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1. POLITY & GOVERNANCE

1.1 CHALLENGE TO NEW WAQF LAW

Context

- The Waqf (Amendment) Act 2025 amended the Waqf Act, 1995 to regulate and manage Waqf properties in India. However, it faces significant legal scrutiny due to concerns over its constitutionality.

What is Waqf?

- Waqf is a system in Islamic law where individuals donate land or buildings for religious or charitable purposes, such as mosques, schools, or shelters. These properties are meant to serve the community permanently and cannot be sold or transferred.
- The Waqf Act, 1995, governs how these properties are managed, but allegations of misuse, such as illegal encroachments and mismanagement, have persisted.

Key Provisions of the Waqf (Amendment) Act, 2025

Removing "Waqf by Use"

- The new law removes the concept of "Waqf by Use," which allows properties to gain Waqf status if used for religious or charitable purposes over time, even without formal registration. For example, a mosque used for centuries could lose its Waqf status unless registered.
- Critics argue this undermines the historical recognition of many old mosques and graveyards. Also, registering ancient properties is challenging, making this provision impractical.
- The Supreme Court has expressed concern about the "huge consequences" of stripping properties of their Waqf status, especially since the Ayodhya judgment 2019 recognised Waqf by Use.

Allowing Non-Muslims on Waqf Boards

- The Act permits non-Muslims to join the Central Waqf Council and State Waqf Boards, which traditionally manage Waqf properties. Petitioners argue this violates Article 26 of the Constitution, which grants religious communities the right to manage their own affairs.
- Critics argue that Waqf boards are inherently religious bodies, and allowing non-Muslims to control them dilutes Muslim autonomy. For example, Hindus do not sit on Sikh or Christian boards, raising questions about reciprocity.
- They also raised concerns that non-Muslim members may lack an understanding of Islamic traditions, potentially weakening community control. The government, however, claims this promotes transparency and expertise.

District Collectors Deciding Waqf Status

- Under the new law, district collectors—government officials—can determine whether a property qualifies as Waqf or government land. Previously, Waqf Tribunals handled such disputes.
- Petitioners argue this shift undermines the specialised knowledge of Waqf Tribunals and risks favouring the government, especially since disputed properties automatically revert to government ownership until a court intervenes.

Applying the Limitation Act

- The 2025 Act introduces the Limitation Act, which restricts Waqf Boards from reclaiming encroached properties after 12 years. Under the 1995 Act, there was no time limit for such claims. Petitioners argue this disproportionately affects Waqf Boards, as many encroachments date back decades and proving ownership within 12 years is difficult.

- The Chief Justice acknowledged the Limitation Act has pros and cons—it stops fake claims but might block genuine ones.

Requiring Five Years of Practicing Islam

- The Act mandates that only individuals who have practised Islam for at least five years can create a Waqf. Critics find this provision discriminatory and impractical, as proving one's devotion to Islam over five years is subjective. It may exclude recent converts who wish to contribute to Waqf properties. Petitioners argue this violates freedom of religion.

Government's Justification

The government defends the Act as a measure to address loopholes in the 1995 law, such as fake Waqf claims and illegal land grabs.

- The Act requires all Waqf properties to be registered on a central portal within six months, ensuring digitisation and accountability.
- Properties will undergo audits by the Comptroller and Auditor General (CAG), enhancing financial oversight.
- The Act ensures representation for women and various Muslim sects, including Shia, Sunni, and Bohra, on Waqf boards.
- Appeals against Waqf Tribunal decisions now go to High Courts, providing additional safeguards against arbitrary rulings.

1.2 INDIA'S YOUTH SUICIDE CRISIS

Context

- A UNICEF study indicates that 14% of young Indians aged 15–24 feel depressed, but most don't seek help because society stigmatises mental health issues.

Background

- India is facing a serious problem with young people, especially students, taking their own lives. In 2022, 13,089 students committed suicide, which is about 36 students every day.
- Many feel depressed but don't seek help because talking about mental health is seen as shameful in society. They feel trapped by academic pressure, social expectations, and emotional neglect.

Data and Trends

- Scale of the Crisis:** In 2022, India had 171,000 suicides, the highest ever. Young people aged 18–30 are the most affected, making up 35.1% of these suicides.
- Gender Divide:** Male student suicides decreased by 6% from 2021 to 2022, but female student suicides increased by 7%. Over the past decade, male suicides rose by

50% and female suicides by 61%. Young women face unique pressures like early marriage and gender-based violence.

- Underreporting:** The official numbers might be lower than the actual ones. A study found that suicides are underreported by 27% for males and 50% for females. Stigma and fear of legal issues discourage families from reporting suicides.
- Regional Hotspots:** States like Maharashtra, Tamil Nadu, Madhya Pradesh, West Bengal, and Karnataka have the highest number of suicides. Kota in Rajasthan is a major concern, with 571 student suicides in recent years.
- Forecast:** A study predicts that youth suicide rates will keep rising in the next decade, especially among late adolescents (15–19 years).

Factors Responsible for the Crisis

- Academic Pressure:** The education system is very competitive. Students feel constant pressure to get high marks and succeed in exams like IIT-JEE or NEET. Places like Kota, known for coaching centres, are particularly stressful.

- **Social and Family Pressure:** Society defines success by academic achievement or traditional milestones like marriage. Parents, busy with work or financial stress, might not notice their children's emotional struggles. Family issues like domestic violence or high expectations add to the burden.
- **Mental Health Stigma:** In India, talking about depression or anxiety is taboo. Only 41% of young people feel comfortable seeking mental health support. This stigma prevents students from asking for help.
- **Cyberbullying and Social Media:** Online harassment and the pressure to look perfect on social media make things worse. Students feel inadequate when comparing themselves to others, which leads to anxiety and low self-esteem.
- **Lack of Support Systems:** Most schools and colleges don't have trained counsellors. Programs like the government's "Manodarpan" exist, but they are often not enough. The COVID-19 pandemic made this worse by isolating students and disrupting their routines.
- **Other Factors:** Financial struggles, relationship issues, and easy access to lethal means (like pesticides or hanging) also contribute to the problem.

National Suicide Prevention Strategy (NSPS): Launched in 2022, this strategy aims to reduce suicide rates by 10% by 2030. It focuses on limiting access to lethal means, expanding mental health services, and training non-specialists. The TeleMANAS helpline connects people to mental health professionals.

What Needs to Be Done?

Schools Must Prioritize Mental Health

- Every school should have full-time counsellors trained in child and adolescent psychology. Mental health workshops and peer support groups should be as common as sports or debates.

- **Career counselling should also be integrated to reduce pressure** from competitive exams and help students explore diverse paths. Parents should choose schools that value well-being, not just academic rankings.

Train Parents and Teachers

- Parents and teachers are the first to notice distress but often lack the tools to help. Teachers need professional training to spot signs of depression or suicidal behaviour.
- **Parents should practice positive reinforcement**—praising effort, not just results—and listen to their kids without judgment. Programs like Manodarpan aim to provide psychosocial support, but they need better reach.

Break the Stigma

- India must **normalise mental health check-ups**. Seeking therapy should be seen as a strength, not a shame. Media campaigns, student-led plays, and open discussions in schools can reduce stigma.
- The 2017 Mental Healthcare Act decriminalised suicide attempts, but cultural attitudes need to change. Community leaders, celebrities, and influencers can help by sharing stories of recovery.

Build Community and Family Support

- **Families must create safe, supportive environments.** Reducing domestic violence, addressing financial stress, and encouraging emotional expression can lower risks.
- Economic relief schemes, like the Pradhan Mantri Garib Kalyan Yojana, have shown some success in reducing financial stress-related suicides.

Address Specific Risks

- **Limit access to dangerous methods like poisons or unsecured rooftops.** Regulate coaching centres, as Rajasthan did in 2023, by mandating mental health workshops and training for hostel staff.
- Tackle cyberbullying through stricter online laws. Media must avoid sensationalising suicides to prevent copycat behaviours.

1.3 TAMIL NADU GOVERNOR CASE

Context

- The Supreme Court's verdict in State of Tamil Nadu v/s Governor of Tamil Nadu case, highlights concerns over judicial overreach and its implications on constitutional balance.

Background

- The Tamil Nadu Governor delayed assent to 10 bills passed by the state legislature, some pending since January 2020.
- The Supreme Court:**
 - Declared the Governor's delay illegal and unconstitutional.
 - Invoked Article 142 to deem the bills as having received the Governor's assent.
 - Established a three-month deadline for the President to act** on bills referred by governors.
 - Indicated that if the President doesn't follow their advice, states can approach the court for intervention

Controversy

Procedural Concerns:

- The case was decided by a two-judge bench, despite constitutional matters requiring at least five judges
- All states were not heard** despite the ruling having implications for all state-governor relationships
- The Court added time limits to Article 200, which critics argue should be done only by Parliament
- Critics argue this **judgment encroached upon executive and legislative domains**, while supporters maintain it upheld federalism by preventing the misuse of gubernatorial powers (the "pocket veto").

Judicial Despotism and Overreach

- Judicial despotism refers to the perception that the judiciary, particularly the Supreme Court, is exceeding its constitutional mandate** by exercising excessive control over matters

traditionally reserved for the executive and legislative branches.

- Judicial overreach occurs when courts extend their authority beyond constitutional limits and begin making decisions that belong to the legislative or executive branches.** This happens when courts not only interpret the law but effectively create new rules or impose requirements not originally contained in legislation.

- Judicial Review:** The constitutional power granted to the Supreme Court to examine whether laws or government actions align with the Constitution. If found inconsistent, the court can invalidate them.
- Article 13 declares laws inconsistent with fundamental rights void, while Articles 32 and 226 empower courts to protect these rights.

Arguments For Judicial Despotism

- Undermining Democracy:** Critics, including India's Vice-President, have characterised Article 142 as a "nuclear missile" against democratic forces, arguing that unelected judges should not override decisions made by elected representatives.
- Executive Overreach:** In the Tamil Nadu case, the court effectively bypassed the President's veto power under Article 201, making the roles of governors and the President appear ceremonial rather than substantive.
- Lack of Accountability:** Judges face minimal public scrutiny or consequences for their decisions, as exemplified by cases where judicial immunity prevented proper investigation of potential misconduct.
- Separation of Powers:** By considering bills automatically passed and setting deadlines for constitutional authorities, the court has entered domains traditionally reserved for the legislature and executive, disrupting the constitutional balance.

Arguments against Judicial Despotism

- **Protecting Federalism:** The Tamil Nadu ruling upheld state legislative will against gubernatorial obstruction, preventing governors from acting as "super constitutional figures" and thus strengthening federalism.
- **Constitutional Duty:** The court is fulfilling its obligation to check executive actions against constitutional mandates, such as Article 200's requirement for governors to act "as soon as possible" on bills.
- **Public Interest:** Article 142 has been used to deliver justice where existing laws prove inadequate, as seen in guidelines on mob lynching, divorce in broken marriages, and prisoner rights protection.
- **Pattern of Restraint:** The Supreme Court shows deference to the government, upholding major decisions like demonetisation, the Rafale deal, and the triple talaq ban while rarely striking down legislation.

Experts Recommendations for Balanced Governance

- **Judicial Self-Restraint:** The judiciary should develop clearer internal guidelines for the appropriate use of Article 142 powers, particularly regarding timeframes for constitutional functionaries.

- **Procedural Integrity:** Constitutional questions should consistently be referred to appropriately sized benches (minimum five judges) and ensure all stakeholders are represented.
- **Inter-Branch Dialogue:** Establishing formal mechanisms for communication between branches could help address concerns before they escalate to constitutional crises.
- **Constitutional Clarity:** Legislative amendments could provide clearer timeframes for gubernatorial and presidential actions on bills to prevent future controversies.
- **Public Discourse:** More informed public discussion about the appropriate role of each branch could strengthen constitutional understanding and expectations.
- **Accountability Mechanisms:** All branches of government must be subject to appropriate scrutiny while respecting their constitutional roles.

In conclusion, as Dr. Ambedkar warned, unchecked power in any branch can lead to constitutional chaos. The challenge for Indian democracy is maintaining effective checks and balances while ensuring each institution—judiciary, legislature, and executive—fulfils its constitutional mandate without encroaching on others.

1.4 ARE 'UNOPPOSED' ELECTION VICTORIES UNCONSTITUTIONAL?

Context

- The Supreme Court is examining the constitutionality of unopposed election victories, focusing on whether they violate voters' rights by denying the NOTA option.

What Are Unopposed Elections?

- In India, elections usually involve multiple candidates competing for a seat, and voters choose one by casting their vote.
- **Section 53(2) of the Representation of the People Act, 1951**, says that if only one candidate remains for a seat (because others withdraw or their nominations are rejected), the election official declares that candidate

the winner without holding a poll. This is called an "unopposed election." What happens in such cases:

- No voting takes place.
- Voters don't get to go to polling stations or use electronic voting machines (EVMs).
- The lone candidate automatically wins.
- Voters can't express their opinions, including choosing NOTA to reject candidates.
- **Example:** In the 2024 Lok Sabha election in Surat, Gujarat, a candidate won unopposed after all other candidates either withdrew or had their nominations rejected. This meant

over 18 lakh voters in Surat couldn't vote at all.

Why is this a Problem?

The Vidhi Centre for Legal Policy, a legal research think tank, files a petition challenging the constitutionality of Section 53(2). They argue that unopposed elections violate voters' rights.

- **Denies Free Expression:** The Supreme Court, in the 2013 case *People's Union for Civil Liberties v/s Union of India*, ruled that **NOTA is a part of a voter's right to free expression under Article 19(1)(a) of the Constitution**.
 - NOTA lets voters reject all candidates if they're unhappy with them. In unopposed elections, voters can't use NOTA because no voting happens, which the Vidhi Centre says violates this fundamental right.
- **No Voter Mandate:** The petition claims that candidates who win unopposed enter Parliament or state assemblies without any voter approval. This undermines democracy, as representatives should reflect the people's choice, not win by default.
- **Affects Many Voters:** Between 1951 and 2024, 26 Lok Sabha constituencies saw unopposed elections, depriving over 82 lakh voters of their right to vote. For example, seven such cases occurred in 1957, five in 1951, and one in 2024 (Surat).
- **Outdated Rule:** The Vidhi Centre argues that Section 53(2) was created to save election costs when India was a young, resource-scarce nation. Today, with India's economic growth and advanced electoral systems, this rule seems unnecessary.

What Does the Supreme Court Say?

- **Why No Voting?** "Why cannot there be an election if there is only one candidate? Nobody should enter Parliament by default." The Court believes democracy depends on voters' choices, not automatic wins.
- **Minimum Vote Share:** The Court suggests a new rule: even in unopposed elections, candidates should need a minimum percentage of votes (like 10%, 15%, or 25%)

to win. This would require holding a poll where voters can choose the candidate or NOTA. If the candidate doesn't get enough votes, the election could be declared void.

- **Protecting Democracy:** The Court emphasises that democracy thrives when the majority's will is clear. Allowing candidates to win without voter validation risks undermining this principle.
- **Future Risks:** The Court worries that powerful candidates might manipulate elections by pressuring others to withdraw, leaving voters with no choice. They want to fix this before it becomes a bigger issue.

The Election Commission defends Section 53(2) in the Supreme Court

- **Rare Occurrence:** Unopposed elections are very rare in Lok Sabha polls. Only nine happened between 1951 and 2024, and just one since 1989 (until Surat in 2024). The ECI says this shows the issue isn't widespread.
- **Evolving Democracy:** More political parties and candidates now contest elections, and voters are more aware of their rights. This makes unopposed elections less likely.
- **NOTA's Limits:** The ECI argues that NOTA only applies when polling happens, as it's an EVM option. In unopposed elections, no EVMs are used, so NOTA isn't relevant.
- **Legal Changes Needed:** To make NOTA apply in unopposed elections or require a minimum vote share, the ECI says Parliament would need to amend the *Representation of the People Act, 1951*, and the *Conduct of Elections Rules, 1961*.

While unopposed elections are rare in Lok Sabha polls, they happen more often in state assembly elections

- **Regional Dominance:** Strong regional parties, like those in Tamil Nadu or West Bengal, sometimes dominate local politics, discouraging opposition candidates.
- **Weak Opposition:** In some states, opposition parties lack the resources or influence to field candidates, leading to uncontested seats.

- **Strategic Withdrawals:** Powerful political forces may convince or pressure other candidates to withdraw, ensuring their candidate wins unopposed.

- **Nomination Rejections:** Technical errors in nomination papers can lead to rejections, leaving only one candidate. This happened in Surat in 2024.

1.5 SHORT ARTICLES

Sahyog

Context

- The Indian government has criticised Elon Musk-owned social media platform X for labelling the Sahyog portal as a "censorship portal."

About Sahyog Portal

- It was **launched in 2024 by the Union Home Ministry** to serve as a centralised mechanism to streamline the process of blocking offensive online content.
- It is maintained by the **Indian Cyber Crime Coordination Centre (I4C)** under the Union Home Ministry and aims to enhance collaboration between law enforcement agencies and social media platforms.
- The portal operates under **Section 79(3)(b) of the Information Technology Act 2000**, which empowers the government or its agencies to direct intermediaries to remove or disable access to unlawful content.

How Does the Sahyog Portal Work?

Authorised agencies, such as central authorities, state police departments, or other law enforcement bodies, flag objectionable content on the portal. Once flagged, these agencies raise blocking requests through the portal.

- For **IT intermediaries** like Google, WhatsApp, or Facebook, the portal directly sends these requests.
- For **Internet Service Providers (ISPs)**, the requests escalate to the **Department of Telecommunications (DoT)**, which forwards them to relevant service providers.

A **national dashboard** tracks all actions taken by intermediaries and ISPs, ensuring transparency among stakeholders.

In December 2024, the **Delhi High Court** stressed the significance of operationalizing the Sahyog portal in the case of **Shabana v/s Govt of NCT Delhi**.

Article 355

Context

- The Supreme Court agreed to hear the Murshidabad violence case but didn't want to force the central government to use Article 355 right away.

Background

- In Murshidabad, a district in West Bengal, people were protesting against the Waqf (Amendment) Act. This law changes how Islamic charitable properties, called Waqf properties, are managed. The protests turned violent.
- The petitioner asked the Supreme Court to:
 - Use Article 355 to make the central government protect the state.
 - Consider the President's Rule under Article 356 to take over the state's administration.
 - Set up a committee to investigate the violence and deploy central forces to restore peace.

Understanding Article 355

Article 355 says the central government must protect states from:

- **External Aggression:** If a foreign country attacks a state, the central government steps in. For example, if Pakistan attacks Punjab, the central government sends the Indian Army to defend it.
- **Internal Disturbance:** If there's chaos inside a state, like riots or violence that the state government can't handle, the central government steps in. In 2023, the central

government used Article 355 in Manipur to control violence after ethnic clashes.

- **Constitutional Governance:** The central government makes sure state governments follow the Constitution. If a state government doesn't protect minorities or maintain law and order, the central government can step in.

How Article 355 Works

The President can use Article 355 if:

- A state doesn't follow the central government's directions.
- There's a threat to India's security.
- There are violent activities like terrorism or riots.
- A state can't maintain public order.
- A state government fails to protect minorities or uphold the Constitution.

When Article 355 is used, the central government can:

- Send central forces like the CRPF or BSF.
- Take over law and order.
- Provide resources to stabilise the situation.

Trends in Maternal Mortality 2000-2023

Context

- According to the UN report called "Trends in Maternal Mortality 2000–2023", in 2023, India saw around 19,000 women die due to pregnancy or childbirth issues.

Key Points from the Report

- The report was created by organisations like WHO, UNICEF, the World Bank, and others.
- **Nigeria had the most maternal deaths in 2023**, with about 75,000. India and the Democratic Republic of Congo each had 19,000 deaths. Pakistan had 11,000. These four countries had almost half of all global maternal deaths.
- China, which has a similar population to India, had only 1,400 maternal deaths in 2023.

What Is Maternal Mortality Rate (MMR)?

- **MMR suggests how many women die for every 100,000 live births due to pregnancy or childbirth.** In 2000, India's MMR was 362. By 2023, it dropped to 80, a big improvement.

China's MMR also fell, from 56 in 2000 to 16 in 2023.

- **Globally, maternal deaths went down by 40% between 2000 and 2023.** But progress slowed after 2016. In 2023, around 260,000 women died from pregnancy or childbirth issues, which is about one death every two minutes.

Why Maternal Mortality Rate (MMR) high?

- Most women die from heavy bleeding after childbirth. Other causes include high blood pressure during pregnancy, infections, and unsafe abortions. Many of these issues can be prevented with good healthcare. **However, in low-income countries like India**, healthcare systems often lack resources, trained staff, and essential medicines.
- Public health centres can handle normal deliveries, but they struggle with complicated pregnancies because they don't have enough doctors or equipment. In southern states, where people have more money, maternal mortality rates are better. But in poorer northern states, many women still die because they can't get affordable emergency care.

Article 142

Context

- The Vice President of India criticises the Supreme Court's use of Article 142.

About Article 142

- Article 142 of the Constitution grants the Supreme Court a **special power to ensure "complete justice" in any case that comes before it.** This means the court can pass orders or decrees that might go beyond what the existing laws allow, to make sure justice is done.

How Does the Supreme Court Use Article 142?

- **Fixing Injustice:** The Supreme Court uses Article 142 to correct unfair situations. For example, in 2024, it overturned the Chandigarh mayoral election results because the presiding officer tampered with ballots.
- **Filling Legal Gaps:** When there is no law to address a problem, the court can create guidelines. In 1997, the Vishaka case led to guidelines against workplace sexual

harassment, which later inspired the Prevention of Sexual Harassment Act, 2013.

- **Protecting Rights:** Article 142 helps the court defend fundamental rights. In the 2017 K.S. Puttaswamy case, the court used this power to declare privacy a fundamental right and set guidelines to protect it.
- **Checking Government Power:** The court uses Article 142 to keep the government in check. In 2014, it cancelled 214 coal block allocations due to corruption, showing it can override executive decisions for the public interest.
- **Innovating Justice:** The court sometimes thinks outside the box. In the 2019 Ayodhya case, it awarded land for a temple and granted five acres for a mosque elsewhere, balancing both sides' interests.
- **Social Justice:** The court supports marginalised groups. In the 1989 Bhopal Gas Tragedy case, it ordered Union Carbide to pay \$470 million to victims, ensuring they got compensation.

Criticism of Article 142

- **Vague Definition:** The term "complete justice" is vague, so different judges interpret it differently.
- **Judicial Overreach:** Sometimes, the court steps into areas meant for the government or legislature. For example, in 2016, it banned liquor sales near highways. This can blur the line between the judiciary and other branches.
- **Lack of Accountability:** Unlike the government, the judiciary isn't answerable for its decisions.
- **Economic Impact:** Broad decisions, like cancelling coal block allocations, can affect businesses and the economy.

Women and Men in India

Context

- The Ministry of Statistics and Programme Implementation (MoSPI) has released a report called "Women and Men in India 2024: Selected Indicators and Data."

Key Highlights of the Report

Education

- **Gender Parity Index (GPI):** This measures how many girls are enrolled in school compared to boys. The GPI is above 1.00 at primary (1.03), upper primary (1.02), and higher secondary (1.02) levels, meaning more girls are enrolling in schools.
- **Enrolment Rates:** Girls are now enrolling in schools at almost the same rate as boys. This is a big step forward for education equality.

Workforce Participation

- **Labour Force Participation Rate (LFPR):** This shows the percentage of women aged 15 and above who are working. It has improved from 49.8% in 2017-18 to 60.1% in 2023-24. This means more women are joining the workforce.

Financial Inclusion

- **Bank Accounts:** Women own 39.2% of all bank accounts in India and hold 39.7% of the total money deposited in banks. In rural areas, they are even stronger, making up 42.2% of account holders.
- **DEMAT Accounts:** These are accounts that allow people to invest in the stock market. From 2021 to 2024, the number of DEMAT accounts grew from 33.26 million to 143.02 million. While men still have more accounts, women are catching up. Female DEMAT accounts grew from 6.67 million in 2021 to 27.71 million in 2024.

Entrepreneurship

- **Female-headed Businesses:** More women are starting their own businesses. In sectors like manufacturing, trade, and services, the number of female-headed businesses has been increasing every year since 2021.
- **Startups:** Startups with at least one woman leader grew from 1,943 in 2017 to 17,405 in 2024. This shows that women are taking charge and starting new businesses.

Political Participation

- **Voting Trends:** Since India's first election in 1952, the number of voters has grown a lot—from 173.2 million to 978 million in 2024. Women are registering to vote in larger numbers. In fact, in 2024, more women voted than men—65.8% of women voted compared to 64.5% of men.

Health

- **Total Fertility Rate (TFR):** This has declined to 2.0 nationally in 2023, indicating that families are getting smaller.
- **Life Expectancy:** Female life expectancy has increased to 71.3 years, showing better health outcomes for women.

Why UGC will issue Equivalence Certificates for Foreign Degrees

Context

- The UGC has introduced the "University Grants Commission (Recognition and Grant of Equivalence to Qualifications Obtained from Foreign Educational Institutions) Regulations, 2025."

What Do These Rules Cover?

- The new rules apply to most academic qualifications, such as certificates, diplomas, and degrees, obtained from foreign universities. However, there are some exceptions:
 - Degrees in fields like medicine, pharmacy, nursing, law, architecture, and other regulated professions are not covered. These are governed by specific regulatory bodies in India.
 - If a foreign university has a partnership with an Indian university for joint degree programs, students don't need an equivalence certificate.
- Online or distance learning degrees from foreign universities can now get equivalence certificates, which was not allowed in earlier drafts.

Eligibility Criteria for Equivalence Certificates

- To get an equivalence certificate, the following conditions must be met:
 - The foreign university must be officially recognised in its home country.
 - The program studied should have rules and requirements similar to those of Indian programs (e.g., credit requirements and internships).
 - The student must have followed the foreign university's rules while studying.

- Even if someone studied at a foreign university's campus outside their home country, they can still apply for an equivalence certificate as long as the program meets the standards of both the host country and the university's home country.
- For school qualifications, like completing 12th grade abroad, a person can apply for an equivalence certificate if they want to join an undergraduate program in India.

National Mission for Clean Ganga (NMCG)

Context

- The National Mission for Clean Ganga (NMCG) has been granted tax exemption by the Central Board of Direct Taxes (CBDT).

Why This Exemption?

- NMCG is recognised as an authority under the Environment (Protection) Act, 1986. This status makes it eligible for tax exemptions under clause 46A of section 10 of the Income Tax Act, 1961.
- The tax exemption will help NMCG to allocate more funds to critical projects without worrying about tax liabilities.

About NMCG

- NMCG is a government organisation set up to clean and rejuvenate the Ganga River.
- It was registered as a society in 2011 and later became an authority under the Environment (Protection) Act in 2016.
- It works under the Ministry of Jal Shakti.
- NMCG leads the Namami Gange Programme, which was launched in 2014 with a budget of ₹20,000 crore. The program aims to:
 - Treat sewage and control industrial waste to reduce pollution.
 - Conserve biodiversity by planting trees and protecting aquatic species.
 - Develop infrastructure like sewage treatment plants and riverfronts.
 - Involve communities in Ganga conservation.

Rajamannar Committee

Context

- Tamil Nadu's Chief Minister has set up a committee to investigate the issue of states' autonomy.

Background

- In 1969, Tamil Nadu's Chief Minister formed the Rajamannar Committee to examine how power is shared between the central government and state governments.
- In 2025, Tamil Nadu's current Chief Minister created a three-member committee **under Justice Kurian Joseph** to study the Constitution and recommend steps to provide states more freedom in the executive, legislative, and judicial branches.

The New Panel's Job

- Study Current Laws:** The panel will look at existing laws and see how they affect state powers.
- Suggest Fixes:** It will propose ways to solve problems and give more freedom to the states.
- Submit Reports:** The panel will submit an interim report by January 2026 and a final report by 2028.

Highlights of the Rajamannar Committee (1969)

Too Much Central Control

- The committee felt the central government had too much control because the same political party ruled both the Union and most states.
- The Union could use certain rules in the Constitution (like Articles 256, 257, and 365)

to tell states what to do. **If states didn't comply, the center could take over by imposing the President's Rule (Article 356).** This made states feel like they were just following orders.

Scrap Article 356

- The committee suggested getting rid of Article 356, which allows the central government to take over a state if it thinks the state isn't running properly.
- They called it a "weapon" that weakens states. Instead, they suggested creating an Inter-State Council where states and the center could talk things out.

Focus on Big Things

- Some people argue that India needs a strong central government to stay united. But the committee said if the center tries to control everything (like health or education), it gets weak because it's doing too much.
- They said the centre should focus on big things, like defending India, and let states handle smaller things like running schools.

Move Topics to State List

- The committee suggested moving some topics, like education or agriculture, from the Concurrent List to the State List. They also wanted states to have more powers to raise their own finances.

The **central government ignored the report**. None of its big ideas were put into action, but it started a conversation about federalism that is still alive today.

1.6 SNIPPETS

Topics	Details
Adarsh Sanskrit Village Programme	- The Uttarakhand government's Adarsh Sanskrit Village Programme aims to revive Sanskrit as a living language by establishing 13 "model Sanskrit villages" across the state. - The initiative is inspired by Mattur village in Karnataka where Sanskrit is the primary spoken language. - The pilot project selects one village per district, overseen by a district committee led by the District Magistrate. - Hiring 13 instructors (paid ₹20,000/month) after a written test and interview. Funding from the Central Sanskrit University in Delhi, with the project set to begin in May 2025.

Safema	- Properties belonging to Tiger Memon, the key accused in the 1993 Bombay Blasts were confiscated under the Smugglers and Foreign Exchange Manipulators (Forfeiture of Property) Act (SAFEMA), 1976. - The Smugglers and Foreign Exchange Manipulators (Forfeiture of Property) Act, 1976, or SAFEMA, is a law enacted to confiscate properties acquired through smuggling or foreign exchange manipulation. - Authorities investigate and identify individuals involved in smuggling, foreign exchange violations, or other crimes under laws like the Customs Act or the Conservation of Foreign Exchange and Prevention of Smuggling Activities Act (COFEPOSA), 1974. - The Adjudicating Authority examines cases involving suspected smugglers and foreign exchange manipulators. After reviewing the evidence, the authority decides whether to confiscate properties.
Disclosure Of Judges' Assets	- The discovery of cash at the residence of a Delhi High Court judge has raised demand for the public disclosure of judges' assets and liabilities. Judges don't have to inform the public about their assets. The RTI Act doesn't apply to them. - Other public workers, like government officials and ministers, have to notify about their assets every year. People can ask for this info through the Right to Information (RTI) Act.
Parens Patriae	- A daughter went to the Bombay High Court and asked to be made the legal guardian of her mother, who has severe dementia. The court looked at a medical report and used the "parens patriae" principle. "Parens patriae" means "parent of the country." It is a legal idea that lets courts act like a guardians for people who can't protect themselves, like children, mentally ill people, or those with severe disabilities. - The court can't use this idea in every case. The Supreme Court says it can only be used when: - The person can't think properly or is too young. - The person doesn't have a guardian, or the guardian is not taking good care of them.
Quota Within Quota For SCs	- Telangana becomes the first state to split SC reservations into smaller groups. - Telangana has made a big change in how it handles reservations for Scheduled Castes (SCs). Instead of giving all SCs the same 15% reservation, the state has divided this 15% into three smaller groups. This is called a "quota within quota" system. - This division was based on a report from the Justice Shameem Akhtar Commission. The Supreme Court allowed states to do this in August 2024. Telangana is the first state to implement this system.
2007 Senior Citizens Act	- The Supreme Court rejected a suit filed by a senior couple to evict their son from their home by invoking the Maintenance and Welfare of Parents and Senior Citizens Act, 2007 (Senior Citizens Act). - The Senior Citizens Act 2007 ensures that children or legal heirs take care of their elderly parents so they can live a normal life. It also sets up special courts or tribunals to quickly solve disputes related to these issues. - The law doesn't directly say that senior citizens can kick out their children or relatives from their property. However, in some cases, if the tribunal decides it's

	necessary to protect the senior citizen, they can order eviction. • Tribunals can order eviction only if it's necessary to protect the senior citizen. Courts must balance the rights of both parties before making a decision.
Doctrine Of Prospective Overruling	• The Supreme Court underlined that the invocation of the Doctrine of Prospective Overruling or the Attribution of Prospectivity to a decision must not be resorted to in a routine manner. • This idea first came up in the United States. In India, it was first used in the I.C. Golaknath v/s State of Punjab case (1967), in which the Supreme Court said that Parliament couldn't change the Constitution to take away basic rights. But if they applied this decision to the past, it would mess up a lot of things. So, they decided it would only apply to future cases. • It is used mainly in cases related to the Constitution. Only the Supreme Court can use it, though High Courts can sometimes use it too. • The Court can decide to apply the new rule to all cases or just some specific ones. They can say the new rule will start from a specific date. It is for special situations where it's really needed.
Registrar General Of India	• The Registrar General of India (RGI) warns hospitals for not reporting births and deaths on time. • The RGI has emphasised that hospitals must report births and deaths within 21 days, as mandated by the Registration of Births and Deaths Act (RBD Act) of 1969. However, many hospitals are not following this rule. • The RGI was established in 1949 under the Ministry of Home Affairs. It oversees the Civil Registration System (CRS), which records every birth and death in India. • The RGI also conducts the Census of India every 10 years, with the last one in 2011. It supervises the Linguistic Survey of India to plan education and social programs.

1.7 ADDITIONAL TOPICS FOR READING FROM IASGYAN WEBSITE

Topic Name	Date
FREE MOVEMENT REGIME	1st April, 2025
DUAL CITIZENSHIP IS AN IDEA WHOSE TIME HAS COME	4th April, 2025
DIGITAL CHILD ABUSE, THE DANGER OF AI-BASED EXPLOITATION	7th April, 2025
CLEAN VOTER LISTS OR THE CHOICE OF AADHAAR LINKAGE	9th April, 2025
TORTURE IN POLICE CUSTODY	10th April, 2025
HISTORY AS BATTLEFIELD – THE PERILS OF REVERSING THE PAST	16th April, 2025
A PROCLAMATION OF DEMOCRACY IN LEGISLATIVE PROCESS	17th April, 2025
A MOVE THAT ENDANGERS THE RIGHT TO VOTE	25th April, 2025

2. INTERNATIONAL RELATIONS

2.1 INDIA'S SUSPENSION OF THE INDUS WATERS TREATY

Context

- India suspended the Indus Waters Treaty after a deadly terror attack in Kashmir, intensifying tensions with Pakistan.

About the Indus Waters Treaty

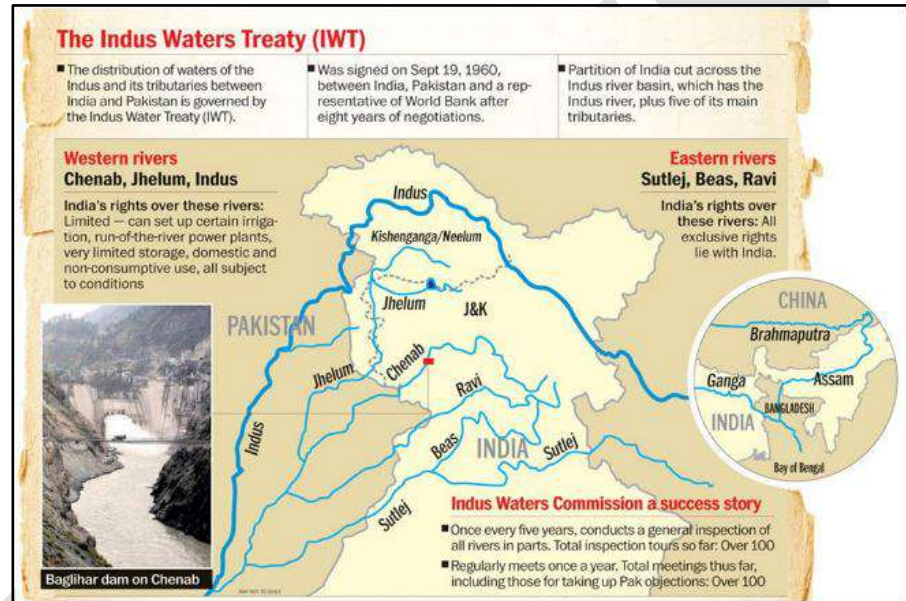
- It is a **1960 agreement** between India and Pakistan, facilitated by the World Bank.

- It divides the waters of the Indus River system, which includes six rivers: Indus, Jhelum, Chenab, Sutlej, Beas, and Ravi. These rivers start in Tibet, flow through India's Ladakh and Jammu & Kashmir, and then enter Pakistan.

- India controls** the Eastern Rivers (Sutlej, Beas, Ravi) and can use them freely.

- Pakistan gets** rights over the Western Rivers (Indus, Jhelum, Chenab), **but India can use** these for limited purposes, like generating hydropower without storing water.

- This treaty survived three wars (1965, 1971, 1999) and decades of tension, making it a rare example of cooperation between the two rivals.



Why Does India Suspend the Treaty?

India suspends the Indus Waters Treaty after a terrorist attack in Pahalgam, Jammu & Kashmir, killing 26 people, mostly tourists. India blames Pakistan for supporting the attackers, claiming Pakistan sponsors cross-border terrorism. This isn't a sudden decision; tensions have been building for years:

- In January 2023**, India sent a notice to Pakistan, asking to modify the treaty because Pakistan isn't cooperating on disputes.
- In September 2024**, India pushed again for a review, frustrated by delays in resolving conflicts over its hydropower projects.
- In January 2025**, a World Bank-appointed expert agreed to mediate disputes, but the Pahalgam attack changed everything.

What Does Suspension Mean?

- Stopping the sharing of water data with Pakistan**, such as flood warnings, affects Pakistan's ability to manage water for farming and floods.
- Ignore treaty restrictions** on the Western Rivers, meaning India can now plan dams or storage projects on the Indus, Jhelum, and Chenab.

- **Blocks Pakistani officials** from inspecting India's hydropower projects, ending cooperation.
- **Plans new projects** to store water or generate more electricity, though building these will take years.
- **Optimises existing dams**, like desilting them to hold more water, which could reduce flows to Pakistan.

What Are the Risks and Consequences?

- **For Pakistan:** Less water could hurt farming, cause food shortages, and spark unrest in water-stressed areas like Punjab and Sindh. Stopping data sharing makes flood management harder, risking lives.
- **For India:** Suspending the treaty could backfire. China, which controls the Indus's headwaters in Tibet, might retaliate by blocking the Brahmaputra River, which supplies 30% of India's freshwater. This could hurt India's water and hydropower needs.
- **For the Region:** The suspension ends decades of hydro-diplomacy, raising fears of conflict. Pakistan calls water diversion a reason for war, and both nations are nuclear powers. Neighbouring countries like Bangladesh and Nepal, which also share rivers with India, worry about similar actions.
- **Global Impact:** The treaty's collapse sets a bad precedent for international water agreements. It shows how geopolitical tensions can override cooperation, even in critical areas like water sharing.

India can't stop water flowing to Pakistan right away. **It doesn't have large dams or canals to redirect or store the massive river flows.** For example, India's only dam on the Indus, at NimooBazgo in Ladakh, is small and far upstream. The suspension is more of a diplomatic warning than an immediate water cutoff. It creates uncertainty for Pakistan's farmers, who fear future shortages.

2.2 SHAPING A RESPONSE TO THE U.S.'S RECIPROCAL TARIFFS

Context

- The Impact of US-Imposed Reciprocal Tariffs on India.

What Are Reciprocal Tariffs?

- **Reciprocal tariffs are a form of trade policy where a country imposes tariffs on imported goods from another country** based on the tariffs that the other country imposes on its own goods.
 - In 2024, India exported \$87.4 billion worth of goods to the US but imported only \$41.8 billion, resulting in a trade surplus.
- The **US imposed a 26% reciprocal tariff rate on India.** This additional tax applies to many Indian goods, on top of existing tariffs, making them more expensive in the US market.

52%, including barriers like currency issues. The primary goals of these tariffs are to:

- **Protect US Jobs:** By making foreign goods more expensive, the US aims to encourage consumers to buy domestically produced products.
- **Reduce Trade Deficits:** The US buys more from countries like India than it sells to them, resulting in a trade deficit.
- **Pressure China:** High tariffs on China (145%–245%) indicate that this policy is partly aimed at restricting China's economic rise.

Which Indian Industries Are Affected?

The tariffs do not apply to all goods. Exempted items include pharmaceuticals, semiconductors, and oil, which is beneficial for India's drug and IT sectors. However, several industries face the 26% tariff, making their products pricier in the US:

- **Electrical Machinery:** Exports worth \$14 billion.
- **Gems and Jewellery:** Exports worth \$9 billion. Demand here might not drop significantly as people still buy luxury items.

Why Is the US Imposing These Tariffs?

President Trump argues that other countries, including India, tax US goods heavily, which he deems unfair. He claims that India's tariffs average

- **Machinery and Appliances:** Including engines and pumps.
- **Textiles:** Clothes and fabrics.
- **Mineral Fuels:** Refined oil products that India re-exports to the US.

These sectors might lose sales if US buyers switch to cheaper options. However, competitors like China (145% tariff) and Vietnam (46%) face even higher tariffs, so India's goods might still be competitive.

Way Forward

Buy More from the US

- If India imports more US goods, such as \$25 billion worth of oil, instead of those from other countries, the trade gap will shrink. This lowers India's reciprocal tariff to 11.8%, close to the 10% minimum, making exports cheaper. This strategy does not hurt India's overall budget—it just changes oil suppliers.

Negotiate a Trade Deal

- India and the US are working on a Bilateral Trade Agreement (BTA) to boost trade to \$500 billion by 2030.
- The **Commerce Minister is in talks with US officials. A deal could lower tariffs on both sides.** India has already cut tariffs on US bourbon, motorcycles, and electric vehicles to show goodwill.
- Speeding up these talks is key, especially since Trump paused tariffs for 90 days (except for China), giving India time to negotiate.

Avoid Retaliation

- **Unlike China, which hit back with 125% tariffs, India remains calm.** Slapping tariffs on US goods like oil or planes would raise prices for Indian consumers, as these are "essential" imports. Experts suggest that retaliation could backfire, as seen with China's 245% tariff penalty.

Watch for Dumping

- Countries like China, hit hard by US tariffs, might "dump" cheap goods in India to offload excess stock. India must monitor imports to protect local businesses.

Diversify Exports

- India can sell more to Europe or the Middle East via new trade routes like the India-Middle East-Europe Corridor (IMEC). This reduces reliance on the US market.

Lower Tariffs

- **Experts suggest that India should cut tariffs to boost efficiency** and satisfy the US. Lower tariffs make Indian goods cheaper globally, attracting buyers. Past trade reforms show this can increase investment.

India faces significant challenges due to the US-imposed reciprocal tariffs. However, by strategically increasing imports from the US, negotiating a favourable trade deal, avoiding retaliation, monitoring for dumping, diversifying export markets, and lowering tariffs, India can navigate these challenges and protect its economic interests.

2.3 KATCHATHEEVU ISSUE

Context

- The Tamil Nadu Legislative Assembly passed a resolution urging the Union government to take steps to recover Katchatheevu Island from Sri Lanka.

About Katchatheevu Island

- **It is a small, uninhabited island in the Palk Strait,** situated between India and Sri Lanka.
- It spans around 285 acres and is located 33 kilometres northeast of Rameswaram (Tamil

Nadu, India) and 62 kilometres southwest of Jaffna (Sri Lanka).



Historical Background

- **Pre-Colonial Period:** The Jaffna Kingdom of Sri Lanka controlled Katchatheevu during the early medieval period.
- **Colonial Era:** During British rule, the zamindars (landowners) of Ramnad (Tamil Nadu) leased the island.
- **Post-Independence:** The dispute persisted, and in 1974, India and Sri Lanka signed the Indo-Sri Lankan Maritime Agreement, ceding Katchatheevu to Sri Lanka.

Indo-Sri Lankan Maritime Agreement (1974)

- The agreement recognised Katchatheevu as Sri Lankan territory but allowed Indian fishermen to visit the island for traditional purposes, such as resting, drying nets, and visiting the Catholic shrine.
- However, the agreement did not explicitly mention fishing rights. In 1976, another pact banned fishing in each other's Exclusive Economic Zones (EEZs), further complicating the situation.

Current Issues

- **Sri Lankan Interpretation:** Sri Lanka interprets the 1974 agreement as meaning that Indian fishermen can only rest and visit the shrine, not fish freely.
- **Arrests of Indian Fishermen:** Since the 1974 agreement, Sri Lanka has arrested Indian fishermen who entered their waters, leading to tensions.
- **Economic Impact:** Tamil Nadu fishermen rely on the rich marine resources around Katchatheevu. The loss of access has severely impacted their livelihood.

Way Forward

- **Diplomatic Talks:** India and Sri Lanka could hold talks to clarify fishing rights near Katchatheevu.
- **International Courts:** Some Tamil Nadu leaders suggest taking the issue to international courts to reclaim the island.
- **Joint Management:** A joint management agreement could allow fishermen from both countries to use the island's resources peacefully.

2.4 INDIA'S REMITTANCES

Context

- The Reserve Bank of India's (RBI's) latest Remittances Survey reveals a significant shift in the sources of remittances to India.

Background

- Traditionally, Gulf countries like Saudi Arabia, UAE, and Qatar were the largest sources of remittances due to the large number of Indian workers employed there. However, recent trends show that advanced economies are now contributing more to India's remittance inflows.

Why Remittances from the Gulf Have Declined?

- **Impact of COVID-19:** The pandemic led to job losses and salary cuts in the Gulf, reducing the

amount of money Indian workers could send back home.

- **Nationalisation Policies:** Gulf countries, particularly Saudi Arabia with its "Saudisation" policy, have prioritised hiring local workers over foreign labor, leading to fewer job opportunities for Indians.
- **Shift in Job Opportunities:** There has been a decrease in job opportunities for low-skilled workers in the Gulf.

Rise of Advanced Economies in Remittances

- **Higher Wages:** Indians working in advanced economies like the US, UK, and Canada earn more than those in the Gulf.
- **Education and Skilled Jobs:** Many Indians are moving to developed countries for higher education and better job opportunities. After

completing their studies, they secure high-paying jobs and send more money home.

- **Statistical Trends:** The US is now the largest source of remittances to India, accounting for 27.7% of total remittances in 2023-24. The share of the UK, Canada, and Singapore has also increased.

Challenges Faced by Indian Workers in Advanced Economies

- **Harsh Immigration Policies:** Restrictive immigration policies, especially in the US under the Trump administration, have made it harder for Indians to secure permanent residency.
- **Deskilling:** Some highly educated Indians end up in low-skill jobs due to easier visa availability.

- **Unpredictable Future:** Changes in immigration policies can suddenly affect their jobs or residency status.

Way Forward

- Ensuring that Indian workers get jobs that match their skills can help them earn more and send more money home.
- India can negotiate agreements with other countries to protect its workers and ensure they get proper jobs, thereby increasing remittances.
- Proactive migration diplomacy, education policy reforms, and labour market alignment are critical for sustaining and optimising this vital source of foreign exchange and socio-economic development.

2.5 NEW GLOBAL PANDEMIC TREATY

Context

- The World Health Organization (WHO) member states started negotiating a legally binding global pandemic treaty in December 2021, they finalized a draft in April 2025.

Highlights of the Draft

- **Sharing Data and Resources:** Countries will share virus samples and genetic codes with companies. In return, companies must share vaccines, drugs, and tests fairly. For example, they have to give 10% of their products to WHO and sell another 10% at low prices to poor countries.
- **Technology Transfer:** Rich countries will help poorer ones to build their own vaccine and drug factories, sharing know-how and technology, so poor countries don't have to wait for supplies during a crisis.
- **Research Funding Rules:** Countries must make sure that research funded by taxpayers leads to affordable medicines during pandemics. If companies charge too much or limit supply, governments can step in.
- **Stronger Health Systems:** The treaty pushes countries to improve their healthcare systems,

train health workers, and prepare for emergencies. It also promotes a "One Health" approach, which means looking at human, animal, and environmental health together to stop diseases from spreading.

- **Global Supply Chains:** WHO will watch over global supply chains for masks, medical gowns, and other protective gear to avoid shortages like those during COVID-19.

These steps aim to fix the mistakes of the COVID-19 response, where rich nations seized resources while others suffered.

Concern Raised

- **No Power for WHO:** The treaty says WHO can't force countries to follow its rules. It can't order lockdowns, vaccine mandates, or border closures. This protects national sovereignty but makes it hard to enforce the rules. If a country ignores the treaty, WHO can't do much.
- **Risk of Non-Compliance:** During COVID-19, some countries hoarded vaccines despite global calls for sharing. The treaty doesn't explain how to punish such behavior. Without penalties, companies might hesitate to invest

in new drugs or vaccines, fearing countries won't cooperate.

- **Unclear Mechanisms:** The system for sharing virus samples and benefits is vague. Negotiators will finalize these details by 2026, but until then, it is unclear how it will work.
- **U.S. Absence:** The United States, a major player in drug and vaccine production, withdrew from negotiations. This weakens the treaty because the U.S. dominates the pharmaceutical industry.
- **Limited Scope:** The treaty focuses on big pandemics like COVID-19 but doesn't cover

smaller outbreaks like Ebola or mpox. Some experts say the treaty lacks strong obligations for countries to act.

Way Forward

- Despite these flaws, the treaty is a big step forward. It promotes fairness, encourages cooperation, and sets a framework for future pandemics. WHO's director called it a "milestone" for global safety. The treaty will take effect one month after 60 countries ratify it, but its success depends on how seriously countries follow it.

2.6 SHORT ARTICLES

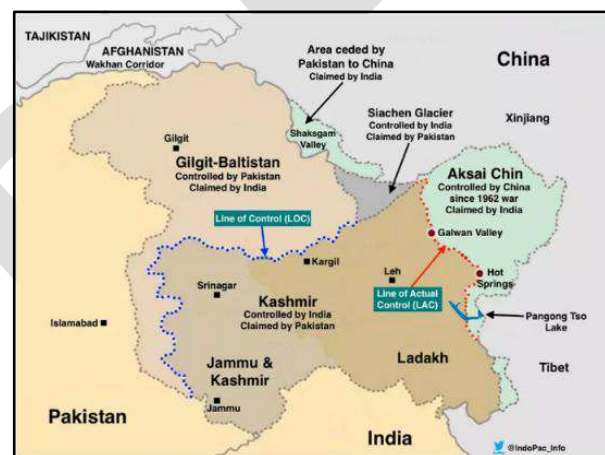
Line of Control (LoC)

Context

- Pakistani troops violated the LoC ceasefire in Jammu and Kashmir.

About Line of Control (LoC)

- When the British left India in 1947, they divided the land into two countries: India and Pakistan.
- **The ruler of Kashmir, Maharaja Hari Singh, decided not to join any country**, but when some troublemakers from Pakistan invaded Kashmir, he decided to join India for help.
 - Soon after, a war broke out between India and Pakistan because of this. Pakistan sent in fighters who were not official soldiers, but they caused a lot of trouble.
- **India asked for help from the United Nations, and eventually, both sides agreed to stop fighting on January 1, 1949.** They drew a line on the map to separate their areas, and this was called the Ceasefire Line.
- **The ceasefire line stayed mostly the same until the 1971 war**, mostly about East Pakistan becoming Bangladesh. After that, India and Pakistan signed an agreement in Simla.
 - **They decided to change the name of the Ceasefire Line to the Line of Control.** They also agreed to try to solve their problems by talking to each other without asking other countries to step in.



Current status

- The Line of Control is about 740 kilometres long, going from the mountains in Ladakh to the south in Poonch. It is one of the most heavily guarded borders in the world.
- Recently, Pakistani troops have broken the ceasefire agreement along the LoC in Jammu and Kashmir.

India-US Nuclear Cooperation

Context

- The US Department of Energy has given permission to Holtec International, an American company, to share its technology for building small modular reactors (SMRs) in India.

Background

- **SMRs are smaller, advanced nuclear reactors that produce clean energy.** This is a step forward for India and the US, who signed an agreement in 2007 (called the 123 Agreement) to work together on peaceful nuclear energy projects.

What Are the Key Details of the Deal?

The US has set tough rules to ensure the technology is used safely:

- Holtec cannot share the technology with anyone else in India or other countries without US permission.
- **The technology must only be used for peaceful purposes**, like generating electricity, and not for military uses, such as weapons or naval ships.
- Holtec must send reports every three months, explaining what technology it shares and how it's being used.
- The permission lasts for 10 years but will be checked every 5 years to ensure everything is safe.

What Challenges Are Blocking This Deal?

Even though this is a big step, some problems still need solving:

- **India's Civil Liability for Nuclear Damage Act, 2010:** This law says that if a nuclear accident happens, the company that supplied the equipment (like Holtec) could be held responsible for damages. Because of this, many avoid investing in Indian nuclear projects. The government plans to change this law to make it easier for foreign companies to work here.
- **Atomic Energy Act, 1962:** Right now, only government companies like NPCIL can run nuclear power plants in India. Private companies like L&T or TCE cannot operate them. India must update this law to allow private companies to build and run SMRs. The government is working on amendments.
- **Regulatory and Safety Concerns:** Building nuclear reactors requires strict safety rules. The Atomic Energy Regulatory Board (AERB) must ensure SMRs are safe. The government must also train workers and build a strong

supply chain for SMR parts. These steps take time and money.

- **Public Perception:** Some people worry about nuclear power because of safety risks, even though India's nuclear plants have a good safety record. The government must convince people that SMRs are safe and beneficial.

1972 Shimla Agreement

Context

- Pakistan has suspended the historic 1972 Shimla Agreement in retaliation for India's response to the Pahalgam terror attack.

About Simla Agreement

- It is a **treaty signed in July 1972, between India and Pakistan, in Shimla, Himachal Pradesh.**
- The agreement aimed to normalise relations between the two countries after the 1971 India-Pakistan war, which led to the creation of Bangladesh.

Key Provisions of the Simla Agreement

- **Line of Control (LoC):** The ceasefire line from the 1971 war was renamed the Line of Control (LoC) in Jammu and Kashmir. This line divides the region between India and Pakistan.
- **Bilateral Dispute Resolution:** Both countries agreed to resolve their differences through peaceful means and bilateral negotiations without involving third parties like the United Nations.
- **Territorial Adjustments:** India returned over 13,000 km² of Pakistani territory captured during the war, but retained some strategic areas for security.
- **Recognition of Bangladesh:** Pakistan formally recognised Bangladesh as a sovereign nation.
- **Respect for Sovereignty:** Both nations agreed to respect each other's territorial integrity and political independence.

SAARC Visa Exemption

Context

- India cancels SAARC Visa Exemption for Pakistan after Pahalgam attack.

SAARC Visa Exemption Scheme

- The South Asian Association for Regional Cooperation (SAARC) was **formed in 1985** to promote economic growth, social progress, and cultural development among its eight member countries: India, Pakistan, Bangladesh, Sri Lanka, Nepal, Bhutan, Maldives, and Afghanistan.
- The **SAARC Visa Exemption Scheme (SVES)** was **launched in 1992** to make travel easier for specific groups of people within these countries.

Features of the SAARC Visa Exemption Scheme (SVES)

- Under SVES, certain individuals receive a **Visa Exemption Sticker**, which acts like a special travel pass. This sticker allows them to travel to other SAARC countries without a regular visa.
- The scheme covers **24 categories of people**, including Heads of State and Government, Judges of higher courts, Members of Parliament, Senior government officials, Prominent businesspersons, Accredited journalists, Sportspeople participating in official events, and Staff of SAARC organisations.
- Each SAARC country issues these stickers to eligible citizens of their own country. The sticker is valid for one year and allows multiple entries into other SAARC nations.
- Unlike regular visas, it frees travellers from restrictions like reporting to the local police or filling out extra forms.

India-Middle-East-Europe-Economic Corridor (IMEEC)

Context

- India and Italy have decided to work jointly to implement the India-Middle-East-Europe-Economic Corridor (IMEEC).

About India-Middle East-Europe Economic Corridor (IMEC)

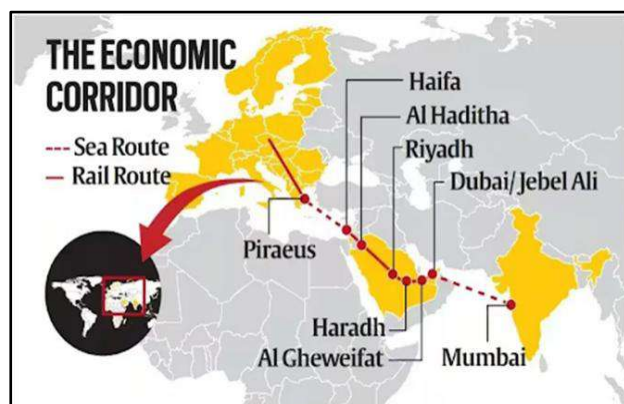
- It aimed at connecting **Asia, the Middle East, and Europe** through improved infrastructure and trade routes.
- It was **announced in September 2023 during the G20 summit in New Delhi**.
- The project involves building railways, roads, and shipping routes to make trade easier and faster between these regions.
- IMEC consists of two main corridors:**
 - Eastern Corridor:** Connects India to Gulf countries like the UAE.
 - Northern Corridor:** Links Gulf countries to Europe via Israel, Greece, and other European nations.

Benefits

- Reduced Transit Time and Costs:** IMEC aims to cut transit time by 40% and costs by 30% compared to the Suez Canal route.
- Energy and Digital Connectivity:** The project includes undersea data cables and pipelines for hydrogen, supporting climate goals.
- Economic Integration:** It promotes economic integration and reduces reliance on traditional maritime routes.

Progress So Far

- Eastern Corridor:** The part connecting India and the UAE is progressing well due to strong economic ties between the two countries.
- Northern Corridor:** Faces challenges due to geopolitical tensions, such as the Israel-Palestine conflict, which affects cooperation between countries like Saudi Arabia and Israel.



2.7 SNIPPETS

Topic	Details
International Federation Of Red Cross And Red Crescent Societies (IFRC)	- The International Federation of Red Cross and Red Crescent Societies (IFRC) describes Myanmar's 7.7-magnitude quake, which has killed more than 1,600 people, as a "complex humanitarian crisis". - It operates as the world's largest humanitarian network, unites 192 National Red Cross and Red Crescent Societies and mobilises over 100 million volunteers globally. - Shortly after World War I, It was founded in 1919 in Geneva, Switzerland. - They partner with governments, international organisations, and local communities. - It secures funding through voluntary contributions from governments, NGOs, corporate donors, and the public.
International Maritime Bureau (IMB)	- The International Maritime Bureau (IMB) raised concerns over increasing maritime piracy in the Singapore Strait, a narrow waterway between Singapore, Malaysia, and Indonesia. - It is a non-profit organisation started in 1981 under the International Chamber of Commerce (ICC). - It acts as a bridge between governments, shipping companies, and police to share information and combat maritime crimes. It sends daily alerts to ships about piracy risks, reports incidents to the police and the International Maritime Organization (IMO), helps locate missing ships, and recovers stolen cargo. It offers mediation and arbitration to resolve disputes between shipping companies without going to court.

2.8 ADDITIONAL TOPICS FOR READING FROM IASGYAN WEBSITE

Topic Name	Date
INDIA'S GEOPOLITICAL VISION SHOULD BE LARGER	1st April, 2025
WHY ARE TENSIONS HIGH IN THE ARCTIC?	4th April, 2025
75 YEARS OF INDIA-CHINA DIPLOMATIC RELATIONS	7th April, 2025
THE OTHER SPACE RACE – THE GEOPOLITICS OF SATELLITE NET	7th April, 2025
EXPLORING INDIA'S POTENTIAL IN THE ARCTIC REGION	25th April, 2025
THE REAL INDIAN ARBITRATOR NEEDS TO STAND UP	29th April, 2025
THE 'POLITICAL TRILEMMA' AND THE CRISIS IN THE WEST	30th April, 2025

3. ECONOMY

3.1 INDIA CHINA TRADE DEFICIT

Context

- India's trade deficit with China has increased to \$99.2 billion, raising alarms over economic dependencies and potential dumping practices.

India's Trade Deficit with China

- A trade deficit happens when a country buys more goods from another country than it sells to them.
- In 2024-25, India imports goods worth \$113.5 billion from China but exports only \$14.3 billion. This creates a **trade deficit of \$99.2 billion**.
- Imports from China are growing fast, especially for:
 - Electronics:** In March 2025, India buys \$9.7 billion worth, a 25% jump from last year.
 - Electric batteries and solar cells:** These power electric vehicles (EVs) and solar panels, crucial for India's green energy goals.
 - Consumer goods:** Things like fridges, TVs, and washing machines.
- India exports items like iron ore, cotton, and seafood to China.** These are basic, low-value goods compared to China's high-tech exports, like smartphones or machinery. This mismatch—Importing expensive tech and Exporting cheap raw materials—widens the deficit.

Concern

- Economic dependence:** China supplies critical goods like electronics, machinery, and chemicals. If China cuts these off (say, during a border dispute), Indian industries could collapse.
- Weak rupee:** Paying for imports uses up foreign currency, weakening the Indian rupee. A weaker rupee makes imports costlier, which can raise prices for everyday goods (inflation).

- Missed opportunities:** India's exports to China are low because China blocks Indian goods like medicines and IT services with strict rules. This limits India's access to China's huge market.
- Threat to local businesses:** Cheap Chinese goods could flood India, undercutting local manufacturers, especially small businesses.

Recent Development

- U.S. President Donald Trump imposes tariffs of up to 145% on Chinese goods to make them expensive in the U.S, to boost American manufacturing by discouraging Chinese imports. China fights back with 125% tariffs on U.S. goods, escalating the trade war.
- These tariffs impact India in two ways:
 - Dumping risks:** With the U.S. market harder to enter, Chinese companies might sell their goods cheaply in India to clear stock. This "dumping" could hurt Indian manufacturers. For example, cheap Chinese steel could harm companies like Tata Steel.
 - Global trade shifts:** The U.S.-China trade war disrupts global supply chains. Companies like Apple, seeking alternatives to China, might move production to India, creating jobs and investment.

What Should India Do Next?

- Stop dumping:** Strengthen monitoring to block cheap Chinese goods. Enforce anti-dumping duties on steel, textiles, and auto parts.
- Build local supply chains:** Reduce reliance on Chinese parts by investing in domestic production of chips, batteries, and medicine ingredients.
- Boost exports:** Push China to relax barriers on Indian medicines, IT services, and farm goods. Diversify exports beyond raw materials.

- **Leverage the trade war:** Attract more companies to India with better infrastructure, simpler laws, and schemes like PLI.
- **Strengthen trade deals:** Fast-track agreements with the U.S., EU, and UK to protect exports from global trade shocks.

3.2 INDIAN STARTUPS VS CHINESE

Context

- The Union Commerce Minister urges Indian startups to shift from food delivery to deep-tech like China.

Indian Startups Compare to Chinese Startups Indian Startups

- **Focus:** Most Indian startups build apps for food delivery (Zomato, Swiggy), instant groceries (Blinkit, Zepto), digital payments (PhonePe), or online education (Byju's). These services are popular in cities and make life easier.
- **Strengths:** They serve a market where millions use smartphones. For example, Zomato delivers food in minutes, and PhonePe handles millions of digital transactions daily.
- **Weaknesses:** These startups don't create technology. They focus on local needs but rarely compete globally. Also, only 5% of Indian startup funding in 2023 went to deep tech, showing a lack of focus on advanced fields.

Chinese Startups

- **Focus:** Chinese startups lead in deep tech, such as EVs (BYD, NIO), AI (SenseTime, DeepSeek), semiconductors (SMIC), robotics, and drones (DJI). They also dominate global trade with companies like Alibaba and Shein.
 - **Examples:** DeepSeek, a Chinese AI company, creates powerful AI models at low costs, challenging giants like OpenAI. CATL leads the world in EV batteries, powering cars globally.
- **Strengths:** These startups solve big problems and compete worldwide. For example, BYD makes electric cars that rival Tesla, and DJI controls the global drone market. In 2024, China invested \$12.3 billion in AI and

semiconductors alone, far more than India's \$1.6 billion in all deep tech.

Indian startups struggle to compete with Chinese ones due to several hurdles:

- **Less Funding:** Indian startups raised \$13.7 billion in 2024, while Chinese startups raised \$40.2 billion. Deep tech needs "patient capital"—money that waits years for returns—but Indian investors prefer quick profits from apps.
- **Tough Competition:** Many Indian startups do similar things, like delivering food or groceries. This creates a crowded market where only a few survive.
- **Complex Rules:** India's regulations, like tax laws and patent processes, are complicated. Startups spend time and money navigating bureaucracy, slowing their growth.
- **Brain Drain:** Many talented Indian engineers move to the USA or Europe for better opportunities. For example, Aravind Srinivas, co-founder of Perplexity AI, works in Silicon Valley, not India.
- **Low R&D Spending:** India spends only 0.64% of its GDP on research and development (R&D), compared to China's 2.4%. This limits innovation in fields like AI or semiconductors.

Chinese Government Support

- **Tech Parks:** It builds special zones where startups get cheap office spaces, shared labs, and fast internet. These parks focus on AI, EVs, and robotics.
- **Funds and Loans:** The government offers low-interest loans and acts as a "first customer" to buy startup products, ensuring early success. For example, China's National Integrated Circuit Plan has invested \$150 billion in semiconductors since 2014.

- **Clear Policies:** Plans like “Made in China 2025” set goals for tech leadership, guiding startups to focus on EVs, AI, and chips.

Indian Government Support

- **Startup India:** This program offers tax breaks and seed funding, but bureaucratic delays and corruption slow it down.
- **IndiaAI Mission:** In 2024, India allocates ₹10,372 crore to build AI infrastructure, like 10,000 GPUs for startups. This is a good start, but it's smaller than China's investments.
- **Semiconductor Mission:** India invests ₹76,000 crore to make chips locally, but the industry is still new and relies on imports.
- **Policy Issues:** Complex regulations and slow approvals discourage startups. For example, patent filing in India is tedious and delays innovation.

Indian startups can adopt these lessons from China

- **Solve Big Problems:** Chinese startups like Xiaomi make affordable smartphones,

reaching millions. Indian startups can build affordable EVs or AI tools for healthcare and education.

- **Scale Up Fast:** Chinese companies like BYD grow quickly by targeting global markets. Indian startups should aim beyond India, exporting tech like drones or software.
- **Work with Government:** Chinese startups collaborate with their government for funds and policies. Indian startups can push for simpler rules and more funding through programs like Startup India.
- **Invest in R&D:** China's startups spend heavily on research, creating new tech. Indian startups should partner with universities and labs to innovate.
- **Build Global Brands:** Companies like DJI and Alibaba dominate globally. Indian startups like Zoho show it's possible—others should follow.

By focusing on these areas, India can create global giants like China's BYD or DJI. Goyal's message is clear: India's startups must dream big, innovate, and build tech that shapes the future.

3.3 V2G TECHNOLOGY AND POWER SECTOR

Context

- The Kerala State Electricity Board (KSEB) and the Indian Institute of Technology Bombay (IIT Bombay) have initiated a pilot project to explore the implementation of Vehicle-to-Grid (V2G) technology across the State.

What is V2G Technology?

- It allows electric vehicles (EVs) to send power back to the grid. Generally, EVs charge their batteries from the grid (Grid-to-Vehicle or G2V). V2G reverses this process, allowing EVs to discharge stored energy back into the grid when needed. This technology turns EVs into mini power stations, supporting the grid during peak demand periods.

Significance for the Power Sector

- **Grid Balancing:** V2G helps balance the grid by storing excess renewable energy (e.g., solar)

during the day and releasing it during peak evening demand. This reduces blackouts and grid stress.

- **Boosts Renewable Energy:** India aims to generate 500 GW of renewable energy by 2030. V2G stores excess renewable energy and supplies it when needed, supporting this goal.
- **Reduces Fossil Fuel Use:** By supporting clean energy, V2G cuts reliance on coal-based power plants, helping India meet its net-zero emissions target by 2070.
- **Saves Money:** EV owners can earn money by selling stored electricity back to the grid during high-demand periods.
- **Improves Energy Security:** India imports over 85% of its crude oil. V2G reduces oil dependency and uses locally generated renewable energy.

- **Supports Rural Areas:** In remote areas with unreliable grids, EVs can act as emergency power sources during outages or disasters.

Challenges

- **Infrastructure:** India has only about 1,800 charging stations, mostly in cities, and few support bi-directional charging. Building V2G-compatible chargers is expensive.
- **Regulatory Hurdles:** The Indian electricity market lacks clear rules for EVs to supply power back to the grid.
- **Battery Degradation:** Some are concerned that V2G could wear out EV batteries faster, though studies show careful charging-discharging cycles can minimise degradation.
- **Awareness:** Many EV owners don't understand V2G or fear it's inconvenient.
- **Import Dependency:** India depends heavily on imported lithium-ion batteries (77% from China), which limits domestic V2G scalability.
- **Grid Issues:** Struggles with transmission losses and theft. Integrating V2G requires smarter, more reliable grids.

Way Forward

- **Encourage Smart Charging:** DISCOMs can offer Time of Use (ToU) rates, charging less for electricity during off-peak hours and more

during peak hours. This motivates EV owners to charge when the grid has surplus energy.

- **Promote V2G During Peak Demand:** DISCOMs can pay EV owners to send power back to the grid during high-demand periods, reducing the need for expensive coal plants.
- **Use EVs for Solar Storage:** India has a successful rooftop solar sector. DISCOMs can encourage EV owners to charge solar power during the day and use V2G to supply that energy at night.
- **Build V2G Infrastructure:** Investing in bi-directional chargers and smart grids is key. The Ministry of Power mandates one charging station every 3 km in cities and 25 km on highways, which can be upgraded for V2G.
- **Offer Incentives:** Attractive payments for V2G participants can convince more EV owners to join. For example, DISCOMs could offer credits on electricity bills for supplying power during peak hours.
- **Raise Awareness:** Many Indians are unaware of V2G. DISCOMs can run campaigns to educate EV owners about its benefits, such as earning money and helping the environment.
- **Collaborate with Experts:** Partnering with institutions like IITs or companies like Tata Power can help DISCOMs test and scale V2G, as seen in Kerala's project.

3.4 SHORT ARTICLES

Corporate Social Responsibility (CSR) Spending

Context

- In FY24, CSR spending by listed Indian companies rose 16% to ₹17,967 crore.

What is Corporate Social Responsibility (CSR)?

- It is a way for companies to help society by investing in projects that benefit people, the environment, and the economy.
- The Companies Act of 2013 made India the first country to mandate CSR spending.
- It applies to companies that meet any of these criteria in the previous financial year:
 - Net worth of ₹500 crore or more.
 - Turnover of ₹1,000 crore or more.

- Net profit of ₹5 crore or more.

- Companies that meet certain criteria must spend at least 2% of their average net profits (from the past three years) on social initiatives like education, healthcare, rural development, and environmental sustainability.
- If they can't spend the full amount, transfer the unspent funds to an Unspent CSR Account for use within three years. After that, unspent funds must go to government funds like the PM National Relief Fund or PM CARES Fund.

CSR Spending in 2023-24

- In the financial year 2023-24 (April 2023 to March 2024), companies listed on the National Stock Exchange (NSE) increased their CSR

spending by 16%, reaching ₹17,967 crore. This was up from ₹15,524 crore in 2022-23. The increase happened after three years of relatively flat spending.

- Education received the highest share, at ₹1,104 crore, which supported initiatives like digital literacy, school infrastructure, and scholarships. Healthcare came second, with ₹720 crore.

Indian E-Retail Market

Context

- The Indian e-retail market has crossed the \$60 billion mark in terms of gross merchandise value (GMV) and has become the second-largest online shopping market globally. However, the growth rate has slowed down to 10-12% in 2024 from the previous growth rates of over 20%.

Why did Growth slow down in 2024?

- The growth in the e-retail market slowed down mainly due to macroeconomic challenges. These include higher inflation and stagnant real wages, which have affected private consumption.
- **Private consumption growth has declined** from 11% pre-Covid (2017-19) to around 8% post-Covid (2022-24).
- Regulatory issues flagged by bodies like the Enforcement Directorate (ED) against sellers on platforms like Amazon and Flipkart have added operational pressures.

Long-term Opportunities

The sector is projected to grow at over 18% annually, scaling to \$170-190 billion by 2030. This growth is expected to be driven by:

- Grocery, lifestyle, and general merchandise are expected to drive e-retail growth. By 2030, these categories are expected to account for two out of every three rupees spent on e-retail.
- **Quick Commerce**, a big part of the e-retail market, accounts for over two-thirds of all e-grocery orders and contributes a tenth of overall e-retail GMV. It is projected to grow at over 40% annually through 2030.

- **Trend-first Commerce**, especially in fashion, is also gaining momentum. It is expected to grow fourfold, reaching \$8-10 billion by 2028, with more than half of its revenue coming from online sales.
- The e-retail market is rapidly spreading from Tier-2 to Tier-3 cities and even smaller towns. **Since 2020, three in five new shoppers have come from Tier-3 or smaller cities.** This expansion is ensuring access for consumers in remote, brand-starved areas.
- E-retail shopper penetration in the Northeast is 1.2 times higher than in the rest of India. The seller base is also diversifying, with 60% of new sellers since 2021 originating from Tier-2 or smaller cities.

Bond Markets

Context

- Trump's Economic Policies and Their Impact on Global Bond Markets

Bond Markets

- Bonds are financial instruments that promise a fixed return (face value) at maturity.
- They are issued by governments, corporations, or institutions to raise capital.
- Unlike equities, bonds offer lower risk with predetermined returns.
- **The price of bonds in the market is inversely related to yield—when bond prices fall, yields rise.**

Factors Affecting Bond Values

- **Inflation:** Higher inflation erodes the real returns of bonds. If inflation exceeds bond yields, investors lose value in real terms.
- **Currency Values:** For international investors, currency depreciation can eliminate gains from bond yields.

Trump's Policies and Their Impact

Trump's economic policies, particularly tariffs, have introduced significant changes to the global economic landscape. These policies have created uncertainty and volatility in bond markets.

- **Tariffs and Inflation:** Tariffs increase the prices of imported goods, reduce competition for domestic producers, and disrupt supply chains, leading to higher production costs.

These factors contribute to inflation in the short term.

- **Market Response:** When investors anticipate higher inflation, they expect central banks to raise interest rates. This perception leads to an immediate impact on the market as investors bid down bond prices, raising yields.

Chlorpyrifos

Context

- Experts are urging India to ban a toxic pesticide called chlorpyrifos before upcoming Conferences of the Parties (COP) to the Basel, Rotterdam, and Stockholm Conventions (BRS COP), a global chemical safety summit in Geneva, Switzerland.

Why Is Chlorpyrifos a Problem?

- It is a **type of pesticide that attacks the nervous system**. It blocks an enzyme called acetylcholinesterase, which controls nerve signals. This can cause serious health issues, especially in children, like brain damage, lower IQ, and developmental problems.
- It contaminates food, water, air and can stay in the environment for a long time, even travelling to places like the Arctic. It is **already banned in over 40 countries**.
- The **World Health Organization** calls it "**moderately hazardous**," but its widespread use in India is a big concern.

Globally, some countries have questioned whether chlorpyrifos meets the criteria for restriction under the Stockholm Convention, saying there isn't enough evidence of its environmental persistence. However, recent decisions by UN chemical review committees in 2023 and 2024 have confirmed the risks, making a stronger case for a ban.

What are the Basel, Rotterdam, and Stockholm Conventions?

These are three international treaties that deal with hazardous chemicals and waste:

- **Basel Convention:** Controls the movement of hazardous waste across borders to prevent richer countries from dumping toxic waste in poorer ones.

- **Rotterdam Convention:** Ensures countries share information about hazardous chemicals before trading them. If a chemical is listed in Annex III, countries must be informed before they can trade it.
- **Stockholm Convention:** Aims to eliminate or restrict persistent organic pollutants (POPs) that stick around in the environment and harm health. If a chemical is listed in Annex A, it triggers a global ban, though there can be exemptions.

Every two years, these conventions hold a summit where over 180 countries come together to make decisions based on science. This year, they'll discuss restricting chemicals like chlorpyrifos and paraquat.

Technology and Innovation Report

Context

- The United Nations Conference on Trade and Development (UNCTAD) released the Technology and Innovation Report 2025.

Highlights of the Report

- The report titled "Inclusive Artificial Intelligence for Development" talks about how AI can help countries grow, but it also warns that AI might make some countries fall behind if they don't prepare.

Who Controls AI?

- Just 100 companies, mostly in the **US and China, control 40% of the funds spent on research and development (R&D) for AI**. In 2023, the US spent \$67 billion on AI, which is about 70% of all the money spent on AI in the world. China spent \$7.8 billion, and India spent \$1.4 billion, ranking 10th globally.

Who is Missing from AI Discussions?

- **There are 118 countries, mostly from Africa and South America, that aren't part of the discussions about AI rules.** These countries might get left behind if they don't start taking action soon.

How Will AI Affect Jobs?

- **AI could change up to 40% of jobs around the world. Some jobs might disappear, but new ones will also appear.** Countries need to get ready by improving their infrastructure,

collecting useful data, and teaching people new skills.

How is India Doing?

- India ranks 36th out of 170 countries on the Readiness for Frontier Technologies Index. This is better than its 48th place in 2022, which means India is getting better at preparing for advanced technologies like AI. The government has also launched the India AI Mission to create an inclusive AI ecosystem.

What Does the Report Suggest?

The report suggests that countries should focus on three key areas to prepare for AI:

- Infrastructure:** Improve internet and electricity access to support AI.
- Data:** Collect and share data to help AI systems learn.
- Skills:** Teach people new skills so they can work with AI.

AI affects everyone, so countries need to work together. Right now, only a few countries are leading the discussions about AI. The report says that more countries should be involved to make sure AI benefits everyone.

RBI mandates 2.5% additional Run-Off Factor on Digital Deposits

Context

- The Reserve Bank of India (RBI) announces new rules for banks to manage digital deposits—money customers deposit through internet banking, mobile apps, or UPI (Unified Payments Interface).

Digital Deposits and New RBI Rules

Digital Deposits

- Digital deposits are funds that customers deposit into their bank accounts using digital tools like mobile apps, internet banking, or UPI (Unified Payments Interface). These deposits can be accessed and transferred instantly online.
- Because digital tools make it easy to withdraw money quickly, there's a higher chance that customers might pull out their money during a crisis.** This worries banks because they need to ensure they have

enough liquid assets to cover these withdrawals.

Liquidity Coverage Ratio (LCR)

- The LCR is a rule that requires banks to keep a stockpile of high-quality liquid assets (HQLA), like government securities or cash, to cover withdrawals for 30 days in a crisis. It acts as an emergency fund for banks.
- If many customers try to withdraw money at once (called a "run-off"), the bank must have enough liquid cash to pay them without collapsing.

Run-Off Factor

- The run-off factor is a percentage that estimates how much money customers might withdraw in a stressful situation, like a financial crisis. For example, if a bank has ₹100 in deposits and the run-off factor is 10%, the bank assumes ₹10 could be withdrawn suddenly.

New RBI Rules

Starting April 1, 2026, banks must calculate that 2.5% more of digital deposits could be withdrawn in a crisis. For example:

- Stable Deposits (like long-term savings accounts):** These now have a 7.5% run-off factor (up from 5%).
- Less Stable Deposits (like current accounts):** These now have a 12.5% run-off factor (up from 10%).

Impact of the New Rules

- For Banks:** The lower 2.5% run-off factor is a relief for banks. It means they need to hold fewer liquid assets, freeing up about ₹2.7–3 trillion for lending, according to estimates. This boosts their ability to give loans and supports credit growth in the economy.
- For the Economy:** More lending means businesses and individuals can borrow more, which can spur economic growth. The RBI estimates the banking system's LCR will improve by 6% as of December 31, 2024, making banks stronger.
- For Customers:** Customers might not notice changes directly, but stronger banks mean money is safer. However, banks might adjust

interest rates or fees to manage these new rules, which could indirectly affect customers.

RBI Norms on Gold Loans

Context

- The Reserve Bank of India (RBI) has introduced new rules for gold loans to control risks and fix problems in the system.

Details

- RBI's move was prompted by an increase in bad loans, known as Non-Performing Assets (NPAs), in the gold loan sector. Between December 2023 and December 2024, NPAs in gold loans jumped by over ₹1,500 crore, reaching ₹6,824 crore.

Problems Identified by RBI

- **Third-party involvement:** Some lenders used third parties to check gold quality without the customer being present, creating trust issues.
- **Improper monitoring:** Lenders didn't track how borrowers used the money or whether the value of the gold matched the loan amount.
- **Evergreening of loans:** Borrowers could keep extending their loans by paying only interest, not the principal, meaning they never really paid back the full loan.
- **Lack of transparency:** When borrowers failed to repay, auctions of gold jewellery were not always fair or clear.

New Rules Introduced by RBI

- **No loans against raw gold:** Banks cannot give loans for raw gold like bars or bullion. They can only accept gold jewellery as collateral.
- **Loan-to-value cap:** Loans cannot exceed 75% of the gold's value. For example, if your gold is worth ₹1 lakh, you can get a maximum loan of ₹75,000.
- **Ownership checks:** Lenders must verify who owns the gold before giving a loan.
- **Shorter repayment period:** Loans where both principal and interest are due at maturity cannot last longer than 12 months.

Why are Gold Loans Popular in India?

- **Easy process:** Getting a gold loan is simple. There's not much paperwork, and approval happens quickly.

- **Cultural importance:** Gold is very valuable in Indian culture. Families often save it for generations and use it during emergencies.
- **High gold prices:** With gold prices rising sharply, people can borrow larger amounts using their gold.
- **Digital access:** Fintech apps and online platforms now allow people in remote areas to easily take gold loans.

Importance of Undersea Cables

Context

- India is extending its international internet bandwidth with Airtel's 2Africa Pearls system, backed by Meta.

Undersea Cables

- They are **thick cables laid on the ocean floor** that carry data across continents using thin strands of fibre optic glass or plastic.
- **They transmit 99% of the world's internet traffic**, 90% of global data, 80% of trade, and about \$10 trillion in financial transactions daily.
- They start in one country, run deep under the ocean, and land in another. At each landing point—usually a manhole-like structure near the shore—the cable connects to a "landing station," where it links to local networks.

India's Subsea Cable Ecosystem

- **India has two main hubs for undersea cables: Mumbai and Chennai.** Currently, 17 cable systems are in India, but this is lower than smaller countries like Singapore, which has more cables despite its size.
- **India also has two domestic cable systems:** one connects Chennai to the Andaman and Nicobar Islands, and the other connects Kochi to the Lakshadweep Islands. These cables provide high-speed internet to remote areas. However, experts say India needs more cables to handle growing internet traffic.

Airtel's 2Africa Pearls System

- Bharti Airtel, in partnership with Meta and center3, landed the 2Africa Pearls cable in India. This cable system brings over 100 terabits per second (Tbps) of international capacity to India.

- The **2Africa Pearls** is part of the **2Africa cable system**, which will be the world's longest subsea cable system when completed. It will span over 45,000 kilometres and connect Asia to Africa and Europe through the Middle East.

RBI MPC highlights

Context

- The Monetary Policy Committee (MPC) announced a 25 bps reduction in the repo rate, bringing it to 6%.

Monetary Policy Committee (MPC)

- It was established in 2016 through an amendment to the RBI Act 1934.
- Its primary function is to **control inflation by setting the repo rate**, which is the interest rate at which banks borrow from the Reserve Bank of India (RBI). For example, if inflation rises too quickly, the MPC can increase the repo rate to make borrowing more expensive, reducing spending and curbing inflation.

- The **MPC comprises six members**: three from the RBI, including the Governor, the Deputy Governor responsible for monetary policy, another RBI official, and three external experts appointed by the government for four-year terms.
- After each meeting, the MPC issues a detailed statement explaining its decisions and rationale.

Recent MPC Decision

- The MPC reduced the repo rate by 25 basis points, bringing it down to 6%. This decision supported economic growth amidst global uncertainties such as trade tensions.
- The MPC also shifted its stance from "neutral" to "accommodative," indicating a focus on stimulating the economy through lower interest rates.
- This move aligns with India's GDP growth projection at 6.5% for 2025-26, a slight downward revision from earlier estimates due to global challenges.

3.5 SNIPPETS

Topics	Details
Pamban Bridge	• Prime Minister Narendra Modi inaugurated the New Pamban Bridge in Rameswaram. • Connects Rameswaram Island to mainland Tamil Nadu. • India's first vertical lift sea bridge; rises 17 meters to allow ship passage while trains run on top. • The original Pamban Bridge (built in 1914 by British engineers) deteriorated due to marine wear. • Rail Vikas Nigam Ltd (RVNL) constructed the new bridge under the Ministry of Railways. • Features stainless steel supports, protective paint, and a polysiloxane coating for corrosion resistance.

3.6 ADDITIONAL TOPICS FOR READING FROM IASGYAN WEBSITE

Topic Name	Date
UNLOCKING INDIA'S TEXTILE & APPAREL POTENTIAL	3rd April, 2025
SHAPING INDIA'S FUTURE-READY WORKFORCE	10th April, 2025
NATIONAL CRITICAL MINERAL MISSION	12th April, 2025
SAVING TRADITIONAL VARIETIES OF SEEDS	15th April, 2025
INDIA NEEDS A MODEL BIT	17th April, 2025
SUNRISE SECTORS	25th April, 2025

4. DEFENSE & SECURITY

4.1 MILITARY SPACE DOCTRINE

Context

- Chief of Defence Staff General Anil Chauhan recently announced that India is in the **final stages of formulating a Military Space Doctrine**.

Need for a Military Space Doctrine

- Space is now considered the **fifth operational domain of warfare** alongside land, sea, air and cyber.
- Global mistrust is growing as countries develop **counter-space technologies** including nuclear ASAT weapons.
- Russia vetoed a UNSC resolution by the US & Japan to **prevent an arms race in outer space last year**.
- The US, Russia and China have established **space commands** and **formulated doctrines** to ensure space dominance.
- 2023 UN Working Group** on space behavior failed due to lack of consensus reflecting deteriorating trust.
- China's advances** in space including the **Space Silk Road**, satellite constellations and PLA's strategic support force pose a security challenge.
- India needs resilient systems to support Surveillance & reconnaissance, secure communications and navigation that is IRNSS/NavIC.

India's Developments in Space Security

Year	Development	Significance
1967–2023	India signed all major international space treaties (OST, Rescue Agreement, Liability Convention, etc.)	Shows India's commitment to responsible space behavior
2010	Integrated Space Cell	Established on June 10 2010 the ISC was India's initial step towards integrating space capabilities into its defense architecture. It was formed to address growing threats to India's space assets and to coordinate among the military, civilian agencies and the Indian Space Research Organisation.
2018	Defence Space Agency (DSA) formed	Operational since 2019 the DSA serves as the central organization for space-related defense operations. It is tasked with formulating strategies to protect India's interests in space and is expected to evolve into the Indian Defence Space Command consolidating military space operations.
2019	Mission Shakti (ASAT test)	Proved India's counter-space capability; joined elite ASAT club (US, Russia, China)
2023	Indian Space Policy released	Focuses on commercial space, lightly touches on military space
2024	Military Space Doctrine & National Military Space	Major doctrinal and strategic shift

	Policy under formulation	
2024	Antariksha Abhyas 2024	India conducted its first comprehensive space defense exercise integrating various defense agencies to simulate space warfare scenarios. This exercise underscores India's commitment to developing robust space warfare capabilities.
Ongoing	52-Satellite ISR constellation	Enhances intelligence, surveillance and communication
Ongoing	Collaboration with QUAD, France , others	Strengthening military and strategic space partnerships
2017	GSAT-9 South Asia Satellite	Boosted regional influence; excluded Pakistan

Features of the Proposed Military Space Doctrine

Strategic Deterrence

- Doctrine will aim to **deter attacks** on India's space assets by projecting credible retaliatory capability.

Offensive & Defensive Capabilities

- Develop
 1. Anti-satellite weapons
 2. Electronic warfare tools
 3. Directed energy weapons
 4. Space based surveillance and early warning systems

Space Situational Awareness

- Enhance ability to track satellites, debris and threats in real-time.
- Critical for **orbital safety**, **conflict anticipation** and **early response**.

Institutional Framework

- Likely to result in
 1. A full-fledged **Defence Space Command**.
 2. Greater role for the **DSA**.
 3. Civil-military synergy with **ISRO, IN-SPACE** and **private players**.

Legal and Normative Framework

- The doctrine may align with International laws, National interests and India's stance on **non-weaponisation of space** while preparing for contingencies.

4.2 PROTOCOL FOR DEFENCE EXPORTS IN INDIA

Context

- Recently the **Ministry of External Affairs** dismissed a U.S. media report that alleged **Hindustan Aeronautics Limited** supplied British sourced items to Russia as **factually incorrect and misleading**.
- The MEA highlighted India's **robust legal and regulatory framework** on **strategic trade** that governs overseas commercial activities of Indian companies.

Why Strategic Trade Controls Matter

- The **primary objective** of India's export controls is to
 1. Prevent the **proliferation of Weapons of Mass Destruction** and their delivery systems.

2. Regulate the **uncontrolled transfer of conventional arms** and dual-use items.
3. The framework ensures compliance with **international obligations** while promoting **responsible defence exports**.

Legal and Institutional Framework

- **Handbook on Strategic Trade Control Systems:**
 - Issued by the **Directorate General of Foreign Trade** under the **Ministry of Commerce and Industry**.
 - Maintains a **harmonised list** of dual-use and military items including software and technologies.

- These items have both **civilian/industrial** and **military/WM D** applications.
- Items are regulated through **Export Authorisation / Licence** unless specifically **exempted or prohibited**.
- **SCOMET List**
 - India regulates exports via the **SCOMET (Special Chemicals, Organisms, Materials, Equipment and Technologies)** list.
 - **Category 6** covers the **Munitions List** which requires clearance from the **Department of Defence Production**.

India's Multilateral Commitments

India is a signatory/member of major **disarmament and export control regimes**.

Treaty/Regime	Area of Control
Chemical Weapons Convention (CWC)	Chemical weapons and related precursors
Biological Weapons Convention (BWC)	Biological agents and toxins
Missile Technology Control Regime	Delivery systems for WMDs
Wassenaar Arrangement	Conventional arms and dual-use goods/tech
Australia Group	Chemical and biological weapons

India's Policy of Strategic Neutrality

- India follows a **non-aligned policy** in global conflicts.
- Declined Israel's request for artillery shells during Gaza offensive.
- Has not supplied kinetic weapons to **either Russia or Ukraine** post-2022 war.
- This enhances India's **global image** as a **responsible exporter**.
- Introduction of **Defence Production and Export Promotion Policy**.
- **Streamlining Procedures**
 - **Standard Operating Procedures** updated.
 - **Export Promotion Cell** established.
 - **Geographical zones** allocated to **DPSUs** for targeted marketing.
- **Digital Reforms**
 - **End-to-end online portal** for export authorisation applications:
 - Digital submission, signing and approval.
 - **Faster turnaround time, transparency and accountability**.
- **Delegation and Flexibility**
 - 2018: **DDP** designated as the nodal agency for export licences of **small arms/ammunition parts**.
 - **Government-signed End User Certificate** waived for **Wassenaar Arrangement** countries for engineering services.
- **Open General Export Licence**
 - **Pre-approved, blanket licence** for specific items to specified countries.
 - Eliminates **case-by-case authorisation**, **reduces red tape** and encourages exporters.

Public and Private Sector Involvement

India now exports to over **100 countries**.

PSU Driven Export Platforms

- Dornier 228 aircraft
- 155 mm Advanced Towed Artillery Gun
- BrahMos & Akash Missiles
- Radar Simulators, Pinaka Rockets

Increasing participation of Indian private defence firms in manufacturing and exports diversifying the export base.

Steps Taken to Boost Defence Exports

- **Regulatory Simplification**
 - **Defence Products List rationalised** – most parts/components **don't need industrial licence**.

Recent Trends and Targets

Indicator	Value
Defence Export (FY 2024-25)	₹23,622 crore (12.04% increase YoY)
Export Target (by 2029)	₹50,000 crore

4.3 SHORT ARTICLES

Cabinet Committee on Security

Context

- On April 22, 2025, a terrorist attack in Pahalgam killed 26 civilians, with cross-border links confirmed, prompting a high-level CCS meeting chaired by PM Narendra Modi on April 23.

What is the Cabinet Committee on Security?

- It is the **apex decision-making body** in the Government of India on matters related to **national security, defence policy** and **strategic affairs**.

- It is chaired by the **Prime Minister** and includes the **ministers holding the four key portfolios: Defence, Home Affairs, Finance and External Affairs**
- The **National Security Advisor, Cabinet Secretary** and senior **bureaucrats** from concerned ministries are usually present in CCS meetings depending on the agenda.
- During times of war or crisis the CCS can function as a **war cabinet** swiftly coordinating military and strategic decisions.

4.4 SNIPPETS

MISSILES IN NEWS	
Topic	Details
NAMIS	- The Indian Ministry of Defence has signed contracts worth ₹2,500 crore to strengthen the Indian Army. These contracts include - Nag Anti-Tank Missile System (NAMIS) which is a powerful missile system to destroy enemy tanks. - Around 5000 modern Light Vehicles for Armed Forces for better movement in all terrains. - NAMIS is a special missile system designed to destroy enemy tanks. It is developed by the Defence Research and Development Organisation and produced by Bharat Dynamics Limited. Features of NAMIS - Fire-and-Forget: Once launched it does not need further control. - Infrared Seeker: It locks onto the target using heat detection. - Works at Night: Can hit targets even in darkness or bad weather. - Destroys Strongly Armored Tanks: Designed to penetrate thick tank protection.
9K33 OSA-AK Missile System	- The Indian Army's Air Defence warriors from the White Tiger Division have proven their operational readiness and technical expertise during a recent live missile-firing exercise which involved the firing of the 9K33 Osa-AK missile system. - The 9K33 Osa-AK is a Russian built air defense system. It is designed to shoot down enemy aircraft, helicopters and drones flying at low altitudes. - It is a short range, mobile missile system meaning it can move quickly to different locations and protect important areas from air attacks. - It was originally built by the Soviet Union in the 1960s and officially started being used in 1972.

	It has been used by many countries including India. In Western countries it is known as SA-8 Gecko which is the NATO reporting name.
Akash Defence Missile System	- A Delegation level meeting between Indian Defence Minister and Dubai Crown Prince & UAE Deputy PM aimed to enhance bilateral defence cooperation and offer India's indigenously developed Akash Surface to Air Missile system to the UAE. Feature - Akash is a short-range surface-to-air missile developed by DRDO and manufactured by Bharat Dynamics Ltd, inducted by the IAF in 2014 and Indian Army in 2015. In 2022, Armenia became its first foreign buyer.
BM-04 Missile	- The BM-04 missile was unveiled in March 2025 during the Vigyan Vaibhav 2025 Defense Exhibition held in Hyderabad. Specification - BM-04 is a DRDO-developed short-range ballistic missile (SRBM) with up to 1,500 km range, 500 kg conventional warhead, 30m CEP (Circular Error Probability), and two-stage solid-fuel propulsion. It is canisterized and launched via an indigenous six-wheel TEL (Transporter Erector Launcher).

ORGANISATIONS IN NEWS	
Topic	Details
RAW	The US Commission on International Religious Freedom has recommended targeted sanctions against India's external spy agency Research and Analysis Wing (R&AW) over alleged involvement in assassination plots against Sikh separatists. Details Established in 1968, R&AW handles India's foreign intelligence and national security from its New Delhi headquarters. It reports to the PMO, led by Chief Ravi Sinha (2023), with the motto, "Dharmo Rakshati Rakshitah." Why Was It Formed? - Before 1968, Intelligence Bureau (IB) handled both internal and external intelligence. However, after India faced intelligence failures in the 1962 war with China and the 1965 war with Pakistan, R&AW was created. Working Mechanism - Collects military, economic, scientific, and political intelligence through secret (covert) and open (overt) methods. - Monitors terrorist activities and illegal weapon smuggling into India.

EXERCISES IN NEWS	
Topics	Details
Exercise Prachand Prahar	- The Indian Armed Forces recently conducted a multi-domain exercise, Prachand Prahar, in Arunachal Pradesh. - Exercise Prachand Prahar is a joint Indian Army, Navy, and Air Force drill in Arunachal Pradesh near the LAC with China, testing high-altitude combat readiness. It involved surveillance drones, fighter jets, rockets, artillery, and electronic warfare, building on the earlier Exercise Poorvi Prahar that focused on aviation assets.
Exercise Tiger Triumph	- The 4th edition of Exercise Tiger Triumph is happening in April 2025 in the Bay of Bengal. - It is the first tri-service military exercise between India and US. India has previously only held tri-service exercises with Russia.

	India and the United States signed a defence agreement in 2018 committing to holding a joint land, air and sea exercise in India in 2019. Tiger Triumph was publicly announced by U.S. President Donald Trump during his address at the Howdy Modi community event in honour of Prime Minister Narendra Modi at the NRG Stadium in Houston, Texas in 2019.
Iniochos-25.	- Aiming to hone skills against a dozen other counterparts including the US, Israel and France the Indian Air Force will be participating in biennial multinational air exercise INIOCHOS-25. - Hosted by Greece at Andravida Air Base and organized by the Hellenic Air Force, this exercise aims to boost international air force cooperation. India's contingent includes Su-30 MKI, IL-78, and C-17 aircraft, with participants from 12 countries and observers from Bahrain and Slovakia.
Exercise Indra	- India and Russia kick-started a six-day Indra exercise off Chennai in line with their close defence and strategic ties. - This bilateral naval exercise, started in 2003, symbolizes a long-term strategic partnership and defence cooperation. The 14th edition in 2025 will take place off Chennai, with harbour and sea phases in the Bay of Bengal.
Africa India Key Maritime Engagement (AIKEYME)	- The inaugural edition of AIKEYME began recently at Dar-es-Salaam in Tanzania marking a step in India's maritime diplomacy. - This maiden multilateral exercise, co-hosted by India and Tanzania, aligns with India's vision of MAHASAGAR – Mutual and Holistic Advancement for Security and Growth Across Regions – and underscores India's proactive and inclusive approach to maritime cooperation in the Indian Ocean Region. Participating nations include Comoros, Djibouti, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, and South Africa, reflecting a shared commitment to regional security, capacity-building, and collective growth across the littoral states.
Exercise Dustlik-Vi	- The 6th edition of the India-Uzbekistan Joint Military Exercise DUSTLIK-VI commenced at the Foreign Training Node, Aundh in Pune. - The annual bilateral military exercise between India and Uzbekistan began in November 2019 in Uzbekistan, marking the start of structured military cooperation. The exercise is conducted alternatively in India and Uzbekistan each year. The previous edition (DUSTLIK-V) took place in Termez District, Uzbekistan, in April 2024, with the theme focused on Joint Multi-Domain Sub-Conventional Operations in a Semi-Urban Scenario.
Exercise Desert Flag 10	- The Indian Air Force is actively participating in Exercise Desert Flag-10 a premier multinational air combat exercise hosted by the United Arab Emirates. - The annual multinational air warfare training initiative aims to enhance interoperability, strategic coordination, and combat readiness among participating nations. 12 countries participated, including India, United States, United Kingdom, France, Germany, Australia, Bahrain, Qatar, Saudi Arabia, South Korea, Turkey, and the United Arab Emirates. The objective is to conduct complex aerial combat scenarios, facilitate the exchange of operational knowledge, and share best practices among leading air forces.

WEAPONS IN NEWS	
Topics	Details
Long-Range Glide	Recently the Defence Research and Development Organisation successfully

Bomb (LRGB) 'Gaurav'	conducted the release trials of the Long Range Glide Bomb Gaurav marking a major milestone in India's indigenous precision strike capabilities. Developed by DRDO's Research Centre Imarat, the 1000 kg air-launched precision glide bomb is 4 meters long with a 0.6-meter diameter and over 100 km range. It uses dual INS and GPS guidance, has no propulsion, and is launched from fighters like Su-30 MKI and future Tejas Mk 1A.
Bullet Curtain	- China Unveils World's First Anti-Drone Barrage Weapon Capable of Countering Missiles. Bullet Curtain is the world's first close-in anti-drone barrage weapon system developed by China's state-run defence firm Norinco. It represents a paradigm shift in short-range air defence targeting low-flying aerial threats including drone swarms, rockets, helicopters and missile
Mk-II(A) Laser-Directed Energy Weapon	- India successfully tested the Mk-II(A) Laser-Directed Energy Weapon system in Kurnool in Andhra Pradesh marking a significant leap in indigenous high-tech defence capabilities. - This achievement places India among a select group of nations that is US, Russia, China and possibly Israel with the capacity to use laser technology to disable aerial threats like drones and missiles. - Developed by DRDO's Centre for High Energy Systems and Sciences with industry and academic partners, this laser weapon is tested at Kurnool's National Open Air Range. It targets drones and missiles within seconds using radar and electro-optic detection to cause structural and sensor damage.

INDIAN NAVAL VESSELS/SHIPS IN NEWS	
Topics	Details
INSV Tarini	Indian Naval Sailing Vessel (INSV) Tarini, crewed by women officers Lt Cdr Dilna K. and Lt Cdr Roopa A., arrived at Cape Town, South Africa, marking the fourth and final stopover in their global circumnavigation expedition, Navika Sagar Parikrama II.
INS Tarkash	- The Indian Navy's frigate INS Tarkash which has been deployed in the Western Indian Ocean for maritime security operations has intercepted and seized over 2500 kg of narcotics recently. Talwar class frigate (Improved version of Russia's Krivak III class) - Part of the Western Fleet of the Indian Navy. Builder: Yantar Shipyard, Kaliningrad, Russia. Commissioned on November 9, 2012 at Kaliningrad.
INS Varsha	India's INS Varsha, near Rambilli, Andhra Pradesh, is set to be operational by 2026 as a strategic naval base for nuclear submarines. Covering 20 km², it supports India's second-strike nuclear capability and can house at least 10 submarines.
INS Sunayna	INS Sunayna, a Saryu-class Offshore Patrol Vessel built by Goa Shipyard Limited and commissioned in 2013, supports fleet operations and maritime security from its base at Southern Naval Command, Kochi. It strengthens India-Mozambique ties under the IOS SAGAR mission and has participated in evacuation, anti-piracy, and surveillance operations.

AIRCRAFTS/HELICOPTERS IN NEWS	
Topics	Details
Hansa 3 Trainer Aircraft	- The indigenously developed Hansa-3 trainer aircraft has been cleared for use to train aircrew for obtaining pilot licences and the aircraft will now be manufactured in India by the private industry. - The Hansa-3 is India's first indigenously developed light trainer aircraft designed and developed by the Council of Scientific and Industrial Research - National Aerospace Laboratories in Bangalore. - It was specifically created to meet the needs of Indian flying clubs, offering an ideal platform for Commercial Pilot Licensing training due to its cost-effectiveness and fuel efficiency. - Two seater, low wing monoplane. - Powered by a Rotax 914 F3 turbocharged engine.
Rafale-M Jets	- The Cabinet Committee on Security approved a ₹63,000 crore G2G deal with Dassault Aviation, France, for 26 Rafale M fighter jets, with signing expected soon. - These 4.5++ generation, twin-engine multirole jets feature Mach 1.8 speed, 1,000+ km combat radius, AESA radar, SPECTRA EW suite, and STOBAR carrier compatibility.
Saras Mk2	The Saras Mk2, a 19-seater multi-purpose civilian aircraft developed by CSIR-NAL Bengaluru with CSIR, is slated for its first test flight in December 2027.

INTERNATIONAL CONVENTIONS/TREATIES/ OPERATIONS IN NEWS	
Topics	Details
Ottawa Convention	- Several NATO countries bordering Russia—Poland, Finland, Estonia, Latvia, and Lithuania—have announced their intention to withdraw from the Ottawa Treaty (Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction). - Adopted in 1997 and effective from 1999, the treaty has 164 state parties as of 2024. It prohibits the use, production, transfer, and stockpiling of anti-personnel landmines, requires destruction of existing stockpiles within four years, and mandates clearing mined areas and assisting victims.
Operation Atalanta	EUNAVFOR, launched by the European Union in 2008, operates mainly in the Western Indian Ocean and Red Sea to combat piracy near Somalia. Its operational HQ is in Rota, Spain, and it has proposed a joint naval exercise with the Indian Navy under Operation ATALANTA.

PLACES IN NEWS	
Topics	Details
Ream Naval Base	- Cambodian Prime Minister Hun Manet inaugurated the expanded base. Ream Naval Base, located on the Gulf of Thailand near Sihanoukville, Cambodia, has historically supported the country's naval operations. Recently, it has gained strategic significance due to Chinese-backed expansion. Situated along key maritime routes and near the Strait of Malacca, a critical chokepoint for global trade and energy flows, the base's location amplifies its geopolitical importance.

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5. ENVIRONMENT & ECOLOGY

5.1 SHORT ARTICLES

Climate Shocks and Economic Vulnerability in Asia-Pacific

Context

- The Asia Pacific region is highly vulnerable to climate shocks which could cause annual economic losses of at least 6% in 1/3rd of the countries.
- The United Nations Economic and Social Commission for Asia and the Pacific released this report warning of the macroeconomic implications of climate change.

Economic Importance of the region

- Despite contributing 60% of global economic growth in 2024 the region is poorly equipped to handle climate induced shocks.
- The green transition and climate resilience are lagging in many developing economies.

Findings of the Report

- 11 countries were flagged as highly vulnerable to climate-related macroeconomic risks. These include Afghanistan, Cambodia, Iran, Kazakhstan, Laos, Mongolia, Myanmar, Nepal, Tajikistan, Uzbekistan, Vietnam.
- Estimated Average Annual Loss (AAL)
 - AAL = The estimated annual economic loss from climate disasters that is floods, droughts, storms etc.
 - Average for the 30 countries studies is 4.8% of GDP.
 - Cambodia has the highest at nearly 11% of GDP.
 - Fiji, Myanmar, Pakistan have AAL ≥ 7% of GDP.

Blue Washing

Context

- The Central Pollution Control Board has recently introduced a new category of industries called the 'Blue Category', which falls under Essential Environmental Services.

Details

What is Blue Washing?

- A deceptive practice where highly polluting industries are presented as eco friendly by reclassifying them under less polluting categories.

Purpose of Blue Category

- To include certain **Essential Environmental Services** like composting, biogas plants, sewage treatment plants and material recovery facilities.

Concern

- Inclusion of **WTE incineration** despite being highly polluting is seen as an example of **blue washing**.

Pollution Index (PI)

- A measure (0–100) introduced by MoEFCC to classify industries:
- **White (0–20):** Least polluting
- **Green (21–40)**
- **Orange (41–59)**
- **Red (60–100):** Most polluting

Previous PI of WTE

- 97.6 – indicating highly polluting, due to emissions like SO_x, NO_x, HCl, PM, dioxins, furans and toxic effluents.

How WTE Works

- Burns **mixed municipal solid waste** to produce steam which drives turbines to generate electricity, similar to thermal plants.

Scientific Opposition

- **CSIR-NEERI:** WTE violates **SWM Rules 2016** and contradicts circular economy principles.
- CPCB's own criteria exclude industries emitting hazardous waste from Blue Category eligibility.
- **Circular Economy Violation**
- WTE discourages segregation, reuse and recycling of waste thus **undermining circular economy goals**.

Current Criticism

- The reclassification is viewed as **regressive**, unscientific and a potential enabler of environmental degradation.

First Global Carbon Tax on Shipping

Context

- Recently, India, along with 62 other countries, voted in favour of the first global carbon tax on the shipping industry, adopted by the International Maritime Organisation (IMO) in London.

What is Carbon Tax?

Definition

Types of Carbon Tax Mechanisms

A carbon tax is a levy imposed on the carbon content of fossil fuels such as coal, oil and natural gas to curb GHG emissions.

Purpose

- Disincentivize carbon emissions, encourage clean energy and fund green initiatives.

Target

- Polluters – particularly industries, energy producers and transport systems using fossil fuels.

Mechanism

- Calculated per tonne of CO₂ emitted or embedded in fuel consumed.

Type	Description	Example
Emissions Tax	Direct tax on total GHG emissions by industries or power plants.	Sweden taxes industrial CO ₂ emissions.
Energy Tax	Based on carbon content or energy potential of fossil fuels.	UK Climate Change Levy on fuel use.
Cap-and-Trade System	Emission cap set; tradable carbon credits allow market-based reduction.	EU Emissions Trading System.
Border Tax Adjustment	Tax on imported goods based on emissions from production to prevent carbon leakage .	Proposed in EU's Carbon Border Adjustment Mechanism.
Fuel Excise Tax (Carbon-linked)	Excise duty linked to carbon intensity of fuels.	Australia (2012–14) had direct carbon pricing on fuels.
Offset-linked Carbon Pricing	Emitters can pay for certified carbon offsets instead of tax.	Voluntary Carbon Market practices.

India's First-Ever Seed Germination Database

Context

- India has launched its **first ever seed germination database** which is a free access digital repository of **germination protocols for 465 native plant species** compiled by the **Ecological Restoration Alliance – India** also known as ERA-I.
- This initiative supports India's commitment under the **Bonn Challenge** to restore **26 million hectares of degraded land** by 2030.

Highlights of the Initiative

Scope

- 1,000+ germination techniques for 465 native plant species

Target Users

- Ecological restoration practitioners, nursery managers, native plant enthusiasts

Partners

- Auroville Botanical Gardens, ATREE, NCF, Wildlife Trust of India, etc.

Accessibility

- Free and public platform for seed germination knowledge

Importance of Native Plants in Ecological Restoration

- Ecological Compatibility** as they co-evolved with local fauna—birds, mammals, insects, fungi.
- Adapted to local climatic and soil conditions.

- Require minimal irrigation, fertilizers or human intervention once established.
- Help in restoring degraded ecosystems, improve biodiversity.

Restoration Role

- **Seed Germination Protocols** ensure higher survival rates in **restoration nurseries**.
- Useful in **reforesting degraded areas**, **reviving ecosystem services** and ensuring **biodiversity conservation**.

Flue Gas Desulphurisation

Context

- A recent study commissioned by the **Principal Scientific Adviser** recommends **rolling back** the 2015 mandate requiring all **537 coal-fired plants** to install **Flue Gas Desulphurisation (FGD)** units. **FGD** should **only be mandatory** for plants using **imported coal** or **high-sulphur coal (>0.5%)**.

Rationale for Policy Change

- **92%** of coal used in India has **low sulphur content (0.3%-0.5%)**.
- Installing **FGDs** would increase
 - **Freshwater consumption**,
 - **Power consumption**,
 - **CO₂ emissions** by **69 million tonnes (2025–30)**, While reducing **SO₂ emissions** by **17 million tonnes**.
- Focus efforts on controlling **Particulate Matter** pollution instead of **SO₂** due to the **high ash content** in Indian coal.

About FGD

- **Flue Gas Desulphurisation** refers to a set of technologies used to remove **sulphur dioxide** from the **exhaust (flue) gases** of fossil fuel power plants and industrial facilities. It is an important environmental control measure aimed at reducing **air pollution**, **acid rain** and **health hazards** caused by **SO₂ emissions**.

5.2 SNIPPETS

FAUNA SPECIES IN NEWS	
Topics	Details
Channa Nachi	• A new species of snakehead named Channa nachi was recently discovered in Meghalaya. Common Name • Farham's Snakehead and is proposed in honor of Farham Sangma Discovered By • Farham Sangma a fish hobbyist from Meghalaya Habitat • Shallow, slow-flowing stream near Chokpot village • Part of the Simsang River system • Substrate: Sand, leaf litter and pebbles
Indian Bison	• The first Indian Bison Fest was recently organized at Debrigarh Wildlife Sanctuary in Odisha. This unique festival aimed to highlight the ecological importance of the Indian bison and to promote conservation efforts. • Local name: Gaur • Scientific Name: <i>Bos gaurus</i> • Largest Wild Cattle as it can reach a height of 220 cm at the shoulder. • Found in forested hills and grasslands of South and Southeast Asia. • Global Population is around 13,000 to 30,000 individuals, with 85% found in India. • Strongholds in India: Western Ghats that is Wayanad, Nagarhole, Mudumalai, Bandipur and Central India and Northeast India. • Gaur is the state animal of Goa and Bihar.

	- IUCN status: vulnerable. - CITES: Appendix I. - Wildlife Protection Act, 1972: Schedule I.
Amur Tiger	- The Amur tiger also known as the Siberian tiger is one of the most majestic big cats in the world. However its survival is at risk due to road accidents in the Russian Far East. IUCN Status - Endangered Population - Estimated 265–486 (2022) in Russia with a small number in China & possibly North Korea Habitat - Primarily in eastern Russia's birch forests, some presence in China and North Korea Diet - Carnivore – Preys on elk, wild boar and other ungulates Size 10.75 feet in length, weighing up to 660 pounds Lifespan 10-15 years in the wild, up to 20 years in captivity Unique Adaptations - Thick fur, large size and a lighter coat color for cold climates
Binturong	- A rare Binturong that is <i>Arctictis binturong</i> was captured on a camera trap in Narang Wari Village Reserve Forest (VRF). The VRF is situated in the buffer zone of Balpakram National Park which is a part of Meghalaya's Garo Hills Elephant Landscape. Common Name - Bearcat Conservation Status - IUCN: <i>Vulnerable</i> - WPA 1972: <i>Schedule I</i> - CITES: <i>Appendix III</i> Physical Features - Long shaggy black hair, prehensile tail, bushy tail, scent glands under tail Activity - Arboreal, nocturnal and crepuscular Habitat Range - Dense forests of South and Southeast Asia – from Nepal and India to Java and Borneo Ecological Role - Important seed disperser, especially of figs → vital for forest regeneration
Flowerpot Snake	- The flowerpot snake is the only known parthenogenetic and triploid species within Serpentes. However the genetic basis underlying this phenomenon remains unresolved. Scientists investigated the genomic complexities of this rare all-female triploid reptile. - Parthenogenetic species which reproduce asexually without fertilization can also be triploid and examples include certain lizards, snakes and insects.

	• Triploidy refers to a condition where an organism has three sets of chromosomes instead of the usual two. • The flowerpot snake is scientifically known as <i>Indotyphlopsbraminus</i>. • Also referred to as the Brahminy blind snake this serpent has garnered attention for its worm like appearance and parthenogenetic reproduction.																											
Theobaldius Konkanensis	• A team of researchers from India and UK recently discovered a species of land snail from the Konkan region of Maharashtra and named it Theobaldiuskonkanensis. • Endemic to Northern Western Ghats. Found at80 to 240 meters above sea level. • Found in Tropical evergreen and semi-evergreen forests. • Active during June to September. • Microhabitat includes Leaf litter, damp fallen branches, under forest canopy. • Diurnal and nocturnal. • Mainly hermaphroditic. • Bioindicator species as they are highly sensitive to environmental changes. • Decomposer, contributes to nutrient cycling.																											
Asiatic Lions	Asiatic lions are now moving beyond Gir and venturing into Coastal belts e.g. Diu Island, Girnar hills, Agricultural fields and human settlements. They are also crossing state borders raising ecological, administrative and conflict concerns. Asiatic Lion vs African Lion <table><tr><th>Feature</th><th>Asiatic Lion (<i>P. leo persica</i>)</th><th>African Lion (<i>P. leomelanochaita</i>)</th></tr><tr><td>Size</td><td>Slightly smaller</td><td>Generally larger</td></tr><tr><td>Mane</td><td>Shorter, less developed</td><td>Fuller, denser</td></tr><tr><td>Social Behavior</td><td>Males stay with pride</td><td>Males often leave pride</td></tr><tr><td>Habitat</td><td>Dry deciduous forests (India)</td><td>Savannas, grasslands, shrublands</td></tr><tr><td>Distribution</td><td>Gir, Gujarat (only)</td><td>Sub-Saharan Africa</td></tr><tr><td>IUCN Status</td><td>Endangered</td><td>Vulnerable</td></tr><tr><td>CITES Listing</td><td>Appendix I</td><td>Appendix II</td></tr><tr><td>Protection in India</td><td>Wildlife Protection Act, 1972 – Schedule I</td><td>–</td></tr></table>	Feature	Asiatic Lion (<i>P. leo persica</i>)	African Lion (<i>P. leomelanochaita</i>)	Size	Slightly smaller	Generally larger	Mane	Shorter, less developed	Fuller, denser	Social Behavior	Males stay with pride	Males often leave pride	Habitat	Dry deciduous forests (India)	Savannas, grasslands, shrublands	Distribution	Gir, Gujarat (only)	Sub-Saharan Africa	IUCN Status	Endangered	Vulnerable	CITES Listing	Appendix I	Appendix II	Protection in India	Wildlife Protection Act, 1972 – Schedule I	–
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Typhloperipatus Williamsoni	• A team of Indian researchers has recently rediscovered <i>Typhloperipatuswilliamsoni</i> a species of velvet worm after 111 years from the Siang Valley in Arunachal Pradesh. Age • Considered among the oldest living fossils; evolutionary history dating back over 350 million years Morphological Traits • Soft bodied, worm like organism with stubby legs and antennae; exhibits a velvety texture Habitat • Moist, undisturbed tropical forests Distribution • Endemic to northeast India; very limited population known																											

Asian Hornet	- Invasive Asian hornets — <i>Vespa velutina</i> — have established a foothold in Britain, posing a severe threat to native pollinators, particularly honeybees. - The Asian Hornet is a highly invasive wasp species first detected in Europe in 2004 and has since become a major threat to pollinators particularly the European honeybee. - Native to Southeast Asia the species has now established a foothold in the UK raising ecological and agricultural concerns. 25 m in length. Black velvety thorax, Yellow-tipped legs, Orange band on the fourth abdominal segment, Dark antennae. Builds large paper nests often in trees or buildings.
Leptobrachium Aryatium	- A new species of frog <i>Leptobrachium aryatium</i> has been officially recognized after a 21-year-long scientific investigation. Initially misidentified as <i>Leptobrachium smithi</i> in 2004. Location of Discovery Garbhanga Reserve Forest located on the south western fringe of Guwahati. - The region borders Meghalaya and lies adjacent to Deepor Beel, a Ramsar wetland site. - The discovery area is part of the Garbhanga-Rani-Deepar Beel Elephant Corridor, a critical zone for wildlife movement and biodiversity conservation.
Clinidium Lalitae	- A new beetle species <i>Clinidium lalitae</i> has been discovered by scientists from the Zoological Survey of India. The species was found in Talle Valley Wildlife Sanctuary, Arunachal Pradesh. The beetle is named after the late Dr. Lalita Ray Chaudhury a renowned coleopterologist and former ZSI scientist. Beetle Group - Belongs to a rare group of ground beetles Habitat Forest floors, important for forest ecosystems Ecological Role - Contributes to nutrient cycling and soil health Unique Features - Known for its distinct morphology; adapted to life in leaf litter
Nigiri Martens	- A recent Kerala Forest Research Institute study (2002–2020) highlights that the Nilgiri marten relies heavily on old, hollow-bearing trees for its survival. - The Nilgiri marten is a rare, carnivorous mammal found only in the Western Ghats of India. It is the only marten species native to southern India and is known for its elusive nature, making it one of the least studied small carnivores in the region. Features of Nilgiri Marten IUCN Status Vulnerable CITES Status Appendix III (India) Distribution Endemic to the Western Ghats, especially in Kerala, Tamil Nadu, Karnataka Appearance Reddish-brown fur, long slender body, bushy tail, and a distinctive yellow or orange throat patch

	Size • Medium-sized, around 55–65 cm body length + tail Behaviour • Arboreal (tree-living), agile, solitary, shy and elusive Diet • Omnivorous – feeds on fruits, insects, small mammals, birds and reptiles Habitat • Evergreen and Shola forests of mid to high elevations (above 1,000 m)
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FLORA SPECIES IN NEWS	
Topics	Details
Frankincense	• Frankincense trees are in danger of extinction. IUCN recently warned that many species of Boswellia trees on Socotra Island in Yemen are at high risk of disappearing. What is Frankincense? • Frankincense is a sticky resin that oozes out of cuts made on the trunk of Boswellia trees. Once dried it forms small yellowish white droplets that are collected and used in: ○ Incense, burned in temples and churches ○ Perfumes ○ Medicines to treat diseases like asthma, colds and joint pain.
Adenium Obesum	• Tiruvallur district in Tamil Nadu is emerging as a significant hub for the cultivation of Adenium obesum popularly known as Desert Rose. Some plants fetch prices up to Rs 12 lakh attracting attention from horticulturists, entrepreneurs and policymakers. Native Regions • Arid zones of Africa and the Arabian Peninsula Biome • Desert or dry shrubland Growth Habit • Succulent shrub, small tree like bonsai appearance Flower Characteristics • Trumpet shaped, colorful (white to deep red), fragrant, attract pollinators Special Traits • Drought tolerant, thick caudex for water storage, slow growing that is ~12" per year.

PROTECTED AREAS IN NEWS	
Topics	Details
Karimpuzha Wildlife Sanctuary	• The Karimpuzha Wildlife Sanctuary which is Kerala's youngest protected area has emerged as a biodiversity hotspot. A recent faunal survey conducted by the Forest Department documented 63 new species of odonates, butterflies and birds. The sanctuary located in the Nilambur Forest Division was declared a protected area in 2020. Location • Malappuram district Total Area • 228 sq.km

	Established 2020 Geographical Significance - Part of the Nilgiri Biosphere Reserve, recognized by UNESCO's Man and Biosphere Programme Borders Mukurthi National Park (Tamil Nadu) on the eastern side, Silent Valley National Park (Kerala) on the southern side Tributary - Named after the Karimpuzha River which is a tributary of the Chaliyar River Ecological Importance - High biodiversity due to varied topography from steep hills and deep valleys to grasslands and shola forests Inhabited Tribes - Home to Cholanaikans, a Particularly Vulnerable Tribal Group
Mukundara Hills Tiger Reserve	A massive fire, triggered by stone-crushing sparks, erupted in Mukundra Tiger Reserve recently. - MHTR also known as Darrah Wildlife Sanctuary is a significant protected area in Rajasthan. - Established as Rajasthan's third tiger reserve in 2013 it spans across the districts of Kota, Bundi, Jhalawar and Chittorgarh. - The reserve encompasses the Mukundra National Park, Darrah Sanctuary, Jawahar Sagar Sanctuary and parts of the Chambal Sanctuary forming its core critical tiger habitat. - The reserve is characterized by two parallel flat topped hills Mukundra and Gagrola extending approximately 80 km in length and 2 to 5 km in width. These hills are part of the Vindhyan range. - MHTR is traversed by four rivers Chambal, Kali, Ahu and Ramzan which contribute to the area's rich biodiversity. - The reserve predominantly features dry deciduous forests. - Kala Dhok or Kaladhi is the dominant tree species accompanied by Khair, Ber, Kakan and Raunj.
Cauvery Wildlife Sanctuary	Days after the incident wherein a few cattle were left wounded after they accidentally consumed explosives, a bear succumbed to injuries it sustained after it accidentally consumed an explosive at the Cauvery Wildlife Sanctuary. - The Cauvery Wildlife Sanctuary established in 1987 is a protected area spanning approximately 1027 km² across the Mandya, Chamarajanagar and Ramanagar districts of Karnataka. - Named after the Cauvery River that flows through it for about 101 kilometers the sanctuary serves as a vital habitat for diverse flora and fauna. - Borders Tamil Nadu to the east and northeast. Landmarks Hogenakkal Falls known as Smoking Rock in Kannada. Mekedatu translates to "Goat's Leap." Sangam which is confluence of the Arkavathi and Cauvery rivers. Muthathi which is site of the Anjaneya temple.

Phawngpui National Park	- Forest fires that had erupted in several parts of Mizoram’s Phawngpui National Park have affected nearly one-ninth of the park’s total area, state forest officials said. They, however, ruled out the possibility of a larger wildfire. - Blue Mountain National Park (Phawngpui) is located in the Lawngtlai district of southeastern Mizoram, near the India-Myanmar border. Covering around 50 square kilometers, it rises from 1,000 meters to 2,157 meters above sea level, with Phawngpui Peak being the highest point in Mizoram. The park features steep cliffs deep gorges, and the semi-circular ThlazuangKhâm cliff. It overlooks the Chhimtuipui River and Myanmar’s hill ranges. Declared a national park in 1992, it falls under IUCN Category II.																														
Shifting Cheetahs From Kuno Park To Gandhi Sagar	The Cheetah Project Steering Committee has approved the relocation of some cheetahs from Kuno National Park to the Gandhi Sagar Wildlife Sanctuary in Madhya Pradesh with the goal of establishing a meta population across a larger landscape. Kuno National Park and Gandhi Sagar Wildlife Sanctuary <table><tr><th>Feature</th><th>Kuno National Park (Kuno NP)</th><th>Gandhi Sagar Wildlife Sanctuary (GSWS)</th></tr><tr><td>Location</td><td>Sheopur and Morena districts, Madhya Pradesh</td><td>Mandsaur and Neemuch districts, Madhya Pradesh</td></tr><tr><td>Establishment Year</td><td>Declared a National Park in 2018 (originally Wildlife Sanctuary in 1981)</td><td>Established as Wildlife Sanctuary in 1974</td></tr><tr><td>Ecological Zone</td><td>Semi-arid with dry deciduous forest</td><td>Dry deciduous forest, part of Vindhyan ranges</td></tr><tr><td>River System</td><td>Kuno River, a tributary of Chambal</td><td>Chambal River forms part of the boundary</td></tr><tr><td>Flagship Species</td><td>Asiatic lions (planned), Cheetahs (translocated from Namibia and South Africa)</td><td>Leopard, Sloth Bear, Wild Boar, Chinkara</td></tr><tr><td>Project Cheetah</td><td>Yes – Kuno is the main site for cheetah reintroduction</td><td>Identified as an alternate site for cheetah relocation</td></tr><tr><td>Conservation Importance</td><td>Considered for Asiatic Lion relocation from Gir; center of India’s cheetah revival project</td><td>Important for landscape-level connectivity and species dispersal</td></tr><tr><td>Connectivity</td><td>Part of a larger forested landscape, potential for corridor with Ranthambhore NP</td><td>Near Gandhi Sagar Dam; ecological connectivity with Mukundara Hills</td></tr><tr><td>Recent Developments</td><td>Arrival of cheetahs under India’s rewilding efforts (since 2022)</td><td>Proposed as second site under Project Cheetah in case of Kuno overcapacity</td></tr></table>	Feature	Kuno National Park (Kuno NP)	Gandhi Sagar Wildlife Sanctuary (GSWS)	Location	Sheopur and Morena districts, Madhya Pradesh	Mandsaur and Neemuch districts, Madhya Pradesh	Establishment Year	Declared a National Park in 2018 (originally Wildlife Sanctuary in 1981)	Established as Wildlife Sanctuary in 1974	Ecological Zone	Semi-arid with dry deciduous forest	Dry deciduous forest, part of Vindhyan ranges	River System	Kuno River, a tributary of Chambal	Chambal River forms part of the boundary	Flagship Species	Asiatic lions (planned), Cheetahs (translocated from Namibia and South Africa)	Leopard, Sloth Bear, Wild Boar, Chinkara	Project Cheetah	Yes – Kuno is the main site for cheetah reintroduction	Identified as an alternate site for cheetah relocation	Conservation Importance	Considered for Asiatic Lion relocation from Gir; center of India’s cheetah revival project	Important for landscape-level connectivity and species dispersal	Connectivity	Part of a larger forested landscape, potential for corridor with Ranthambhore NP	Near Gandhi Sagar Dam; ecological connectivity with Mukundara Hills	Recent Developments	Arrival of cheetahs under India’s rewilding efforts (since 2022)	Proposed as second site under Project Cheetah in case of Kuno overcapacity
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PLACES IN NEWS	
Topics	Details
Kancha Gachibowli	The Supreme Court halted Telangana's forest land clearance for IT parks after suo motu cognisance in April 2025.

	• Kancha Gachibowli is an urban forest near the University of Hyderabad. • Known for its biodiversity including Schedule-I species, rock formations and ecological value. • One of the last remaining green lungs in Hyderabad's expanding IT corridor. • Situated in the Financial District of Gachibowli, one of Hyderabad's costliest real estate zones.
Arctic Biome	• The 2024 Arctic Report Card by the US NOAA notes that frequent fires and fossil fuel pollution are turning the Arctic tundra into a carbon source. • The Arctic Biome is one of the coldest and most carbon-rich ecosystems on Earth. It plays a vital role in global climate regulation yet is now under severe threat due to climate change, wildfires and permafrost thaw. • Spans ~5 million km² north of the Arctic Circle. • Includes parts of Canada, Greenland, Iceland, Scandinavia, and Eurasia notably Siberia. • Includes Arctic tundra and Arctic Boreal Zone (ABZ) (tundra + coniferous forests + wetlands).
Bioluminescent Backwaters	• Recently bioluminescent blue waves were observed in the backwaters of Kochi. Cause • Emission of light by Noctiluca scintillans (dinoflagellate plankton), commonly called Sea Sparkle Season • Typically observed March to May, locally called Kavaru Trigger • Mechanical disturbances like waves or movement activate light emitting chemical reactions What Are Backwaters? Definition • Backwaters are partially enclosed water bodies formed by the action of tides, where seawater enters the mainland through inlets and estuaries but does not mix completely with freshwater. These are brackish (slightly salty) in nature. Formation • Formed due to coastal sediment deposition, lagoon development, or river mouths getting blocked by sandbars Water Type • Mix of freshwater (from rivers) and saltwater (from the sea) – brackish ecosystem Ecological Importance • Rich biodiversity, support estuarine ecosystems, mangroves, nurseries for marine life Economic Role • Support fisheries, aquaculture, inland navigation, and tourism (e.g., houseboats in Kerala)

INTERNATIONAL ORGANISATIONS IN NEWS	
Topics	Details
IBCA	The International Big Cat Alliance (IBCA) signed an agreement with the central government formalising India as the headquarters and secretariat of the

	alliance, over two months after it came into force as a full-fledged treaty-based intergovernmental organisation. • Launched in April 2023 by Prime Minister Narendra Modi during the 50th anniversary of Project Tiger to foster global conservation efforts for seven major big cat species. • Implementing Agency: National Tiger Conservation Authority under MoEFCC. • Open to all UN Member States – both range and non-range countries. • Current Ratifying Members: India, Nicaragua, Eswatini, Somalia, Liberia.
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SCHEMES IN NEWS	
Topics	Details
Green Credit Programme	• Concerns were raised regarding the legal validity of Green Credit Programme under the Environment (Protection) Act, 1986 especially by the Ministry of Law and Justice. Despite these concerns the Green Credit Rules, 2023 were notified and implemented. Launched By • Ministry of Environment, Forest and Climate Change Objective • To incentivize environmental conservation activities through a tradable credit system Implementation Year • 2023 Participants • Individuals, communities and private industries earn Green Credits for engaging in ecofriendly activities such as afforestation, water conservation and sustainable agriculture. Tradability • Green Credits can be traded on a domestic exchange to meet environmental obligations Market Mechanism • Functions like carbon credits, but focuses on environmental activities beyond emission reduction.

5.3 ADDITIONAL TOPICS FOR READING FROM IASGYAN WEBSITE

Topics	Date
BRACING FOR HEATWAVES	4 April 2025
WHY INDIA NEEDS TO CLEAN ITS AIR?	4 April 2025
HALF OF GLOBAL MANGROVES AT RISK	11 April 2025
SANDSTORMS	18 April 2025
REALLOCATE RESOURCES FROM TRADITIONAL STAPLES TO MORE DIVERSE ONES	18 April 2025

6. SCIENCE & TECHNOLOGY AND HEALTH

6.1 SHORT ARTICLES

Biomass Mission

Context

- The European Space Agency (ESA) is launching a new satellite named Biomass.

What is the Biomass Mission?

- The Biomass satellite is set to launch on April 29, 2025, from French Guiana using a rocket called Vega C. Once in space, it will orbit Earth at an altitude of about 666 kilometres. This orbit keeps the satellite synced with the Sun; **passes over areas at the same time of day.**
- It is **part of ESA's Earth Explorer program**, which launches satellites to study different parts of Earth. These satellites help scientists understand ocean currents, ice caps, clouds, and land surfaces.
 - The first satellite, **GOCE**, studied **Earth's gravity and ocean circulation.**
 - The most recent one, **EarthCARE**, **helps scientists understand how clouds and aerosols affect Earth's climate.**
- It will create detailed 3D maps of forests, showing their height, density, and carbon content. Besides forests, the satellite will also study ice sheets in Antarctica to see how they move and melt.

How Does the Satellite Work?

- The Biomass satellite uses a special radar called P-band Synthetic Aperture Radar (SAR). This radar sends out long waves that can pass through the tops of trees (canopy) and measure the carbon stored in tree trunks, branches, and even the forest floor.
- **No other satellite has used P-band radar before.** The satellite also has a large 12-meter antenna that unfolds once it is in space. This antenna helps the satellite "see" through thick forests and gather accurate data.

RNA-based Antiviral and CMV

Context

- Scientists have created an RNA-based antiviral that effectively fights the cucumber mosaic virus (CMV) in plants.

Background

- Farmers around the world struggle with plant viruses. Unlike bacteria or fungi, which can be controlled with chemicals like pesticides, there is no simple cure for viral infections in plants.
- The **United Nations Food and Agriculture Organization (FAO)** says that **pests and diseases destroy 40% of global crops yearly, costing over \$220 billion.** Plant viruses alone cause losses of more than \$30 billion annually. One major threat is the Cucumber Mosaic Virus (CMV).

Cucumber Mosaic Virus (CMV)

- CMV infects over 1,200 plant species, including cucumbers, pumpkins, bananas, cereals, and medicinal plants.
- In India, **CMV causes 25-30% yield losses in banana plantations** and up to 70% infection rates in pumpkins, cucumbers, and melons.
- Infected plants show mosaic-like discolouration, stunted growth, and produce fruits that are not fit for sale.
- CMV spreads through small insects called aphids, and nearly 90 aphid species can transmit it, making outbreaks hard to control.

New Solution

- **Scientists in Germany have developed a new RNA-based antiviral to protect plants from CMV.** RNA is a molecule that helps living organisms, including plants, function. The researchers use RNA to boost a plant's natural defence system, similar to how our immune system fights viruses.
- **Plants have a natural defence called RNA silencing.** When a virus attacks, it introduces double-stranded RNA (dsRNA), which alerts the plant's immune system.

- The plant produces Dicer-like enzymes (DCLs) that cut the dsRNA into small pieces called small interfering RNAs (siRNAs).
- These siRNAs guide the plant in identifying and destroying the virus's genetic material, stopping the infection.
- However, this natural defence isn't always effective. The siRNAs plants produce may not target the virus well, and viruses can mutate quickly to escape.

Scientists developed two RNA-based techniques to fix this: Host-Induced Gene Silencing (HIGS) and Spray-Induced Gene Silencing (SIGS).

- **HIGS:** Scientists genetically modify plants to produce virus-fighting dsRNA inside their cells, giving them lifelong protection. However, HIGS is expensive, subject to strict regulations, and viruses can develop resistance.
- **SIGS:** Instead of modifying the plant's DNA, scientists spray RNA molecules onto leaves. The plant absorbs the RNA, which triggers its immune system to fight the virus. SIGS is cheaper, eco-friendly, and doesn't involve genetic modification.

Hepatitis A

Context

- Kerala has seen a sharp rise in Hepatitis A cases, with 16 deaths reported.

What is Hepatitis A?

- It is a **liver infection caused by the Hepatitis A virus (HAV)**. It spreads mainly through the fecal-oral route; transmitted through contaminated food or water.
- **The virus attacks the liver and causes inflammation.** However, most people recover fully without any long-term damage, but older adults or those with other liver diseases might face complications like acute liver failure, though this is rare.
- **Unlike Hepatitis B or C, Hepatitis A does not cause chronic liver problems.** It is a short-term illness; once you recover, you gain lifelong immunity.

- **Symptoms appear 2 to 7 weeks after infection. Not everyone shows symptoms,** especially young children. When symptoms do appear, they last a few weeks but can sometimes persist for up to 6 months in severe cases.

Comparing Hepatitis A with Other Types

- **Hepatitis A:** It spreads through contaminated food or water and causes a short-term illness. A vaccine is available.
- **Hepatitis B:** It spreads through blood, semen, or other body fluids, such as through unsafe sex or sharing needles. It can cause both short-term and long-term illness. There is a vaccine, and it can lead to liver cancer.
- **Hepatitis C:** It spreads through blood, from infected needles. It can cause both short-term and long-term illness. There is no vaccine, but antiviral drugs can cure most cases.
- **Hepatitis D:** It only affects people with Hepatitis B and spreads through blood. There is no specific vaccine, but the Hepatitis B vaccine can prevent it.
- **Hepatitis E:** Similar to hepatitis A, it spreads through contaminated water. It causes a short-term illness and can be particularly dangerous for pregnant women. Vaccines exist but are not widely available.

Comprehensive Remote Sensing Observation on Crop Progress (CROP)

Context

- Indian Space Research Organisation (ISRO) utilises satellite data to provide accurate data on wheat growth across eight major wheat-growing states.

How ISRO Doing This?

- ISRO uses a system called CROP (Comprehensive Remote Sensing Observation on Crop Progress), a smart tool developed by ISRO's National Remote Sensing Centre (NRSC).

How Does It Work?

- **Satellites Watch the Fields:** ISRO's satellites, like EOS-04, EOS-06, and Resourcesat-2A,

orbit the Earth and take pictures of wheat fields. These satellites use special cameras (Optical and Synthetic Aperture Radar) to see crops clearly, even through clouds or at night.

- **Tracking Growth:** The satellites check the amount of wheat planted and the health of the crops. They monitor the fields throughout the Rabi season (October to April).
- **Data Analysis:** The CROP system processes satellite images to estimate total wheat production. It examines the area covered by wheat and the condition of the plants.
- **Real-Time Updates:** Unlike old methods that take months, ISRO's system gives updates almost instantly. This helps farmers and policymakers act quickly if something goes wrong.

ISRO Supports Agriculture

- **Soil Health Monitoring:** Satellites check soil moisture and nutrients to guide farmers on where to plant.
- **Disaster Warnings:** ISRO's data warns about floods or droughts that could destroy crops.
- **Precision Farming:** Farmers use satellite data to apply water and fertilisers only where needed, saving money and protecting the environment.
- **Lightning Prediction:** ISRO's INSAT-3D satellite predicts lightning, helping farmers protect crops during storms.

Measles-Rubella

Context

- The Union Health Minister has launched the National Zero Measles-Rubella Elimination Campaign for 2025-26 to achieve 100% immunisation coverage for children.

Measles

- **Measles is caused by the Morbillivirus, part of the Paramyxoviridae family.** It mainly affects young children, but anyone without immunity can get it.
- **Symptoms start with a high fever, cough, runny nose, and red, watery eyes.** A red rash soon appears, starting from the face and spreading to the rest of the body. While some people recover, measles can be deadly,

especially for malnourished children or those with weak immune systems.

- Globally, measles kills thousands of children every year. In 2020, it caused over 128,000 deaths, mostly in low-income countries with low vaccination rates.

Rubella

- **Rubella, also known as German Measles, is milder than measles.** It is caused by the Rubella virus, an RNA virus. Unlike measles, rubella spreads less easily and usually doesn't make people as sick.
- Symptoms include a mild fever, sore throat, and a pink rash that starts on the face and spreads. Sometimes, young adults experience swollen lymph nodes or joint pain.
- **While rubella seems harmless, it is dangerous for pregnant women.** If a woman catches rubella early in pregnancy, the virus can harm her unborn baby, causing Congenital Rubella Syndrome (CRS). This condition leads to serious, lifelong problems.

Measles and Rubella can be prevented with safe and effective vaccines, like the MMR (Measles-Mumps-Rubella) vaccine. The MMR vaccine is given in two doses (at 12–15 months and 4–6 years).

India's Campaign Against Measles-Rubella

- Currently, 93.7% of eligible children receive the first dose of the Measles-Rubella (MR) vaccine, and 92.2% get the second dose, according to 2024-25 Health Management Information System (HMIS) data.
- India aims to achieve over 95% vaccination coverage in every district to ensure robust immunity. Special drives, like Mission Indradhanush, focus on vaccinating unvaccinated or under-vaccinated children. In 2023, Intensified Mission Indradhanush 5.0 was launched to boost coverage.
- In 2024, India received the Measles and Rubella Champion Award from the Measles and Rubella Partnership in Washington, US.

Plastic Ice

Context

- Scientists Discover "Plastic Ice" That Could Shape Alien Worlds

What is Plastic Ice?

- Plastic ice forms at extremely high pressures**—about 30,000 times the pressure at the bottom of Earth's oceans—and temperatures over 177°C.
- Normal ice is hard and rigid, but plastic ice is softer and can be moulded or squeezed more easily.
- In plastic ice, water molecules are locked in place but can rotate freely, like in liquid water.

How Did Scientists Discover Plastic Ice?

- Scientists used neutron beams to study water molecules under extreme conditions. They heated water samples to over 326°C and

applied pressures up to 60,000 times higher than Earth's atmospheric pressure.

- When the neutrons hit the water molecules, scientists measured how much energy they gained or lost, which helped them understand how the molecules were moving.
- When the molecules started spinning in place while staying fixed in a cubic structure, the scientists knew they had found plastic ice.

Why is This Discovery Important?

- This discovery helps to understand what happens inside icy worlds, like Jupiter's moon Europa or Saturn's moon Titan. These moons might have had plastic ice in their early stages before becoming the ocean worlds we see today. By studying plastic ice, scientists can learn how these moons evolved and whether they might support life.

6.2 SNIPPETS

Topics	Details
Biosignatures	- Astronomers detect potential biosignatures on exoplanet K2-18b, hinting at possible extraterrestrial life. A biosignature is a clue that suggests life might exist. It could be a chemical, gas, or pattern. Scientists use telescopes to analyse starlight passing through exoplanet atmospheres to look for these clues. However, biosignatures aren't always proof of life. Some gases, like oxygen or methane, can form without life through geological processes (called abiotic sources).
Jumping Genes	- Scientists uncover how silencing jumping genes could combat ageing and disease. - Jumping genes are small bits of DNA that can move around in genetic material. A scientist named Barbara McClintock discovered them, and she won a Nobel Prize for it in 1983. - These jumping genes make up almost half of human DNA. They can mess up genes and cause mutations but can also help with evolution by adding variety to DNA. However, their movement often causes problems, especially as we get older. Our body uses special mechanisms called epigenetics to control these jumping genes. In a healthy brain, this control works well. But in an ageing brain or a brain with a disease like Alzheimer's, the control weakens, and the jumping genes start to run wild.
Type 5 Diabetes	- Type 5 diabetes is a newly recognised form of diabetes. Type 5 diabetes mostly affects thin and malnourished teenagers and young adults in low- and middle-income countries. This is why it is also called "malnutrition-induced diabetes."

	- The pancreas is the organ that makes insulin, a hormone that helps control blood sugar levels. Without enough insulin, people develop diabetes. Type 5 diabetes is different from Type 2 diabetes. In Type 2 diabetes, the body resists insulin. But in Type 5 diabetes, the pancreas doesn't make enough insulin because of years of poor nutrition.
World Chagas Disease Day 2025	- World Chagas Disease Day was observed on April 14 under the theme "Prevent, Control, Care: Everyone's Role in Chagas Disease." - The day was first celebrated in 2020. It was established in 2019 by the 72nd World Health Assembly. Chagas disease is a parasitic infection caused by Trypanosoma cruzi. The parasite spreads mainly through triatomine bugs, often called "kissing bugs." These bugs bite people at night and leave infected faeces. When a person scratches the bite, the parasite enters their body. - The disease often hides in the body for years without symptoms, earning it the name "silent disease." If untreated, it can be deadly. - Treatment focuses on eliminating the parasite and managing symptoms. The main drugs used are benznidazole and nifurtimox.
Electroreception	- Scientists have found that fruit fly larvae can sense electric fields - The scientists discovered that the larvae have special neurons on either side of their head. These neurons help them detect electric fields. - Scientists put the larva's head under a microscope and exposed it to an electric field. The neuron became less active when the electrode was in front of the larva's head. But when the electrode was behind the larva's head, the neuron became active. This activation made the larva turn around and move toward the negative side of the electric field. Fruit fly larvae are now among the few animals that sense electric fields, joining sharks, bees, and the platypus.
rt Lamp	- Scientists at the Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) in Thiruvananthapuram have created a new test for tuberculosis (TB) called the rt-LAMP. The rt-LAMP test is a molecular test that can detect TB faster and cheaper than older methods. The researchers at SCTIMST say it is as good or even better than existing tests like GeneXpert. - Most people are tested using an inaccurate old method called sputum smear microscopy. Only about 21% of people get tested with modern molecular tests. - The government aims to reduce the use of the old method by 2025, but progress is slow. The rt-LAMP test, which is affordable and easy to use, can help.
Genome India Project	- The first part of India's ambitious programme to map its people's genetic diversity is now complete, and the data are ready to be used. - The Genome India Project is a scientific effort to map the genetic diversity of the Indian population. Scientists have collected and studied the complete gene sequences of 10,000 people from different ethnic groups across India. - Scientists take blood samples from volunteers and extract DNA from white blood cells. DNA is made up of four molecules called adenine (A), thymine (T), cytosine (C), and guanine (G). These molecules form a long chain; every person's DNA has about three billion of these "letters." While 99.9% of everyone's DNA is identical, the remaining 0.1% makes each

	person unique. Scientists focus on these differences because they hold the key to understanding health risks and traits.
HEALD	- The Union Home Minister launched the HEALD initiative, a nationwide program to fight liver diseases. - This program, led by the Institute of Liver and Biliary Sciences (ILBS), focuses on education, early detection, treatment, and policy changes to address liver diseases, especially those caused by alcohol. - Over 10 million people in India suffer from liver-related problems, with alcohol being a significant cause. HEALD aims to save lives by raising awareness, detecting issues early, and helping people recover.
Three Gorges Antarctic Eye	- China has launched a new telescope, the "Three Gorges Antarctic Eye," at Zhongshan Station in Antarctica. - The telescope is 3.2 meters wide and can detect radio and millimetre waves from space. These waves are types of invisible light that help scientists study space. - This is part of China's broader efforts to expand its astronomy research in Antarctica. Before this telescope, China had other instruments like the Antarctic Survey Telescopes (AST3) for different observations.
Semaglutide	- A new study shows that semaglutide can reduce the risk of heart attacks, strokes, and other heart problems by 14%. Semaglutide is a drug used to treat type 2 diabetes and help people lose weight. It mimics a hormone that lowers blood sugar and helps control appetite. - The study, called SOUL, found semaglutide cuts the risk of major adverse cardiovascular events (MACE), such as heart attacks, strokes, or cardiovascular death.
River Blindness	- The Zoological Survey of India (ZSI) has launched a new study involving DNA barcoding to identify species that are carriers of a worm causing river blindness. River blindness is a disease caused by a worm called Onchocerca volvulus. Blackflies, which live near fast-flowing rivers, carry this worm and spread it to humans when they bite. - When people get bitten, they can develop skin problems or even go blind. This is why it's called "river blindness." It's a major cause of infection-related blindness worldwide and is considered one of the most neglected tropical diseases by the World Health Organization (WHO). - ZSI study revealed that multiple rivers in Darjeeling are ideal breeding grounds for these blackflies.
Antimony	- Pakistan discovers vast reserves of valuable minerals, including antimony. - Antimony acts like a "metalloid," making metals stronger. It is found in nature as a shiny, grey mineral called stibnite. China is the biggest producer of antimony, controlling about 88% of the world's supply. Other countries like Bolivia, Russia, and Tajikistan also mine it. In India, small amounts of antimony are found in Himachal Pradesh and Madhya Pradesh. - Some antimony compounds are toxic and can cause health problems. Breathing in antimony dust over time can damage your lungs or liver. - Antimony is a "critical mineral"; many countries depend on imports to meet their needs. India doesn't produce enough antimony and relies heavily on other countries, especially China. Recently, China has started limiting its antimony exports.

Chaste	- Chandrayaan-3's ChaSTE dug 10 cm into the Moon's soil and collected accurate temperature data. - Chandra's Surface Thermophysical Experiment (ChaSTE) is a special tool on the Chandrayaan-3 mission. - Its job is to measure the temperature of the Moon's surface and just below it. This helps scientists understand the Moon's soil and determine whether it's suitable for future missions or even human bases. It is the first tool to dig into the Moon's soil and measure temperature. Other missions tried but failed. For example, the European Space Agency's Philae lander landed on a comet in 2014 but couldn't use its temperature tool because it bounced around too much.
Fram2	- Elon Musk's SpaceX launched a crew of four private astronauts led by a crypto entrepreneur on the Fram2 mission to orbit Earth from pole to pole. - It is a private astronaut launched by SpaceX, led by crypto entrepreneur Chun Wang. - It marks the first time humans have travelled in a polar orbit around Earth, an orbit never before attempted with human passengers. - They used a Falcon 9 rocket equipped with a Crew Dragon capsule—the same reusable spacecraft developed with NASA funding for astronaut transport to and from the International Space Station (ISS).
Vibe Coding	- Vibe coding became a Silicon Valley buzzword overnight. Vibe coding refers to an approach where engineers utilise AI-powered platforms like Cursor, Bolt, or Claude to generate complex code through simple prompts. - Developers instruct the AI to create websites, mobile apps, video games, or even business ideas by typing or speaking a few sentences.
Silvanguard Drone	- Dryad Networks, a Berlin-based environmental IoT startup, has introduced the Silvanguard drone for early wildfire detection. AI-powered drone for early wildfire detection, location mapping, and real-time monitoring. - Uses solar-powered gas sensors on trees to detect smouldering fires. - Each sensor covers an area the size of a football field and connects wirelessly. - On fire detection, Silvanet activates the Silvanguard drone. - Drone captures high-res images, infrared visuals, and videos. - Sends data in real time to fire-fighters for swift and effective response. - Aims to prevent small fires from becoming major disasters.
Xenotransplantation	- Researchers at the Fourth Military Medical University (China) transplanted a gene-modified pig liver into a human. Xenotransplantation is a process that involves transplanting cells, tissues, or organs from an animal to a human. It is an experimental treatment that is only allowed in rare cases. - The scientists used advanced CRISPR-Cas9 gene-editing technology to modify the liver of a Bama miniature pig. They edited six specific genes to make the pig liver compatible with the human immune system.

7. GEOGRAPHY AND DISASTER MANAGEMENT

6.1 CONCEPTS IN NEWS

Light Fishing

Context

- Indian 7,500 km coastline is facing ecological & socio-economic challenges due to continued practice of light fishing which is banned in EEZ but remains prevalent in several states.

Details

- Light fishing** uses powerful artificial lights to lure fish like **sardines, anchovies, mackerel & squid** to surface, making them easier to catch – but leads to serious **overfishing & ecological disruption**.
- Though **banned in India's EEZ since 2017**, enforcement is weak & **several states (Maharashtra, Andhra Pradesh, Tamil Nadu)** still allow or partially restrict light fishing in **territorial waters**, creating loopholes.
- Ecological damage** includes **rapid depletion of fish stocks**, especially **juveniles**, disruption of **marine food chain** & harm to **coral reef biodiversity** due to excessive harvesting near sensitive ecosystems.

Hadean Protocrust

Context

- A groundbreaking study suggests that chemical signatures previously thought to be evidence of plate tectonics may have existed in Earth's earliest crust Hadean protocrust before subduction began.

Details

- Hadean protocrust** is **earliest solid outer layer** of Earth, forming during **Hadean eon** (approximately **4.6 to 4.0 billion years ago**), marking planet's first geological era.
- Named after **Hades**, Greek god of underworld, Hadean environment was **extremely hostile**, with intense heat, volcanic activity & constant bombardments from meteorites & comets.
- During this period, Earth's surface was initially **partially molten**, giving rise to a **magma ocean** that cooled to form **thin, flaky**

& **unstable crust fragments**, which were frequently **broken & reformed**.

- These early crust fragments led to formation of **proto-continent**s that floated on **asthenosphere**—a semi-fluid, hot rock layer beneath Earth's lithosphere (~400 km deep)—aided by early forms of **plate tectonics**.

Orographic Lifting

Context

- Raman district witnessed extreme rainfall on April 20, 2025 with a 575% deviation from norm causing life-threatening hazards like cloudbursts, landslides & flash floods prompting a coordinated emergency response.

Details

- Orographic lifting** occurs when moist air is forced upwards by a mountain barrier, leading to cooling, condensation & precipitation on **windward side**, while **leeward side** experiences a **rain shadow** effect, remaining dry.
- This process is influenced by **adiabatic lapse rate**, where air cools at about **10°C/km** (dry) or **6°C/km** (moist) as it rises, triggering **intense rainfall** in regions like **Western Ghats & Himalayas** & creating **microclimates**.
- Orographic uplift can contribute to **cloudbursts** & other **hazards**, such as **landslides & flash floods**, particularly in **mountainous regions** with steep terrain & prevailing winds perpendicular to mountains.

Heat Wave

Context

- Extreme heat conditions in India are becoming more frequent with rising temperatures & humidity posing serious risks to health, economy & daily activities.

Details

- IMD declares a heatwave when temperatures in plains exceed **40°C**, in hilly areas **30°C** & in

coastal regions when temperatures exceed **37°C with a 4.5°C deviation**.

- A **heatwave** is when temperature rises **4.5°C to 6.4°C** above normal & **severe heatwave** occurs when increase is **more than 6.4°C**.
- Heatwave thresholds vary based on historical temperature data what qualifies as a heatwave in Kerala may not in Odisha.
- A heatwave is declared when **at least two meteorological stations in a sub division record high temperatures for two consecutive days**.

Zero Shadow Day

Context

- COSMOS Mysuru under Indian Institute of Astrophysics celebrated Zero Shadow Day with educational lectures & hands-on

experiments highlighting astronomical phenomenon when sun is exactly overhead & vertical objects cast no shadow.

Details

- **Zero Shadow Day (ZSD)** occurs when Sun is exactly overhead at noon, causing vertical objects to cast no shadow — experienced only between Tropics of Cancer & Capricorn.
- In India, cities south of Bhopal like Bengaluru, Chennai, Hyderabad & Mumbai witness ZSD **twice a year** during Sun's northward (Uttarayan) & southward (Dakshinayan) journeys.
- ZSD is crucial for **astronomy & traditional architecture**, observed using simple tools like **Gnomon** & supported by institutions like COSMOS Mysuru & Indian Institute of Astrophysics.

6.2 RIVERS IN NEWS

Ulhas River

Context

- Maharashtra government has announced a 15-day action plan to remove water hyacinth from Ulhas River responding to citizen activists protests against pollution & emphasizing river conservation efforts.

Details

- Originates in Sahyadri Hill Ranges, Raigad District at 600 m elevation & flows westward for 122 km into Arabian Sea.
- Drains a basin area of 4,637 sq km across Thane, Raigad, Pune districts.
- Bounded by main Sahyadri hills (east), westerly offshoots (north & south) & a narrow sea outlet (west).
- Major tributaries include Barvi, Bhatsa, Kalu rivers contributing to its flow & catchment.
- Its estuary hosts historic ports like Kalyan, Kopri, Shurparaka.

Dhansiri River

Context

An Assam-based environmentalist has raised alarm over alleged effluent discharge from

Numaligarh Refinery into Dhansiri river citing violation of CPCB norms & severe ecological risks to aquatic biodiversity.

Details

- **Dhansiri River**, a **perennial tributary of Brahmaputra**, originates from **Laisang Peak** near **Intanki National Park** in Nagaland & flows approximately **352 km** through diverse terrains before joining Brahmaputra at **Dhansirimukhin** Assam.
- Traversing **Dimapur, Karbi Anglong & Golaghat** districts, it supports ecosystems & communities through **irrigation, drinking water, fishing & sustaining riparian bio-diversity** including mahseer, otters & kingfishers.
- The river flows through **ecologically sensitive zones** like **Intanki National Park & Dhansiri Reserved Forest**, making it a key **socio-ecological corridor** with deep cultural significance to tribal communities.
- Its **major tributaries** include **Doyang** (right bank) & **Chathe** rivers & its catchment spans approximately **1,220 sq. km**, cutting through hills, floodplains, forests & agricultural lands.

Mahadayi River

Context

- Bandura Nala project in Karnataka Mahadayi River basin faces strong opposition from environmentalists, religious figures & local communities due to concerns over ecological degradation & alleged irregularities in land acquisition processes.

Details

- Mahadayi River**, known as **Mandovi** in Goa, originates from **Bhimgad Wildlife Sanctuary** in **Karnataka** & travels approximately **111 km** before draining into **Arabian Sea** near **Panaji**.
- Flowing through **Karnataka, Goa & parts of Maharashtra**, river crosses **Western Ghats'** **moist deciduous & evergreen forests**, forming ecologically sensitive estuarine zones rich in **fisheries & mangroves**.
- Major **tributaries** like **Kalasa Nala, Bandura Nala & Surla River** play a critical role in seasonal flow, with several involved in **inter-state water diversion disputes**, such as **Kalasa-Banduri Nala project**.
- Mahadayi Basin** houses two key wildlife sanctuaries—**Bhimgad (Karnataka) & Mhadei (Goa)**—& supports endangered species like **tigers & lion-tailed macaques**, reinforcing its **UNESCO World Heritage significance**.

Hudson River

Context

- April 2025 helicopter crash near Jersey City during a sightseeing tour over New York has reignited concerns over rotorcraft safety

especially phenomenon of mast bumping in light helicopters like Bell 206.

Details

- The Hudson River is 507 km long, originating from Lake Tear of Clouds in Adirondack Mountains & flowing into Upper New York Bay at The Battery in NYC.
- Key tributaries include Mohawk, Rondout, Wallkill, Croton & Esopus rivers, with major cities like Albany, Poughkeepsie & New York City along its path.
- Historically significant, river was explored by Henry Hudson in 1609 & played a crucial role in commerce during colonial & industrial eras

Magai River

Context

- Frustrated by decades of neglect villagers of Kyampur have united to construct their own bridge over Magai River using crowdfunding.

Details

- Magai River** flows through **Azamgarh, Mau & Ghazipur** in Uttar Pradesh, ultimately merging with **Tamsa River** in **Ballia**, contributing to region's agricultural economy.
- With a length of **25 km** in Ghazipur, river's banks are essential for **betel leaf cultivation**, a key economic activity in nearby villages.
- The absence of bridges has caused isolation in rural areas, prompting local communities to **crowdfund** & construct a **108-foot bridge** to improve access.
- The **Tamsa River**, feeding into **Ganges**, plays a crucial role in **irrigation**, but seasonal **flooding** remains a challenge for surrounding districts.

6.3 LAKE & SEA IN NEWS

Naini Lake

Context

- Naini Lake in Uttarakhand has recorded critically low water levels due to declining rainfall, climate change & encroachments posing severe risks to water security & ecological balance.

Details

- Naini Lake, a natural freshwater lake formed in a tectonic depression, is kidney-shaped & surrounded by seven scenic hills in Nainital, Uttarakhand.
- Spanning 48 hectares with a maximum depth of 27 meters, its water comes from rainfall, natural springs & runoff, while **Balia Nala**

serves as main outflow through an underground channel.

- The lake supports rich biodiversity including Mahseer & Rohu fish & is surrounded by forests of oak, pine & deodar, with Sukhatal Lake acting as a key aquifer recharge source.

Yellow Sea

Context

- A maritime standoff between South Korea & China in Yellow Sea over a Chinese steel aquaculture rig in disputed waters highlights rising regional tensions & China use of gray zone tactics.

Details

- **Yellow Sea** is a marginal sea of Western Pacific Ocean, located between **Mainland China & Korean Peninsula**, covering about **400,000 sq. km**.
- It is named for **yellow silt & dust** from **Gobi Desert**, which gives sea its characteristic color & is vital for **East Asian maritime trade**, connecting China, Korea & Japan.

Sea of Marmara

Context

- A magnitude 6.2 earthquake shook Istanbul with its epicenter in Sea of Marmara highlighting Turkey seismic vulnerability & ongoing urban reconstruction efforts to mitigate future disasters.

Details

- **Sea of Marmara**, an inland sea entirely within Turkey, uniquely separates its European & Asian parts, spans about 11,350 sq. km & connects Black Sea & Aegean Sea via Bosphorus & Dardanelles Straits.
- Lying on seismically active **North Anatolian Fault**, it faces frequent earthquakes & tsunamis, while its layered freshwater & saline inflows create strong salinity stratification impacting marine ecosystems.
- Beyond its ecological richness (anchovy, mackerel migration routes), Sea of Marmara is a critical artery for **global shipping, Istanbul's economy & regional history**, but faces growing environmental threats like mucilage, pollution & overfishing.

6.4 MOUNTAINS & HILLS IN NEWS

Mount Marapi

Context

- Indonesia Mount Marapi erupted releasing a 1.5 km high ash plume & triggering a level two alert with a 3 km exclusion zone highlighting region volatile tectonic activity.

Details

- **Mount Marapi**, a highly active stratovolcano in **West Sumatra, Indonesia**, stands at approximately **2,891 meters** & is part of **Sunda Arc**, formed by subduction of **Indo-Australian Plate** beneath **Eurasian Plate**.
- It has a **long history of frequent, explosive eruptions**—over 50 since 18th century—most recently erupting in **April 2025**, with a **1.5 km ash plume** & a **3 km exclusion zone** currently enforced.
- Despite its risks, Mount Marapi remains a **popular hiking destination**, revered by **local Minangkabau communities** and monitored

closely by **Indonesia's PVMBG** using drones, seismographs, gas spectrometers & real-time alerts.

- Often confused with **Mount Merapi** in Central Java, Marapi is a **key subject for global volcanic research**.

Mount Kanlaon

Context

- Mount Kanlaon one of Philippines most active volcanoes erupted highlighting seismic vulnerability of regions within Pacific Ring of Fire & importance of disaster preparedness.

Details

- **Mount Kanlaon**, a stratovolcano in **north-central part of Negros Island, Philippines**, rises to 2,465 meters & is part of **Negros Volcanic Belt** within Pacific Ring of Fire.
- Its summit features a **northern caldera with a crater lake** & a **southern active crater**, around

2 km wide, known for **phreatic & occasional Strombolian eruptions**.

- The volcano is a **biodiversity hotspot**, protected as **Mount Kanlaon Natural Park** & serves as a vital **watershed** for major rivers like Bago & Magballo.

Mount Spurr

Context

- Mount Spurr prominent volcano in Alaska is showing signs of renewed volcanic unrest including elevated seismic activity & gas emissions prompting monitoring agencies to warn of a potential eruption.

Details

- **Mount Spurr**, a **stratovolcano** located about 80 miles west of Anchorage, Alaska, is a prominent feature of **Aleutian Volcanic Arc** & part of seismically active **Pacific Ring of Fire**.
- The volcano has a history of **explosive eruptions**, notably in **1953 & 1992**, with ash clouds disrupting air traffic & reaching populated areas like Anchorage.
- **Crater Peak**, a satellite vent of Mount Spurr, has been main eruption site & current **unrest signs**—such as **over 3,400 earthquakes**, **high CO₂ emissions** & **new gas vents**—indicate a possible eruption in coming weeks to months.

Thangjing Hill

Context

- Tensions rise as Kuki-Zo groups oppose Meitei pilgrimage to sacred Thangjing Hill citing political rights & territorial jurisdiction amid ongoing ethnic discord in Manipur.

Details

- Thangjing Hill, located in Churachandpur district, Manipur, is a sacred site for Meitei community, dedicated to deity IbudhouThangjing.
- The hill is protected under Manipur Ancient & Historical Monuments Act, 1976 & is claimed as Kuki-Zo territorial land by Kuki-Zo community.
- Annual pilgrimages by Meitei community occur in April, but there is ongoing dispute

with Kuki-Zo groups opposing pilgrimage due to political settlement concerns.

- The surrounding rivers, including Tuila, Leimatak, Khuga & Moirang rivers, are vital for local agriculture, hydropower & water resources.

Mount Lewotobi

Context

- Mount Lewotobi in Indonesia East Nusa Tenggara erupted spewing a 3,500 metre ash column & prompting orange-level aviation alerts, evacuation advisories & safety warnings for residents near active volcano.

Details

- **Lewotobi Volcano**, located on Flores Island in Indonesia's East Nusa Tenggara province, comprises two stratovolcano peaks—Lewotobi Lakilaki (1584 m) & Lewotobi Perempuan (1703 m)—separated by a 2 km saddle.
- **Part of Pacific Ring of Fire**, volcano is primarily andesitic in composition & poses significant risks, especially following its major 2024 eruption that sent ash plumes up to 8,000 meters, triggering aviation alerts & local evacuation advisories.

Hindu Kush

Context

- ICIMOD 2025 report reveals lowest snow persistence in Hindu Kush Himalaya in 23 years threatening river flows & water security across South Asia.

Details

- HKH spans ~3,500 km across 8 countries & covers 4.2 million sq.km, earning title "**Third Pole**" due to its 54,000 glaciers & critical cryosphere, second only to Arctic & Antarctic in ice volume.
- As source of **10 major river systems**, including Ganges, Indus, Brahmaputra & Mekong, HKH sustains **~1.9 billion people** across South, Central & East Asia—making it world's most vital freshwater reservoir.
- Home to diverse ecosystems—glaciers, alpine tundra, conifer forests & wetlands—& **4 global**

biodiversity hotspots, HKH plays a pivotal role in regulating monsoons & maintaining

ecological balance across continents.

6.5 VOLCANO IN NEWS

Fuego

Context

- The eruption of Volcan de Fuego in Guatemala highlights region vulnerability to volcanic disasters.

Details

- The **Volcano of Fire** is an active stratovolcano in **Guatemala**, near the historic city of **Antigua**. It lies within the **Central America Volcanic Arc**, a seismically active zone extending from **Mexico to Costa Rica**.

Poas Volcano

Context

- The sudden eruption of Costa Rica Poás volcano sent a towering 3 km high ash plume into sky.

Details

- Poás Volcano**, one of **Costa Rica's** most active **stratovolcano**, poses increased eruption risks after the **2024 drying of Laguna Caliente**, threatening **public safety**, **ecosystems**, **agriculture**, and **tourism**.

Yellowstone Supervolcano

Context

- Researchers have identified a porous magma cap within Yellowstone supervolcano.

Details

- The **Yellowstone Supervolcano**, spanning **Wyoming, Montana, and Idaho**, is a 45 km-wide caldera formed by three supereruptions over 2.1 million years. A **2024 discovery** revealed a **porous, breathing magma cap** 3.8 km below, but **USGS** and **YVO** report **no eruption threat**, as **gas venting** keeps the system stable.

6.6 ISLANDS IN NEWS

Sentinel Island

Context

- A U.S. national was arrested for illegally entering protected North Sentinel Island in violation of tribal protection laws, raising concerns about safeguarding India's Particularly Vulnerable Tribal Groups (PVTGs).

Details

- North Sentinel Island is home to the **Sentinelese**, a **Particularly Vulnerable Tribal Group (PVTG)** and one of the world's last uncontacted communities, protected by a **5-nautical-mile buffer zone** and strict legal prohibitions under the **Andaman & Nicobar Islands (Protection of Aboriginal Tribes) Regulation, 1956**. In contrast, **South Sentinel Island** is **uninhabited** and **ecologically sensitive**, with restricted access due to its proximity to the North. The Sentinelese, believed to be **direct descendants of early**

African migrations (~60,000 years ago), speak a **unique, undocumented language**. Their protection is reinforced by the **2012 Amendment Regulation** and the **Foreigners (Restricted Areas) Order, 1963**, which expand buffer zones and mandate permits for foreign nationals.

Heard and McDonald Islands

Context

US President Donald Trump imposed tariffs on Australian remote external territories including Heard & McDonald Islands, Norfolk Island & even British Indian Ocean Territory baffling both island administrators & trade analysts.

Details

- Heard Island and McDonald Islands, a **volcanic, sub-Antarctic territory of Australia**, are **uninhabited** and accessible only via special sea vessels. Known for their **harsh glacial**

climate, they host unique biodiversity, including **endemic mosses, seabirds, macaroni penguins, and seals**. The islands feature **Mawson Peak (2,745 m)**—Australia's **highest mountain and an active volcano**—on the Big Ben massif. Protected under the **Environment Protection & Biodiversity Conservation (EPBC) Act, 1999**, they are managed by the **Australian Antarctic Division** and have been a **UNESCO World Heritage Site since 1997**.

Tuti Island

- [Context](#)

Tuti Island once Khartoum green haven has been ravaged by two years of war between Sudan army & RSF leading to mass displacement, starvation & collapse of civil infrastructure.

[Details](#)

- **Tuti Island**, a crescent-shaped 8 sq. km landmass at the **confluence of the Blue and White Nile in Khartoum**, is historically inhabited by the **Mahas Nubian community** and celebrated for its **sustainable agriculture and indigenous Taya irrigation**. Once called "**Khartoum's Garden**", it thrived on **farming, fishing, and Nile-based trade** due to its **fertile soils and biodiversity**. However, during the **Sudan War (2023–2025)**, it was captured by the **RSF**, leading to **widespread displacement and destruction**, before being **recaptured by the Sudanese Army in March 2025**. Today, it stands as a **symbol of resilience and heritage**, gradually recovering with help from the **HEART project**.

6.8 MISCELLANEOUS IN NEWS

Chicken Neck Corridor

[Context](#)

- Bangladesh outreach to China for river conservation, port modernization & economic projects comes amid strained India-Bangladesh ties with New Delhi wary of Beijing growing strategic influence in region.

[Details](#)

- The **Siliguri Corridor**, also known as the **Chicken's Neck**, is a strategic **60 km long and 17–22 km wide strip in northern West Bengal**, connecting **mainland India to the Northeastern states**. Bordered by **Nepal (west), Bhutan (north), and Bangladesh (south)**, it is crucial for the movement of goods, troops, and logistics to the **Seven Sister states**, ensuring India's **territorial integrity**. Key infrastructure includes **NH-27, NH-10, Bagdogra Airport, and New Jalpaiguri Railway Station**, with towns like **Siliguri, Jalpaiguri, and Darjeeling** serving as key transit points. The corridor faces **security threats** due to its proximity to **China's Chumbi Valley**, potential **two-front challenges** with **Bangladesh-China ties**, and risks from **blockades or insurgency-led disruptions**.

Scarborough Shoal

[Context](#)

- China's **military deployment** near **Scarborough Shoal** signals growing assertiveness in the **South China Sea**, raising **security concerns** for the **Philippines and US**, while defying **international arbitration rulings**.

[Details](#)

- **Scarborough Shoal**, located in the **South China Sea** near the **Philippines**, is a **strategic and resource-rich maritime area** claimed by **China, the Philippines, and Taiwan**. Although the **2016 Permanent Court of Arbitration** ruled in favor of the Philippines under **UNCLOS**, **China** rejected the verdict and continues to assert control with **military patrols and surveillance systems**. The Shoal is crucial for **regional security, rich fishing grounds, and potential underwater resources**, making it a major flashpoint for maritime tensions.

Kasampatty Sacred Grove

[Context](#)

- Tamil Nadu has designated Kasampatty sacred grove as a **Biodiversity Heritage Site**

recognizing its ecological & cultural significance following recommendation of Dindigul Collector & Tamil Nadu Biodiversity Board.

Details

- The **Veera Kovil Sacred Grove**, located in **Kasampatti village, Dindigul District, Tamil Nadu**, spans **4.97 hectares** and is a crucial **ecological hotspot** rich in **biodiversity**. Declared a **Biodiversity Heritage Site (BHS)** on **March 27, 2025**, under the **Biological Diversity Act, 2002**, it acts as a buffer for the **Alagarmalai Reserve Forest**. The grove hosts **48 plant species, 12+ bird species**, and various small mammals, reptiles, and insects, preserving rare and endemic species. The **Veera Kovil Temple** within the grove serves as a **cultural and spiritual center**, with locals protecting the space as sacred and actively engaging in **conservation efforts**. This site is **Tamil Nadu's second BHS**, after **Arittapatti in Madurai**, and is managed through a collaborative effort between the **Tamil Nadu Biodiversity Board**, local authorities, and the community.

Sagaing Fault

Context

- A devastating **7.7 magnitude** earthquake struck **Central Myanmar** near **Mandalay** caused by movement along **Sagaing fault** highlighting **South Asian high seismic vulnerability** & raising concerns for **India earthquake preparedness**.

Details

- The **Sagaing Fault** is a major **right-lateral (dextral)** strike-slip fault that stretches approximately **1,400 km** from the **Andaman Sea** to the **Eastern Himalayan syntaxis**, marking the boundary of the **Burma microplate**. It features a nearly vertical, segmented fault plane with key branches like **Meiktila, Yamethin, and Tagaung**. The fault is linked to geological features such as the **Central Myanmar Basin** and the **Shan Plateau**. The crustal thickness along the fault varies significantly, from **20–25 km** near the

Andaman Sea to **35–40 km** near the **Himalayas**, indicating its complex tectonic setting. **Seismic gaps** in areas like the **Bago-Taungoo** and **Shwebo-Sagaing** segments are concerning, with **paleoseismic studies** suggesting recurrence intervals of **150–200 years** for major quakes.

Silkyara Bend–Barkot Tunnel

Context

- The breakthrough of **Uttarakhand 4.531 km Silkyara Tunnel** marks a milestone in **Char Dham Mahamarg** project ensuring all-weather connectivity.

Details

- Silkyara-Barkot Tunnel**, a **4.531 km bi-directional road tunnel** in **Uttarkashi**, is a key part of **NH-134 under Chardham Mahamarg Project**, enhancing year-round access to **Yamunotri pilgrimage route**.
- Built using **New Austrian Tunnelling Method (NATM)** through fragile **phyllite rock**, tunnel gained national attention during **2023 rescue** of **41 workers** after a partial collapse.

Meghayan 25

Context

- Held at **Nausena Bhawan New Delhi** **Meghayan 25** was a landmark naval symposium aligning with **WMO Day 2025** showcasing innovations in **oceanographic forecasting**.

Details

- Meghayan 25**, **Indian Navy's premier Meteorological & Oceanological Symposium**, was held on **14 April 2025** at **Nausena Bhawan** to mark **World Meteorological Day** under theme "**Closing Early Warning Gap Together**." The symposium highlighted Navy's growing emphasis on **precision weather forecasting**, **AI-enabled modelling** & **maritime meteorology's strategic role** in **national security & blue economy initiatives**.

World Highest Bridge

Context

- Huajiang Grand Canyon Bridge in China taller than Eiffel Tower & weighing 22,000 metric tons is set to open in June 2025 drastically reducing travel time & boosting tourism in Guizhou province.

Details

- **Huajiang Grand Canyon Bridge**, set to open in **June 2025**, will be **3.2 km long** & stand at **200 meters high**, making it taller than **Eiffel Tower** & is expected to drastically cut commute time across a canyon from **1 hour to 2 minutes**. Constructed with **22,000 metric tons of steel**, this **steel truss suspension bridge** will cost approximately **£216 million** and will form a key part of **Shantou-Kunming Expressway**, boosting **regional connectivity & tourism** in remote **Guizhou Province**. Upon completion, it will hold title of **world's highest bridge**, surpassing **Beipanjiang Bridge** by **200 meters**, symbolizing **China's**

technological prowess & soft power through its mega-structure projects.

Jwaneng Diamond Mine

Context

- Jwaneng Diamond Mine in Botswana world's richest has propelled nation's economic transformation through responsible mining producing over 13 million carats in 2023 alone.

Details

- **Jwaneng Mine**, operated by Debswana in Botswana, is world's richest diamond mine by value, producing 13.3 million carats in 2023 & playing a key role in Botswana's rise to a middle-income nation.
- It is a **global leader in technology & sustainability**, being first mine in Botswana to achieve ISO 14001 certification & investing heavily in environmental & community initiatives.

6.9 INITIATIVES IN NEWS

River Cities Alliance

Context

- National Mission for Clean Ganga (NMCG) has approved the **2024-25 master plan** for the **River Cities Alliance (RCA)**, focusing on **river-sensitive urban planning**, **capacity building**, and creating **Urban River Management Plans (URMPs)** across Indian cities.

Details

- The **River Cities Alliance (RCA)**, launched in 2021 by the **Ministries of Jal Shakti & Housing**

& Urban Affairs, works towards promoting sustainable, **river-sensitive urban development** across 145 cities in India. Through initiatives like **Urban River Management Plans (URMPs)**, **River-Sensitive Master Planning (RSMP)**, expert workshops, and support from institutions like the **National Institute of Urban Affairs (NIUA)** and the **World Bank**, the RCA fosters collaboration, training, and technical support to enhance river management.

8. GOVERNMENT SCHEMES

8.1 SHORT ARTICLES

PM Poshan

Context

- The government has increased the funding for the PM-POSHAN Scheme by ₹954 crore to counter rising food costs and ensure that schoolchildren across the country receive nutritious meals.

Details

- From May 1, the daily meal cost for Balvatika and primary students will rise from ₹6.19 to ₹6.78. For upper primary students, it will go up from ₹9.29 to ₹10.17. These are the minimum amounts; some states contribute extra to improve the meals.

About the PM-POSHAN Scheme

- The PM-POSHAN Scheme, **managed by the Ministry of Education**, aims to improve the nutrition of school children.
- It was **previously known as the Mid-day Meal Scheme** and was renamed in 2021.
- The **central government covers the full cost of food grains**, about 26 lakh metric tonnes annually. They also **fund the transportation of these grains from storage to schools**.
- The scheme **provides a cooked meal to students in government and government-aided schools**. It tackles malnutrition, boosts school attendance, and helps students concentrate better.
- The scheme started as the National Programme of Nutritional Support to Primary Education (NP-NSPE) in 1995. Over time, it expanded to include children in upper primary classes (grades VI-VIII).

Meal Content

- For balvatika and primary students, each meal includes 20 grams of pulses, 50 grams of vegetables, and 5 grams of oil. Upper primary students get 30 grams of pulses, 75 grams of vegetables, and 7.5 grams of oil.

How the Budget is Decided?

- The government uses data from the Labour Bureau to track the prices of pulses, vegetables, and oil. They calculate the cost of these items in rural areas using the Consumer Price Index for Rural Labourers (CPI-RL). This helps them adjust the budget to ensure students continue to receive quality meals despite rising costs.

Vibrant Villages Programme-II (VVP-II)

Context

- The Union Cabinet approved the Vibrant Villages Programme -II, which focuses on making international border villages safe, secure, and vibrant.

About Vibrant Villages Programme-II

- It is a **Central Sector Scheme** with full funding from the Union Government, amounting to ₹6,839 crore.
- It will be implemented over five years, from 2024-25 to 2028-29, targeting border villages across 17 states and union territories that share international boundaries.
- It **spans border villages across 17 states and union territories** that share international boundaries with neighbouring countries.

The Ministry of Home Affairs initiated the Vibrant Villages Programme in 2023 to improve the quality of life in border areas and strengthen border security.

Core Objectives

- Construction and improvement of roads, bridges, telecommunication networks**, and electricity supply to enhance connectivity and basic services in border villages.
- Establishment of SMART classrooms**, digital learning facilities, and improved educational infrastructure to provide quality education to border community children.

- Development of border tourism infrastructure, homestays, cultural heritage sites, and eco-tourism initiatives to generate economic opportunities.
- Creation of sustainable livelihood opportunities through support for local businesses, cooperatives, self-help groups (SHGs), and skill development programs.
- **Engagement of local communities as "eyes and ears" for border security forces**, establishing trusted channels for reporting suspicious activities and enhancing border vigilance.
- Initiatives to promote a sense of national pride and recognition of border communities' strategic importance, including cultural programs and national integration activities.

Jal Jeevan Mission

Context

- The Jal Shakti Ministry seeks an additional ₹2.79 lakh crore for the Jal Jeevan Mission, but the panel approved only half of the requested funds.

About Jal Jeevan Mission

- The Prime Minister launched it on August 15, 2019, to provide every rural household with a tap water connection by 2024 and at least 55 litres of clean water per person daily.
- The government set a budget of Rs 3.6 lakh crore, with the **central government and states sharing the costs 50:50** (except for some regions where the Centre pays more).
- The Jal Shakti Ministry now estimates the total cost to be Rs 9.1 lakh crore, much higher than the original Rs 3.6 lakh crore.
- **Higher Costs Per Tap:** In 2019, installing one tap connection cost about Rs 30,000. Now, it is Rs 1,37,500 due to rising prices for materials, labour, and other expenses.
- **Incomplete Work:** By December 2024, the mission connected 12.17 crore households to taps, 75% of the 16.36 crore target. About 4 crore households still need connections; finishing this will take more funds.
- **Pending Approvals:** Some states, like Maharashtra, Bihar, Tamil Nadu, and Assam,

have projects worth Rs 32,364 crore waiting for approval. These delays add to the costs.

- **Inflated Contracts:** Some states may have approved overly expensive contracts, increasing the overall cost.
- The ministry asked for Rs 2.79 lakh crore more from the central government to cover these expenses until 2028, when they plan to complete the mission.

Expenditure Finance Committee (EFC)

- A panel led by the Expenditure Secretary reviewed the ministry's request. This group, called the Expenditure Finance Committee (EFC), includes officials from various ministries like Finance, Health, and NITI Aayog.
- They approved only Rs 1.51 lakh crore, about 54% of what the ministry wanted.
- The panel thinks the cost per tap (Rs 1,37,500) is too high compared to the 2019 estimate of per connection. They want the ministry to justify this increase.
- The panel believes states should pay for some extra costs, especially since states approved the contracts. This could mean states must find over Rs 1.25 lakh crore in four years.

What Next?

- The decision puts pressure on states to cover the funding gap. States like Bihar, Tamil Nadu, Uttar Pradesh, Madhya Pradesh, and Rajasthan, where elections are coming up, might struggle to find the money.
- The mission will continue, but the reduced funding might take longer to reach all households. The ministry also plans a new project to ensure that households with taps but no water soon get a proper supply.

Electronics Components Manufacturing Scheme

Context

- The Electronics Components Manufacturing Scheme is a new initiative by the Ministry of Electronics and Information Technology (MeitY) to boost the country's electronics manufacturing sector.

About Electronics Components Manufacturing Scheme

- The scheme has a budget of ₹23,000 crore and aims to **enhance domestic production of electronic components over six years.**
- It aims to **make India a global leader in electronics manufacturing**, similar to its success in smartphone exports, where India exported smartphones worth ₹2 lakh crore last year, with iPhones contributing ₹1.5 lakh crore.
- The primary goal is to **shift from merely assembling finished products like phones and TVs to manufacturing the components within these devices.** This shift is crucial for achieving self-reliance, saving foreign reserves, and creating jobs.
- The scheme is **expected to attract investments of ₹59,350 crore and create over 91,600 direct jobs.**

Key Features

- The scheme targets passive components such as resistors, capacitors, and switches. These are essential but simpler parts compared to active components like chips, which are covered by the India Semiconductor Mission.
- The scheme offers three types of incentives to encourage companies to invest:
 - **Turnover-linked incentive:** Rewards based on sales volume.
 - **Capex-linked incentive:** Benefits based on investment in machinery and equipment.
 - **Hybrid model:** A combination of turnover and capex incentives.
- It supports various sectors, including consumer electronics, medical devices, automobiles, and power systems.

Modernisation of Command Area Development and Water Management (M-CADWM)

Context

- The Union Cabinet has approved the Modernization of Command Area Development and Water Management (M-CADWM) as a sub-scheme of the Pradhan

Mantri Krishi Sinchayee Yojana (PMKSY) for the period 2025-2026.

Key Features of the M-CADWM Scheme

- **Objective:** Modernize the irrigation water supply network, upgrading existing canals and other water sources to ensure that irrigation water reaches designated farming clusters more effectively.
- **Infrastructure Development:** Establish robust backend infrastructure for micro-irrigation, underground pressurised piped irrigation systems that will deliver water directly to the farm gate, covering up to 1 hectare per farm.
- **Technology Integration:** Advanced technologies like SCADA (Supervisory Control and Data Acquisition) and the Internet of Things (IoT) will be used for real-time water accounting and management to enhance Water Use Efficiency (WUE) at the farm level, leading to more efficient water usage and increased agricultural productivity.
- **Sustainability Measures:** The Irrigation Management Transfer (IMT) approach will be implemented, transferring the management of irrigation assets to Water User Societies (WUS).
 - These societies will receive support for five years to help them connect with existing economic entities like Farmer Producer Organizations (FPOs) or Primary Agricultural Credit Societies (PACS), ensuring long-term sustainability.
- **Youth Engagement:** Attract youth to farming by promoting modern irrigation techniques, create new opportunities for young people in the agricultural sector and improve overall agricultural practices.

Stellar

Context

- The STELLAR Model is a special tool created by the Central Electricity Authority (CEA) to help states and electricity distribution companies (discoms) plan how to meet future electricity needs.

Key Features of the STELLAR Model

- **Integrated Planning:** It plans for power generation, transmission, and storage all at once. It also includes demand response, which means adjusting electricity use during peak times.
- **Compliance with Rules:** It helps states follow the Ministry of Power's rules, which change every year based on new requirements.
- **User-Friendly Design:** The tool is easy to use, transparent, and will be updated regularly based on feedback from users.
- **Free Distribution:** The software is provided free to all states and discoms, making it accessible to everyone.
- **Collaboration:** It was developed in partnership with The Lantau Group (TLG) and the Asian Development Bank (ADB) under a technical assistance program.

How Does the STELLAR Model Work?

- The STELLAR Model works by combining data about electricity generation, transmission, and storage.
- It analyses this data to create plans that ensure enough power is available in the future.
- It considers how people use electricity and adjusts plans to reduce demand during peak hours.

Benefits of the STELLAR Model

- **Optimizes Costs:** It helps in planning the most cost-effective way to expand power generation and operate the system.
- **Enhances Grid Stability:** It ensures the electricity grid has just the right amount of capacity, avoiding both shortages and overcapacity.
- **Promotes Renewable Energy:** It helps identify the best size and location for energy storage, which is crucial for integrating renewable energy sources.

8.2 SNIPPETS

Topics	Details
GP DRASHTI Drone	• The Gujarat Police has launched a new program called GP-DRASTI, which uses drones for faster response and better surveillance. • GP-DRASTI stands for Gujarat Police – Drone Response and Aerial Surveillance Tactical Interventions. • When someone reports a crime by calling the police control room, the control room alerts both the local police and the drone team. The drone immediately takes off and heads to the nearest landmark near the crime scene. • The drone operator then guides it to the exact location using special software. The drone sends live video footage back to the base station, allowing the police to see what's happening in real time.
Khelo India Youth Games	• The Union Minister of Youth Affairs & Sports announced that the seventh edition of the Khelo India Youth Games will take place in five cities in Bihar—Patna, Rajgir, Gaya, Bhagalpur, and Begusarai—from May 4 to 15. • The Khelo India Youth Games is a sports competition for school and college students. It has two categories: one for school students under 17 years old and another for college students under 21 years old. • Every year, the top 1,000 young athletes receive a scholarship of ₹5 lakh each year for eight years. This helps them train for international sports events. • The Prime Minister launched the first edition of the Khelo India School Games in 2018 at the Indira Gandhi Arena in New Delhi. • In 2019, the games were renamed from "Khelo India School Games" to "Khelo India

PM Vidyalaxmi Scheme	Youth Games," and the Indian Olympic Association joined the program. - Public sector banks highlight technical issues hindering the PM Vidyalaxmi education loan scheme's effectiveness. - PM Vidyalaxmi Scheme is a Central Government initiative launched, as a Central Sector Scheme in 2024, to support students for higher education. - Students who get into one of India's top 860 Quality Higher Educational Institutions (QHEIs)—think IITs, IIMs, or top universities—can apply. - The loans are collateral-free and guarantor-free, and the government provides a 75% credit guarantee for loans up to ₹7.5 lakh. - For economically weaker sections (EWS) with family income below ₹8 lakh, there's also a 3% interest subsidy during the moratorium period (while they're studying). - The scheme aims to support 22 lakh students, ensuring money doesn't stop them from studying.
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