC or does not abide by any other provision, they must pay a fine of up to Rs. 50,000, which increases for a repeat offence.

THE RIGHT TO BE FORGOTTEN FROM JUDICIAL RECORDS

Introduction:

On July 24, the Supreme Court decided to look into whether the "right to be forgotten," which is part of the right to privacy, should apply to court orders that are usually public.

The court, led by Chief Justice D.Y. Chandrachud, warned that removing court judgments from public view after someone is found not guilty in a criminal case could have serious consequences.

Background:

1. **Madras High Court Judgment**: The High Court told the legal search website Indian Kanoon to remove a judgment where a man was found not guilty in a rape case. The man argued that having the judgment online led to his Australian citizenship being denied.
2. **Indian Kanoon's Argument**: The website argued that court records are public and can't be removed just because someone wants privacy. They also said it was unfair that only they were asked to remove the judgment when other websites had it too.

Legal Principle and Challenges:

1. **Right to Be Forgotten**: This is the idea that people should be able to have their online information removed if it's old, not relevant, or harmful to their privacy.
2. **Data Protection in India:** India's current data protection laws don't clearly support this right. The 2023 Digital Personal Data Protection Act talks about the right to "erasure," but it's not clear if this applies to court records and public information.
3. **Madras High Court Interpretation:** The court said that court records are personal data, so the 2023 Act should apply. Indian Kanoon is challenging this in the Supreme Court.

Judicial Recognition in India:
1. **2017 Ruling in Justice K.S. Puttaswamy v. Union of India:** The court recognized the right to privacy as a fundamental right, which includes the right to be forgotten.
2. **Digital Personal Data Protection Act, 2023:** This law recognizes the right to "erasure", but it's not clear how this applies to court records and public information.

Judicial Precedents Related to the Right to Be Forgotten:
1. **Rajagopal vs. State of Tamil Nadu Case, 1994:** The court talked about the "right to be let alone" but said that public records like court decisions can still be discussed publicly.
2. **Dharamraj Bhanushankar Dave vs. State of Gujarat, 2017:** The Gujarat High Court refused to remove details of an acquittal from public records, saying court orders should stay accessible.
3. **Orissa HC (2020):** The court said there needs to be more discussion on the right to be forgotten because it's complicated and needs clear rules.
4. **Delhi HC (2021):** The court allowed the removal of details from search results to protect someone's social life and career after a criminal case.
5. **Supreme Court Order (July 2022):** The court told its registry to create a way to remove personal details of a couple involved in a divorce case from search engines.
6. **Karnataka High Court (April 2022):** Told Indian Kanoon to hide the name of a woman who got a divorce and remarried.
7. 2017 Supreme Court Ruling: The court said that the right to privacy is a basic right, and this includes the right to be forgotten in the digital age.
8. **Kerala High Court (December 2023):** Said the **right to be forgotten** can't be used for ongoing court cases because it goes against the idea of open justice.
9. **Himachal Pradesh High Court (July 2024):** Ordered the names of both the accused and the victim in a rape case to be removed from digital records after the accused was found not guilty.

Definition and International Context:
1. **Right to Be Forgotten:** This allows people to ask for their personal data to be removed from the internet if it's old, not relevant, or harmful.
2. **European Context:** The European Union's highest court ruled in 2014 that Google must remove outdated or irrelevant information upon request.
3. **Other Nations:** Countries like Canada, the UK, Argentina, and Japan have similar laws.

Challenges Arising from Inconsistent Judicial Approaches:
1. **Lack of Uniformity:** Different courts have different rulings, which makes it confusing to apply the right to be forgotten.
2. **Balancing Privacy and Public Interest**: Courts struggle to balance privacy rights with the idea of open justice and public access to information.
3. **Impact on Public Records:** It's hard to decide what should be private and what should be public.
4. **Need for Legislative Clarity:** Without clear laws, the right to be forgotten is applied inconsistently.

Why the 'Right to Be Forgotten' Should Be Adopted:
1. **Control Over Personal Information**: People should be able to control their personal information in the digital age.
2. **Mitigating Digital Damage:** Old or wrong information online can hurt someone's life, so they should be able to remove it.
3. **Right to Privacy**: People shouldn't have to live with the consequences of personal information that was shared without their consent.

Way Forward:
1. **Legislative Framework**: Make a comprehensive data protection law with the 'right to be forgotten', define clear rules for data removal, and create an independent data protection authority.
2. **Overreach:** Prevent misuse of the 'right to be forgotten' with clear rules and oversight.
3. **Industry Self-Regulation**: Encourage companies to develop responsible data handling practices.
4. **Public Awareness**: Educate people about their data privacy rights and responsibilities.

Conclusion:
The "Right to Be Forgotten" is becoming more important in legal and technical areas, showing its growing role in privacy protection. In India, there are no specific laws for this right, so it's handled by the courts. Future laws are expected to provide a clearer framework as efforts continue to recognize this right.

WHY DO DOCTORS WANT A CENTRAL LAW TO PROTECT THEMSELVES ?
AGAINST ATTACKS & VIOLENCE?

Doctors in India have been demanding for a central law to protect themselves from violence, particularly following the tragic rape-murder of a junior resident at RG Kar Medical College in Kolkata.

- The incident sparked protests, with healthcare professionals demanding stringent legal measures to safeguard their safety.
- Despite some doctors calling off their protests after Supreme Court intervention, tensions remain high, with ongoing agitation in certain areas.

REASONS FOR DEMANDING A CENTRAL ACT
Prevalence of Violence:
- **Frequent Incidents:** Violence against healthcare workers is a recurrent issue across India. Reports indicate that over 75% of doctors have experienced some form of violence, with physical attacks affecting around 12%.
- **Specific Cases:** Between January 2018 and September 2019, the Vidhi Centre for Legal Policy documented at least 56 incidents of violence against healthcare professionals.

Need for Specialized Legislation:
- **Current Laws:** While existing laws address violence, doctors argue that these are insufficient. They seek a specific law with harsher penalties and larger fines tailored to their unique working conditions.
- **'The Healthcare Service Personnel and Clinical Establishments (Prohibition of violence and damage to property) Bill, 2019':** A draft law prepared after nationwide protests proposed imprisonment from six months to ten years and fines ranging from Rs 50,000 to Rs 10 lakh, depending on the severity of the offense. However, this draft was rejected during consultations with the MHA.

Support from Medical Community:
- **Padma Awardees' Petition:** In August 2023, 70 Padma awardee doctors urged Prime Minister Narendra Modi for the enactment of a central law, emphasizing the unique and hazardous conditions faced by healthcare professionals.
- **Concerns Highlighted:** Dr. Harsh Mahajan noted the harsh conditions, including long working hours and inadequate security, which increase the risk of violence against doctors.

CENTRE'S STAND
Existing Laws and Their Limitations:
- **State Laws:** There are already 26 state laws addressing violence against healthcare workers, with provisions for cognizable and non-bailable offenses. However, these laws have not effectively deterred attacks.
- **Systemic Issues:** Health Ministry officials argue that systemic improvements, such as better security and surveillance in hospitals, are needed. They suggest that a new central law might not address the core issues, as exemplified by the RG Kar incident being a criminal case beyond the purview of a specialized law for healthcare workers.

Criticism of the 2019 Draft Law:
- **Rejection Reasons:** The 2019 draft law was rejected due to concerns about overlapping provisions with the penal code, insufficient stakeholder consultation, and federalism issues. The draft was never published for public feedback.
- **Private MPs' Bills:** Various private MPs have proposed similar bills over the years, including Shrikant Eknath Shinde (2019), DNV Senthil Kumar (2022), and Shashi Tharoor (2023). Despite these efforts, no comprehensive central law has been enacted.

COVID-19 Ordinance:
- **Temporary Measures:** In response to increased violence during the pandemic, the government introduced an Ordinance in 2020 amending the Epidemic Diseases Act. This Ordinance included provisions for imprisonment up to seven years and fines up to Rs 5 lakh, highlighting the severity of the issue.

THE 2019 DRAFT LAW
Penalties for Violence:
- **Imprisonment:** Six months to five years, with more severe cases involving "grievous hurt" attracting three to ten years.
- **Fines:** Ranging from Rs 50,000 to Rs 5 lakh for general cases and Rs 2-10 lakh for serious offenses.
- **Property Damage:** Compensation was set at twice the fair market value of damaged property.

RECENT INSTRUCTIONS FOR HEALTHCARE PROFESSIONALS
In response to the Kolkata incident, the Union Ministry of Health and Family Welfare has mandated enhanced security in healthcare facilities. Key recommendations include:
- **High-Resolution CCTV Cameras:** Installation across key areas to monitor and deter potential threats.
- **Control Rooms for Emergency Response:** To ensure quick and effective handling of emergencies.
- **Secure Duty Rooms and Transport:** Enhanced safety measures for female healthcare professionals.
- **Training for Security Personnel:** Ensuring guards are well-trained in handling emergencies and maintaining security.
- **Coordination with Local Authorities:** Improved collaboration with local police and emergency services for a swift response.

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"VIRAASAT" Exhibition to Celebrate 10th National Handloom Day

Context:

The "VIRAASAT" exhibition, dedicated to celebrating the 10th National Handloom Day, began at Handloom Haat in Janpath, New Delhi on Saturday, 3rd August, 2024. The event is organized by the National Handloom Development Corporation Ltd (NHDC) under the aegis of the Ministry of Textiles, Government of India.

KEY POINTS:

Event Details:

- **Duration**: The exhibition will run from 3rd August to 16th August, 2024.
- **Timing**: Open to the public from 11 am to 8 pm.
- **Location**: Handloom Haat, Janpath, New Delhi.

Purpose of the Exhibition:

- Celebrates the glorious tradition of handloom and handicrafts.
- Provides market connect to handloom weavers and artisans.
- Highlights the 10th National Handloom Day on 7th August.

Activities and Features:

- **Stalls**: 75 stalls for handloom weavers and artisans to directly retail their products.
- **Displays**: Curated theme display of exquisite handloom products from exotic locations in India.
- **Workshops**: Sessions on natural dyes, kasturi cotton, design, and exports.
- **Demonstrations**: Live loom demonstrations.
- **Cultural Events**: Folk dances of India and delicious regional cuisines.

Historical Significance:

- The Swadeshi Movement, launched on 7th August, 1905, encouraged indigenous industries, particularly handloom weavers.
- The first National Handloom Day was celebrated on 7th August 2015 by Prime Minister Narendra Modi in Chennai.
- The day honors the handloom weaving community and highlights their contribution to the socio-economic development of the country.

Importance of the Handloom Sector:

- Employs 35 lakh persons directly or indirectly, second only to the agricultural sector.
- Represents India's rich and varied cultural heritage.
- Features unique products like Banarasi, Jamdani, Baluchari, Madhubani, Kosa, Ikkat, Patola, Tussar Silk, Maheshwari, Moirang Phee, Phulkari, Laheriya, Khandua, and Tangaliya, among others.

Government Initiatives:

- Various schemes launched for branding high-quality handloom products with zero defects and zero environmental impact.
- Aims to give a distinct identity to handloom products and guarantee their authenticity.
- Encourages exhibitors to display their exquisite products to improve the market for handloom products and earnings of the handloom community.

Prime Minister's Message:

- During the 112th episode of Mann ki Baat, the Prime Minister appreciated the work of handloom artisans and urged people to upload photos with local products on social media using the hashtag '#MyProductMyPride'.

About VIRAASAT:

- **Organizer**: National Handloom Development Corporation Ltd (NHDC) under the Ministry of Textiles.
- **Focus**: The event focuses on the glorious tradition of handloom and handicrafts, providing market connect to handloom weavers and artisans.
- **Featured Products**: Unique products such as Banarasi, Jamdani, Baluchari, Madhubani, Kosa, Ikkat, Patola, Tussar Silk, Maheshwari, Moirang Phee, Phulkari, Laheriya, Khandua, and Tangaliya.

Key Facts about National Handloom Day:

- **Historical Context**: The Swadeshi Movement, launched on 7th August, 1905, encouraged indigenous industries and handloom weavers.

- **Commemoration**: Since 2015, the Government of India has decided to commemorate the 7th of August every year as the National Handloom Day.
- **First Celebration**: The first National Handloom Day was held on 7th August 2015 in Chennai.
- **Aim**: To recognize the efforts and skills of the community of weavers engaged in this sector.

Specialty of the Jamdani Saree:

- Jamdani is a vividly patterned, sheer cotton fabric, traditionally woven on a handloom by craftspeople and apprentices around Dhaka.

Conclusion:

The "VIRAASAT" exhibition is a celebration of India's rich handloom heritage and an effort to empower handloom weavers and artisans. The event provides a platform to showcase and sell unique handloom products, fostering market connectivity and promoting the sector's sustainable development.

Centres for Promotion of Classical Telugu, Odia, Kannada, and Malayalam Demand Autonomy

Background:

- India has six classical languages: Tamil, Sanskrit, Telugu, Kannada, Malayalam, and Odia. While Tamil, Sanskrit, and the other classical languages receive specialized attention, Telugu, Kannada, Malayalam, and Odia are managed under the Central Institute of Indian Languages (CIIL), Mysuru. Tamil and Sanskrit have autonomous centers with direct funding from the Union Education Ministry.

Current Issues:

- **Demand for Autonomy:**
  - **Request:** Project Directors of the centres for Telugu, Kannada, Malayalam, and Odia are seeking **autonomy** to manage their own functions more effectively. They argue that current procedures, requiring financial approvals from CIIL, impede their ability to conduct events and hire staff efficiently.
  - **Challenges:** Centres face delays in getting financial sanctions and often need to personally cover expenses before being reimbursed, leading to operational difficulties.
- **Staffing and Funding:**
  - **Staff Shortages:** For example, the Centre of Excellence for Studies in Classical Telugu in Nellore has 12 out of 36 required staff members. Similarly, the Odia centre in Bhubaneswar has 8 out of 40 approved positions filled. The Malayalam centre in Tirur operates with just two staff members.
  - **Funding Issues:** The Odia centre received Rs. 1.76 crore in 2023 but spent only Rs. 56 lakh due to funding constraints. The Malayalam centre also struggles with severe financial limitations, affecting its ability to operate effectively.

Benefits of Classical Language Status:

- **Government Support:**
  - **Awards and Recognition:** Each classical language receives benefits such as two major international awards annually for scholars, establishment of a Centre of Excellence, and creation of academic chairs at central universities.
  - **Promotion Measures:** These benefits aim to enhance research, preserve heritage, and support academic excellence in the classical languages.
- **Autonomy Proposal:**
  - **Expected Improvements:** Autonomy would allow the centres to manage budgets directly, streamline operations, and address staffing needs without the delays of CIIL approvals.

Historical and Cultural Context:

- **Classical Language Criteria:**
  - **Historical Significance:** A language must have a history of 1,500-2,000 years, a body of ancient literature, original literary traditions, and a clear distinction from its modern form.
- **Influence on Southeast Asia:**
  - **Script Legacy:** The Pallava script of classical Tamil influenced scripts in Indonesia and Malaysia. Many Southeast Asian languages, including Thai and Malay, have borrowed Tamil words.

Conclusion:

The demand for autonomy by the centres for Telugu, Kannada, Malayalam, and Odia highlights the need for more efficient management and funding. Autonomy could address existing challenges and enhance the promotion and preservation of these classical languages, aligning with the broader goals of India's cultural and educational policies.

Operational Guidelines for 'Model Solar Village' under PM-Surya Ghar : Muft Bijli Yojana

Overview:

On August 9, 2024, the Ministry of New and Renewable Energy released the operational guidelines for the 'Model Solar Village' component of the PM-Surya Ghar: Muft Bijli Yojana. This initiative aims to promote the use of solar energy and help village communities become self-reliant in their energy needs. A total of Rs. 800 crore has been allocated to support this initiative, with each selected village receiving Rs. 1 crore.

About the Model Solar Village:

- **Objective:** The scheme aims to establish one Model Solar Village in each district across India. The goal is to encourage solar energy use and make villages self-sufficient in meeting their energy requirements.

- **Funding:** An allocation of Rs. 800 crore is designated for this component, providing Rs. 1 crore to each selected Model Solar Village.

- **Criteria for Selection:**
  - **Population:** The village must be a revenue village with a population above 5,000 (or 2,000 for special category states).
  - **Selection Process:** Villages will be evaluated based on their renewable energy (RE) capacity installed six months after being declared a potential candidate by the District Level Committee (DLC).
  - **Award:** The village with the highest RE capacity in each district will receive Rs. 1 crore in central financial assistance.

Implementation:

- **Execution:** The State/UT Renewable Energy Development Agency will oversee the implementation, with supervision from the District Level Committee (DLC). This ensures the successful transition of selected villages to solar power and their role as models for other communities.

PM-Surya Ghar : Muft Bijli Yojana Key Facts

- **Approval:** The scheme was approved by the Government of India on February 29, 2024.

- **Objective:** To increase solar rooftop capacity and enable residential households to generate their own electricity.

- **Funding:** The scheme has an overall budget of Rs. 75,021 crore, with implementation planned until FY 2026-27.

- **Electricity Provision:** Beneficiaries will receive 300 units of free electricity per month, with a total investment of Rs. 75,000 crore.

- **Target:** The scheme aims to electrify 1 crore households.

- **Incentives:** Urban Local Bodies and Panchayats will be encouraged to promote rooftop solar systems.

What is Renewable Energy?

Renewable energy comes from natural sources that are constantly replenished faster than they are used. Examples include sunlight and wind. These sources are abundant and available everywhere, making them crucial for sustainable energy solutions.

Conclusion:

The 'Model Solar Village' initiative under the PM-Surya Ghar: Muft Bijli Yojana is a significant step towards advancing solar energy adoption in rural India. By providing financial support and setting clear criteria for selection, the program aims to create self-sufficient solar-powered communities. As the scheme progresses, it is expected to set a benchmark for renewable energy projects and contribute to the broader goal of enhancing energy security and sustainability in India.

Govt Announces Rashtriya Vigyan Puraskar in Science and Technology

Why in News:

The Government has announced the recipients of the prestigious Rashtriya Vigyan Puraskar, recognizing exceptional contributions in the fields of science, technology, and innovation.

Award Ceremony: The award ceremony will be held on August 23 at the Rashtrapati Bhavan Cultural Centre to commemorate the first National Space Day, marking the Chandrayaan-3 mission's soft landing on the moon.

Key Points:

- **Award Ceremony:** The award ceremony for all categories of awards will be held on **August 23** (**National Space Day**). All Awards will have a **Sanad** and a **medal**.

- **ISRO-Chandrayaan 3 Team:** The team has been awarded the Vigyan Team Award for their significant contributions to space science and technology.

- **Vigyan Ratna Award:** Professor G. Padmanabhan, the former Director of the Indian Institute of Science, has been selected for the Vigyan Ratna Award in biological sciences. This award celebrates his lifetime achievements and contributions to the field.

- **Vigyan Shri Award:** The award will be conferred upon Anandharamakrishnan C, Umesh Varshney, Bhim Singh, Adimurthi Adi, Syed Wajh Ahmad Naqvi, Sanjay Behari, and Rahul Mukherjee for their outstanding work in various scientific disciplines.
- **Vigyan Yuva Award:** This award, which recognizes promising young scientists, will be presented to Dr. Bappi Paul, Dr. Abhilash, Radha Krishnan Mahalakshmi, Purabi Saikia, Digendranath Swain, Prabhu Rajagopal, and Prashant Kumar.

About Rashtriya Vigyan Puraskar (RVP):
- **Introduction:** A new set of awards introduced by the Government of India in the field of **Science**, **Technology**, and **Innovation**.
- **Objective:** To recognize the notable and inspiring contributions made by **scientists**, **technologists**, and **innovators** individually or in teams in various fields of **science**, **technology**, and **technology-led innovation**.
- **Eligibility:**
  - Scientists/technologists/innovators working in government, private sector organizations, or any individual working outside any organization who have made distinguished contributions.
  - People of Indian origin staying abroad with exceptional contributions benefiting Indian communities or society.
- **Domains:** Scientists will be selected across 13 domains, including Physics, Chemistry, Biological Sciences, Mathematics & Computer Science, Earth Science, Medicine, Engineering Sciences, Agricultural Science, Environmental Science, Technology & Innovation, Atomic Energy, Space Science and Technology, and Others.
- **Gender Parity:** Representation from each domain/field, including gender parity, will be ensured.
- **Selection Process:** All nominations received for the RVP awards are placed before the Rashtriya Vigyan Puraskar Committee (RVPC), headed by the Principal Scientific Adviser (PSA) to the Government of India.

Award Categories:
- **Vigyan Ratna:** Recognizes lifetime achievements and contributions in the realm of **science** and **technology**.
- **Vigyan Shri:** Honors distinguished contributions in any field of science and technology.
- **Vigyan Yuva-Shanti Swarup Bhatnagar (VY-SSB):** Recognizes and encourages young scientists up to the age of 45 years who made an exceptional contribution in any field of science and technology.

- **Vigyan Team:** Honors team efforts in the fields of **science**, **technology**, and **innovation**.

About Chandrayaan-3 Mission:
- **Objective:** The attempt by the Indian Space Research Organisation (ISRO) to demonstrate the capability of India in safe landing and roving on the lunar surface.
- **Achievement:** The Lander Module of Chandrayaan-3, carrying the Lander Vikram and Rover Pragyan, made a historic soft landing on the surface of the Lunar South Pole on August 23, 2023.
- **Significance:** India became the first nation to soft-land on the surface of the Lunar South Pole and the fourth nation to achieve a soft landing on the moon.
- **Launch:** ISRO launched the Chandrayaan-3 Mission using the Geosynchronous Satellite Launch Vehicle Mark III (LVM3) on July 14, 2023, from Sriharikota.

Conclusion:

The announcement of the Rashtriya Vigyan Puraskar recipients underscores the Government's commitment to honoring and encouraging excellence in science, technology, and innovation. By recognizing the outstanding contributions of individuals and teams, this award not only celebrates past achievements but also inspires future generations to pursue careers in these fields, fostering a culture of innovation and discovery in India.

Lack of Health Insurance Coverage in Rural Areas & Reliance on Family Caregivers

Overview

The "State of Healthcare in Rural India, 2024" report, produced by Transform Rural India and the Development Intelligence Unit, highlights significant challenges in rural healthcare. It reveals that only about half of rural households have government health insurance, and 34% lack any form of health insurance. Limited access to diagnostic facilities and affordable medicines, coupled with sanitation issues, compounds the difficulties faced by rural populations.

The report also notes a heavy reliance on family members for caregiving, with a notable preference for family-based care over external services.

Key Findings

1. Health Insurance Coverage:

- **Government Health Insurance:** 50% of rural households have government health insurance.
- **No Insurance:** 34% of rural households lack any health insurance.
- **Life Insurance:** 61% of surveyed households lack life insurance coverage.

2. Access to Diagnostic Facilities:

- **Diagnostic Access:** 39% of respondents have diagnostic facilities within a commutable distance for basic tests and imaging.
- **Routine Checkups:** 90% do not undergo routine health checkups unless specifically advised by a doctor.

3. Access to Medicines:

- **Subsidized Medicines:** Only 12.2% of households have access to subsidized medicines from Pradhan Mantri Jan Aushadhi Kendras within commutable distance.
- **Private vs. Government Stores:**
  o **Private Medical Stores:** 61% have access to private stores within a commutable distance.
  o **Government Medical Stores:** 26% have access to government medical stores located within health facilities providing free medicines.
  o **No Medical Store:** 21% do not have a medical store within a commutable distance.

4. Sanitation and Environmental Hygiene:

- **Drainage Systems:** 20% of villages lack any drainage system; only 23% have a covered drainage network.
- **Waste Disposal:**
  o **Scientific Waste Disposal:** 43% of households lack scientific waste disposal systems, leading to improper waste dumping.
  o **Waste Management Practices:** 11% burn dry waste and compost wet waste; 28% have plans for waste collection by local panchayats.

5. Caregiving and Family Support:

- **Elderly Care:** 73% of households with elderly members need constant care; 95.7% prefer family caregivers, predominantly female (72.1%).
- **External Caregivers:** Only 3% of households use external paid caregivers.
- **Support for Pregnant Women:** Key caregivers include husbands (62.7%), mothers-in-law (50%), and mothers (36.4%).

6. Demographic and Income Profile:

- **Survey Scope:** Covered 5,389 rural households across 21 States.
- **Demographic Segments:** Includes children under 10 years (15%), elderly above 60 years (11.4%), pregnant women (6%), and infants (15.4%).
- **Household Composition:** Primarily Other Backward Classes (40%), Scheduled Castes (22%), and general category (21%).
- **Income Sources:** Farming (43%) and daily wage labor (21%).

Implications

1. Health Insurance Expansion:

- **Policy Need:** There is a need to broaden the reach of government health insurance schemes to cover the uninsured rural population.
- **Awareness and Access:** Efforts should be made to increase awareness and improve accessibility to health insurance options in rural areas.

2. Diagnostic and Medicinal Access:

- **Infrastructure Development:** Establishing more diagnostic centers and increasing the availability of government medical stores is essential.
- **Medicinal Subsidies:** Expanding the network of Pradhan Mantri Jan Aushadhi Kendras will improve access to affordable medicines.

3. Sanitation Improvement:

- **Waste Management Systems:** Investment in proper waste management infrastructure and scientific waste disposal methods is needed.
- **Drainage Infrastructure:** Upgrading drainage systems in villages will address sanitation issues and improve public health.

4. Caregiving Support:

- **Training for Family Caregivers:** Providing training and support for family caregivers is crucial to improve home-based care.
- **Social Support Systems:** Developing robust social networks and support systems for caregivers can alleviate the burden on families.

5. Comprehensive Policy Integration:

- **Local Solutions:** Implementing integrated, locally focused policies that address health, sanitation, and caregiving challenges can significantly enhance rural well-being.

Conclusion :

The "State of Healthcare in Rural India, 2024" report reveals critical gaps in health insurance, diagnostic services, and sanitation in rural areas. Expanding insurance coverage, improving access to essential services, and enhancing sanitation infrastructure are urgent needs. Additionally, strengthening family support systems for caregiving and developing comprehensive, locally integrated solutions are vital for improving the well-being and quality of life in rural India.

National Culture Fund (NCF)

The Government of India set up the National Culture Fund (NCF) as a Trust on November 28, 1996, under the Charitable Endowment Act of 1890. The goal of the NCF is to gather additional resources through Public-Private Partnerships (PPP) to support the promotion, protection, and preservation of India's cultural heritage, both tangible and intangible.

Major Objectives of NCF

- **Conservation and Maintenance:** The NCF administers funds to conserve, maintain, promote, protect, preserve, and upgrade both protected and unprotected monuments.

- **Training and Development:** It provides training and helps develop specialists and cultural administrators.

- **Museum Expansion:** The NCF works to expand existing museums and build new ones, including creating new galleries.

- **Documentation:** It documents cultural practices and forms that are fading or at risk of disappearing, preserving them for future generations.

Features of NCF:

- **Governing Council:** The NCF is managed by a Governing Council led by the Hon'ble Minister of Culture. The council, which can have up to 25 members, makes decisions on policies.

- **Executive Committee:** The Executive Committee, headed by the Secretary (Culture), has up to 11 members and is responsible for implementing policies.

- **Tax Benefits:** Donations to the NCF receive a 100% tax benefit under Section 80G (ii) of the Income Tax Act, 1961.

- **CSR Contribution:** The NCF qualifies for Corporate Social Responsibility (CSR) contributions as outlined in Schedule VII No. (v) of the Companies Act, 2013. This includes support for national heritage, arts, culture, historical site restoration, public libraries, and traditional crafts.

- **Auditing:** The Comptroller and Auditor General of India audits the NCF's annual accounts.

Role of NCF:

- **Partnerships:** The NCF collaborates with businesses, NGOs, and other organizations to carry out heritage conservation projects.

- **Flexibility for Donors:** Donors can choose specific projects, locations, or agencies for their contributions.

- **Project Monitoring:** To ensure projects are completed on time, the NCF regularly holds meetings of the Project Implementation Committee (PIC). These meetings are led by the Director General of the Archaeological Survey of India for ASI projects and by NCF/Ministry of Culture officials for other projects.

- **Donations:** The NCF accepts donations from corporations, public sector units (PSUs), trusts, and individuals to support the upkeep and preservation of protected monuments and cultural projects. All donations must comply with the terms of a Memorandum of Understanding (MoU) for each project.

What is Intangible Cultural Heritage?

Intangible cultural heritage includes the practices, expressions, knowledge, skills, instruments, objects, artifacts, and cultural spaces that communities, groups, and individuals recognize as part of their heritage.

Conclusion:

The National Culture Fund (NCF) plays a vital role in preserving and promoting India's diverse cultural heritage through public-private partnerships. Its objectives, features, and operations reflect the government's commitment to safeguarding both tangible and intangible cultural assets. The NCF's efforts are supported by a range of stakeholders, including businesses and NGOs, and are monitored to ensure effective project implementation.

Prime Minister Narendra Modi Pays Tribute to Sri Aurobindo on His Birth Anniversary
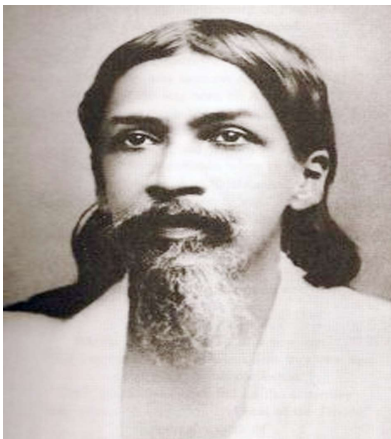
Prime Minister Narendra Modi honored Sri Aurobindo on his birth anniversary by posting a tribute on the social media platform X. In his message, Modi praised Sri Aurobindo as a great philosopher, thinker, and spiritual leader, highlighting his significant impact on India's national awakening. Modi affirmed the country's commitment to realizing the vision Sri Aurobindo had for India.

About Sri Aurobindo Ghosh

Early Life & Career:

- **Birth:** Born on August 15, 1872, in Calcutta to Krishna Dhan Ghose and Swarnalata Devi.
- Civil Service Attempt: Passed the Indian Civil Service Examination in 1890 but failed the horsemanship test, preventing him from joining the service.
- **Baroda State Service:** Took a position in Baroda state service in 1893, eventually becoming principal of Baroda State College. He later left this job to join Bengal National College.

Revolutionary Activities:

- **Freedom Movement:** Became a prominent figure in the Indian freedom movement. Wrote bold articles for the English newspaper Bande Mataram and contributed to the Bengali weekly Yugantar.
- **Publications:** Started the English weekly Dharma to promote Swaraj (freedom from British rule). Co-founded the Anushilan Samiti, a youth club that opposed British rule.
- **Partition of Bengal:** Actively protested the 1905 Partition of Bengal, urging people to boycott British goods and institutions. Participated in the 1906 Indian National Congress session, advocating for Swadeshi, Swaraj, education, and boycott.

Alipore Bomb Case:

- **Charges and Imprisonment:** Charged in the Alipore Bomb Case (1906-1910) and sentenced to prison. Spent a year in solitary confinement at Alipore Central Jail in Calcutta. He was later released with the help of lawyer Deshbandhu Chittaranjan Das.

Spiritualism at Puducherry:

- **Shift to Spiritualism:** After his release, he moved away from politics to focus on spiritualism. In 1910, he settled in Pondichéry (now Puducherry), a French colony in southeastern India.
- **Sri Aurobindo Ashram:** Founded the Sri Aurobindo Ashram in 1926. Dedicated his life to developing "integral" yoga, aiming to enhance human consciousness and self-awareness.

Works:

- **Literary Contributions:** Authored a wide range of works including philosophical essays, yoga treatises, poetry, and plays. Major works include:
  o Essays on the Gita (1922)
  o The Life Divine (1939)
  o Collected Poems and Plays (1942)
  o The Synthesis of Yoga (1948)
  o The Human Cycle (1949)
  o The Ideal of Human Unity (1949)
  o Savitri: A Legend and a Symbol (1950)
  o On the Veda (1956)

Conclusion:

Sri Aurobindo's birth anniversary serves as a reminder of his immense contributions to India's intellectual and spiritual heritage. His revolutionary activities and spiritual teachings have left a lasting impact on Indian society. Prime Minister Modi's tribute underscores the ongoing relevance of Sri Aurobindo's vision and ideas in shaping India's future. The celebration of his life and work highlights the enduring influence of his philosophies and commitment to national awakening.

Responsibility of All to Make the Country Narcotics and Drug-Free

Event Overview:

Recently, Union Home Minister Amit Shah inaugurated the zonal office of the Narcotics Control Bureau (NCB) in Raipur, Chhattisgarh, and attended a review meeting on narcotics control. Shah emphasized the need for a collective effort to eradicate narcotics and drugs from the country.

Key Points from Amit Shah's Address:

Zero Tolerance Approach:

- Amit Shah stressed the collective responsibility to achieve a drug-free nation with a zero-tolerance attitude.
- He expressed confidence that the new zonal office will play a crucial role in narcotics control and announced a target to establish NCB offices in every state.

Changing Trends in Drug Trafficking:

- Shah noted a shift from natural to synthetic drugs, which are more harmful and expensive.
- He highlighted Chhattisgarh's higher usage of sedatives (1.45%) compared to the national average and pointed out the state's strategic location bordering seven states and near the Bay of Bengal, facilitating drug trafficking.
- He mentioned that marijuana (ganja) usage in Chhattisgarh (4.98%) is significantly higher than the national average (2.83%).

Investigation Approach:

- Shah urged for **scientific** and **comprehensive investigations** to dismantle the entire narcotics network, from small vendors to larger suppliers.
- He emphasized the need for both **top-down** and **bottom-up approaches** in narcotics investigations.

About the Narcotics Control Bureau (NCB):

Establishment: Formed on 14th November 1985 under the Narcotic Drugs and Psychotropic Substances Act, 1985 (NDPS Act).

Headquarters: Located in Delhi.

Functions:

- **Coordination:** Manages coordination among various authorities under the NDPS Act, Customs Act, and other relevant laws.
- **International Obligations:** Implements countermeasures against illicit trafficking as per **international conventions**.
- **Assistance:** Provides assistance to foreign authorities and international organizations for drug trafficking prevention.

- **Enforcement:** Operates through **zonal offices** to collect data, study trends, and collaborate with Customs, State Police, and other law enforcement agencies.

Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985:

- **Prohibitions:** The NDPS Act bans the manufacture, production, cultivation, possession, sale, purchase, transport, storage, and consumption of narcotic drugs and psychotropic substances without proper authorization.
- **Punishments:** The Act outlines a graded system of punishment based on the quantity of drugs involved—small, intermediate, or commercial quantities—with varying degrees of severity.

Conclusion:

Amit Shah's address underscored a collective commitment to eradicating drug abuse through a strategic and unified approach. The new zonal office in Raipur is part of a broader effort to enhance narcotics control and address the evolving challenges in drug trafficking and abuse across India.

TARGET OLYMPIC PODIUM SCHEME (TOPS)

The government is currently nurturing 1,050 athletes selected under the Target Olympic Podium Scheme (TOPS), bearing all expenses from training to gears and for international participation, Youth Affairs and Sports Minister Mansukhlal Mandaviya said in Rajya Sabha.

Under this, only those sportsmen having high performance get entry.

- **What is it?** It is a flagship program of the Ministry of Youth Affairs and Sports (MYAS) which is an attempt to provide assistance to India's top athletes.
- **Launch:** It was started in September 2014 and was revamped in April 2018 to establish a technical support team for managing the TOPS athletes and providing holistic support.

- **Mission Olympic Cell:** It is a dedicated body created to assist the athletes who are selected under the TOP Scheme. The MOC is under the Chairmanship of the Director General, Sports Authority (DG, SAI).
- **TOPS Elite Athletes' Identification Committee:**
  o It was constituted to identify the elite athletes who could achieve the Olympic podium.
  o MYAS is responsible for appointment of TOPS members with emphasis on ensuring representation from 'High-Priority' sports (Archery, Badminton, Boxing Hockey, Shooting and Wrestling).
  o The total members of the committee are to be decided by MYAS. TOPS constitution does not stipulate minimum/maximum members for the committee.

RECENT SUCCESS
- **Vinesh Phogat** was sent to train in Belmeken, Bulgaria in high altitude terrain under this program.
- Athletes like **Neeraj Chopra** have also been benefited.
- The TOPS sponsored athletes gained relative success at the 2016 Rio Olympics and the 2018 Commonwealth Games.
- **P V Sindhu and Sakshi Malik** captured silver and bronze in Badminton and Wrestling respectively at the 2016 Rio Olympics.
- In the 2016 Paralympic Games, the TOPS Athletes won 2 Gold, 1 Silver and 1 Bronze demonstrating the effectiveness of the Scheme.
- The recent success of the Commonwealth Games emphasized the efficacy of the Scheme.
- Out of the 70 athletes who won medals at the CWG, 47 of them were supported under the TOP Scheme.

Tungabhadra Dam's 19th Crest Gate Failure

Overview

On August 11, 2024, the 19th crest gate of the Tungabhadra Dam, a 71-year-old structure across the Tungabhadra River, failed, causing a major flood alert in Karnataka and Andhra Pradesh. This incident has prompted concerns for the safety of thousands of residents in the affected areas. The dam, located about 350 km from Bengaluru, saw a sudden surge of water when the gate collapsed.

History of the Tungabhadra Dam
- **Origins**: The Tungabhadra Dam was conceived by Sir Arthur Cotton, a British engineer, in 1860 to provide irrigation, generate electricity, and control floods. Construction began in 1949 as a joint project between the Kingdom of Hyderabad and the Madras Presidency and was completed in 1953.
- **Construction Materials**: The dam, also known as Pampa Sagar, was built using a combination of mud and limestone, making it unique among Indian reservoirs.
- **Location**: The dam is situated near **Hosapete** and **Koppal**, Karnataka.

Significance of the Tungabhadra Dam
- **Irrigation**: The dam supports irrigation across **6.5 lakh hectares**, facilitating two crop seasons annually.
- **Hydroelectric Power**: It contributes to the hydroelectric power supply for Karnataka, Telangana, and Andhra Pradesh.
- **Flood Management**: The dam helps in **flood control**, reducing potential damage from excessive water flow.
- **Drinking Water**: It provides a reliable source of drinking water to the local population.

Incident Details
- **Gate Failure**: On August 11, 2024, the 19th crest gate malfunctioned due to rising water pressure from heavy rainfall, leading to a significant outflow of water.
- **Current Outflow**: Approximately 1,020 tonnes of water per second are being discharged through the damaged gate, compared to 1,130 tonnes through other gates. The dam can release up to 6.5 lakh cusecs of water.
- **Water Levels**: The dam was holding 100 TMC (thousand million cubic feet) of water out of its total capacity of 133 TMC, with the remaining 33 **TMC** consisting of silt.

Cause of the Gate Failure

- **Water Release**: On the night of August 10, 2024, 40,000 cusecs of water was being released through 10 gates. The highest recorded release was 3.6 lakh cusecs in December 1992.
- **Malfunction**: At around 12:50 AM on August 11, the 19th gate failed, causing a large volume of water to flow uncontrollably.

Response and Repairs

- **Immediate Actions**: To manage the situation, all **33 gates** were opened to reduce pressure, increasing the discharge to 1 lakh cusecs.
- **Repairs**: Repairing the gate while water is still gushing out is impractical. Authorities may need to release about **60%** of the reservoir's water to facilitate repairs. The process involves opening additional gates and constructing a new gate, which could take up to **four days** or longer.
- **Current Measures**: On August 10, 2024, **22 out of 33 gates** were opened to discharge approximately **1 lakh cusecs** of water.

Tungabhadra River :

- **Description**: The Tungabhadra River is a major river in south India and a key tributary of the Krishna River.
- **Formation**: It originates from the union of the Tunga and Bhadra rivers in Karnataka.
- **Course**: The river flows northwest and joins the Krishna River in Andhra Pradesh. It is influenced mainly by the South-West monsoon.
- **Length and Tributaries**: The river is 531 km long with a catchment area of 28,000 square kilometers. Major tributaries include the Varada and Hagari rivers. The principal tributaries joining the Krishna are the Ghataprabha, the Malaprabha, the Bhima, the Tungabhadra, and the Musi.

Historical and Cultural Significance

- **Historical Context**: The Tungabhadra River was an important resource for the Vijayanagara Empire, with the city of Hampi located along its banks.
- **Cultural Importance**: The river is considered sacred in Hinduism and is mentioned in the Ramayana as Pampa.

Conclusion :

The failure of the 19th crest gate at the Tungabhadra Dam has raised significant concerns for flood management in Karnataka and Andhra Pradesh. With immediate actions being taken to control the situation and repair the damaged gate, authorities are working to ensure the safety of affected communities. The incident highlights the critical role of maintaining and monitoring aging infrastructure to prevent such emergencies in the future.

UNIFIED PENSION SCHEME

The Union Cabinet, chaired by the Prime Minister Shri Narendra Modi, approved the Unified Pension Scheme (UPS).

Cabinet Decision:

- **Approval and Rollout:** The UPS was approved by the Union Cabinet and is set to be implemented from April 1, 2025.
- **State Adoption:** States have the option to adopt the UPS architecture, which contrasts with the OPS's unfunded liabilities and absence of employee contributions.

The Union Cabinet's recent approval of the Unified Pension Scheme (UPS) represents a significant shift in India's pension policy for government employees. UPS aims to address the limitations of the previous pension systems—the Old Pension Scheme (OPS) and the National Pension System (NPS).

FEATURES

In a major benefit for 23 lakh central government employees, the Modi government has introduced a new Unified Pension Scheme (UPS), that assures a pension of 50% of the basic salary for those who joined the service after January 1, 2004, under the National Pension System (NPS).

Features:

- **Pension Amount :** Guarantees 50% of the average basic pay over the last 12 months of service, with a proportionate pension for those with less than 25 years of service. A minimum pension of Rs. 10,000 per month is guaranteed for those with at least 10 years of service.
- **Family Pension:** In the case of death, the family receives 60% of the retiree's pension amount, ensuring continued support.
- **Lump-Sum Payment:** Retirees receive a lump-sum amount calculated as 1/10th of their last drawn monthly pay (including DA) for every 6 months of service completed.
- **Inflation Protection:** The UPS includes provisions for adjusting pensions based on the All India Consumer Price Index for Industrial Workers (AICPI-IW), similar to the DA adjustments in OPS.

(All India Consumer Price Index for Industrial Workers (AICPI-IW): This is a measure of inflation that specifically tracks the prices of goods and services consumed by industrial workers. It's used to calculate the Dearness Allowance (DA) for government employees, which is added to their basic salary to offset the effects of inflation.

- **Contributory Nature:** Employees contribute 10% of their salary, while the government contributes 18.5%. Contributions will be periodically adjusted based on actuarial assessments.

OLD PENSION SCHEME

Features:

- **Pension Amount:** Guarantees 50% of the last drawn basic pay as a pension. This provides a stable and predictable income after retirement.
- **Family Pension:** In the event of the retiree's death, their family continues to receive the same pension amount as a family pension.
- **Gratuity:** Employees are entitled to a gratuity of up to Rs. 20 lakh upon retirement.
- **Employee Contributions:** No salary deductions for pension contributions during employment.
- **Dearness Allowance (DA):** Pension is adjusted periodically based on DA, which compensates for inflation.

Financial Aspects:

- **Funding:** The pension is financed directly from the government's treasury, making it an unfunded scheme.
- **Challenges:** As life expectancy increased, the OPS became financially unsustainable, leading to rising pension liabilities and a strain on government finances by 2020-21.

NATIONAL PENSION SCHEME

Features:

- **Contribution:** Employees contribute 10% of their basic salary plus Dearness Allowance (DA), with a matching government contribution. This increased to 14% in 2019.
- **Pension Amount:** Does not guarantee a fixed pension. Instead, pension depends on the accumulated corpus and investment returns. Upon retirement, individuals can withdraw 60% of their corpus tax-free, with the remaining 40% used to purchase an annuity for monthly pension payments, generally around 35% of their final salary.
- **Investment Options:** Offers various investment schemes managed by pension fund managers, allowing employees to choose between different risk profiles.
- **Tax Benefits:** Contributions are tax-deductible under Section 80 CCD of the Income Tax Act, but withdrawals and pension payouts are subject to taxation.

CRITICISMS

- **No DA Adjustments:** Unlike OPS, the NPS does not provide automatic DA increments for inflation, resulting in potentially unpredictable pension amounts.
- **Market-Linked:** The scheme's reliance on market-linked investments has led to dissatisfaction due to the variability in pension returns.
- **Mandatory Contributions:** The scheme's mandatory employee contributions and tax implications have been points of contention.

UPS V/S OPS V/S NPS

Advantages of UPS Over OPS:

- **Guaranteed Pension with Inflation Protection:** Like OPS, the UPS offers a guaranteed pension and family pension, but it also incorporates inflation adjustments through AICPI-IW, addressing the inflation protection that was a key feature of OPS.
- **Minimum Pension Guarantee:** The UPS introduces a minimum pension of Rs. 10,000 per month for those with at least 10 years of service, which provides a financial safety net not guaranteed under OPS.
- **Contributory Aspect:** While OPS requires no employee contributions, the UPS's contributory nature (with fixed employee and government contributions) aims to balance financial sustainability with employee benefits.

Advantages of UPS Over NPS:

- **Fixed Pension Amount:** Unlike NPS, which does not guarantee a fixed pension amount, the UPS ensures a predictable pension based on the last drawn salary, offering more financial security.
- **Inflation Indexation:** UPS includes inflation protection similar to OPS, mitigating the issue of pension volatility seen in NPS.
- **Lump-Sum Payment:** The additional lump-sum payment upon retirement under UPS provides extra financial support, enhancing the overall retirement package.

REACTIONS FOR THE SCHEME

- **Prime Minister's Statement:** Prime Minister Narendra Modi highlighted the UPS's role in providing financial security and dignity to government employees, reflecting a commitment to their well-being.

- **Mixed Reactions:** Reactions among government employee representatives were varied. The Central Secretariat Service Forum welcomed the UPS but continued to demand the OPS. The Joint Consultative Mechanism (JCM) showed cautious optimism, while some unions expressed dissatisfaction with the contributory nature of the UPS.
- **Ministerial Comments:** Information and Broadcasting Minister Ashwini Vaishnaw noted that Congress-ruled States had yet to fully implement OPS and praised the UPS for its consultative development and inter-generational equity.

Conclusion :

The Unified Pension Scheme aims to blend the stability of the Old Pension Scheme with some modern features of the National Pension System. By guaranteeing a fixed pension amount, including inflation adjustments, and providing additional lump-sum payments, the UPS seeks to offer a more predictable and secure retirement plan. It responds to the criticisms of the NPS while retaining desirable aspects of the OPS, aiming to address the shortcomings and offer a balanced solution for government employees.

Union Health Minister Launches National Medical Register Portal

Overview :

On August 23, 2024, Union Minister for Health & Family Welfare, Shri Jagat Prakash Nadda, inaugurated the National Medical Register (NMR) Portal of the National Medical Commission (NMC) in a ceremony attended by Union Minister of State for Health & Family Welfare, and virtually by Union MoS Shri Prataprao Jadhav. The NMR Portal is a landmark development aimed at streamlining the registration and management of allopathic (MBBS) doctors in India.

Key Features of the National Medical Register (NMR) :

Comprehensive Database:
- **Purpose**: The NMR will serve as a comprehensive and dynamic database for all registered MBBS doctors in India. It is designed to improve data accuracy, accessibility, and authenticity by linking each doctor's registration with their Aadhaar ID.
- **Functionality**: The portal will consolidate all pertinent information about doctors, including their qualifications, addresses, and registration status, thereby enhancing the transparency and efficiency of the medical registration process.

Digital Integration:
- **Aadhaar Linkage**: Each doctor's registration is linked to their Aadhaar ID to ensure authenticity and reduce fraudulent activities.
- **Online Process**: Registration through the NMR Portal is an online process that simplifies the application procedure. Doctors can manually enter additional credentials, which are then verified by the respective State Medical Councils (SMCs) and the NMC.

Role of State Medical Councils (SMCs):
- **Verification**: SMCs are crucial in the verification process. They are responsible for authenticating applications and forwarding them to the NMC. The SMCs' efficiency and speed are pivotal for the success of the NMR.

Future Developments:
- **Expanding Scope**: Plans are underway to create similar registers for paramedics and other healthcare professionals as part of a broader digital health ecosystem.
- **Integration**: The NMR will be integrated with the Healthcare Professional Registry under the Ayushman Bharat Digital Mission, incorporating features like continuing medical education credits and advanced software integration.

Statements from Key Officials

Shri Jagat Prakash Nadda
- **Inauguration**: Shri Nadda praised the NMR as a significant step towards strengthening India's **digital healthcare ecosystem**. He emphasized the government's vision of a digitally robust health system and the NMR's role in ensuring **quality healthcare**.
- **Future Plans**: He mentioned that the NMR will be continuously **updated** and **improved**, reflecting the evolving needs of the healthcare sector.

Smt. Anupriya Patel
- **Importance**: Smt. Patel highlighted the need for an **authentic**, **centralized database** of doctors, which the NMR aims to address. She emphasized that this initiative is crucial for creating a comprehensive **digital health ecosystem** in India.

Shri Prataprao Jadhav

- **Vision**: Shri Jadhav underscored that the NMR aligns with the government's vision of "Reform, Perform, and Transform." He noted that the portal will enhance transparency, improve data management, and build public trust in the healthcare system.

Shri Apurva Chandra, Union Health Secretary:

- **Data Provision**: Shri Chandra pointed out that the NMR will address the previous lack of comprehensive data on doctors, including their **distribution** and **status**. The portal will provide detailed information on over **1.3 million doctors**.

Implementation and Registration Process

Process Overview:

- **Registration Requirements**: MBBS doctors registered with the **Indian Medical Register (IMR)** must re-register on the NMR. They need to prepare a **digital copy** of their MBBS Degree Certificate, State Medical Council Registration Certificate, and Aadhaar number for the registration process.
- **Verification and Issuance**: After manual entry and verification by SMCs and NMC, doctors receive a unique **NMR ID**. The portal will allow stakeholders to manage various aspects of **medical registration** and **credentials**.

Portal Features:

- **Management Tools**: The NMR Portal provides features for adding qualifications, tracking applications, and issuing digital certificates. It also supports transparency and efficiency in the registration and management of medical professionals.

Conclusion :

The launch of the National Medical Register Portal represents a pivotal advancement in India's healthcare infrastructure. By creating a centralized, Aadhaar-linked database of MBBS doctors, the NMR aims to enhance data integrity, streamline registration processes, and contribute to a more robust and transparent healthcare system. This initiative is a significant step towards realizing a comprehensive digital health ecosystem in India.

Union Minister of Youth Affairs & Sports and Labour & Employment Launches RESET Programme

On National Sports Day, Union Minister of Youth Affairs & Sports and Labour & Employment inaugurated the "Retired Sportsperson Empowerment Training" (RESET) Programme. This initiative aims to support retired athletes by providing them with the skills and knowledge necessary for their career development, making them more employable and allowing them to contribute to the sports ecosystem.

Overview of the RESET Programme

Objective: The RESET Programme seeks to empower retired sportspersons who have achieved significant milestones in their careers, providing them with career development tools and opportunities to become more employable.

Benefits:

- **Career Support:** The programme will equip retired athletes with essential skills for career advancement and employment.
- **Knowledge Sharing:** It will facilitate the transfer of the athletes' rich experience to newer generations, fostering the growth of **sports** in India.
- **Nation-Building:** By leveraging the experience of retired athletes, the programme contributes to the broader goal of nation-building.

Eligibility Criteria:

- Retired athletes aged between 20-50 years.
- Must have won international medals, participated in international events, or been national/state medallists.
- Participants should have competed in events recognized by **National Sports Federations**, **Indian Olympic Association**, or the **Ministry of Youth Affairs and Sports**.

Programme Structure:

- **Levels:** Courses are offered in two levels based on educational qualifications—Class 12th and above, and Class 11th and below.
- **Implementation:** The pilot phase will be led by Lakshmibai National Institute of Physical Education (LNIPE).
- **Mode:** The programme will be delivered in **hybrid mode**, combining self-paced **online learning** with on-ground **training** and **internships**.

Components:

- **Training:** Self-paced learning via a dedicated portal.
- **Internships:** Opportunities in **sports organizations**, **competitions**, **training camps**, and **leagues**.
- **Support Services:** Placement assistance and guidance for **entrepreneurial ventures** upon course completion.

Registration: Participants can register through the portal LNIPE RESET Program. The course will commence following evaluation and participant notification.

Significance of the RESET Programme

- **Empowerment:** The **RESET Programme** is a significant step towards recognizing and utilizing the experience of **retired athletes**, enhancing their post-sport careers and contributing to the sports sector.

- **Career Development:** It aims to bridge the gap between the **sports** and **corporate worlds**, providing retired athletes with relevant skills and opportunities for a successful transition.

National Sports Awards

Purpose: The National Sports Awards recognize and reward outstanding performance in sports, promote sportsmanship, and foster national pride and unity.

Impact:

- They highlight extraordinary achievements at **national** and **international levels**, encouraging continued excellence and inspiring future generations of athletes.

Conclusion :

The launch of the RESET Programme marks a transformative initiative in supporting retired sportspersons, enhancing their employability, and leveraging their experience to benefit future athletes. With its hybrid learning approach and comprehensive support services, the programme is set to make a significant impact on both retired athletes and the broader sports ecosystem. As India continues to focus on sports development and career transition for athletes, the RESET Programme stands out as a pivotal step towards achieving these goals and fostering a robust sports culture.

Vigyan Dhara Scheme

Overview :

The Union Cabinet has recently approved the continuation of a unified central sector scheme named **Vigyan Dhara**. This scheme merges three existing umbrella schemes of the Department of Science and Technology (DST) into a streamlined initiative aimed at enhancing India's science and technology capabilities.

About Vigyan Dhara Scheme

- **Objective**: The primary goal of the Vigyan Dhara scheme is to promote science and technology (S&T) capacity building, research, innovation, and technology development. It aims to strengthen the Science, Technology, and Innovation (STI) ecosystem in India.

- **Proposed Outlay**: The scheme is allocated **Rs 10,579.84 crore** for the 15th Finance Commission period from 2021-22 to 2025-26.

- **Efficiency**: Merging the three schemes into a unified structure is expected to enhance **fund utilization efficiency** and synchronize various sub-schemes and programs.

Components of Vigyan Dhara

1. **Science and Technology (S&T) Institutional and Human Capacity Building** :
   - o **Focus**: Strengthen S&T institutions and build human resources.
   - o **Goals**: Develop a critical human resource pool and improve the Full-Time Equivalent (FTE) researcher count.

2. **Research and Development (R&D)**:
   - o **Scope**: Promote basic research, translational research (e.g., in sustainable energy, water), and collaborative research through international cooperation.
   - o **Alignment**: This component will be aligned with the Anusandhan National Research Foundation (ANRF).

3. **Innovation, Technology Development, and Deployment**:
   - o **Objective**: Support technological advancements and deployment to drive innovation.
   - o **Focus**: Foster a culture of research and innovation across various institutions and industries.

Focused Interventions

- **Women Participation**: The scheme includes specific initiatives to enhance the participation of women in S&T fields, aiming for gender parity in the STI sector.
- **Alignment with Viksit Bharat 2047**: All programs under Vigyan Dhara will align with the 5-year goals of DST and contribute towards the vision of a developed India by 2047.

Anusandhan National Research Foundation (ANRF)

- **Establishment**: ANRF was established under the **ANRF 2023 Act**.
- **Purpose**: The foundation aims to seed, grow, and promote **R&D** and foster a **research and innovation** culture across India's universities, colleges, research institutions, and R&D laboratories.
- **Functions**:
  - **Strategic Direction**: Provides high-level strategic direction for scientific research in line with the National Education Policy (NEP).
  - **Collaboration**: Facilitates **collaborations** among industry, academia, government departments, and research institutions.
  - **Interface Mechanism**: Creates mechanisms for industry and State governments to participate in **scientific research** and development.
- **Integration**: The Science and Engineering Research Board (SERB), established in 2008, has been subsumed into ANRF, consolidating research funding and strategic oversight under this new foundation.

Conclusion :

The Vigyan Dhara scheme represents a major step forward in India's approach to enhancing its science and technology capabilities. By integrating and streamlining three existing schemes into a unified program, the initiative aims to foster greater efficiency, promote cutting-edge research, and drive technological innovation. Coupled with the strategic direction provided by the ANRF, Vigyan Dhara is set to play a crucial role in advancing India's scientific and technological landscape, contributing significantly towards the country's development goals and vision for 2047.

EDITORIALS

Crux of The Hindu & Indian Express

Society & Culture

Centre Issues First-Ever Guidelines for Organ Transport Across Travel Modes

Introduction:

The Union Health Ministry has issued Standard Operating Procedures (SOPs) for the seamless transport of human organs through various modes such as air, road, railways, and waterways.

These SOPs serve as a guiding document for organ transplant institutions across the country, aiming to maximize the utilization of precious organs and offer hope to patients awaiting life-saving transplants.

Key Points:

Purpose of SOPs:

- The SOPs aim to streamline the **organ transport process**, ensuring adherence to best practices and **quality standards**.
- They provide guidelines for transporting organs between hospitals when the **donor** and **recipient** are in different locations.

Transportation by Air:

- Airlines carrying human cadaveric organs can request priority take-off and landing from Air Traffic Control.
- Front-row seats and priority reservations can be arranged for medical personnel transporting organs.
- The source airport will communicate with the destination airport to facilitate the arrival process.
- The flight captain may make an in-flight announcement about the organ transport.

- **Trolleys** can be arranged for carrying the **organ box** from the aircraft to the **ambulance**, and **airport staff** can assist in this process.
- A **"green corridor"** should be defined for the organ box from the ambulance to the aircraft and vice versa.

Transportation by Road:
- A **"green corridor"** may be provided for organ transport on the request of specific **authorities** or **agencies**.
- The **"One Trigger System"** can initiate the process of organ transport by creating green corridors.
- A **nodal officer** from the **police department** can handle issues related to the creation of the **green corridor**.
- **State traffic police** should be sensitized about **organ donation** and **transplant** and their role in expediting organ transport.

Transportation by Metro:
- **Metro Traffic Control** should accord **priority transit** for the metro carrying live human organs.
- **Metro security staff** should escort the clinical team carrying the organ box and cordon off the necessary area.
- **Security Hold Area (SHA)** should be informed to avoid delays in security checks.
- The organ box should be kept **upright** and secured with a **seat belt** for greater safety.

Transportation by Other Modes:
- Similar SOPs have been issued for transporting organs by **road**, **trains**, and through **ports** via **shipping**, outlining essential guidelines and protocols.

Development of SOPs:
- The organ transport SOPs were developed in consultation with the **NITI Aayog**, concerned **ministries**, and **transplant professionals**.

Analysis/Impact

Improved Coordination:
- The SOPs aim to enhance **coordination** between various agencies involved in organ transport, ensuring timely and safe delivery of organs.

Maximizing Organ Utilization:
- By streamlining the transport process, the SOPs aim to maximize the **utilization** of precious organs, potentially saving more lives.

Related Technologies:
- **Green Corridor**: A "green corridor" is a designated route free from obstructions, facilitating the swift transport of organs.

- **One Trigger System**: A request from the **organ allocation authority** to initiate the process of organ transport by creating green corridors.

What is the National Organ and Tissue Transplant Organization (NOTTO)?
- **NOTTO** is a national level organization set up under the **Ministry of Health and Family Welfare**.
- Besides laying down policy guidelines and protocols for various functions, it coordinates all the activities associated with **organ donation** at the national level.

Conclusion:

The issuance of the first-ever guidelines for organ transport by the Union Health Ministry is a significant step towards improving the efficiency and effectiveness of organ transplant procedures in India. These SOPs provide a comprehensive roadmap for organ retrieval and transplant institutions, ensuring adherence to best practices and quality standards. By streamlining the transport process and enhancing coordination among various agencies, the guidelines aim to maximize the utilization of precious organs and offer hope to countless patients awaiting life-saving transplants. The involvement of multiple stakeholders, including the NITI Aayog and transplant professionals, underscores the collaborative effort behind these guidelines, which are poised to make a substantial impact on the national organ transplant program.

Hakki Pikki Tribe Makes Waves with Adivasi Hair Oil

In Pakshirajapura village, Karnataka, Radha, a member of the Hakki Pikki tribe, is busy packaging her family's traditional Adivasi hair oil. Priced at Rs 1,500 for a 500ml bottle, her "Original Adivasi Hair Oil" is marketed as a cure-all for hair issues, including hair fall, balding, dandruff, and grey hair. The oil's popularity has surged, thanks in part to endorsements from Bollywood celebrities and social media influencers.

Market Dynamics:

- **Product Range**: The market features numerous brands like Adivasi Ajay Hair Oil, Neelambari Adivasi Hair Oil, and Official Adivasi Hair Oil. Despite claims of counterfeiting, many brands are available on major e-commerce platforms like Amazon and Flipkart.

- **Local and Global Reach**: The Hakki Pikki tribe's hair oil is not only popular in India but also has **international demand**. Radha's business has seen a dramatic increase in orders, reaching customers in **Sudan, Nigeria, Thailand, Dubai**, and **Kenya**.

Manufacturing and Marketing:

- **Traditional Methods**: The oil is made using a traditional recipe involving 118 herbs, such as kasturi, rose petals, aloe vera, and forest lemon. The process includes a 12-hour cooking period, followed by cooling and bottling.

- **Marketing Strategies**: Hakki Pikki entrepreneurs actively engage with influencers and participate in fairs and festivals to promote their products. They have also embraced modern marketing techniques, including social media campaigns and multilingual outreach.

Challenges and Criticisms:

- **Counterfeiting Issues**: There are concerns about counterfeit products in the market, with some customers reporting dissatisfaction and discrepancies in product quality. Hakki Pikki entrepreneurs have called for government intervention to combat fake products and protect their brand reputation.

- **Celebrity Deals**: The details of celebrity endorsements are often shrouded in secrecy, with influencers acknowledging the financial aspects of their promotions without disclosing specifics. Some consumers have expressed skepticism about the oil's efficacy and the authenticity of promotional claims.

Community Impact:

- **Economic Benefits**: The rise of Adivasi hair oil has provided a significant economic boost to the Hakki Pikki community. Many families, including Radha's, have transitioned from traditional livelihoods to successful businesses.

- **Government Support**: The Karnataka government has supported the tribe in setting up **business centers** and certifying their products. However, challenges remain, especially for smaller entrepreneurs struggling with certification and quality control.

About the Hakki Pikki Tribe:

- **The Hakki Pikki tribe**, a semi-nomadic group, traditionally practiced **bird catching** and **hunting** in forested regions of western and southern India. Classified as a **Scheduled Tribe** in Karnataka, their origins are linked to the legendary **Ranapratap Singh**.

Origination and Settlement:

- **Migration**: Originating from **Gujarat** and **Rajasthan**, the Hakki Pikkis migrated southward through **Andhra Pradesh** to settle in Karnataka.

- **Clans**: The tribe is divided into four clans—**Gujaratia**, **Panwar**, **Kaliwala**, and **Mewaras**—akin to castes in traditional Hindu society.

- **Population**: There are approximately **11,892 Hakki Pikkis** in Karnataka.

Society:

- **Marriage**: Women typically marry at 18, and men at 22, with a preference for **cross-cousin marriages**.

- **Social Structure**: The tribe's society is **matriarchal**, and **monogamy** is practiced. They follow **Hindu traditions** and celebrate Hindu festivals.

- **Education**: Educational attainment among the Hakki Pikkis remains relatively low.

Livelihood:

- **Traditional Resources**: Forest resources were historically vital, but stricter wildlife protection laws have prompted a shift from hunting to alternative livelihoods. They now sell **herbal oils**, **spices**, and **plastic flowers**, often at local temple fairs.

Migration to Africa:

- **Market Expansion**: In recent years, Hakki Pikkis have ventured into **African markets**, capitalizing on the high demand for **Ayurvedic products**. African countries provide better market opportunities and higher returns on investments in Ayurvedic raw materials like **hibiscus powder** and **gooseberry**.

Conclusion:

The Hakki Pikki tribe's foray into the hair oil market, driven by traditional practices and modern endorsements, highlights their successful integration into the global business arena. While challenges like counterfeiting and authenticity issues persist, the tribe's ability to leverage celebrity endorsements and digital platforms demonstrates a compelling model of cultural entrepreneurship.

India's First Round-the-Clock Grain ATM Opened at Mancheswar in Odisha

India's First Round-the-Clock Grain ATM Opened at Mancheswar, Odisha

Introduction :

India's first round-the-clock grain ATM was inaugurated at Mancheswar in Bhubaneswar, Odisha. This initiative aims to provide convenient and efficient access to essential food grains for beneficiaries.

Inauguration Details:

- **Location**: Mancheswar, Bhubaneswar, Odisha.
- **Inaugurated by**: Krushna Chandra Patra, Odisha Minister for Food Supplies and Consumer Welfare.
- **Present at the Event**: Nozomi Hashimoto, Deputy Country Director of the World Food Programme in India.

Key Features of Annapurti Grain ATM:

Feature	Details
24/7 Access	The ATM will dispense rice/wheat around the clock. Reduces waiting time by 70%.
Capacity and Speed	Can dispense up to 50 kilograms of grain in five minutes. Error rate of 0.01%.
Biometric Authentication	Beneficiaries can access their entitled grain by inputting their Aadhar or Ration card number and undergoing biometric authentication.
Energy Efficiency	Consumes only 0.6 Watts per hour. Can be connected to solar panels for automatic refilling.
Modular Design	Allows easy assembly based on available space.

Benefits of Annapurti Grain ATM

- **Eliminates Long Queues**: Reduces waiting time at traditional distribution points.
- **Reduces Theft and Black Marketing**: Ensures accurate weight and prevents potential cheating.

- **Consistent Access**: Provides consistent access to the full food ration post biometric authentication.
- **Universal Access**: Anyone with a Public Distribution System (PDS) ration card valid in India can access their entitlement, regardless of the State and Union Territory.

Partnership and Objectives

- The Odisha government launched this initiative in partnership with the World Food Programme to achieve nutritional security in the state.
- The minister emphasized that the launch of the grain ATM will stop dealers from delaying the distribution of entitled food grains to PDS beneficiaries.

About the World Food Programme

- **Organization**: A branch of the United Nations that deals with hunger eradication and promotes food security worldwide.
- **Affiliation**: A member of the United Nations Development Programme (UNDP).

Future Plans

- The Annapurti Grain ATMs will be launched in all districts of Odisha.
- The minister described the launch as a historic day, highlighting the ease and convenience of the new system.

Conclusion :

The introduction of India's first round-the-clock grain ATM marks a significant step towards enhancing food security and convenience for beneficiaries. This initiative, supported by the World Food Programme, aims to modernize the distribution of essential food grains, ensuring timely and accurate access for all.

LEGAL CHALLENGES IN GREAT NICOBAR INFRA PROJECT

The Central government's Rs 72,000 cr-Great Nicobar Island (GNI) infrastructure project has also faced legal challenges in the National Green Tribunal (NGT) and the Calcutta High Court, which has jurisdiction over the Andaman and Nicobar Islands.

Great Nicobar - The Jewel of Andaman and Nicobar Islands!

INR 72,000 Crore Developmental Project Planned

First Phase to Cost Around INR 19,000 Crores and is envisioned to be completed by 2028

Tender for the Construction of First Phase Likely to be Called in Early 2024, Post Cabinet Nod

NICOBAR TIMES
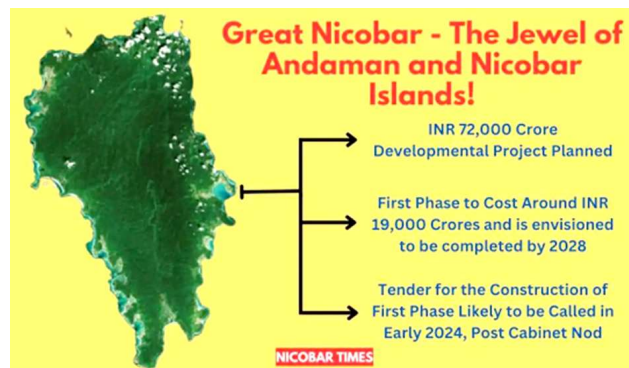
ABOUT GREAT NICOBAR ISLAND

- Great Nicobar is the southernmost and largest of the Nicobar Islands, a sparsely inhabited 910-sq-km patch of mainly tropical rainforest in southeastern Bay of Bengal.
- Indira Point on the island, India's southernmost point, is only 90 nautical miles (less than 170 km) from Sabang at the northern tip of Sumatra, the largest island of the Indonesian archipelago.
- Great Nicobar has two national parks (Galathea Bay National Park and Campbell Bay National Park, a biosphere reserve (Great Nicobar Biosphere Reserve.), small populations of the Shompen and Nicobarese tribal peoples, and a few thousand non-tribal settlers.

ABOUT THE PROJECT

- NITI Aayog has come up with a plan for the Holistic Development of Great Nicobar Island.
  Project implementation agency is the Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO).
- **Mega project includes:**
  o international container transshipment terminal (ICTT),
  o a military-civil dual use airport,
  o a solar power plant and
  o an integrated township.

SIGNIFICANCE OF THE PROJECT

- Strategic Importance as it is in close proximity with South East Asia as well as SL. It will give a push to our Act East Policy.
- Enhanced Security as it will give us a base deep down the IOR. Maritime Piracy, terrorism, illegal trade & undue dominance of China can be tackled.
- It can create an economic trade hub in Andaman & Nicobar Island.
- It may promote tourism.
- It will also increase employment.

THE ENVIRONMENTAL CONCERNS

- The proposed infra upgrade has been opposed on grounds of the threat it poses to the ecology of the islands.
- The opposition — by wildlife conservation researchers, anthropologists, scholars, and civil society— has focused on the potentially devastating impact on the Shompen, a particularly vulnerable tribal group (PVTG) of hunter-gatherers with an estimated population of a few hundred individuals who live in a tribal reserve on the island.
- It is feared that the port project will destroy coral reefs with spinoff effects on the local marine ecosystem, and pose a threat to the terrestrial

Nicobar Megapode bird and leatherback turtles who nest in the Galathea Bay area.
- the proposed port is in a seismically volatile zone that saw permanent subsidence of about 15 ft during the 2004 tsunami.

THE MoEFCC ON THE PROJECT

Ministry of Environment, Forests and Climate Change (MoEFCC) has granted environmental clearance for diversion of 130.75 sq. km of forest in Great Nicobar Island (GNI) for mega Rs. 72,000-crore multi-development projects.

Key condition for the environmental clearance is the submission of a detailed scheme for compensatory afforestation, which is to be done on non-notified forest land.

THE APPEALS AGAINST THE PROJECT

In 2022, environmental activist Ashish Kothari and Mumbai-based non-profit Conservation Action Trust (CAT) challenged the environmental and Coastal Regulation Zone clearances granted to the GNI project.

Along with the submission before the eastern bench of the NGT, CAT filed a separate appeal challenging the forest clearance.

NGT formed a High Panel Committee (HPC) to look into the investigations.

THE GROUNDS FOR APPEAL

- The grounds for the appeals were similar, centred on irreversible damage that the project would cause to biodiversity, inadequate environmental impact studies and opacity in the clearance process.
- The appeals pointed out that GNI was a Biosphere Reserve, home to a "wide spectrum of ecosystems comprising wet evergreen forests".
- Issues of inadequate assessment of the impact on Shompen and Nicobarese tribal communities and non-compliance with due process in granting statutory clearances were also flagged.
  o The Shompens are hunter-gatherers, while the Nicobarese people's ancestral lands are likely to be affected by the project.

THE FINDINGS OF THE HPC

Last week, conclusions of a high-powered committee (HPC) formed by NGT in 2023 to revisit the project's green clearance were submitted in an affidavit to NGT's Kolkata bench by the Andaman and Nicobar Islands Integrated Development Corporation Limited (ANIIDCO). ANIIDCO is the project's implementing agency.

The HPC concluded that the proposed transshipment port does not fall in the Island Coastal Regulation Zone-IA (ICRZ-IA), where ports are prohibited.

THE NGT RULING

- The special bench ruled it did not find any ground to interfere with the forest clearance.
- It said while the forest help tackle air pollution and climate change, development cannot be ignored.
- It added that there was hardly any development in GNI and there was a need not only for "economic development but also national security".
- The bench said that while the environmental impact assessment procedure is mandatory, it does not follow that "hyper technical approach should be adopted ignoring ground realities about the need of the country for development and national security."
- There were "unanswered deficiencies" on coral conservation, the port's location in a prohibited area and limited baseline data collection. An HPC headed by the Secretary, MoEFCC, was thus formed and ordered to finalise a report within two months.

Nandini Sahakar Yojana

Nandini Sahakar Yojana: Empowering Women Cooperatives in 2024

Overview:

Nandini Sahakar Scheme by National Cooperative Development Corporation (NCDC) is a women focused framework of financial assistance, project formulation, hand-holding and capacity development aimed at assisting women cooperatives to take up business model based activities under the purview of NCDC.

Key Features:

- **Financial Assistance:** No minimum or maximum limit on financial assistance to projects by women cooperatives.
- **Interest Subvention:**
  - 2% interest subvention on term loans for new and innovative activities.
  - 1% interest subvention on term loans for all other activities, reducing borrowing costs for women cooperatives.

Eligibility:

- **Cooperative Societies:** Must be operational for at least three months.
- **Women Cooperatives:** Registered as women cooperatives under any State/Central Act or have at least **50% women** as primary members.

Significance:

- **Socio-Economic Status:** Aims to improve the socio-economic status of women.
- **Entrepreneurial Support:** Encourages **entrepreneurial dynamism** among women through cooperatives.
- **Convergence:** Integrates critical inputs such as **business plan formulation**, **capacity development**, **credit**, **subsidies**, and **interest subventions** from other schemes.

Implementation Status:

- **Bihar:** No proposals received from women cooperatives in Bihar under the Nandini Sahakar Scheme.
- **National Disbursement:** As of 31.03.2024, NCDC has disbursed Rs. 6426.36 crore for the development of women-promoted cooperative societies across the country.

What is a Cooperative Society?

- **Definition:** A voluntary association of individuals with **common needs** who collaborate to achieve common **economic interests**.
- **Aim:** To serve the interests of the poorer sections of society through self-help and mutual help.

Further consideration:

- **Alignment with Atmanirbhar Bharat:** The scheme aligns with the principles of Atmanirbhar Bharat, emphasizing self-reliance and economic empowerment.
- **Project-Based Funding:** NCDC funding is **project-based**, ensuring that financial assistance is tailored to specific initiatives.

Conclusion:

The Nandini Sahakar Yojana represents a significant step towards empowering women and fostering economic self-reliance. By providing comprehensive support through financial assistance, capacity development, and interest subventions, the scheme aims to create a robust ecosystem for women cooperatives. This initiative not only aligns with the broader vision of Atmanirbhar Bharat but also has the potential to transform the socio-economic landscape for women across India. As more women cooperatives engage with this scheme, it is expected to drive inclusive growth and entrepreneurial innovation, thereby contributing to the nation's overall development.

NATIONAL HANDLOOM DAY

8th National handloom day is being observed on August 7, 2024.

National Handloom Day 2024

The day has special significance in the history of the freedom struggle in the country. On the same day in 1905 Swadeshi Andolan was started.

Announcing the date to celebrate National handloom day in 2015, Prime Minister Narendra Modi had said that all families in the country must keep at least one product of khadi and one of handloom.

VIRAASAT EXHIBITION

"VIRAASAT", a fortnight long exhibition dedicated to celebrating 10th National Handloom Day began at Handloom Haat in Janpath on Saturday, 3rd August, 2024.

National Handloom Development Corporation Ltd (NHDC) is organising the handloom expo under the aegis of the Ministry of Textiles, Government of India which will conclude on 16th August, 2024.

THE THEME FOR 10th HANDLOOM DAY:

The theme for this year's National Handloom Day focusses on Technological advancements & innovations in handloom & weaving.

This will enhance market reach & will require more skills to be adopted.

NOBEL LAUREATES WHO LED THEIR COUNTRIES

Economist Muhammad Yunus, who won the Nobel Peace Prize in 2006, arrived in Dhaka. He is set to take oath as the head of Bangladesh's interim government.

Yunus, however, will not be the first Nobel laureate to later lead their country. Five others have preceded him.

LESTER B PEARSON (CANADA)

Pearson was the Canadian prime minister from 1963 to 1968, and a leader of the Liberal Party.

NOBEL PRIZE: Pearson won the Nobel Peace Prize in 1957, for his role in resolving the Suez Crisis.

LECH WALESA (POLAND)

Wałęsa served as Poland's president from 1990-95, the first since 1926 to be democratically elected.

NOBEL PRIZE: He won the Nobel Peace Prize in 1983 "for non-violent struggle for free trade unions and human rights in Poland".

AUNG SAN SUU KYI (MYANMAR)

Suu Kyi served as the State Counsellor of Myanmar, the de-facto head of the government equivalent to a prime minister, 2016 to 2021 after leading Myanmar's transition from military rule to partial democracy

NOBEL PRIZE: She had won the Nobel Peace Prize in 1991 "for her non-violent struggle for democracy and human rights" in Myanmar.

NELSON MANDELA (SOUTH AFRICA)

Mandela served as the president of South Africa from 1994 to 1999. He was the first Black president of the country, elected in its first ever multi-racial elections.
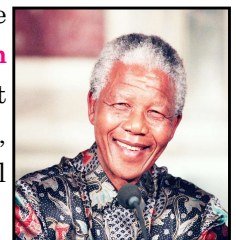
NOBEL PRIZE: He was awarded the Nobel Peace Prize in 1993, jointly with then President Frederik Willem de Klerk, "for their work for the peaceful termination of the apartheid regime, and for laying the foundations for a new democratic South Africa

JOSE RAMOS HORTA (EAST TIMOR)

Ramos-Horta has been the president of East Timor since 2022. He previously held the position from 2007 to 2012, and the prime ministership from 2006 to 2007.

NOBEL PRIZE:

He won the Nobel Peace Prize in 1996 along with Carlos Filipe Ximenes Belo, for working "towards a just and peaceful solution to the conflict in East Timor".

SUB CATEGORISATION

In a 6:1 landmark verdict, the Supreme Court on August 1 allowed the sub-categorisation of scheduled castes in reservations, allowing wider protection for underrepresented groups.

A seven-judge Constitution bench headed by Chief Justice of India DY Chandrachud has thus ruled on whether sub-classification of Scheduled Castes and Scheduled Tribes is permissible for the purpose of reservation.

WHO CAN BE CATEGORISED AS MOST VULNERABLE?

Empirical data, "reasonable" grounds that will be subject to judicial scrutiny, avoiding the perils of "micro-classification" — this is how the Supreme Court, in its verdict allowing sub-classification within Scheduled Castes and Scheduled Tribes quotas, has underlined the principles that will operationalise the new framework.

"State will have to justify that the group for which more beneficial treatment is provided is inadequately represented as compared to the other castes in the said List."—Justice BR Gavai.

CAN ALL THE SEATS RESERVED FOR SC/ST BE AVAILABLE FOR THE SUB-CLASS?

The opinion also explicitly states how states cannot sub-classify the quota. "While providing for sub-classification, the State would not be entitled to reserve 100% seats available for Scheduled Castes in favour of a sub-class to the exclusion of other castes in the List," the ruling stated.

THE BACKGROUND

In January, 2024, the seven-judge Constitution Bench headed by Chief Justice of India D Y Chandrachud reserved judgment in the sub-classification among Scheduled Castes (SCs) case.

WHY WAS THE CASE FILED IN SC?

Some states have argued that despite reservation, some castes are grossly underrepresented in comparison with the so-called dominant Scheduled Castes.

They want to create a separate quota for such castes within the SC quota of 15%, to ensure that the benefits are adequately distributed.

EV CHINNAIAH V/S STATE OF ANDHRA PRADESH : THE CASE UNDER SCANNER

In 2004, a five-judge Constitution Bench in 'E.V. Chinnaiah v State of Andhra Pradesh' held that:

- Only the President could notify which communities could receive reservation benefits as per Article 341 of the Constitution, and that states did not have the power to tamper with this.
- In 'E.V. Chinnaiah v State of Andhra Pradesh', the Supreme Court struck down the Andhra Pradesh Scheduled Castes (Rationalisation of Reservations) Act, 2000 for being violative of the right to equality.

A number of states have now returned to the Supreme Court to argue against the Chinnaiah decision, claiming that states do have the power to make sure reservation benefits are distributed to communities that need them the most.

EARLIER ATTEMPTS OF SUB CATEGORISATION

- **SUB CATEGORISATION IN PUNJAB:**
  In 1975, the Punjab government issued a notification dividing its SC reservation at that time into two categories.
- In the first category, seats were reserved solely for the Balmiki and Mazhabi Sikh communities. Under the policy, they were to be given first preference for reservation in education and public employment.
- The second category consisted of the rest of the SC communities.
- **SUB CATEGORISATION IN ANDHRA PRADESH:**
  The Andhra Pradesh Govt. passed The Andhra Pradesh Scheduled Castes (Rationalisation of Reservations) Act, 2000. The law contained an expansive list of Scheduled Caste communities in the state and the quota of reservation benefits provided to each of them.

THE LITIGATIONS

- In 'E.V. Chinnaiah v State of Andhra Pradesh', the Supreme Court struck down the Andhra Pradesh Scheduled Castes (Rationalisation of Reservations) Act, 2000 for being violative of the right to equality.

- Two years after the apex court ruling, the Punjab & Haryana High Court in **'Dr. Kishan Pal v. State of Punjab'** struck down the 1975 notification.
  - o In **October 2006**, four months after the Punjab & Haryana High Court struck down the notification, the Punjab government attempted to bring back the law by passing The Punjab Scheduled Caste and Backward Classes (Reservation in Services) Act, 2006.
  - o In **2010,** the High Court once again struck down this provision. The Punjab government then moved the Supreme Court.

WHY THE SC IS RECONSIDERING THE CHINNAIAH CASE?

- In 2014, the Supreme Court in 'Davinder Singh Vs State of Punjab', referred the appeal to a five-judge Constitution Bench to determine if the 2004 E V Chinnaiah decision required reconsideration, since it needed an inquiry into the interplay of several constitutional provisions.
- In 2020, the Constitution Bench headed by Justice Arun Mishra held that the court's 2004 decision required reconsideration. The ruling noted that the court and the state "cannot be a silent spectator and shut its eyes to stark realities." The ruling disagreed with the premise that Scheduled Castes are a homogeneous group and said there are "unequals within the list of Scheduled Castes, Scheduled Tribes, and socially and educationally backward classes."

VINESH PHOGAT DISQUALIFICATION

Wrestler Vinesh Phogat was disqualified after the official weigh-in on Wednesday morning, ahead of her scheduled gold medal bout in the evening.

While she had cleared the weigh-in on Tuesday, Vinesh was found to be "a few grams over 50 kg" on Wednesday morning's weigh-in.

It is reported that she was reportedly 2 kilos overweight on Tuesday night — weight she tried her best to shed overnight but couldn't.

WHY DOES THE WEIGHT MATTER?

Combat sports — wrestling, boxing, judo, mixed martial arts (MMA), etc. — are organised according to weight classes.

This is to facilitate fair and competitive matches. Fighters of similar weight (and thus, size) are more likely to have similar physical attributes, making for a more even playing field.

Without weight classes, larger and bulkier athletes would have a natural advantage over smaller ones, even if they are not as technically gifted.

WHAT ARE WEIGH INS?

Athletes in a particular weight class (say 50 kg) have to weigh equal to, or less than, the stipulated weight. However, one's weight is never static. It constantly fluctuates within a certain range depending on a number of factors like:

- how much you eat and drink,
- how much you sweat, and
- other bodily functions.

IS THE WEIGHT CONSTANTLY MEASURED?

Moreover, it is impractical to constantly monitor an athlete's weight throughout a competition.

Thus, combat sports use a system of weigh-ins. There are designated times before (and in some competitions, after) when an athlete has to be weighed, and meet the requirements of their weight class.

WEIGH IN RULES FOR WRESTLING

According to United World Wrestling's (UWW) Olympics weigh-in rules, wrestlers are weighed on the morning of their competition, while wearing their singlet.

WEIGH INS IN OLYMPICS:

Since the Olympics competition goes on for two days, there are two weigh-ins — there is a 30 minute period on Day 1, and a 15 minute period on Day 2.

SIGNIFICANCE:

Other sports or competitions may have different rules regarding weigh-ins. In fact, weigh-ins are a key part of the spectacle ahead of a fight in professional combat sports such as pro boxing or MMA, with thousands of viewers tuning in to see athletes strip down, get weighed, talk some smack, and perhaps even engage in a simulated stand-off with their opponent.

WHAT IS WEIGHT CUTTING?

In simple words, weight cutting involves athletes drastically reducing their weight in a short period of time. This is done by athletes to make the stipulated weight in time for weigh-ins.

Many, if not most, combat sports athletes believe that cutting weight before a bout can provide them with an edge over their opponent in the ring, mainly by quickly rebounding in weight and thus weighing more than what their weight class stipulates. This is because weight cuts primarily involve ridding the body of any accumulated water — this is the "easiest" weight to shed.

Athletes do not drink water, carry out intense exercise, use saunas, wear heavy clothing, etc. to lose this water weight through sweat. They also do not eat anything ahead of weighins.

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RHFL FRAUD

The Securities and Exchange Board of India (SEBI) has taken strong action against Anil Ambani and 24 others, including former top officials of Reliance Home Finance Ltd (RHFL).

SEBI has fined Ambani Rs. 25 crore and banned him from participating in the securities market for five years.

This means he cannot hold any directorial or managerial roles in listed companies or registered financial intermediaries.

WHAT HAPPENED?

- **Fake Loans**: RHFL, a company that gives out loans, gave out a lot of big loans called general-purpose working capital (GPC) loans. These loans were supposed to help businesses with their day-to-day operations.

- **Bad Borrowers**: The problem was that these loans were given to businesses that were not financially strong. Many of these borrowers had very little money or assets.

- **No Security**: Normally, loans are secured by some form of guarantee, like property. But in this case, there was often no proper security for these loans.

- **Misuse of Funds**: The loans were directed to companies linked to Anil Ambani and his group, not to businesses that genuinely needed the funds. Essentially, the money was moved around to benefit Ambani and his associates, rather than being used properly.

- **Loan Defaults**: Because the borrowers were weak financially, they couldn't repay the loans. These loans eventually turned into bad debts (non-performing assets or NPAs), causing a lot of financial trouble for RHFL.

- **Regulatory Action**: SEBI found out about this scheme and took action. They imposed fines and banned Anil Ambani and others from participating in the securities market for five years.

In short, the fraud involved giving out large loans to financially unstable companies linked to the promoters, with no proper security, leading to financial losses and a violation of trust.

SEBI'S CONCLUSIONS

- **Scheme Management**: The scheme was managed by Key Managerial Personnels (KMPs) at RHFL, who set up loans for financially unfit borrowers connected to the promoter group. This caused significant financial damage to RHFL.

- **Regulatory Breach**: SEBI found that even though the loans were supposed to be secured by current assets, these assets were of little value. The scheme involved entities closely connected to the promoter group, raising serious concerns about misuse of company resources.

Cabinet Approves 12 Industrial Nodes/ Cities under National Industrial Corridor Development Programme

Why in News?

The Indian Cabinet Committee on Economic Affairs has approved 12 new industrial nodes under the National Industrial Corridor Development Programme (NICDP), with an investment of Rs. 28,602 crore. This initiative aims to revolutionize India's industrial landscape by creating a network of world-class industrial smart cities.

About National Industrial Corridor Development Programme (NICDP):

- **Purpose:** To develop new industrial cities as smart cities and integrate next-generation technologies across infrastructure sectors.

- **Investment Facilitation:** Aims to attract large industries and MSMEs to achieve the export target of $2 trillion by 2030.

- **Newly Sanctioned Areas:** Khurpia (Uttarakhand), Rajpura-Patiala (Punjab), Dighi (Maharashtra), Palakkad (Kerala), Agra and Prayagraj (Uttar Pradesh), Gaya (Bihar), Zaheerabad (Telangana), Orvakal and Kopparthy (Andhra Pradesh), and Jodhpur-Pali (Rajasthan).

- **Implementation Agency:** National Industrial Corridor Development and Implementation Trust (NICDIT) oversees the NICDP projects.

Key Details of the Approval:

- **Objective:**
  - o **Transform the Industrial Landscape:** Develop a robust network of industrial nodes and cities to boost economic growth and global competitiveness.
  - o **Infrastructure Development:** Build greenfield smart cities with 'plug-n-play' and 'walk-to-work' concepts to meet future industrial demand.
- **Approved Projects:**
  - o **Locations:** Khurpia (Uttarakhand), Rajpura-Patiala (Punjab), Dighi (Maharashtra), Palakkad (Kerala), Agra and Prayagraj (Uttar Pradesh), Gaya (Bihar), Zaheerabad (Telangana), Orvakal and Kopparthy (Andhra Pradesh), and Jodhpur-Pali (Rajasthan).
  - o **Scope:** Projects span across 10 states and 6 major corridors.
- **Strategic Investments:**
  - o **Industrial Ecosystem:** Aims to attract investments from large industries and Micro, Small, and Medium Enterprises (MSMEs).
  - o **Export Goals:** Targeting $2 trillion in exports by 2030.
  - o **Economic Growth:** Enhancing India's manufacturing capabilities and global competitiveness.
- **Smart Cities and Infrastructure:**
  - o **Greenfield Development:** Cities designed with global standards, incorporating advanced infrastructure.
  - o **Concepts:** 'Plug-n-play' facilities and 'walk-to-work' environments to ensure efficiency and sustainability.
- **Area Approach on PM GatiShakti:**
  - o **Multi-Modal Connectivity:** Aligned with PM GatiShakti National Master Plan for seamless movement of people, goods, and services.
  - o **Growth Centers:** Industrial cities to act as transformation hubs for their regions.

Vision for a 'Viksit Bharat':

- **Global Value Chains:** NICDP projects to position India strongly in global value chains.
- **Investment Readiness:** Developed land parcels will be readily available for domestic and international investors.

- **Economic Self-Reliance:** Supports the goal of creating an 'Atmanirbhar Bharat' by enhancing industrial output and employment.

Economic Impact and Employment Generation:

- **Employment Opportunities:** Expected creation of 1 million direct jobs and up to 3 million indirect jobs.
- **Regional Upliftment:** Contributes to socio-economic development of the regions.

Commitment to Sustainable Development:

- **Sustainability Focus:** Incorporation of ICT-enabled utilities and green technologies to minimize environmental impact.
- **Quality Infrastructure:** Aims to create industrial cities that are economically vibrant and environmentally sustainable.

Conclusion :

The approval of 12 new industrial nodes under the NICDP marks a transformative step in India's industrial development. These projects will foster a modern industrial ecosystem, drive economic growth, and enhance India's position in global markets. The focus on sustainability, advanced infrastructure, and regional development underscores the government's commitment to creating a robust and inclusive industrial landscape.

Capital Acquisition Proposals for Indian Army & Indian Coast Guard

On July 29, 2024, the Defence Acquisition Council (DAC), led by Defence Minister Shri Rajnath Singh, met to review and approve several capital acquisition proposals. The DAC granted Acceptance of Necessity (AoN) to procurement plans aimed at boosting the capabilities of the Indian Army and Indian Coast Guard.

Major Procurement Proposals:

1. Advanced Land Navigation System (ALNS) for Armoured Fighting Vehicles (AFVs)

  a. **Description:** The DAC approved the procurement of the Advanced Land Navigation System (ALNS) for the Indian Army's Armoured Fighting Vehicles (AFVs).

  b. **Features:**
   i. **Spoof-Proof:** The ALNS is designed to resist false signals that could mislead navigation. It includes strong encryption for data security.
   ii. **Compatibility:** The ALNS Mk-II works with several navigation systems, including the Indian Regional Navigation Satellite System (IRNSS, NavIC), Global Positioning System (GPS), and Global Navigation Satellite System (GLONASS). This ensures accurate navigation by using various satellite signals.

iii. **Accuracy:** The system is compatible with Defence Series Maps, offering very high accuracy for navigational tasks, which is critical for military operations.

c. **Procurement:** The equipment will be sourced from Bharat Electronics Limited (BEL) in Chennai under the Buy (Indian-Indigenously Designed, Developed, and Manufactured) category, supporting India's indigenous defence industry.

2. 22 Interceptor Boats for Indian Coast Guard

a. **Description:** The DAC approved the purchase of 22 Interceptor Boats equipped with advanced systems for quick interception and operations in shallow waters within territorial waters.

b. **Uses:** These boats will be used for coastal surveillance, patrolling, search and rescue missions, and medical evacuations. Their advanced features will enhance the Indian Coast Guard's ability to address various maritime challenges effectively.

About the Advanced Land Navigation System (ALNS):

- **Technology:** The ALNS uses Ring Laser Gyro (RLG) technology, which employs laser gyroscopes to deliver precise and stable navigation data.

- **Functions:**
  o **Inertial Mode:** Operates solely on internal sensor data, without relying on external signals.
  o **Hybrid Mode:** Combines data from inertial sensors and GPS receivers, selecting the most accurate information for navigation.
  o **GPS Mode:** Uses only GPS signals for navigation, without the need for inertial sensors.

- **Compatibility:** The ALNS Mk-II supports the Indian Regional Navigation Satellite System (IRNSS, NavIC), along with GPS and GLONASS, providing reliable navigation in challenging conditions.

- **Procurement:** The system will be bought from Bharat Electronics Limited (BEL) in Chennai, promoting India's goal of self-reliance in defence technology.

What is NavIC?

NavIC, or the Indian Regional Navigation Satellite System (IRNSS), is an independent navigation satellite system developed by the Indian Space Research Organisation (ISRO). It offers precise positioning and timing services over India and its surrounding regions, reducing reliance on foreign systems like GPS.

Role of the Defence Acquisition Council (DAC):

- **Purpose:** The DAC is the top decision-making body in the defence ministry for procurement. It ensures timely acquisition of necessary equipment for the armed forces within the budget.

- **Composition:** The DAC is chaired by the Defence Minister and includes the Chief of Defence Staff (CDS) and the chiefs of the Army, Navy, and Air Force.

- **Functions:** The DAC provides initial approval for long-term plans, grants Acceptance of Necessity to acquisition proposals, categorizes these proposals, handles single vendor issues, decides on offset provisions, and supervises field trials.

Conclusion:

The DAC's approval of the Advanced Land Navigation System (ALNS) and the 22 Interceptor Boats underscores the government's commitment to enhancing the capabilities of the Indian Army and Indian Coast Guard. These acquisitions aim to improve navigational accuracy and coastal surveillance, aligning with the broader effort to strengthen India's defence infrastructure. The focus on indigenous development and manufacturing supports the country's goal of becoming self-reliant in defence technology.

Indian Railways Plans to Go Nuclear as Part of Green Drive

Why in News?

Indian Railways is planning to integrate nuclear power into its energy mix as part of its broader green drive. The goal is to transition to non-fossil fuel sources and achieve net-zero carbon emissions by 2030. This strategic shift includes exploring the use of nuclear power through captive units, alongside other renewable energy sources.

Key Details:

Green Drive and Renewable Energy Goals:

GREEN ALL THE WAY
Solutions that the Railways plans to embrace to increase its installed capacity of renewables to 30 GW by 2030

Install rooftop solar panels at **stations, administrative buildings** to meet their energy needs; embrace energy-efficient technologies to reduce energy consumption

Solar panels on coach roofs to meet the energy needs of running the **trains**

Plant **10 million saplings every year on average** with support from state forest departments

Investment in **solar-plus-storage hybrid projects** to ensure round-the-clock renewable energy supply

Solar panels along **rail tracks, land owned by Railways** and **unused farmland** to power trains

- **Net-Zero Target**: Indian Railways aims to become a net-zero carbon emitter by 2030.

- **Renewable Energy Requirements**: The Railways projects a need for 30,000 MW of renewable energy capacity by 2029-30 to meet its targets.

Nuclear Power Initiatives:

- **Captive Units**: Indian Railways is considering the use of nuclear power through small-scale, captive nuclear reactors.
- **Collaborations**: Discussions will soon begin with the Nuclear Power Corporation of India (NPCIL) regarding the development of these nuclear units.

Current Renewable Energy Efforts:

- **Solar Power**: In 2023, the Railways commissioned 147 MW of solar power, with both rooftop and land-based installations.
- **Wind Power**: Approximately 103 MW of wind power plants have been established.
- **Hydel Power**: The Railways is also exploring the use of hydropower as part of its renewable energy strategy.

Existing Energy Infrastructure:

- **Electricity Consumption**: Indian Railways is the largest electricity consumer in India, spending around Rs. 20,000 crore annually on energy for operations.
- **Electrification Progress**: As of FY24, 63,500 Route Kilometres (rkms) of the network have been electrified, representing over 96% of the broad-gauge network.
- **Solar Initiatives**: 2,637 stations and service buildings are equipped with solar rooftop plants, generating a total of 177 MW.

Previous Attempts and Developments:

- **2013 Initiative**: In 2013, Indian Railways and NPCIL discussed the possibility of setting up a 400 MW nuclear power plant to address peak power requirements.
- **2017 Setback**: The initiative faced challenges in 2017 when a proposed joint venture with the **Department of Atomic Energy** was declined by the Railways.

Strategic Partnerships:

- **Renewable Energy Partnerships**: Indian Railways is exploring partnerships with entities like the Solar Energy Corporation of India (SECI), NTPC, and the Ministry of New and Renewable Energy (MNRE) to support its renewable energy goals.
- **Revenue Models**: The Railways is working on revenue models and purchase agreements to ensure cost-effective energy procurement and reduce operational expenses.

Conclusion :

Indian Railways is taking significant steps toward a sustainable energy future by integrating nuclear power and expanding its renewable energy portfolio. This approach aligns with the broader goal of achieving net-zero carbon emissions by 2030 and reducing dependence on fossil fuels. The initiative reflects a strategic shift towards sustainable infrastructure development and efficient energy management in one of the world's largest railway networks.

MONETARY POLICY UNCHANGED

The Reserve Bank of India's (RBI) six-member Monetary Policy Committee (MPC) has kept the repo rate unchanged at 6.5 per cent for the ninth time amid risks from higher food inflation.

The six-member MPC also continued with the monetary policy stance of withdrawal of accommodation. Four out of six MPC members voted in favour of the rate decision.

Announcing the decision, RBI Governor **Shaktikanta Das said that inflation broadly has been on a declining trajectory.**

WHAT IS MONETARY POLICY COMMITTEE?

- The Monetary Policy Committee (MPC) is a committee constituted by the Central Government and led by the Governor of RBI.
- Monetary Policy Committee (MPC) was constituted as per Section 45ZB under the RBI Act of 1934 by the Central Government. The first meeting of MPC was conducted on 3rd October 2016 in Mumbai.
- Monetary Policy Committee was formed with the mission of fixing the benchmark policy interest rate (repo rate) to restrain inflation within the particular target level.
- The committee determines the policy interest rate required to achieve the inflation target.
- The MPC is required to meet at least four times in a year.
- The quorum for the meeting of the MPC is four members.
- Each member of the MPC has one vote, and in the event of an equality of votes, the Governor has a second or casting vote.
- Once every six months, the Reserve Bank is required to publish a document called the **Monetary Policy Report** to explain the sources of inflation and the forecasts of inflation for 6-18 months ahead.

COMPOSITION OF THE COMMITTEE

- The committee comprises of **six members** (including the Chairman) - three officials of the RBI and three external members nominated by the Government of India.
  - o Governor of RBI acts as the Chairperson (ex-officio) of the committee.
  - o Members nominated by the Government hold office for a period of four years from the date of appointment.
- None of the Central Government nominees are eligible to be re-appointed.
- The committee meets quarterly i.e. every three months.
- **Decisions are taken by majority vote** with each member having a vote.

  In case of a tie, the Chairman has a casting vote.

WHAT IS SECTION 45 ZN?

This section says that in case the RBI fails to meet the inflation target, it has to present a report to the government explaining the reasons for the failure.

In the report, the central bank will have to mention the remedial actions it proposes to take, and an estimated time within which the inflation target will be achieved following the timely implementation of the proposed remedial actions.

The report is required to be sent to the government within one month from the date on which the RBI failed to meet the inflation target.

HOW HAS THE STOCK MARKET REACTED?

The equity benchmark indices Sensex and Nifty continued to trade lower on Thursday.

The NSE Nifty 50 index was down 0.4% at 24,199.9, as of 11:12 a.m IST, and the S&P BSE Sensex had shed 0.38% to 79,161.1.

Both indexes were down about 0.3% ahead of the decision. They extended losses to about 0.6% immediately after the policy announcement, before trimming some losses.

MUDRA 2.0 Loans : Targeting Greater Equity and Financial Literacy

Overview

The Pradhan Mantri MUDRA Yojana (PMMY) was launched in 2015 to support entrepreneurship by providing collateral-free micro-loans. The scheme was initially designed to offer loans up to Rs. 10 lakh to small and micro-enterprises. The Union Budget 2024 has increased the loan limit for the Tarun category to Rs. 20 lakh, signaling an upgrade to MUDRA 2.0.

About Pradhan Mantri Mudra Yojana (PMMY):

Overview:

- **Initiative:** Pradhan Mantri Mudra Yojana (PMMY) is a flagship program by the Government of India.
- **Launch Year:** 2015.
- **Aim:** To provide affordable credit to micro and small enterprises.
- **Objective:** To integrate underserved enterprises into the formal financial system by offering easy access to credit.

Key Features:

- **Goal:** "Fund the unfunded" by enabling small borrowers to secure loans from various financial institutions.
- **Financial Institutions:** Public Sector Banks (PSBs), Regional Rural Banks (RRBs), Cooperative Banks, Private Sector Banks, Foreign Banks, Micro Finance Institutions (MFIs), Non-Banking Financial Companies (NBFCs).

Loan Details:

- **Loan Amount:** Up to Rs. 10 lakh for non-farm income-generating activities.
- **Sectors:** Manufacturing, processing, trading, and services.
- **Eligibility:** Any Indian citizen with a viable business plan for a non-farm sector income-generating activity requiring credit below ?10 lakh can apply.

Categories of Loans:

1. **Shishu:**
   - o Loan Amount: Up to Rs. 50,000.
   - o Target: New and micro enterprises.
2. **Kishore:**
   - o **Loan Amount:** Rs. 50,000 to Rs. 5 lakh.
   - o **Target:** Businesses in the growth phase.
3. **Tarun:**
   - o **Loan Amount:** Rs. 5 lakh to Rs. 10 lakh.
   - o **Target:** Businesses looking to expand further.

Subsidy:

- **Direct Subsidy:** No direct subsidy under PMMY.
- **Linked Schemes:** Loans can be availed under PMMY if linked to a government scheme providing capital subsidies.

Achievements of MUDRA 1.0 :

- **Loan Disbursement**: Over Rs. 27.75 lakh crore disbursed to 47 crore small and new entrepreneurs.
- **Inclusivity**: About 69% of loan accounts are held by women, and 51% are from SC/ST and OBC communities.
- **Job Creation**: Significant impact on the grassroots economy, promoting self-employment and small business development.

Challenges Faced by MUDRA 1.0:

- **Unequal Distribution**: Disbursement concentrated in a few districts, with the top 10 districts receiving over Rs. 26,000 crore, while the bottom 318 districts received the same amount in FY 2021-22.
- **Non-Performing Assets (NPAs)**: NPAs decreased from 3.61% in FY21 to 2.1% in FY24. Highest NPAs observed in Kishore (Rs. 50,001 to Rs. 5 lakh) and Shishu (up to Rs. 50,000) categories.
- **Financial Literacy**: Only **27%** of the population is financially literate, contributing to loan defaults and mismanagement.
- **Monitoring and Implementation**: Inadequate oversight led to misuse of funds and inconsistent credit distribution.

Key Proposals for MUDRA 2.0:

- **Focused Outreach and Empowerment Zones:** Establish centres in rural and semi-urban areas providing financial literacy programs, mentorship, and business support.
- **Financial Literacy Programs:** Nationwide initiatives to educate on budgeting, savings, credit management, investment strategies, and digital literacy. Aim to reduce default rates and improve the financial health of entrepreneurs.
- **Enhanced Credit Guarantee Scheme (ECGS):** Introduce ECGS to encourage banks to lend more by providing credit guarantees, thereby reducing the risk for financial institutions.
- **Robust Monitoring and Evaluation Framework (RMEF):** Implement technology-driven systems to track loan disbursements, utilization, and repayments in real-time. Include beneficiary impact assessments to measure socio-economic outcomes and guide policy improvements.
- Data Analytics and Beneficiary Tracking: Utilize data analytics to identify and support enterprises in need of assistance. Improve targeting and allocation of resources based on data-driven insights.

Conclusion :

MUDRA 2.0 aims to address the limitations of MUDRA 1.0 by enhancing its effectiveness, targeting greater equity, and improving financial literacy. By focusing on marginalized communities, establishing comprehensive support systems, and implementing robust monitoring mechanisms, MUDRA 2.0 seeks to empower micro-entrepreneurs and foster inclusive economic growth.

NEHHDC Achieves Oeko-Tex Certification for Eri Silk

Date: August 15, 2024

Occasion: India's 78th Independence Day

The North Eastern Handicrafts and Handlooms Development Corporation (NEHHDC), under the Ministry of Development of North Eastern Region (DoNER), Government of India, has achieved a significant milestone by obtaining the prestigious Oeko-Tex certification for Eri Silk.

The certification was awarded directly from Germany and was announced on India's 78th Independence Day.

What is Eri Silk ?

1. Eri Silk is recognized as the **w**orld's only vegan silk. Unlike traditional silk production methods that involve killing the silkworm inside the cocoon, Eri Silk is produced through a process where the moth naturally exits the cocoon, which is then harvested.

2. **Production Process**: The Eri Silk comes from the domesticated silkworm Philosamia ricini, which feeds primarily on castor leaves. This non-lethal method of production aligns with principles of ethical and sustainable textile practices.

3. **Regions of Production**: The culture of Eri Silk is predominantly practiced in the northeastern states of India, particularly Assam, and also in Bihar, West Bengal, and Orissa.

4. **Geographical Indication (GI) Tag**: Eri Silk is a GI-tagged product from Assam, indicating its authenticity and regional significance.

Oeko-Tex Certification

- **Purpose**: Oeko-Tex certification is a rigorous standard that ensures textiles are tested for harmful substances and are produced in environmentally friendly conditions.

- **Significance**: This certification acts as a significant endorsement for Eri Silk, highlighting its safety, sustainability, and adherence to global environmental standards. It provides assurance to consumers and partners about the ecological and health impacts of the textile.

Geographical Indication (GI) Tag

- **Definition**: A Geographical Indication (GI) tag is used to signify that a product originates from a specific geographical location and possesses qualities, reputation, or characteristics inherent to that region. It is commonly used for agricultural products, foodstuffs, wines, spirits, handicrafts, and industrial products.

- **Importance for Eri Silk**: The GI tag emphasizes Eri Silk's authentic origin and regional importance, reinforcing its unique identity and value in the global market.

Implications of the Certification

- **Global Market Penetration**: The Oeko-Tex certification opens new avenues for Eri Silk in the international export market, enhancing its visibility and potential for global trade.

- **Cultural and Economic Impact**: This achievement highlights NEHHDC's commitment to promoting Assam's rich cultural heritage while advancing sustainable practices in the textile industry. It strengthens the position of Eri Silk as a leading eco-friendly fabric on the international stage.

- **Sustainability and Ethical Production**: The certification underscores the significance of Eri Silk's ethical production process, which aligns with global trends toward sustainability and eco-conscious consumerism.

Conclusion :

The successful acquisition of Oeko-Tex certification for Eri Silk represents a major milestone for NEHHDC

and the Northeast region of India. It not only enhances the global recognition of Eri Silk but also underscores the commitment to preserving traditional craftsmanship while embracing modern sustainable practices. This development is expected to significantly impact the international textile market and boost the global presence of this unique, eco-friendly fabric.

PM Modi Congratulates RBI Governor Shaktikanta Das on 'A+' Rating

Why in News?

On August 21, 2024, Prime Minister Narendra Modi congratulated Reserve Bank of India (RBI) Governor Shaktikanta Das for receiving an 'A+' rating in the Global Finance Central Banker Report Cards 2024.

This recognition marks Das's second consecutive year achieving this accolade, underscoring his effective leadership and contribution to India's economic stability.

Key Highlights:

- **Rating Achievement:** Shaktikanta Das received an 'A+' rating from Global Finance Magazine for 2024, an honor he achieved for the second year in a row.

- **Recognition by PM Modi:** Prime Minister Modi praised Das on social media for his exceptional leadership and efforts in ensuring economic growth and stability.

- **Global Finance Report:** The report evaluated central bank governors globally, with Das being among three governors (including Denmark's Christian Kettel Thomsen and Switzerland's Thomas Jordan) to receive an 'A+' rating.

- **RBI's Recent Performance:**
  o **Monetary Policy:** The RBI maintained the repo rate at 6.5% in August 2024 amidst inflation concerns. The decision reflects a cautious stance amid economic uncertainties.
  o **Inflation Projections:** CPI inflation is projected at 4.5% for Q1 2024-25 and 4.4% for

Q1 2025-26. Retail inflation showed a decrease in July following a rise above 5% in June.

- o **Wholesale Inflation:** The WPI inflation rate for July 2024 was recorded at 2.04% (provisional), indicating a significant decline.

Significance of the Rating:

- **Leadership Recognition:** The 'A+' rating highlights Shaktikanta Das's successful leadership in navigating India's macroeconomic challenges and implementing effective monetary policies.

- **Impact on Economic Stability:** Under Das's stewardship, the RBI has managed to balance economic growth with inflation control, crucial for maintaining economic stability and investor confidence.

Historical Context:

- **India's 1991 Economic Crisis:** The RBI, led by S. Venkitaramanan, played a critical role in managing the balance of payments crisis. Venkitaramanan's efforts included pledging gold reserves to secure international loans, which helped stabilize India's economy during a turbulent period.

- **Economic Reforms:** The RBI's import compression policies under Venkitaramanan contributed to a significant reduction in the current account deficit, paving the way for future economic reforms.

Conclusion:

Shaktikanta Das's repeated 'A+' rating from Global Finance not only reflects his exemplary leadership but also underscores the RBI's role in maintaining economic stability amid global uncertainties. As India navigates a complex economic landscape, the RBI's continued emphasis on prudent monetary policy and inflation management will be pivotal. Looking ahead, sustaining this positive trajectory will be crucial for bolstering investor confidence and fostering long-term economic growth. Enhanced transparency and innovative policy measures will be key in addressing future challenges and supporting India's economic ambitions.

India's 1991 Crisis and the RBI Governor's Role

Background of the Crisis

In late 1990, India faced a severe financial crisis due to a combination of factors. The country experienced a significant decline in remittances from Indians working abroad, coupled with a sharp rise in oil prices triggered by Iraq's invasion of Kuwait. These events led to a massive current account deficit, which peaked at 3% of GDP in 1990-91, the highest level in two decades. At the same time, India's foreign reserves, which are crucial for covering imports, fell to an alarming low, providing only three weeks of import coverage. This created widespread concern that India might default on its external payments. To address this, the Reserve Bank of India (RBI), led by Governor S. Venkitaramanan, took urgent measures to stabilize the situation.

- **Economic Implications:**
  - o There were fears that India might fail to meet its external payment obligations.
  - o Urgent need for international financial help to prevent default.

Role of RBI and S. Venkitaramanan

- **Gold Pledging:**
  - o **April 1991:** India raised $200 million by selling 20 tonnes of gold seized from smugglers.
  - o **July 1991:** India sent 47 tonnes of gold to the Bank of England to get $405 million.
  - o **Significance:**
    - * **Brave Decision:** Using gold reserves to avoid default was a bold and smart move to stabilize the situation.
    - * **Impact:** Helped India meet its payment obligations and created some breathing room during the crisis.

- **Import Compression:**
  - o Policy Start: Before Venkitaramanan's time, the RBI had begun reducing imports by increasing cash margins.
  - o **Under Venkitaramanan:**
    - * Cash margin was increased four times between October 1990 and April 1991.
    - * Additional measures were taken to make imports more expensive, cutting down on their volume.
  - o **Results:**
    - * **Current Account Deficit Reduction:** Dropped from 3% of GDP to 0.3% in 1991-92.
    - * **Import Reduction:** The reduction in imports was a major factor in cutting the current account deficit, even though exports went down a little.

Economic Reforms and Political Context

- **Government Reforms:**
  - o **Post-Crisis Measures:** The new government led by Narasimha Rao introduced reforms, including devaluing the rupee.
  - o **Public Attention:** These reforms were widely covered in the media, overshadowing the immediate crisis management by the RBI.

- **Challenges and Legacy:**
  - o **Harshad Mehta Scam:** Issues with securities transactions emerged in April 1992, affecting the RBI's reputation since it involved public sector banks.

o **Public Perception:** Venkitaramanan's efforts were less recognized compared to the reforms and the later scandal.

Governor Venkitaramanan's Leadership Style

- **Engagement and Openness:**
  o **Interaction with Economists:** Venkitaramanan showed openness by inviting economists, including critics, to discuss economic policies.
  o **Response to Criticism:** He was open to different opinions and feedback.
- **Establishment of Development Research Group:**
  o **Objective:** To encourage interaction between RBI staff and external economists.
  o **Legacy:** While the group aimed to improve dialogue, the RBI's current focus on following traditional economic theories shows mixed results.

Conclusion :

- **Economic Management:**
  o **Effective Crisis Management:** The RBI's actions under Venkitaramanan's leadership were crucial in handling the 1991 crisis, showing effective economic management.
  o **Importance of Reforms:** Economic reforms after the crisis have received more attention, but Venkitaramanan's role in stabilizing the situation was also significant.
- **Legacy:**
  o **Public and Professional Recognition:** Although his tenure faced challenges, Venkitaramanan's bold decisions and openness are important parts of India's economic history.

Quality Council of India Introduces QCI Surajya Recognition & Ranking Framework

Introduction:

The Quality Council of India (QCI) is introducing the QCI Surajya Recognition & Ranking Framework, an initiative designed to drive excellence among states to improve the quality of life of citizens for a Viksit Bharat.

a. The framework is categorized under four pillars: Shiksha (Education), Swasthya (Health), Samriddhi (Prosperity), and Sushasan (Governance).

b. The Surajya Recognition acknowledges the outstanding performance and commitment to quality by states and organizations in these vital areas.

Main Points:

Framework Pillars:

- **Shiksha (Education)**: Enhancing the quality of education through robust accreditation and certification processes.
- **Swasthya (Health)**: Guaranteeing superior healthcare services throughout the nation and upholding the highest standards of medical care in every region.
- **Samriddhi (Prosperity)**: Driving economic prosperity through quality assurance in manufacturing and industrial practices.
- **Sushasan (Governance)**: Ensuring transparent, accountable, and responsive governance that upholds the highest standards of quality.

August Rankings: The August rankings focus on Shiksha, Swasthya, and Samriddhi, with Sushasan to feature in future editions.

Shiksha Rankings:

- **Uttar Pradesh** leads with the highest number of **accreditations**, **assessments**, and **ratings**.
- **Delhi**, as a union territory, also ranks prominently.

Swasthya Rankings:

- Chhattisgarh, Karnataka, Kerala, Rajasthan, Mizoram, and Manipur stand out with complete certification in the Ayushman Arogya Yojana (NABH).
- Tamil Nadu and Maharashtra lead in the Medical Entry Level Testing Labs (MELT) rankings (NABL).
- Among the union territories, Chandigarh excels with 100% certification in Ayushman Arogya

Yojana, and Jammu & Kashmir shows commendable performance with a 71.43% certification rate.

- Delhi, followed by Jammu & Kashmir, excels in MELT.

Samriddhi Rankings:

- Gujarat, Karnataka, and Rajasthan lead with the highest number of ZED certifications, particularly in the Micro category.
- Jammu & Kashmir and Delhi also achieved significant certifications in ZED.
- For the MSME Competitive LEAN Scheme, Maharashtra and Bihar are the top performers.

Analysis/Impact:

Promoting High Standards:

- The Surajya Recognition and Ranking Framework aims to promote high standards and best practices in key sectors of India.
- It sets a new benchmark for excellence across the nation, recognizing and rewarding states and organizations that excel in quality and innovation.

Comprehensive Evaluation:

- The rankings have been compiled incorporating both **monthly** and **cumulative figures** across various initiatives to ensure a comprehensive and balanced evaluation.

Related Concepts:

Viksit Bharat:

- A vision of a **developed India**, where states and organizations strive for excellence and continuous improvement.

Collaborative Governance:

- Emphasizing the importance of **collaborative governance** and **sustainable development** to build a prosperous and quality-driven Viksit Bharat.

Conclusion:

The introduction of the QCI Surajya Recognition & Ranking Framework by the Quality Council of India is a significant step towards driving excellence in key sectors and improving the quality of life for citizens. By recognizing and rewarding states and organizations that excel in quality and innovation, this framework sets a new benchmark for excellence across the nation. With a strong emphasis on enhancing collaborative governance and fostering sustainable development, the Surajya Recognition and Ranking Framework is paving the way for a prosperous and quality-driven Viksit Bharat.

Pilot Project Launch

The Indian government has started a pilot project to rebrand 60 fair price shops (FPS), also known as ration shops, as 'Jan Poshan Kendras'.

a. This pilot is being tested in **four states:**
   i. Gujarat,
   ii. Rajasthan,
   iii. Telangana, and
   iv. Uttar Pradesh.

Key Points :

- **Objective**:
  o **Diversification**: Expand the range of products **offered at FPS beyond just subsidized grains.**
  o **Additional Income**: Provide FPS dealers with an extra source of revenue and **offer a variety of nutrition-rich food items to consumers.**
- **Inventory Composition**:
  o **Nutrition Products:** 50% of the products will focus on nutrition.
  o **Household Items**: The other 50% will include various household items.
- **New Initiatives**:
  o **FPS Sahay Application**: Provides FPS dealers with a digital, paperless, and easy way to get financing based on their cash flow.
  o **Mera Ration App 2.0**: Offers consumers information about the public distribution system.
  o **Quality Management System**: Ensures high standards for the quality of products.

- o **Quality Manual Handbook and Contract Manual FCI**: Guidelines for maintaining product quality.
- o **NABL Accreditation**: Three laboratories have been accredited for quality testing.
- **Impact and Benefits**:
  - o **Strengthens Food Security**: Enhances the food security system.
  - o **Increases Transparency**: Reduces malnutrition and prevents fraud.
  - o **Digitization**: Improves services for beneficiaries and makes the system more user-friendly.
- **Collaborative Efforts**:
  - o **SIDBI Partnership**: Facilitates easier credit for FPS dealers.
  - o **Skill Development Ministry**: Provides training for entrepreneurs.
- **Potential Nationwide Transformation**:
  - o With about 5.38 lakh FPS operating across India, the success of this pilot could lead to a national overhaul of the ration shop system.
- **Reaction from Dealers**:
  - o The All India Fair Price Shop Dealers' Federation welcomed the initiative as a significant help for shop owners facing financial difficulties.
- **Participation**:
  - o The launch event included senior officials from FCI, state food secretaries, and representatives from the World Food Programme.
- **Partnership with udaan**:
  - o The eB2B platform udaan is working with the Ministry of Consumer Affairs, Food and Public Distribution, and SIDBI to enhance FPS dealer incomes and improve the availability of nutritious products.

What is Pradhan Mantri Garib Kalyan Anna Yojana?

The Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) is a significant government program introduced in 2020 under the Atmanirbhar Bharat initiative. It was designed to help low-income households affected by the economic impact of the Covid-19 pandemic by providing free food grains, in addition to the regular food distribution under the National Food Security Act (NFSA) of 2013.

- **Coverage:**
  - o Initially provided extra free food grains to around 80 crore NFSA beneficiaries, including households under the Antyodaya Anna Yojana (AAY) and Priority Households (PHH).

- o **AAY Households:** Receive 35 kg of food grains per month.
- o **PHH Beneficiaries:** Receive 5 kg per person per month.
- **Implementation:**
  - o The scheme was carried out in seven phases from April 2020 to December 2022, distributing a total of 1,015 Lakh Metric Tonnes (LMT) of food grains.
- **Extension:**
  - o Although originally set to end in December 2022, the scheme was extended until December 2023. On January 1, 2024, the government decided to continue providing free food grains to approximately 81.35 crore beneficiaries under PMGKAY for the next five years.

Conclusion:

The pilot project to transform ration shops into 'Jan Poshan Kendras' aims to boost the financial stability of FPS dealers and improve nutritional options for consumers. This initiative is part of a broader plan to strengthen the food security system and modernize the public distribution system. If successful, it could lead to a nationwide change in how ration shops operate.

RBI Sets Rs. 10 Crore Minimum Net Worth for Financial Market SROs

Overview:

The Reserve Bank of India (RBI) has introduced new rules for self-regulatory organizations (SROs) in financial markets. These rules include a requirement for SROs to have a minimum net worth of Rs. 10 crore.

Purpose of the New Framework:

- **Objective:** The RBI's new framework aims to improve the compliance culture among financial market players and provide a platform for policy discussions. With the growth of financial entities, the adoption of new technologies, and an increase in customer outreach, there is a need for better industry standards for self-regulation.

Financial Markets Definition: Financial markets include:

1. Interest rate markets (government securities)
2. Money markets (repo markets in government securities and corporate bonds)
3. Foreign exchange markets
4. Derivatives markets **(on interest rates, forex rates, and credit)**

Guidelines and Requirements:

1. **Formation:** The SRO must be a not-for-profit company.
2. **Minimum Net Worth:** Rs. 10 crore.
3. **Infrastructure:** It should have the resources to carry out its responsibilities continuously.
4. **Shareholding:** No single entity can own 10% or more of the SRO's shares.

What are Self-Regulatory Organisations (SROs) ?

1. **Definition:** SROs are industry-specific entities that regulate themselves with oversight from government regulators.
2. **Regulatory Supervision:** Government regulators delegate certain regulatory functions to SROs, but retain ultimate authority.
3. **Purpose:** SROs promote best practices and ethical conduct within their industries.
4. **Support and Resources:** They offer guidance, training, and educational resources to help members meet regulatory requirements.
5. **Rules and Standards:** SROs develop and enforce industry-specific rules, standards, and codes of conduct.
6. **Transparency and Accountability:** SROs operate transparently and are accountable to ensure their activities serve the public interest.

Role of the SRO:

1. **Best Practices:** Develop and promote standards and codes for voluntary adoption by members.
2. **Compliance Culture:** promote high standards of internal governance to ease the compliance burden on market participants and enhance the financial market environment.

3. **Support:** Provide guidance and support, especially to smaller entities.
4. **Dispute Resolution:** Create and enforce procedures for resolving disputes among members, including transparent and consistent arbitration mechanisms.

Engagement and Representation:

1. **Industry Voice:** Represent members in discussions with the RBI, government bodies, and other regulators.
2. **Information Sharing:** Collect and share relevant data with the RBI to support policymaking and encourage innovation.

Impact:

The RBI believes that SROs can significantly contribute to improving financial markets by ensuring adherence to industry standards and best practices. This self-regulation is expected to complement existing regulations and support the growth and integrity of financial markets, boosting professionalism, compliance, and ethical behavior.

Conclusion:

The RBI's new framework for SROs aims to strengthen the financial markets by setting clear standards and promoting self-regulation. By ensuring that SROs have a significant financial base and a broad representation, the RBI hopes to enhance compliance, professionalism, and ethical behavior in the financial sector. This initiative is expected to complement existing regulations and drive the development of financial markets, ensuring they are more robust and well-regulated.

RBI's Proposed Liquidity Coverage Ratio Guidelines

The Reserve Bank of India (RBI) has introduced draft guidelines for banks concerning the Liquidity Coverage Ratio (LCR). These proposed rules require banks to maintain a higher level of liquid assets as a safeguard against the risk of sudden withdrawals, which could be accelerated by technology. The new regulations will be implemented starting April 1, 2025.

Background:

- **Technological Advancements:** The RBI has noted that with the growth of mobile and internet banking, customers can now quickly withdraw large sums of money. This is a significant change from the past when withdrawals required more time and involved visiting bank branches.
- **RBI's Perspective:** The RBI recognizes that while technology has made banking transactions faster and more convenient, it has also introduced new risks. Banks need to manage these risks effectively, as technology increases the potential for rapid and large-scale withdrawals.
- **LCR Review:** To address these new risks, the RBI has reviewed and updated the LCR framework. The aim is to strengthen banks' liquidity resilience in light of technological advancements.

What is the Liquidity Coverage Ratio (LCR)?

- **Definition:** The Liquidity Coverage Ratio is a measure of a bank's high-quality liquid assets (HQLA) compared to its total expected cash outflows over the next 30 days. The LCR is designed to ensure that banks have enough liquid assets to handle short-term financial disruptions.
- **Purpose:** The primary purpose of the LCR is to guarantee that banks are prepared to meet short-term liquidity needs, particularly during times of financial stress.
- **Origin:** The LCR is part of Basel III, a set of global banking regulations developed by the Basel Committee on Banking Supervision (BCBS) to strengthen the banking sector.

Calculating the LCR:

- **Formula:** The formula for calculating the LCR is: LCR = (High-Quality Liquid Assets) / (Total Net Cash Outflows over the Next 30 Days).
- **High-Quality Liquid Assets (HQLA):** HQLA are assets that can be quickly and easily converted into cash with minimal or no loss in value. These include cash, reserves held with central banks, and government bonds.

- **SLR-Eligible Assets:** In India, assets that banks are required to hold under the Statutory Liquidity Ratio (SLR) can also be counted as HQLA if they exceed the minimum SLR requirement. This helps banks meet their liquidity needs while optimizing their asset holdings.

Understanding Basel Norms:

- **Overview:** Basel norms are international banking regulations issued by the BCBS. They aim to coordinate banking regulations across different countries to strengthen the global banking system.
- **BCBS Role:** The Basel Committee on Banking Supervision, based in Basel, Switzerland, is responsible for setting these standards and promoting international cooperation on banking supervision.

History of Basel Norms:

- **Basel I:** Introduced in 1988, Basel I focused primarily on credit risk. It established capital requirements for banks, setting a minimum capital level of 8% of risk-weighted assets. India adopted these guidelines in 1999.
- **Basel II:** Published in 2004, Basel II refined Basel I by adding new elements such as capital adequacy requirements, supervisory review, and market discipline. Banks were required to maintain an 8% capital adequacy ratio for risk-weighted assets, improve risk management practices, and increase disclosure of their financial health and risks.
- **Basel III:** Released in 2010 in response to the 2008 financial crisis, Basel III aimed to strengthen the banking system by focusing on capital, leverage, funding, and liquidity requirements. Key aspects include:
  - **Capital Adequacy:** Basel III maintains a Capital Adequacy Ratio (CAR) of 12.9%, with specific requirements for Tier 1 and Tier 2 capital, and additional buffers such as the capital conservation buffer and counter-cyclical buffer.
  - **Leverage:** Basel III requires banks to maintain a leverage ratio of at least 3%, which measures a bank's Tier 1 capital against its total consolidated assets.
  - **Funding and Liquidity:** Basel III mandates that banks hold a buffer of high-quality liquid assets (LCR) to manage short-term liquidity needs and maintain a stable funding profile for their activities with a minimum Net Stable Funding Ratio (NSFR) of 100%.

Statutory Liquidity Ratio (SLR):

- **Definition:** The Statutory Liquidity Ratio is the percentage of deposits that commercial banks must keep in liquid assets such as cash, gold, or approved securities. These assets are held by the banks themselves, not with the RBI.
- **Purpose:** SLR is used by the RBI to control the growth of credit and manage inflation.
- **Calculation:** The SLR is calculated as a percentage of a bank's Net Demand and Time Liabilities (NDTL). The current SLR rate is set at 18.00%.
- **Impact:** A high SLR restricts a bank's ability to lend, which can slow down economic growth, while a low SLR allows banks to lend more, which can potentially lead to inflation.

Conclusion:

The RBI's proposed guidelines on the Liquidity Coverage Ratio aim to improve banks' ability to handle sudden and large withdrawals due to technological advancements in banking. While these rules are intended to enhance the safety and stability of the banking sector, they will require banks to hold a higher level of liquid assets, which could affect their operations. These new norms will be effective from April 1, 2025.

SEBI to Hold AMC Heads Accountable for Abusive Market Practices

Context:

The Securities and Exchange Board of India (SEBI) has issued a circular outlining amendments to the SEBI (Mutual Funds) Regulations, 1996. The circular, released on August 5, directs asset management companies (AMCs) to set up institutional mechanisms to deter market abuse, including front-running and fraudulent securities transactions.

About Front-Running and Fraudulent Securities Transactions:

Front-Running:

Front-running is a form of market manipulation where a broker or trader places their own order before executing a large customer order, taking advantage of the anticipated price movement. It's essentially trading on inside information about a future transaction that will impact the price of a security.

Example: A broker knows a large buy order for a particular stock is about to be executed. Before executing the customer's order, the broker buys the same stock for their personal account, anticipating the price will rise once the large order is filled.

Fraudulent Securities Transactions:

Fraudulent securities transactions encompass a broad range of illegal activities aimed at deceiving investors for financial gain. It includes:

- **Insider trading:** Trading securities based on non-public material information.
- **Market manipulation:** Activities that artificially inflate or deflate a security's price.
- **Pump and dump schemes:** Promoting a stock to artificially inflate its price, then selling shares for a profit.
- **Churning:** Excessive trading in a customer's account to generate commissions.
- **Misrepresentation:** Providing false or misleading information about a security.

Both front-running and fraudulent securities transactions are illegal and carry severe penalties. They erode investor confidence and undermine the integrity of the financial markets.

Key Points:

Responsibility and Accountability:

- **Chief Executive Officers (CEOs)**, **Managing Directors (MDs)**, or any equivalent officials of AMCs will be held responsible and accountable for implementing mechanisms to deter potential market abuse.
- The amendment was made public through a **gazette notification** on **August 1, 2024**.

Institutional Mechanisms:

- AMCs must set up institutional mechanisms to deter market abuse, including **front-running** and **fraudulent securities transactions**.
- AMCs must establish a **whistleblower policy** for employees to report any violations.

Significance of the Regulation:

- The regulation assumes importance as it comes weeks after SEBI reportedly investigated a mutual fund house for alleged front-running.

About Asset Management Companies (AMCs):

- **Definition**: An **AMC** is a financial institution that pools funds from multiple investors and

invests in various financial instruments, such as **stocks**, **bonds**, and **real estate**, to generate returns for investors in exchange for a fee.

- **Types of AMCs**:
  - o Hedge funds
  - o Mutual funds
  - o Index funds
  - o Exchange-traded funds (ETFs)
  - o Private equity funds
  - o Other funds
- **Clients**:
  - o Retail investors
  - o Institutional investors
  - o Public sector (government organizations)
  - o Private sector
  - o High-net-worth clients
- **Role**:
  - o Make investment decisions on behalf of investors.
  - o Manage assets in investors' portfolios.
  - o Choose a suitable mix of investments to help investors grow their money.

Fund Managers:
- Professionally qualified with investment expertise and experience.
- Employ investment strategies and risk management techniques.
- **Support System**: Research analysts assist fund managers.

Assets Under Management (AUM):
- Indicates the total value of investments managed by the AMC.
- Growth in AUM represents investors' faith and confidence in the AMC.

SEBI's Role:
- SEBI is the Indian Capital Market Regulator that governs and controls every AMC in India.

What are Exchange Traded Funds (ETFs)?:
- **Definition**: An exchange-traded fund (ETF) is a collection of marketable securities that track an underlying index.
- **Features**:
  - o Combines features of mutual funds and stocks.
  - o Allows investors to gain exposure to a basket of assets.
  - o Provides the flexibility to be traded on stock exchanges like individual stocks.

- **Benefits**:
  - o Offers diversification by allowing investors to gain exposure to a basket of assets with a single investment.
  - o Can be bought and sold throughout the trading day on stock exchanges at market prices, unlike mutual funds which are priced only at the end of the trading day.

Conclusion:

SEBI's directive to hold AMC heads accountable for implementing mechanisms to deter market abuse is a significant step towards ensuring transparency and integrity in the capital market. The regulation aims to protect investors and maintain the credibility of the financial system.

EDITORIALS

Crux of The Hindu & Indian Express

Economic

E-Rupee and its Potential in India's Digital Landscape

Introduction:

Fintech companies including Google Pay, PhonePe, Amazon Pay, Cred, and Mobikwik are looking to join the Indian central bank's digital currency project by allowing their users to transact in e-rupee via Unified Payments Interface (UPI).

These payment platforms aim to expand their use case beyond enabling payment transactions between users linked to their registered banks in the country.

Key Points:
- **What is e-rupee?**

The e-rupee, or digital rupee, is a central bank digital currency (CBDC) issued by the Reserve Bank of India (RBI). It's an additional option for using money, entirely in electronic form, and does not leave a computer network. Similar to banknotes issued by the RBI, the e-rupee is a legal tender for making transactions, but it can only be transacted online.

Unlike cryptocurrencies, which operate on decentralized blockchain networks, the e-rupee is likely to be based on a centralized or hybrid architecture, giving the RBI greater control over its issuance and circulation. It is expected to leverage advanced cryptographic techniques to ensure security and integrity.

- **Differences Between e-rupee and Banknotes:**

Feature	E-Rupee	Banknotes
Interest	Does not attract interest payments from the central bank	Can earn interest
Conversion	Deposits held in banks can be converted into digital rupees and vice versa	Not directly convertible

- **Launch and Need for Digital Rupee**

The digital rupee was launched on a pilot basis in December 2022. Initially offered by a select group of public and private banks in a few major cities, it could be used for both person-to-person (P2P) and person-to-merchant (P2M) transactions.

The digital rupee was introduced as an alternative to cryptocurrencies, aiming to bring greater transparency to transactions, lower the costs associated with the production of traditional fiat currencies, and potentially offer new functionalities that aren't possible with physical cash.

E-Rupee vs. Cryptocurrency:

Feature	E-Rupee	Cryptocurrency
Nature	A digital representation of physical currency issued by a central bank (RBI). It's essentially a digital version of a rupee note.	A digital asset based on blockchain technology, operating independently of any government or central bank.
Control	Centrally controlled by the RBI, providing stability and security.	Decentralized, managed by a network of computers (nodes) on the blockchain.
Legal Status	Legal tender in India, backed by the government.	Not legal tender in India, its legal status is uncertain.
Value	Directly linked to the Indian Rupee, providing stability.	Value fluctuates rapidly based on market demand and supply.
Security	Backed by robust security measures of the RBI.	Relies on the security of the blockchain network, which can be vulnerable to hacks and scams.
Purpose	Primarily aimed at promoting digital payments, financial inclusion, and potentially enhancing monetary policy.	Often used as a speculative investment or for peer-to-peer transactions.

Why Fintech Companies are Joining the e-rupee Project ?

1. Google Pay, PhonePe, Amazon Pay, Mobikwik, and Cred account for over 85% of digital payments via UPI, representing a significant chunk of transactions in the country.
2. The RBI aims to increase the adoption base for the digital rupee, and rolling it out on popular fintech platforms could boost its popularity.
3. Despite efforts to popularize the e-rupee, the RBI does not have immediate plans for a full-scale launch, with the digital rupee expected to stay in the pilot stage for the next couple of years.

Analysis/Impact

- **Expanding Use Cases**

By integrating the e-rupee into their platforms, fintech companies can offer a new transaction method to their users, potentially increasing user engagement and transaction volumes. Additionally, e-rupee could potentially unlock new features and functionalities that aren't possible with traditional payment methods.

- **Regulatory Compliance**

Joining the RBI's digital rupee project aligns these companies with regulatory initiatives, enhancing their credibility and compliance with central bank policies.

- Related Technologies: Unified Payments Interface (UPI)

UPI is a real-time payment system that facilitates inter-bank transactions. Integrating the e-rupee with UPI can make digital currency transactions seamless and accessible to a broader user base.

Potential Benefits of E-Rupee

- **Increased financial inclusion:** E-rupee can facilitate easier access to financial services for unbanked and underbanked populations.
- **Faster transactions:** Digital transactions are generally faster than cash-based ones, potentially improving efficiency in various sectors.
- **Improved traceability:** E-rupee transactions can be tracked and traced, which can help in combating tax evasion, money laundering, and other financial crimes.
- **Potential for programmable payments:** E-rupee could enable more complex and conditional payments, such as automatic bill payments or loyalty rewards.

Challenges and Risks

- **Cybersecurity:** Protecting the e-rupee system from cyberattacks is crucial to maintaining public trust.

- **Technical glitches:** Initial technical issues could hinder adoption and erode confidence.
- **Privacy concerns:** Ensuring the privacy of user data is essential to prevent misuse.
- **Infrastructure requirements:** Widespread adoption of e-rupee may require significant investments in digital infrastructure.

Conclusion :

The e-rupee represents a significant step forward in India's digital currency landscape, offering an alternative to traditional banknotes and cryptocurrencies. Fintech companies like Google Pay, PhonePe, and others are eager to join the RBI's digital rupee project to expand their service offerings and align with regulatory initiatives. While the e-rupee's adoption has seen fluctuations, its integration with popular fintech platforms could provide the necessary boost to increase its usage and acceptance among the public. The RBI's continued efforts to popularize the e-rupee, even as it remains in the pilot stage, underscore its commitment to advancing digital currency technology in India.

Future of India's Fintech with 'Finternet'

At the Global Fintech Fest (GFF) on August 28, Infosys co-founder and chairman Nandan Nilekani unveiled his vision for the future of India's fintech landscape, which he termed 'Finternet'. This innovative concept promises to revolutionize how financial assets are managed and accessed in the coming decade.

Concept of Finternet

Definition and Vision:

- **Finternet:** A **user-centric**, **unified**, and **universal** approach to finance.
- **Goal:** To integrate various **asset classes**, including **real estate**, **financial products**, **bonds**, and even **art**, into a **tokenized format** accessible through a secure and regulated **universal infrastructure**.

Key Features:

- **User-Centric:** Puts users at the center, providing them greater control over their assets and financial lives.
- **Unified:** Combines all asset types into a single, cohesive system.
- **Universal Infrastructure:** Ensures a common framework for managing and transacting all asset types, leveraging advancements in **cryptography** and **blockchain technology**.

Nilekani elaborated on the idea, stating, "Finternet is a new approach to global finance, which is defined with three U's. It is user-centric. It puts the user at the heart of what we want to solve because users want more control over their lives, over their assets, over their destiny. It has to be unified, which means that it should cut across all asset classes…And, you need a universal infrastructure on which all of this works."

How Finternet Will Work?

Tokenization of Assets:

- **Process:** Assets will be converted into digital tokens, each representing the attributes of the asset.
- **Advantages:** Tokens offer immutability, verifiability, security, and privacy through blockchain technology.

Infrastructure:

- **Unified Ledgers:** Finternet will be built on a single programmable platform that integrates various financial markets.
- **Functionality:** Enables seamless transfer of financial assets globally, using any device, with transactions being cheap, secure, and near-instantaneous.

Nilekani and his team, including Pramod Varma, Siddharth Shetty, and Agustin Carstens from the Bank for International Settlements (BIS), had previously detailed these ideas in a white paper released in April 2024.

Advantages and Significance

- **Reduced Barriers: Finternet** will lower the barriers between different financial services and systems, reducing the complexity of **clearing** and **messaging chains**.
- **Efficiency:** Streamlines financial transactions, making them faster and less expensive.
- **Central Bank Role: Central banks** will continue to play a crucial role, ensuring **trust** and **stability** while working closely with **commercial banks**.

Card-on-File Transactions:

- **Definition:** A card-on-file transaction involves cardholders authorizing merchants to securely store their payment information and use it for future purchases.
- **Function:** Facilitates repeated transactions without needing to re-enter payment details each time.

Conclusion :

Nandan Nilekani's vision of Finternet represents a significant leap forward in the evolution of financial technology. By integrating and tokenizing various asset classes into a unified, user-centric system, Finternet aims to make financial transactions more efficient, secure, and accessible. As this concept progresses, it has the potential to reshape India's fintech landscape and provide a robust framework for future financial innovations.

Ginners Empowered to Produce Kasturi Cotton Bharat Brand

Kasturi Cotton Bharat is the certification that marks a new standard in fine cottons.

Overview

- **Initiative**: The Ministry of Textiles has empowered cotton ginners across the country to produce the Kasturi Cotton Bharat brand, utilizing QR code certification technology as per stipulated protocol.
- **Objective**: To ensure quality and traceability of cotton, allowing certification and branding of Indian cotton.

Who are Ginners?

A ginner is a person who operates a cotton gin.

A cotton gin is a machine that separates the cotton fibers from the seeds. This process, known as ginning, is a crucial step in cotton production. Before the invention of the cotton gin, this was a labor-intensive process done by hand.

Ginners play an important role in the cotton industry by ensuring that the cotton fibers are clean and ready for further processing into textiles. Their work contributes significantly to the production of cotton-based products we use daily.

Key Features

- **Registered Units**: About **343 modernized ginning and pressing units** have been registered across the country to participate in the Kasturi Cotton initiative.
- **Certified Cotton**: Approximately **100 bales** of **Andhra Pradesh cotton** have been certified under the Kasturi Cotton Bharat brand.
- **Collaborative Effort**: The Kasturi Bharat initiative is a collaborative effort between the central government, trade bodies, and industry, formalized through an MoU between the Cotton Corporation of India and the Cotton Textiles Export Promotion Council on 15 December 2022.
- **Budgetary Support**: Constituted with a budgetary support of Rs. 30 crore, including Rs. 15 crore shared by trade and industry bodies.
- **Technology**: Utilizes QR-based certification technology at each stage of processing and a Blockchain-based software platform for end-to-end traceability and transaction certificates.

Implementation Status

- **National Level**: The Kasturi Cotton Bharat program is operational at the **national level**.
- **Empowerment of Ginners**: Ginners across the country have been empowered to produce the Kasturi Cotton Bharat brand as per stipulated protocol.
- **Microsite Development**: A microsite with QR code verification and Blockchain technology has been developed to ensure traceability.

About Kasturi Cotton Bharat

- **Objective**: To create **premium value** for cotton grown in India as per benchmarked specifications.
- **Traceability and Certification**: A pioneering effort in **traceability**, **certification**, and **branding** of Indian cotton.
- **MoU**: Formalized through an MoU between the **Cotton Corporation of India** and the **Cotton Textiles Export Promotion Council** on **15 December 2022**.
- **Technology**: QR-based certification technology and Blockchain-based software platform for end-to-end traceability and transaction certificates.

What is the Cotton Textiles Export Promotion Council?

- **Establishment**: The first council set up by the **Government of India** after **Independence** in **1954**.
- **Role**: An autonomous, nonprofit body dedicated to promoting cotton textile exports.
- Membership: Comprises around 3,000 companies spread across major textile clusters in India, including manufacturers and exporters of cotton textile products like cotton, yarns, fabrics, and home textiles.

Conclusion :

The empowerment of ginners to produce the Kasturi Cotton Bharat brand represents a significant stride towards enhancing the quality and traceability of Indian cotton. This initiative, backed by advanced technologies like QR code certification and Blockchain, ensures that Indian cotton meets global standards and gains premium value in the international market. By fostering collaboration between the government, trade bodies, and industry, the Kasturi Cotton Bharat program not only supports the cotton industry but also contributes to the overall economic growth and self-reliance of the nation. As more ginners and stakeholders engage with this program, it is poised to revolutionize the cotton sector, driving innovation and sustainability.

RBI's UNIFIED LENDING INTERFACE (ULI)

On August 26, 2024, RBI Governor Shaktikanta Das introduced the Unified Lending Interface (ULI), a digital platform designed to modernize and streamline the lending process in India, inspired by the success of the Unified Payments Interface (UPI).

WHAT IS ULI?

The Unified Lending Interface (ULI) is a digital platform aimed at enhancing credit delivery by providing a seamless and consent-based flow of data.

It will integrate various data sources—such as government records, credit bureaus, and banks—into a single platform, facilitating easier and faster credit appraisals.

CURRENT STATUS: ULI is in the pilot phase, launched in August of the previous year, which aimed to test the platform's effectiveness and refine its functionalities.

KEY FEATURES

- **Seamless Data Integration:** ULI will centralize financial and non-financial data that is currently fragmented across different systems.

- **Standardized APIs:** Designed for a "plug and play" approach (Which means: The system uses easy-to-connect APIs that make it simple to link up with other systems and data sources), ULI will use standardized APIs to streamline integration with existing systems, reducing complexity and documentation.
- **Focus on Inclusion:** The platform will especially benefit smaller and rural borrowers, addressing the credit needs of sectors like agriculture and MSMEs.
- **Data Privacy and Security:** The platform will incorporate measures to ensure the privacy and security of sensitive financial and personal information.

SIGNIFICANCE

ULI is expected to significantly impact India's financial infrastructure, enhancing credit accessibility and efficiency, much like UPI transformed digital payments. It will integrate with the existing JAM (Jan Dhan, Aadhaar, Mobile) framework, creating a robust digital financial ecosystem.

Additional Considerations:

- **Stakeholders:** Banks, fintech firms, and government bodies will play key roles in implementing and supporting ULI.
- **Global Context:** Understanding how ULI might align with or differ from international lending platforms could offer valuable insights.

What is Yen Carry Trade and Why Did It Help Trigger a Global Stock Market Fall?

Introduction:

On Monday (August 5), major stock markets across the world experienced their sharpest decline in decades. While there were several reasons for jittery investor sentiment, including fears of a US economic recession and rising geopolitical tensions in West Asia, a significant trigger was the unwinding of the yen carry trade.

Key Points:

What is the Yen Carry Trade?

- **Carry Trade**: A strategy where investors borrow money in a country with low interest rates and invest it in a country with higher interest rates to make a profit.
- **Yen Carry Trade:** Borrowing in yen (due to Japan's low interest rates) and investing in other countries with higher interest rates.
- Japan's central bank (Bank of Japan) kept interest rates at zero percent between 2011 and 2016 and even pushed them below zero (-0.10%) since 2016 to stimulate economic activity.
- Low interest rates in Japan incentivized investors to borrow cheaply in yen and invest in countries like Brazil, Mexico, India, and the US.

Impact of Low Interest Rates:

- The Bank of Japan's low interest rates encouraged billions of dollars in yen carry trades, fueling investments worldwide.
- The BoJ did not raise interest rates even when other central banks did so rapidly due to the Russia-Ukraine war.

Change in Interest Rates:

- Between mid-March and July-end this year, the BoJ raised interest rates by 35 basis points, from -0.1% to 0.25%.
- This increase, though small by global standards, was significant in Japan's context and is expected to rise further.

What is Unwinding of Yen Carry Trade ?

Before we discuss the unwinding, let's quickly recap the yen carry trade:

Understanding the Yen Carry Trade

- **Borrowing cheap yen:** Investors borrow money in Japanese yen, which historically had very low-interest rates.
- **Investing in higher-yielding assets:** They invest the borrowed yen in assets offering higher returns, like other currencies or bonds.
- **Profiting from the interest rate differential:** The profit comes from the difference between the low interest rate on the borrowed yen and the higher return on the invested assets.

The Unwinding Process

The unwinding of the yen carry trade happens when investors close out their positions. This typically occurs when:

- **Interest rates in Japan rise:** If the Bank of Japan (BoJ) increases interest rates, the cost of borrowing yen becomes more expensive, making the carry trade less profitable.
- **Market volatility increases:** During times of economic uncertainty or market turmoil, investors tend to reduce risk by closing their carry trade positions.
- **Currency fluctuations:** If the yen appreciates significantly against other currencies, the carry trade becomes less profitable or even results in losses.

Impact of Unwinding:

The unwinding of the yen carry trade can have significant consequences:

- **Yen appreciation:** As investors sell assets funded by yen to repay their loans, the demand for yen increases, causing its value to appreciate.
- **Market volatility:** Mass selling of assets can lead to price declines and increased market volatility.
- **Global economic impact:** A sudden and large-scale unwinding can have ripple effects on global financial markets.

Recent Events:

The recent decision by the Bank of Japan to adjust its yield curve control policy has led to a rapid unwinding of the yen carry trade, causing significant volatility in global financial markets.

Analysis/Impact:

Strengthening Yen:

- Higher interest rates in Japan led to the yen gaining strength against the dollar and most other emerging economy currencies.
- This meant that assets held in other currencies were worth relatively less when converted back to yen.

Higher Opportunity Cost:

- Investing in yen now offered higher returns, making the yen carry trade less profitable.
- This narrowing of returns differential triggered a sell-off of assets bought using cheap yen, causing global stock markets to fall.

Related Concepts:

Global Ramifications:

- Japan's "cheap money" monetary policy had global ramifications, incentivizing investors to borrow in yen and invest elsewhere.

- A financial crisis in one country can impact stock markets, currency exchange rates, and trade relationships worldwide.

Economic Stimulus:

- Economic Stimulus is a government's strategy to boost economic activity. It's like giving the economy a shot of adrenaline when it's feeling sluggish.

How Does It Work?

- **Fiscal Policy**: This involves government spending and taxation. By increasing spending on **infrastructure**, **education**, or other public services, the government injects money into the economy. **Lowering taxes** can also put more money in people's pockets, encouraging spending.
- **Monetary Policy**: Controlled by the **central bank**, it involves adjusting **interest rates** and the **money supply**. Lowering interest rates makes borrowing cheaper, encouraging businesses to invest and consumers to spend.

Goals of Economic Stimulus:

- **Create jobs**: By stimulating economic growth, the government aims to create **employment opportunities**.
- **Boost consumer spending**: Increased spending can lead to higher demand for goods and services, which can further stimulate the economy.
- **Encourage business investment**: Lower interest rates and government support can encourage businesses to expand and invest.
- **Prevent or mitigate a recession**: Economic stimulus can help to prevent a downturn or soften the impact of a recession.

Conclusion:

The unwinding of the yen carry trade played a significant role in the global stock market fall on August 5. The Bank of Japan's decision to raise interest rates, though small, had a profound impact on global financial markets. Investors who had borrowed in yen and invested in other currencies were forced to sell their assets as the yen strengthened, leading to a decline in stock prices worldwide. This event highlights the interconnectedness of global financial markets and the far-reaching effects of central bank policies.

❑❑❑

Science & Technology

Breakthrough in Tracking 'Forever Chemicals': A New Way to Manage Their Environmental Impact

On August 7, 2024, Researchers from The University of Texas at Austin developed a method to trace the origin and movement of 'forever chemicals,' also known as per-and polyfluoroalkyl substances (PFAS).

- These chemicals are used in various products like water-proofing materials, heat-resistant coatings, detergents, food packaging, and non-stick technologies.
- They are known for their persistence in the environment and their harmful effects on health.

What are Per- and polyfluoroalkyl substances (PFAS) ?

Per- and polyfluoroalkyl substances (PFAS), also known as "forever chemicals", are a group of synthetic chemicals used to make products resistant to stains, grease, water, and heat. They've been used in consumer goods since the 1940s and are found in many everyday items, including:

- **Food packaging:** Nonstick cookware, fast food packaging.
- **Fabrics:** Carpets, rain jackets, tents, stain-resistant clothing.
- **Personal care:** Shampoo, nail polish, dental floss, and eye makeup.
- **Firefighting:** Firefighting foam.

PFAS are man-made and don't break down easily in the environment because of their strong carbon-fluorine bonds.

Key Points:

- **New Tracking Method:**
  o **How It Works:** Scientists use magnetic fields and radio waves to track PFAS. They send samples through a magnetic field and measure the radio waves emitted to get a unique 'fingerprint' of the chemicals.

o **Importance:** This new method, explained in a study published on July 18, is the first to create a unique fingerprint for PFAS, making it possible to track them from where they come from to where they end up.

- **Challenges with Forever Chemicals:**
  o **Durability:** PFAS have very strong bonds that make them stay in the environment for a long time. These strong bonds also make them hard to break down and track with old methods.
  o **Old Methods:** Traditional tracking methods don't work well with PFAS because they are too tough to break apart using standard techniques.
- **Breakthrough Technology:**
  o **NMR Spectroscopy:** Researchers used a technique called nuclear magnetic resonance (NMR) spectroscopy to study PFAS without breaking them. This technique helps identify the unique mix of carbon isotopes in these chemicals.
  o **Unique Bonds:** PFAS are made by connecting carbon to fluorine, which doesn't happen much in nature. These bonds are very strong and hard to break.
- **What's Next:**
  o **Testing:** Researchers are trying this method on other substances like drugs and pesticides. They are also checking how well it works on pollutants in Austin's creeks and wastewater.
  o **Future Uses:** If successful, this method could help agencies track PFAS in water. It might also be useful for other applications like spotting fake drugs and studying early Earth or even Martian life.

Conclusion:

This new tracking method is a big step forward in understanding and managing the long-term effects of forever chemicals. It can help keep the environment and public health safer by allowing us to trace these persistent pollutants more effectively.

Chandrayaan-3's Pragyan Rover Findings

Context:

Chandrayaan-3's Pragyan rover, part of India's lunar mission, was tasked with exploring the moon's surface and gathering scientific data. After landing on August 23, 2023, the rover completed its two-week mission despite facing extreme subzero temperatures that ultimately led to its shutdown.

a. During its operational period, Pragyan provided valuable insights into the moon's composition, confirming the presence of ferroan anorthosite and supporting theories about an ancient magma ocean that once covered the moon's surface.

b. This discovery contributes to our understanding of the moon's early geological history.

Mission Details:

Landing and Operation:

- **Date of Landing:** August 23, 2023.
- **Location: point Shiv Shakti, near the lunar south pole.**
- **Rover Activities:** Over its operational period, Pragyan traveled approximately 100 meters from the Vikram lander, carefully navigating to avoid obstacles. It used its scientific instruments to analyze the lunar soil and dust.

Scientific Instruments and Findings:

- **Instruments:**
  o **Alpha Particle X-ray Spectrometer (APXS):** Analyzed the chemical and mineral composition of lunar dust and soil by emitting X-rays and alpha particles.
  o **Laser-Induced Breakdown Spectroscopy (LIBS):** Measured elemental composition by analyzing light emitted from laser-induced plasma.
- **Findings:**
  o **Presence of Ferroan Anorthosite:** Confirmed the existence of this rock type in the lunar south pole region. This discovery aligns with observations from past missions and supports the theory of an ancient magma ocean on the moon.
  o **High Magnesium Content:** Supported predictions related to the magma ocean and the impact theory, consistent with the idea that the South Pole-Aitken Basin's impact may have dispersed material from deep within the moon.

The Moon's Origins and Implications

Theory of Magma Ocean:

- **Formation:** The moon formed from debris resulting from a collision between the early Earth and a rogue planetary body. Its surface was initially

molten, and as it cooled, minerals crystallized into various rock types, including ferroan anorthosite.

- **Magma Ocean Evidence:** The presence of ferroan anorthosite supports the hypothesis that the moon had a magma ocean in its early history, which eventually solidified into the crust.

Meteorite Impact and Surface Composition:

- **South Pole-Aitken Basin:** The largest impact crater in the solar system, which may have excavated material from the moon's mantle and contributed to the surface composition observed by Pragyan.
- **Surface Weathering:** The moon's lack of atmosphere and volcanic activity has preserved ancient surface materials, which Pragyan analyzed, revealing details that orbiters could not.

Importance of Lunar Surface Analysis

Advantages of Surface Missions:

- **Detailed Analysis:** Pragyan's proximity to the lunar surface allowed for more precise measurements of elemental abundances and mineral compositions compared to orbital missions.
- **Ground Truths:** The rover provided ground-truth data that validated and complemented observations from earlier missions and orbiters.

Future Work:

- **Further Analysis:** Data from Pragyan's instruments, along with information from previous missions like Chandrayaan-1 and Chandrayaan-2, will be used for continued research. Minor elements and their concentrations are also being studied for further insights.

Scientific and Cultural Impact:

- **Publication and Recognition:** The study was published in *Nature* on August 21, 2024, coinciding with the first commemoration of India's new 'National Space Day' following the Chandrayaan-3 landing.
- **Ongoing Research:** The data from Pragyan's mission will continue to contribute to lunar science and enhance understanding of the moon's geological history.

Conclusion :

Pragyan rover's mission was a success, yielding significant scientific data about the moon's surface and confirming the presence of ferroan anorthosite. This supports the theory of an ancient magma ocean and provides valuable insights into the moon's early geological history. The findings not only advance our understanding of lunar formation but also highlight the importance of surface missions in complementing orbital observations.

Context :

Scientists from ICAR-National Rice Research Institute (India) and Penn State University (USA) have developed a groundbreaking gene-editing tool designed specifically for plant genomes.

a. This new tool, utilizing a smaller protein called ISDra2TnpB, addresses a critical limitation of traditional CRISPR systems, which are often too large for efficient use in plant cells.

b. The breakthrough promises to enhance plant genome editing, potentially revolutionizing agricultural practices by improving crop traits and resilience.

Gene-Editing Challenges and Solutions:

Traditional CRISPR Systems:

- **CRISPR Basics:** CRISPR-Cas9 and CRISPR-Cas12 systems have revolutionized genetic engineering by enabling precise edits to DNA. However, these systems can be too bulky for effective use in plant cells.
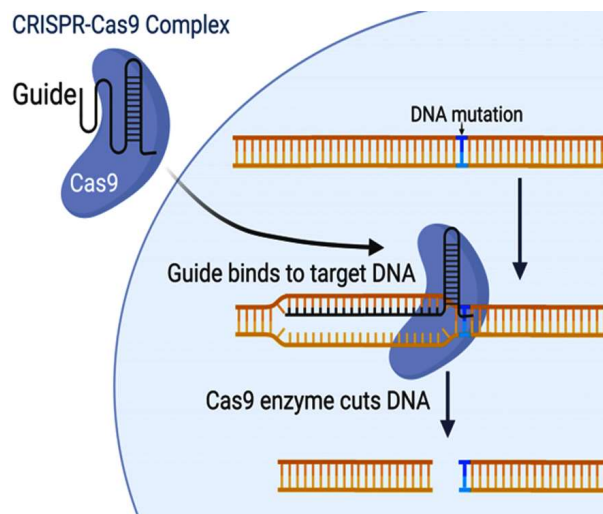
- **Obstacles in Plant Cells:** The size of CRISPR-associated proteins (Cas9 or Cas12) poses a challenge as plant cells struggle to accommodate these large proteins.

Development of ISDra2TnpB-Based Tool:

- **Team and Publication:** Researchers led by Kutubuddin Molla (ICAR) and Mirza Baig (Penn State) introduced a smaller, more efficient alternative in the journal *Plant Biotechnology Journal*.
- **New Protein:** The tool employs ISDra2TnpB, a protein derived from the bacterium *Deinococcus radiodurans*. ISDra2TnpB is significantly smaller—less than half the size of Cas9 or Cas12—making it more suitable for plant genome editing.

Mechanism of the New Editing Tool

TnpB Protein:

- **Structure and Function:** TnpB consists of around 400 amino acids and belongs to a class of proteins known as transposable elements or "jumping genes." It moves within the genome and assists in editing.
- **Editing Process:** TnpB works with a guide RNA to locate and bind to a specific DNA sequence. It then removes this sequence, allowing the cell to repair the DNA by inserting a desired sequence.

Enhanced Editing Efficiency:

- **Performance:** The new tool demonstrated a 33.58% editing efficiency in plant genomes, targeting regions inaccessible to traditional CRISPR systems. This efficiency was achieved in both monocots (e.g., rice) and dicots (e.g., Arabidopsis).

Optimization and Improvements

Codon Optimization:

- **Need for Optimization:** Codon sequences for amino acids vary between organisms. TnpB from a bacterium had codons incompatible with plant cells.
- **Modification:** Researchers optimized TnpB's codon usage to match that of rice protoplasts, enhancing its effectiveness in plant cells.

Regulatory Elements:

- **Promoters and Terminators:** To ensure proper expression of TnpB in plant cells, researchers included additional sequences that regulate its activity, enhancing the protein's efficiency.

Hybrid Base Editor:

- **Innovation:** The team created a hybrid base editor by deactivating TnpB and fusing it with another protein. This hybrid tool can now edit single nucleotides, a feat not achievable with the original TnpB system.

Implications and Future Directions

Applications and Potential:

- **Crop Improvement:** The new tool could facilitate improvements in crop traits, such as reducing anti-nutrient factors, enhancing pest resistance, and modifying growth characteristics for better resilience to environmental stress.
- **Future Research:** Further development and testing are needed, especially in different crop species and for applications involving whole plants rather than protoplasts.

What is Gene editing ?

Gene editing is a set of technologies used to alter an organism's DNA with precision. This process involves making specific changes to the genetic code, which can involve adding, deleting, or modifying genes. Gene editing has applications in medicine, agriculture, and biological research. Here's a detailed look at gene editing:

Key Technologies in Gene Editing:

CRISPR-Cas9:

- **Overview:** The most widely known and used gene-editing technology. CRISPR-Cas9 is a natural defense mechanism found in bacteria that has been adapted for use in gene editing.
- **Mechanism:** Uses a guide RNA to direct the Cas9 enzyme to a specific location in the genome. The Cas9 enzyme then makes a cut in the DNA at that location. The cell's repair machinery either repairs the cut by inserting new genetic material or by deleting or altering the existing genetic material.
- **Applications:** Used in research, agriculture, and medicine to modify genes in various organisms.

Applications of Gene Editing:

1. Medicine:

- **Genetic Diseases:** Potential to correct genetic mutations that cause diseases such as cystic fibrosis, sickle cell anemia, and muscular dystrophy.

- **Cancer Therapy:** Editing genes in immune cells to enhance their ability to target and destroy cancer cells (e.g., CAR-T cell therapy).
- **Drug Development:** Used to create models of human diseases in animals or cell lines for drug testing.

2. Agriculture:
- **Crop Improvement:** Development of crops with desirable traits such as resistance to pests, diseases, or environmental conditions, and improved nutritional content.
- **Livestock:** Genetic modifications to improve traits such as growth rates, disease resistance, and overall health.

3. Biological Research:
- **Functional Genomics:** Understanding the function of specific genes by observing the effects of their modification.
- **Synthetic Biology:** Creating new biological parts, devices, and systems by combining gene-editing with synthetic biology techniques.

Ethical and Safety Considerations:
1. **Germline Editing:** Editing the DNA of germ cells (sperm or eggs) or embryos can be passed on to future generations. This raises ethical concerns about long-term impacts, unintended consequences, and consent.
2. **Off-Target Effects:** The possibility of unintended changes to the DNA at locations other than the intended target site, which could lead to unforeseen consequences or health issues.
3. **Accessibility and Equity:** Ensuring that the benefits of gene editing technologies are accessible and equitably distributed, avoiding disparities between different populations.
4. **Regulation and Oversight:** Establishing frameworks to regulate gene-editing practices, ensuring they are used safely and ethically.

Conclusion :
The development of the ISDra2TnpB-based genome editing tool marks a significant advancement in plant biotechnology. By overcoming the limitations of traditional CRISPR systems with a smaller, more efficient protein, this new tool offers exciting possibilities for enhancing crop traits and resilience. While further research is needed, this innovation represents a promising step forward in plant genetic engineering.

Discovery of Liquid Water on Mars
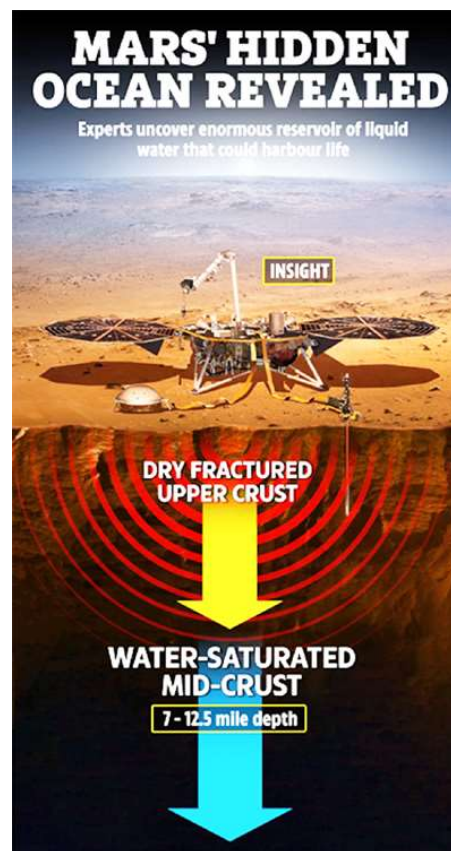
Why in News?
A recent study has revealed the presence of liquid water on Mars for the first time. Published in the journal Proceedings of the National Academy of Sciences (PNAS), the study suggests that there could be oceans' worth of liquid water hidden deep within the Martian crust. This discovery has significant implications for understanding Mars' water cycle, climate history, and potential habitability.

Study Overview:
Study Title: "Liquid water in the Martian mid-crust"

Researchers: Vashan Wright, Matthias Morzfeld, and Michael Manga from the University of California San Diego.

Key Findings:
- **Location of Liquid Water**: The liquid water is found at depths of approximately 10 to 20 kilometers below Mars' surface.
- **Nature of Water Source**: The water is likely trapped in fractures within igneous rocks, such as granite, beneath the Martian crust.
- **Historical Context**: The study suggests that this water could have seeped into the crust billions of years ago, when Mars might have had rivers, lakes, and possibly oceans.

Significance:

- **Understanding Mars**: This discovery provides new insights into the historical water cycle of Mars and could help unlock questions related to the planet's climate evolution and surface conditions.
- **Search for Life**: Although the presence of liquid water does not confirm the existence of life, it raises the possibility of finding habitable environments on Mars.

Methodology of the Study

Data Source:

- **Mars InSight Lander**: Deployed by NASA in 2018 and active until December 2022, it was equipped with a seismometer that recorded seismic waves from Marsquakes and meteorite impacts.
- **Seismic Data**: Over four years, InSight recorded more than 1,300 seismic events.

Analytical Approach:

- **Geophysical Modeling**: The researchers applied a model similar to those used for mapping underground aquifers and oil fields on Earth to analyze the seismic data from Mars.
- **Findings**: The analysis indicated the presence of a fractured layer of igneous rock filled with liquid water deep below Mars' surface.

Implications of the Discovery

Scientific Impact:

- **Mars Water Cycle**: The discovery enhances our understanding of Mars' water cycle, offering clues about the planet's climatic history and geological processes.
- **Potential for Life**: While no direct evidence of life has been found, the existence of liquid water raises the possibility of Mars having habitable conditions in its past or present.

Challenges:

- **Exploration**: Drilling to such depths on Mars poses significant technical challenges. The prospect of extracting water from 10-20 km below the surface would be a complex and resource-intensive endeavor.

Colonization Efforts:

- **Technical Feasibility**: The discovery of liquid water, while promising, complicates efforts to colonize Mars. The depth at which the water is located presents a major obstacle for future exploration and utilization.

Conclusion :

The identification of liquid water deep within Mars' crust marks a groundbreaking advancement in planetary science and exploration. This discovery opens new avenues for understanding Mars' historical climate and water cycle and enhances the prospects for finding potential habitats for life. However, it also underscores the formidable challenges associated with Martian exploration and colonization, highlighting the need for innovative solutions in space technology and resource management.

Hayflick Limit and Why Immortality Is Out of Reach
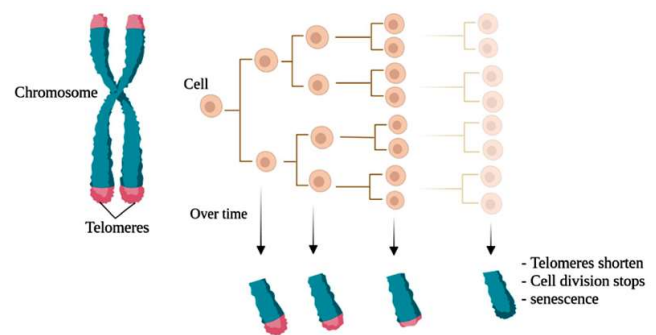
Overview:

Leonard Hayflick, who passed away on August 1 at 98, changed how we think about aging with his discovery of the Hayflick limit. His work showed that normal body cells can only divide a certain number of times before they stop. This challenges the idea that cells could live forever.

What Is the Hayflick Limit?

The Hayflick Limit is a biological concept that states that normal human cells can only divide a limited number of times before they stop replicating.

- **Discovery (1960s):** Hayflick found that body cells can only divide about 40-60 times before they stop. This process, known as cell senescence, is linked to aging.

Key points about the Hayflick Limit:

- **Cellular Senescence:** As cells divide, they gradually shorten their telomeres, protective caps at the ends of chromosomes. Once telomeres become too short, cells can no longer divide and enter a state of senescence.
- **Aging:** The accumulation of senescent cells over time contributes to the aging process, as they can release harmful substances and impair tissue function.

- **Species Variation:** The Hayflick Limit varies among different species, with organisms that have longer lifespans generally having cells that can divide more times.
- **Maximum Lifespan:** The longest possible human lifespan based on the Hayflick limit is about 125 years. After this point, no amount of healthy living or genetic changes seems to extend life.

Cell Division in Different Animals:

1. **Galapagos Tortoises:** These animals can live up to 200 years, and their cells can divide about 110 times before they stop.
2. **Lab Mice:** Mice have much shorter lives (~2-3 years), and their cells stop dividing after about 15 times.

Telomeres and Aging:

1. **Telomeres:** These are protective caps on the ends of chromosomes (DNA strands). Each time a cell divides, these caps get shorter. When they become too short, the cell can no longer divide.
2. **Telomere Length and Lifespan:** Even though telomeres are shorter in humans compared to some animals, this doesn't directly explain how long an animal lives. For instance, lab mice have longer telomeres but live much shorter lives.

Ongoing Research:

1. **Telomere Shortening vs. Aging Symptoms:** Some scientists think that losing telomeres and the Hayflick limit might just be signs of aging rather than the main causes. They suggest that it might be possible to fix or replace telomeres.
2. **Telomerase:** This is a protein that can rebuild telomeres. It's found in all cells but is usually active only in cancer cells, which is why cancer cells don't follow the Hayflick limit.
3. **Current Progress:** While scientists can create telomerase and it has shown some promise in lab tests, we are still a long way from using this to significantly extend human life.

Conclusion:

Despite the progress in understanding how cells age and potential ways to extend life, true immortality for humans is still beyond reach. The Hayflick limit and telomere research give us valuable insights but also show how complex it is to push human lifespan past natural limits.

Higher-than-Expected Rate of Gene Mutations in Parkinson's Patients

Context:

A recent study published in the medical journal Brain has revealed a higher-than-expected prevalence of gene mutations in Parkinson's disease patients. This finding suggests that genetic testing should be offered more broadly to individuals with Parkinson's disease.

Key Points:

1. Study Findings:

a. Genetic profiling of over **8,000 Parkinson's disease patients** from various races and ethnicities showed that **13%** had a **genetic form** of the disorder.
b. The rate was **18%** in patients with known risk factors, such as an earlier age at onset, Parkinson's disease in a **first-degree relative**, or certain ancestries like **Ashkenazi Jewish**, **Spanish Basque**, or **North African Berber**.
c. Among patients with no known risk factors, more than **9%** had a **predisposing genetic mutation**.

2. Implications for Genetic Testing:

a. The findings suggest that **genetic testing** should be offered more broadly to Parkinson's disease patients.
b. Previous studies had indicated that about **5% to 10%** of Parkinson's cases were linked to **genetic variants**, but these studies were largely limited to patients with known risk factors.

3. Current Practices:

a. Presently, only a small fraction of Parkinson's patients receive **genetic testing** due to **neurologists' limited knowledge** of Parkinson's genetics, limited access to **genetic counselors**, and the perception that **genetic findings** do not impact treatment.

b. However, recent advances in **gene-specific drugs** and treatments are changing this landscape.

4. Advances in Treatment:

a. With new **gene-specific drugs** entering the research pipeline, the implications of the findings are significant.

b. Doctors are now on the cusp of figuring out how to treat patients based on **genetics**, according to **James Beck**, senior vice president and chief scientific officer of the **Parkinson's Foundation**, which sponsored the study.

5. Recommendations:

a. The research team concluded that **clinical genetic testing** should be offered to everyone with Parkinson's disease.

b. This is particularly important as trials of **gene-specific treatments** are underway, and **genetic results** can impact disease **prognosis** and shed light on **familial risks**.

Background Information:

1. Parkinson's Disease:

a. **About**: Parkinson's disease is a **progressive neurodegenerative disorder** that impairs movement and can lead to immobility and **dementia** over time.

b. **Prevalence**: The prevalence of Parkinson's disease has **doubled** in the past 25 years. **India** shares around **10%** of the global burden of Parkinson's disease.

c. **Causes**: The exact cause of Parkinson's disease is not fully known yet, but it is believed to involve a combination of **genetic** and **environmental factors**. It is primarily characterized by the loss of **dopamine-producing neurons** in the brain, leading to motor and non-motor symptoms.

d. **Symptoms**: Motor symptoms include **slow movement**, **tremors**, **rigidity**, and **walking difficulties**. Non-motor symptoms include **cognitive issues**, **mental health disorders**, **sleep disturbances**, **pain**, and **sensory problems**.

e. **Treatment**: There is no cure for Parkinson's disease, but therapies including **medicines**, **surgery**, and **rehabilitation** can reduce symptoms. **Levodopa/carbidopa**, a combination medicine that increases the amount of dopamine in the brain, is the most common medication.

f. **World Parkinson's Day**: Every year, April 11 is observed as **World Parkinson's Day** to amplify awareness and understanding about Parkinson's disease internationally.

2. National Pharmaceutical Pricing Authority (NPPA):

a. Established in **1997**, the NPPA fixes and revises the prices of **controlled bulk drugs** and formulations under the **Drugs (Prices Control) Order, 1995**.

b. It is an independent regulator ensuring the availability and accessibility of **medicines** at affordable prices.

3. Functions of NPPA:

a. To implement and enforce the provisions of the **Drugs (Prices Control) Order**.

b. To deal with legal matters arising from the Authority's decisions.

c. To monitor the **availability** of drugs and identify shortages.

d. To collect and maintain data on **production**, **exports**, **imports**, **market share**, and **profitability** of companies for bulk drugs and formulations.

e. To undertake and sponsor relevant studies on **drug pricing**.

f. To assist the **Central Government** in parliamentary matters relating to drugs.

4. Nodal Ministry:

The NPPA is an attached office of the Department of Pharmaceuticals (DoP), Ministry of Chemicals and Fertilizers.

5. Drugs (Prices Control) Order (DPCO):

a. The **Drugs Prices Control Order, 1995** is an order issued by the Government of India under **Section 3 of the Essential Commodities Act, 1955**, to regulate **drug prices**.

b. It provides the list of **price-controlled drugs**, procedures for fixing prices, methods of implementation, and penalties for contravention.

Conclusion:

The study's findings highlight the importance of genetic testing for Parkinson's disease patients, as the higher-than-expected prevalence of gene mutations suggests that genetic factors play a significant role in the disorder. With advances in gene-specific treatments, offering genetic testing more broadly could lead to more effective and personalized treatment strategies for Parkinson's disease.

## India Launches Its First Reusable Hybrid Rocket RHUMI-1

Overview :

India has marked a significant achievement in its space exploration efforts with the successful launch of its first reusable hybrid rocket, RHUMI-1. Developed by the Tamil Nadu-based startup Space Zone India in collaboration with the Martin Group, RHUMI-1 represents a major advancement in hybrid rocket technology.

Key Features of RHUMI-1

- **Hybrid Propulsion System**:
  o **Innovation**: RHUMI-1 utilizes a **hybrid propulsion system** that integrates both **liquid** and **solid fuels**. This combination offers the benefits of enhanced **efficiency** and reduced **operational costs** compared to traditional rocket technologies.
  o **Safety**: The rocket is equipped with a generic-fuel-based hybrid motor and an electrically triggered parachute deployer. Notably, it is designed to be 100% pyrotechnic-free and contains no TNT, emphasizing safety and environmental considerations.

What is Hybrid Propulsion System ?
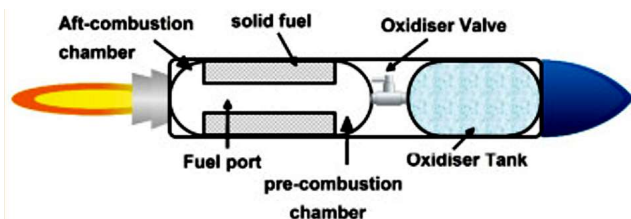
A Hybrid Propulsion System is a type of rocket propulsion that combines both liquid and solid propellants to generate thrust. This system leverages the advantages of both propellant types while mitigating some of their drawbacks.

Components of Hybrid Propulsion System:

1. Liquid Propellant:

- **Type:** Usually, it is a liquid oxidizer or fuel.
- **Function:** The liquid propellant is typically injected into the combustion chamber where it reacts with the solid propellant.
- **Control:** The flow rate of the liquid propellant can be regulated, allowing for better control of thrust and engine performance.

2. Solid Propellant:

- **Type:** A pre-loaded solid fuel that burns when ignited.

- **Function:** Provides the primary thrust. The solid propellant is usually packed in a solid form and is ignited by the liquid propellant.
- **Advantages:** Solid propellants are generally simpler to handle and store.

Advantages of Hybrid Propulsion Systems:

1. **Efficiency:** Combines the high energy density of solid propellants with the controllability and efficiency of liquid propellants.
2. **Throttle Control:** The liquid component allows for variable thrust levels, which is not possible with traditional solid rockets.
3. **Safety:** Reduces the risk of accidental ignition because the solid and liquid propellants are stored separately until needed.
4. **Reduced Complexity:** Easier to handle than purely liquid rockets due to the simplicity of solid propellants.
5. **Environmental Benefits:** Some hybrid systems are designed to be more environmentally friendly compared to traditional solid rockets.

- **Launch Details**:
  o **Trajectory**: RHUMI-1 was launched into a suborbital trajectory using a mobile launcher. The mission aims to collect valuable data on global warming and climate change.
  o **Payload**: The rocket carried a payload consisting of three **CubeSats** and **50 PICO satellites**, which are instrumental in monitoring **environmental changes** and collecting data related to **climate science**.

Mission and Development:

- **Leadership and Collaboration**:
  o The mission was led by Anand Megalingam, the founder of Space Zone India, under the guidance of former ISRO Satellite Centre Director Dr. Mylswamy Annadurai. This collaboration highlights the increasing involvement of private entities in India's space sector.
  o **Space Zone India**: An aero-technology company focused on delivering cost-effective, long-term solutions for the space industry. The company also emphasizes education and outreach, offering practical training in various aerospace technologies.

- **Educational Initiatives**:
  - o **Training Programs**: Space Zone India provides hands-on training in aerodynamic principles, satellite technology, drone technology, and rocket technology. They work with private institutions, engineering colleges, and schools to raise awareness about careers in the aerospace industry.
- **Previous Achievements**:
  - o **Dr. APJ Abdul Kalam Students Satellite Launch**: In 2023, Space Zone India successfully conducted the 'Dr. APJ Abdul Kalam Students Satellite Launch' mission. This initiative involved over 2,500 students in designing and constructing a student satellite launch vehicle, reflecting the company's commitment to fostering new talent in space technology.

Conclusion :

The launch of RHUMI-1 is a landmark event for India's space program, showcasing advancements in reusable hybrid rocket technology and the growing role of private sector players. By combining innovative propulsion technology with a focus on safety and educational outreach, Space Zone India is contributing significantly to the country's space exploration capabilities and promoting STEM education among the youth.

ISRO Likely to Launch Earth Observation Satellite-8 on August 15

Introduction:

The Earth Observation Satellite-8 (EOS-8) is likely to be launched on August 15, according to ISRO sources. The satellite will be launched by the Small Satellite Launch Vehicle (SSLV)-D3 from Sriharikota in Andhra Pradesh.

Main Points:

Launch Details:

- The EOS-8 is scheduled to be launched on August 15, coinciding with India's Independence Day.

- The launch vehicle will be the Small Satellite Launch Vehicle (SSLV)-D3.

Primary Objectives:

- Designing and developing a microsatellite.
- Creating payload instruments compatible with the microsatellite bus.
- Incorporating new technologies required for future operational satellites.

Payloads:

- **Electro Optical Infrared Payload (EOIR)**:
  - o Captures images in the Mid-Wave IR (MIR) and Long-Wave IR (LWIR) bands, both during the day and night.
  - o pplications include satellite-based surveillance, disaster monitoring, environmental monitoring, fire detection, volcanic activity observation, and industrial and power plant disaster monitoring.
- **Global Navigation Satellite System-Reflectometry payload (GNSS-R)**:
  - o Demonstrates the capability of using GNSS-R-based remote sensing.
  - o Applications include ocean surface wind analysis, soil moisture assessment, cryosphere studies over the Himalayan region, flood detection, and inland waterbody detection.
- **SiC UV Dosimeter**:
  - o Monitors UV irradiance at the viewport of the Crew Module in the Gaganyaan Mission.
  - o Serves as a high-dose alarm sensor for gamma radiation.
  - o The spacecraft has a mission life of one year.

Related Technologies:

The SSLV-D3 is designed to launch small satellites into low Earth orbit efficiently.

What is a Small Satellite Launch Vehicle (SSLV)?

The Small Satellite Launch Vehicle (SSLV) is a launch vehicle developed by ISRO specifically designed to launch small satellites into low Earth orbit. It is a cost-effective and efficient solution for deploying smaller payloads compared to larger rockets.

Key Features of SSLV:

- **Small-lift capability**: Designed to launch satellites weighing up to **500 kg** into low Earth orbit.

- **Cost-effective**: Offers a significantly lower cost per launch compared to larger rockets.
- **Rapid turnaround time**: Can be prepared for launch in a much shorter time frame than larger vehicles.
- **Flexibility**: Can accommodate multiple satellites in a single launch.
- **Minimal infrastructure**: Requires less complex launch infrastructure.

What is a Microsatellite Bus?

A microsatellite bus is essentially the backbone of a small satellite. It's the platform upon which all the satellite's components, such as communication systems, power supply, attitude control, and payload, are mounted and integrated.

Key Functions of a Microsatellite Bus:

- **Structural support**: Provides the physical framework for the satellite.
- **Power generation and management**: Includes **solar panels**, **batteries**, and **power distribution systems**.
- **Attitude control**: Maintains the satellite's orientation in space.
- **Communication**: Handles data transmission and reception.
- **Thermal control**: Regulates the satellite's temperature.
- **Payload integration**: Provides interfaces and support for the satellite's instruments or experiments.

By standardizing the bus design, space agencies and commercial entities can reduce development costs and time, allowing for quicker and more efficient satellite missions.

Conclusion:

The launch of the Earth Observation Satellite-8 (EOS-8) by ISRO on August 15 is a significant milestone in India's space program. This mission not only demonstrates the country's technological prowess in developing advanced microsatellites but also highlights the practical applications of satellite technology in various fields such as disaster monitoring, environmental surveillance, and scientific research. The EOS-8, with its innovative payloads and integrated avionics system, is set to contribute valuable data and insights, furthering India's capabilities in space exploration and Earth observation.

LITHIUM RESERVES OF J & K

The Ministry of Mines was forced to scrap the auction for the lithium block in Jammu and Kashmir's (J&K's) Reasi district for the second time, following weak investor response.

This comes nearly 18 months after then Mines Secretary Vivek Bharadwaj announced the discovery of an inferred deposit of 5.9 million tonnes of lithium ore, pitched as among the largest deposits in the world, in Reasi last February.

WHY WERE THE AUCTIONS SCRAPPED?
ROUND 1 :

The first auction was annulled on March 13 after less than the required minimum of three bidders cleared the first round.

The very next day, the Mines Ministry put the block for auction again.

ROUND 2:

This too was annulled last week, after failing to clear the first round despite the minimum bidder requirement being waved off this time around, as per auction rules. The second attempt saw no qualified bidders at all.

WHY HAVE THE INVESTORS KEPT DISTANCE?

- Difficulties around extracting and processing lithium from hard rock pegmatite deposits — like the ones found in Reasi.
- Underdeveloped mineral reporting standards used in tender documents played a significant role in deterring investors.
- No beneficiation study had been conducted to assess the feasibility of extracting and processing lithium from the resources identified in J&K.
- Limited information of the block.
- The block being too small "to apply modern mineral systems-based tools".

WHAT CAN BE EXPECTED NEXT?

- In case the government decides to move ahead with further exploration of the Reasi block, before another auction attempt, new findings may provide more clarity to potential investors on the nature of resource present, which at present is only "inferred".
- Alternatively, the government can choose to skip the auction process and reserve the area for the undertaking of prospecting or mining operations through a government-owned company, as allowed under the Mines and Minerals (Development and Regulation) (MMDR) Act.
  o This is the first time critical mineral block was put to auction.

STATUS OF OTHER LITHIUM DEPOSITS IN INDIA

- Last month, the Mines Ministry successfully auctioned off India's first lithium block in Chhattisgarh's Korba district.
  - Also in Korba, just south of this auctioned off lithium block, a private exploration company funded by the National Mineral Exploration Trust (NMET) has found hard rock lithium deposits ranging from 168 to 295 parts per million (ppm). Further exploration could yield an even larger reserve estimate.
- Lithium reserves, larger than J&K, have been found in Rajasthan too.
- Lithium exploration in other states, however, has not been as fruitful:
  - In Manipur, efforts to explore lithium in Kamjong district were stalled due to resistance from locals in the area. "The committee decided to drop the item for the time being due to local issues".
  - In Ladakh's Merak block, very close to the border between India and China, a lithium exploration funded by NMET yielded "results (that) are not encouraging".

GLOBAL LITHIUM RESERVES (NOW)
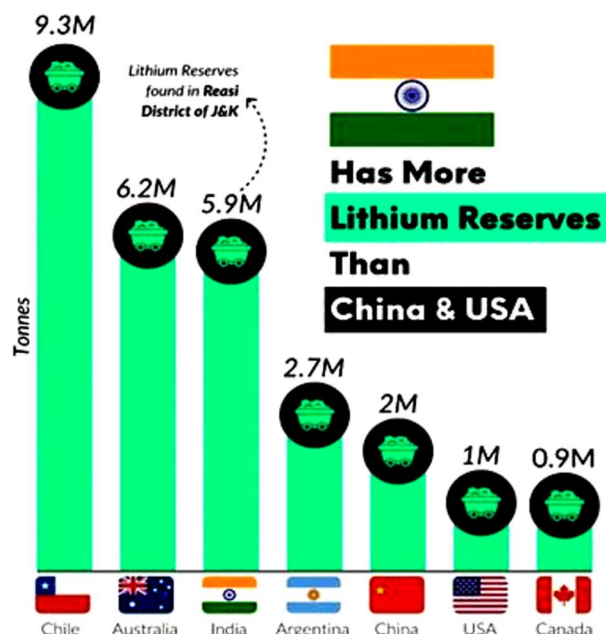
SIGNIFICANCE OF LITHIUM

- Used as an important input in Electronics & Telecommunications equipments.
- Used in manufacturing batteries which will become very important for EVs.

- As part of efforts to decarbonise the transport sector – Government of India aims to grow EV sales in India to capture the markets of 30 percent of private passenger cars, 70 percent of commercial vehicles, and 80 percent of two and three-wheelers by 2030.
  - Experts say the discovery could lead to not only a reduction in India's dependence on foreign countries but also bring down the cost of such batteries in the future.
    * The cost of a battery is around 45-50 per cent in an EV.
- This will put India on track to reaching its goal of net zero emissions by 2070.
- This will also help reduce India's dependence on China — "a major concern for many in the current political climate".

MEGHALAYA POLIO CASE - VACCINE-DERIVED

On August 20, 2024, the Union Health Ministry confirmed a case of vaccine-derived polio in a two-year-old child from Tikrikilla, Meghalaya. This case is a result of vaccine-derived poliovirus (VDPV) rather than wild poliovirus. The World Health Organisation (WHO) had declared India polio-free in 2014, following the last case of wild poliovirus in 2011.

Details of the Case:

Location and Diagnosis:

- **Location**: Tikrikilla, West Garo Hills district, Meghalaya.

- **Diagnosis**: The child, presenting symptoms of poliomyelitis, was diagnosed with acute flaccid paralysis at a hospital in Assam's Goalpara.

Current Status:

- **Samples**: Stool and other samples from the child were sent to testing centers in Kolkata and Mumbai for further examination.
- **Response**: Officials are on high alert, with measures in place to review and address the situation. The Meghalaya government is coordinating with the Department of Mines and Geology and the Border Roads Organisation for necessary actions.

What is Vaccine-Derived Polio:

Vaccine-Derived Polio refers to cases of polio that are caused by a strain of the poliovirus that originates from the oral polio vaccine (OPV). This can happen when the weakened virus used in the vaccine mutates and regains the ability to cause disease. Here's a detailed look at Vaccine-Derived Polio:

Types of Polio Virus and Vaccines:

1. **Wild Poliovirus:** This is the naturally occurring virus that causes polio. It has three types: Type 1, Type 2, and Type 3.
2. **Oral Polio Vaccine (OPV):** This vaccine contains live, attenuated (weakened) polioviruses. It is administered orally and is effective in providing immunity and preventing the spread of polio. OPV is used in many countries because it is easier to administer and is effective in reducing transmission of the virus.
3. **Inactivated Polio Vaccine (IPV):** This vaccine contains killed polioviruses and is administered via injection. IPV does not cause vaccine-derived polio but is less effective at stopping virus transmission compared to OPV.

How Vaccine-Derived Polio Occurs:

1. **Mutation of Vaccine Strain:** The OPV contains weakened poliovirus strains. Although these strains are not strong enough to cause disease in healthy individuals, they can mutate in the environment. If the weakened virus persists in the community, it can evolve into a form that is capable of causing paralysis.
2. **Transmission and Infection:** The mutated virus can spread in communities where vaccination coverage is low. Individuals who are not fully immunized or who have compromised immune systems are at risk.

3. **Vaccine-Derived Poliovirus Types:**
   o **VDPV Type 1:** Derived from Type 1 poliovirus used in OPV.
   o **VDPV Type 2:** Derived from Type 2 poliovirus used in OPV.
   o **VDPV Type 3:** Derived from Type 3 poliovirus used in OPV.

Circulating Vaccine-Derived Poliovirus (cVDPV):

- **Development**: Rarely, the vaccine virus undergoes genetic changes and can become a form that causes paralysis. This is known as cVDPV.
- **Global Context**: Since 2000, over 10 billion doses of OPV have been administered worldwide. There have been 24 cVDPV outbreaks in 21 countries, leading to fewer than 760 cases.

Prevention and Management:

1. **High Vaccination Coverage:** Ensuring high coverage with OPV reduces the chances of the virus circulating and mutating in the environment.
2. **Switching to IPV:** In some countries, IPV has replaced OPV to reduce the risk of vaccine-derived polio, especially in areas where polio is no longer circulating. IPV does not pose a risk of vaccine-derived polio but requires higher vaccination coverage to prevent outbreaks.
3. **Surveillance and Response:** Rigorous surveillance systems are in place to monitor and detect cases of polio and any potential vaccine-derived strains. Rapid response measures are taken to control outbreaks, including additional vaccination campaigns and improvements in sanitation.

Impact and Historical Context:

- **Type 2 Eradication:** The use of OPV has led to the eradication of wild poliovirus type 2. However, the risk of VDPV type 2 persists and has led to the phased withdrawal of type 2-containing OPV.
- **Global Efforts:** Global polio eradication efforts continue to focus on achieving high vaccination coverage and transitioning to safer vaccines to ensure that polio is completely eradicated.

Key Facts about Polio:

- **Disease**: Polio is a viral infectious disease that can cause irreversible paralysis and death by affecting the nervous system.

Wild Poliovirus Strains:

- **Types**:
   o Wild Poliovirus Type 1 (WPV1)
   o Wild Poliovirus Type 2 (WPV2)
   o Wild Poliovirus Type 3 (WPV3)

- **Characteristics**: Each strain has genetic and virological differences, necessitating targeted eradication efforts.

Transmission:

- **Route**: Primarily spreads through the fecal-oral route. It multiplies in the intestine and can invade the nervous system, predominantly affecting children under five.

Vaccines Available:

- **Oral Polio Vaccine (OPV)**: Administered as a birth dose, followed by three primary doses and a booster dose.
- **Injectable Polio Vaccine (IPV)**: Given along with the third DPT vaccine under the Universal Immunization Programme (UIP).

India's Status:

- **Polio-Free Status**: India was declared polio-free by WHO in 2014, with the last case of wild poliovirus reported in 2011.

What is a Vaccine?

A vaccine is a biological preparation that provides immunity against a specific infectious disease. It works by stimulating the body's immune system to recognize and fight pathogens (such as bacteria or viruses) without causing the disease itself. Here's a detailed look at what vaccines are and how they work:

Components of a Vaccine:

1. **Antigen:** The key component of a vaccine is the antigen, which is a substance that mimics the pathogen (bacterium or virus) that causes the disease. This can be:
   o **Inactivated or Killed Pathogen:** The pathogen is killed or inactivated so it cannot cause disease.
   o **Live Attenuated Pathogen:** The pathogen is weakened but still alive, so it stimulates a strong immune response without causing disease.
   o **Subunit or Protein-Based Antigen:** Only specific proteins or pieces of the pathogen are used, which are less likely to cause side effects.
   o **mRNA:** A newer type of vaccine that provides the genetic instructions for cells to produce a protein that triggers an immune response.
2. **Adjuvants:** These are substances added to vaccines to enhance the body's immune response to the antigen. They help to ensure that the vaccine provides long-lasting immunity.
3. **Stabilizers and Preservatives:** These help maintain the vaccine's effectiveness and prevent

contamination. Stabilizers keep the vaccine effective over time, while preservatives prevent bacterial or fungal growth.

How Vaccines Work:

1. **Immune Response Activation:** When a vaccine is administered, it introduces the antigen into the body. The immune system recognizes this foreign substance as a threat and mounts an immune response.
2. **Production of Antibodies:** The immune system produces antibodies and other immune cells that target and neutralize the antigen. These antibodies specifically bind to the antigen and help to eliminate it from the body.
3. **Memory Formation:** After the immune response, the body retains a memory of the pathogen. This is done by creating memory cells that "remember" how to recognize and respond to the antigen. If the actual pathogen is encountered in the future, the immune system can respond more rapidly and effectively.

Types of Vaccines:

- **Inactivated (Killed) Vaccines:** Contain pathogens that have been killed or inactivated so they cannot cause disease (e.g., polio vaccine).
- **Live Attenuated Vaccines:** Contain weakened forms of the pathogen that stimulate a strong immune response without causing the disease (e.g., measles, mumps, rubella (MMR) vaccine).
- **Subunit, Recombinant, or Conjugate Vaccines:** Contain pieces of the pathogen or modified proteins that stimulate an immune response (e.g., hepatitis B vaccine, Haemophilus influenzae type b (Hib) vaccine).
- **mRNA Vaccines:** Contain genetic instructions for cells to produce a protein that triggers an immune response (e.g., COVID-19 vaccines developed by Pfizer-BioNTech and Moderna).

Benefits of Vaccines:

- **Disease Prevention:** Vaccines prevent the onset of serious and potentially life-threatening diseases.
- **Herd Immunity:** When a large portion of the population is vaccinated, it reduces the spread of disease, protecting those who cannot be vaccinated (e.g., infants, elderly, immunocompromised individuals).
- **Eradication of Diseases:** Vaccination campaigns have led to the eradication of diseases, such as smallpox, and the significant reduction of others, like polio.

Safety and Efficacy:

- **Clinical Trials:** Vaccines undergo rigorous testing in clinical trials to ensure they are safe and effective before they are approved for public use.
- **Ongoing Monitoring:** Once in use, vaccines are continually monitored for safety and effectiveness. Any adverse effects are investigated, and adjustments are made as necessary.

Conclusion :

The detection of a vaccine-derived polio case in Meghalaya underscores the ongoing challenges in global polio eradication efforts. While India remains polio-free from wild poliovirus, vaccine-derived strains can still pose risks, particularly in areas with low immunization coverage. Continued vigilance, comprehensive immunization campaigns, and robust disease monitoring systems are essential to prevent the spread of vaccine-derived poliovirus and maintain public health gains achieved over decades. The current situation serves as a reminder of the importance of sustaining high immunization rates and preparedness in disease management.

New Hampshire Patient Dies from Rare Mosquito-Borne Disease

New Hampshire resident dies of race mosquito-borne illness

Why in News?

A person in Hampstead, New Hampshire, has died from Eastern Equine Encephalitis (EEE), a rare mosquito-borne disease. This death has heightened concerns about the increasing risk of EEE in New England, which is believed to be exacerbated by climate change. The New Hampshire Department of Health and Human Services (DHHS) reported that the adult patient was hospitalized with severe central nervous system disease before passing away.

What is Eastern Equine Encephalitis (EEE)?

Eastern Equine Encephalitis (EEE) is a serious and rare viral illness transmitted to humans through the bite of infected mosquitoes. It is caused by the EEE virus, which primarily affects horses but can also infect humans. The disease is known for its high mortality rate and severe impact on the central nervous system.

Symptoms and Impact:

- **Early Symptoms**: Initial symptoms include **fever**, **headache**, **vomiting**, **diarrhea**, and **drowsiness**.
- **Severe Symptoms**: As the disease progresses, it can lead to **encephalitis** (inflammation of the brain) and **meningitis** (inflammation of the protective membranes covering the brain and spinal cord).
- **Mortality and Long-Term Effects**: Approximately **30%** of those infected die from EEE. Survivors often face **long-term physical or mental disabilities**, including persistent **neurological issues**.
- **High-Risk Groups**: Individuals under **15** and over **50 years of age** are at greater risk of severe outcomes.

Recent Developments in EEE Cases:

- **New Hampshire Case**: The recent fatality in Hampstead marks the first human EEE case in New Hampshire since **2014**, when there were **three cases**, including **two fatalities**.
- **Massachusetts**: Earlier this month, Massachusetts reported its first human case of EEE for the year involving an **elderly man**. In response, state officials have implemented several measures, including **voluntary outdoor curfews**, the **closure of public parks**, and **aerial and ground mosquito spraying** to control mosquito populations.

Prevention and Treatment:

- **No Vaccine or Cure**: Currently, there are no vaccines or specific treatments for EEE. Management focuses on **supportive care** for those infected.
- **Preventive Measures**:
  - **Insect Repellent**: Use EPA-registered insect repellents.
  - **Protective Clothing**: Wear long-sleeved shirts and long pants to reduce mosquito bites.
  - **Eliminate Standing Water**: Remove standing water around homes to reduce mosquito breeding sites.
- **Climate Impact**: According to a 2023 report by Climate Central, the number of "mosquito days"—warm, humid days ideal for mosquito activity—has increased in the US over the past four decades, partly due to climate change.

Why the Increased Risk?

The increase in EEE cases is partly attributed to climate change, which has extended the mosquito season and increased the prevalence of mosquito-borne diseases. Warmer temperatures and increased humidity create favorable conditions for mosquito breeding and survival, heightening the risk of transmission of diseases like EEE.

Conclusion :

The recent death in New Hampshire from EEE highlights the ongoing risk of this rare but severe disease. With no vaccines or specific treatments available, prevention remains crucial. The rising incidence of mosquito-borne diseases like EEE underscores the broader public health challenges posed by climate change, necessitating continued vigilance and effective mosquito control measures.

Ransomware Attack Disrupts Cooperative Banks and RRBs
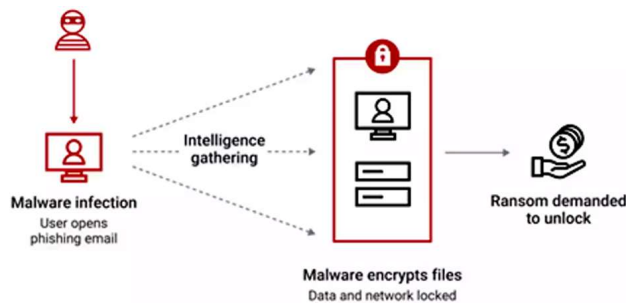
Context:

A significant ransomware attack on C-Edge Technologies Ltd, a major technology service provider for cooperative banks and regional rural banks (RRBs), has disrupted banking services for approximately 150-200 institutions.

a. In response, the National Payments Corporation of India (NPCI) temporarily isolated C-Edge Technologies from accessing retail payment systems to mitigate the impact on the payment ecosystem.

b. As a result, customers of these banks are currently unable to access payment systems.

c. NPCI and C-Edge Technologies are working together to restore services urgently, with ongoing security reviews.

Key Points:

Impact:

- The ransomware attack has disrupted services for **150-200** cooperative banks and RRBs.
- Customers are facing difficulties accessing payment systems, emphasizing the critical nature of the incident.

Response:

- **NPCI** took proactive measures by isolating C-Edge Technologies from retail payment systems to contain the attack's impact and prevent further damage to the payment ecosystem.

Restoration Efforts:

- Both NPCI and C-Edge Technologies are working intensively to restore services.
- The restoration process includes a thorough **security review** to ensure systems are secure before reconnecting to the payment infrastructure.

What are Ransomware:

Ransomware is malicious software designed to encrypt data or lock devices, making them inaccessible. Attackers demand a ransom (money), usually in cryptocurrency, for the decryption key or to regain access.

Early Attacks:

- Initially focused on encrypting data and demanding ransom for decryption, these attacks were relatively straightforward.

Modern Tactics:

- **Double-extortion:** Attackers encrypt data and threaten to leak it online if the ransom is not paid, increasing pressure on victims.
- **Triple-extortion:** Attackers use stolen data to target the victim's customers or partners, amplifying the attack's impact.

Types of Ransomware:

- **Encrypting Ransomware (Crypto Ransomware):** Encrypts data, making it unreadable without the decryption key. Attackers demand ransom for the key.
- **Non-encrypting Ransomware (Screen-locking Ransomware):** Locks the device and displays a ransom demand. The device remains inaccessible until the ransom is paid.

Subcategories:

- **Leakware or Doxware:** Steals sensitive data and threatens to publish it online if ransom is not paid.
- **Mobile Ransomware:** Targets mobile devices, often using screen-lockers.
- **Wipers:** Threatens to destroy data, sometimes even if ransom is paid, aiming to cause maximum disruption.
- **Scareware:** Uses fear tactics to coerce victims into payment by posing as legitimate alerts.

Ransomware as a Cyber Threat:

Financial Impact:

- Ransomware attacks can have severe financial repercussions. For instance, the average cost of a data breach was Rs **19.5 crore (USD 2.35**

million) in the financial year 2024, a **7% increase** from the previous year.

Speed of Attacks:

- Hackers can deploy ransomware in less than **four days** after gaining access to a network, underscoring the need for robust and proactive cybersecurity measures.

Steps for Responding to a Ransomware Attack:

- **Isolation:** Immediately disconnect infected devices from the network.
- **Identification:** Determine the entry point and type of ransomware.
- **Prioritization:** Restore critical systems first, then eradicate the threat.
- **Restoration:** Use backups to restore systems or explore decryption options.

How Ransomware Infects Systems:

- **Phishing:** Deceives victims into downloading ransomware via malicious attachments or links.
- **Exploiting Vulnerabilities:** Targets software vulnerabilities to deploy ransomware.
- **Credential Theft:** Steals user credentials to deploy ransomware.
- **Other Malware:** Ransomware can be spread using Trojans or other malware.
- **Drive-by Downloads:** Infects devices through compromised websites.
- **Ransomware as a Service (RaaS):** Allows less technically skilled attackers to use ransomware developed by others.

Notable Ransomware Variants:

- **Akira Ransomware:** Known for sophisticated encryption and targeted attacks.
- **LockBit Ransomware:** Noted for aggressive tactics and widespread impact.
- **CryptoLocker:** Early ransomware variant demonstrating the effectiveness of data encryption for extortion.
- **WannaCry:** Attacked over 200,000 computers in 150 countries in 2017.
- **Petya and NotPetya:** Encrypted file systems, causing widespread damage.
- **Ryuk:** Targets high-value entities, often demanding substantial ransoms.
- **DarkSide:** Known for the Colonial Pipeline attack in 2021.
- **Locky:** Uses email macros for infection.
- **REvil:** Known for big-game hunting and double-extortion tactics.
- **Conti:** Operated a Ransomware as a Service scheme with double-extortion tactics.

Legislations to Protect Against Ransomware Attacks in India:

Indian Penal Code 1860 and Information Technology (IT) Act 2000:

- **Relevant Provisions:** Sections 43, 66, 65, and 66D address damage to systems, tampering with documents, and cheating by personation.
- **Corporate Obligations:** Corporates holding sensitive data must implement reasonable security practices.
- **Punishments:** Imprisonment ranges from three to seven years, with fines up to **Rs 1 crore**.

Ransomware Task Force (RTF):

- A specialized unit within India's **National Cyber Security Coordinator (NCSC)** assists with investigation, recovery, and prevention efforts.

Cybersecurity Framework for the Indian Banking Sector, 2018:

- Issued by the **Reserve Bank of India (RBI)**, it mandates robust cybersecurity measures, including multi-factor authentication and regular audits.

Way Forward:

Cybersecurity Enhancements:

- **Robust Measures:** Implement endpoint protection, network security, and employee training.
- **Threat Detection:** Improved mechanisms have led to an **11.5% decline** in ransomware infections between 2022 and 2023.
- **Threat Intelligence Sharing:** Establish a centralized platform for sharing threat intelligence among financial institutions.

Data Backup and Recovery:

- **Robust Procedures:** Ensure offline backups and comprehensive business continuity plans.

Enhanced Security Standards:

- **Third-Party Assessments:** Conduct rigorous security assessments of vendors.
- **Incident Response:** Enhance incident response capabilities and obtain relevant cybersecurity certifications.

Implications:

- **Vulnerability of the Banking Sector:** The attack highlights the sector's vulnerability to cyber threats and the need for continuous vigilance.
- **Importance of Robust Cybersecurity:** Emphasizes the need for effective cybersecurity measures and collaboration among institutions.
- **Legislative Framework:** Existing laws provide a foundation for prosecuting ransomware attacks, but updates and enforcement are needed.

- **Customer Impact:** Disruptions in banking services affect a large number of customers, stressing the importance of communication and support.

Safe Microbial Substitute Can Replace Synthetic Surfactants in the Food Industry

Biosurfactants, which are natural and cost-effective alternatives to synthetic surfactants, are produced by microorganisms, like bacteria or fungi. They help reduce surface tension and can emulsify oil and water, similar to synthetic surfactants, but are often more environmentally friendly and biodegradable. These biosurfactants are beneficial in the food industry as they emulsify fats, improve shelf life, and retain moisture without the harmful effects of synthetic additives.

What Are Surfactants?

- **Surfactants** are molecules that help mix substances that usually don't mix well, like oil and water.
- They reduce surface tension, making it easier to create **emulsions** or **foams**.
- In the food industry, they are used to enhance **texture**, aid in **mixing**, and improve the **stability** of products.

How Surfactants Work ?

- Surfactants work by reducing the surface tension between two substances, such as oil and water, allowing them to mix more easily.
- They have a unique structure with a hydrophilic (water-attracting) head and a hydrophobic (water-repelling) tail.
- The hydrophobic tails attach to oil or grease, while the hydrophilic heads interact with water. This creates a stable emulsion or foam by surrounding and dispersing oil or air in water, making it easier to clean or mix substances that normally don't combine.

Problems with Synthetic Surfactants:

- Synthetic surfactants are man-made chemicals designed to lower surface tension between different substances, such as oil and water.

- They are commonly used in various industries, including food, cosmetics, and cleaning products, to improve mixing, emulsification, and foaming.
- Unlike natural surfactants, synthetic surfactants are chemically engineered and may have potential drawbacks, such as environmental impact and health concerns.
- The extensive use of synthetic surfactants in food can disrupt the body's microbiome, leading to gut disorders and a weakened intestinal barrier. This highlights the need for safer alternatives.

Advantages of Microbial Biosurfactants:

- **Properties:** High emulsification, foaming, and stability across various conditions (pH, temperature, salinity).
- **Safety:** Eco-friendly and non-toxic, making them safe for human consumption.

Applications:

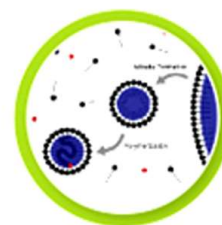- **Applications:** Used in bakeries, salad dressings, heavy metal removal from vegetables, fish immunity boosting, and as natural antioxidants.
- **Challenges:** Commercialization difficulties and the need for cost-effective production methods.

Study Insights:

- **Production:** Green substrates from agro-industrial waste can be used to produce biosurfactants. Technologies like genetic engineering and nanotechnology can enhance production.
- **Safety:** Emphasis on toxicological studies and compatibility with other food components is crucial for regulatory approval.

Conclusion:

Biosurfactants provide a promising, eco-friendly alternative to synthetic surfactants in the food industry. They can be produced cost-effectively using waste materials and advanced technologies. To fully realize their potential, researchers and industrialists must focus on safety assessments and innovative production techniques to expand the use of biosurfactants in the market.

SMALL SATELLITE LAUNCH VEHICLE

The Indian Space Research Organisation (ISRO) successfully launched the third developmental flight of the Small Satellite Launch Vehicle (SSLV) from the Satish Dhawan Space Centre in Sriharikota on Friday (August 16). The SSLV-D3 placed the Earth observation satellite EOS-08 precisely into orbit.

It also marks the completion of ISRO/Department of Space's SSLV Development Project.

NewSpace India Limited (NSIL), ISRO's commercial arm, and India's private space industry can now produce SSLVs for commercial missions.

ABOUT SMALL SATELLITE LAUNCH VEHICLE WHAT IS SSLV?

SSLV is a rocket that is designed to orbit satellites weighing less than 500 kg in Low Earth Orbit and 300 kg to Sun Synchronous Orbit (SSO).

It is a 3 stage Launch Vehicle configured with three Solid Propulsion Stages and liquid propulsion-based Velocity Trimming Module (VTM) as a terminal stage.

KEY FEATURES OF SSLV

- SSLV is the smallest vehicle at 110-ton mass at ISRO.
- It will take only 72 hours to integrate, unlike the 70 days taken now for a launch vehicle.

- Only six people will be required to do the job, instead of 60 people.
- The other features include: flexibility in accommodating multiple satellites, Launch on demand feasibility, minimal launch infrastructure requirements, etc.

SIGNIFICANCE OF SSLV

- Seamless launch of small satellites.
- The launch of small satellites has until now been dependent on 'piggy-back' rides with big satellite launches on ISRO's PSLV.
- The SSLV is intended to cater to a market for the launch of small satellites into low earth orbits with a quick turnaround time.
- Suited for launching multiple microsatellites & supports multiple orbital drop-offs.
- Shift the burden of commercial launches from PSLV
- The SSLV is likely to cost a fourth of the current PSLV.

Solar Paraboloid Technology - The Next Frontier in Renewable Energy

As the global push for renewable energy intensifies, solar paraboloid technology is emerging as a transformative solution in the renewable energy landscape. This advanced form of concentrating solar power (CSP) technology promises to enhance solar energy efficiency and address the limitations of traditional photovoltaic (PV) systems. With growing commitments to reducing carbon emissions and achieving net-zero targets, solar paraboloids could significantly influence the future of energy markets.

What is Solar Paraboloid Technology

1. The sun's solar energy shines down onto the reflective collector.
2. The sun's energy is reflected from the reflective parabolic solar concentrator and directed at the receiver.
3. The sun's energy is concentrated 1000 times into the receiver.

Various "receiver heads" can be used such as a CPV Multi-junction Solar Cells, Stirling Engine or Thermal Absorber.
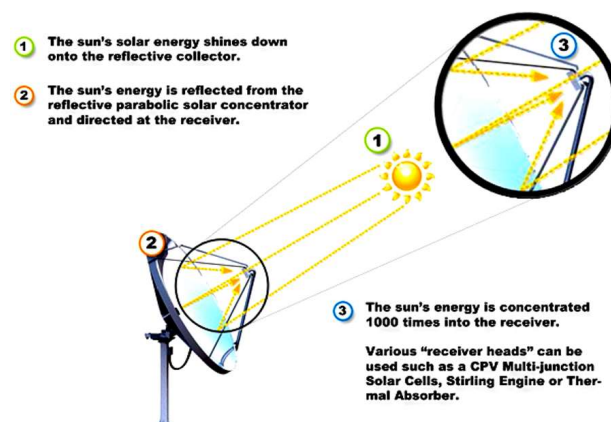
Solar paraboloid technology involves using a parabolic dish or mirror to focus sunlight onto a single point or a receiver. This technology is used primarily in solar thermal power systems.

Operating Principle:

- Solar paraboloids use a Parabolic Trough Collector (PTC) system.
- They consist of long, parabolic mirrors that concentrate sunlight onto a receiver tube placed at the mirror's focal line.
- The concentrated solar energy heats a fluid in the receiver, generating electricity or providing heat for industrial processes.

Advantages Over Traditional PV Panels:

- **Higher Temperature Operation:** Solar paraboloids can operate at temperatures up to **300°C**, improving thermal efficiency.
- **Reduced Heat Losses:** The smaller absorbing surface area decreases convective and conductive heat losses, as noted by Mohammad Saif, Partner at EY India.

Economic Implications and Market Potential

Efficiency and Cost:

- **Solar paraboloids** offer high efficiency in concentrating solar energy, which can lead to lower electricity costs per unit.
- This potential efficiency could make solar energy more competitive with fossil fuels.

Challenges to Adoption:

- High Upfront Costs: The technology requires precise construction, specialized materials, and complex tracking systems.
- **Infrastructure Requirements:** Significant investment in infrastructure is needed, as highlighted by Deepak Pandey, Founder and MD of GP Eco Solutions India Limited.

Overcoming Barriers:

- **Investment in R&D:** Governments and industries need to invest in research and development.
- **Policy Support:** Anujesh Dwivedi, Partner at Deloitte India, emphasizes the role of policy support in enhancing local manufacturing and promoting projects.

Industry Response and Future Outlook

Current Status:

- The technology is still in development, with mixed industry responses.
- Successful projects like the **Godavari solar project** in **Rajasthan** and the **Dadri ISCC plant** in **Uttar Pradesh** demonstrate potential but also reveal challenges.

Long-Term Potential:

- Despite current obstacles, solar paraboloids hold strong future potential.
- As demand for renewable energy grows, their adoption could accelerate.
- Deepak Pandey envisions solar paraboloids achieving cost parity and significant deployment by 2050, contributing to net-zero emissions.

Conclusion :

Solar paraboloid technology, while still in its early stages, has the potential to revolutionize renewable energy. Its ability to efficiently capture and convert solar energy, combined with ongoing research and supportive policies, positions it as a promising candidate for the future energy market. As the world continues to seek sustainable energy solutions, solar paraboloids could play a pivotal role in meeting global energy needs and achieving environmental goals. With advancements in technology and supportive measures, this innovative approach could become a key component in the global transition to renewable energy.

Tantalum Deposits

Introduction :

The Central Government has notified a list of 24 minerals, including Tantalum, as Critical and Strategic minerals under Part D of the First Schedule of the MMDR Act, 1957. This move highlights the importance of Tantalum in India's strategic mineral resources.

Exploration and Development :

- **Geological Survey of India (GSI)**:
  - o An attached office of the Ministry of Mines, GSI is focusing on the exploration of strategic and critical minerals, including Tantalum.
  - o From the field season 2021-22 to 2024-25, GSI has undertaken 6 projects for Tantalum and associated minerals in different parts of the country.

No.	Field Season	State	District	Name of Mineral Block / Area / Belt	Mineral Commodity
1	2020-21	Gujarat	Sabarkantha	Nadri	Tin, Tungsten, Tantalum, Niobium
2	2021-22	Arunachal Pradesh	East Kameng	Seppa	Tantalum, Cesium
3	2023-24	Rajasthan	Alwar	Dadikar, Harsora and Khairthal	REE, RM, Tungsten, Tin, Niobium, Beryllium, Tantalum, Hafnium
4	2024-25	Chhattisgarh	Gaurella-Pendra-Murmur & Korba	Uran- KotmiKhurd	Niobium, Tantalum, REE, lithium
5		Bihar	Jamui	Kairi-Jhura-Murbaro	Lithium, Niobium, Tantalum and associated strategic minerals (REE, Rare Metals)
6		Karnataka	Chitradurga	Chikjajur-Janakal	Lithium, Cesium, Niobium, Tantalum, Tungsten

- **Discoveries**: GSI has established a Niobium-Tantalum resource of 16.42 million tonnes with an average grade of 144ppm (Nb+Ta)2O5 at 100 ppm cut off in Rewat Hill block, Nagaur district, Rajasthan.
- **Strengthening the Supply Chain Customs Duty Elimination**: To strengthen the supply chain of critical minerals, including Tantalum, the elimination of customs duty on Tantalum ores, concentrates, and unwrought Tantalum has been announced in the Union Budget 2024-25.

What is Tantalum? Properties:

- Atomic number: 73.
- Grey, heavy, very hard, and highly corrosion-resistant.
- Forms an oxide layer when exposed to air, making it extremely difficult to remove even in strong and hot acid environments.
- Ductile, can be stretched into thin wires without breaking.
- High melting point, exceeded only by tungsten and rhenium.

Discovery:

- Discovered by **Anders Gustaf Ekenberg**, a Swedish chemist, in 1802.
- Initially thought to be a different form of **niobium**, a chemically similar element.
- Proven to be a distinct element by **Jean Charles Galissard de Marignac**, a Swiss chemist, in 1866.

Name Origin:

- Named after the **Greek** mythological figure **Tantalus**, known for his punishment in the underworld where he was unable to consume water or fruit despite being surrounded by them.
- The name reflects the **insolubility** of tantalum in acids.

Uses of Tantalum Electronic Sector:

- Used in **capacitors** that store more electricity in smaller sizes with minimal leakage, ideal for portable electronic devices like smartphones, laptops, and digital cameras.
- **High Melting Point:** Used as a substitute for **platinum** in various applications.
- **Industrial Applications:** Used in **chemical plants**, **nuclear power plants**, **aircraft**, and **missiles**.
- **Medical Applications:** Does not react with bodily fluids, making it suitable for **surgical equipment** and **implants** like artificial joints.
- **Hard Materials:** A composite of **tantalum carbide (TaC)** and **graphite** is one of the hardest materials known, used in **high-speed machine tools**.

Conclusion:

The notification of Tantalum as a Critical and Strategic mineral and the ongoing exploration efforts by GSI underscore India's commitment to enhancing its strategic mineral resources. The elimination of customs duty on Tantalum-related products further strengthens the supply chain, supporting various industries and contributing to the country's technological and industrial advancements.

Overview:

On August 12, 2024, Elon Musk hosted a live audio interview with former US President and Republican Presidential candidate Donald Trump on his social media platform X. The interview faced a 40-minute delay and technical problems, which Musk attributed to a large-scale Distributed Denial-of-Service (DDoS) attack. In a DDoS attack, multiple sources flood a website or server with excessive traffic, making it slow or completely unreachable for legitimate users. This kind of disruption has affected other major websites and services in the past.

What Happened

- **Issue**: The interview was delayed and experienced several glitches, which Musk later said was due to a massive **DDoS attack** on **X**.
- **Impact**: The attack caused interruptions in the live stream, making it difficult for people to access the interview smoothly.

What is a DDoS Attack?

- **Definition**: A **Distributed Denial-of-Service (DDoS) attack** floods an online service or website with traffic from many sources, making it unavailable to legitimate users.
- **How It Works**:
  - **Flooding**: Attackers send a huge number of requests to a server at once, overloading it.
  - **Bots**: Automated programs, or bots, can generate excessive traffic, causing the service to slow down or crash.
  - **IP Addresses and Packets**: Computers use unique IP addresses and send data in packets. DDoS attacks use up the server's bandwidth and resources, preventing it from handling legitimate requests.

In simple terms: On a normal day, there are enough tables for everyone who comes in. But then, a big group of people suddenly decides to show up at the same time. They fill up all the tables and the restaurant can't serve anyone else. This is like a DDoS attack. A DDoS attack is like a digital crowd that overloads a website. Instead of people, it's lots of computers sending messages to the website at once. This makes the website too busy to handle normal visitors, so it crashes or becomes really slow. That's why Elon Musk's interview was interrupted. Too many fake visitors came to the website, and it couldn't handle it.

How Do DoS and DDoS Attacks Work?

- **Botnets**: Networks of compromised devices used by attackers to launch the attack.
- **Types of Attacks**:
  - **Smurf Attack**: Attackers send ICMP broadcast packets with a fake IP address of the target. The target ends up flooding itself with responses, disrupting service.
  - **SYN Flood**: Attackers send connection requests to a server but do not complete the connections. This overloads the server with incomplete requests, making it hard for the server to handle real connections.

Signs of a DoS Attack and How to Respond:

- **Signs**:
  - **Slow Internet**: Reduced performance or inability to access online services.
  - **Verification**: Firewalls and security systems can confirm if an attack is occurring, as other issues can also affect internet performance.
  - **Previous Incident**: In May 2023, a similar problem happened during an interview with Florida Governor Ron DeSantis, with delays attributed to high traffic.
- **Anti-DDoS Measures**:
  - **Anti-virus Software**: Can detect unusual traffic patterns and alert users to possible DDoS attacks.
  - **Mitigation**: Security measures can help manage and reduce the effects of such attacks.

Impact of DoS Attacks:

- **Disruption Duration**: DoS attacks can cause major disruptions, lasting from a few hours to several days.
- **Notable Incidents**:
  - **2016 Attack**: Websites like Spotify, Twitter, and Amazon were disrupted for hours due to a DDoS attack.
  - **French Cyberattack**: Before the Paris Olympics, French state services were targeted in a significant cyberattack, with groups including Anonymous Sudan claiming responsibility for a DDoS attack on government networks.

Conclusion:

DDoS attacks present a significant challenge to online services, causing notable disruptions and delays. As digital platforms and technology continue to advance, it is crucial for organizations to invest in effective security measures to prevent and mitigate the impact of such attacks. Building resilience against DDoS attacks will be essential for ensuring uninterrupted service and safeguarding online operations from future threats.

US Approves Sale of Anti-Submarine Warfare Sonobuoys to India

Overview :

The US has approved a USD 52.8 million government-to-government deal to sell Anti-Submarine Warfare (ASW) sonobuoys to India. Announced during Defence Minister Rajnath Singh's visit to the US, this approval will enhance the Indian Navy's anti-submarine capabilities by integrating these sonobuoys with MH-60R Romeo helicopters.

Key Details of the Deal

- **Sonobuoys Included**:
  - **AN/SSQ-53G**: High Altitude Anti-Submarine Warfare (HAASW) sonobuoys for high-altitude submarine detection.
  - **AN/SSQ-62F**: Advanced HAASW sonobuoys with enhanced detection capabilities.
  - **AN/SSQ-36**: Standard sonobuoys for general ASW operations.
- **Logistics and Support**: Includes logistics and support services for deployment and maintenance.
- **Approval Process**: Certified by the **Defense Security Cooperation Agency (DSCA)** and notified to Congress for transparency.
- **Contractors**: Involves Sparton Corporation (Florida) and Undersea Sensor Systems Inc. (USSI) (Indiana), with no offset agreements.

US Strategic Interests

- **Foreign Policy and National Security**: Strengthens the US-India strategic partnership and enhances India's maritime security, contributing to regional stability in the Indo-Pacific and South Asia.
- **Capability Enhancement**: Improves India's ability to detect and track submarines, crucial for maintaining naval superiority and operational readiness.

MH-60R Romeo Helicopters

- **Role and Features**: Manufactured by Lockheed Martin, these helicopters are equipped with advanced avionics and sensors for multi-mission support, including ASW and anti-surface warfare.
- **Previous Orders**: India ordered 24 MH-60R helicopters last year through the Foreign Military Sales (FMS) program.

Sonobuoys: Overview

- **Function**: Used for underwater acoustics to detect and analyze ocean sounds, particularly for tracking submarines. They provide essential data for ASW.
- **Deployment**: Launched from aircraft or ships/submarines, they sink to a predetermined depth to listen for acoustic signals.
- **Types**:
  - **Passive Sonobuoys**: Record underwater sounds without emitting signals.
  - **Active Sonobuoys**: Emit sound pulses and analyze echoes to detect targets.
  - **Special Purpose Sonobuoys**: Provide environmental data like water temperature and noise levels.
- **Components**: Typically include a cylindrical or spherical housing, acoustic sensors, a battery or power source, and a communication system.

Additional Uses

- **Scientific Research**: Used in studying marine life and oceanographic conditions, including whale behavior.

What is a Transducer?

- **Definition**: A device that converts energy from one form to another. In sonobuoys, it converts **acoustic energy** into **electrical signals** for processing. Transducers are also used in devices like microphones and thermometers.

Conclusion :

The approval of the **USD 52.8 million** deal for ASW sonobuoys highlights the strengthening defense collaboration between the US and India. By integrating

these sonobuoys with the Indian Navy's **MH-60R Romeo helicopters**, India will significantly enhance its anti-submarine warfare capabilities. This development not only fortifies the strategic partnership between the two nations but also contributes to regional stability and security in the Indo-Pacific and South Asia. The deal reflects a commitment to addressing maritime threats and improving operational readiness, marking a significant advancement in US-India defense cooperation.

WHO Declares Mpox Outbreak an 'Emergency of International Concern'

Overview:

On August 14, 2024, the World Health Organization (WHO) declared the latest mpox outbreak a Public Health Emergency of International Concern (PHEIC).

a. This is the second time in two years that mpox has been given this status.

b. The decision comes after a sharp increase in cases, particularly in the **Democratic Republic of Congo (DRC)** and neighboring countries.

c. Since 2022, there have been over **99,000 cases** and **208 deaths** reported worldwide.

What is Mpox?

Mpox, formerly known as monkeypox, is a viral infection caused by a DNA virus from the Poxviridae family. It was first discovered in monkeys in 1958 but can also infect humans. The disease gained global attention due to a large outbreak in 2022-2023.

Key Details:

- **Virus Type:** DNA virus from the Poxviridae family.
- **Transmission:** Spread mainly from animals (like rodents and primates) to humans through direct contact or contaminated objects.
- **Symptoms:** Includes fever, headache, muscle aches, and a rash that evolves from flat spots to bumps, then to blisters and pustules.
- **Vaccination:** A vaccine exists but is not widely available or highly effective, indicating a need for better prevention.

Global Impact:

- **Outbreaks:** The **2022-2023 outbreak** affected over **100,000 people** in more than **118 countries**. The disease spread significantly through close human contact and sexual routes.
- **WHO Response:** Declared a public health emergency to enhance global control efforts.

Genomic Features:

- **Clades and Lineages:**
  o **Clades:** Mpox has two main clades, I and II. **Clade I** is associated with higher mortality.
  o **Recent Developments:** The 2022 outbreak involved a new lineage, **Clade IIb**, which is more effective at human-to-human transmission.
- **Genomic Analysis:**
  o **New Lineages:** Evidence of a distinct **Clade I lineage** suggests recent adaptation for human-to-human transmission.
  o **Genomic Accordion:** The virus undergoes changes in its genome size and structure through gene duplications or deletions, aiding its adaptation.

Current Concerns:

- The new worry is the spread of **Clade Ib** of the mpox virus.
- This strain, which is mainly spread through sexual contact, is different from previous strains that were mainly transmitted from animals to humans.
- Over **100 cases** of this new clade have been reported in countries like **Burundi**, **Kenya**, **Rwanda**, and **Uganda**, where mpox was not seen before.
- Researchers have found that the virus is spreading more among people and has developed new mutations.

Impact on India:

- India reported cases of the less severe **Clade II** during the 2022 outbreak.
- However, with the new, more contagious **Clade Ib** spreading globally, there is a risk of it reaching India as well.

Vaccination and Response:

- There are vaccines available for mpox, and WHO is working to make them accessible, especially in lower-income countries.
- The WHO has sped up vaccine availability and is coordinating with global organizations like **GAVI** and **UNICEF** to ensure vaccines reach those in need.

Difference Between Small Pox, Chicken Pox, Mpox:

Feature	Smallpox	Monkeypox	Chickenpox
Virus	Variola virus	Monkeypox virus	Varicella-zoster virus (VZV)
Severity	Highly severe, often fatal	Milder than smallpox, rarely fatal	Mild
Status	Eradicated in 1980	Endemic in Central and West Africa, cases emerging elsewhere	Common childhood illness, less common due to vaccination
Transmission	Highly contagious through respiratory droplets and contact with infected lesions	Spread through contact with infected animals, lesions, or bodily fluids	Highly contagious through respiratory droplets and contact with lesions
Symptoms	Fever, headache, severe fatigue, vomiting, followed by a deep-seated, pus-filled rash	Fever, headache, swollen lymph nodes, followed by a rash that progresses through stages	Fever, fatigue, loss of appetite, followed by an itchy, fluid-filled rash
Vaccination	No longer needed	Not routinely recommended, may be given to high-risk individuals	Routine vaccination for children and adults who haven't had chickenpox

Conclusion:

The WHO's declaration of a PHEIC for mpox underscores the urgent need for a global response to control the outbreak. With the emergence of a new, more easily transmissible strain, international cooperation and effective vaccination are crucial to prevent further spread and protect public health.

EDITORIALS

Crux of The Hindu & Indian Express

Science & Technology

Reason Behind Leh Flight Cancellations

Several flights had to be cancelled due to a rise in daytime temperatures in Leh, Ladakh. The temperature reached 33.5 degrees Celsius on Sunday and 31.8 degrees Celsius on Monday (July 29).

"High ground temperatures and runway restrictions at #Leh have necessitated the cancellation of all flights for today," IndiGo posted on X.

Why Did Leh's High Temperatures Lead to Flight Cancellations?

How Do Aircraft Fly?

1. Aircraft wings are designed so that their top is slightly more curved than the bottom.
2. When an aircraft starts to move, the air over the top of the wings moves faster than the air underneath.

3. This faster-moving air creates lower pressure above the wing (as per Bernoulli's principle), compared to the pressure underneath.
4. This difference in pressure generates a force (called lift) that helps the aircraft take off.

How Do Higher Temperatures Affect an Aircraft's Flight?
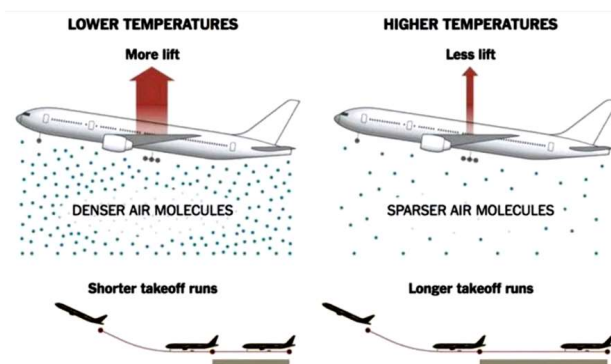
1. Higher temperatures expand the air, making it less dense or thinner. This means there are fewer air molecules underneath the aircraft's wings to create enough lift to push the plane into the sky. Aircraft usually get 1% less lift with every 3°C rise in temperature, according to Paul Williams, a professor of atmospheric science at the University of Reading (UK).
2. Thin air also affects the performance of an aircraft's engine. The combustion that creates an engine's power is severely impacted because there are fewer

oxygen molecules to mix with the fuel. The thrust — the force that moves an aircraft through the air — produced by the engines is also reduced due to thin air.

3. As a result, higher temperatures mean that planes require longer runways and more powerful engines to take off. For example, if an aircraft needs 6,500 feet of runway at 20°C, it will need 8,200 feet at 40°C. In extreme situations, takeoff can become impossible.

4. Thinner air also makes landings more challenging. Pilots use reverse thrust (thrust in the opposite direction to the movement of the aircraft) to slow down the aircraft while landing. In thin air, the reverse thrust generated might not be enough to perform the task.

5. These issues are particularly felt in airports located at higher altitudes (like the one in Leh), where the air is already thin and runways are often shorter.

What is the Role of Global Warming?

1. The extreme heat affecting takeoffs and landings of aircraft is a consequence of global warming. The global average temperature has increased by at least 1.1°C since 1880. In India, annual mean temperatures have risen by about 0.7°C compared to 1900 levels.

2. Studies have found that rising temperatures have already started to disrupt air travel. A 2020 paper, "The impacts of climate change on Greek airports," analyzed the performance of Airbus A320 at 10 Greek airports between 1988 and 2017. The study revealed that with a warming of 0.75°C per decade since the 1970s, the maximum take-off weight for Airbus A320 was reduced by 127 kg each year, roughly equivalent to the weight of one passenger and their suitcase.

3. This situation is expected to get worse. A 2023 study, "Decreased Aircraft Take-off Performance under Global Warming," published by Multidisciplinary Digital Publishing Institute (MDPI), found that with rising temperatures, the take-off distance for a Boeing 737–800 aircraft will "increase by 6% on average during 2071-2080 compared to 1991-2000 for the low-altitude airports, calling for an additional 113-222 m take-off distance in future summers."

4. Aircraft manufacturers are always working towards making their planes lighter and more efficient. But much of that progress has likely been already made.

Short-Term Solutions: In the short term, airports will need to schedule flights in cooler times, increase the runway lengths, and decrease the take-off weight to deal with climate change-induced disruptions.

Long-Term Solutions: However, in the long run, the best bet would be to radically curb the burning of fossil fuels that contribute to global warming.

Impact of High and Low Temperatures on Flight Operations:

Temperature plays a crucial role in aviation, significantly affecting aircraft performance and safety. Let's delve into how both high and low temperatures impact flight operations:

Temperature	Impact on Lift	Impact on Engine Efficiency	Impact on Takeoff Distance	Explanation
High	Reduced (less dense air)	Decreased (less oxygen)	Increased (needs more lift)	Hot air provides less lift, requiring higher speeds and longer runways for takeoff. Engine power is also reduced due to less oxygen in hot air.
Low	Increased (denser air)	Improved (more oxygen)	Decreased (more lift available)	Cold air provides more lift, allowing for shorter takeoff distances. Colder air also contains more oxygen, improving engine efficiency.

Additional Factors:

1. **Altitude:** Airports located at higher altitudes already have lower air density, making them more susceptible to the effects of high temperatures.

2. **Aircraft Type:** Different aircraft models have varying sensitivities to temperature changes.

To mitigate the impact of temperature on flight operations, airlines and airports employ various strategies, including:

1. Using performance charts to calculate takeoff and landing distances based on temperature and other factors.

2. Adjusting takeoff weight limits according to temperature conditions.

3. Implementing advanced weather forecasting systems to anticipate temperature changes.

4. Developing efficient de-icing procedures for cold weather operations.

Conclusion :

The flight cancellations in Leh highlight the challenges posed by high temperatures and low air density, which are exacerbated by global warming. Addressing these issues requires both short-term adaptations and long-term efforts to reduce the impact of climate change.

DARK OXYGEN

Dark oxygen is a term used to describe molecular oxygen (O_2) produced in the depths of oceans, where sunlight cannot penetrate.

This is in contrast to the oxygen produced at the ocean's surface through photosynthesis. (in presence of light)

HOW IS IT PRODUCED?

Scientists believe that polymetallic nodules, which are lumps of iron, manganese hydroxides, and rock found on the ocean floor, might be responsible for producing dark oxygen.

HOW CAN POLYMETALLIC NODULES PRODUCE OXYGEN?

These nodules seem to have the ability to transport electric charges that split water molecules,(H_2O) releasing oxygen in a process similar to electrolysis.

SIGNIFICANCE OF THE DISCOVERY

The discovery of dark oxygen is a groundbreaking finding as:

- It challenges our previous understanding of oxygen production on Earth.
- It opens up new avenues for research into the oxygen cycle.
- The potential for life in extreme environments, and
- The possibility of finding oxygen on other planets.

Heaviest Antimatter Particle Discovered Could Reveal Universe's Origins
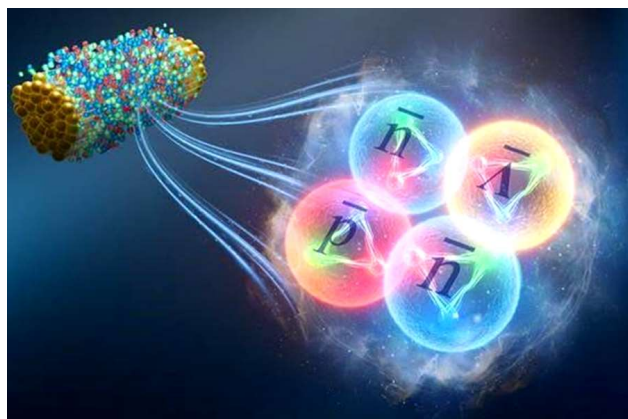
Overview :

Scientists have identified the heaviest antimatter particle ever observed, known as antihyperhydrogen-4. This discovery, made at the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory,

could shed light on the fundamental imbalance between matter and antimatter in the universe, potentially explaining why our universe is primarily composed of matter.

Discovery Details

- **Antimatter Particle**: Antihyperhydrogen-4 is made up of an antiproton, two antineutrons, and one antihyperon (a baryon containing a strange quark). It was found among particle tracks from 6 billion collisions at RHIC.
- **Research Findings**: Approximately 16 antihyperhydrogen-4 nuclei were identified. The study indicated that both hyperhydrogen-4 and antihyperhydrogen-4 decay rapidly, with no significant difference in their lifetimes, supporting existing particle physics models.
- **Publication**: The findings were published on August 21 in the journal Nature.

Scientific Significance

- **Matter vs. Antimatter**: The universe is thought to have started with equal amounts of matter and antimatter. However, matter prevailed, leading to the universe we see today. Studying **antihyperhydrogen-4** might reveal discrepancies between matter and antimatter.
- **Big Bang Theory**: Post-Big Bang, the universe was a **plasma** of matter and antimatter particles. Theoretically, these particles should have annihilated each other completely. An unknown **imbalance** must have allowed a slight excess of matter to survive.
- **Experimental Method**: RHIC simulates early universe conditions by accelerating heavy ions to near-light speeds, creating a plasma where primordial elements briefly emerge before decaying. Researchers analyzed **particle tracks** from billions of collisions to identify new particles.
- **Future Research**: Scientists plan to compare the masses of **antiparticles** and their **matter counterparts** to gain insights into the origins of the **matter-dominated universe**.

What is Antimatter?

- **Definition**: Antimatter consists of particles with the same mass as matter particles but **opposite electric charges**, often described as **"mirror matter."**
- **Examples**:
  - **Positron**: The antimatter counterpart of the electron, with a positive charge.
  - **Antiproton** and **Antineutron**: The antimatter equivalents of protons and neutrons, respectively.

- **Formation and Properties**:
  - o **Creation**: Matter and antimatter were created in equal amounts during the **Big Bang**. A slight imbalance allowed more matter to persist.
  - o **Annihilation**: Matter and antimatter annihilate each other upon contact, releasing energy as **gamma rays** or **elementary particles**.
  - o **Human-Made Antimatter**: Produced in high-energy environments like particle accelerators (e.g., **Large Hadron Collider** at **CERN**).
  - o **Natural Antimatter**: Produced sporadically throughout the universe.

Conclusion :

The discovery of antihyperhydrogen-4 is a major milestone in understanding the universe's origins. By investigating this heaviest antimatter particle, scientists aim to uncover fundamental differences between matter and antimatter, which could offer crucial insights into why the universe is predominantly matter-based. This research challenges and refines existing theories and expands our understanding of the universe's early conditions and evolution.

India's First Quantum Computer Set for Launch Under National Quantum Mission

Overview:

India's National Quantum Mission (NQM), set to launch after nearly four years of delays, aims to advance the country's capabilities in quantum technologies. Key initiatives include launching India's first quantum computer with 6 qubits, establishing grant funding for start-ups, and forming four Section 8 companies to focus on computing, communication, measurement, and sensing.

Key Developments:

- **Quantum Computer Launch:**
  - o **Objective:** India will soon introduce its first quantum computer, targeting a **6-qubit** system. The goal is to scale this up significantly, with plans to develop systems with **20-50 qubits** within three years, **50-100 qubits** in five years, and up to **1000 qubits** in ten years.
  - o **Significance:** Quantum computers leverage **quantum mechanics** to perform complex computations far beyond current supercomputers, potentially revolutionizing **data processing** and **security**.
- **Grant Funding for Start-ups:**
  - o **Funding Details:** The mission plans to allocate **Rs. 10-25 crore** grants to start-ups, a significant increase from the typical **Rs. 10-50 lakh** grants, aiming to support deep tech ventures with substantial capital needs.
  - o **Objective:** This funding will aid in developing cutting-edge quantum technologies and support **private sector innovation**.
- **Formation of Section 8 Companies:**
  - o **Structure:** Four **Section 8 companies** will be established, focusing on quantum **computing**, quantum **communication**, quantum **measurement**, and quantum **sensing**. These companies will operate under the guidance of premier institutes such as **IITs** and **IISc**.
  - o **Purpose:** The companies will advance research and development in their respective quantum technology verticals.
- **Research and Proposals:**
  - o **Current Status:** The mission has received about **385 proposals** from scientists and start-ups. Project selection and funding are set to begin next month.
  - o **Past Issues:** Previous funding was underutilized, but recent efforts show increased momentum.

Goals of the National Quantum Mission:

- **Quantum Computing Development:**
  - o **Timeline and Targets:** Develop intermediate-scale quantum computers with 50-1000 qubits. This progress is crucial to competing globally and ensuring national security against potential cyber threats.

- **Quantum Communication:**
  o **Objectives:** Establish **satellite-based secure quantum communication** networks spanning up to **2000 km** within India and to other countries.
- **Quantum Materials and Sensing:**
  o **Materials Development:** Support the creation of advanced **quantum materials** like **superconductors** and **topological materials**.
  o **Sensing Technology:** Enhance precision in measuring atomic-level changes using **quantum sensors** for applications in various sectors.
- **Thematic Hubs (T-Hubs):**
  o **Establishment:** Four **T-Hubs** will be set up in leading research institutions to drive quantum technology research and development.
  o **Function:** These hubs will focus on advancing knowledge and application in quantum technologies.

Background and Context:
- **Previous Efforts:** The **Department of Science and Technology (DST)** had earlier invested in quantum computing through its **QuEST program**. Current efforts build upon these foundations with increased funding and renewed focus.
- **Global Competition:** Countries like **China** and the **US** are heavily investing in quantum computing, and India's advancements are crucial for maintaining competitive and security advantages.

Quantum Technologies Explained:
- **Quantum Computing:** Utilizes **qubits**, which can represent both **0** and **1** simultaneously due to **quantum superposition**. This allows for much more complex calculations compared to classical bits.
- **Quantum Sensing:** Employs quantum properties to achieve **high-precision measurements** of physical phenomena, enhancing accuracy in detecting changes in motion, and electromagnetic fields.

Conclusion:

The National Quantum Mission represents a significant leap in India's technology landscape, aiming to position the country as a leader in quantum innovations. With substantial funding, strategic partnerships, and a clear roadmap, India is set to make notable advancements in quantum technologies.

Kerala Faces New Health Challenge: Deadly Leptospirosis Outbreak

Why in News?

While Kerala has recently seen a drop in Nipah virus cases in Malappuram district, a serious Leptospirosis outbreak has emerged as a new major health issue. Although no new Nipah cases have been reported, the rise in Leptospirosis, worsened by flooding, requires urgent action.

Key Details of the Outbreak:

What is Leptospirosis?
- **Cause:** A bacterial infection from the urine of animals, mainly rats.
- **How it Spreads:** Through contact with **water** or **soil** contaminated with infected animal urine, especially in **flood areas**.
- **Symptoms:** Fever, muscle pain, headaches, and in severe cases, problems like rapid breathing, low blood pressure, and jaundice.

Current Situation:
- **Death Toll:** 121 confirmed deaths, with 102 more **suspected cases**. August alone saw 24 deaths.
- **Treatment:** 1,170 people are currently being **treated** in hospitals.
- **Previous Data:** 93 deaths in 2022 and 103 in 2023.

What's Causing the Increase?
- **Heavy Rain:** Excessive rainfall and waterlogging have helped the disease spread.
- Rat Population: Increased rat numbers due to poor waste management have made the situation worse.

Expert Advice:

Preventive Measures:
- **Protective Gear:** Wearing appropriate clothing and gear can help avoid infection.
- **Hygiene:** Keeping **clean** is important to reduce the risk.
- **Public Awareness:** More efforts are needed to inform people about how to prevent the disease, especially in flood-affected areas.

Medication:
- **Availability:** Doxycycline is available at health centers.
- **Advice:** Seeking **medical help early** can lead to easy **diagnosis** and **treatment**.

Public Health Tips:
- **Safe Practices:**
  o **Avoid Contaminated Water:** Boil or treat floodwater before drinking.

o **Cover Wounds:** Protect any **cuts** or **scratches** when walking through potentially contaminated water.

o **Consult Doctors:** Talk to **healthcare providers** about preventive measures and possible medication.

o **Global Advice: WHO** recommends avoiding contact with **dead animals** that might carry the bacteria.

Broader Health Context:

• **Other Diseases:**

o **Hepatitis A:** 4,306 confirmed cases and 41 deaths reported as of August 21, 2024, with major outbreaks in **Malappuram**, **Kozhikode**, and **Ernakulam**.

o **Dengue Fever:** 13,948 confirmed cases and 54 deaths. Although heavy **rainfall** has reduced the outbreak somewhat, it's still a concern.

Criticisms:

• **Water Quality:** There is criticism of **Kerala Water Authority** and local governments for not managing **water quality** well.

• **Pre-Monsoon Efforts:** Lack of proper **cleaning** and **prevention measures** has helped the spread of **water-borne diseases**.

Conclusion:

The Leptospirosis outbreak, worsened by flooding and poor waste management, is a serious problem for Kerala. With increasing cases and deaths, there's an urgent need for better public health strategies, improved prevention efforts, and better water management to tackle this and other related diseases.

MPOX OUTBREAK

The World Health Organisation, sounding its highest level of alarm, declared mpox as a Public Health Emergency of International Concern on Wednesday.

IS IT THE FIRST TIME THIS DECLARATION IS ISSUED FOR MPOX?

This is the second time the infection has received the designation in as many years — the outbreak between July 2022 and May 2023 was also declared as PHEIC.

WHY WAS THIS DECISION TAKEN?

The decision to sound the alarm was taken after an upsurge of cases reported from the Democratic Republic of Congo (DRC) and neighbouring countries. At least 99,176 cases and 208 deaths due to mpox have been reported from 116 countries since 2022, according to data from the WHO.

ABOUT M POX

WHAT IS MONKEYPOX?

It is a viral disease.

HOW IT IS TRANSMITTED TO HUMANS?

An infected animal transmits the virus to humans through a bite or direct contact.

HOW IS IT TRANSMITTED FROM HUMANS TO HUMANS?

Transmission happens only through close contact and by touching or sharing the clothes or bedding used by the patient, because the lesions usually have a high viral load. Transmission also extends throughout the course of the illness, till the lesions heal.

WHAT ARE THE SYMPTOMS OF MONKEYPOX AND HOW LONG DO THEY LAST?

Symptoms include:

• Fever

• Rashes on the skin (appear on the face, inside palms and the body one to four days after fever.)

• Headache,

• Joint Ache

• Swelling of the lymph glands.

The incubation period for the disease — the time from exposure to the virus to the manifestation of symptoms — ranges from five to 21 days.

A NEW MPOX

An analysis of patients hospitalised between October and January in Kamituga, eastern Congo, suggests recent genetic mutations in Mpox are the result of its continued transmission in humans.

The lesions reported by most patients are milder and on the genitals, making the disease trickier to diagnose.

In previous outbreaks in Africa, lesions were mostly seen on the chest, hands and feet. The new form seems to have a lower death rate.

CLADES OF MPOX

There are two kinds, or clades, of Mpox, which is related to smallpox and is endemic to Central and West Africa.

Clade 1 is more severe, and can kill up to **10% of people infected**.

Clade 2 triggered the 2022 outbreak; more than 99% of people infected survived.

Dr. Mbala-Kingebeni and colleagues said they have identified **a new form of Clade 1** that may be responsible for **more than 240 cases** and at least three deaths in Kamituga, a region with a significant transient population travelling elsewhere in Africa and beyond.

Olympics Special : Genetics at Play

Introduction

With the 2024 Paris Olympics underway since July 26, Sharath Kamal, a 41-year-old table tennis player, is using genetic screening to enhance his performance.

a. After winning **seven gold medals** at the Commonwealth Games, Kamal sought to optimize his preparations.

b. The genetic tests revealed his **food allergies** and specific **vitamins and minerals** his body required, aiming to eliminate any factors that could impact his performance due to age.

Genetic Testing in Sports:

Emergence and Use:

1. Genetic testing, initially focused on disease detection, began to influence sports performance in the late 1990s.

2. The **Board of Control for Cricket in India (BCCI)** adopted genetic tests in 2017 to improve players' **speed**, **fat-burning**, **endurance**, **recovery time**, and **muscle-building**.

3. According to **Ramji Srinivasan**, former strength and conditioning coach of the national cricket team, these tests have been available in India since around 2011.

What are Genetic Tests ?

1. Genetic tests analyze **deoxyribonucleic acid (DNA)**, a molecule storing genetic instructions. DNA comprises four chemicals—**Adenine**, **Guanine**, **Cytosine**, and **Thymine**—arranged in specific sequences.

2. These sequences are crucial for creating **amino acids**, the building blocks of **proteins**, which dictate how individuals absorb, metabolize, and expel nutrients.

Genetic Insights and Athletic Performance

Genetic Advantages

Some athletes have gained a performance edge due to genetic advantages:

1. Eero Antero Mäntyranta, a Finnish skier, had a higher red blood count due to a rare mutation enhancing his oxygen-carrying capacity by 25-50%.

2. Research indicates that 66% of differences in athletic performance can be attributed to genetic factors, with the remainder shaped by environmental influences like training and nutrition.

Key Genes Linked to Performance

1. **Angiotensin-Converting Enzyme (ACE) Gene**: The ACE-I variant is associated with endurance performance, while the ACE-D variant is linked to strength gains.

2. **Alpha-Actinin 3 (ACTN3)**: Produces a protein in fast-twitch muscle fibers. The 577X variant impairs production, affecting short, powerful movements. Sprint athletes often have a lower frequency of this variant compared to endurance athletes.

Genetic Testing and Nutrition

Genetic testing can optimize diet and nutrition:

1. Kamal discovered his lactose intolerance, allowing for dietary adjustments.

2. Specific genetic variants can affect iron levels, vitamin D, and body composition, influencing performance and injury risk.

3. Australia, the US, and the UK use genetic testing for injury risk and training adaptation.

4. Uzbekistan and China have used genetic tests to identify future champions and athletes for major events.

Ethical Implications of Genetic Testing in Sports

1. **Unfair Advantage**

Genetic testing could give some athletes a significant edge, creating an uneven playing field. This risks undermining fairness and meritocracy in sports. The long-term health effects of genetic manipulation are also unknown, which could potentially harm athletes.

2. **Privacy and Data Security**

Genetic data is very personal and needs strong protection. Athletes' data must be secure from

unauthorized access and misuse. Clear rules on data use and security are needed to prevent issues like discrimination and identity theft.

3. **Accessibility and Equity**

Genetic testing can be expensive, making it hard for athletes from poorer backgrounds to access. This could widen existing inequalities in sports. Making testing more affordable and accessible is crucial for fairness.

Criticisms and Challenges

1. Studies show mixed results on the effectiveness of genetic tests. For example, research found no significant differences in ACE and ACTN3 genes between athletes and non-athletes.

2. Critics argue that genetic tests should not be used for talent identification due to their limited predictive power and potential misuse for commercial purposes.

Advancements in Sports Technology:
Integration with Technology

1. Alongside genetic testing, biometrics, analytics, and artificial intelligence (AI) are being integrated into sports.

2. Wearable devices now monitor heart rate and sleep patterns, crucial for optimizing training and recovery.

AI and Talent Identification

1. India's Khelo India Rising Talent Identification programme uses AI to analyze data like strength, endurance, and flexibility to identify and nurture young athletes.

2. The programme aims to conduct 2 million assessments annually, helping guide athletes toward suitable sports disciplines based on their strengths.

Conclusion :

Genetics plays a significant role in athletic performance but is just one of many factors. While genetic testing can provide valuable insights and optimize training and nutrition, it should be used alongside other performance-enhancing strategies and not as the sole determinant of an athlete's potential. A balanced approach integrating genetics with practical training methods and ethical considerations will be crucial for advancing sports science and athlete development.

SUPER BLUE MOON

For the second year in a row, Raksha Bandhan or Rakhi which is celebrated on the full moon day (that is on Purnima in the month of Shravan), is marked by the sighting of a 'super blue moon' on Monday (August 19).

This is an unusual astronomical feat — the full moon being both a **"blue moon"** and a **"super moon,"** giving rise to the **"Super Blue Moon,"** a rare trifecta of astronomical events.

WHAT IS A SUPERMOON?

A supermoon is a full moon that occurs when the Moon is closest to Earth in its orbit.

This point in the Moon's orbit is called perigee. When a full moon coincides with perigee, it appears slightly larger and brighter than usual.

Why does it look bigger?

The Moon's orbit is not a perfect circle but an ellipse, meaning there are points where it's closer and farther from Earth.

When a full moon happens at the closest point (perigee), it appears larger in the sky.

WHAT IS A BLUE MOON?

Though the expression "once in a blue moon" implies a rare or unusual occurrence, a blue moon is not that rare an astronomical phenomenon. There are a couple of definitions of a blue moon.

(1) One that is most commonly understood — and is endorsed by NASA — describes the **situation when a full moon is seen twice in a single month.**

Because the new moon to new moon cycle lasts 29.5 days, a time comes when the full moon occurs at the beginning of a month, and there are days left still for another full cycle to be completed. Such a month, in which the full moon is seen on the 1st or 2nd, will have a second full moon on the 30th or 31st.

According to NASA, this happens every two or three years.

(2) Another widely accepted explanation relies on the astronomical season, defined as a period between a solstice and an equinox. The current astronomical summer began with the summer solstice on June 21, and will end with the autumn equinox on September 22.

The Maine Farmers' Almanac in 1937 defined a blue Moon as the third full Moon in a quarterly season of four full Moons.

IS THE SUPER BLUE MOON ACTUALLY BLUE?

No. Sometimes, smoke or dust in the air can scatter red wavelengths of light, as a result of which the moon may, in certain places, appear more blue than usual. But this has nothing to do with the name "blue" moon.

IS THE SUPER BLUE MOON BIGGER IN SIZE?

According to NASA, a full moon at perigee (super moon) is **about 14% bigger and 30% brighter** than a full moon at apogee (called a "micro moon").

Further, **about 25 percent of all full moons are super moons**, but **only 3 percent of full moons are blue moons.** The time between super blue moons is quite irregular — it can be as much as 20 years — but in general, 10 years is the average.

IS THE SIZE NOTICEABLE?

It is **unlikely the difference in size will be noticeable to most people.** The moon could appear somewhat brighter, though — but whether you are able to make out the difference will depend on factors such as the so-called 'Moon illusion', and how cloudy or polluted it is at your location.

WATERSPOUTS

At least one man died and six people are missing after a luxury yacht sank was hit by a violent storm off the coast of Sicily, Italy, on Monday (August 19).

Experts suggest the storm could have been a waterspout — essentially a tornado over water.

WHAT IS A WATERSPOUT?

A water sprout is a rotating column of air or mist that forms over a body of water. It's essentially a tornado that occurs over water.

There are **two main types**:

- **Fair weather waterspouts:** These are usually weaker and form in calm weather conditions.
- **Tornadic waterspouts:** These are more powerful and are actually tornadoes that form over water.

MORE ABOUT WATERSPOUTS

It is a weaker cousin of tornadoes and typically lasts for around five minutes — occasionally it can last up to 10 minutes. The average waterspout can be around 165 feet in diameter, with wind speeds of 100 kilometres per hour.

WHERE ARE THEY FORMED?

Although waterspouts are more common in tropical waters, they can appear anywhere. They occur when there are high levels of humidity and relatively warm water temperatures compared to the overlying air.

What Are Combination Drugs and Why Have 156 of Them Been Banned?

Why in News?

The Indian government has banned 156 fixed-dose combination (FDC) drugs, including popular medicines such as Cheston Cold and Foracet, which are used for treating cold, fever, and pain. This action represents the most extensive crackdown on FDCs since 2018, when 328 such drugs were banned. A total of 499 FDCs have been banned since 2014, according to officials. The recent notification by the central government cites these FDCs as "irrational" and lacking therapeutic benefit.

What Are Fixed-Dose Combinations (FDCs)?

FDCs are pharmaceutical preparations that combine two or more active ingredients into a single dosage form, such as a pill, capsule, or injection. They are designed to simplify treatment regimens for conditions requiring multiple medications. For instance, FDCs are used in treating chronic diseases like tuberculosis and diabetes, where patients need to manage multiple medications daily. The benefits of FDCs include:

- **Reduced Pill Burden**: Patients take fewer pills, which can improve adherence to treatment.
- **Convenience**: Simplifies complex treatment regimens.

However, there are drawbacks:

- **Unnecessary Medication**: Sometimes, an FDC includes components that a patient might not need, leading to potential misuse or overmedication. For example, Cheston Cold contains **paracetamol** (for fever), **cetirizine** (for allergies), and **phenylephrine** (for nasal congestion), which may not be necessary for all patients, especially those with **bacterial infections**.

Which FDCs Have Been Banned?

The banned drugs include:

- **Gastrointestinal Treatments**: Several enzyme combinations used for treating gastrointestinal issues.
- **Anti-Allergic Medicines**: Combinations of levocetirizine with nasal decongestants, mucus

breakdown syrups, and paracetamol.

- **Skin Condition Treatments**: Combinations such as menthol with aloe vera, aloe vera with vitamin E in medicated soaps, silver sulfadiazine with antiseptic agents, and calamine lotion with aloe and natural substances.
- **Pain and Migraine Medications**: Combinations of migraine medications with anti-nausea drugs and mefenamic acid (for menstrual cramps) with tranexamic acid (anti-fibrotic).
- **Erectile Dysfunction Drugs**: Combinations of sildenafil (active ingredient in Viagra) with other vasodilators.

Are These Drugs Still Available?

Manufacturers have been directed to cease production, stocking, and sale of these banned FDCs. However, they may remain available in the market temporarily. Companies often seek judicial relief, which can delay the complete removal of these drugs.

What Are the Potential Risks of Consuming Banned FDCs?

For patients who have been consuming these drugs, the immediate health risks are minimal, as many of these FDCs have been on the market for years. However, the long-term use of such drugs may contribute to issues like **antibiotic resistance** or unnecessary medication.

Why Were These FDCs Banned?

The ban is aimed at addressing several critical issues:

- **Irrational Combinations**: Many FDCs contain drug combinations that are ineffective or not necessary for the treatment of certain conditions. This can lead to suboptimal treatment and potential health risks.
- **Antibiotic Resistance**: The irrational use of antibiotics in FDCs contributes to antibiotic resistance, making it harder to treat infections with standard drugs. Despite previous bans, FDCs have continued to constitute a significant proportion of **antibiotic sales** in India.
- **Pricing Evasion**: Some companies use FDCs to circumvent **pricing controls** on essential medicines, thus inflating costs.

Government Actions and Regulation

The ban aligns with the government's broader efforts to eliminate irrational drug combinations and enforce stricter regulations. The new drugs and clinical trial rules of 2019 require that FDCs be treated as new drugs, necessitating approval from the central drug regulator. This regulatory framework has helped reduce the number of irrational combinations in the market.

A parliamentary panel in 2012 highlighted the problem of irrational drug combinations. A 2014 committee reviewed 3,450 FDCs approved post-1988 and found 963 to be irrational. The committee recommended an immediate ban on these drugs and further scrutiny for others. To date, 499 FDCs have been banned.

Conclusion :

The recent ban on 156 FDCs underscores a significant move by the Indian government to address the challenges posed by irrational drug combinations. While these bans aim to protect public health and improve drug efficacy, they also reflect ongoing challenges in drug regulation and the need for continuous oversight to ensure that medications are both safe and effective.

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Ecology & Environment

3 NEW WETLAND SITES ADDED TO RAMSAR LIST

On the eve of Independence Day 2024, Union Environment Minister announced that India has added three new wetlands to the list of Ramsar sites. With this addition, India now has 85 Ramsar sites covering a total area of 1,358,068 hectares.

New Ramsar Sites:

- Nanjarayan Bird Sanctuary (Tamil Nadu)
- Kazhuveli Bird Sanctuary (Tamil Nadu)
- Tawa Reservoir (Madhya Pradesh)

India Bolsters Ramsar Sites tally to 85

RAMSAR CONVENTION:

The Ramsar Convention, signed in 1971 in Ramsar, Iran, is the only global treaty that focuses specifically on wetlands.

It is an intergovernmental treaty for the conservation and wise use of wetlands.

Objective: To halt the worldwide loss of wetlands and to conserve, through wise use and management, those that remain.

Members: 170 countries

Once designated, these sites are added to the Convention's List of Wetlands of International Importance and become known as Ramsar sites.

In designating a wetland as a Ramsar site, countries agree to establish and oversee a management framework aimed at conserving the wetland and ensuring its wise use.

RAMSAR CONVENTION & INDIA

Ramsar Convention: India joined the Ramsar Convention on February 1, 1982.

From 1982 to 2013, 26 sites were added, while 59 sites were added from 2014 to 2024.

Current Rankings: Tamil Nadu now has the most Ramsar sites in India (18), followed by Uttar Pradesh with 10.

Expansion of Agricultural Infrastructure Fund (AIF) Scheme

Why in News?

The Indian government has expanded the scope of the Rs 1 lakh crore Agricultural Infrastructure Fund (AIF) scheme to enhance agricultural infrastructure and support the farming community. The Union Cabinet, chaired by Prime Minister Narendra Modi, approved these changes to make the scheme more attractive, impactful, and inclusive.

Key Updates on the Expansion:

Objective:

- Strengthen and expand agricultural infrastructure across India.
- Facilitate the development of viable projects for community farming assets, enhancing productivity and sustainability.

Approved Changes:

- **Scope Expansion:** Includes a broader range of eligible projects for **community farming assets**.
- **Integrated Processing Projects:** Primary and secondary processing projects are now eligible, while standalone secondary projects will be covered under **food processing ministry schemes**.
- **Convergence with PM-KUSUM:** Integration with **Component-A** of the **PM-KUSUM** scheme to support **clean energy solutions** alongside agricultural infrastructure development.
- **Extended Credit Guarantee:** Additional credit guarantee options for **Farmer Producer Organizations (FPOs)** through **NABSanrakshan Trustee Company Pvt Ltd**, in addition to **CGTMSE**.

Achievements Since Launch (2020):

Infrastructure Created:

- 6,623 **warehouses**
- 688 **cold storage facilities**
- 21 **silo projects**

Storage Capacity Added: 500 lakh tonnes (465 lakh tonnes of **dry storage** and 35 lakh tonnes of **cold storage**).

Annual Preservation: 18.6 lakh tonnes of **food grains** and 3.44 lakh tonnes of **horticulture produce**.

Financial Impact:

- **Sanctioned Projects:** Rs 47,575 crore for 74,508 projects.
- **Total Investment:** Rs 78,596 crore, with Rs 78,433 crore from **private entities**.
- **Employment Generation:** More than 8.19 lakh **rural jobs** created.

Future Outlook:

- Expected to drive **growth**, improve **productivity**, and enhance **farm incomes**.
- Contributes to the overall **sustainability** of agriculture.

About the Agricultural Infrastructure Fund (AIF) Scheme:

Overview:

- **Launch Year:** 2020
- **Objective:** Provide medium- to long-term debt financing for post-harvest management infrastructure and community farming assets through interest subvention and financial support.
- **Duration:** FY2020 to FY2032 (10 years).

Eligibility:

- **Beneficiaries:** Primary Agricultural Credit Societies (PACS), Marketing Cooperative Societies, Farmer Producers Organizations (FPOs), Farmers, Self Help Groups (SHGs), Joint Liability Groups (JLGs), Multipurpose Cooperative Societies, Agri-entrepreneurs, Startups, Central/State agencies or Local Body sponsored Public-Private Partnership Projects.
- **Exclusions:** Public Sector Undertakings (PSUs) are not directly eligible but projects under PPP are eligible.

Features:

- **Interest Subvention:** 3% per annum for loans up to ?2 crore, available for up to 7 years.
- **Project Limits:** Private sector entities can apply for up to 25 projects with a loan limit of ?2 crore per project. No such limit for state agencies, cooperatives, federations, and SHGs.
- **Borrower Contribution:** Mandatory 10% contribution towards the total project cost.
- **Repayment Moratorium:** Minimum 6 months to maximum 2 years.
- **SC/ST and Women Entrepreneurs:** 24% of grants should support SC/ST entrepreneurs (16% SC, 8% ST). Special focus on women and weaker segments.
- **Credit Guarantee Coverage:** Available under CGTMSE for loans up to ?2 crore, with fees covered by the government. FPOs may use FPO promotion scheme guarantees.

Central Sector Scheme:

Definition: Central Sector Schemes are implemented by central agencies and 100% funded by the central government on subjects within the Union List.

Conclusion:

The expansion of the AIF scheme is a strategic move to bolster agricultural infrastructure in India. By broadening the scope of eligible projects, integrating with other schemes, and enhancing credit guarantees, the government aims to drive growth, improve productivity, and support sustainable agricultural practices. This initiative will further enhance the sector's resilience, create more employment opportunities, and contribute to the overall development of the agricultural ecosystem.

Four-Ringed Butterfly Resurfaces in India

Overview:

- **Event:** A four-ringed butterfly, the great four-ring (Ypthima cantliei), has been rediscovered in India after 61 years.
- **Source:** A study published by the Bombay Natural History Society (BNHS).
- **Butterfly Diversity in Arunachal Pradesh:** Over 600 of the 1,327 species of butterflies recorded in India.

Key Details:

- **Discovery Location:** Namdapha National Park, Arunachal Pradesh.
- **Discoverers:** Roshan Upadhaya (Arunachal Pradesh Police), Monsoon Jyoti Gogoi (BNHS), Renu Gogoi, and Rezina Ahmed (Cotton University's Department of Zoology).
- **Year of Discovery:** 2018-2019.
- **Previous Record:** Last reported in 1957 from Margherita, Assam.

About the Great Four-Ring Butterfly:

- **Scientific Name:** Ypthima cantliei.
- **Family:** Nymphalidae.
- **Characteristics:** Dull **brown-grey wings** with three **yellow-ringed single eye spots** (**ocelli**) on its hind wing and a large **bi-pupilled apical ocellus** obscurely ringed with yellow on the forewing above.
- **Size:** Larger compared to other species of the genus **Ypthima**.
- **Distribution:** Highest diversity in **China**, particularly in **Yunnan** and **Sichuan** provinces. Also found in **Nepal**, **Bhutan**, **Myanmar**, and northeastern India.
- **Indian Species: 35 Ypthima species** recorded in India, with **23** in the northeast.

About Namdapha National Park:

- **Location:** Arunachal Pradesh, bordering **Myanmar**.
- **Area: 1,985 sq. km**.
- **Elevation:** Ranges from **298.7 meters** to **4,498.8 meters** above mean sea level.
- It is located between the Dapha bum range of the Mishmi Hills and the Patkai range. The region is a part of both the Palearctic and Indo-Malayan biogeographic areas.
- Namdapha is the name of a river which originates from Daphabum and meets the Noa-Dehing river.
- **Fauna:** Home to four feline species of big cats: Tiger, Leopard, Snow Leopard, and Clouded Leopard.
- **Flora:** Includes evergreen forests, moist deciduous forests, sub-tropical forests, temperate forests, and alpine forests.

Significance:

The rediscovery of the great four-ring butterfly highlights the importance of biodiversity surveys and conservation efforts in regions like Namdapha National Park. It underscores the rich biodiversity of Arunachal Pradesh and the need for continued research and protection of such areas.

Government Approves BioE3 Policy and Vigyan Dhara Scheme

Overview

The Union Cabinet has approved two significant initiatives: the BioE3 (Biotechnology for Economy, Environment and Employment) policy and the Vigyan Dhara scheme. These initiatives are designed to enhance biomanufacturing, research, and development in India, reflecting the government's commitment to advancing the biotechnology sector and scientific research.

BioE3 Policy

- **Objective**: The BioE3 policy aims to boost high-performance biomanufacturing through innovation-driven research, development, and entrepreneurship. It plans to establish biomanufacturing hubs, bio-AI centers, and biofoundries to accelerate the development and commercialization of biotechnological innovations.
- **Key Goals**:
  o **Green Growth**: Emphasize regenerative bioeconomy models and a circular bioeconomy to promote sustainable development.
  o **Job Creation**: Expand India's skilled workforce and create new employment opportunities.
  o **Support National Priorities**: Address critical issues in agriculture, food security, climate change, and health through targeted thematic sectors.
- **Thematic Sectors**:
  o **High-Value Bio-Based Chemicals**: Focus on chemicals derived from biological sources.
  o **Biopolymers and Enzymes**: Develop natural polymers and enzymes for diverse applications.
  o **Smart Proteins and Functional Foods**: Advance innovative proteins and functional foods with health benefits.
  o **Precision Biotherapeutics**: Enhance targeted treatments using biotechnology.
  o Climate Resilient Agriculture: Promote agricultural practices resilient to climate challenges.
  o **Carbon Capture and Utilization**: Develop technologies for capturing and utilizing carbon.
  o **Marine and Space Research**: Explore biotechnological applications in marine and space environments.

Vigyan Dhara Scheme

- **Purpose**: The Vigyan Dhara scheme consolidates three existing schemes from the Department of Science and Technology (DST) into a unified central sector initiative. The goal is to streamline and enhance science and technology capabilities in India.

- **Budget**: The scheme has a proposed outlay of Rs 10,579 crore for the period 2021-22 to 2025-26.
- **Components**:
  - **Institutional and Human Capacity Building:** Strengthen science and technology institutions and develop human resources.
  - **Research and Development:** Support a wide range of R&D activities across various scientific domains.
  - **Innovation and Technology Development:** Facilitate the development and deployment of new technologies.

Biopolymers

- **Definition**: Biopolymers are **natural polymers** produced by living organisms. They consist of **monomeric units** bonded into larger structures.
- **Examples**:
  - **Cellulose**: Found in **plant cell walls**, crucial for **structural support**.
  - **Starch**: A **carbohydrate** used by plants for **energy storage**.
- **Functions**: Biopolymers are essential for various biological processes, including structural functions, energy storage, and metabolic activities.

Conclusion :

The approval of the BioE3 policy and Vigyan Dhara scheme marks a pivotal advancement in India's efforts to enhance its biotechnological capabilities and scientific research landscape. The BioE3 policy is set to integrate cutting-edge biotechnological processes to tackle critical societal issues and foster sustainable development. Meanwhile, Vigyan Dhara will support scientific research and technology development through substantial funding and streamlined efforts. Together, these initiatives will significantly enhance India's position in the global biotechnology landscape and address pressing environmental and economic challenges.

Gross Environment Product (GEP) Index : Uttarakhand's Pioneering Initiative

Uttarakhand has become the first Indian state—and globally—the first—to launch a Gross Environment Product (GEP) Index. This innovative metric evaluates not only the ecosystem services provided by the environment but also the contributions made back to it through human interventions.

Key Features

- **Creator**: Anil Prakash Joshi, founder of the Himalayan Environmental Studies and Conservation Organisation.
- **Components**: The GEP Index is based on four pillars: **air**, **soil**, **trees**, and **water**.
- **Formula**: GEP Index = (Air-GEP Index + Water-GEP Index + Soil-GEP Index + Forest-GEP Index)
- **Forest Assessment**: Considers not just tree counts but also tree types, survival rates, and deforestation impacts.

Significance

- **Holistic Measure**: Goes beyond traditional ecosystem services by factoring in human contributions to ecological development.
- **Ecological Growth**: Measures the net positive or negative impacts of development activities on environmental quality.

Criticisms and Challenges

- **Simplicity Concerns**: Critics argue the GEP may oversimplify complex ecological interactions.
- **Regulation and Impact**: Some experts suggest it might not fully account for negative environmental impacts, such as those from poorly managed development projects.

Support and Potential

- **Endorsement**: Supported by Uttarakhand's Chief Minister, Pushkar Singh Dhami.
- **Future Prospects**: While promising, the implementation and national adaptation of the GEP Index remain uncertain.

About the Gross Environment Product Index

- **Definition**: A novel metric to assess ecological development from human interventions, considering air, soil, tree, and water quality.
- **Significance**: Provides a comprehensive view of how development activities impact ecological growth and environmental well-being.

About Anthropology

- **Definition**: The study of human beings, encompassing biological evolution, societal structures, and cultural distinctions that differentiate humans from other species.

Conclusion :

The GEP Index represents a groundbreaking approach to environmental assessment, highlighting Uttarakhand's leadership in eco-conservation. Despite some criticisms, it offers a new perspective on quantifying ecological impacts and contributions.

Neelakurinji Becomes a 'Threatened Species,' Officially

Context:

Neelakurinji (Strobilanthes kunthiana), a purplish flowering shrub that blooms once in 12 years, has been added to the IUCN (International Union for Conservation of Nature) official Red List of threatened species. This is the first time this important species from the montane grasslands of southwest India has been evaluated against global standards.

Main Points:

IUCN Red List Assessment:

1. The latest assessment confirms that Neelakurinji is threatened and categorizes it as Vulnerable (Criteria A2c) by the IUCN.

2. The mass blooming of the flower attracts many tourists, as recently seen at Peerumade in Idukki, though not on a large scale.

Assessment Details:

1. The assessment was done by the Centre for Ecology Taxonomy Conservation and Climate Change (CEtC) of the Western Ghats Hornbill Foundation at the Research Department of Botany, MES Asmabi College, Kodungalloor.

2. The assessment was reviewed by Western Ghats Plant Specialist Group.

Delay in Assessment:

1. The species was considered threatened but was not evaluated against **IUCN global standards** until this assessment.

2. The main reasons for the delay were its distribution across the montane sky island landscapes in the Western Ghats, its nature of blooming once in 12 years, and the lack of ecological studies.

Species Characteristics:

1. **S**trobilanthes kunthiana is an endemic shrub that grows up to three meters tall and is found only in the high-altitude shola grassland ecosystems of five mountain landscapes in southwest India at an elevation of 1,340–2,600 meters.

2. Known for their massive blooming, they give a purplish blue color to the mountain grasslands and are popularly known as Neelakurinji (Blue Strobilanthes) blooms.

3. They are semelparous, meaning they bloom and fruit every 12 years at the end of their life cycle, which has been reported since 1832.

Main Threats:

1. Neelakurinji is threatened mainly due to its fragile habitat in the montane high altitude grasslands, which are under pressure from conversion for tea and softwood plantations, and urbanization.

2. Almost 40% of the habitat has been lost, and the remaining is under pressure from the invasion of exotic species such as eucalyptus and black wattle.

3. Infrastructure development, afforestation programs, and climate change also pose threats to the species. Hence, the species has been assessed as Vulnerable A2c.

Spread of the Species:

1. The actual area of occupancy of Neelakurinji is 220 sq km and the extent of occurrence is 25,510 sq km.

2. The species has 34 subpopulations within 14 ecoregions of the high-altitude mountain ranges of southwest India.

3. There are 33 subpopulations in the Western Ghats and one in the Eastern Ghats (Yercaud, Shevaroy Hills).

4. Most subpopulations are in the Nilgiris of Tamil Nadu, followed by Munnar, Palani-Kodaikanal, and Anamalai mountains.

Analysis/Impact:

1. **Ecological Importance:** The inclusion of Neelakurinji on the IUCN Red List highlights the need for urgent conservation efforts to protect its fragile habitat.

2. **Tourism and Conservation:** The mass blooming of Neelakurinji attracts many tourists, which can be both beneficial for local tourism and challenging for conservation if not managed sustainably.

Related Concepts:

1. **IUCN Red List:** A comprehensive list of the global **conservation status** of biological species, categorizing them based on their **risk of extinction**.

2. **Montane Grasslands:** High-altitude ecosystems that support unique plants and animals, including **endemic species** like **Neelakurinji**.

Conclusion:

The official recognition of Neelakurinji as a threatened species by the IUCN highlights the urgent need for conservation efforts to protect its fragile habitat. The mass blooming of this purplish flowering shrub, which occurs once every 12 years, is not only a spectacular natural event but also a significant tourist attraction. However, the species faces multiple threats, including habitat loss, invasive species, and climate change. The comprehensive assessment by scientists from the Centre for Ecology Taxonomy Conservation and Climate Change (CEtC) underscores the importance of implementing robust conservation measures to ensure the survival of Neelakurinji and the preservation of its unique ecosystem.

North India's Largest Floating Solar Project Commissioned in MP's Omkareshwar

The largest floating solar project in central and north India, generating 90 MW of energy, has been commissioned at Omkareshwar in Madhya Pradesh. This project marks a significant milestone in India's renewable energy initiatives.

About the Omkareshwar Floating Solar Project

1. **Location:** Developed on the backwaters of the **Omkareshwar dam**, a **gravity dam** on the **Narmada River**.

2. **Significance:** Largest floating solar project in central and north India.

3. **Executing Agency:** SJVN Green Energy Limited (SGEL), a joint venture between the Government of India and the Government of Himachal Pradesh.

Project Details

1. **District:** Omkareshwar, District Khandwa, Madhya Pradesh.

2. **Commissioning Date:** August 8.

3. **Cost:** Rs 646 crore.

4. **Capacity:** 90 MW.

5. **Developer:** SJVN Green Energy Limited (SGEL), a wholly owned subsidiary of SJVN.

6. **Ministry:** Developed under the Union Ministry of Renewable Energy.

Key Features
Feature & Details :

Energy Generation

1. Projected to generate 196.5 million units of electricity in the first year.

2. Cumulative generation of 4,629.3 million units over 25 years.

Carbon Emission Reduction

1. Will reduce carbon emissions by 2.3 lakh tonnes.

2. Contributes to the central government's mission of achieving net zero carbon emissions by 2070.

Water Conservation

Helps in water conservation by reducing water evaporation.

Tariff and Operation

1. Developed through competitive tariff bidding on a Build Own and Operate basis for 25 years.

2. Tariff rate of Rs 3.26 per unit.

Benefits

1. Energy Security: Enhances India's renewable energy capacity.

2. Environmental Impact: Reduces carbon emissions and conserves water.

3. Economic Impact: Provides a stable and competitive tariff for electricity.

About Gravity Dams:
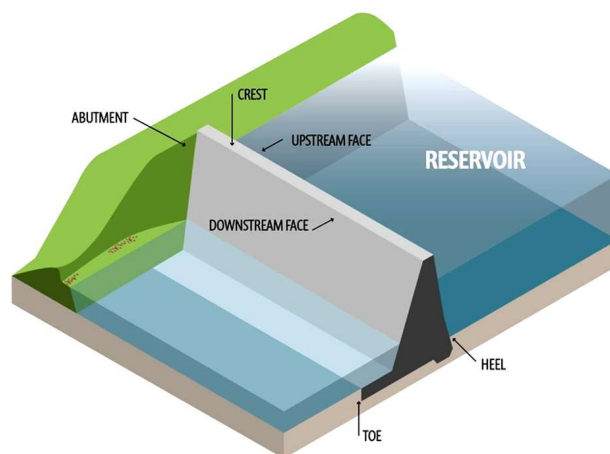
A gravity dam is a type of dam that relies on its own weight to resist the force of the water pushing against it.

What makes gravity dams unique ?

Design and Structure:

1. **Material**: Gravity dams are typically constructed from concrete or masonry. Concrete is more common due to its strength and durability.
2. **Shape**: The most common shape for a gravity dam is triangular, with the thickest part at the base. This shape helps distribute the water pressure efficiently.
3. **Base and Structure**: The base of a gravity dam is much wider than the top, creating a stable structure that resists overturning and sliding. The dam's weight is supported by the foundation and the structure itself.

How It Works ?

1. **Weight Resistance**: The primary mechanism of a gravity dam is its weight. The massive amount of material ensures that the dam resists the force of the water pushing against it.
2. **Water Pressure**: As water builds up behind the dam, it creates pressure on the dam's face. The dam's weight, combined with the force of friction from the foundation, counteracts this pressure.

Advantages:

1. **Simple Design**: Gravity dams have a relatively simple design compared to other types of dams, making them easier to plan and construct.
2. **Effective for Large Reservoirs**: They are well-suited for holding back large volumes of water and can be very effective in creating substantial reservoirs.
3. **Durability**: Properly constructed gravity dams can last for many decades with minimal maintenance.

Disadvantages:

1. **Material Usage**: The construction of a gravity dam requires a significant amount of material, which can be costly and resource-intensive.
2. **Foundation Requirements**: A solid and stable foundation is crucial. Poor foundation conditions can lead to stability issues.
3. **Environmental Impact**: Like all dams, gravity dams can have significant ecological impacts, such as altering river ecosystems and displacing communities.

Future Impact

1. The project will significantly contribute to India's renewable energy goals and environmental sustainability efforts.

2. It aligns with the government's mission to achieve net zero carbon emissions by 2070.

Conclusion :

The commissioning of the Omkareshwar Floating Solar Project represents a major step forward in India's commitment to renewable energy and environmental conservation. This initiative not only enhances energy security but also supports the country's broader sustainability objectives.

Tiger Count Jumps from 5 to 10 in Chhattisgarh's Achanakmar Reserve

The Achanakmar Tiger Reserve (ATR) in Chhattisgarh has seen a significant increase in its tiger population. According to the All India Tiger Estimation (AITE) 2022 census, the number of tigers was five, which has now increased to ten, as per the summer phase monitoring done in April this year.

Key Findings

- **Tiger Population**: The ten tigers include three males and seven females.
- **Next Census**: The next AITE census, which is held nationally, is due in 2026.
- **Rare Species**: During the summer survey, the presence of a melanistic leopard (black panther), a rare species, has also been confirmed in ATR.

Significance of the Increase

- **Conservation Efforts**: This increase in the number of tigers is the result of continuous efforts and strategies made by ATR management towards tiger conservation.
- **Future Prospects**: If the management continues its efforts, even better results are expected in the future.
- **Eco-Tourism**: This increase will not only boost the productivity of the forest but also enhance eco-tourism, attracting more tourists and wildlife enthusiasts from other countries.

- **Employment Opportunities**: This, in turn, will provide more employment opportunities for the local community, and wildlife enthusiasts, forestry students, and research scholars will have better options available within the state.

Conservation Measures

- **Patrolling**: Daily patrolling of 10 km by foot guards and field protectors is done using the **GPS-based M-STrIPES mobile app** in the 108 beats of the core and buffer zones of the reserve.
- **Camera Traps**: **Camera traps** are checked daily to ensure accurate monitoring of tigers and other animals.
- **Special Team**: A special team of **STPF** has been formed for the specific monitoring of tigers, whose main task is to track tigers and ensure their safety by continuously patrolling in all adverse conditions and weather.
- **GIS Cell**: A **GIS cell** has been established in Kota for technical monitoring of all these arrangements, where all data received weekly and monthly is analyzed.

Community Involvement

- **Habitat Development**: Under the guidance of Principal Chief Conservator of Forest (PCCF) Sudhir Kumar Agarwal, ATR is carrying out habitat development works like **pasture development**, ensuring water availability during the summer, and timely preparation of compensation cases, which have long-term benefits.
- **Local Participation**: The direct participation and efforts of the local community in **nature conservation** ensure the safety of wildlife. There are 31 **forest management committees** established for the protection of wildlife and forests. Their direct cooperation helps in overall control over **fire safety**, **encroachment**, **illegal felling**, and **poaching**.
- **Employment**: The ATR is also providing livelihood to local youths and women as drivers and guides in **eco-tourism**. **Training** is organized to provide employment to youths, ensuring public participation and cooperation in wildlife protection and park management.
- **Awards and Recognition**: After the livelihood-based training, all the youths who received placements were awarded by the **deputy chief minister of the state, Arun Sao**, boosting the morale of the students and management.

Support from Civil Society

- **Collaboration**: Civil society is also cooperating in the survey monitoring of ATR. Based on the MOU for Phase 4 monitoring, WWF is associated with ATR. The Nature and Biodiversity Association, ICICI Foundation, TDU Bangalore, senior citizens of Bilaspur, and journalists are also playing their roles and cooperating in various activities associated with ATR.

Future Plans

- **New Initiatives**: According to the field director of ATR, a new TCP construction, corridor plan, and new work plan are in progress for the strengthening of tiger monitoring and management in the future.

About Achanakmar Tiger Reserve

- **Location**: Situated in **Bilaspur district** of Chhattisgarh.
- **Establishment**: Achanakmar Wildlife Sanctuary was established in 1975 and was declared a tiger reserve in 2009.
- **Area**: Covers an area of **553.286 sq. km**.
- **Biosphere Reserve**: Part of the huge **Achanakmar-Amarkantak Biosphere Reserve**.
- **Corridor**: Has a corridor connecting to **Kanha** and **Bandhavgarh Tiger Reserve**, playing a critical role in the dispersal of tigers among these reserves.
- **River**: The **Maniyari River** flows right from the center of this reserve, which is the forest's lifeline.
- **Tribe**: Home to the **Baigas**, a forest-dwelling tribal community classified as a **"Particularly Vulnerable Tribal Group (PVTG)"**.
- **Villages**: In 626 hectares of the core area of the reserve, there are 25 forest villages, with approximately 75 percent of the population belonging to the Baiga tribe and the remaining consisting of the **Gond** and **Yadav** communities.
- **Vegetation**: **Tropical moist deciduous vegetation** covers the majority of the area.
- **Flora**: Includes Sal, bija, saja, haldu, teak, tinsa, dhawara, lendia, khamar, and bamboo, along with over 600 species of medicinal plants.
- **Fauna**: Includes the tiger, leopard, bison, flying squirrel, Indian giant squirrel, chinkara, wild dog, hyena, sambar, chital, and over 150 species of birds.

What is a Tiger Reserve?

Definition: A Tiger Reserve is a legally declared protected area dedicated to the conservation of striped

big cats in their natural environment. A tiger reserve could be a national park or wildlife sanctuary. For example, the Sariska Tiger Reserve is also a national park.

Conclusion :

The increase in the tiger population in the Achanakmar Tiger Reserve is a testament to the successful conservation efforts of the ATR management and the local community. This achievement not only enhances the biodiversity of the region but also boosts eco-tourism and provides employment opportunities for the local population. The continued efforts and future plans of the ATR management are expected to yield even better results in the conservation of tigers and other wildlife.

Chhattisgarh Govt. to Develop Fourth Tiger Reserve in State

Why in News:

The Chhattisgarh government has announced the establishment of a new tiger reserve, making it the fourth such reserve in the state.

Key Points:

- **Current Tiger Reserves:**
  - o Chhattisgarh currently has three tiger reserves: Indravati in Bijapur district, Udanti-Sitanadi in Gariaband, and Achanakmar in Mungeli.
- **New Tiger Reserve:**
  - o The new tiger reserve, named Guru Ghasidas-Tamor Pingla Tiger Reserve, will be established by integrating the regions of Guru Ghasidas National Park and Tamor Pingla Sanctuary.
  - o It will cover an area of **2,829.387 sq.km**.
- **Location:**
  - o The reserve will span across the districts of Manendragarh-Chirmiri-Bharatpur, Koriya, Surajpur, and Balrampur.
- **Approval and Decision:**
  - o The decision was taken at a Cabinet meeting and follows the in-principle approval given by the National Tiger Conservation Authority (NTCA) a decade ago.
  - o The decision was based on recommendations from the State Wildlife Board and the concurrence of the NTCA under the Ministry of Environment, Forest and Climate Change.

- **Benefits:**
  - o The formation of this tiger reserve will foster eco-tourism in the state.
  - o It will create various employment opportunities for villagers residing in the core and buffer zones, such as guides, tourist vehicle operators, and resort managers.
  - o The National Project Tiger Authority will provide an extra budget for the reserve's operations, facilitating new livelihood development projects in the surrounding villages.

About Guru Ghasidas-Tamor Pingla Tiger Reserve:

- **Location:** Northern part of Chhattisgarh, bordering Madhya Pradesh and Jharkhand.
- **Fauna:** Home to various mammal species, including tigers, leopards, hyenas, jackals, wolves, sloth bears, barking deer, chinkara, and chital.
- **Rivers:** Origin of significant rivers such as Hasdeo Gopad and Baranga, and a catchment area for rivers like Neur, Bijadhur, Banas, Rehand, and numerous smaller rivers and rivulets.

About Guru Ghasidas National Park:

- **Connectivity:** Connects Jharkhand and Madhya Pradesh, providing a corridor for tigers to move between the Bandhavgarh and Palamau Tiger Reserves.
- **History:** Originally part of the Sanjay Dubri National Park, Guru Ghasidas Park was created as a separate entity in Chhattisgarh's Sarguja region after the formation of the state in 2001.

About National Tiger Conservation Authority (NTCA):

- **Establishment:** Established in 2006 under the **Wildlife (Protection) Act 1972**.
- **Objective:** To provide statutory authority to **Project Tiger**, ensuring legal compliance with its directives.

Conclusion:

The establishment of the Guru Ghasidas-Tamor Pingla Tiger Reserve marks a significant step forward in Chhattisgarh's conservation efforts. This initiative not only aims to protect and enhance the state's tiger population but also promises to boost eco-tourism and create sustainable livelihood opportunities for local communities. With the support of the NTCA and the state government, this new reserve holds the potential to become a model for wildlife conservation and community development.

CLEAN PLANT PROGRAM

The Union Cabinet on Friday approved the Clean Plant Programme (CPP), aimed at increasing the yield and productivity of horticulture crops in India.

WHEN WAS IT ANNOUNCED?

First announced in Union Finance Minister Nirmala Sitharaman's Budget speech in February 2023, the CPP is also targeted at enhancing the quality of fruit crops across the nation.

The Ministry of Agriculture has sought an allocation of Rs 1,765 crore for the programme. One half of this will be sourced from the budget of the Mission for Integrated Development of Horticulture (MIDH), while the other half will be in the form of a loan from the Asian Development Bank (ADB).

COMPONENTS OF CPP

The program has three main components:

- Development of nine Clean Plant Centers (CPCs) which will provide disease diagnostics and therapeutics, create mother plants to be sent to nurseries, and quarantine all domestic and imported planting materials intended for commercial propagation and distribution;

- Enhancement of infrastructure, including the development of large-scale nurseries to facilitate the efficient multiplication of clean planting material — the mother plants obtained from the CPCs will be multiplied in nurseries and distributed to farmers;

- Creation of regulatory and certification process to ensure thorough accountability and traceability in the production and sale of planting material.

NINE CITIES, NINE CLEAN PLANT CENTERS LINKED TO ICAR INSTITUTES

The CPCs will be established in collaboration with the Indian Council of Agricultural Research (ICAR) for specific horticulture crops. Each CPC will be linked to a different ICAR institute.

- IN PUNE, the CPC for grapes will be linked to the National Research Centre for Grapes, Pune

- IN BENGALURU, the CPC will cater to four crops — mango, guava, dragon fruit, and avocado — and be linked to the Indian Institute of Horticultural Research, Bengaluru

- IN NAGPUR, a CPC for citrus fruits will be developed at the Central Citrus Research Institute, Nagpur

- IN BIKANER, another CPC for citrus fruits will be developed at the Central Institute of Arid Horticulture, Bikaner

- IN SRINAGAR, a CPC for temperate fruits — apple, almond, walnut, berries, etc. — will be developed at the Central Institute of Temperate Horticulture (CITH), Srinagar

- IN MUKTESHWAR, another CPC for temperate fruits will be developed at the CITH's regional station in Mukteshwar

- IN SOLAPUR, a CPC for pomegranate will be linked to the National Research Center on Pomegranate, Solapur

- IN EAST INDIA, a CPC for tropical and subtropical plants will be developed in collaboration with to ICAR's East India Horticulture Centres in West Bengal and Jharkhand

- IN LUCKNOW, the Central Institute for Subtropical Horticulture will develop a CPC for mango, guava, and litchi

WHAT IS THE NEED FOR CPP?

- India is the second largest producer of fruits and vegetables in the world after China.
  - o From 2013-14 to 2023-24, the area under horticulture crops has risen from 24 million hectares to 28.63 million hectares, and production has increased from 277.4 million metric tonnes (mt) to 352 million mt.

- India is also a major importer and exporter of fresh fruits. In the financial year 2023-24, India exported fresh fruits worth $1.15 billion, while it imported fruits worth $2.73 billion.

- With the rising consumption of fruits in the country, demand has specifically increased for planting materials of foreign apples, and "exotics" such as avocado and blueberry.

- According to sources, between 2018-20, the EXIM committee for import of planting material of fruit plants permitted the import of 21.44 lakh apple plants in 2018, which increased to 49.57 lakh in 2020.
  - o In 2018, permission was given to import only 1,000 avocado plants which increased to 26,500 in 2020.
  - o Similarly, permissions for the import of blueberry plants went up from 1.55 lakh in 2018 to 4.35 lakh in 2020.

- At present, the process of importing plants is very cumbersome, with imported plants having to be kept in quarantine for two years. The CPCs will cut this period down to six months, and thus make it easier for farmers to access disease free and genuine planting material for horticultural crops in India.

India's Natural Methane Mitigators

Context :

India has discovered indigenous natural methane mitigating agents from rice fields and wetlands, primarily in Western India. These micro-organisms can play a crucial role in tackling climate challenges.

Key Points:

Global Warming and Methane:

- Methane is the second most important greenhouse gas, with 26 times more global warming potential compared to carbon dioxide.
- Sources of methane include wetlands, ruminants, rice fields, and landfills, produced by methanogens.

Methanotrophs:

- Methanotrophs or methane-oxidizing bacteria oxidize methane, producing CO_2 and H_2O.
- They are natural methane mitigating agents and are found in environments where both methane and oxygen are present, such as wetlands, rice fields, and ponds.

Discovery of Methylocucumis oryzae:

- Dr. Monali Rahalkar and her team from MACS Agharkar Research Institute have isolated and described India's first cultures of indigenous methanotrophs.
- They discovered a novel genus and species, Methylocucumis oryzae, named for its characteristic oval and elongated shape resembling a cucumber.

Characteristics of Methylocucumis oryzae:

- **Size**: Remarkably large, similar to the size of a small yeast (**3-6 μm**).
- **Temperature Tolerance**: Strictly **mesophilic**, cannot grow above **37°C**.
- **Color**: Forms light **pale pink colonies**.
- **Genome**: Indicative of a **carotenoid pathway**.
- **Benefits**: Promotes **rice plant growth** by inducing early **flowering** and increasing **grain yield**.

Habitat and Distribution:

- Found in **rice fields**, **wetlands**, and even in a **stone quarry in Pune**.
- Unique to India; no strains reported or cultured from other countries.

Challenges and Potential:

- **Constraints**: Slow growth limits **large-scale cultivation** needed for mitigation and **biotechnological applications**.
- **Potential**: Abundant in nature, performing its function in **wetlands** and **rice fields**.
- **Future Studies**: Further research and improvements in **culture conditions** could lead to more applications.

What is Methane?:

- **Properties**: Colorless, odorless, **flammable**, **water-insoluble** gas.
- **Other Names**: Marsh gas or **methyl hydride**.
- **Characteristics**: Easily ignited, vapors lighter than air, **containers** may rupture under prolonged exposure to **fire** or intense **heat**.

Conclusion :

The discovery of Methylocucumis oryzae highlights India's potential to leverage indigenous micro-organisms to mitigate methane emissions and combat climate change. Further research and improvements in cultivation techniques could unlock significant biotechnological applications.

The Geneva Conventions at 75

On August 12, 2024, we marked 75 years since the Geneva Conventions were adopted in 1949. These rules are meant to guide how wars are fought, with a focus on protecting people who are not taking part in the fighting.

Despite being agreed upon by nearly every nation, these rules are often ignored. With around 120 conflicts around the world and 195 million people living under these conflicts, the relevance of these rules is more important than ever.

Key Points:

1. Background:

- **What They Are:** The Geneva Conventions were created after World War II to provide detailed rules on how to treat people during wartime, including the wounded, prisoners of war, and civilians in occupied areas.
- **Core Principles:** The rules balance military needs with humanitarian concerns, setting standards for humane treatment even in war.

Geneva Conventions:

The Geneva Conventions are a series of international treaties concluded in Geneva between 1864 and 1949. Two additional protocols to the 1949 agreement were approved in 1977.

The First Geneva Convention:

- **Focus:** Protection of wounded and sick soldiers on land during war.
- **Scope:** Applies to medical and religious personnel, medical units, and medical transports.

The Second Geneva Convention:

- **Focus:** Protection of wounded, sick, and shipwrecked military personnel at sea during war.
- **Context:** Replaces the Hague Convention of 1907 concerning maritime warfare adaptation.

The Third Geneva Convention

- **Focus:** Protection of prisoners of war.
- **Key Principle:** Prisoners of war must be released and repatriated without delay after the end of active hostilities.

The Fourth Geneva Convention

- **Focus:** Protection of civilians, including those in occupied territories.
- **Content:** Includes general protection against certain consequences of war but does not address the conduct of hostilities.

What is the United Nations Organisation?

- **Description:** The United Nations (UN) is an intergovernmental organization.
- **Purpose:** Promotes international cooperation and maintains peace and security among its member states.
- **Charter:** Comprises a preamble and 111 articles, organized into 19 chapters.

2. Current Challenges:

- o **Ongoing Conflicts:** This year also marks ten years since ISIS committed genocide against the Yazidi in Syria and ten years of war in Ukraine. Geopolitical tensions are high in the Middle East and the South China Sea.
- o **New Technologies:** Modern warfare now includes advanced technology and cyber attacks, which the original conventions did not cover.
- o **Violations:** The conventions are often broken, with attacks on civilians and other humanitarian abuses being common.

3. Humanitarian Values:

- o **Purpose:** The conventions aim to protect those who are not fighting, like civilians and medical staff, and to regulate the treatment of prisoners.

- o **Rules:** They include over 400 articles covering the treatment of prisoners, protection of hospitals, humanitarian aid, and banning torture and sexual violence.
- o **Adaptation:** The conventions have been expanded over time to include new issues like chemical weapons, landmines, and enforced disappearances.

4. Criticisms:

- o **Acceptance of War:** Some argue that by accepting war instead of working to prevent it, the conventions might not address the root problems.
- o **Collateral Damage:** The idea that some civilian casualties are acceptable in attacks on military targets is controversial.
- o **Outdated Provisions:** Some rules, like those mentioning tobacco for prisoners, seem outdated today.

5. Current Enforcement and Importance:

- o **Role of the ICRC:** The International Committee of the Red Cross (ICRC) helps enforce these rules by visiting detainees, negotiating prisoner exchanges, and providing medical care.
- o **Impact:** When respected, these laws can save lives and improve conditions, showing their continued importance.

  Call to Action : To strengthen the Geneva Conventions today:

- **Shared Responsibility:** All countries need to follow and uphold these rules, making sure they are respected globally.
- **Reject Legal Tricks:** Nations should not use technical legal arguments to justify breaking these rules.
- **Adapt to New Threats:** The conventions should evolve to address new types of warfare and threats while keeping their core humanitarian goals.

Conclusion:

While the Geneva Conventions are not perfect, they remain essential in setting limits on the worst aspects of war. They offer a framework for protecting human dignity even in the most dire situations. Greater respect and adaptation of these rules are crucial for reducing suffering and addressing the horrors of modern conflicts.

□□□

Geography

Environmental Hazards in the North-Eastern States

The North-Eastern states of India face significant environmental hazards, exacerbated by climatic variations and extreme weather events.

The Third National Communication submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in December 2023 highlights these issues.

Key Points :

Extreme Weather Events

o   Types of Events: Cyclonic storms, droughts, floods, lightning, thunderstorms, snowfall, cold waves, and heat waves.

o   Impacted Regions: Various parts of India, including the North-Eastern states.

Precipitation and Drought Analysis

o   **Standardised Precipitation Index (SPI):** Used by the India Meteorological Department (IMD) to analyze trends in precipitation and drought-like conditions.

o   **2021 Observations:** Extremely dry and severely dry conditions were observed in Arunachal Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Sub Himalayan West Bengal, Sikkim, eastern Uttar Pradesh, Himachal Pradesh, and Jammu & Kashmir.

Flood Trends

o   **Increase in Affected States:** The number of states affected by major floods increased from 8 in 2017 to 15 in 2021.

o   Affected Regions: Peninsular, east, northeast, and some parts of central India.

Manipur's Vulnerability

o   **Location and Geo-Environmental Setting:** Manipur is vulnerable to water-induced disasters due to its location in the eastern Himalayan periphery and fragile geo-environmental setting.

o   **Flood Causes:** Manmade ecological changes in catchment areas and high-intensity rainfall during the rainy season.

o   **Impacts:** Damage to agricultural lands, habitats, and urban settlements; breach of bunds, overflowing, landslides, erosion, and depression of riverbanks.

o   **State-Specific Studies:** Indicate decreased crop yields, reduced income, food security issues, increased vector-borne diseases, and rural-to-urban migration.

Government Initiatives

o   **National Action Plan on Climate Change (NAPCC):** Provides a framework for climate actions through national missions in areas like solar energy, energy efficiency, water, agriculture, Himalayan ecosystem, sustainable habitat, green India, human health, and strategic knowledge on climate change.

o   **State Action Plan on Climate Change (SAPCC):** Addresses state-specific issues related to climate change, including disaster risk mitigation, Hazard Risk Vulnerability Assessment reports (HRVA), State Disaster Management Plans (SDMPs), and State Disaster Management Force (SDRF).

Disaster Management Initiatives

o   **Spatial Flood Early Warning Models:** Developed using high-resolution Digital Terrain Models to provide alarms for spatial flooding in flood-prone regions.

o   **Rapid Response and Emergency Services/ Decision Support Centre (RRES/DSC):** Established under ISRO's Disaster Management Support (DMS) programme for assessing floods and other extreme events.

o   **IMD Seasonal Outlooks:** Provides regular assessments of the seasonal outlook for the hot weather season and daily temperature forecasts, serving as early warnings for extreme heat.

Additional Information

Standardised Precipitation Index (SPI)

o   **Definition:** Used for estimating wet or dry conditions based on precipitation variables.

o   **Calculation:** Based on long-term precipitation records for a particular location and period (ideally longer than 30 years).

o **Interpretation:** Negative for drought, positive for wet conditions; becomes more negative or positive as conditions become more severe.

o **Time Scales:** Includes 1, 2, 3, 6, 9, 12, 24, 36, 48, 60, and 72 months.

India Meteorological Department (IMD)

o **Establishment:** Founded in 1875.

o **Mandate:** Takes meteorological obser-vations, provides current and forecast meteorological information, warns against severe weather phenomena, provides meteorological statistics, and conducts research in meteorology.

o **Regional Centres:** Mumbai, Chennai, New Delhi, Calcutta, Nagpur, and Guwahati.

o Nodal Ministry: Ministry of Earth Sciences (MoES).

o Headquarters: New Delhi.

Precipitation

o **Definition:** Any liquid or frozen water that forms in the atmosphere and falls back to the earth, such as rain, sleet, and snow.

o **Role:** One of the three major parts of the global water cycle, along with evaporation and condensation.

Conclusion :

The North-Eastern states of India are experiencing severe environmental hazards due to climatic variations and extreme weather events. The government is implementing various initiatives to mitigate these risks, including early warning systems and disaster management plans. Understanding these challenges and the government's response is crucial for effective climate action and disaster management.

Govt Denies Threat to Bhoj Wetland Delisting from Ramsar Convention List

Why in News:

The Union Government has denied reports that the Bhoj Wetland in Bhopal is under threat of being delisted from the Ramsar Convention list of wetlands of international importance.

Key Points:

Background:

o There were reports suggesting that the Bhoj Wetland, a prestigious **Ramsar site**, was at risk of delisting due to a proposed road through its catchment area.

o A local environmental activist filed a complaint to the Ramsar Convention secretariat regarding this issue.

Minister's Statement:

o Union Minister of State in the Ministry of Environment, Forest and Climate Change, confirmed that the Bhoj Wetland faces no threat of delisting.

Regulatory Framework:

o The Ministry of Environment, Forest & Climate Change (MoEF&CC) has notified the Wetlands (Conservation and Management) Rules, 2017 under the Environment (Protection) Act, 1986.

o These rules aim to conserve, manage, and maintain the ecological character of wetlands while allowing wise use.

Government of Madhya Pradesh:

o The state government has issued an order dated **16th March 2022** to enforce the Wetland (Conservation and Management) Rules, 2017 at Bhoj Wetland, Bhopal.

National Plan for Conservation of Aquatic Ecosystems (NPCA):

o MoEF&CC is implementing the NPCA scheme on a **cost-sharing basis** between the **Central Government** and respective State Governments.

o The scheme covers various activities such as wastewater treatment, shoreline protection, lakefront development, and biodiversity conservation.

Funding for Bhoj Wetland:

o Based on proposals from the Madhya Pradesh government, the Ministry sanctioned projects worth **Rs. 432.03 lakhs** during 2018-2019 for the conservation of Bhoj Wetland.

o A central share of **Rs. 200.00 lakhs** out of **Rs. 259.22 lakhs** has been released to the Madhya Pradesh government.

About Bhoj Wetland:

- **Location:** Bhopal, Madhya Pradesh.

- **Composition:** Two contiguous human-made reservoirs – Upper Lake (Bhojtal or Bada Talaab) and Lower Lake (Chhota Talaab).

- **Surroundings:** Upper Lake is surrounded by Van Vihar National Park, human settlements, and agricultural fields.

- **Water Source:** Upper Lake is a major source of **potable water** for Bhopal.

- **Biodiversity:** Rich in macrophytes, phytoplankton, zooplankton, fish, turtles, amphibians, and aquatic invertebrates.

- **Designation:** Designated as a **Ramsar site** in 2002.

About Ramsar Convention:

- **Signing Date:** 2nd February 1971.
- **Purpose:** To preserve the **ecological character** of wetlands of international importance.
- **Name Origin:** Named after **Ramsar**, the Iranian city where the treaty was signed.
- **Tag:** Wetlands chosen for conservation under this convention are given the tag **'Ramsar site'**.

Conclusion:

The denial by the Union Government of any threat to the Bhoj Wetland's Ramsar status underscores the commitment to preserving this ecologically significant site. With ongoing conservation efforts and the enforcement of regulatory frameworks, there is a forward-looking approach to ensuring the wetland's sustainability. Continued funding and implementation of the NPCA scheme will be crucial in maintaining the ecological integrity of Bhoj Wetland, benefiting both the local ecosystem and the community that depends on it.

How to Restore the Banni Grasslands in Kachchh, Gujarat

Overview:

Grasslands are one of the world's largest ecosystems, found mainly in dry and semi-dry areas. They include savannahs, grassy shrublands, and open grasslands. They support many unique species and provide benefits like carbon storage and pollination. However, grasslands are deteriorating due to deforestation, overgrazing, farming, urbanization, and other factors. Nearly half of the world's grasslands are facing degradation.

a. In India, grasslands cover about 800,000 square kilometers, or 24% of the total land area. These grasslands are under threat from farming, tree plantations, invasive species, and large development projects.

b. Additionally, there is a strong focus on conserving forests rather than grasslands.

The Banni Grasslands:

1. **Location:** The Banni grasslands in Gujarat are one of India's largest grassland areas. Originally around 3,800 square kilometers, they now cover about 2,600 square kilometers.

2. **Recent Study:** Researchers from KSKV Kachchh University have evaluated how different parts of Banni can be restored, focusing on their ecological value.

Findings of the Study:

1. **Restoration Categories:** The researchers divided Banni into five categories based on how suitable each area is for restoration:

a. **Highly Suitable (937 sq. km, 36%)**: Can be restored easily with adequate water.

b. **Suitable (728 sq. km, 28%)**: Restoration is feasible with proper water management.

c. **Moderately Suitable (714 sq. km, 27%)**: Restoration is possible but may require additional efforts.

d. **Marginally Suitable (182 sq. km, 7%)**: Needs special management, such as terracing and fertilizer use.

e. **Not Suitable (61 sq. km, 2%)**: Restoration is difficult.

Recommendations:

1. **Water Management:** For the "highly suitable" and "suitable" areas, providing water through irrigation or rainwater harvesting would be beneficial.

2. **Grassland Expansion:** The "moderately suitable" areas can be expanded with additional effort.

3. **Managing Marginal and Not Suitable Areas:** Techniques like terracing, adding fertilizers, and preventing erosion and salt intrusion can help.

Impact and Methodology:

1. **Research Approach:** The study involved collecting soil samples from 45 locations and using satellite data for land analysis.

2. **Data Sources:** The U.S. Sentinel 2 satellite and ASTER satellite provided information on land use, slope, and cover.

3. **Comprehensive Analysis:** The researchers examined 20 factors, including soil nutrients, texture, salinity, and water holding capacity, to get a complete picture.

Potential Benefits:

1. **Conservation and Livelihoods:** The study's results can guide policies for grassland protection and offer ways to enhance local livelihoods dependent on grasslands.

2. **Publication and Collaboration:** The study was published in the journal *Scientific Reports* in June and involved researchers Dr. Seema Bhargav Sharma, Dr. Rupak Dey, and Mahesh G. Thakkar.

Expert Opinions:

1. **Himender Bharti:** An expert in conservation, Bharti emphasized the importance of grasslands for climate change mitigation and biodiversity.

2. He noted that grasslands are shrinking due to human activities, affecting species like the great Indian bustard and the Bengal florican.

Conclusion:

The Banni grasslands face significant challenges, but the study provides a detailed plan for their restoration. By focusing on water management and tailored interventions, it's possible to revive and protect this vital ecosystem for future generations.

Japan Issues Its First-Ever 'Megaquake Advisor
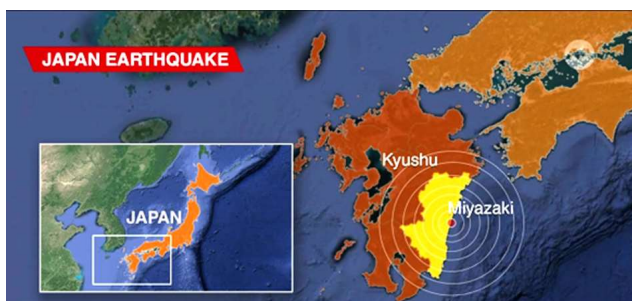
Context:

After a 7.1-magnitude earthquake shook southern Japan on August 8, 2024, the country's meteorological agency issued its first-ever "megaquake advisory." The warning said the likelihood of strong shaking and large tsunamis is higher than normal on the Nankai Trough, a subduction zone along Japan's southwest Pacific coast. However, this does not mean that a major earthquake would definitely happen during a specific period, the advisory said.

Main Points:

What is the Nankai Trough?

1. The Nankai Trough is an underwater subduction zone (nearly 900 km long) where the Eurasian Plate collides with the Philippine Sea Plate, pushing the latter under the former and into the Earth's mantle.

2. This accumulates tectonic stress which can cause a megaquake — an earthquake with a magnitude larger than 8.

3. The trough has produced large earthquakes roughly every 100 to 150 years, according to the 2023 study, 'High probability of successive occurrence of Nankai megathrust earthquakes,' published in the journal Nature.

4. These tremors usually come in pairs, with the second often occurring within the subsequent two years — the most recent "twin" earthquakes took place in 1944 and 1946.

Thursday's Earthquake:

1. Thursday's magnitude-7.1 earthquake occurred on or near the Nankai Trough, according to the United States Geological Survey.

2. As a result, experts worry that the next tremor along the trough could be devastating.

When Can the Next Megaquake Along the Nankai Trough Occur?

1. In January 2022, Japan's Earthquake Research Committee said the next magnitude 8-9 megaquake along the trough has a roughly 70% probability of striking within the next 30 years.

2. Such a megaquake could send tremors to areas from central Shizuoka — about 150 km south of Tokyo — to southwestern Miyazaki, the Reuters report said.

3. Tsunami waves of up to 98 feet may reach Japan's Pacific coasts within minutes after the quake.

4. A 2013 government report found that a major Nankai Trough earthquake could impact an area that covers about a third of Japan and where about half the country's population of more than 120 million people lives, according to a report by Nikkei Asia magazine.

5. The economic damage due to the disaster could go up to $1.50 trillion, or more than a third of Japan's annual gross domestic product.

Can Earthquakes Be Predicted?

1. No. An accurate prediction of an earthquake needs a **precursory signal** from within the earth, indicating a big quake is on the way.

2. The signal must also occur only before large earthquakes so that it does not indicate every small movement within the earth's surface.

3. Currently, there is no equipment to find such precursors.

4. Thursday's advisory by Japan's meteorological agency was just a **warning**, not a **prediction** — it had nothing to do with science, **Robert Geller**, professor emeritus of **seismology** at the **University of Tokyo**, told the **BBC**.

5. The advisory asked residents to prepare, review **evacuation routes**, and consider potential future warnings.

Analysis/Impact:

1. **Preparedness:** The megaquake advisory highlights the importance of **preparedness** and reviewing **evacuation routes** in case of a major earthquake.

2. **Economic and Social Impact:** A megaquake along the **Nankai Trough** could have devastating **economic** and **social impacts**, affecting a large portion of Japan's population and causing significant damage.

Related Concepts:

1. **Subduction Zone:** A region where **tectonic plates** collide with each other, and the heavier one slides under another.

2. **Megaquake:** An **earthquake** with a magnitude larger than **8**.

Conclusion:

The issuance of Japan's first-ever megaquake advisory underscores the heightened risk of strong shaking and large tsunamis along the Nankai Trough. While the advisory does not predict a specific earthquake, it serves as a crucial reminder for residents to prepare and review evacuation routes. The Nankai Trough, a subduction zone where the Eurasian Plate collides with the Philippine Sea Plate, has historically produced large earthquakes every 100 to 150 years. The recent magnitude-7.1 earthquake has raised concerns about the potential for a devastating megaquake in the near future. Although earthquakes cannot be accurately predicted, the advisory emphasizes the need for preparedness to mitigate the potential impacts of such a disaster.

Lake Turkana : First Comprehensive Survey in 50 Years

Overview:
- **Lake Turkana:** Africa's fourth-largest lake and the world's largest permanent desert lake, located in northern Kenya.
- **Significance:** A UNESCO World Heritage site known for its unique biodiversity and cultural importance, but it has been one of the least studied major lakes in Africa.

Recent Developments:
- **Survey Initiation:** In November 2023, a 10-year research project was launched, funded by the Dutch Government and led by UNESCO and the World Food Programme (WFP). The project involves collaboration with Turkana and Marsabit counties, as well as Kenya's State Department of Blue Economy and Fisheries.
- **Objective:** To sustainably unlock the economic potential of Lake Turkana and enhance food security and economic well-being of local populations, especially in the face of climate change.

Key Findings from Initial Survey:
- **Fish Potential:** The first comprehensive lake-wide survey in 50 years, conducted from **May to June 2024**, revealed a high abundance of **fish**, with substantial concentrations of both large and small **pelagic species**.
- **Fish Species:** Lake Turkana is home to **79 fish species**, including **12 endemics** and a large population of **Nile crocodiles**. Small pelagic species, particularly abundant in the central and northern parts of the lake, are identified as having high productivity and potential.

Challenges and Opportunities:
- **Volatile Environment:** The lake's **semi-saline waters**, high **evaporation rates**, and fluctuating levels (up to **8 meters per decade**) present challenges for sustainable development and commercial fishery initiatives.
- **Past Efforts:** Previous attempts to commercialize the fishery have largely failed due to limited understanding of the lake's volatile conditions.
- **Potential Development:** There is significant potential for developing an **offshore fishery** for small pelagic species, similar to fisheries in other African lakes. These species are nutritious, affordable, and environmentally friendly when processed.

Survey Methodology:

- **Baseline Study:** The project includes a comprehensive **baseline study** of the fishery, employing a **catch reporting system** and planned **acoustic surveys**.
- **Acoustic Surveys:** Two lake-wide acoustic surveys per year are planned to estimate **fish biomass**. The first survey in May-June 2024 indicated a notable presence of small pelagic species.

Future Plans:

- **Continued Research:** Surveys will be repeated every **six months** for **five years** to monitor seasonal changes and further assess the lake's fishery resources.
- **Goal:** To develop sustainable **fisheries practices** and enhance the lake's economic benefits while addressing the environmental and logistical challenges posed by its remote and dynamic conditions.

Conclusion:

The initial findings of the Lake Turkana survey are promising, showing a high fish abundance and potential for economic development. However, the challenges of the lake's unpredictable environment require ongoing research and innovative approaches to unlock its full potential sustainably.

National Coastal Mission Scheme (NCM)

Why in News:

The National Coastal Mission Scheme (NCM) under the National Coastal Management Program has been highlighted for its efforts in conservation and sustainable development of coastal and marine ecosystems.

About National Coastal Mission Scheme:

Launch: 2014.

Objective: To address the impact of climate change on coastal and marine ecosystems, infrastructure, and communities through adaptation and mitigation measures.

Components of NCM:

- **Management Action Plan:** Focuses on the conservation of mangroves and coral reefs.
- **Research & Development:** Concentrates on marine and coastal ecosystems.
- **Sustainable Development of Beaches:** Under the Beach Environment & Aesthetic Management Service.

- **Capacity Building / Outreach Programme:** Aims to educate coastal states/UTs on conservation, including beach cleaning drives.

Implementing Agencies:

- The State Governments of Coastal States and Union Territory (UT) Administrations.

Funding:

- Funds are released to coastal states/UTs based on the review of proposals received by the Ministry.
- A sum of Rs. 7.94 crore has been released from 2018-19 to 2023-24 for the development of infrastructure, pollution abatement, safety surveillance, and beach cleaning in Andhra Pradesh.

Integrated Coastal Zone Management Project (ICZMP):

- Implemented by the Government of India through **MoEFCC**.
- Contributions include mapping of **hazard lines**, **eco-sensitive areas**, and **sediment cells** for the entire coastline of India, including Andhra Pradesh.

About National Action Plan on Climate Change (NAPCC):

Launch: June 30th, 2008.

Objective: To promote **development objectives** while addressing **climate change** effectively.

Components:

- National Solar Mission.
- National Mission for Enhanced Energy Efficiency.
- National Mission on Sustainable Habitat.
- National Water Mission.
- National Mission for Sustaining the Himalayan Ecosystem.
- National Mission for a Green India.
- National Mission for Sustainable Agriculture.
- National Mission on Strategic Knowledge for Climate Change.

About Green India Mission:

- **Launch:** 2014.
- **Objective:** To respond to climate change through adaptation and mitigation measures, enhancing carbon sinks, and adapting vulnerable species/ecosystems to the changing climate.

Conclusion:

The National Coastal Mission Scheme represents a comprehensive approach to managing and conserving India's coastal and marine ecosystems. With its focus

on mangrove and coral reef conservation, research, sustainable beach development, and capacity building, the scheme aims to mitigate the impacts of climate change while promoting sustainable development. The ongoing funding and implementation of projects like the ICZMP underscore the government's commitment to protecting and enhancing coastal environments, benefiting both ecosystems and local communities.

Ocean Temperatures in Australia's Great Barrier Reef Now Hottest in 400 Years

Context:

Anthropogenic (human-caused) climate change is behind the rising sea temperatures, which are damaging the Great Barrier Reef.

a. Water temperatures in and around Australia's Great Barrier Reef have risen to their warmest in 400 years over the past decade, placing the world's largest coral reef under threat, according to a new study.

b. This research is unique because it puts the effects of man-made climate change in historical context.

c. Other studies have looked at the damage to the reef over a shorter time frame.

d. The reef stretches for some 2,400 km off the coast of the northern state of Queensland.

Main Points:

Findings of the Study:

1. A group of scientists at universities across Australia drilled cores into the coral and, much like counting the rings on a tree, analyzed the samples to measure summer ocean temperatures going back to 1618.

2. Combined with ship and satellite data going back around a hundred years, the results show ocean temperatures that were stable for hundreds of years began to rise from 1900 onwards as a result of human influence, the research concluded.

3. From 1960 to 2024, the study's authors observed an average annual warming from January to March of 0.12 degrees Celsius per decade.

4. Since 2016, the Great Barrier Reef has experienced five summers of mass coral bleaching, when large sections of the reef turn white due to heat stress, putting them at greater risk of death.

5. These summers were during five of the six warmest years in the last four centuries, the study showed.

What are Coral?

1. Corals are marine invertebrates that belong to the class Anthozoa within the phylum Cnidaria.

2. They are mostly found in tropical oceans, forming large underwater structures known as coral reefs.

3. Corals are fascinating because they have a symbiotic relationship with tiny photosynthetic organisms called zooxanthellae, which live within their tissues.

4. These organisms help corals produce energy through photosynthesis, while corals provide them with a protected environment and nutrients.

Corals can be categorized into two main types:

1. **Hard Corals (Scleractinians)**: These corals build the calcium carbonate skeletons that form the backbone of coral reefs. They are responsible for the structure of reefs and contribute to their growth.

2. **Soft Corals**: Unlike hard corals, soft corals don't produce a rigid skeleton. Instead, they have a flexible, often colorful structure. They add to the diversity of reef ecosystems but don't contribute to reef-building in the same way hard corals do.

Coral reefs are underwater ecosystems built by tiny animals called coral polyps. These polyps secrete a hard, calcium carbonate skeleton which forms the structure of the reef. Over thousands of years, these skeletons accumulate to create complex, vibrant ecosystems.

1. Coral reefs are often called the "rainforests of the sea" due to their incredible biodiversity.

2. They provide homes for countless marine species, from tiny fish to large predators like sharks. They also play a crucial role in protecting coastlines from erosion and storms.

3. Coral reefs can absorb up to 97% of the energy from waves, storms, and floods, which prevents loss of life, property damage, and soil erosion.

Coral Bleaching : A Threat to Reefs

Coral bleaching is a phenomenon where corals lose their color and turn white. This happens when corals become stressed due to changes in their environment, such as:

- **Increased water temperature:** Caused by climate change.

- **Pollution:** From land-based activities like agriculture and industrial runoff.

- **Overfishing:** Disrupts the delicate balance of the marine ecosystem.

- **Ultraviolet radiation:** Increased exposure due to damage to the ozone layer.

When stressed, corals expel the tiny algae (zooxanthellae) that live within their tissues and provide them with food and color.

Without these algae, the corals turn white and become more susceptible to disease and death.

Coral bleaching is a serious threat to the health of coral reefs worldwide. If the stress factors are removed quickly enough, corals can recover and regain their color. However, if the stress persists, the coral may die.

Why are Coral Reefs Important?

1. Coral reefs have a crucial role in marine ecosystems.

2. Thousands of marine species can be found living on one reef. For instance, "the Great Barrier Reef contains over 400 coral species, 1,500 fish species, 4,000 mollusc species and six of the world's seven sea turtle species," according to a report by the Natural History Museum.

3. Research has shown that there could be millions of undiscovered species of organisms living in and around reefs.

4. These massive structures also provide economic goods and services worth about $375 billion each year.

5. More than 500 million people across the world depend on coral reefs for food, income, and coastal protection from storms and floods.

Analysis/Impact:

1. **Ecological Importance:** The rising ocean temperatures due to human-caused climate change are placing the Great Barrier Reef under significant threat. The mass bleaching events observed in recent years highlight the urgent need for conservation efforts to protect the reef.

2. **Economic and Social Impact:** The Great Barrier Reef supports a vast array of marine life and provides essential economic and social benefits to millions of people. The loss of the reef would have devastating consequences for marine ecosystems, coastal communities, and the global economy.

Related Concepts:

1. **Anthropogenic Climate Change:** Climate change caused by human activities, such as the burning of fossil fuels and deforestation.

2. **Coral Bleaching:** A phenomenon where corals expel the algae living in their tissues, causing them to turn white and become more susceptible to death.

Conclusion:

The new study highlighting the rising ocean temperatures in the Great Barrier Reef over the past 400 years underscores the urgent need for action to combat climate change. The reef, which supports a vast array of marine life and provides essential economic and social benefits, is under significant threat due to human-caused climate change. The mass bleaching events observed in recent years highlight the urgent need for conservation efforts to protect the reef. The loss of the Great Barrier Reef would have devastating consequences for marine ecosystems, coastal communities, and the global economy. It is crucial to implement robust measures to mitigate climate change and preserve this iconic natural wonder.

Shifting Sands

The coastline of Tamil Nadu, India, faces significant challenges due to coastal erosion exacerbated by human activities and climate change.

Key points:

1. **Human Impact**: Development projects like ports, breakwaters, and groynes disrupt natural sand movement, leading to localized erosion. Structures such as Ennore Port and Adani Kattupalli Port have particularly intensified erosion along the coast.

2. **Natural Processes**: Tamil Nadu's coast experiences erosion due to seasonal wind and current patterns that transport sand. However, human-made structures interfere with these processes, causing imbalances in sediment deposition and erosion.

3. **Impact on Communities**: Coastal erosion threatens the livelihoods and homes of fisherfolk and other residents along the coast. Villages like Karikattukuppam and Koraikuppam have seen the sea encroaching dangerously close to their homes, especially during cyclones and high tide events.

4. **Government Response**: The National Centre for Coastal Research (NCCR) has developed a shoreline management plan emphasizing a hybrid approach of combining hard (seawalls, groynes) and soft (vegetation, nourishment) structures to mitigate erosion. The plan aims to address the limitations of traditional methods and protect vulnerable coastal areas.

5. **Local Concerns and Initiatives**: Local communities express skepticism about the effectiveness of seawalls alone, advocating for solutions that respect the natural dynamics of the sea. Initiatives like the Coastal Zone Management Plan (CZMP) aim to integrate community feedback and protect essential areas for fishing and habitat preservation.

6. **Challenges and Future Directions**: Continued research and adaptive strategies are essential to manage coastal erosion effectively amidst ongoing development pressures and climate change impacts. The CZMP revisions and NCCR recommendations reflect efforts to balance economic development with environmental sustainability.

What is Coastal Erosion?

Coastal erosion happens when the sea wears away the land, often caused by strong waves breaking down the coast. It is the process where local sea level rise, strong wave action, and coastal flooding wear down or carry away rocks, soils, and sands along the coast.

Process:
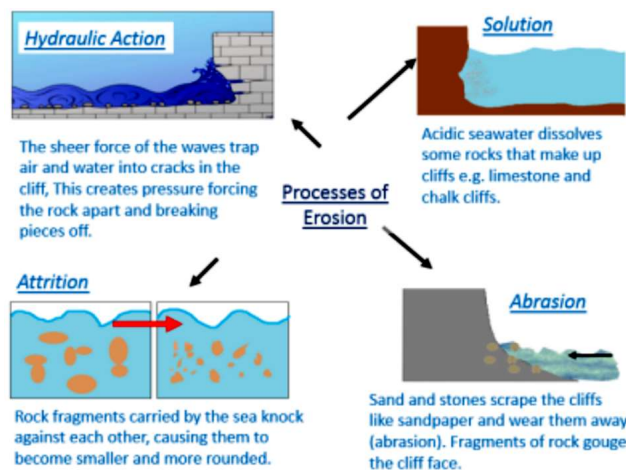
There are four main processes of coastal erosion: corrasion, abrasion, hydraulic action, and attrition.

1. **Corrasion:** This happens when strong waves throw beach material like pebbles at the base of a cliff, gradually breaking it down and creating a wave-cut notch (a small, curved indent at the base of a cliff).

2. **Abrasion**: This occurs when waves, carrying sand and larger fragments, wear away the base of a cliff or headland. It's like a sandpaper effect and is especially common during powerful storms.

3. **Hydraulic Action:** This happens when waves hit a cliff, compressing air in cracks and joints. When the wave pulls back, the trapped air rushes out explosively, causing chunks of the cliff to break off. Weathering weakens the cliff further, making this process more effective.

4. **Attrition**: This occurs when waves cause rocks and pebbles to bump into each other and break up.

Causes:

1. **Waves**: Powerful waves can erode coastlines through abrasion, corrasion, and hydraulic action. For example, the cliffs of Dover in England are being eroded by the constant action of the English Channel's waves.

2. **Tides**: High and low tides can affect the amount of erosion, particularly in areas with significant tidal ranges. For example, the Bay of Fundy in Canada experiences extreme tides that can erode coastlines significantly.

3. **Wind and Sea Currents:** These can cause gradual and long-term erosion. For example, on the Tamil Nadu coast, for most of the year (eight months), wind and sea currents move from south to north, carrying sand along the coast. During the northeast monsoon (four months), this direction reverses.

4. **Hard Structures:** Ports, breakwaters, and groynes interfere with the natural movement of sand, causing erosion on the down-current side and sand accumulation on the up-current side. Groynes are low-lying wood or concrete structures designed to trap sediment and dissipate wave energy.

5. **Development Projects:** Infrastructure projects aimed at boosting economic growth are worsening erosion by altering the shoreline. For example, land reclamation in places like Mumbai causes erosion in nearby coastal regions.

6. **Port Expansion:** When ports and harbors are expanded, structures like breakwaters and jetties block the natural movement of sand and sediment along the coast. This can lead to sediment accumulation on one side of the structure and increased erosion on the other side. For example, Ennore Port and the Adani Kattupalli Port in Tamil Nadu.

Coastline of India:

1. India has a coastline of 7,516.6 km (6,100 km of mainland + 1,197 km of islands) touching 13 States and Union Territories (UTs).
2. Gujarat (1,214.7 km) has the longest coastline among states, followed by Andhra Pradesh (973.7 km) and Tamil Nadu (906.9 km).
3. Andaman & Nicobar Islands (1,962 km) have the longest coastline among UTs.
4. The Coromandel coast (Tamil Nadu) is a coast of emergence, while the Konkan coast (Maharashtra and Goa Coast) is a coast of submergence.

Impacts of Coastal Erosion:

1. **Loss of Land:** Erosion can lead to the loss of valuable coastal land, affecting property and infrastructure. For example, the loss of land along the Marina Beach area in Chennai severely affected property and public spaces.
2. **Impact on Coastal Ecosystems:** Erosion can destroy habitats such as mangroves, salt marshes, and sand dunes, which are crucial for various species. For example, in the Sundarbans region of West Bengal, erosion has led to the loss of mangrove forests.
3. **Flooding Risk:** Erosion can reduce the natural barriers that protect coastal areas from flooding. For example, in coastal regions of Kerala, erosion has increased the risk of flooding, affecting low-lying areas and worsening the impacts of heavy rains and storms.
4. **Displacement of Communities:** Erosion can force communities to relocate, leading to social and economic disruption. For example, coastal erosion in the Andaman and Nicobar Islands has led to the displacement of local communities, particularly on smaller islands where land loss is more pronounced.
5. **Salt Water Intrusion:** Coastal erosion can lead to the salinization of agricultural land, reducing crop yields. For example, in Andhra Pradesh, saltwater intrusion negatively affected crop yields and reduced the productivity of farmland.
6. **Impact on Marine and Coastal Biodiversity:** It can alter ecosystems and food chains. For example, it hampered the health of marine ecosystems in the Lakshadweep Islands.

How to Prevent Coastal Erosion:

1. **Vegetation**: Strategic planting of seagrass and other coastal plants helps prevent erosion. The roots of these plants help anchor the sand and ensure that it is not washed off in erosion.
2. **Beach Nourishment:** Nature-based or **"green infrastructure"** protection measures enhance the natural ability of shorelines to absorb and dissipate storm energy without interfering with natural coastal processes. For example, planting mangroves to serve as a buffer against erosion.
3. **Coastal Restoration:** This aims at restoring habitats such as wetlands to benefit marine and coastal species by providing important nursery grounds. It has environmental benefits like carbon sequestration and restoration of open spaces.
4. **Regulatory Measures:** Zoning laws, building codes, and maintaining minimum distance from the shoreline for new buildings or infrastructure facilities to regulate coastal development.

Government Initiatives to Tackle Coastal Erosion:

1. **Shoreline Mapping System**: The National Centre for Coastal Research (NCCR) has observed that 33.6% of the Indian coastline was vulnerable to erosion, 26.9% was under accretion (growing), and 39.6% was in a stable state.
2. **Hazard Line:** The Ministry of Environment, Forest & Climate Change (MoEFCC) has defined the hazard line to indicate shoreline changes and sea level rise. It is used for disaster management, adaptive planning, and mitigation measures in Coastal States/UTs.
3. **Coastal Regulation Zone (CRZ) Notification 2019:** It permits erosion control measures and establishes No Development Zones (NDZ) to protect the coastline from encroachment and erosion.
4. **Coastal Zone Management Plans (CZMP):** Following a National Green Tribunal (NGT) order, States/UTs have been asked to finalize CZMPs, including mapping of erosion-prone areas and preparing Shoreline Management Plans.
5. **National Strategy for Coastal Protection:** MoEFCC has developed a national strategy and guidelines for coastal protection for all Coastal States and UTs.
6. **Flood Management Scheme:** Anti-sea erosion schemes are planned and executed by State Governments with Union Government assistance in technical, advisory, catalytic, and promotional capacities.
7. **Coastal Management Information System (CMIS):** It collects nearshore coastal data for planning, designing, and maintaining coastal protection structures. An experimental CMIS was set up at three sites each in Kerala, Tamil Nadu, and Puducherry.

Conclusion :

Coastal erosion threatens India's coastlines, harming the environment and local communities. Natural and human factors worsen shoreline changes, leading to habitat loss and affecting fishermen. Improved shoreline mapping and government measures, like hazard lines and CRZ Notification 2019, aim to manage and protect coastlines. Ongoing efforts, such as CMIS, seek to enhance these strategies.

Shiveluch Volcano Eruption and Earthquake

Why in News?

On August 18, 2024, the Shiveluch volcano in Russia erupted following a 7.0 magnitude earthquake that struck off the eastern coast of the country. The eruption has been marked by a significant ash column reaching up to 8 kilometers above sea level and the release of lava. Despite the dramatic events, no injuries have been reported.

Details of the Earthquake and Eruption

Earthquake:

- **Magnitude**: 7.0
- **Epicenter**: About 55 miles from Petropavlovsk-Kamchatsky, with a depth of 30 miles.
- **Impact**: No major damage reported, but buildings are being examined for potential damage, particularly social facilities. Residents experienced tremors causing furniture toppling and broken dishes.
- **Aftershock**: A subsequent 4.7 magnitude aftershock occurred at 07:21 Kamchatka time (22:21 Moscow time).

Volcano Eruption:

- **Ash Column**: Rising up to 8 kilometers above sea level.
- **Lava Flow**: The volcano released a substantial amount of lava.
- **Location**: The Shiveluch volcano is approximately 280 miles from Petropavlovsk-Kamchatsky.

Warnings:

- **Tsunami Risk**: The US Tsunami Warning System indicated that hazardous tsunami waves were possible within 300 km (186 miles) of the epicenter. The Russian Emergencies Ministry did not issue a tsunami warning.

About Shiveluch Volcano
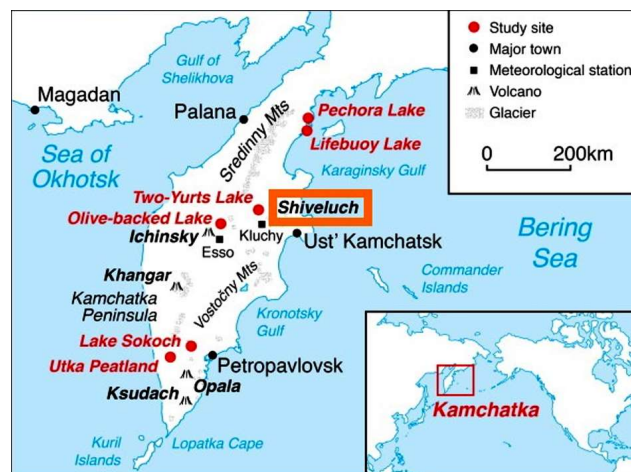
Location:

- **Region**: Kamchatka Peninsula, eastern Russia.
- **Proximity**: Approximately 280 miles from Petropavlovsk-Kamchatsky.

Volcanic Characteristics:

- **Type**: Stratovolcano—steep-sloped with alternating layers of ash, lava, and volcanic rocks.
- **Summit**: Reaches 3,283 meters (10,771 feet).
- **Activity**: One of Kamchatka's largest and most active volcanoes, with around 60 significant eruptions in the last 10,000 years. Continuous eruptions since August 1999, with powerful explosive events including one in 2007.

Key Facts about Kamchatka Peninsula:

Geography:

- **Location**: Far eastern Russia, bordered by the Sea of Okhotsk (west) and the Pacific Ocean/Bering Sea (east).
- **Dimensions**: About 1,200 km long north-south, and up to 480 km wide.
- **Area**: Approximately 370,000 square kilometers (about the size of New Zealand).

Geothermal Activity:

- **Volcanoes**: Home to about 30 active volcanoes, making it one of the world's most geothermally active regions.

Climate:

- **Conditions**: Severe with cold, snowy winters and wet, cool summers.

Regional Capital:

- **City**: Petropavlovsk-Kamchatsky.

Nearby Features:

- **Kuril Island Chain**: Extends from the southern tip of the peninsula towards Japan's northern Hokkaido Island.

What is a Stratovolcano?

- A stratovolcano is a tall, steep, and cone-shaped volcano characterized by a layered structure of solidified ash, hardened lava, and volcanic rocks.

- These volcanoes are often found above subduction zones and are prevalent in regions like the Pacific Ring of Fire.

- They typically feature explosive eruptions due to the build-up of gas pressures in more viscous lavas, such as andesite and dacite. Stratovolcanoes make up about 60% of the Earth's individual volcanoes.

Conclusion :

The simultaneous occurrence of a major earthquake and a volcanic eruption in the Kamchatka Peninsula highlights the region's intense geological activity. Shiveluch's eruption following the earthquake underscores the complex interplay between seismic and volcanic events. Effective monitoring and emergency response are crucial to mitigate the impact of such natural disasters. The ongoing activity at Shiveluch, combined with the recent earthquake, serves as a reminder of the dynamic and often unpredictable nature of Earth's geological processes.

Three Indian Ocean Structures Named Ashoka, Chandragupt, and Kalpataru

Introduction:

Three underwater geographical structures located in the Indian Ocean have been awarded names proposed by India. These structures are named Ashoka seamount, Chandragupt ridge, and Kalpataru ridge.

Naming and Discovery:

Named Structures:

- **Ashoka Seamount**: Named after the ruler of the **Mauryan dynasty**.

- **Chandragupt Ridge**: Named after the ruler of the **Mauryan dynasty**.

- **Kalpataru Ridge**: The third structure named by the International Hydrographic Organization (IHO) and UNESCO's Intergovernmental Oceanographic Commission (IOC).

Discovery:

- All three structures were discovered by oceanographers from the National Centre for Polar and Ocean Research (NCPOR), Goa.

- Located along the Southwest Indian Ridge area of the Indian Ocean.

- Discovered during an international survey exploration programme.

Indian Southern Ocean Research Programme

- **Initiation**: Started in 2004 with NCPOR as the nodal agency.

- **Objectives**: Study bio-geochemistry, biodiversity, lower atmospheric processes, paleoclimate, hydrodynamics, air-sea interactions, among other research areas.

Details of the Structures

- **Ashoka Seamount**:
  o **Discovery**: Identified in 2012 using the Russian sea vessel Akademik Nikolay Strakhov.
  o **Description**: Oval-shaped structure spanning over an area of 180 sq km.

- **Kalpataru Ridge**:
  o **Discovery**: Identified in 2012 by the same Russian vessel.
  o **Description**: Elongated ridge spread over an area of 430 sq km.
  o **Significance**: May have supported marine life, habitat shelter, and food for various species.

- **Chandragupt Ridge**:
  o **Discovery**: Identified in 2020 by the Indian ocean research vessel MGS Sagar.
  o **Description**: Elongated and oval-shaped body covering a total area of 675 sq km.

Previously Named Structures

Name	Acceptance	Discovery	Named After
Raman Ridge	1992	1951 by (US oil vessel)	Physicist and Nobel Laureate Sir CV Raman
Panikkar Seamount	1993	1992 by (India research vessel Sagar Kanya)	Renowned oceanographer NK Panikkar
Sagar Kanya Seamount	1991	—	Research vessel Sagar Kanya (for its successful 22nd cruise in 1986)
DN Wadia Guyot	1993	1992 by (Sagar Kanya)	Geologist DN Wadia

Organizations Involved

International Hydrographic Organization (IHO):
o **Establishment**: 1921.
o **Objectives**:
  * Coordinate activities of national hydrographic offices.
  * Achieve uniformity in nautical charts and documents.
  * Promote reliable and efficient methods for hydrographic surveys.
  * Advance hydrography and descriptive oceanography.
o **Membership**: India is a member of the IHO.

UNESCO's Intergovernmental Oceanographic Commission (IOC):
o **Objectives**:
  * Promote international cooperation in marine sciences.
  * Capacity development, ocean observations and services, ocean science, tsunami warning, and ocean literacy.
o **Membership**: 150 member states, including India since 1946.
o **Initiatives**: Coordinates the United Nations Decade of Ocean Science for Sustainable Development 2021-2030.

Key Facts About the Underwater Structures :

- **Background and Significance**:
  o Discoveries are part of the Indian Southern Ocean Research Programme.
  o Aims to study various aspects including bio-geochemistry, biodiversity, and hydrodynamics.
- **Total Structures**:
  o Seven structures in the **Indian Ocean** named mainly after Indian scientists or based on names proposed by India.

Historical Figures
- **Chandragupta Maurya (350–295 BCE)**:
  o **Role**: Emperor of Magadha and founder of the Maurya dynasty.
  o **Achievements**: Overthrew the last ruler of the Nanda dynasty with the help of Chanakya (Kautilya). Later became a disciple of Jain teacher Bhadrabahu.
- **Ashoka**:
  o **Role**: Third king of the **Mauryan dynasty**, ruled around 269 BC.

  o **Achievements**: Known for his policy of Dhamma and efforts to spread Buddhism. Adopted the titles of Priyadasi and Devanampiya.
- **Kalpataru**:
  o **Meaning**: Sanskrit term translating to "wish-fulfilling tree."
  o **Significance**: Associated with a divine tree in Hindu mythology that grants wishes and desires. The concept symbolizes abundance, prosperity, and the fulfillment of dreams.

Conclusion :

The naming of these underwater structures reflects India's significant contributions to oceanographic research and its commitment to international cooperation in marine sciences. These discoveries are part of a broader effort to understand and protect the marine environment, contributing to India's technological and scientific advancements.

Typhoon Shanshan Moves Closer to Japan's Coast
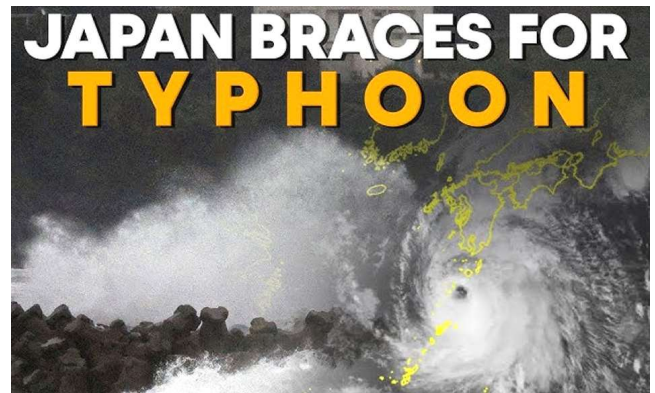
Why in News?

Typhoon Shanshan has intensified into a "very strong" storm and is approaching Japan's southwestern coast. The storm has prompted the Japan Meteorological Agency (JMA) to issue warnings for heavy rains and violent winds.

The typhoon has already caused significant disruptions to transportation, including flight and rail services, as it heads towards the Amami Islands and the Kyushu region.

Current Situation:
- **Location and Intensity:** As of Tuesday morning, Typhoon Shanshan was about 130 kilometers (80 miles) east of the southern Amami Islands, with winds reaching speeds of up to 162 kilometers (100 miles) per hour. The storm is moving northwest and is expected to veer northward, potentially making landfall in southern Kyushu on Thursday.

- **Forecast:** The JMA predicts up to 400 millimeters (15.7 inches) of rainfall on Amami Island in the next 24 hours and up to 500 millimeters (19.7 inches) in the Kyushu region from Wednesday to Thursday. Winds are forecasted to reach 90 mph in southern Kyushu and the Amami region by Tuesday, potentially increasing to 110 mph on Wednesday. The storm could lead to severe weather conditions including strong winds, high waves, landslides, and flooding.

Impact on Transportation:

- **Flight Disruptions:** Japan Airlines has canceled 118 domestic flights, mainly affecting Kagoshima and Amami Islands, as well as six international flights. All Nippon Airlines reported potential impacts on flights at Osaka airport.
- **Rail Disruptions:** Japan Railway companies have indicated that Shinkansen super-express train services might be suspended in Kyushu and parts of Honshu from Wednesday to Sunday due to the storm.

Historical Context:

Between May and July, Japan experienced three tropical storms, two typhoons, and one major typhoon. In contrast, the average number of such storms from 1991 to 2020 was about eight tropical storms, four typhoons, and two major typhoons.

About Tropical Cyclones:

Formation:

- **Origin:** Tropical cyclones form over warm ocean waters near the equator. Warm, moist air rises from the ocean surface, creating a low-pressure area. Surrounding higher-pressure air moves towards this low-pressure zone, causing the air to rise further and cool, forming clouds. As this system intensifies, an eye forms at the center.

Characteristics:

- **Calm Centre:** The center of the cyclone is typically calm and clear, with very low atmospheric pressure.
- **Speed:** Average wind speeds are around 120 km/h.
- **Closed Isobars:** Cyclones have closed isobars (imaginary lines connecting points of equal pressure), leading to higher wind velocities.
- **Origin and Movement:** Cyclones form exclusively over oceans and seas, moving from east to west and influenced by trade winds. They are seasonal phenomena.

Classification:

Cyclones are classified by wind speeds:

- **Depression:** 31–49 km/h
- **Deep Depression:** 50-61 km/h
- **Cyclonic Storm:** 62–88 km/h
- **Severe Cyclonic Storm:** 89-117 km/h
- **Very Severe Cyclonic Storm:** 118-166 km/h
- **Extremely Severe Cyclonic Storm:** 166-221 km/h
- **Super Cyclonic Storm:** Above 222 km/h

Naming of Tropical Cyclones:

Tropical cyclones are named by regional bodies:

- ESCAP/WMO Typhoon Committee
- WMO/ESCAP Panel on Tropical Cyclones
- RA I Tropical Cyclone Committee
- RA IV Hurricane Committee
- RA V Tropical Cyclone Committee

For the Indian Ocean, the WMO/ESCAP Panel on Tropical Cyclones is responsible for naming cyclones.

Example: Cyclone Mandous was named by the United Arab Emirates (UAE) in 2020 as part of the World Meteorological Organization (WMO) naming convention.

Conclusion:

Typhoon Shanshan, intensifying into a very strong storm, poses a significant threat to Japan's southwestern coast, leading to substantial disruptions in transportation and severe weather warnings. Understanding the formation, characteristics, and classification of tropical cyclones is crucial for disaster preparedness and response. As the storm advances, effective management and coordination will be vital in mitigating its impact and ensuring safety.

EDITORIALS

Crux of The Hindu & Indian Express

Geography

BAILEY BRIDGE

A major challenge in the rescue efforts in Wayanad was the continued rains in the region, making the movement of men and materials difficult. To solve this problem, the Indian Army's Madras Engineer Group on Thursday built a "Bailey bridge", which was assembled at Chooralmala, to reach Mundakkai village — one of the sites worst hit by the landslides.

The 190-foot Bailey bridge has been crucial in facilitating the movement of heavy machinery and ambulances. It has a weight-carrying capacity of 24 tonnes and will remain in use until a permanent bridge is built.

WHAT IS A BAILEY BRIDGE?

Simply, it is a type of modular bridge, one whose parts are pre-built so that they need minimal construction work and can be assembled quickly when needed.

HISTORY OF BAILEY BRIDGE

A US Army Engineer School manual notes that the Bailey bridge originated during wartime. Donald Coleman Bailey, an English civil engineer, invented it during World War 2 (1939-45).

The manual says, "In 1941, Bailey gave his first sketch of the bridge to the British War Office. The Bailey bridge used in World War II was designed to be moved, rebuilt, or replaced in several hours, even under enemy fire. It was used widely and well by Allied armies in Italy and northwest Europe, 1943-45. British Field Marshal Lord Bernard Law Montgomery said:

'Without the Bailey bridge, we should not have won the war. It was the best thing in that line we ever had.'"

HOW DOES THE BAILEY BRIDGE WORKS?

- The pre-fabricated parts in a Bailey bridge include light steel panels linked through pins, which are big, screw-like objects.
- These help establish the guardrails of the bridge.
- Through the guardrails on either side, workers place beams to form the deck or path of the bridge.
- All beams were constructed such that they would lock in on the guardrails to ensure stability.
- After that, the bridge can be extended, and the lightness of the parts allows it to be mobile. No heavy installation equipment is needed.
- In disaster relief situations, this is ideal because parts can be transported in small trucks — something also of use during wartime.

BAILEY BRIDGES IN INDIA

In a publication from India's Defence Research and Development Organisation (DRDO), MR Joshi, Former Director of the Research & Development Establishment (Engineers) in Pune wrote, "The Indian armed forces, and particularly the Indian Army carried on the British legacy and thus inherited a large inventory of the Bailey bridge."

WHEN DID WE USE THESE BRIDGES?

Such bridges were used in the 1971 war with Pakistan for the liberation of Bangladesh. Joshi wrote that it was only afterwards that bridging equipment began arriving in India, the first being from the then-Soviet Union.

In the past, Bailey bridges have also been constructed in a strategically important village along the India-China border in Arunachal Pradesh, and in Uttarakhand in 2021 after flash floods hit the state.

CHILE'S ATACAMA SALT FLAT SINKING DUE TO LITHIUM MINING

Why in News?

A recent study has revealed that Chile's Atacama salt flat is subsiding at a rate of 1 to 2 centimeters annually due to lithium mining activities.

This research, published in the journal IEEE Transactions on Geoscience and Remote Sensing, highlights the environmental impact of lithium extraction, which is crucial for producing batteries used in electronic devices and electric vehicles.

THE DETAILS OF THE STUDY

Study Details:

- **Research Conducted By:** University of Chile.
- **Data Analyzed:** Satellite imagery from 2020 to 2023.
- **Key Findings:** The study observed significant subsidence in areas where lithium brine extraction is concentrated, particularly in the southwest of the salt flat. This subsidence results from the rapid pumping of lithium-rich brine, which exceeds the natural recharge rate of the aquifers.

HOW LITHIUM MINING CAN LEAD TO SALT FLAT SINKING?

Lithium mining often involves extracting lithium from brine, a salty water solution found in salt flats. This process can lead to the subsidence or sinking of the salt flat.

How it happens:

- **Brine Extraction:** To obtain lithium, large quantities of brine are pumped to the surface. This depletes the underground aquifer.
- **Aquifer Depletion:** When the aquifer is depleted, the underlying geological formations lose their support.
- **Subsidence:** Without the support of the aquifer, the land above can begin to sink or subside. This can cause cracks, fissures, and other structural damage.
- **Salt Flat Damage:** In the case of salt flats, subsidence can disrupt the delicate balance of salt and water, potentially harming the unique ecosystems that depend on them.

THE FINDINGS IN SIMPLE WORDS

The excessive pumping of brine for lithium extraction can lead to aquifer depletion, which in turn causes the ground to subside, impacting salt flats and their surrounding environments.

This is a significant environmental concern, particularly in regions with valuable salt flat ecosystems.

FALLOUT OF LITHIUM MINING

Water Usage:

- **Demand:** Producing one ton of lithium requires 2,000 tons of fresh water, a resource already scarce in the Atacama Desert.
- **Impact:** This high water consumption depletes local water resources, affecting both indigenous communities and wildlife.

Environmental Contamination:

- **Chemicals Used:** Sulfuric acid and sodium hydroxide are employed in the extraction process.
- **Consequences:** These chemicals contaminate soil and water, posing risks to ecosystems and species.

Impact on Biodiversity:

- **Flamingos:** A 2022 study noted a decline in flamingo populations in the Atacama due to reduced water levels and habitat degradation, which affects their reproduction rates.

CONCLUSION :

The study on the Atacama salt flat shows the significant environmental costs of lithium mining, despite its crucial role in advancing green technologies. The subsidence of the salt flat, combined with the high water consumption and chemical pollution associated with lithium extraction, highlights the need for more sustainable mining practices. Addressing these environmental impacts is essential to balance the benefits of lithium for technological advancement with the preservation of vital ecosystems and resources in one of the world's most arid regions.

Import of Tur Dal from Mozambique Resumes

Shipments of Tur/Pigeon peas from Nacala Port in Mozambique, which were disrupted by an "anti-India" group, have resumed.

This happened after the Ministry of Consumer Affairs raised the issue with the Ministry of External Affairs, and the Indian High Commissioner in Mozambique persuaded the local authorities to resolve the matter, according to The Indian Express.

Details of the Resumed Shipments

1. According to sources, the Indian High Commissioner to Mozambique informed the Consumer Affairs Ministry that **1,400 containers** carrying about **35,000 tons** of Tur/Pigeon peas have already left for India from Nacala port.
2. The remaining **400 containers**, along with some containers from Malawi (which also uses the same port to export Tur/Pigeon peas to India), are expected to leave by mid-August.

India's Dependence on Pulses Imports

1. India is the world's largest producer of pulses, but it still depends on imports to meet its domestic demand.
2. The country imports about a dozen types of pulses from different countries, with Mozambique being the main source for Tur/Pigeon pea imports.

Import Statistics

1. **2023-24**: India imported **7.71 lakh tons** of Tur/Pigeon pea, of which one-third (**2.64 lakh tons**) came from Mozambique.
2. **2022-23**: The figure was even higher, with half (**4.6 lakh tons**) of India's total Tur/Pigeon pea imports (**8.94 lakh tons**) coming from Mozambique.
3. **Malawi**: The fourth largest Tur/Pigeon peas supplier to India, shipped **52,773 tons** during the last financial year, recording a drop of **12%** compared to **60,463 tons** in the previous year.

Reasons for the Drop in Imports

Sources attributed this drop in imports from these two countries during the last year to a "series of hurdles" in Mozambique that had impeded the smooth flow of trade.

Obstructions by Anti-India Group

1. The issue did not fully resolve as traders reported obstructions by an anti-India group in the shipment of pulses from Nacala port.
2. In a letter to Prime Minister Narendra Modi, Deepak Pareek, Founding Convener of the Global Grains and Pulses Council, sought the government's intervention.

Obstructions:

1. The authorities of Nampula Province in Mozambique, which oversee the Port of Nacala, were obstructing the shipment of agricultural commodities to India.
2. A local group with a background in anti-India activities was colluding with these authorities to impede the flow of goods.

Ransom Demands:

1. The issue began last year when Indian importers were asked to pay a ransom for shipping pigeon peas, and cargo bound for India was illegally detained.
2. This situation is repeating itself, with cargo from both Mozambique and Malawi being restricted, and a private group demanding **USD 70-100** to release the shipments.

Impact on Trade and Food Inflation:

1. This situation not only compromises the interests of the Indian trading community but also led to food inflation in pulses last year, with a potential for recurrence this year.
2. "Money is still being paid… Only those containers are shipped where money is paid."

Memorandum of Understanding (MoU):

1. Mozambique had entered into an MoU with India to supply **2 lakh tons** of Tur/Pigeon peas till **2025-26**.
2. As per the pact, India provides assured market access to Mozambique. A similar MoU has been signed with Malawi for the supply of **0.50 lakh tons** of Tur/Pigeon Pea to India annually.

India's Pulse Imports:

India imports about a dozen pulses from different countries. During 2023-24, India's pulses imports rose to a record high of 47.38 lakh tons, almost double the level of 24.96 lakh tons in 2022-23.

Status of Pulse Production in India

1. **Global Leader**: India is the largest producer (**25%** of global production), consumer (**27%** of world consumption), and importer (**14%**) of pulses in the world.
2. **Contribution to Food Grains**: Pulses account for around **20%** of the area under food grains and contribute around **7-10%** of the total food grain production in the country.
3. **Dominant Pulses**: Gram is the most dominant pulse, with a share of around **40%** in the total production, followed by Tur/Arhar at **15 to 20%**, and Urad/Black Matpe and Moong at around **8-10%** each.
4. **Seasonal Production**: Though pulses are grown in both Kharif and Rabi seasons, Rabi pulses contribute more than **60%** of the total production.
5. **Top Producing States**: Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh, and Karnataka.

Key Facts About Tur Dal (Pigeon Pea):

Importance: It is a vital legume crop and protein source in India.

Climatic Requirements:

1. **Rainfall**: Needs **600-650 mm** annually, with moist conditions early on and dry conditions during flowering and pod development.
2. **Temperature**: Grows best at **26°C to 30°C** in the rainy season and **17°C to 22°C** post-rainy season.

3. **Soil**: Prefers sandy loam or loam, though it can adapt to various soil types.
4. **Sensitivity**: It is sensitive to low radiation during pod development, leading to poor pod formation if flowering occurs in monsoon or cloudy conditions.

Key Diseases: Wilt, Sterility Mosaic Disease, Phytophthora Blight, Alternaria Blight, and Powdery Mildew.

Top Producer States (2019): Karnataka, Maharashtra, UP.

Government Initiatives to Boost Pulses Production in India:

1. **Policy Support**: The policy prescription for ensuring reasonable prices to farmers largely centers around procuring the pulses by providing Minimum Support Prices (MSP) to the farmers through the National Agricultural Cooperative Marketing Federation of India (NAFED) and more recently through the Small Farmers Agri Consortium (SFAC).
2. National Food Security Mission (NFSM)-Pulses.
3. ICAR's Role in Research and Variety Development.
4. Pradhan Mantri Annadata Aay SanraksHan Abhiyan (PM-AASHA) Scheme.

Conclusion:

The resumption of Tur dal imports from Mozambique highlights the challenges faced by India in securing its pulse supplies. The intervention by the Ministry of External Affairs and the Indian High Commissioner was crucial in resolving the disruptions caused by an anti-India group. While short-term solutions like scheduling flights in cooler times and increasing runway lengths are necessary, long-term efforts to curb global warming are essential to address the root causes of these issues.

Himachal Cloudbursts

What Happened:
- Five people died and around 50 are missing in Himachal Pradesh due to five cloudburst incidents.

- These cloudbursts caused flash floods that destroyed buildings, bridges, and roads.
- Parts of the Manali-Chandigarh National Highway were damaged by landslides and the overflowing Beas River.

Where It Happened:
- Malana, Sainj, and Nirmand areas in Kullu.
- Rampur in Shimla.
- Padhar in Mandi district.

Casualties and Missing People:
- **Padhar, Mandi District**: Three people, including two women, died in Rajban village. Seven people are missing, and two houses were washed away.
- **Rampur, Shimla District**: Two people died and at least 36 are missing near Shrikhand Mahadev. The water level rose in Samej Khud, a small river dividing Shimla and Kullu.
- **Nirmand Block, Kullu District**: Seven people are missing in Bhagipul area, where floods washed away nine houses.

Rescue and Relief:
- Teams from **NDRF**, **ITBP**, **State Disaster Response Force**, **police**, and **home guards** are helping with rescue and relief.
- **Drones** are being used to find missing people.
- **CISF** personnel and Home Guards are also assisting.
- More than two dozen people have been rescued from various locations, including Manikaran and Mallana.

Damage to Infrastructure:
- A breach was reported in Malana Dam, and some people were stuck in the Malana I hydropower project.
- The floodgates of Pandoh dam were opened, causing the Beas River to overflow and damage parts of the Manali-Chandigarh highway.
- A hydro-electric project near Samej Khad was partially damaged.
- Four bridges and footbridges were washed away.

What is a Cloudburst?

A cloudburst is a sudden, heavy rainstorm where more than 10 cm of rain falls in less than an hour over a small area, typically about 10 square km. These intense rainstorms often occur in mountainous areas, especially in the Himalayas.

Key Points

Definition and Occurrence

- **Definition**: According to the India Meteorological Department (IMD), cloudbursts are sudden, heavy rainstorms with more than 10 cm of rain falling in less than an hour over a small area.

- **Occurrence**: They frequently happen in mountainous areas, especially in the Himalayas. In the Indian Subcontinent, cloudbursts generally occur when a monsoon cloud drifts northwards from the Bay of Bengal or the Arabian Sea across the plains to the Himalayas, sometimes bringing **75 mm** of rain per hour.

Causes

- **Upward Currents**: Cloudbursts occur when strong upward currents of hot air prevent raindrops from falling, allowing them to grow larger while new smaller drops form below.

- **Accumulation of Water**: This leads to a significant accumulation of water in the atmosphere, which is released abruptly when the upward currents weaken.

- **Orographic Lifting**: The complex topography of the region facilitates orographic lifting, where air rises and cools as it travels up the windward side of a mountain. This process enhances cloud development and rainfall.

Difference from Rainfall

- **Rain**: Condensed water falling from a cloud.

- **Cloudburst**: A sudden heavy rainstorm with rain over 10 cm per hour.

- **Characteristics**: Cloudbursts are natural phenomena that occur unexpectedly, very abruptly, and are rather drenching.

Prediction

- **Challenges**: There is no satisfactory technique for anticipating cloudbursts through satellites and ground monitoring stations because they develop over a small area and for a short period.

- **Detection**: A very fine network of radars is required to detect the likelihood of a cloudburst, which would be expensive.

- **Identification**: Only areas likely to receive heavy rainfall can be identified on a short-range scale. Much of the damage can be avoided by identifying the areas and meteorological situations that favor cloudbursts.

Examples of Cloudbursts

- **Uttarakhand Cloudburst (July 2021)**: Devastating cloudbursts in Chamoli, Uttarkashi, and Pithoragarh caused flash floods, landslides, and extensive damage to infrastructure and lives.

- **Himachal Pradesh Cloudburst (August 2020)**: Cloudbursts in Kullu, Lahaul-Spiti, and Kinnaur triggered landslides and flash floods, damaging roads, bridges, and houses.

Consequences of Cloudbursts

Flash Floods

- **Definition**: Sudden, localised surges in water levels during or after intense rainfall.

- **Causes**: Typically caused by intense thunderstorms but can also result from dam or levee breaks and mudslides.

- **Factors**: Rainfall intensity, location, land use, topography, vegetation, soil type, and water content determine the speed and location of flash flooding.

Landslides

- **Definition**: A mass movement of material, such as rock, earth, or debris, down a slope.

- **Triggers**: Heavy rainfall, erosion, and weathering can trigger landslides.

- **Impact**: In India, landslides account for about **8%** of global fatalities, with 847 deaths and thousands displaced from 2001 to 2021. Around 13.17% of India's area is susceptible to landslides, with 4.75% designated as "very highly susceptible."

Mudflows

- **Definition**: A type of **water flow** characterised by its high density and viscosity, containing significant amounts of **suspended particles** and **silt**.

- **Characteristics**: Mudflows can transport and deposit the coarsest materials, leading to irreversible sediment entrainment, and typically do not flow as far as regular water streams.

Impact of Climate Change on Cloudbursts

- **Increased Atmospheric Moisture**: Rising global temperatures allow the atmosphere to hold more moisture, leading to more intense cloud formation and increased potential for cloudbursts, especially in mountainous areas like the Himalayas.

- **Changes in Precipitation Patterns**: Climate change can shift precipitation patterns, causing some regions to experience prolonged dry periods while others face more intense rainfall events.

- **Altered Atmospheric Stability**: Higher temperatures can destabilise the atmosphere, leading to increased **convective activity** and more frequent **thunderstorms**, which are often linked to cloudbursts.
- **Glacier Retreat and Snowmelt**: Melting **glaciers** in regions like the Himalayas, driven by rising temperatures, are releasing water more quickly, potentially contributing to cloudburst events.
- **Land Use Changes**: Human activities such as deforestation and urbanisation can alter local climates and precipitation patterns, affecting **microclimates** in mountainous areas and potentially influencing cloudburst occurrences.

Ways to Mitigate the Devastating Impact of Cloudbursts

- **Early Warning Systems**: Develop effective early warning systems to predict cloudbursts and provide timely alerts, allowing people to prepare and evacuate if necessary.
- **Urban Planning and Infrastructure**: Invest in resilient urban planning and infrastructure, such as stormwater drainage systems, retention ponds, and green spaces, to manage excess water and reduce flooding.
- **Watershed Management**: Implement practices to manage **watersheds**, like reducing **soil erosion** and increasing soil infiltration, to help control water flow and lessen the impact of cloudbursts.
- **Reforestation and Green Infrastructure**: Plant **trees** and maintain green areas to absorb excess water, reduce soil erosion, and stabilise slopes, helping to mitigate cloudburst effects.
- **Awareness and Education**: Educate communities about cloudburst risks and train them on response and evacuation procedures to ensure they take necessary precautions.
- **Sustainable Land Use Practices**: Promote land use practices that reduce vulnerability to cloudbursts, such as avoiding construction in flood-prone areas, controlling deforestation, and implementing **soil conservation measures**.
- **International Cooperation**: Work with neighbouring countries and international organisations to share best practices, technology, and resources for managing cloudbursts, especially in shared **river basins**.

Oil and Gas Exploration Threatens Hoolock Gibbon Habitat in Assam
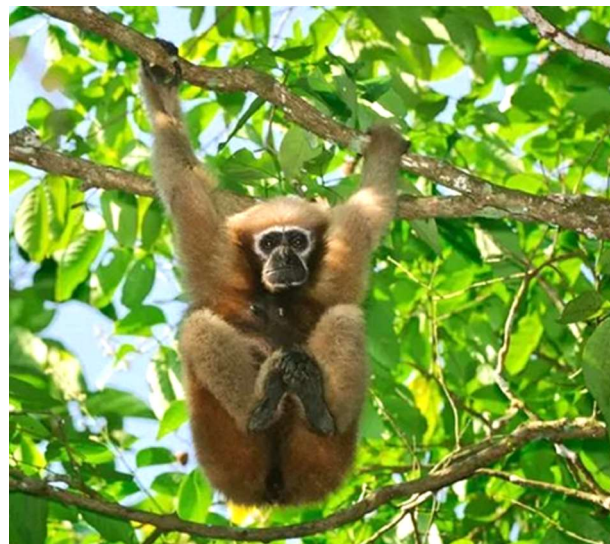
Context:

The recent approval by the Union environment ministry for exploratory oil and gas drilling in parts of Assam has raised concerns about the potential impact on the endangered hoolock gibbon habitat. This development underscores the ongoing tension between economic interests and environmental conservation in the region.

Key Points:

1. Approval for Oil and Gas Exploration:

a. The Union environment ministry has approved exploratory oil and gas drilling in Assam, which could further endanger the hoolock gibbon habitat.

b. Cairn India, a subsidiary of Vedanta Ltd, seeks to use 4.4998 hectares of reserved forest land for drilling within the eco-sensitive zone of the Hoollongapar Gibbon Wildlife Sanctuary.

2. Environmental Concerns:

a. The project poses significant risks to the hoolock gibbon, a canopy-dwelling species that is highly sensitive to habitat fragmentation.

b. The presence of hoolock gibbons, elephants, and leopards has been reported in the proposed drilling area, raising concerns about wildlife disturbance and potential man-animal conflicts.

c. The Forest Advisory Committee (FAC) has deferred its decision but has recommended obtaining comments from wildlife authorities and preparing a wildlife conservation plan.

3. Regional Office Approval:

a. The regional office of the Union environment ministry has approved the project with certain

conditions, including strict compliance with standard operating procedures and obtaining consent from the National Board of Wildlife.

4. Previous Incidents:

a. The gas blow-out in Oil India Limited's Baghjan oilfield in May 2020, which caused extensive ecological damage, underscores the risks associated with such projects.

b. The incident led to widespread destruction of local ecology and affected endangered species like the hoolock gibbon and Gangetic dolphin.

5. Rejection of Extended Reach Drilling:

a. In a positive development for wildlife conservation, the FAC has rejected Oil India Ltd's proposal for extended reach drilling in the Dibru Saikhowa National Park.

b. The decision was based on a Supreme Court order that prohibits mining within national parks and wildlife sanctuaries.

6. Additional Proposals:

a. Cairn India has also applied for forest clearance for oil and gas exploration in the Namphai reserved forest, which lies within the Dihing Patkai Elephant Reserve and near the Kotha Elephant Corridor.

b. The FAC recommended "in principle" approval with specific conditions, including the preparation of a wildlife conservation plan focusing on human-elephant conflict.

Background Information:

1. Hoolock Gibbon:

a. **Species**: Two distinct species are found in India: the eastern hoolock gibbon (Hoolock leuconedys) and the western hoolock gibbon (Hoolock hoolock).

b. **Conservation Status**: The western hoolock gibbon is **endangered**, and the eastern hoolock gibbon is vulnerable according to the IUCN Red List.

c. **Protection**: Protected under Schedule 1 of the Indian (Wildlife) Protection Act 1972.

2. Hoollongapar Gibbon Wildlife Sanctuary:

a. **Establishment**: Established in 1997 and renamed in 2004, it is the sole habitat for gibbons in India.

b. **Biodiversity**: Known for its unique flora and fauna, including the hoolock gibbon, Bengal slow loris, Indian elephants, tigers, leopards, and various primates and mammals.

Conclusion:

The approval for oil and gas exploration in Assam highlights the critical balance between economic development and environmental conservation. While the project has received conditional approval, the potential ecological impact underscores the need for stringent conservation measures and careful consideration of wildlife habitats in future development projects.

Preventing Siltation of Wular Lake

Overview:

Wular Lake, located in north Kashmir and one of Asia's largest freshwater lakes, is facing severe siltation issues. The lake's ecological balance is threatened by the influx of silt-laden waters from surrounding mountain streams, leading to reduced depth and ecological degradation.

Ecological Importance:

- **Flood Management:** Wular Lake acts as a crucial absorption basin for floodwaters, helping to manage and balance the annual flood cycles in Kashmir. It regulates the flow of water and prevents flooding in surrounding areas.

- **Biodiversity:** The lake is home to a rich variety of flora and fauna. It provides essential habitat for migratory water birds in the Central Asian Flyway and supports a diverse range of aquatic life, making it a key fishing resource for the local population.

- **Fishery Resource:** The lake accounts for 60% of the total fish production within Jammu and Kashmir, highlighting its importance to local livelihoods and food security.

Problems Confronting Wular Lake:

Siltation:

o **Causes:** The primary cause of siltation is the influx of silt-laden waters from streams in the catchment area, exacerbated by deforestation and soil erosion. The accumulation of silt is gradually raising the lake bed and reducing its depth, which affects water flow and quality.

o **Effects:** Siltation has led to a substantial reduction in the lake's depth, impacting its ecological balance, **reducing water storage capacity,** and affecting **aquatic biodiversity**.

Pollution:

o **Agricultural Runoff:** Increased agricultural and horticultural activities around the lake contribute to siltation. **Pesticides** and **fertilizers** used in farming runoff into the lake, introducing harmful chemicals that affect water quality and aquatic life.

o **Sewage:** The absence of effective **Sewage Treatment Plants (STPs)** means that untreated sewage from nearby settlements flows into the lake, further polluting the water and harming its ecosystem.

Encroachment and Land Use Changes:

o **Historical Reduction:** The lake's area has been significantly reduced over time. In 1911, the lake covered approximately **217 sq km**, including marshes. Current estimates show a reduction to about **130 sq km**, with a 45% decrease in lake area and a 70% reduction in associated marshes.

o **Impact of Encroachment:** Encroachments for agricultural expansion and construction activities have severely affected the lake's ecological character, reducing its size and impacting its ability to support wildlife.

Conservation Efforts and Challenges:

Dredging and Restoration:

o **Current Efforts:** The Wular Conservation and Management Authority (WUCMA) has undertaken dredging operations to remove silt from the lake. To date, 5 sq km of the lake area has been dredged at a cost of **Rs 196 crore**. Plans are in place to dredge an additional **22 sq km** of critically silted areas.

o **Challenges:** Dredging is a complex and costly process, and the pace of restoration efforts often lags behind the rate of deterioration.

Boundary Protection:

o **Measures:** To protect the lake, 11 km of its vulnerable boundary has been reinforced with bunds and chain-link fencing. The entire 84 km periphery has been marked with geo-tagged boundary pillars to prevent further encroachments.

o **Future Plans:** The consolidation of boundaries aims to prevent further encroachment and protect the lake's ecosystem.

Government and Expert Actions:

- **Policy and Oversight:** Chief Secretary has called for additional measures to clean and beautify Wular Lake, and the Financial Commissioner emphasizes a commitment to revitalizing the lake with a focus on **ecotourism** and local community livelihoods.

- **Coordination and Expertise:** There is a call for a coordinated approach involving local experts and global specialists to expedite restoration efforts. Combining modern conservation techniques with traditional knowledge is seen as crucial for effective lake management.

About Wular Lake:

- **Size and Location:** Wular Lake is the largest freshwater lake in India and the second largest in Asia. It is situated in the Bandipore district of Jammu and Kashmir, spanning an area of about 200 sq km. The lake lies at an altitude of 1,580 meters and is fed by the Jhelum River.

- **Formation and Features:** The lake basin was formed by tectonic activity and is believed to be a remnant of the ancient Satisar Lake. It features a small island, Zaina Lank, constructed by King Zainul-Abi-Din in the lake's center.

- **Designations:** In 1990, Wular Lake was designated as a Wetland of International Importance under the Ramsar Convention, recognizing its ecological and socio-economic value.

Ramsar Sites:

- **Definition:** Ramsar Sites are wetlands of international importance designated under the Ramsar Convention, an international treaty adopted in 1971 in Ramsar, Iran. The convention aims to conserve wetlands globally for their ecological significance and sustainable use.

Conclusion:

Wular Lake's current state reflects the urgent need for effective and sustained conservation efforts. Addressing siltation, pollution, and encroachment requires a combination of scientific management, local and international expertise, and coordinated action from all stakeholders. Restoring Wular Lake is crucial not only for its ecological health but also for the well-being of the local communities dependent on it.

Sikkim Landslide and NHPC Power Project Damage

Why in News?

On August 20, 2024, a landslide in Sikkim's Gangtok district damaged six houses and a building of the National Hydroelectric Power Corporation (NHPC) at the site of its Teesta-V hydropower station. The power station was already under construction following damage from a glacial lake outburst flood (GLOF) in October 2023.

Details of the Incident

Location and Time:

o **Site:** Balutar, near **Singtam** town.

o **Incident Time:** Approximately 7:30 a.m.

Damage Report:

o **Structures Damaged:** NHPC's **GIS building** and six houses.

o **Evacuations:** Occupants of damaged houses were evacuated to safety and relocated to the NHPC's **guest house**, which has been designated as a **relief camp**.

o **Road Closure:** The **Singtam-Dikchu Road** was cut off, but an alternative passage has been cleared.

Official Response:

o **Restoration Work:** The Border Roads Organisation has been tasked with road restoration. The Department of Mines and Geology is to study the landslide and recommend solutions.

o **Technical Assessment:** A technical team from Delhi will assess the damage and suggest restoration measures.

Historical Context:

• **GLOF Incident:** In October 2023, a GLOF led to the deaths of at least 40 people and left more than 75 missing. The flash flood affected around 90,000 people and damaged the 1,200 MW Teesta-III dam downstream.

About Teesta-V Hydropower Station

Project Details:

o **Capacity:** 510 MW

o **Location: Teesta River basin**, Gangtok district, Sikkim.

o **Type: Run-of-river** project with a concrete **gravity dam**.

o **Dam Specifications:** 88.6 meters high and 176.5 meters long.

o **Development:** The project began in 1999 and entered commercial operation in 2008. It is developed and owned by NHPC.

Key Facts about the Teesta River

General Information:

o **Type:** Trans-Himalayan River

o **Flows through:** Sikkim and West Bengal in India and Rangpur in Bangladesh.

o **Tributary:** Feeds into the **Brahmaputra River**.

Course:

o **Source:** Rises in the Himalayas near **Chunthang**, Sikkim.

o **Path:** Flows south, cutting through the **Siwalik Hills**, then southeast through the **Sivok Khola** pass onto the plains of West Bengal.

o **Historical Change:** Originally flowed into the upper **Padma River** (Ganges), it changed course around 1787 to join the **Jamuna River** (Brahmaputra) in Bangladesh.

Length and Drainage:

o **Total Length:** Approximately 309 kilometers.

o **Drainage Area:** About 12,540 square kilometers.

Major Tributaries:

o **Left-Bank:** Lachung Chhu, Chakung Chhu, Dik Chhu, Rani Khola, Rangpo Chhu.

o **Right-Bank:** Zemu Chhu, Rangyong Chhu, Rangit River.

What is a Gravity Dam?

• A gravity dam is designed to resist the force of gravity and hold back water or other materials using its own weight and mass.

• It counters the horizontal pressure exerted by the retained material. Gravity dams are commonly used for purposes such as water supply, irrigation, flood control, and hydroelectric power generation.

• They are one of the oldest and most traditional types of dam structures.

What is a Glacial Lake?
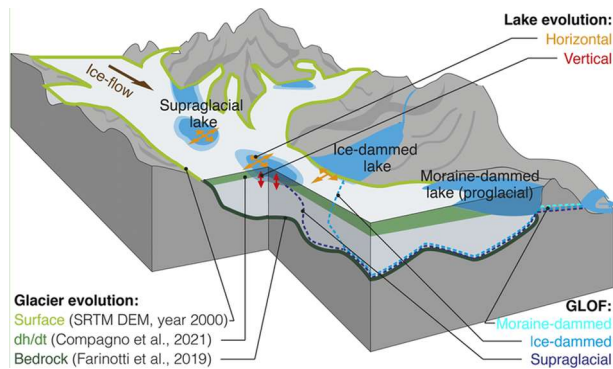
A glacial lake is a body of water that forms in a basin created by a glacier. These lakes are typically found in areas where glaciers have advanced and retreated, carving out depressions in the landscape. Glacial lakes can vary significantly in size and can be found in both mountainous regions and in areas where glaciers have melted.

Formation of Glacial Lakes:

- **Direct Formation:** Many glacial lakes form directly from the melting of glaciers. As glaciers move and recede, they leave behind depressions or basins that fill with meltwater.
- **Dam Formation:** Some glacial lakes are created when a glacier or the debris it carries blocks a river or stream, creating a natural dam that holds back water. This can also occur if glacial moraine (accumulated debris) forms a dam across a valley.
- **Moraine-Dammed Lakes:** These lakes are formed when the debris left by a glacier (known as moraine) creates a natural dam that traps water in a basin.

Characteristics of Glacial Lakes:

- **Cold Water:** The water in glacial lakes is typically very cold, even in summer, due to its source from glacier melt.
- **Sediment Load:** Glacial meltwater often carries fine sediments (glacial flour), giving the lakes a distinctive milky or turquoise color.
- **Ephemeral Nature:** Some glacial lakes are temporary and can fluctuate in size or even disappear as the glacier that feeds them recedes or melts away.

Types of Glacial Lakes:

- **Proglacial Lakes:** These lakes are located at the front of a glacier and are directly influenced by its meltwater.
- **Postglacial Lakes:** These lakes form after a glacier has retreated and can persist long after the glacier has disappeared.
- **Ice-Dammed Lakes:** Formed when a glacier or ice block creates a natural dam that traps water.

Risks Associated with Glacial Lakes:

- **Glacial Lake Outburst Floods (GLOFs):** One of the major risks associated with glacial lakes is the potential for a GLOF. This occurs when a glacier or moraine dam holding back a lake fails, causing a sudden release of water. GLOFs can lead to catastrophic flooding downstream, causing damage to infrastructure, landscapes, and communities. The risks are heightened by climate change, which can destabilize glaciers and increase the likelihood of outburst floods.

Significance of Glacial Lakes:

- **Water Resource:** Glacial lakes serve as a significant water source for rivers and streams, especially in regions where glacial melt provides essential water during dry periods.
- **Ecological Impact:** These lakes can support unique ecosystems, including species adapted to cold and nutrient-poor conditions.
- **Climate Indicators:** Changes in glacial lake size and volume can provide valuable information about glacier health and climate change.

Conclusion :

The recent landslide at the Teesta-V hydropower station highlights the vulnerability of infrastructure projects to natural disasters, especially in geologically active regions like Sikkim. The incident underscores the need for robust disaster management and infrastructure resilience planning. As Sikkim continues to recover from the damages, it is crucial to enhance monitoring and mitigation strategies to prevent future incidents and ensure the safety of local communities. The ongoing assessment and restoration efforts are vital in addressing the immediate impacts and paving the way for long-term stability and resilience in the region.

Why Himalayan Towns Need a Different Kind of Development

The Indian Himalayan Range (IHR), comprising 11 States and 2 Union Territories, has seen a significant urban growth rate of over 40% from 2011 to 2021.

1. This rapid **urbanisation** has led to the expansion of towns and the development of new urban settlements.
2. The unique **geographical** and **ecological characteristics** of the Himalayan region necessitate a different approach to **urban development**.

Issues in IHR Towns

1. **Civic Management:** Major cities like Srinagar, Guwahati, Shillong, and Shimla struggle with sanitation, waste management, and water supply.
2. **Planning Institutions:** Often ineffective due to models copied from the plains and limited implementation capacities.
3. **Human Resources:** City governments are short of human resources by almost 75%. For example, Kashmir Valley has only 15 executive officers for over 40 urban local bodies.
4. **Urban Expansion:** Cities expanding into peripheries, encroaching on village commons. Examples: Srinagar and Guwahati.
5. **Land Use Changes:** In Srinagar, a 75.58% increase in land use between 2000 and 2020.
6. **Water Bodies:** Eroded by almost 25%, replaced by built-up real estate.
7. **Waste Management:** Nearly 90% of liquid waste enters water bodies untreated.

Causes

1. **Pressures:** Urbanisation, development, high-intensity tourism, unsustainable infrastructure, and resource use.
2. **Climatic Variations:** Changing precipitation patterns and rising temperatures.
3. **Impacts:** Water scarcity, deforestation, land degradation, biodiversity loss, and increased pollution.
4. **Tourism:** Expanding and diversifying, with an anticipated annual growth rate of 7.9% from 2013 to 2023.
5. **Infrastructure:** Replacing eco-friendly infrastructure with unsustainable constructions and poor waste management.

Necessary Measures

1. **Mapping and Planning:** Every town needs to be mapped with layers identifying vulnerabilities from geological and hydrological perspectives.
2. **Bottom-Up Approach:** The planning process should involve locals.
3. **Climate Resilience:** Urban design should be based on climate resilience.

4. **Financing:** The Finance Commission should include a separate chapter on urban financing for the IHR.
5. **Intergovernmental Transfers:** Increase from 0.5% to at least 1% of GDP.
6. **Sustainability:** Engage in wider conversations about sustainability, focusing on eco-centric planning processes involving public participation.

Further Considerations

1. **Ecotourism:** Emphasizing environmentally friendly tourism is crucial for long-term sustainability.
2. **Consultant-Driven Planning:** Should be shelved for Himalayan towns, with a focus on local involvement and climate resilience.
3. **Capital Generation:** None of the cities in the IHR can generate capital for their infrastructure needs, highlighting the need for increased financial support.

Conclusion :

Himalayan towns face unique challenges due to rapid urbanization and development pressures. There is a need for a different approach to urban planning that is climate-resilient, involves local communities, and ensures sustainable financing. Ecotourism and eco-centric planning are crucial for the long-term sustainability of these regions.

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Internal Security

Indian Air Force Team Returns After Successful Participation in Exercise Udara Shakti 2024 at Malaysia

Context:

The Indian Air Force (IAF) contingent returned to India on August 10, 2024, after successfully participating in Exercise Udara Shakti 2024 in Malaysia. The joint air exercise was conducted in collaboration with the Royal Malaysian Air Force (RMAF) from August 5 to August 9, 2024, at Kuantan, Malaysia. The IAF participated with Su-30MKI fighter jets.

About Exercise Udara Shakti:

1. The joint air exercise was conducted in collaboration with the Royal Malaysian Air Force (RMAF) at Kuantan, Malaysia.

2. It aimed to support operational efficiency by exchanging maintenance practices between technical experts of both air forces.

3. During the exercise, IAF's Su-30MKI fighter jets engaged in air combat missions with the RMAF's Su-30MKM fighters, enhancing interoperability and overall effectiveness.

Key Facts about Su-30MKI:

1. The Sukhoi Su-30MKI is a multirole combat fighter aircraft.

2. It is jointly developed by the Sukhoi Design Bureau and Hindustan Aeronautics Limited (HAL) for the Indian Air Force (IAF).

3. Based on the Su-30 fighter aircraft, the Su-30MKI is equipped with thrust vectoring control and canards.

About Hindustan Aeronautics Limited (HAL):

1. HAL is a prominent Indian public sector aerospace and defense company headquartered in Bangalore.

2. Established in 1940, HAL is one of the oldest and largest aerospace and defense manufacturers globally.

3. Presently, HAL operates 11 dedicated Research and Development (R&D) centers and 21 manufacturing divisions across four production units spread throughout India.

Analysis/Impact:

1. **Enhanced Interoperability:** The exercise improved interoperability between the Indian Air Force and the Royal Malaysian Air Force, enhancing their ability to work together in future operations.

2. **Operational Efficiency:** The exchange of maintenance practices and familiarization with each other's operational protocols bolstered the overall **efficiency** and **effectiveness** of both air forces.

Related Concepts:

1. **Joint Air Exercises:** Military exercises conducted by two or more countries to improve cooperation, interoperability, and operational efficiency.

2. **Multirole Combat Aircraft:** Aircraft designed to perform multiple roles, such as air-to-air combat, air-to-ground attacks, and reconnaissance.

Conclusion:

The successful participation of the Indian Air Force in Exercise Udara Shakti 2024 in Malaysia highlights the importance of joint military exercises in enhancing interoperability and operational efficiency. The exercise allowed both air forces to familiarize themselves with each other's protocols and exchange maintenance practices, bolstering their overall effectiveness. The Su-30MKI fighter jets played a crucial role in these air combat missions, showcasing their capabilities as multirole combat aircraft. The collaboration between the Indian Air Force and the Royal Malaysian Air Force is a significant step towards strengthening bilateral defense cooperation and ensuring preparedness for future joint operations.

Nicobar Port Plan From No-Go Zone to Permitted Area

The proposed Nicobar port plan, initially flagged as being in a no-go zone, has now been deemed to be in a permitted area. This change was based on a high-powered committee (HPC) appointed by the National Green Tribunal (NGT), which concluded that the transshipment port does not fall in the Island Coastal Regulation Zone-IA (ICRZ-IA), where ports are prohibited, but is in ICRZ-IB where they are permitted.

Key Points

Initial Information and Change

- **Initial Flagging**: The Andaman & Nicobar Coastal Management Authority initially stated that the port, airport, and township spanned 7 sq km in the ICRZ-IA, where port activities are prohibited.

- **Reclassification**: The HPC concluded that the project falls in ICRZ-IB, where ports are permitted, based on a ground-truthing exercise by the National Centre for Sustainable Coastal Management (NCSCM).

Project Components

- **Trans-shipment Port**: An International Container Trans-shipment Terminal (ICTT) aimed at bolstering the regional and global maritime economy.

- **Greenfield International Airport**: Facilitating global connectivity.
- **Township Development**: New urban development, potentially including a Special Economic Zone.
- **Power Plant**: A 450 MVA gas and solar-based power plant.

Strategic Location
- Positioned near the Malacca Strait, a key maritime route connecting the Indian Ocean to the Pacific Ocean.
- Aims to facilitate the deployment of additional military forces, larger warships, aircraft, missile batteries, and troops.

Environmental Impact
- **Deforestation**: The project will involve the felling of approximately 8.5 lakh trees in the rich rainforests of Great Nicobar.
- **Wildlife Displacement**: The de-notification of the Galathea Bay Wildlife Sanctuary and the declaration of a "zero extent" eco-sensitive zone for Galathea National Park threaten critical habitats.
- **Ecological Destruction:** Home to unique and threatened tropical evergreen forest ecosystems, the construction may cause irreversible damage to the island's biodiversity, including endemic species like the Nicobar Megapode and leatherback turtles.
- **Biodiversity Protection:** The project contradicts India's commitments under the Convention for Biological Diversity to halt and reverse biodiversity loss by 2030 and protect areas of high ecological importance.

Concerns of the Local Tribes
- **Displacement and Cultural Disruption**: The **Shompen** and **Nicobarese** tribes, primary inhabitants of the island, face significant displacement and cultural disruption.
- **Lack of Adequate Responses**: Despite claims of protecting tribal interests, local communities have not received adequate responses to their concerns and requests for relocation.
- **Withdrawal of Consent**: Local communities withdrew their consent for the project in **November 2022**, which is necessary for its implementation as the land is part of the **tribal reserve**.

Technical and Legal Issues
- **Seismic Risks**: Great Nicobar rests on a major fault line and is prone to earthquakes and tsunamis. There has been no comprehensive risk assessment conducted for these natural hazards.

- **Inadequate Reports**: The Environmental Impact Assessment (EIA) report lacks compliance with several Terms of Reference and fails to address critical environmental and social impacts.
- **Legal Challenges**: Many approvals and exemptions granted under various laws protecting forests, tribal rights, and coastal ecosystems could face legal challenges in courts and tribunals.

Island Coastal Regulation Zone (ICRZ)
ICRZ Categories:
o **ICRZ-I**: Ecologically sensitive areas and areas between the Low Tide Line (LTL) and High Tide Line (HTL).
o **ICRZ-IA**: Ecologically sensitive and important areas such as national parks/marine parks, sanctuaries, reserve forests, wild habitats, mangroves, corals/coral reefs, etc.
o **ICRZ-IB**: Intertidal zones between the LTL and HTL.
o **ICRZ-II**: Areas that are already developed up to or close to the shoreline.
o **ICRZ-III**: Relatively undisturbed areas not falling into CRZ-I or II, including both developed and undeveloped areas.
o **ICRZ-IV**: Coastal stretches in the Andaman and Nicobar Islands, Lakshadweep, and small islands, except those designated as CRZ-I, II, or III.
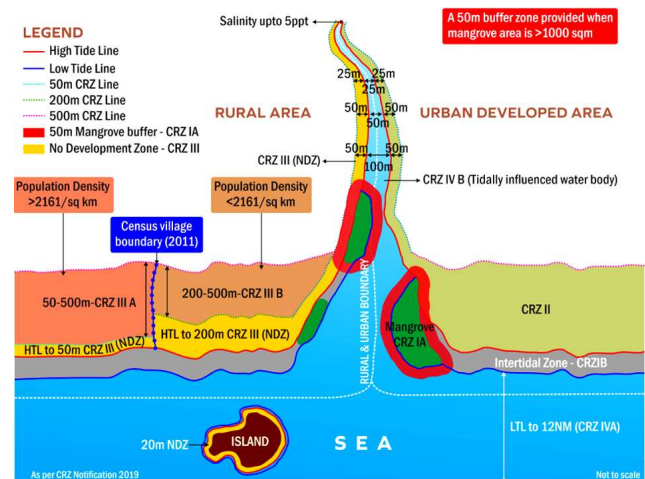
Reclassification to a Permitted Area
- **HPC's Conclusions**: The HPC concluded that no part of the project falls in the ICRZ-IA area based on a "ground-truthing exercise" by the NCSCM. The NCSCM confirmed that the project was within the permissible ICRZ-IB area.

HPC's Recommendations:
o **Coral Colonies**: The HPC agreed with the Zoological Survey of India's recommendation to translocate 16,150 out of 20,668 coral colonies and

recommended continuous observation of sedimentation for the remaining **4,518** colonies.

o **Baseline Data Collection**: The HPC determined that one-season baseline data collection (excluding the monsoon season) was adequate for assessing the environmental impact of the project, as per the **EIA notification, 2006**.

o **Environmental Compliance**: The HPC's findings were submitted to the NGT bench by the Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO), assuring that no activity is proposed within the ICRZ-IA area.

Stakeholders' Responses

- **NGT's Role**: A special bench of the NGT formed the HPC to revisit the project's environmental clearance, addressing concerns raised by environmentalists.

- **Activist's Plea**: Environmental activists filed a plea seeking the exclusion of the project's activities from **ICRZ-IA** and disclosure of HPC's recommendations and meeting minutes.

- **Government Response**: The Andaman & Nicobar administration has yet to respond to queries regarding changes in the project's siting and differing information about its extent in ICRZ areas.

- **Political and Public Outcry**: Political leaders questioned the change in land categorization and demanded transparency regarding the new information that led to this change. There are demands for a thorough impartial review of the proposed projects, including by concerned **Parliamentary committees**.

National Green Tribunal (NGT)

- **Establishment and Role**: Established in 2010 under the National Green Tribunal Act 2010 to effectively and expeditiously dispose of cases relating to environmental protection, conservation, and compensation for damages to persons and property. The Tribunal is mandated to make an endeavor for disposal of applications or appeals finally within **6 months** of filing.

Way Forward

- **Comprehensive and Transparent EIA**: A comprehensive and transparent EIA should be conducted by an independent body to assess the project's full environmental and social implications.

- **Minimize Environmental Impact**: Effective measures to minimize the project's environmental impact, such as habitat restoration, carbon offsetting, and wildlife conservation, should be implemented.

- **Participatory Approach**: A participatory approach involving the Shompen and Nicobarese tribes is essential. Fair and equitable resettlement plans should be developed.

- **Regular Public Consultations**: Regular public consultations and disclosure of project information are crucial to building trust.

- **Explore Alternative Development Models**: Explore alternative development models that prioritize sustainability and minimize environmental impact.

- **Robust Monitoring System**: Establish a robust monitoring system to track the project's environmental and social impacts.

Tarang Shakti, India's Largest Military Exercise

Context:

India is set to host the international air exercise 'Tarang Shakti' in two phases, taking place in Tamil Nadu and Rajasthan. This exercise is significant as it will be the largest international air exercise ever conducted in India, with invitations extended to 51 countries.

Key Points:

1. Overview of Tarang Shakti:

a. The **Indian Air Force (IAF)** will host the international air exercise 'Tarang Shakti' in two phases.

b. The exercise aims to strengthen strategic relations with international partners and enhance mutual understanding of air operations.

2. Participation:

a. Invitations have been extended to 51 countries.

b. Confirmations have been received from ten countries for participation with their assets and from 18 countries as observers.

3. Phases of the Exercise:

a. **Phase One:**

   i. **Dates**: August 6 to August 14

   ii. **Location**: Sulur, Tamil Nadu

   iii. **Participating Countries**: France, Germany, Spain, and the United Kingdom

b. Phase Two:
- **i. Dates**: September 1 to September 14
- **ii. Location**: Jodhpur, Rajasthan
- **iii. Participating Countries**: Australia, Bangladesh, Greece, Singapore, UAE, and the USA

4. Aircraft Involved:
a. The exercise will feature a variety of aircraft, including F-18, A-18, C-130, F-16, A-10, KC-130, KC-135, Eurofighter Typhoon, and Rafale, along with all assets of the Indian Air Force.

b. The **Indian Navy** will participate in phase one with **MiG-29K** aircraft.

5. Indigenous Defence Showcase:
a. The exercise will highlight India's indigenous defence capabilities, with assets like Tejas, Prachand, Dhruv, and Rudra actively participating.

b. The event will include a defence industrial expo showcasing top Indian defence companies and innovative startups.

6. Objectives:
a. To boost military cooperation and highlight India's defence industry, supporting the country's vision of Atmanirbhar Bharat (self-reliant India).

b. To foster interoperability and facilitate professional exchanges between participating forces.

c. To exchange best practices and deepen understanding of contemporary aerial combat strategies.

7. Recent International Engagements:
a. The Indian Air Force recently participated in the second edition of Air Exercise Red Flag from June 4 to June 14 in Alaska.

b. Indian Rafales joined Singaporean and American aircraft in joint exercises, which included beyond-visual-range combat scenarios in offensive counter-air and air defence roles.

Background Information:

1. Tarang Shakti 2024:
a. The exercise aims to enhance military cooperation and showcase India's defence industry.

b. It will feature a variety of aircraft, from homegrown models like the LCA Tejas to advanced fighters like the Rafale and Sukhoi.

2. Defence Industrial Expo:
The event will include displays from public sector undertakings and private companies, highlighting India's growing defence manufacturing capabilities.

Conclusion:
Tarang Shakti represents a significant milestone in India's defence cooperation efforts, aiming to strengthen strategic relations and showcase the country's indigenous defence capabilities. The exercise will provide a valuable platform for international collaboration and the exchange of best practices in aerial combat strategies.

Military Exercises Involving India

Joint Military Exercises by the Indian Army	
Exercise Name	**Participating Countries**
Ex AUSTRA HIND	India and Australia
Ex SAMPRITI	India and Bangladesh
Ex HAND IN HAND	India and China
Ex SHAKTI	India and France
Ex GARUDA SHAKTI	India and Indonesia
Ex PRABAL DOSTYK	India and Kazakhstan
Ex KHANJAR	India and Kyrgyzstan
Ex EKUVERIN	India and Maldives
Ex NOMADIC ELEPHANT	India and Mongolia
IMBEX	India and Myanmar
Ex SURYA KIRAN	India and Nepal
AL NAGAH	India and Oman
Ex INDRA	India and Russia
Ex LAMITIYE	India and Seychelles
Ex MITRA SHAKTI	India and Sri Lanka
Ex MAITREE	India and Thailand
Ex AJEYA WARRIOR	India and UK
Ex YUDHABHAYAS	India and USA
Ex VAJRA PRAHAR	India and USA

Joint Military Exercises by the Indian Navy	
Exercise Name	**Participating Countries**
MALABAR	India, USA, Japan, Australia
Varuna	India and France
La Perouse	India, Australia, USA, France, Japan, UK
Sea Dragon	India, USA, Japan, Canada, South Korea
Konkan	India and UK
AIME & IMDEX	India and ASEAN Countries
Bright Star	India and 34 Countries
SALVEX	India and USA
SLINEX	India and Sri Lanka
Samudra Shakti	India and Indonesia
Al-Mohed Al-Hindi	India and Saudi Arabia
India-France-UAE trilateral exercise	India, France, UAE
PASSEX	India, France, UAE
KOMODO	India and 36 Countries
AUSINDEX	India and Australia
SIMBEX	India and Singapore

Exercise Name	Description	Location
Ex Veer Guardian	First Air Exercise between India and Japan	—
Ex PASSEX with France	Joint exercise with French fighter aircraft	Indian Ocean Region
Ex Desert Flag-8	First participation of Tejas in an international air exercise	Al-Dhafra, UAE
Ex Cobra Warrior	Multinational Air Exercise	UK
Ex Cope India	Joint exercise of India with USAF and Japan (observer)	AFS Kalaikunda & Panagarh, India
Ex Orion	Multinational exercise	France
Ex INIOCHOS	First Air Exercise between India and Greece	Greece
Ex Bright Star	Joint exercise with Egypt	Egypt

Tejas LCA Fighter - HAL's Delivery Delays

The Indian Air Force (IAF) is facing delays in delivery of Tejas Light Combat Aircraft (LCA) from Hindustan Aeronautics Limited (HAL). This is causing concern about the IAF's combat readiness and operational capabilities.

Key Players:

1. **Indian Air Force (IAF)**: The primary user and stakeholder, aiming to strengthen its fleet and phase out aging MiG-21 fighters.
2. **Hindustan Aeronautics Limited (HAL)**: The state-run aircraft manufacturer producing Tejas fighters under contract from the IAF.
3. **GE Aerospace**: The supplier of F404 (F404-GE-IN20) engines, crucial for the Tejas Mk-1A program.

Delays and Reasons:

1. **Initial Plan**: The first batch of Tejas fighters was initially set to be delivered by March 31, 2024.
2. **Current Status**: The first delivery is now expected in August 2024, pushing back the timeline by five months.

3. **Main Issue**: Supply chain problems in the aerospace industry are making it hard for GE Aerospace to deliver necessary engines on time.
4. **Other Factors**: Supply chain issues, technical challenges, and bureaucratic hurdles also contribute to the delays.

Contract Details

1. The IAF has contracted HAL to deliver 83 Tejas Mk-1A fighters under a Rs. 48,000 crore deal.
2. HAL has assured 16 aircraft deliveries in the financial year 2024-25, starting from November, but the IAF remains skeptical due to ongoing engine supply issues.

Concerns:

1. **Operational Readiness**: Delays are affecting the IAF's operational readiness and its ability to keep up with modernizing adversaries.
2. **Long-term Plans**: Prolonged delays could jeopardize the IAF's long-term strategic plans, including reaching a sanctioned strength of 42 fighter squadrons by 2042.

Stakeholder Reactions:

1. **IAF**: Senior officers have expressed their concerns to HAL, urging them to speed up the process and ensure timely delivery of jets.
2. **HAL**: The state-run plane-maker is working closely with GE Aerospace to resolve supply chain issues and explore alternative measures, such as using reserve engines temporarily.

Alternative Measures

1. The IAF is looking into accelerating the procurement of foreign-made fighter jets to meet immediate operational needs.
2. The government is also under pressure to address the issues plaguing the Tejas project and ensure the IAF's needs are met without further delay.

About the Tejas LCA:

1. **Development**: Led by the Defence Research and Development Organisation's (DRDO) Aeronautical Development Agency (ADA), with HAL as the primary industrial contractor.
2. **Service Entry**: July 2016, replacing the MiG-21 and Su-7 fleet.
3. **Features**: A single-seat, supersonic, multi-role fighter aircraft, powered by a single uprated General Electric F404-GE-IN20 engine, designed for offensive air support, close combat, and ground attack roles.
4. **Variants**: Tejas Mark 1, Mark 1A, and a trainer variant.

Defence Research and Development Organisation (DRDO):

1. Established in 1958, operates under the Ministry of Defence, responsible for developing technology and equipment for defense and military applications.

2. Plays a vital role in enhancing India's defense capabilities by developing advanced technology, systems, and products.

Addressing the Challenges :

Stakeholders must work together to address supply chain issues, ramp up production, and ensure timely delivery of Tejas fighters to meet the IAF's operational requirements and strategic plans. Alternative options should be explored to bridge capability gaps in the interim.

Typhoon-K Vehicle

Introduction:

- The Indo-Tibetan Border Police (ITBP) recently tested the Typhoon-K vehicle at their Transport Battalion in Chandigarh.

What is Typhoon-K?

- **Type:** Kamaz-53949 Typhoon-K
- **Origin:** Russian-made, designed by Remdiesel, a part of KamAZ.
- **Purpose:** To safely transport troops and military supplies in areas with high mine risk.
- **Uses:** Can be used as a command post, ambulance, or logistics support vehicle.

Key Features:

- **Dimensions:**
  a. Length: 6.7 meters
  b. Width: 2.5 meters
  c. Height: 2.8 meters
- **Weight:** 13,700 kg (empty)
- **Payload Capacity:** 2,000 kg
- **Speed & Range:**
  a. Maximum speed: 100 km/h
  b. Range: Up to 1,000 km without refueling

- **Capacity:**
  a. Crew: 2 members
  b. Troops: 8 fully equipped
- **Design:**
  a. Four side doors and a rear door
  b. Roof with two hatches for observation and emergencies
- **Protection:**
  a. Can withstand explosions of 8 kg TNT under the floor and 10 kg TNT under the wheels
- **Additional Features:**
  a. Signature reduction package to lower detection
  b. All-around video surveillance
  c. Automatic fire-extinguishing system
  d. Stabilised remote-controlled weapon station (RCWS) for medium-to-heavy machine guns

About Indo-Tibetan Border Police (ITBP)

Name	ITBP
Full Form	Indo Tibetan Border Police Force
Year of Formation	December 24, 1962
Motto	Shaurya – Dridhata – Karm Nishtha
Parent Organization	Central Armed Police Force
Function	Guarding India's international borders with China,particularly in the Himalayan region.
Ministry	Ministry of Home Affairs

Introduction:

- **ITBP**: Indo-Tibetan Border Police.
- **Founded:** October 24, 1962, after the Sino-Indian War.
- **Role:** Protecting the India-China border and handling internal security and disaster relief.

Key Responsibilities:

1. Border Security:

o Guards the India-China border, which is 3,488 km long.

o Operates in high-altitude areas (9,000 ft to 18,800 ft) with extreme weather and rough terrain.

o Conducts patrolling and surveillance to prevent illegal activities and ensure safety.

2. Internal Security:

o Engaged in counter-insurgency operations, particularly in Chhattisgarh against Maoist insurgents.

o Helps local police maintain order and combat extremism.

3. Disaster Management:

o   Provides rescue and relief during natural disasters like earthquakes, landslides, and snow avalanches.

o   Specially trained for high-altitude and extreme weather conditions.

4. Security of Vital Installations:

o   Protects important infrastructure in border areas, such as power plants and dams.

5. Community Engagement:

o   Works with local communities through medical camps, educational support, and sports events to build trust and goodwill.

6. International Cooperation:

o   Collaborates with border security forces of neighboring countries, including joint exercises and patrolling with China.

7. Peacekeeping Missions:

o   Participates in United Nations peacekeeping efforts worldwide.

8. Assisting Civil Authorities:

o   Supports civil authorities during emergencies and civil disturbances.

Training:

- ITBP personnel receive rigorous training in mountaineering, skiing, snow survival, and high-altitude warfare.

- Training takes place at specialized centers like the ITBP Academy in Mussoorie, Uttarakhand.

Challenges and Future Prospects:

- **Challenges:** Infrastructure development, personnel welfare, and logistical support.

- **Future Prospects:** With ongoing improvements in technology and training, ITBP aims to enhance its effectiveness as a border guardian.

Motto:

- "Shaurya – Dridhata – Karm Nishtha" (Bravery, Steadfastness, Dedication).

Conclusion:

The ITBP is crucial for maintaining India's border security, especially in the challenging Himalayan region. Its dedicated personnel are equipped to handle extreme conditions and contribute to national security and humanitarian efforts. The force's commitment to protecting the nation and assisting in disaster relief underscores its vital role in India's security landscape.

EDITORIALS

Crux of The Hindu & Indian Express

Internal Security

BORDER SECURITY FORCE

The Border Security Force, which is responsible for guarding the Indo-Bangladesh border is on High Alert mode after the unfolding of events in Bangladesh.

A NEW CHIEF:

Daljit Singh Chaudhary is a 1990 batch officer of the Indian Police Service, Uttar Pradesh cadre & Director General of Sashastra Seema Bal (SSB) took over the additional charge of Director General Border Security Force just a few days before this menace

ABOUT BORDER SECURITY FORCE

HISTORY:

Till 1965 India's borders with Pakistan were manned by the State Armed Police Battalion. Pakistan attacked Sardar Post, Chhar Bet and Beria Bet on 9 April, 1965 in Kutch. This exposed the inadequacy of the State Armed Police to cope with armed aggression due to which the Government of India felt the need for a specialized centrally controlled BSF, which would be armed and trained to man the International Border with Pakistan.

As a result of the recommendations of the Committee of Secretaries, the Border Security Force came into existence on 01 Dec 1965, and Shri K F Rustamji was the first chief and founding father of BSF.

TASKS OF BSF:

The tasks of the BSF are divided as follows:

Peace time:

- Promote a sense of security among the people living in the border areas.

- Prevent trans-border crimes, unauthorized entry into or exit from the territory of India.
- Prevent smuggling and any other illegal activity.
- Guarding the Indo-Pak & India-Bangladesh borders during peacetime.

During War:
- Holding ground in less threatened sectors.
- Protection of vital installations.
- Limited aggressive action against para military or irregular army of the Enemy.
- Performing special tasks connected with intelligence including raids.
- Acting as guides in local areas where routes are known.
- Assistance in control of refugees.
- Anti-infiltration duties in specified areas.

BPRD Celebrates 54th Foundation Day

Why in News?

The Bureau of Police Research and Development (BPRD) celebrated its 54th Foundation Day on 28th August at its headquarters in New Delhi. The event featured the release of a documentary on new criminal laws.

Key Highlights of the Event:

Memorial Lecture:
- **Speaker:** Union Home Secretary Govind Mohan
- **Theme:** "New Criminal Laws – Citizen Centric Reforms"
- **Focus:** Need for modern jurisprudence to replace colonial-era laws, aligning with Prime Minister Narendra Modi's 'Panch Pran' vision.

Key Points:

- **Victim-Centric Approach:** New laws emphasize justice over mere punishment.
- **Economic Development:** Effective law enforcement is vital for India's growth to the third-largest economy.
- **Honors:** Recognition of President's Medal recipients for Distinguished and Meritorious Service.

Significance of BPRD:
- **Role:** Serves as a crucial link between various police organizations and state/UT police forces.
- **Appreciation:** Highlighted for its unique role among Central Police Organizations.

About Bureau of Police Research and Development (BPRD):

Establishment:
- **Date:** August 28, 1970
- **Replaced:** Police Research and Advisory Council
- **Headquarters:** New Delhi

Mandate and Responsibilities:
- **Needs Identification:** Address police needs and problems.
- **Research and Policy:** Conduct research and suggest solutions to enhance policing.
- **Technology Integration:** Promote the use of advanced technology in police work.
- **Training and Modernization:** Monitor and support police training and modernization.
- **Standards and Quality:** Develop standards for equipment and infrastructure.
- **National Police Mission:** Coordinate national police mission efforts.

Divisions:
- **Research & Correctional Administration:** Focuses on policing and prison reform research.
- **Training Division:** Formulates and coordinates training policies and programs.
- **Modernisation Division:** Evaluates new technologies and sets quality standards.
- **National Police Mission:** Develops solutions based on field expertise.
- **Special Police Division:** Addresses internal security issues including human trafficking and gender concerns.
- **Administration Division:** Provides administrative support.

Achievements and Contributions:
- **Training Institutes:**
  o **Locations:** Kolkata, Hyderabad, Chandigarh, Ghaziabad, and Jaipur
  o **Purpose:** Provide training for police officers and stakeholders.

- **Historical Context:** Gore Committee: Appointed in 1971 to address deficiencies in law enforcement training programs.

Conclusion:

The 54th Foundation Day of BPRD underscored its essential role in advancing police research, development, and training in India. The celebration highlighted the Bureau's contributions to modernizing law enforcement practices, improving training standards, and supporting national police missions. BPRD's ongoing efforts are pivotal in enhancing policing effectiveness and addressing contemporary challenges in law enforcement.

India's Progress in Submarine Fleet Expansion

Overview:

India is preparing to commission its second nuclear-powered submarine equipped with nuclear missiles, the INS Arighat, following extensive trials. This new addition will enhance India's naval capabilities amid China's expanding presence in the Indian Ocean.

a. Additionally, India is set to approve a major project to build two nuclear-powered attack submarines with conventional weaponry, further enhancing its maritime defense.

INS Arighat : Key Details

- **Status:** INS Arighat, a 6,000-tonne nuclear-powered submarine, is ready for commissioning after resolving technical issues during trials.
- **Comparison:** It will join the INS Arihant, India's first nuclear-powered submarine, which became operational in 2018.
- **Missiles:** INS Arighat will be armed with K-15 missiles with a range of 750 km, similar to INS Arihant but with a larger capacity.

Future Projects:

- **Nuclear-Powered Attack Submarines (SSNs):** India is advancing a project to build two SSNs, equipped with torpedoes, anti-ship, and land-attack missiles. This project, initially planned for six submarines, has been scaled down to two. The first two SSNs will be nearly 95% indigenous, with additional submarines to be considered later.
- **Project Cost:** The total cost for this project is approximately Rs. 40,000 crore.
- **Timeline:** Building the SSNs is expected to take around a decade.

Nuclear-Powered Attack Submarines (SSNs):

An SSN is a nuclear-powered general-purpose attack submarine. The designation "SSN" is used by the US Navy, where "SS" stands for "Ship Submersible" and "N" for "Nuclear."

Key Characteristics :

- **Nuclear Power:** Unlike diesel-electric submarines, SSNs are powered by nuclear reactors, allowing them to operate underwater indefinitely without needing to surface for recharge.
- **Speed and Endurance:** They can achieve high speeds and operate for extended periods without resupply.
- **Stealth:** Their quiet operation makes them difficult to detect, giving them a significant advantage in surveillance and attack missions.
- **Versatility:** SSNs are designed to perform a variety of missions, including:
  o Anti-submarine warfare
  o Anti-ship warfare
  o Intelligence, surveillance, and reconnaissance (ISR)
  o Special operations support
  o Land attack with cruise missiles
- **Armament:** Typically equipped with torpedoes, cruise missiles, and mines.

Current Fleet:

- **Nuclear Submarines:** India currently operates only one SSBN, INS Arihant, powered by an 83 MW pressurized light-water reactor.
- **Conventional Submarines:** The fleet includes 16 diesel-electric submarines, comprising six Russian Kilo-class, four German HDW, and six French Scorpenes.

Difference between SSBN and SSN :

Characteristic	SSBN (Ship Submersible Ballistic Nuclear)	SSN (Ship Submersible Nuclear)
Primary Role	Strategic deterrence	Anti-submarine warfare, etc.
Armament	Ballistic missiles with nuclear warheads	Torpedoes, cruise missiles, mines
Mission	Survive attack and retaliate	Various tactical missions
Stealth	Extremely high priority	High priority
Endurance	Long-range patrols (months)	Extended periods (shorter than SSBN)

Comparison with China:

- **China's Fleet:** China boasts a fleet of 60 submarines, including six Jin-class SSBNs with JL-3 missiles (range 10,000 km) and six SSNs.

- **Strategic Importance:** The new INS Arighat will enhance India's nuclear deterrence, particularly its sea-based leg of the nuclear triad, which also includes land-based and air-based nuclear capabilities.

Future Submarines and Capabilities:

- **Upcoming SSBNs:** The third SSBN, INS Aridhaman, with a 7,000-tonne displacement and K-4 missiles (range 3,500 km), is expected to be commissioned next year.

- **Advanced Technology Vessel (ATV) Project:** The fourth SSBN and future submarines will be part of the Rs 90,000 crore ATV project, with plans to build 13,500-tonne SSBNs featuring more powerful 190 MW reactors.

- **Strategic Role:** Larger SSBNs will improve India's deterrence by providing secure and survivable platforms for retaliatory strikes.

Interim Measures:

- **Lease from Russia:** Until the indigenous SSNs are operational, India will lease an advanced Akula-class SSN from Russia in 2026 under a $3 billion deal.

Conclusion:

India's progress in expanding its submarine fleet is a significant step towards strengthening its naval capabilities and strategic deterrence. The commissioning of INS Arighat and the development of new SSNs will enhance India's maritime defense in response to regional threats, particularly from China. As India continues to advance its submarine technology, it aims to maintain a robust and credible deterrent posture in the Indian Ocean region.

❏❏❏

Part - I

CELLULAR JAIL : THE SAGA OF RESISTANCE

- **Location:** Cellular Jail, also known as "Kala Pani", is situated in Port Blair, Andaman and Nicobar Islands, India. Its remote location was chosen to prevent escape and isolate prisoners from the rest of the world.

- **Construction:**
  o **Start Date :** 1896
  o **Completion Date :** 1906
  o **Labor :** Constructed by convict labor under harsh conditions, using local stone and concrete.

- **Purpose:** Built to exile and punish political prisoners and revolutionaries opposing British colonial rule. It was a direct consequence of the 1857 Sepoy Mutiny, reflecting the British policy shift towards more severe repression of dissent.

- **Historical Impact:** The jail became a symbol of British cruelty and was intended to suppress the spirit of resistance among Indian freedom fighters.

KEY FACTS ABOUT THE JAIL

- **Architecture:**
  o **Designer:** British architect J. A. H. W. Macpherson.
  o **Design Theory:** Based on the 'Pennsylvania System' or 'Separate System', which required complete isolation of each inmate. This system aimed for total separation to prevent communication between prisoners in the same or different wings.
  o **Layout:** The jail features seven wings radiating from a central watchtower, resembling a spider's web. This layout was intended to isolate prisoners and prevent rebellion.
  o **Cell Design:** Each cell, approximately 4.5 x 2.7 meters, was designed for solitary confinement with thick walls, small windows, and limited ventilation, creating a suffocating environment.
  o **Watchtower:** The central tower allowed guards to monitor all prisoners, reinforcing the oppressive nature of the facility.

- **Operational Period:**
  o **Inauguration:** 1906
  o **Closure:** 1947, following India's independence.

- **National Memorial:** Declared in 1969. The site has been developed to educate visitors about the atrocities committed during colonial rule and the heroism of those imprisoned there.

FREEDOM FIGHTERS ASSOCIATED WITH THE JAIL

- **Vinayak Damodar Savarkar**
  o **Role:** Prominent revolutionary, poet, and politician. Known for his opposition to British rule and the concept of "Hindutva."
  o **Sentence:** Two life terms (50 years) in 1911 for anti-colonial activities.
  o **Release:** 1924
  o **Contributions:** Played a significant role in mobilizing support for Indian independence.

- **Batukeshwar Dutt (B.K. Dutt)**
  o **Role:** Revolutionary freedom fighter involved in the 1929 Central Legislative Assembly bombing with Bhagat Singh.
  o **Sentence:** Life imprisonment, exiled to Cellular Jail.
  o **Death:** July 20, 1965, at age 54.

- **Fazl-E-Haq Khairabadi**
  o **Role:** Involved in inciting violence after the 1857 Rebellion.
  o **Sentence:** Life imprisonment in Cellular Jail, with his property confiscated.

- **Barindra Kumar Ghose**
  o **Role:** Involved in the Alipore Bomb Case and attempted assassination of Kingsford.
  o **Sentence:** Initially death, reduced to life imprisonment, deported to Cellular Jail in 1909.

- **Sushil Dasgupta**
  o **Role:** Member of the Yugantar Dal, involved in the Putiya Mail Robbery case of 1929.
  o **Sentence:** Imprisoned in Cellular Jail after escaping from Medinipur prison.

SIGNIFICANCE

- **Symbol of Resistance:** Cellular Jail symbolizes the extreme repression faced by Indian freedom fighters and the inhumanity of colonial rule. It serves as a stark reminder of the sacrifices made for India's independence.

- **Post-Independence Use:** After India's independence, the jail was preserved as a national memorial. It now functions as a museum and educational site, commemorating the struggle for freedom and educating visitors about colonial history and the heroic sacrifices of those imprisoned there.

- **Modern Day:** The site attracts visitors from across the world and serves as a powerful symbol of resistance and resilience. It helps in educating new generations about the brutalities of colonial rule and the valor of the freedom fighters who endured these hardships.

JAMBUDWEEP PROCLAMATION

In the proclamation of 1801, the Maruthu brothers said, "The Europeans violating their faith have deceitfully made the Kingdom their own and considering the inhabitants as dogs, accordingly exercise authority over them. There existing no unity and friendship among you the above castes, who, not being aware of the duplicity of these Europeans – have not only inconsiderately calumniated each other, but have absolutely surrendered the kingdom to them. In those countries now governed by these low wretches, the inhabitants have become poor and the rice has become water" – South Indian Rebellion, The First War of Independence 1800-1801.

ABOUT MARUTHU BROTHERS

- **Colonial Expansion:**
  - **Early British Presence:** The British East India Company initially came to India for trade, but used military and political tactics to expand control. Their influence grew through alliances and conflicts with local rulers.
  - **Nawab of Arcot:** Mohammed Ali, the Nawab of Arcot, ceded significant administrative control to the British, including tax collection and governance. This led to the widespread impoverishment of local populations and increased British dominance.
- **Background of the Maruthu Brothers:**
  - **Family:** Periya Maruthu (the elder) and Chinna Maruthu (the younger) were born to Mokka Palanisamy Thevar and his wife Ponatha. They served the second king of Sivagangai, Muthu Vaduganathan Thevar.
- **Training and Role:** Both brothers were trained in military tactics and artillery. They became trusted aides to the king, with Periya Maruthu serving as a military commander and Chinna Maruthu as a key administrator.
- **Conflict with the British:**
  - **British Actions:** Following failed negotiations, the British launched a brutal attack, killing the king and queen of Sivagangai. The Maruthu brothers fled with the first queen, Velu Nachiyar, seeking refuge in the neighboring kingdom of Virupakshi, ruled by Gopal Nayak.

- **Return to Sivagangai:** After seven years, the Maruthu brothers returned to Sivagangai. Periya Maruthu assumed command of the army, while Chinna Maruthu became the chief minister. They sought to restore their kingdom and resist British rule.

THE PROCLAMATION

- **Issuance of the Proclamation**:
  - **Date and Context**: In 1801, the Maruthu brothers, having united with other Southern Indian kings opposed to British rule, issued the Jambudweep Proclamation.
  - **Content:** The proclamation was a powerful declaration against British oppression. It criticized British deceit and their brutal policies towards Indian rulers and people. The proclamation condemned the lack of unity among Indian castes, which had facilitated British dominance.
- **Symbolism and Public Display**:
  - **Cultural Significance**: Jambu Dweepa, an ancient term in Hindu, Buddhist, and Jain cosmology, refers to a large landmass or continent, often the Indian subcontinent. The Maruthu brothers used this term to evoke a sense of national identity and unity.
  - **Public Display**: The proclamation was prominently displayed on the walls of significant locations like the Sri Rangam Temple and the Rock Fort in Tamil Nadu. This act was risky but symbolized their defiance and commitment to the cause.

BRITISH RESP3ONSE & EXECUTION

- **Military Campaign**:
  - **British Reaction**: The British were enraged by the Maruthu brothers' defiance and launched a comprehensive military campaign to suppress the rebellion. They sought to crush any organized resistance to their rule.
- **Capture and Execution, Date:** October 24, 1801
  - **Details**: The Maruthu brothers, along with around 500 of their supporters, were captured by the British forces. The executions were carried out without legal proceedings, described as "anomalous and irregular" by contemporary observers.
  - **Aftermath**: The British executed the male members of the Maruthu family to prevent future resistance. Doraisamy, the only surviving son of Periya Maruthu, was exiled to Malaysia.

LEGACY

- **Historical Significance**:
  - o **Early Resistance**: The Jambudweep Proclamation is notable as one of the earliest and most organized efforts to challenge British colonial rule in India. It represented a significant attempt to unite various Indian rulers and communities against British oppression.
  - o **Precursor to Independence Movements**: Although the rebellion was ultimately suppressed, it highlighted the potential for collective resistance and inspired subsequent independence movements.
- **Enduring Legacy**:
  - o **Symbol of Courage**: The Maruthu brothers' bravery and sacrifice are remembered as pivotal in the history of Indian resistance against colonial rule. Their actions contributed to the growing sentiment for independence and resistance against British domination.
  - o **Historical Context**: The rebellion set a precedent for future uprisings and was a precursor to more widespread movements like the Vellore Mutiny of 1806 and the Sepoy Mutiny of 1857.

CONCLUSION

The Jambudweep Proclamation of 1801, led by the Maruthu brothers, represents a significant early challenge to British colonial rule in India. Despite its ultimate failure, the proclamation and subsequent rebellion highlighted the potential for collective resistance and unity among Indian rulers and people. The courage and sacrifice of the Maruthu brothers remain an inspiring chapter in the history of India's struggle for independence. Their actions foreshadowed the more widespread movements that would later play a crucial role in achieving independence from British rule.

Part - II

UNTOLD STORIES OF FREEDOM STRUGGLE FROM NORTHEAST INDIA

Due to geographical isolation and limited colonial intervention in Northeast India, people's participation was very limited, however it was noticeable that the people of Northeast India fought against the British colonial power with the intention of achieving independence and protecting local cultural interests.

SOME IMPORTANT PERSONALITIES

1. Bhogeswari Phukanani (1885-1942)

- **Background**: A courageous freedom fighter from Assam, Phukanani was actively involved in the Quit India Movement despite her responsibilities as a mother of eight children.
- **Key Contributions**: She played a significant role in liberating the Congress office in Berhampur, Assam, from British control.
- **Sacrifice**: Phukanani was shot by the British police and died 20 days later, demonstrating immense bravery and commitment to India's freedom.

2. U. Tirot Singh (1802-1835)

- **Leadership**: A leader of the Khasi tribe, Tirot Singh resisted British expansion into the Khasi Hills. His resistance was triggered by the British attempt to build a road through the region without fulfilling their promises.
- **Guerrilla Warfare:** Despite being young, Tirot Singh led a guerrilla war against the British for four years.
- **Death**: He was eventually captured and imprisoned in Dhaka, where he died, leaving behind a legacy of resistance.

3. Shoorvir Pasaltha Khuangchera (1850-1890)

- **Historical Role**: A legendary figure in Mizoram, Pasaltha Khuangchera was the first Mizo leader to resist British invasion.
- **Rebellion**: He fought valiantly against British forces in the Lushai Hills in 1890 and died in battle. Despite his significant contributions, his legacy is less recognized nationally.

4. Rani Gaidinliu (1915-1993)

- **Early Activism:** At the age of 16, Rani Gaidinliu initiated a movement against British rule in the Naga Hills.
- **Imprisonment and Release:** Captured and sentenced to life imprisonment, she was released after India's independence.
- **Post-Independence Work**: She continued working for the upliftment of her community and was awarded the Padma Bhushan for her contributions.

5. Kanaklata Baruah (1924-1942)

- **Youth and Bravery**: At just 17, Baruah was involved in the Quit India Movement. She was shot dead by British police while attempting to hoist the national flag at a police station in Assam.
- **Legacy**: Her sacrifice is commemorated as an emblem of youthful courage in the struggle for independence.

6. Moje Riba

- **Freedom Fighter**: A prominent figure from Arunachal Pradesh, Riba was the first person to hoist the Indian tricolor in Dipa village on August 15, 1947.
- **Arrest and Advocacy**: He was arrested for his involvement in the Quit India Movement and for distributing pro-independence pamphlets.

7. Gomdhar Konwar (1915-1942)

- **Activism**: A key figure in Assam's independence struggle, Konwar was actively involved in the freedom movement during the 1940s.
- **Role in Quit India Movement**: He mobilized youth against British rule and faced severe repression. His bravery during the Quit India Movement is remembered with various institutions named in his honor.

8. Moongri (Early 20th Century)

- **Martyrdom**: Moongri is recognized as one of the first female martyrs in the Indian freedom movement. She actively participated in protests against British oppression and lost her life during one such protest.
- **Recognition**: The Government of India has honored her contributions through memorials and educational institutions named after her.

9. Dhekiajuli Massacre (1942)

- **Incident**: The Dhekiajuli Massacre involved British forces opening fire on unarmed protesters in Assam. Among the victims was a young boy, who became known as India's youngest martyr.
- **Commemoration**: Memorials and commemorative events have been established to honor the victims and reflect on their sacrifice.

10. Bom Singpho

- **Role**: A key figure in Arunachal Pradesh, Singpho organized local tribes against British rule and played a significant role in anti-colonial agitation.
- **Legacy**: His efforts to unite various tribes laid the groundwork for future movements. His contributions are preserved through government initiatives and historical records.

11. Thangal General (Thangal Sardar)

- **Resistance Leader**: A prominent leader in Manipur during the First Anglo-Manipur War (1891), Thangal General led guerrilla warfare against British forces.
- **Legacy**: He is celebrated in Manipur for his leadership and resistance, with several institutions and events commemorating his contributions.

12. Ka Phan Nonglait

- **Activism**: An important figure in Meghalaya's freedom movement, she led protests against British policies and was known for her fearless spirit.
- **Recognition**: Her contributions have been recognized by the state government with memorials and educational programs dedicated to her legacy.

13. Ropuiliani

- **Freedom Fighter**: From Mizoram, Ropuiliani was actively involved in the anti-colonial struggle, organizing local communities against British rule.
- **Honors**: The government has honored his contributions through various commemorations and educational initiatives.

14. Sachindra Lal Singh

- **Role**: An influential leader from Tripura, Singh was active in mobilizing the masses against British rule.
- **Legacy**: His contributions to the freedom struggle have been acknowledged through memorials and educational institutions.

CONCLUSION :

The untold stories of freedom fighters from Northeast India showcase the region's significant but often overlooked contribution to India's freedom struggle. From the courageous actions of Bhogeswari Phukanani and Kanaklata Barua to the strategic resistance of U. Tirot Singh and Thangal General, these individuals and their sacrifices played an important role in challenging British colonial rule. Their legacy continues to inspire and remind us of the diverse and rich history of India's freedom struggle.

CONTRIBUTION OF INDIAN LANGUAGES TO THE FREEDOM MOVEMENT

The Indian freedom struggle was a multifaceted movement, driven not only by political and social leaders but also by the rich linguistic and cultural diversity of the country.

Indian languages played a crucial role in mobilizing people, spreading nationalist ideas, and promoting a sense of unity among the diverse population. This chapter explores how various Indian languages contributed to the freedom movement, highlighting their role in literature, journalism, and oratory.

HISTORICAL ASPECT

- **British Colonial Expansion**: The British East India Company established its dominance through key battles such as Plassey (1757) and Buxar (1764), leading to the expansion of colonial rule across India.
- **The First War of Independence**: The uprising of 1857 was a pivotal event that ignited widespread resistance and fueled the desire for liberation from British rule.
- **Role of the Printing Press**: The introduction of the printing press in Goa in 1576 significantly contributed to the spread of nationalist ideas. The first Indian newspaper, The Bengal Gazette (1780), enabled educated Indians to voice their patriotic sentiments.
- **Emergence of Nationalist Newspapers**: Figures like Bal Gangadhar Tilak used newspapers such as Kesari to critique British policies, often facing imprisonment for their outspoken views.

THE POWER OF LANGUAGE

- **Vernacular Literature**: Nationalist literature utilized local languages to reach and resonate with the masses. The British recognized the threat posed by such literature, leading to the Vernacular Press Act of 1878 aimed at suppressing dissent. The act was repealed in 1881, leading to a resurgence of nationalist sentiment through literature.
- **Raja Ram Mohan Roy**: A prominent figure in the national press movement, Roy published *Sambad Kaumudi* in Bengali, which played a role in promoting unity among Indians.

INFLUENTIAL LITERARY FIGURES

- **Bankim Chandra Chattopadhyay**: His novel *Anandamath* (1882) is renowned for the song "Vande Mataram," which became a slogan for the independence movement. His work *Devi Chaudharani* (1884) inspired women to participate actively in the struggle for freedom.
- **Bharatendu Harishchandra**: Regarded as the father of modern Hindi literature, Harishchandra's plays and poems laid the foundation for Hindi nationalism. His works highlighted social issues and advocated for freedom.
- **Rabindranath Tagore**: A Nobel laureate, Tagore's literary contributions include novels like *Gora* (1909) and *Ghare Baire* (1916), which explored themes of nationalism and inner conflict. He also composed India's national anthem, "Jana Gana Mana."
- **Bal Gangadhar Tilak**: Through his newspapers, *Mahratta* and *Kesari*, Tilak became a significant voice of the freedom movement, articulating the aspirations of the Indian populace.

REVOLUTIONARY LITERATURE

- **Anushilan Samiti:** This organization published newspapers that galvanized public sentiment against colonial rule, reflecting the revolutionary spirit of the time.
- **Vinayak Damodar Savarkar:** His work *The Indian War of Independence* (1909) redefined the 1857 revolt as the first war for independence, bringing national attention to the struggle.
- **Indian Diaspora Contributions:** Publications such as *Hindustan Ghadar* and *Circular-i-Azadi* played a significant role in expressing anti-colonial sentiments from abroad.

SOCIAL COMMENTARY THROUGH LITERATURE

- **Addressing Social Evils**: Literature of the period also tackled social issues alongside political freedom. Works like Mulk Raj Anand's *Untouchable* (1935) and Sarat Chandra Chattopadhyay's *Pathar Dabi* (1926) highlighted the need for social justice and equality.
- **M.K. Gandhi's Writings:** Gandhi's *Hind Swaraj* (1938) emphasized the importance of self-rule and moral integrity in the fight for independence, advocating for both political and social reform.

CONCLUSION :

The contribution of Indian languages and literature to the freedom struggle was enormous and multifaceted. literary figures not only inspired people to join the struggle but also promoted a collective national identity. The writings of Bankim Chandra Chatterjee, Bhartendu Harishchandra, Rabindranath Tagore and others played a vital role in shaping public sentiment and unifying diverse groups against colonial rule. The legacy of these literary contributions continues to resonate in contemporary India, reminding us of the enduring power of words in shaping the destiny of a nation. Their work lit a flame of hope and resilience that ultimately contributed to India's liberation.

Part - III

YOUTH CONSCIOUSNESS FOR INDIAN FREEDOM IN BENGAL

Historical Background:

Bengal was a major center of British colonial rule in India. By the late 19th and early 20th centuries, discontent against British rule was growing among all sections of society, including the youth. The partition of Bengal by the British government was a major turning point. This decision was seen as an attempt to divide and rule, which sparked widespread protests and helped mobilize youth in Bengal.

PARTITION OF BENGAL

- **Curzon's Decision**: Lord Curzon, the Viceroy of India, partitioned Bengal along religious and communal lines in 1905. The British Raj, seeking to improve administrative efficiency in the large and diverse region of Bengal, decided to split the province into two separate entities: Eastern Bengal and Assam, and the rest of Bengal (West Bengal and parts of Bihar and Orissa). This partition was not just an administrative move but also had deep political and cultural implications.

KEY POINTS WRT PARTITION OF BENGAL

- **Rationale and Justification**: The British authorities argued that the partition would make governance more efficient, given Bengal's large population and diverse communities. The idea was to create smaller administrative units that would be easier to manage.

- **Political and Social Impact**: The partition was viewed by many as a divide-and-rule strategy aimed at reducing the political influence of Bengali Hindus, who were seen as a strong nationalist force. By creating a separate province for Eastern Bengal, which had a Muslim majority, the British hoped to counterbalance the political dominance of Hindus in the larger Bengal region.

- **Youth Response**: The partition galvanized the youth, who saw it as an attempt to suppress their cultural identity. This led to increased activism and resistance among the younger generation.

- **Reaction and Protests**: The partition led to widespread protests and resistance from Bengali Hindus and the Indian National Congress, who saw it as a move to weaken the growing nationalist movement. The partition was viewed as an attempt to exploit religious and communal divisions to the British advantage.

- **Reversal**: Due to the intense opposition and unrest, the British government reversed the partition in 1911. Bengal was reunited, but the impact of the partition had lasting effects on Indian politics and communal relations.

- **Legacy:** The Partition of Bengal is often seen as a precursor to the more consequential and traumatic partition of India in 1947. The 1905 partition and its reversal highlighted the complexities of British colonial rule and the ways in which administrative decisions could have far-reaching political and social consequences..

ROLE OF YOUTH

- This group of young revolutionaries embraced the ideals of the Western Enlightenment and became important in the independence movement. Their enthusiasm was driven by a desire to challenge British colonial rule.

- **The Swadeshi Movement**: Initiated in response to the Bengal partition, the Swadeshi Movement aimed to boycott British goods and promote indigenous products. The youth played a central role in organizing protests, demonstrations, and advocating for self-reliance.

KEY LEADERS OF THE MOVEMENT

- **Raja Ram Mohan Roy**: Known as the "Father of the Indian Renaissance," Roy was a leading figure in the Young Bengal Movement. He advocated for social reforms, including women's rights and the abolition of Sati, and promoted rationalism and education.

- **Ishwar Chandra Vidyasagar**: A scholar, reformer, and educator, Vidyasagar supported women's education and fought against child marriage. His work to modernize Bengali literature and script had a lasting impact.

- **Bankim Chandra Chatterjee:** A prolific writer whose novel *Anandamath* and the song "Vande Mataram" became symbols of nationalism, inspiring resistance against colonial rule.

- **Netaji Subhas Chandra Bose**: Bose's leadership of the Indian National Army (INA) and his call for revolutionary action with his slogan "Give me blood, and I shall give you freedom" deeply resonated with the youth.

- **Rabindranath Tagore**: A Nobel laureate, Tagore used his literary prowess to evoke nationalism. His composition of the national anthem, "Jana Gana Mana," reflects his contribution to the freedom movement.

- **Aurobindo Ghosh**: Aurobindo Ghosh was both a revolutionary and a spiritual thinker. His writings advocated for both political struggle and inner transformation, influencing the nation's consciousness.

CONCLUSION :

The youth of Bengal were instrumental in shaping the Indian National Movement. Their passionate commitment to freedom, along with their intellectual and revolutionary contributions, played a crucial role in the struggle for independence. Their legacy continues to inspire, reflecting their vital role in the fight for India's liberation.

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Persons in News

Pavel Durov

Pavel Durov, CEO and co-founder of Telegram, was arrested at Le Bourget airport in Paris on August 27, 2024. The arrest relates to a French investigation into Telegram's alleged role in facilitating illegal activities, such as drug trafficking and cyberstalking, due to its strong privacy features and limited content moderation. Durov, who founded Telegram in 2013 after leaving Russia, emphasizes user privacy and encryption. This incident highlights the ongoing conflict between tech companies' privacy commitments and government demands for more content moderation.

Jay Shah

Jay Shah, currently the secretary of the Board of Control for Cricket in India (BCCI), is set to become the chairman of the International Cricket Council (ICC) in November 2024. He has secured support from key cricket boards, including those from England and Australia, which is crucial for his election given the requirement for a simple majority of nine votes from the 16 ICC voting members. Shah will be the third Indian to lead the ICC, following Jagmohan Dalmiya, Sharad Pawar, and N Srinivasan, reflecting India's growing influence in cricket. The election process requires a candidate to win at least 51% of the votes, and Shah is expected to secure this with his strong backing. Despite still having a year left as BCCI secretary before a mandatory cooling-off period, Shah's candidacy is seen as a significant milestone, marking him as the youngest ever ICC chairman and a new generation of leadership in international cricket.

Leonard Hayflick
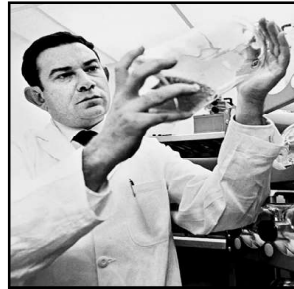
Leonard Hayflick, a prominent biomedical researcher, passed away on August 1, 2024, at the age of 98. Hayflick is best known for discovering the "Hayflick limit," which describes the maximum number of times a normal cell can divide before ceasing to divide. This limit is typically 40 to 60 divisions, with telomeres-protective caps on chromosomes-shortening with each division, eventually leading to cell aging and cessation of division. His 1961 discovery transformed our understanding of aging, revealing it is influenced by biological processes within cells rather than solely external factors. Hayflick's work also highlighted differences in cell division limits across species, such as Galapagos turtles with around 110 divisions and lab mice with only 15. Hayflick, born in 1928 and educated at the University of California, San Francisco, made significant contributions to genetics, cancer research, and regenerative medicine, challenging earlier beliefs and enhancing our understanding of cellular aging.

Paetongtarn Shinawatra

Paetongtarn Shinawatra, at 37, has become Thailand's youngest prime minister, following the dismissal of Srettha Thavisin. Her election marks a significant shift in Thailand's political landscape, amid ongoing instability.

Political Background: Paetongtarn is the daughter of Thaksin Shinawatra, a notable and controversial figure in Thai politics. She is the third member of the Shinawatra family to hold the prime minister position, following her father and her aunt, Yingluck Shinawatra.

Election Details: In a parliamentary vote, Paetongtarn secured 319 votes, roughly two-thirds of the House, reflecting substantial support despite her party's and family's political challenges. She faces several issues, including a struggling economy and a pending $14.25 billion cash handout program from her party, Pheu Thai.

About Paetongtarn Shinawatra : Born on February 21, 1986, Paetongtarn is the youngest daughter of former Prime Minister Thaksin Shinawatra. She studied at Chulalongkorn University and earned a Master's degree from the London School of Economics. A key strategist for the Pheu Thai Party, she is also involved in various business ventures, including tourism.

Shah Rukh Khan

Shah Rukh Khan, Bollywood's "King Khan," was honored with a career achievement award at the 77th Locarno Film Festival on August 10, 2024. The award celebrates his significant impact on cinema. Speaking to an audience of 8,000, Khan praised cinema as an art form that transcends cultural and geographical boundaries and emphasized that art should celebrate life and emotional connections rather than serving solely political or intellectual purposes. He humorously renamed his award the "Leopard Award for being the most awesome in the world," endearing himself further to the crowd.

About Shah Rukh Khan: Born on November 2, 1965, in New Delhi, Khan began his career in television with "Fauji" in 1988. He graduated in Economics from Hansraj College and founded Red Chillies Entertainment. Khan supports charities like the Meer Foundation, which empowers women, and has won over 200 awards. He is also known for his iconic "arms wide open" pose and has a wax statue at Madame Tussauds.

About the Locarno Film Festival: Established in 1946, the festival takes place every August in Locarno, Switzerland, and is known for its open-air screenings at Piazza Grande. It awards the Golden Leopard for best film and focuses on independent and debut films, with notable participants including Wong Kar-wai and Pedro Almodóvar. The festival also features a section dedicated to restoring and preserving classic films.

Muhammad Yunus

Muhammad Yunus, Nobel Peace Prize laureate and founder of Grameen Bank, has been appointed as chief adviser to Bangladesh's interim government following Prime Minister Sheikh Hasina's resignation amid protests over government job quotas. Yunus, born in 1940 in Chittagong, is renowned for his pioneering work in microcredit, which provides small, collateral-free loans to the poor.

Grameen Bank: Founded by Yunus in 1983, Grameen Bank has distributed over $34 billion in loans to nearly 10 million people, achieving a 97% repayment rate and inspiring global microfinance models. Yunus and the bank were awarded the Nobel Peace Prize for their contributions to economic and social development.

Friction with Sheikh Hasina: Yunus's relationship with Hasina soured after his Nobel win, leading to political tension. In 2009, Hasina's government investigated Yunus, accusing him of borrower exploitation. Yunus faces several legal issues, including a recent six-month prison sentence for labor law violations (later suspended) and ongoing investigations for tax evasion and financial misconduct. International figures like Barack Obama and Ban Ki-moon have expressed concerns over what they view as judicial harassment against him.

Indian President Droupadi Murmu

Indian President Droupadi Murmu was awarded the "Companion of the Order of Fiji" during her two-day state visit to Fiji, highlighting the strengthening of diplomatic ties between the two countries.

Ceremonial Reception: Upon arriving in Suva, President Murmu received a ceremonial guard of honor from the Fiji Military Force and was welcomed with a traditional Fijian ceremony attended by Prime Minister Sitiveni Rabuka. This warm reception underscored the significance of the visit and the respect Fiji has for India.

Bilateral Meetings: Murmu met with Fijian President Williame Katonivere to discuss enhancing cooperation between India and Fiji, demonstrating a strong commitment to collaborative relations.

Highest Honour: During the visit, Murmu was awarded the Companion of the Order of Fiji, the nation's highest honor, recognizing the deep respect and robust relationship between the two countries. She also addressed the Fijian Parliament, celebrating 75 years of diplomatic relations and emphasizing the importance of their growing partnership.

Strategic Importance: The visit aims to fortify diplomatic ties and explore shared interests in the Indo-Pacific region. The award and cultural exchanges during the visit reflect mutual respect and a commitment to supporting Pacific island nations.

About the Companion of the Order of Fiji: Established in 1973, this prestigious honor is awarded for exceptional service to Fiji. It is not hereditary and includes three grades, with the Companion being the second highest. The insignia features a traditional Fijian design and is significant for fostering national pride and recognition within Fiji.

Preeti Sudan

Preeti Sudan assumed the role of Chairperson of the Union Public Service Commission (UPSC) in India On August 1, 2024, succeeding Manoj Soni, who resigned for personal reasons. Sudan will serve in this position until April 2025, when she will reach the age of 65.

Appointment and Tenure: Sudan's appointment is made under Article 316 A of the Indian Constitution. As a current UPSC member, she steps into this role with extensive experience in public service.

Career and Background: An IAS officer from the 1983 batch of Andhra Pradesh, Sudan retired as Union Health Secretary in July 2020. Her career includes roles as Secretary of the Department of Food & Public Distribution and work in Women & Child Development and Defence. She holds an M.Phil in Economics and an MSc in Social Policy and Planning from the London School of Economics.

Contributions and Initiatives: Sudan has been instrumental in launching national programs such as Beti Bachao, Beti Padhao, and Ayushman Bharat. She has also contributed to setting up the National Medical Commission, banning e-cigarettes, and other significant health initiatives.

Global Experience and Leadership Roles: Sudan has a notable international background, having served as a Consultant with the World Bank, Chair of COP-8 in the Framework Convention on Tobacco Control, Vice Chair of the Partnership for Maternal, Newborn, and Child Health, and Chair of the Global Digital Health Partnership. She was also part of WHO's Independent Panel for Pandemic Preparedness and Response.

Neeraj Chopra

On August 9, 2024, India's Neeraj Chopra won the silver medal in the javelin throw at the Olympics with a season-best throw of 89.45m. This achievement adds to his gold medal from the Tokyo 2020 Olympics, making him the first Indian to win both gold and silver Olympic medals.

Medal Standings:
- **Gold:** Pakistan's Arshad Nadeem set a new Olympic record with a throw of 92.97m, marking Pakistan's first individual Olympic gold medal.
- **Silver:** Neeraj Chopra with a throw of 89.45m.
- **Bronze:** Grenada's Anderson Peters with a throw of 88.54m.

Notable Throws:
- **Arshad Nadeem:** 92.97m (Gold), 91.79m (Second Attempt)
- **Neeraj Chopra:** 89.45m (Silver)
- **Anderson Peters:** 88.54m (Bronze)

Chopra's silver medal is India's first in the javelin throw event at the Paris Olympics.

Shubhanshu Shukla

On August 3, 2024, ISRO appointed Group Captain Shubhanshu Shukla as the prime astronaut for the upcoming Indo-US mission to the International Space Station (ISS). Born in Lucknow on October 10, 1985, Shukla is the youngest astronaut selected by ISRO. He is a Fighter Combat Leader and test pilot with around 2,000 hours of flying experience, having flown various aircraft including Sukhoi-30MKI and MiG-29.

The backup astronaut for the mission is Group Captain Prasanth Balakrishnan Nair, who is the oldest among the astronaut-designates. Nair, born in Thiruvazhiyad, Kerala on August 26, 1976, is a Category-A flying Instructor with about 3,000 flying hours and has commanded a Sukhoi-30MKI squadron.

Both astronauts are National Defence Academy alumni with extensive aviation experience. This mission is part of a collaborative effort between ISRO and NASA, following a joint statement from Prime Minister Narendra Modi's visit to the US in June 2023.

Abhinav Bindra

On July 23, 2024, the International Olympic Committee (IOC) Executive Board decided to award Abhinav Bindra, India's first individual Olympic gold medallist, with the Olympic Order for his exceptional contributions to the Olympic Movement.

Key Points:
- **Award Ceremony:** The Olympic Order will be presented during the 142nd IOC Session in Paris on August 10, 2024.
- **Significance:** The Olympic Order is the IOC's highest award, recognizing distinguished service to the Olympic Movement.
- **Achievements:** Bindra won the gold medal in the men's 10-meter air rifle event at the 2008 Beijing Olympics, making him the first Indian to win an individual Olympic gold.
- **IOC Involvement:** He has been a member of the IOC Athlete Commission since 2018.

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Current Affairs MCQ's

1. Which of the following is a Shia militant group based in West Asia?
   (A) Hamas   (B) Hezbollah
   (C) ISIS   (D) Al Qaeda
   Ans. (B)

2. Consider the following statements and mark the correct one:
   1. Hezbollah is a miliant group based in Lebanon.
   2. Hezbollah is against Western influence in West Asia.
   (A) Only 1   (B) Only 2
   (C) Both 1 & 2   (D) Neither 1 nor 2
   Ans. (C)

3. Recently, Operation Swords of Iron was in news. It refers to:
   (A) An offensive launched by Hezbollah on Israel killing 12 innocent children.
   (B) An offensive launched by Hamas in Israel in October 2023.
   (C) An offensive launched by Houthi rebels in The Red Sea.
   (D) An offensive launched by Israeli Defence Forces (IDF) against Hamas.
   Ans. (D)

4. Which of the following countries is brokering a hostage deal between Hamas & Israel?
   1. USA   2. Iran
   3. Saudi Arabia   4. Qatar
   (A) Only 1& 2
   (B) Only 1 & 3
   (C) Only 1 & 4
   (D) Only 1, 3 & 4
   Ans. (C)

5. Which of the below mentioned countries is not part of Gulf Cooperation Council?
   (A) Egypt   (B) Qatar
   (C) UAE   (D) Saudi Arabia
   Ans. (A)

6. Consider the following statements and mark the correct one:
   1. Sub categorisation of caste aligns with the phenomenon of equity.
   2. Sub Categorisation was allowed in the OBC category.
   (A) Only 1   (B) Only 2
   (C) Both 1 & 2   (D) Neither 1 nor 2
   Ans. (C)

7. Consider the following statements and mark how many of them are correct?
   1. States are allowed to sub categorise castes only & not tribes for reservation.
   2. The most vulnerable class among SC will be getting more benefits of reservation.
   3. Telangana & Punjab had included provisions for sub categorisation earlier but they were struck down by the courts.
   (A) Only 1 statement is correct
   (B) Only 2 statements are correct
   (C) All the statements are correct
   (D) None of the statements are correct
   Ans. (A)

8. Which country has the highest lithium deposits?
   (A) China   (B) Australia
   (C) Chile   (D) Argentine
   Ans. (C)

9. The Lithium reserves found in Reasi, J&K are unexplored due to which of the following reasons?
   1. The Blocks are too small to apply modern mineral systems-based tools.
   2. Underdeveloped mineral reporting standards used in tender documents.
   (A) Only 1   (B) Only 2
   (C) Both 1 & 2   (D) Neither 1 nor 2
   Ans. (C)

10. Consider the following statements and mark the correct one:
    1. GoI aims to get 30% private vehicles as EV on Indian roads by 2030.
    2. GoI aims to become Net Zero by 2070.
    3. Discovery of Lithium reserves in India will contribute in reducing the Current Account Deficit.
    (A) Only 1 & 2   (B) Only 3
    (C) Only 2 & 3   (D) All of the above
    Ans. (D)

11. Consider the following statements and mark the correct one:
    1. Bailey's Bridge was invented by an AMerican Civil Engineer during the second World War.
    2. Bailey's Bridge is pre assembled.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (B)

12. Where & when in India has the Bailey's bridge come into use?
    1. During the 1965 war with Pakistan.
    2. During the flash floods in Uttarakhand in 2021.
    3. In areas along the Indo-CHina border.
    (A) Only 1 & 3
    (B) Only 2 & 3
    (C) Only 3
    (D) All of the above.
    Ans. (B)

13. Consider the following statements and mark the correct one:
    1. Indira Point is located on the Great Nicobar Island.
    2. Andaman & Nicobar group of islands are separated by 10 degree channel.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (C)

14. The Great Nicobar Island project can lead to?
    1. Greater presence of India in the Indian Ocean Region.
    2. More development in the Andaman & Nicobar Island.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (C)

15. Which High Court has the jurisdiction over Andaman & Nicobar Islands?
    (A) Madras HC   (B) Andhra Pradesh
    (C) Odisha   (D) Kolkata
    Ans. (D)

16. Consider the following statements and mark the correct one:
    1. The students protests in Bangladesh has led to ousting of the PM.
    2. Students in Bangladesh had been demanding reservation which was denied by the government.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (A)

17. Consider the following pairs wrt the reservation in Bangladesh & mark how many of them have been correctly matched?
    QUANTUM : CATEGORY
    1. 30%: reserved for family members of veterans who had fought for Bangladesh's liberation in 1971.
    2. 10%: Women and people from underdeveloped districts.
    3. 5%: Members of tribal communities.
    (A) Only 1 pair is correctly matched
    (B) Only 2 pairs are correctly matched
    (C) All the pairs are correctly matched.
    (D) None of the pairs are correctly matched
    Ans. (C)

18. Consider the following statements and mark the correct one:
    1. Sheikh Hasina had been the PM of Bangladesh since 2009.
    2. The main opposition party Bangladesh Nationalist Party contested 2024 General Elections but could not get more than 50 seats.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (A)

19. Which of the following can be the concerns for India due to the political turmoil in Bangladesh?
    1. Decreased exports to Bangladesh.
    2. More immigration into India.
    3. More crimes along the border.
    (A) Only 1   (B) Only 1 & 2
    (C) Only 2 & 3   (D) All of the above.
    Ans. (D)

20. Consider the following statements and mark the correct one:
    1. The ongoing protests in UK are by the far rightist activists.
    2. These protests have been spread by misinformation.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (C)

21. Which of these forces are not under the jurisdiction of Ministry of Home Affairs?
    (A) CRPF   (B) BSF
    (C) ITBP   (D) Indian Coast Guard
    Ans. (D)

22. Consider the following statements wrt Dark Oxygen & mark the correct one:
    1. Dark Oxygen is produced by some varieties of plants in absence of light.
    2. Discovery of Dark Oxygen has posed questions about the generation of Oxygen by plants in presence of sunlight.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (B)

23. National Handloom Day is celebrated on?
    (A) 7 August because Swadeshi Movement started on this day in 1905.
    (B) 7 August because Gandhiji appealed to the masses to boycott foreign products during Swadeshi movement of 1905.
    (C) 7 August because Gandhiji came back from South Africa and appealed to the weavers to weave Khadi on this day in 1907.
    (D) None of the above.
    Ans. (A)

24. Who led the Swadeshi movement?
    (A) Bal Gangadhar Tilak
    (B) MK Gandhi
    (C) Sardar Patel
    (D) J. L. Nehru
    Ans. (A)

25. Which of the following has been a reason highlighted by GoI for the situation in Bangladesh?
    1. Unfair Elections of 2024.
    2. Reimposing of quota for freedom fighters.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (C)

26. Where in Bangladesh is India's Assistant High Commission located?
    (A) Mongla
    (B) Dhaka
    (C) Sylhet
    (D) None of the above
Ans. (C)

27. In which of the following sports does a weigh-in take place?
    (A) Swimming
    (B) Boxing
    (C) Hockey
    (D) Archery
    Ans. (B)

28. Recently, a term weight cut was in news. It refers to?
    (A) The reduced weight of packaged processed goods without reducing the prices.
    (B) The reduced amount of quota allocation for freedom fighters in Bangladesh.
    (C) Reducing the weight of athletes to make them more agile & fit over a period of time.
    (D) None of the above.
    Ans. (D)

29. Consider the following statements and mark the correct one:
    1. Waqf properties are donated properties.
    2. Waqf Boards are statutory bodies responsible for governance of Waqf Properties.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (C)

30. Who of the following cannot be a member of the Waqf Board as per the Waqf Act 995?
    (A) A non muslim
    (B) An MP
    (C) MLA
    (D) A member of the state Bar Council.
    Ans. (A)

31. Which of the following are the provisions in the Waqf (Amendment) Bill, 2024?
    1. CAG can audit any Waqf Property/Board.
    2. The District Collector is empowered to conduct an enquiry on the legality of the property which has been declared as a Waqf property.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (C)

32. Which of the following have won a Nobel Prize for Economics and led/leading their country?
    (A) Nelson Mandela
    (B) Aung San Suu Kyi
    (C) Mohammad Yunus
    (D) None of the above
    Ans. (D)

33. Consider the following pairs and mark how many of them are correctly matched?

Nobel Laureate	:	Year
(1) Mohd Yunus	:	1996
(2) Nelson Mandela	:	1991
(3) Jose Ramos Horta	:	2006

    (A) Only 1 pair is correctly matched
    (B) Only 2 pairs are correctly matched
    (C) All the pairs are correctly matched.
    (D) None of the pairs are correctly matched
    Ans. (D)

34. Consider the following statements nad mark the correct one:
    1. India is not a signatory to the UN Convention on Status of Refugees but signed the 1967 protocol.
    2. India has provided refuge to Rohingya Muslims according to the 1967 protocol.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (D)

35. Which country has the highest no. of Rohingya Migrants at the moment?
    (A) Myanmar   (B) Bangladesh
    (C) India   (D) Indonesia
    Ans. (B)

36. Consider the statements and mark the correct one:
    1. The MPC has to meet at least once in two months as per the RBI Act.
    2. The MPC is mandated to keep the repo rate in the range of 4+/-2%.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (B)

37. Consider the statements and mark how many of them are correct?
    1. The Monetary Policy Committee (MPC) is a 6 member committee comprising of all the members nominated by the government.
    2. The MPC decides on Policy Interest Rates by majority.
    3. The Chairman of MPC is chosen by majority vote from among the members.
    (A) Only 1 statement is correct.
    (B) Only 2 statements are correct.
    (C) All the statements are correct.
    (D) None of the statements are correct.
    Ans. (A)

38. Consider the statements and mark the correct one:
    1. If MPC fails to maintain inflation in the target range of 2-6%, for 1 quarter, then it has to submit a report to the government.
    2. If during voting in MPC, there is a tie situation, then the Chairman of the committee has the power of casting vote.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (B)

39. Arrange these cities of Japan from North to South.
    1. Tokyo   2. Kyoto
    3. Nagasaki   4. Hiroshima
    (A) 1,2,3,4   (B) 1,2,4,3
    (C) 2,1,3,4   (D) 2,1,4,3
    Ans. (B)

40. Which of the following can be a reason for a megaquake?
    1. Subduction of a tectonic plate.
    2. Tsunami.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (A)

41. Consider the following statements and mark the correct one:
    1. Earthquakes can be predicted.
    2. A megaquake is an earthquake with a magnitude of above 8 on Richter Scale and has the potential of exceptional destructive power.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) Neither 1 nor 2
    Ans. (B)

42. Consider the following and mark how many of the following can be the reasons for coral bleaching?
    1. Low Tides
    2. Global Warming
    3. Marine Pollution including oil spills.
    (A) Only 1 of the above can be the reason for coral bleaching.
    (B) Only 2 of the above can be the reasons for coral bleaching.
    (C) All of the above can be the reasons for coral bleaching.
    (D) None of the above can be the reasons for coral bleaching.
    Ans. (C)

43. Consider the following statements and mark the correct one:
    1. Coral Reefs are in a symbiotic relationship with the oceans.
    2. Great Barrier Reef is the world's largest coral reef system.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (B)

44. What is the aim of Clean Plant Program?
    1. Enhancing the horticulture crop productivity.
    2. Enhancing the horticulture crop quality by reducing diseases.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (C)
45. Consider the following pairs and mark how many are correctly matched?

CPC	Horticulture crop
Pune	Grapes
Bikaner	Citrus Fruits
Mukteshwar	Litchi

    (A) Only 1 pair is correctly matched.
    (B) Only 2 pairs are correctly matched
    (C) All the pairs are correctly matched.
    (D) None of the pairs are correctly matched.
    Ans. (B)
46. Consider the following statements and mark the correct one:
    1. China (PRC) competed for the first time in 1980 Olympic games.
    2. China has won equal no. of medals (Gold+Silver+Bronze) with USA in 2024 Olympics.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (D)
47. Who was China's President when China opened up it's economy.
    (A) Mao Tse Tung   (B) Xi Jinping
    (C) Deng Xiaoping   (D) None of these
    Ans. (C)
48. Consider the following statements and mark the correct one:
    1. TOPS is a scheme for enhancing the performance of some high performing athletes.
    2. Training, Gears and all other related expenses of the athletes are met under the scheme.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (C)
49. Consider the following points about the India Out Campaign and mark the correct ones:
    1. It was a campaign run by the opposition parties in Maldives from 2018-2023.
    2. It targeted over dependance on India.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (C)

50. The Great Male connectivity project connects Male to which of the following islands?
    1. Villingili   2. Thilafushi
    3. Uthuru Thila Falhu
    (A) Only 1   (B) Only 1 & 2
    (C) Only 1 & 3   (D) All of the above
    Ans. (B)
51. Currently, which country is impacted by the M Pox virus the most?
    (A) Cambodia
    (B) Tunisia
    (C) Democratic Republic of Congo
    (D) None of the above.
    Ans. (C)
52. Consider the following statements and mark the correct one:
    1. MPox is a viral disease.
    2. Headache & Joint ache are symptoms of M Pox virus.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (C)
53. Consider the the following statements and mark the correct one:
    1. Small Satellite Launch Vehicles have been indigenously developed by ISRO.
    2. SSLV can launch satellites upto 500 kg to Geosynchronous orbit.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (A)
54. Which of the following can be considered as the advantages of SSLV?
    1. Less time to assemble.
    2. Less manpower is required.
    3. Minimal launch infrastructure is required.
    (A) Only 1 & 2   (B) Only 3
    (C) Only 1 & 3   (D) All of these
    Ans. (D)
55. Consider the following statements and mark the correct one:
    1. Lateral Entry can bring in expertise.
    2. Lateral entry can also impact the work culture.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (C)

56. Which of the following statements wrt Lateral Entry is/are true?
    1. Reservation is not applicable in single seat openings via lateral entry.
    2. Recruitment of lateral entrants is done by UPSC.
    (A) Only 1
    (B) Only 2
    (C) Both 1 & 2
    (D) either 1 nor 2
    Ans. (C)

57. Arrange these posts from top to bottom of hierarchy in the Central Govt.
    1. Additional Secretary   2.   Deputy Secretary
    3. Joint Secretary   4.   Director
    (A) 1,2,3,4   (B) 1,3,4,2
    (C) 3,1,2,4   (D) 2,1,3,4
    Ans. (B)

58. A Supermoon occurs at which of the following conditions?
    (A) An Apogee
    (B) A Perigee
    (C) Either apogee or perigee.
    (D) Neither apogee nor perigee.
    Ans. (B)

59. Consider the following statements and mark the correct one:
    1. A super blue moon is bigger in size than a full moon.
    2. A blue moon is a situation when a full moon is seen twice in a month.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (C)

60. Consider the following statements wrt waterspouts and mark the correct one:
    1. Waterspouts occur only in the tropics.
    2. Waterspouts have become frequent due to climate change.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (B)

61. Which state in India has the highest number of Ramsar sites?
    (A) Uttar Pradesh   (B) Gujarat
    (C) Andhra Pradesh (D) Tamil Nadu
    Ans. (D)

62. Consider the statements and mark how many of them are correct?
    1. India signed the Ramsar convention at its inaugural session.
    2. More than half of Ramsar sites (85) in India have been added in the last 10 years.
    3. Tawa reservoir is the latest addition in the Ramsar sites list.
    (A) Only 1 statement is true.
    (B) Only 2 statements are true.
    (C) All the 3 statements are true.
    (D) None of the statements are true.
    Ans. (B)

63. Which of the following ministers participate in 2+2 dialogue?
    (A) PMs & EAMs
    (B) Defence Ministers & Ministers of Finance
    (C) Defence Ministers & EAMs
    (D) None of the above
    Ans. (C)

64. With which of the following country India has a 2+2 ministerial dialogue?
    1. Australia   2.   France
    3. UK
    (A) Only 1 & 3   (B) Only 1 & 2
    (C) Only 1   (D) All of these
    Ans. (C)

65. Consider the following statements and mark the correct one:
    1. QUAD was conceptualised in the aftermath of Tsunami of 2004.
    2. The idea of QUAD was mooted by USA for the very first time.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (A)

66. Consider the following statements wrt India Malaysia ties and mark the correct one:
    1. Diplomatic ties between them were established in 1962.
    2. Both share a comprehensive Strategic Partnership.
    (A) Only 1   (B) Only 2
    (C) Both 1 & 2   (D) Neither 1 nor 2
    Ans. (B)

67. Which year is designated as Visit Malaysia year by India?
(A) 2024   (B) 2025
(C) 2026   (D) 2027
Ans. (C)

68. Which of these countries do not share a shoreline with the South China Sea?
(A) Philippines   (B) Vietnam
(C) Laos   (D) Malaysia
Ans. (C)

69. Consider the following statements and mark the correct one:
1. The South China Sea carries more than half of the global traffic.
2. India has invested in oil exploration in the South China sea region.
(A) Only 1   (B) Only 2
(C) Both 1 & 2   (D) Neither 1 nor 2
Ans. (C)

70. Consider the following statements wrt Justice Hema Committee and mark the correct one:
1. It is wrt the sexual harassment in the Kerala film industry.
2. The report was submitted by the committee in 2020.
(A) Only 1   (B) Only 2
(C) Both 1 & 2   (D) Neither 1 nor 2
Ans. (c)

71. Who heads the Local Committee in the district to investigate into the cases of sexual harassment at workplace for persons working in informal sector?
(A) The District Judge
(B) Superintendent of Police
(C) A woman judge in the district court.
(D) The District Magistrate
Ans. (d)

72. Which of the following statements are correct about the PoSH Act?
1. An Internal Complaints Committee (ICC) should be formed in every organisation in the formal sector.
2. Minimum half members of the ICC should be from the outside of the company.
3. An employer is duty bound to provide training to the employees.
(A) Only 1 & 2   (B) Only 1
(C) Only 1 & 3   (D) All of the above
Ans. (c)

73. In which year did India & Ukraine establish diplomatic relations?
(A) 1956   (B) 1957
(C) 1958   (D) None of these
Ans. (d)

74. Recently, a term BHISHM was in news. It refers to:
(A) An anti missile missile developed by DRDO.
(B) A makeshift hospital.
(C) An Unmanned Aerial Vehicle capable of bombings developed by HAL.
(D) None of the above.
Ans. (b)

75. What does 3Fs signify in context of Russia-Ukraine war.
(A) Fuel-Food-Factories.
(B) Food-Factories-Fertilizers
(C) Fertilizers-Food-Fuel
(D) None of the above
Ans. (c)

76. Consider the following statements and mark the correct one:
1. The visit to Ukraine by the Indian PM is the first in the history.
2. Indian PM paid homage to Jam Saheb Digvijaysinhji Ranjitsinhji Jadeja of Nawanagar in Ukraine.
(A) Only 1   (B) Only 2
(C) Both 1 & 2   (D) Neither 1 nor 2
Ans. (a)

77. Consider the following statements and mark the correct one:
1. The UPS will be having employee contributions like NPS.
2. It is voluntary for the states to adopt UPS.
(A) Only 1   (B) Only 2
(C) Both 1 & 2   (D) Neither 1 nor 2
Ans. (C)

78. Consider the following statements and mark how many of them are correct:
1. In UPS, the govt. Contributes more than the employee.
2. Minimum service of 25 years is mandatory to be eligible for pension.
3. UPS is inflation indexed.
(A) Only 1 statement is correct.
(B) Only 2 statements are correct.
(C) All the statements are correct.
(D) None of the statements are correct.
Ans. (B)

79. Which of these categories is eligible for Old Pension Scheme?
(A) Group A central govt. Employees.
(B) Armed forces personnel.
(C) Group C & D central govt. Employees.
(D) None of the above.
Ans. (B)

80. Which of these can be considered as a component of Social Security?
1. Insurance   2. Pension
(A) Only 1   (B) Only 2
(C) Both 1 & 2   (D) Neither 1 nor 2
Ans. (C)

81. Which of the following can be considered as the feature of UPS?
1. Minimum pension guaranteed for all those who join the government service irrespective of time period served.
2. In case of death of an employee, 50% pension will be provided to family members.
(A) Only 1   (B) Only 2
(C) Both 1 & 2   (D) Neither 1 nor 2
Ans. (D)

82. Which of the following can be the reasons for a specified central law not been adopted for the healthcare workers?
1. Federalism issues.
2. Laws in the state already are present.
(A) Only 1   (B) Only 2
(C) Both 1 & 2   (D) Neither 1 nor 2
Ans. (C)

83. Consider the following statements and mark the correct one:
1. The Union Ministry for Health & Family Welfare has instructed to install high resolution CCTV cameras in healthcare institutions.'
2. The Ministry has also ordered cancellation of night shifts for all the female doctors & staff.
(A) Only 1   (B) Only 2
(C) Both 1 & 2   (D) Neither 1 nor 2
Ans. (A)

84. Which of these countries is/are part of the Lithium Triangle?
1. Argentina   2. Brazil
3. Chile
(A) Only 1
(B) All of the above mentioned
(C) Only 1 & 2
(D) Only 1 & 3
Ans. (D)

85. Consider the following statements and mark how many are correct?
1. Atacama Salt lake is the largest saltwater lake in the world.
2. Lithium is extracted from the brine of salt flats.
3. Brine helps to hold the land & prevents it from subsidence.
(A) Only 1 statement is correct.
(B) Only 2 statements are correct
(C) All the statements are correct.
(D) None of the statements are correct.
Ans. (B)

86. Consider the following statements and mark the correct ones:
1. Security of Supplies Agreement (SoSA) aims at making supply chains resilient for defence goods & services between India & USA.
2. USA has done first such kind of agreement with any country.
(A) Only 1   (B) Only 2
(C) Both 1 & 2   (D) Neither 1 nor 2
Ans. (A)

87. The Memorandum of Agreement on Liason Officers aims at which of the following?
(A) Training the army officers from India in USA.
(B) Training the army officers from USA in India.
(C) It is an Intelligence Sharing Agreement between India & USA.
(D) None of the above.
Ans. (C)

88. Consider the following statements and mark how many of them are correct:
1. India & USA established strategic ties in 2004.
2. COMCASA, signed in 2016, makes communications compatible between India & USA.
3. BECA, which aims at geospatial information sharing, was signed in 2020.
(A) Only 1 statement is correct.
(B) Only 2 statements are correct.
(C) All the statements are correct.
(D) None of the statements are correct.
Ans. (B)

89. Consider the following statements wrt Unified Lending Interface (ULI) and mark the correct one:
1. It will interlink government records, credit bureaus, and banks.
2. It is a digital platform.
(A) Only 1 (B) Only 2
(C) Both 1 & 2 (D) Neither 1 nor 2
Ans. (C)

89. Recently SEBI has fined RHFL. What is the reason behind it?
(A) Money Laundering.
(B) Misuse of Funds
(C) Loan Defaults
(D) Both B & C
Ans. (D)

91. Which of the following countries share boundary with Balochistan province of Pakistan?
1. Iran 2. Afghanistan
3. Turkmenistan
(A) Only 1 (B) Only 1 & 3
(C) Only 1 & 2 (D) All of these
Ans. (C)

92. Consider the following statements and mark the correct one:
1. The Gwadar port lies in the Balochistan region.
2. Balochistan region is mineral rich.
(A) Only 1 (B) Only 2
(C) Both 1 & 2 (D) Neither 1 nor 2
Ans. (C)

93. Who among these can be categorised as Temporary workers in Canada?
1. International Students
2. Distress Migrants
(A) Only 1 (B) Only 2
(C) Both 1 & 2 (D) Neither 1 nor 2
Ans. (C)

94. Which of the following was the agenda for Pacific Island Forum's 2024 meet?
1. Dealing the USA- China Dynamics in the region.
2. Establishing strategic partnership with each other in the forum.
(A) Only 1
(B) Only 2
(C) Both 1 & 2
(D) Neither 1 nor 1
Ans. (A)

95. Which of the countries is not part of the Pacific Island Forum?
(A) Australia (B) New Zealand
(C) Nauru (D) Indonesia
Ans. (D)

96. In which year was the PM Mudra Yojana launched?
(A) 2014 (B) 2015
(C) 2016 (D) None of these
Ans. (B)

97. Consider the following statements and mark the correct one:
1. PM Mudra Yojana aims at enhancing the financial inclusion in the country.
2. PM Mudra Yojana is suffering from NPAs.
(A) Only 1 (B) Only 2
(C) Both 1 & 2 (D) Neither 1 nor 2
Ans. (C)

98. Fiil in the blanks with the most appropriate option wrt Financial Inclusion:
"Banking the unbanked, Funding the Unfunded,..............................."
(A) Employing the unemployed.
(B) Skilling the unskilled.
(C) Educating the uneducated.
(D) None of the above
Ans. (D)

99. National Sports Day is celebrated on the birth anniversary of which famous sports personality?
(A) Dara Singh
(B) Milkha Singh
(C) Dhyan Chand
(D) None of the above.
Ans. (C)

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AIR 31 — VISHNU SASIKUMAR
AIR 34 — ZUFISHAN HAQUE
AIR 35 — ABHINAV JAIN

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