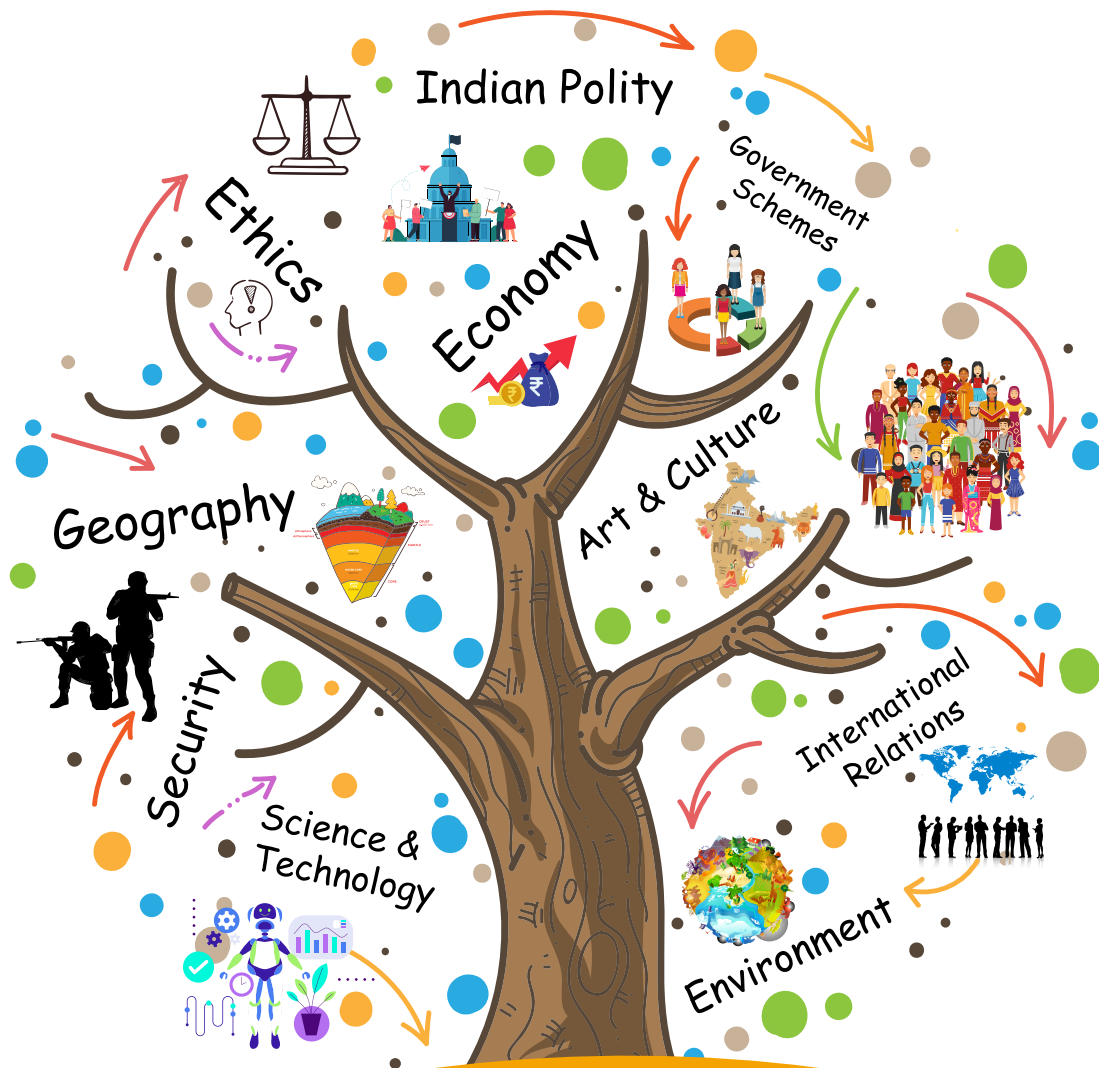


Monthly Current Affairs

June 2025



ZETA Topicals

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JUNE 2025

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June Focus

Three language formula and NEP 2020

Context: The Maharashtra Government has recently scrapped the three language policy for Classes 1 to 5 in State government schools following strong opposition from academics, activists, and political parties.

Three Language formula:

- The three-language formula was first proposed by the Kothari Commission (1964–66) and formally adopted in the 1968 National Policy on Education (NPE) under the Indira Gandhi government, aimed to promote linguistic diversity and national unity.
- National Education Policy (NEP, 2020) retains the three-language formula but offers greater flexibility, ensuring no language is imposed.
- The older policy mandated the study of Hindi, English, and a modern Indian language (preferably a South Indian language) in Hindi-speaking states, and Hindi, English, and the regional language in non-Hindi-speaking states.
- In contrast, NEP 2020 offers more flexibility, stating that no language will be imposed on any state.
- The National Curriculum Framework (NCF) has consistently backed the three-language formula.

Objectives of the three language formula:

1. **Promoting Multilingualism:** The core objective is to encourage students to learn multiple languages, fostering a multilingual society.
2. **National Integration:** By learning Hindi (or another official language) and English alongside a regional language, the formula aims to bridge communication gaps and foster unity among diverse linguistic groups.
3. **Cognitive Development:** Learning multiple languages has been shown to enhance cognitive skills like critical thinking, problem-solving, and memory.
4. **Cultural Preservation:** The formula acknowledges and supports the importance of regional languages, helping to preserve India's rich linguistic heritage and cultural diversity.
5. **Global Competence:** Learning English and other languages opens up opportunities for students to participate in a globalized world, accessing international opportunities and information.
6. **Balanced Approach:** The formula aims to strike a balance between promoting Hindi as a national language and respecting the linguistic diversity of the states.
7. **Flexibility and Autonomy:** While promoting multilingualism, the formula also allows states flexibility in choosing the specific languages to be taught, accommodating regional preferences.

Objection to Three language formula:

The three language formula has been historically opposed by the Tamil Nadu State and now Maharashtra. Tamil Nadu is the first state in India to adopt a two language formula, giving primacy to Tamil and English.

2025 FLASHPOINTS

➤ **MAHARASHTRA:** MNS chief Raj Thackeray warns bank workers, says they must converse in Marathi; party workers visit bank branches, intimidate staff

On Apr. 22, state government backs down on move to make Hindi mandatory in Class I-V

➤ **TAMIL NADU:** CM M.K. Stalin alleges the NEP was not created to help the country, but to propagate Hindi, claims it will ruin the state's education system

Deputy CM Udhayanidhi Stalin says NEP, three-language formula and NEET are out to undermine Tamil

➤ **PUNJAB:** AAP government makes Punjabi mandatory subject for all schools/boards

➤ **TELANGANA:** State government says Telugu will be made mandatory for all schools

➤ **KARNATAKA:** CM Siddaramaiah says committed to two-language policy, will not allow imposition of Hindi. Sporadic protests against Hindi signages in state

➤ **KERALA:** Education minister V. Sivankutty blasts NCERT's use of Hindi titles for English-medium texts

Tamil Nadu's objection to the three language formula:

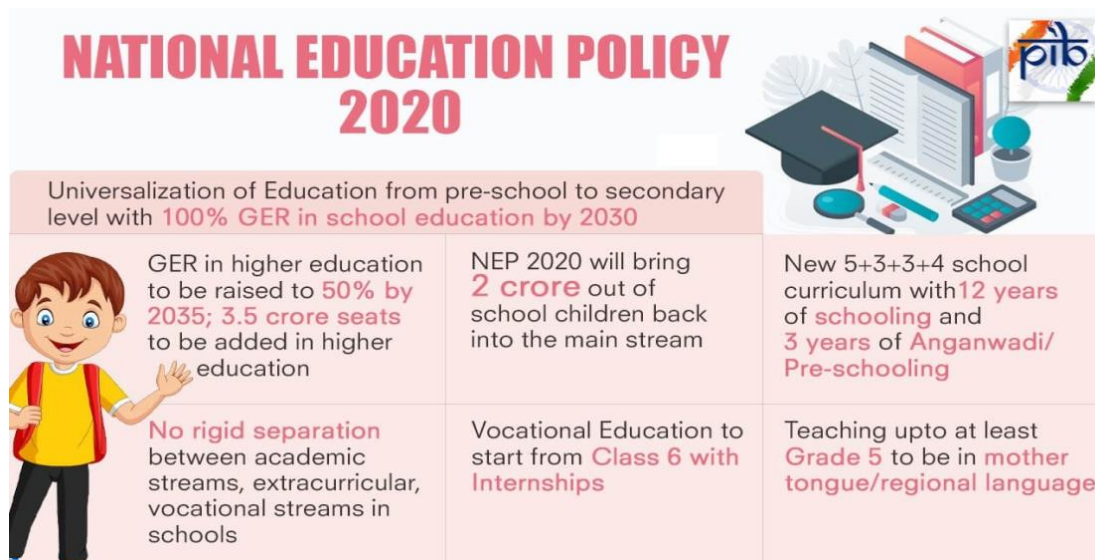
- This opposition dates back to 1968 and is rooted in the belief that the formula is a way to impose Hindi on the state.
- The anti-Hindi agitations in Tamil Nadu have a long history, fueled by concerns about linguistic dominance and cultural identity. The state has a strong tradition of valuing its own language and culture, and the perceived threat of Hindi imposition has been a recurring source of tension.
- Critics in Tamil Nadu view the three-language formula as a way to subtly introduce Hindi, potentially sidelining Tamil and English. They argue that it could create an uneven playing field and disadvantage students who may not be proficient in Hindi.

The central government has maintained that the three-language formula allows for any modern Indian language to be learned, not necessarily Hindi. However, the Tamil Nadu government remains steadfast in its opposition, emphasizing its commitment to the two-language policy.

Maharashtra's opposition:


- Opposition to Imposition of Hindi.
- The Government of Maharashtra has appointed a committee under N.Jadhav to determine from which class should the languages be implemented and in what way and what choice the students will have.

New Education Policy 2020



NATIONAL EDUCATION POLICY 2020

Universalization of Education from pre-school to secondary level with **100% GER in school education by 2030**

	GER in higher education to be raised to 50% by 2035 ; 3.5 crore seats to be added in higher education	NEP 2020 will bring 2 crore out of school children back into the main stream	New 5+3+3+4 school curriculum with 12 years of schooling and 3 years of Anganwadi/Pre-schooling
	No rigid separation between academic streams, extracurricular, vocational streams in schools	Vocational Education to start from Class 6 with Internships	Teaching upto at least Grade 5 to be in mother tongue/regional language

What should be done?

- Constructive dialogue between centre and states: the centre should have a constructive dialogue with the state governments to resolve the grievances related to implementation of the three language formula. This will not only strengthen the federal relations but it will also keep regionalism from rising its ugly head.
- Education must be included in the state list: post emergency, education was moved to the concurrent list. It is time that education should be moved to the state list, like before. This will give states a leverage to legislate on educational matters.
- Tamil- Nadu's model: the two language formula adoption by the Tamil Nadu government has seen better outcomes in terms of enrolment and dropout rate.

Samagra-Shiksha scheme: SSA

- Samagra Shiksha Abhiyan is an integrated scheme launched by the Government of India in 2018 with the aim of strengthening school education from pre-school to class 12. Its goals are to improve the quality of education, promote equity and inclusion, and provide free and compulsory education to all children in the age group of 6–14 years, as per the Right to Education Act, 2009.
- The SSA framework supports language development through various initiatives, including teacher training, resource allocation, and promoting mother tongue-based multilingual

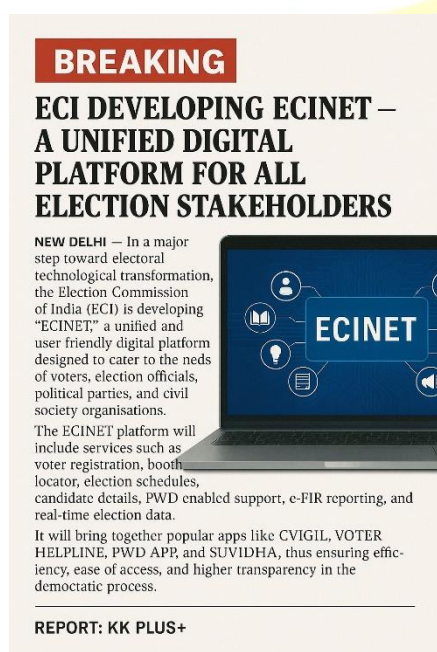
education. While it aligns with the NEP's focus on multilingualism, it doesn't explicitly enforce the three-language formula as a mandatory requirement

In case of any disagreement between the states, the funds allotted for Samagra Shiksha scheme should not be mis-used, canceled or curbed.

Governance and Polity

Election commission and Electoral Processes

Context: The Election Commission of India (ECI) has announced a new digital reform to report voter turnout in real-time using its **ECINET app**.



BREAKING

ECI DEVELOPING ECINET – A UNIFIED DIGITAL PLATFORM FOR ALL ELECTION STAKEHOLDERS

NEW DELHI — In a major step toward electoral technological transformation, the Election Commission of India (ECI) is developing "ECINET," a unified and user friendly digital platform designed to cater to the needs of voters, election officials, political parties, and civil society organisations.

The ECINET platform will include services such as voter registration, booth locator, election schedules, candidate details, PWD enabled support, e-FIR reporting, and real-time election data.

It will bring together popular apps like CVIGIL, VOTER HELPLINE, PWD APP, and SUVIDHA, thus ensuring efficiency, ease of access, and higher transparency in the democratic process.

REPORT: KK PLUS+

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About ECINET:

ECINET is the Election Commission's integrated mobile application, consolidating 40+ internal apps and

Platforms.

- It allows presiding officers to update voter turnout every two hours, directly from polling stations.
- Data can be uploaded offline and synced later, ensuring coverage even in low network areas.

Key Features of the New System:

- Presiding officers will enter data directly into ECINET instead of routing through sector and returning officers.
- Automatic constituency-level aggregation ensures faster and accurate display of polling trends.
- Approximate turnout percentages will now be public shortly after polls close, subject to connectivity.
- System significantly reduces the time lag from hours/days to real-time or near-real-time visibility.
- Manual delays from previous elections, where data was updated days later, will be minimized.

How will the app help in Governance?

- **Enhances Electoral Transparency:** Responds to public and political concerns of data manipulation.
- **Promotes Digital Governance:** Aligned with India's e-governance initiatives in democratic processes.
- **Boosts Voter Trust:** Quick data visibility builds public confidence in ECI's impartiality.
- **Strengthens Institutional Credibility:** Reaffirms ECI's commitment to free and fair elections.
- **Improves Data Accuracy:** Direct digital entry reduces human error and inconsistent reporting.

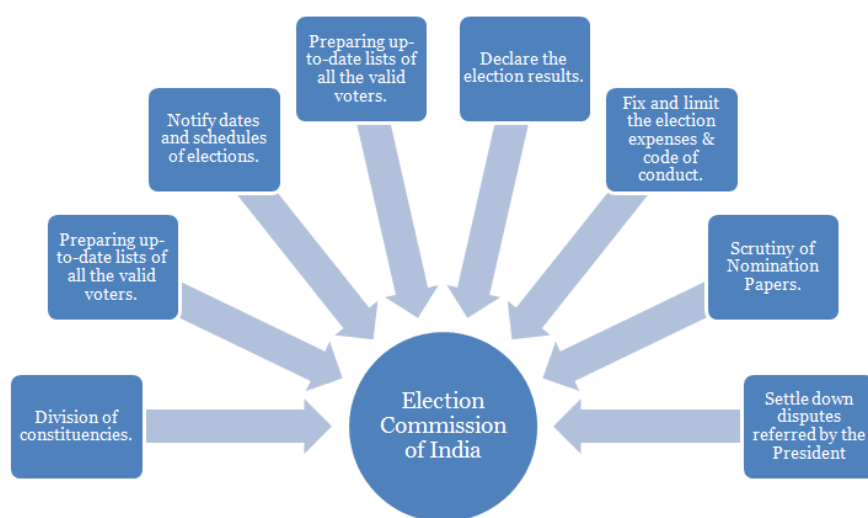
Elections in India:

- a. **Constitutional provisions:** Article 324 empowers the Election Commission of India to supervise, direct, and control elections in India. It establishes the institutional authority for conducting free and fair Parliamentary and State elections.
- b. **The Representation of the People Act, 1950:** The Representation of the People Act, 1950 governs the preparation and revision of electoral rolls. It includes the appointment of electoral officers and management of constituency-wise voter lists.
- c. **The Representation of the People Act, 1951:** regulates the pre-election process and conduct of elections. It lays down qualifications, disqualifications, and election dispute procedures, including offences and penalties.
- d. **The Registration of Electors Rules, 1960:** operationalizes the 1950 Act concerning roll corrections and deletions. This ensures procedural uniformity across states and strengthens voter database accuracy and integrity.
- e. **The Delimitation Act, 2002:** empowers commissions to redraw parliamentary and assembly boundaries post-Census. It ensures fair and proportionate representation based on demographic changes.
- f. **Model Code of Conduct:** Though not legally enforceable, the MCC guides ethical election conduct, with many provisions backed by laws under the Bharatiya Nyaya Sanhita (BNS) and

RPA 1951. Introduced in 1960, it was strengthened over decades to ensure electoral discipline and decorum.

- g. **Judicial Intervention:** The Supreme Court has upheld electoral rules and aided in the progressive interpretation of election laws. Judicial intervention remains vital in ensuring the democratic integrity of the electoral process.
- h. **Digital Platform Integration:** The ERONET (Electoral Roll Management) system provides centralized digital platform management for electoral rolls across states. This technological solution addresses earlier decentralization issues that caused duplicate EPIC number problems.

About the Election Commission of India:



Major issues related to Electoral Process:

- a. **Limited Scope of VVPAT Matching:** Current VVPAT verification covers only five EVMs per Assembly segment irrespective of dispute levels. Critics argue this undermines public trust and election transparency, demanding broader cross-verification.
- b. **Electoral Roll Manipulation Allegations:** Concerns regarding the manipulation of voter lists during election cycles continue to surface periodically. However, the Election Commission of India justified that duplication was because of the decentralized Electors Photo Identity Card (EPIC) system, which was later standardized with the ERONET platform.
- c. **Duplicate EPIC Numbers across States:** Voters with identical EPIC numbers in different states raised fears of multiple voting fraud.
- d. **Violation of the Model Code of Conduct:** Star campaigners often use hate speech and communal rhetoric in violation of the MCC. The lack of penal consequence enables repeated campaign violations without deterrence.

- e. **Unregulated Political Party Expenditure:** While candidates face spending caps, political parties have no official limit on election expenditure.
- f. **Criminalization of Politics Remains Persistent:** In 2024, 46% of elected MPs had criminal cases, including serious offences like murder and rape. This erodes democratic legitimacy and reflects the failure of candidate screening mechanism.
- g. **Misuse of Technology and Fake News:** Digital platforms are increasingly exploited to spread misinformation and manipulate voter behavior. Despite regulations, enforcement against deepfakes and false propaganda remains weak and delayed.
- h. **Issue of Contesting Multiple Seats:** Sitting MPs and MLAs contesting multiple seats lead to costly and avoidable bye-elections. This disrupts governance and reflects political expediency over voter accountability. Also, resignations after winning multiple seats lead to frequent by-elections, resulting in voter fatigue and disinterest.
- i. **Growing Electoral Costs and Burden:** The EC spent nearly ₹6,931 crore in the 2024 general elections, excluding party and candidate expenditure. This also reduces party fairness.
- j. **Weak Internal Democracy in Parties:** Most parties lack transparent internal elections or leadership term limits, weakening accountability.
- k. **Underrepresentation through FPTP System:** Winning candidates often secure less than 50% votes, raising questions on representative legitimacy.
- l. **Regional Disparities in Representation:** Concerns have been raised about delimitation favoring populous states over southern or smaller states. This could potentially alter federal balance and political equity.

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ELECTORAL REFORMS IN INDIA

ELECTORAL REFORMS ARE CHANGES MADE TO IMPROVE THE ELECTION PROCESS AND ENSURE FAIRNESS.

Electoral Reforms Before 1996

- **Model Code of Conduct (1969):** Guidelines to regulate political parties and candidates prior to elections
- **61st Constitutional Amendment Act (1988):** Lowering of the voting age from 21 to 18 years
- **Electronic Voting Machines (EVMs) (1989):** Switched from individual colored ballot boxes to ballot papers, and later to EVMs
- **Booth Capturing (1989):** Provision for adjournment of poll or countermanding of elections in such cases
- **Elector's Photo Identity card (EPIC) (1993):** Electoral roll is the basis to issue EPIC to registered electors
- **ECI- A Multi-member Body (1993):** Election commissioners were appointed in addition to CEC

Electoral Reforms of 1996

- **Time-limit for By-elections:** Elections must occur within 6 months of any vacancy in a legislative house
- **Listing of Names of Candidates:** Contesting candidates categorized into 3 groups for listing
 - Recognised & registered-unrecognised political parties
 - Other (independent)
- **Disqualification for Insulting the National Honour Act, 1971:** Leads to election disqualification for 6 years upon:
 - Insulting the National Flag, Constitution of India or preventing the singing of National Anthem

Electoral Reforms After 1996

- **Vote Through Proxy (2003):** Service voters in Armed Forces & forces under Army Act can vote by proxy
- **Allocation of Time on Electronic Media (2003):** Equitable sharing of time on electronic media during elections to address the public
- **Introduction of Braille Signage Features in EVMs (2004):** To facilitate the visually impaired voters to cast their votes without an attendant

Electoral Reforms Since 2010

- **Voting Rights to Indian Citizens Living Abroad (2010)**
- **Online Enrollment in Electoral Roll (2013)**
- **Introduction of NOTA option (2014)**
- **VVPAT Voter Verified Paper Audit Trail (2013):** Introduction of VVPAT with EVMs to conduct free and fair elections
- **Photos of Candidates on EVMs and Ballot Papers (2015):** To prevent confusion in constituencies with namesake candidates
- **Introduction of Electoral bonds (2017 Budget):** An alternative to cash donations for political parties
 - Declared as unconstitutional by SC (2024)
- **Launch of Electronic EPIC (2021)**
- **Home Voting for People with Disabilities & Those Above 85 years of Age (2024)**

IMPORTANT COMMITTEES/ COMMISSION		
Committees/ Commission	Year	Purpose
■ Tarkunde Committee	1974	■ By Jaya Prakash Narayan (JP) during the "Total Revolution" movement.
■ Dinesh Goswami Committee	1990	■ Electoral Reforms
■ Vohra Committee	1993	■ On the Nexus between Crime and Politics
■ Indrajit Gupta Committee	1998	■ State Funding of Elections
■ Second Administrative Reforms Commission of India	2007	■ Report on Ethics in Governance (Headed by Veerappa Moily)
■ Tankha Committee (Core Committee)	2010	■ To look into the whole gamut of the election laws & electoral reforms.

Fair elections and Democracy



Why Election Commission of India is de-listing Political Parties?

Context: The Election Commission of India is delisting 345 Registered Unrecognized Political Parties (RUPPs) for failing to contest elections or maintain valid office addresses. The move aims to curb tax misuse and ensure political accountability.

Registered Unrecognized Political Parties (RUPPs):

- Registered Unrecognized Political Parties (RUPPs) are associations registered with the Election Commission of India (ECI) under Section 29A of the Representation of the People Act, 1951.
- These parties are distinct from recognized national or state parties as they have not secured a sufficient vote share or seats in previous elections.

- Despite not having official recognition, RUPPs enjoy certain benefits:
 - Tax exemption under Section 13A of the Income Tax Act, 1961.
 - Eligibility for common poll symbols during elections.
 - Permission to nominate up to 20 'star campaigners' for canvassing.
- They are, however, required to:
 - Contest elections periodically.
 - File annual audit accounts and contribution reports.
 - Disclose donations exceeding Rs. 20,000, and ensure that no donations above Rs. 2,000 are accepted in cash.

Difference between Registered Unrecognized Political Parties and Recognized Parties

Registered unrecognized political parties (RUPPs)

- Registration: RUPPs are political parties registered with the ECI under Section 29A of the Representation of the People Act, 1951, but they haven't met the criteria to be recognized as National or State parties.
- Benefits: Registered political parties enjoy benefits like tax exemption for donations received and a common symbol (which may not be reserved exclusively) during elections.
- Challenges: Many RUPPs don't contest elections, leading to concerns about potential misuse of tax exemptions and donations. The ECI has recently initiated a cleanup drive to delist inactive RUPPs that haven't participated in elections or couldn't be located physically.

Recognized political parties (National and State)

- Recognition: A registered party can be recognized as a National or State party based on its performance in Lok Sabha or State Assembly elections, as per the Election Symbols (Reservation and Allotment) Order, 1968.
- Criteria for National Parties: These involve securing a certain percentage of votes or seats in Lok Sabha or Assembly elections across multiple states.
- Criteria for State Parties: These involve securing a certain percentage of votes or seats in the state legislative assembly or Lok Sabha from that state.
- Benefits: Recognized parties receive more privileges, including reserved symbols, free broadcast time, consultation on election matters, fewer proposers for nominations, free copies of electoral rolls, and the ability to nominate more 'star campaigners'.

Why is the Election Commission of India delisting RUPPs?

- The Election Commission has initiated the process of delisting 345 RUPPs that have:
 - **Not contested even a single election in the last six years.**
 - **Failed to maintain physical offices at their registered addresses.**
 - **Ignored statutory filing requirements, including financial disclosures.**
- This is part of a broader clean-up initiated by the ECI, which began identifying and acting against “non-functional” parties as early as 2022. Since then, 284 RUPPs have been delisted and 253 declared inactive for failing to comply.
- The latest batch of 345 brings this drive to a sharper focus, particularly with upcoming elections in view.
- The Election Commission has tasked the Chief Electoral Officers (CEOs) of the respective States and UTs to issue show-cause notices to these parties before delisting. Final decisions will be made based on the CEO’s recommendations.
- ECI’s current action is limited to delisting RUPPs from the list of parties eligible for benefits, not erasing them as legal entities.
- Many of these parties were found to be:
 - Availing 100% tax exemptions despite non-compliance.
 - Operating as shell entities or even engaging in money laundering activities.
 - Selling nominations by fielding dummy candidates to extract withdrawal payments from major parties.
- By delisting such entities, the ECI aims to block misuse of public trust and state-sanctioned benefits.

Way forward:

- The Law Commission, in its 255th report (2015), recommended empowering the ECI to de-register parties that fail to contest elections for 10 consecutive years. The ECI echoed this in its 2016 electoral reform memorandum.
- Additionally, the lack of inner-party democracy remains an unresolved concern. Many RUPPs, and even some recognized parties, operate without periodic internal elections or transparency in leadership appointments.
- The 170th and 255th Law Commission Reports called for specific amendments to the RP Act to instill internal democracy.

Policy Recommendations:

Amend the RP Act to explicitly allow de-registration for non-contesting or non-compliant parties.

Mandate inner-party democracy through legal provisions.

Establish independent auditing of party finances, possibly under a public accounting body.

Three language formula and dissatisfaction among States

Context: Maharashtra has withdrawn its plan to implement the three-language policy for Classes 1 to 5 in State government schools following strong opposition from academics, activists, and political parties.

What happened?

The Maharashtra Government had issued a circular in April 2025 to implement the 3 language formula recommended by the New Education Policy 2020. Under this guideline, the Maharashtra Government suggested Marathi and English as two compulsory languages and Hindi as the third language to be taught to Primary school students. Thus, indirectly making Hindi mandatory. This decision was opposed by the academics and the opposition parties in Maharashtra on the ground that it was state's way of imposing Centre's dominance of Hindi in Maharashtra.

Three Language Formula:

- a. **The three-language formula was first proposed by the Kothari Commission (1964–66)** and formally adopted in the **1968 National Policy on Education (NPE)** under the Indira Gandhi government, aimed to promote linguistic diversity and national unity.
- b. National Education **Policy (NEP, 2020)** retains the three-language formula but offers greater flexibility, **ensuring no language is imposed**.
- c. The older policy mandated the study of Hindi, English, and a modern Indian language (preferably a South Indian language) in Hindi-speaking states, and Hindi, English, and the regional language in non-Hindi-speaking states.

In contrast, NEP 2020 offers more flexibility, stating that no language will be imposed on any state.

Objectives

- It aims to foster national unity by promoting linguistic harmony and encouraging multilingualism across different regions.
- It supports communication among diverse communities while preserving cultural heritage through the emphasis on local and classical languages.
- Additionally, early exposure to multiple languages enhances cognitive skills, aiding learning and comprehension.

NEP IMPLEMENTATION

■ The three-language formula for Classes 1 to 5 is a part of the new curriculum implementation under the National Education Policy (NEP) 2020

■ Maharashtra school education department has declared a phase-wise implementation plan of the new curriculum designed as per NEP 2020 recommendations

“Maharashtra Navnirman Sena (MNS) will not tolerate this decision. We will not allow the central government's current efforts to 'Hindi-fy' everything”
Raj Thackeray,
MNS chief



“Making Hindi mandatory will hurt Marathi sentiments. Can we demand Marathi as a third language in MP or UP? States have been created by linguistic reorganisation”
Vijay Wadettiwar,
Congress leader



Criticisms

- Non-Hindi speaking states argue the policy subtly promotes Hindi, undermining linguistic federalism.
- States like Tamil Nadu have consistently opposed the policy, opting for a two-language system instead.
- Shortage of qualified language teachers and inadequate study materials in regional languages hamper implementation.

Way Ahead

- The NEP 2020 addresses language concerns by introducing flexibility, permitting states, schools, and students to choose their languages, provided two of the three are Indian.
- For effective implementation, it emphasizes the need for inclusive policy-making involving all linguistic communities, substantial investment in teacher training and quality translations, and clear guidelines that grant states the autonomy to adapt the policy to local contexts.

- The three-language formula can be implemented while keeping in mind constitutional provisions, multilingualism, and national unity.

New Education Policy 2020

MINISTRY OF HUMAN RESOURCES IS NOW MINISTRY OF EDUCATION

FOR SCHOOLS	FOR COLLEGES
<p>From 10+2 to 5+3+3+4: Current 10+2 structure in which policy covered schooling from Class 1 to 10 (age 6-16) and then Class 11-12 (age 16-18) gives way to 5 years of foundational education, 3 of preparatory, 3 of middle & 4 years of secondary schooling</p> <p>Multi-Stream: Flexibility to choose subjects across streams; all subjects to be offered at two levels of proficiency</p> <p>Diluted Board: Board exams to test only core competencies; could become modular (object and subjective) and will be offered twice a year</p> <p>Multilingual: 3-language policy to continue with preference for local language medium of instruction till class 8</p> <p>Bag-Less Days: School students to have 10 bag-less days in a year during which they are exposed to a vocation of choice (i.e. informal internship)</p>	<p>SAT-Like College Test: National Testing Agency to conduct common college entrance exam twice a year</p> <p>4-Year Bachelor: 4-year multi-disciplinary bachelor's programme to be preferred; mid-term dropouts to be given credit with option to complete degree after a break</p> <p>No Affiliation: Over next 15 years colleges will be given graded autonomy to give degrees, affiliation with universities to end, so would deemed university status</p> <p>Fee Cap: Proposal to cap fee charged by private institutions of higher learning</p> <p>Going Global: Top-rated global universities to be facilitated to come to India, top Indian institutions to be encouraged to go global</p>

IAS

Special Intensive Revision of Electoral Rolls (SIR) in Bihar

Context: The Election Commission of India (ECI) has initiated a Special Intensive Revision (SIR) of electoral rolls in Bihar, requiring all voters to submit enumeration forms, and post2003 entrants to provide proof of citizenship.

About Special Intensive Revision of Electoral Rolls:

What is SIR?

- A comprehensive, house-to-house verification process to update electoral rolls afresh, ensuring accuracy and citizenship validation.
- Legally enabled under Section 21(3) of the Representation of the People Act, 1950, and governed by Article 324(1) of the Constitution.

Objective:

- To weed out ineligible or duplicate voters, including illegal immigrants.
- To ensure only genuine Indian citizens above 18 years are on the rolls.

Why is it needed?

- Massive additions and deletions over 20 years.
- Urbanisation and migration have led to multiple registrations by individuals.
- Concerns about illegal immigrants and demographic manipulation in border-states like Bihar.

Key Features:

- Applies to all voters, with added scrutiny for those registered post-2003. *
- Requires enumeration forms and proof of birth/citizenship (passport, birth certificate, parental documents, etc.).
- Voters born:
 - Before July 1, 1987: Own birth document.
 - 1987–2004: Personal + one parent's proof.
 - Post-2004: Personal + both parents' documents

WHAT WILL SERVE AS PROOF OF CITIZENSHIP

In addition to the enumeration form, electors added to the rolls after 2003 will have to provide the following to prove their citizenship.

■ Those born in India before July 1, 1987 will have to submit any document from the specified list to establish their date of birth and/or place of birth;

■ Those born in India between July 1, 1987 and December 2, 2004, will have to submit an additional document establishing one parent's date and/or

place of birth; and

■ Those born in India after December 2, 2004, will have to submit documents establishing date and/or place of birth of both parents.

These categories are based on the requirements for acquisition of citizenship in the Citizenship Act, 1955

INDIANS BORN ABROAD will have to submit proof of birth registration by an Indian Mission abroad; and

CITIZENS BY NATURALISATION will have to submit their certificate for the registration of citizenship.

Digital Options: Forms available via ECINET app or official ECI website for online submission

ZETA IAS, 313 Third Floor 4-B Grover Chamber, Next to Croma. PUSA Road, Old Rajendra Nagar
Our contact information- 8850452151

EXPLAINED POLICY

The revision of electoral rolls

Why, and by what process, does the Election Commission of India carry out revisions of electoral rolls? What happened during earlier intensive revisions, and what safeguards evolved over time?

RITIKA CHOPRA
NEW DELHI, JULY 10

THE SUPREME Court on Thursday declined to restrain the Election Commission of India (ECI) from going ahead with its Special Intensive Revision (SIR) of electoral rolls in Bihar, but advised it to consider allowing Aadhaar, voter ID cards, and ration cards as valid documents for updating the rolls.

There is widespread political opposition and significant confusion on the ground in the poll-bound state over the ECI's new requirement that even existing electors, if enrolled after 2003, must furnish documentary proof to establish their date, and/or place of birth, which is then used to determine citizenship.

The SIR has triggered concerns over its potential to disenfranchise large numbers of electors. What happened during earlier intensive revisions of electoral rolls in the country, and what safeguards evolved over time?

What is an 'intensive' revision, and how does it differ from other revisions?

An intensive revision involves a full, fresh preparation of electoral rolls through house-to-house enumeration. Enumerators visit every household to record eligible electors as of a qualifying date, without reference to existing rolls.

This is done when the ECI determines that the current rolls are outdated, inaccurate, or require complete rebuilding—typically before major elections or after administrative exercises such as delimitation of constituencies.

A second type of revision is a 'summary' revision. This is routine annual updating, in which existing rolls are published as drafts, and citizens file claims for inclusion, deletion, or correction. There are no door-to-door visits.

A third type, 'special' revision, is undertaken in exceptional cases such as missed areas, large-scale errors, or legal or political exigencies. The ECI may, under Section 21(3) of the Representation of the People Act, 1950, conduct a special revision using either summary or intensive methods, or a combination of both.

Each kind of revision has a specific purpose: intensive is for comprehensive overhaul; summary for routine maintenance; special for addressing specific deficiencies or extraordinary circumstances requiring tailored approaches.

But why is the ongoing exercise in Bihar called a special intensive revision?

The nomenclature 'Special Intensive Revision' (SIR) indicates that the ECI is exercising its discretionary powers under Section 21(3) of the 1950 law, which permits it to revise electoral rolls 'in such manner as it thinks fit'.

For this exercise, the ECI has adopted a hybrid approach—combining door-to-door



A Booth Level Officer (BLO) surrounded by electors in Bihar during the ongoing Special Intensive Revision of electoral rolls. Express

field verification that is characteristic of an intensive revision with elements of a summary revision, such as the reliance on existing electoral rolls to distribute enumeration forms.

What has set the ongoing SIR apart, however, is the introduction of a new step—the requirement of documentary proof at the enumeration stage itself. This is a striking departure from past practice.

The 'special' in this intensive revision in effect signals its methodological flexibility.

But why has the ECI undertaken this exercise at the present moment—and why has Bihar been chosen for it?

The SIR is not limited to Bihar. On June 24, the ECI announced that it would carry out an intensive verification of electoral rolls across the country. This would be the first such exercise in more than two decades, and the process has begun with Bihar, where Assembly elections are due before November.

The ECI's stated reason for the exercise is the 'significant change' that has taken place in the electoral rolls over time, with large-scale additions and deletions since the last intensive revision. It has attributed these changes to rapid urbanisation, increased migration for education and livelihood, and the practice of voters enrolling at a new address without ensuring their names are deleted from the rolls of their previous residence, which can lead to duplicate entries.

This situation, according to the ECI, warrants an intensive drive to verify each person before they are enrolled as an elector. Officials have also cited the repeated complaints from political parties—including allegations of manipulation of Maharashtra's electoral roll by Congress leader Rahul Gandhi—as a factor

behind the renewed push to clean up and standardise electoral rolls.

How often has the ECI revised electoral rolls intensively, and what were the circumstances of those earlier exercises?

Intensive revisions of electoral rolls, in all or some parts of the country, have been undertaken earlier in 1952-56, 1957, 1961, 1965, 1966, 1983-84, 1987-89, 1992, 1993, 1995, 2002, 2003 and 2004. Each revision has reflected the ECI's evolving priorities—from correcting early administrative flaws to addressing migration, delimitation, and concerns over the quality of the rolls.

In the first decade after Independence, the overriding priority was to fix the rolls used for the 1951-52 Lok Sabha election, which were riddled with inaccuracies and omissions. The Commission's narrative report of the first election noted that 'the final electoral rolls were not always as accurate and satisfactory as might have been desired'.

It attributed these flaws to multiple factors: widespread public ignorance, limited organisational capacity among political parties, and inexperience in the government machinery.

One striking example was the mass exclusion of women before the first Lok Sabha election—many women refused to give their names to enumerators, and instead identified themselves only as 'wife of' or 'daughter of'. Political parties, which at the time lacked both structure and familiarity with the electoral process, did not actively assist election officials. This is unlike today, where they appoint agents to aid in the preparation of the rolls.

The situation was further complicated by the absence of an electoral law in the early years, the late establishment of a central su-

pervisory authority, and the lack of time to carry out a thorough verification.

To address these systemic shortcomings, the ECI launched a phased, rotating intensive revision strategy: one-fifth of each state was covered annually between 1952 and 1956 before the next Lok Sabha election in 1957, followed by one-third each year from 1957 to 1961 before the 1962 election, with particular attention to urban and migrant-heavy constituencies that were known for higher rates of voter movement and errors.

Administrative events like the reorganisation of states in 1956 and the delimitation exercises in the 1960s made fresh revisions of the rolls necessary.

By the 1980s, there was a growing focus on preventing the inclusion of ineligible voters, particularly foreign nationals, in the electoral roll—even as the emphasis on guarding against duplicate entries continued.

The ECI began to issue intensive revision guidelines, with specific instructions on 'safeguards against inclusion of foreign nationals'—a reflection of concerns that had started to surface in the political discourse.

During this period, the Commission received multiple complaints from Chief Ministers of border states, especially in the Northeast, alleging that significant numbers of foreign nationals had managed to get themselves enrolled as voters.

The ECI at this time firmly articulated the principle that names that were already included in the electoral roll should not be deleted without following due process.

Officers were instructed to uphold the 'sanctity' of the existing roll, especially when objections were raised about an elector's citizenship status. The Commission made it clear that the burden of proof lay with the person objecting to the inclusion, and not with the elector whose name was already on the roll.

In 1993 and 1995, the ECI again ordered countrywide intensive revisions. Although 1993 was the year when Elector's Photo Identity Cards (EPIC) were introduced under Rule 28 of the Registration of Electors Rules, ECI records from that time do not indicate that EPIC was the purpose of the revision.

Instead, the records note that EPIC details were 'also captured'—suggesting that the field verification process of the revision helped facilitate, but was not driven by, the rollout of the photo ID.

Over time, as the quality of the rolls improved and administrative costs increased, the Commission gradually moved towards summary revisions as the default.

But whenever accuracy became a serious concern—due to demographic shifts, political complaints, or structural changes—the ECI returned to intensive methods, adapting them to the needs of that moment.

- The Election Commission of India (ECI) regards the creation, maintenance, and purification of the Electoral Roll (ER) as a core constitutional duty.

- This duty is rooted in Article 324, the Representation of the People Act, 1950, and the Registration of Electors Rules, 1960 (RER).

- The ER's credibility is anchored in continuous updates and decades of revisions, carried out through a

rule-based, transparent statutory process.

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Challenges in SIR in Bihar:

- Risk of Mass Disenfranchisement:** The exclusion of widely used IDs like Aadhaar, ration cards, or even voter IDs can disproportionately impact underprivileged voters. Traditionally, electoral rolls include individuals aged 18 and above based on their ordinary residence, but the current exercise also considers their place of birth.
- Impact on Migrant Workers:** Frequent moves by migrant workers, students, and seasonal labourers make it hard to prove residence, risking their exclusion from voter lists due to difficulty in updating details. Suspicions of a Stealth National Register of Citizens: Requiring documents like birth certificates or legacy data may act as a de facto citizenship test, raising concerns of systematic exclusion of marginalized and minority groups.

- c. **Growing concerns exist that SIR may be applied discriminatorily, thereby undermining electoral integrity and equitable representation.**
- d. **Lack of Public Consultation:** Top-down implementation and excessive documentation requirements risk undermining universal suffrage, especially for illiterate and homeless populations.

Way forward:

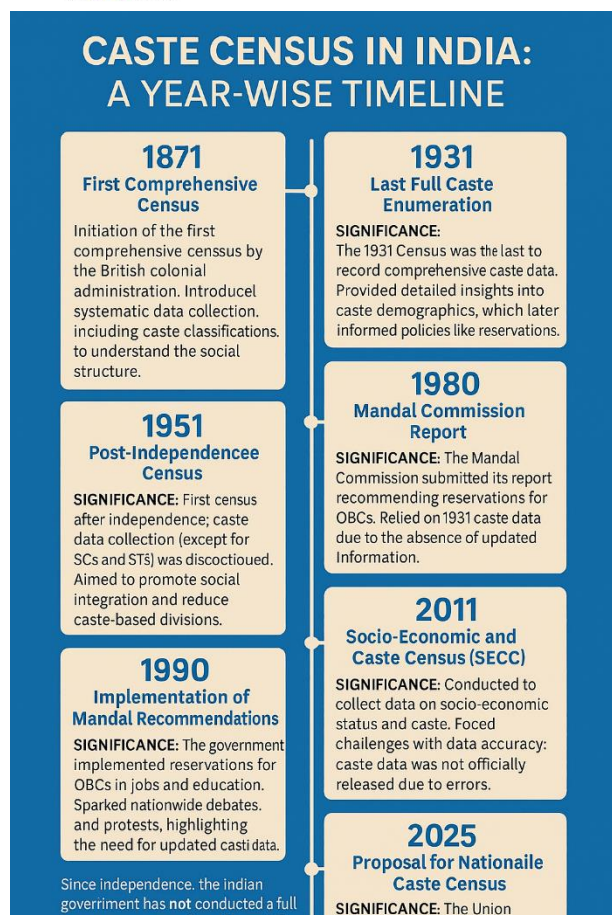
- a. **Inclusive Documentation Policies:** Although Aadhaar is not proof of citizenship, it remains the most accessible ID for marginalized communities and should be permitted for residency verification, supplemented by cross-verification with legacy data.
- b. **Robust Verification & Data Accuracy:** Conduct Aadhaar-Voter ID linking with safeguards, door-to-door verification by BLOs, and regular audit by electoral authorities e.g., State Election Commission to ensure an error-free and transparent SIR of electoral rolls.
- c. **Political & Legal Consensus:** ECI should consult all stakeholders—including civil society—and run public awareness campaigns to clarify SIR rules and deadlines. Additionally, judicial oversight by the special tribunals and clear guidelines for Electoral Registration Officers (EROs) are essential to uphold constitutional safeguards and prevent arbitrary voter exclusions.
- d. **Technology-Driven Safeguards:** Conduct AI-powered anomaly detection to flag suspicious deletions/additions (e.g., bulk removals from one locality), implement block chain-based voter logs, and provide a real-time tracking dashboard to prevent tampering during SIR of electoral rolls.
- e. **Inclusivity Measures:** Organize special camps for marginalized groups (e.g., disabled, and tribal), provide multilingual helplines, and conduct post-revision sample surveys to ensure accurate enrollment and minimize exclusions.

The Special Intensive Revision (SIR) of electoral rolls is crucial for error-free elections but must balance accuracy with inclusivity. Though disenfranchisement is a big challenge but tech-driven verification, political consensus, and judicial oversight can strengthen SIR's integrity, ensuring fair and transparent voter lists for democratic legitimacy.

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Census 2027

Context: The Registrar-General of India has issued a formal notification for conducting the Census 2027, initiating boundary freezing and preparations.



Government's announcement:

- The government has officially announced that India's 16th Census will be conducted in two phases, with reference dates of October 1, 2026, for snow-bound areas and March 1, 2027, for the rest of the country.
- This will be the **first nationwide caste-based enumeration since 1931**.



How the Census is conducted: Process and Timeline

Two-Phase Structure

The Census is conducted in two main phases:

- House-listing and Housing Census: Records details about buildings and households.
- Population Enumeration: Captures individual-level demographic and socio-economic data.

Before enumeration, states freeze administrative boundaries, conduct mapping exercises, and train enumerators.

House-listing Phase (Expected in 2026)

- Enumerators collect data on: Household composition and building usage; Construction material, rooms, ownership; Access to water, electricity, sanitation; Cooking fuel and ownership of assets (TV, phone, vehicle, etc.).
- This phase offers insight into housing quality and amenities across India.

Population Enumeration (February 2027)

Covers individual details such as:

- Name, age, sex, relationship to household head
- Marital status, education, occupation, religion.
- Caste/tribe status, disability, and migration history
- Even homeless individuals are included.

First Digital Census in India

The 2027 Census marks India's transition to a digital framework, using mobile apps, cloud systems, and real-time monitoring tools to conduct and manage the enumeration process.

Introduction of Self-Enumeration

For the first time, households will have the option to self-enumerate via a government portal or mobile app.

After submitting their data, they receive a unique ID to show the enumerator during verification.

Digital Tools for Enumerators

Enumerators will use smartphones or handheld devices with a preloaded Census app.

Though paper-based forms are still allowed, most are expected to adopt the digital mode due to better remuneration and widespread smartphone access.

Advanced Monitoring and Supervision

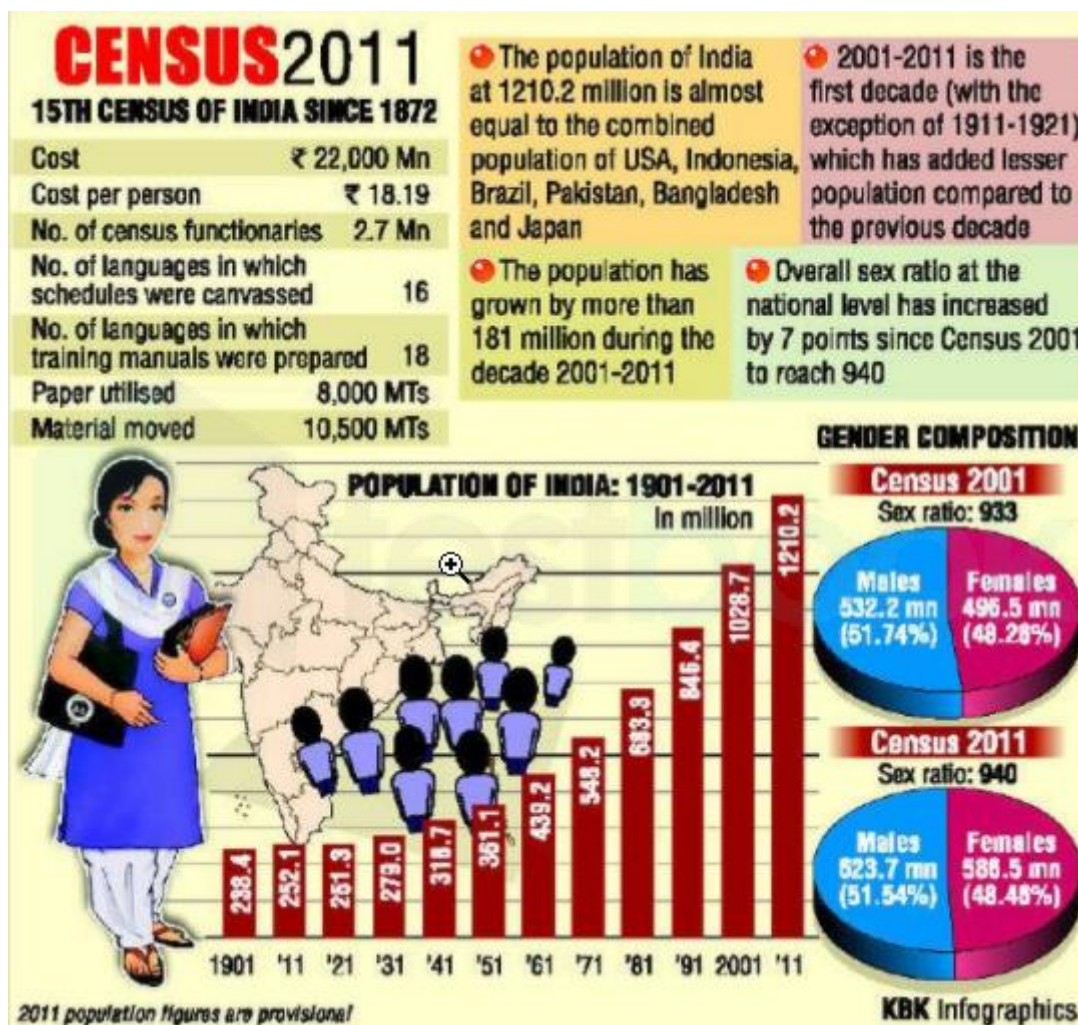
The Census Management and Monitoring System (CMMS) will enable:

- Real-time dashboards

- Field issue resolution
- Progress tracking and data quality control.

Historic Inclusion of Caste Data

This Census will be the first since 1931 to collect caste data for all communities, adding a significant new dimension to the dataset.



How Census 2027 Will Differ from the 2011 Census

Digital First Approach

- Census 2027 will be India's first fully digital Census, unlike the paper-based 2011 Census.
- It allows self-enumeration, mobile-based data entry, and real-time supervision.

GPS and Geofencing Integration

While 2011 relied on physical maps, the 2027 Census will feature GPS tagging of households and geofencing to ensure complete and accurate coverage.

Real-Time Error Detection

ZETA IAS, 313 Third Floor 4-B Grover Chamber, Next to Croma. PUSA Road, Old Rajendra Nagar
Our contact information- 8850452151

Enumerators will receive mobile alerts for data inconsistencies, such as unrealistic household sizes or age errors—features absent in 2011.

Standardised Digital Coding System

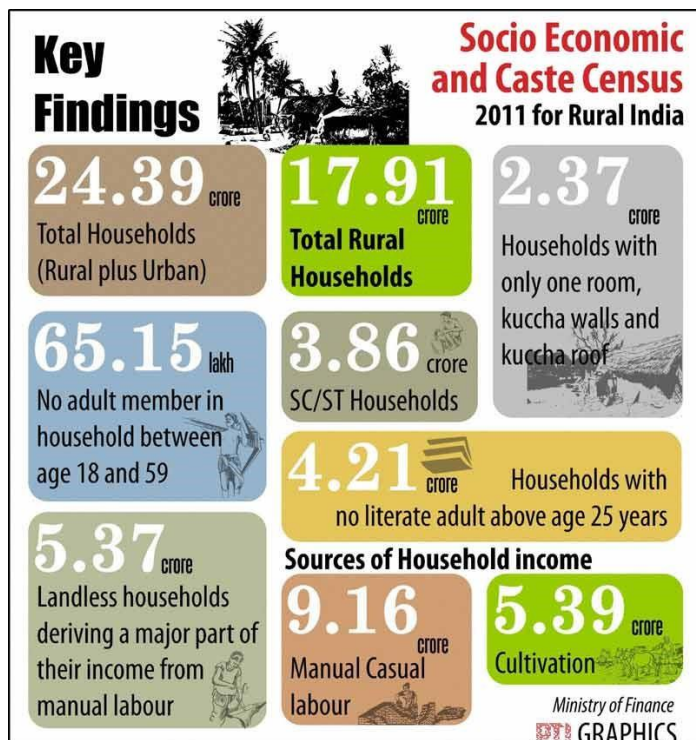
Unlike 2011, where descriptive handwritten entries often led to inconsistencies and delays, the 2027 Census introduces:

- Pre-loaded drop-down menus (code directories) for caste, language, occupation, etc.
- Uniform coding across the country to ensure fast, computerised processing

Enhanced Data Quality and Timeliness

With tech-enabled checks and uniform input methods, Census 2027 aims for higher accuracy and quicker data dissemination compared to the lengthy timelines of 2011.





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Challenges to Census 2027:

- A. **Privacy concerns and legal challenges:** As seen with the Bihar caste-based survey, issues like the fundamental right to privacy can be raised and challenged in courts, potentially affecting the scope and methodology of the census.
- B. **Managing a large and growing population:** India has become the most populous country, surpassing China. Conducting a comprehensive census for such a massive and diverse population presents logistical and operational hurdles, including managing a large number of census functionaries and materials, as highlighted by the scale of the 2011 Census.

- C. **Addressing demographic shifts and imbalances:** Understanding and accurately capturing changes in population growth rates across different communities and regions, as well as shifts in the sex ratio, remain crucial and potentially complex aspects of the census.
- D. **Integration of technology and data collection methods:** Ensuring the effective and secure implementation of new technologies for data collection and processing will be a key challenge, especially in diverse geographical and socio-economic settings.
- E. **Public cooperation and participation:** Encouraging widespread participation and ensuring accurate self-reporting across all segments of the population, including marginalized or hard-to-reach groups, is vital for the census's success.

A caste census is considered the "need of the hour" primarily to gather contemporary and scientific data on various castes, which can then be used to inform policies, particularly regarding reservations and welfare schemes. The data from a caste census could facilitate the creation of sub-quotas within existing reservations for Scheduled Castes (SC), Scheduled Tribes (ST), and OBCs, as permitted by the Supreme Court.

India will conduct its first comprehensive household income survey in 2026

Context: The Ministry of Statistics and Programme Implementation (MoSPI) has announced that India will conduct its first comprehensive Household Income Survey in 2026.

What is it?

A nationwide Household Income Survey aimed at generating robust and reliable data on income distribution across India for the first time.

Ministry & Organisations Involved:

- Ministry of Statistics and Programme Implementation (MoSPI)
- National Sample Survey (NSS)
- Technical Expert Group (TEG) led by Dr. Surjit S. Bhalla.

Features of the 2026 Survey:

- First nationwide survey solely focused on household income distribution.
- Overseen by Technical Expert Group (TEG) to incorporate global best practices.
- Focus on developing conceptual clarity, sampling design, and estimation methodology.
- Incorporates digital tools to improve accuracy and capture impact of technology on wages and income.

- Builds on MoSPI's recent statistical innovations (unincorporated sector surveys, services sector, private capital expenditure, and tourism data).

Significance:

- Fills a critical data gap in understanding India's evolving income patterns.
- Provides robust evidence to shape welfare policies and assess inclusive growth.
- Enhances India's statistical infrastructure to match global standards.
- Supports effective economic planning and targeted fiscal interventions.

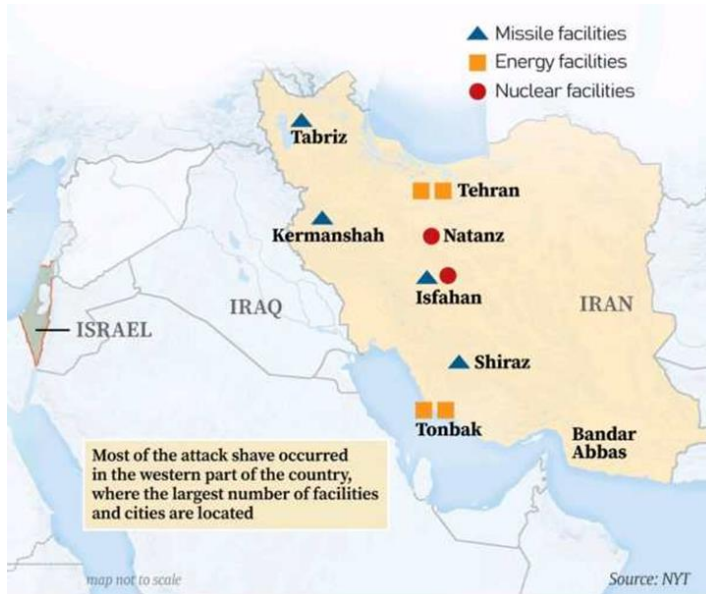
International Relations

Israel-Iran

Context: Israel, under **"Operation Rising Lion"**, launched airstrikes and drone attacks on Iran's nuclear and military sites — including Tehran, the Natanz uranium enrichment facility, a nuclear research centre, two military bases in Tabriz, and an underground missile storage site in Kermanshah — to prevent Iran from advancing towards building an atomic weapon.

In retaliation, Iran launched waves of ballistic missiles at Israel under **"Operation True Promise 3"**, causing explosions over Jerusalem and Tel Aviv.





Israel's IRON DOME

Defence System was Launched in 2011

▶ Tamir interceptors fired if enemy missile threatens populated areas and military installations

▶ Interceptors detonate incoming artillery in mid-flight within seconds

▶ Each Iron Dome battery has capability to defend an area of 150 sq km

Enemy artillery

Tamir interceptor
Height: 3 m
Weight: 90 kg

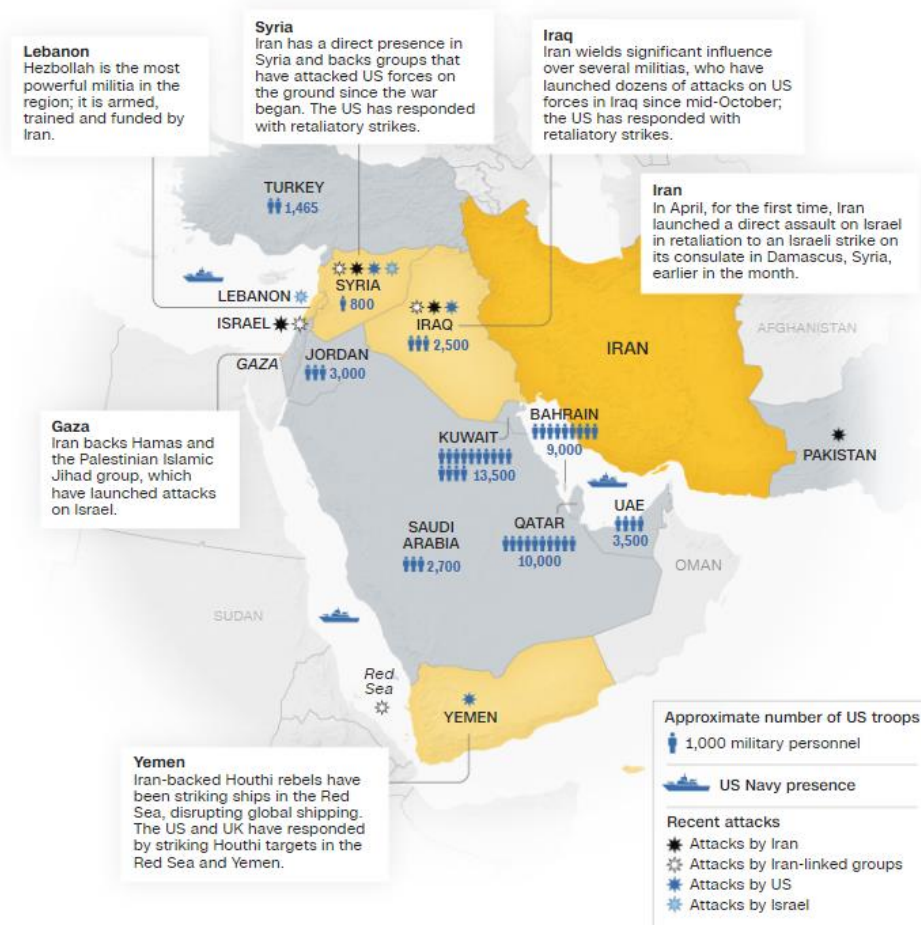
Detection and tracking radar
Detects missiles when they are 4-70 km away

Battle management and control
Estimates impact point by analysing missiles and trajectory

Missile firing unit

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Iran-backed groups in the Middle East and major US military deployments



Reasons for Conflict:

- Historical reasons:** The relationship between Iran and Israel has been marked by deep hostility since the 1979 Iranian Revolution, which transformed Iran from a close ally of Israel under the Shah to an Islamic Republic openly antagonistic towards the Jewish state.
- Religious divide:** Iran, governed by Shia Islamic principles, and Israel, a predominantly Jewish state, are divided by stark religious and ideological differences. These fundamental disparities have fuelled mutual distrust and animosity over the decades.
- Iran's support to anti-Israel countries and groups:** Iran, governed by Shia Islamic principles, and Israel, a predominantly Jewish state, are divided by stark religious and ideological differences. These fundamental disparities have fuelled mutual distrust and animosity over the decades. Iran's vocal calls for **Israel's destruction** have further **intensified tensions**.
- Geopolitical Rivalry:** Iran and Israel are locked in a **struggle for regional dominance**, with opposing interests in conflicts such as the [Syrian civil war](#) and the **Yemen crisis**.
- Iran's Nuclear Ambitions:** Israel views Iran's nuclear programme as a serious threat, fearing the development of nuclear weapons that could endanger its existence.

Operation Midnight Hammer: It was a U.S.-led military strike targeting three key facilities linked to Iran's nuclear program. The operation involved a coordinated assault using seven B-2 stealth bombers and more than two dozen Tomahawk cruise missiles.

The Hindu June 23, 2025

U.S. bombs three key Iranian nuclear sites

Attacks crossed a 'big red line', says Iran Minister while asserting the country's right to self-defence

No immediate signs of radioactive contamination following the strikes, says UN nuclear watchdog

There will be 'either peace or tragedy for Iran', says Trump acting without congressional nod

Associated Press
DUBAI

Prompting fears of a wider regional conflict, the United States inserted itself into Israel's war against Iran early on Sunday by dropping 30,000-pound bombs on a uranium enrichment site buried under a mountain, a risky gambit that aimed at destroying the Islamic Republic's nuclear programme after months of failed diplomacy.

The U.S. also fired dozens of missiles, and President Donald Trump said that the combination of strikes "completely and fully obliterated" three nuclear sites. However, U.S. defence officials said an assessment of the damage was ongoing.

The Atomic Energy Organization of Iran confirmed that attacks took place on the Fordow and Natanz enrichment facilities as well as its Isfahan nuclear site, but it insisted that its nuclear programme will not be stopped. Both Iran and the UN nuclear watchdog said



there were no immediate signs of radioactive contamination following the strikes.

U.S. Defence Secretary Pete Hegseth said the country does not "seek war" and that the operation would not be "open-ended", though Mr. Trump earlier warned there would be additional strikes

if Tehran retaliated. "There will either be peace or there will be tragedy for Iran," said Mr. Trump, who acted without congressional authorisation. Vice-President J.D. Vance, however, said the strikes have given Tehran the possibility of returning to negotiate with Washington.

Hours later, Iranian Fo-

rein Minister Abbas Araghchi said the attacks have crossed a 'big red line' adding that the time for diplomacy had passed and that his country had the right to defend itself. Mr. Araghchi said he would be flying to Moscow to coordinate positions with its ally, Russia. "The war-mongering and lawless ad-

ministration in Washington is solely and fully responsible for the dangerous consequences and far-reaching implications of its act of aggression," he told presspersons in Turkiye.

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Iranian parliament votes to close Strait of Hormuz

T.C.A. Sharad Raghavan
NEW DELHI

Iran's parliament, the Majlis, has reportedly approved the closure of the Strait of Hormuz in response to the attacks by the U.S. on Iranian nuclear facilities, the country's state-owned media

PressTV reported on Sunday. The Strait of Hormuz connects the Persian Gulf with the Gulf of Oman and the Arabian Sea, and is one of the world's most important oil trade routes.

FULL REPORT
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PM calls for 'immediate de-escalation' of conflict

Kallol Bhattacharjee
NEW DELHI

Prime Minister Narendra Modi spoke with the President of Iran, Masoud Pezeshkian, and called for "immediate de-escalation" on Sunday, hours after the U.S. struck three prominent nuclear sites in Iran. The conversation between

the two leaders is significant as it came ahead of an emergency meeting of the Board of Governors of the International Atomic Energy Agency (IAEA) in Vienna, where the U.S. attack on Iran will be the main subject of attention.

FULL REPORT
» PAGE 5

Repercussions of US attack on Iran:

The recent US military strikes on Iranian nuclear facilities mark a significant escalation in the ongoing conflict between Israel and Iran. This development has wide-ranging implications, impacting various geopolitical dynamics and international relations.

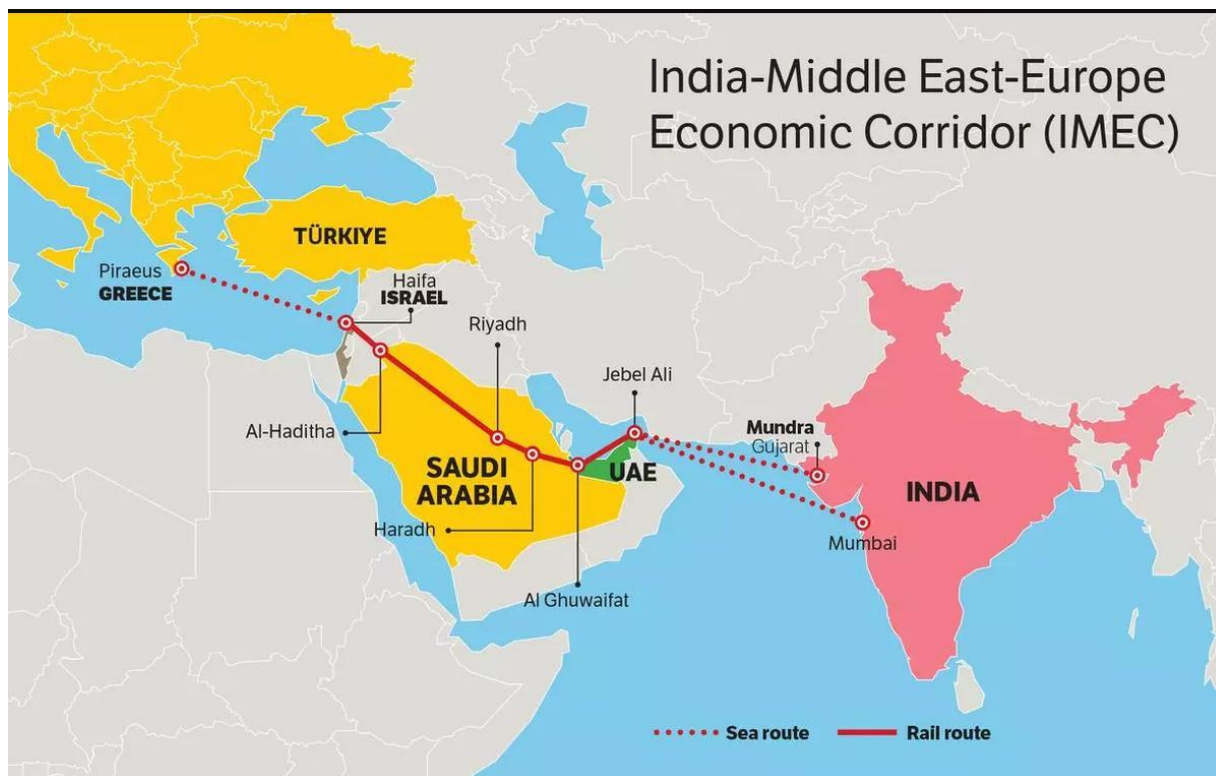
- Strengthening US-Israel Relationship:** The US, by officially joining the military strikes against Iran, demonstrates its "iron-clad" support for Israel. Previously, the US provided intelligence and defence support to Israel, but the recent strikes mark a full-fledged military involvement.
- Divergence from Trump's Political Agenda:** President Trump had pledged to avoid "endless wars," yet the strikes indicate a shift, involving the US in a new conflict. The decision contradicts his previous stance on ending the Ukraine war and his promise of non-involvement.

- c. **Israel's Gains:** Israel benefits as it lacked the capability to strike the **Fordow Uranium Enrichment Plant** independently. The US intervention aligns with Israel's goal to degrade Iran's nuclear program.
- d. **Threat to Iran's Air Defences:** Israel claims significant degradation of Iran's missile capabilities, evidenced by the unchallenged B-2 bomber operation. This dominance encouraged the US to conduct strikes without fearing Iranian retaliation.
- e. **A Weakened Iran:** The strikes have severely impacted Iran, leading to significant casualties and a weakened regional standing. The "Axis of Resistance," including Iran-backed groups Hamas and Hezbollah, has been critically weakened.
- f. **Deepening Turmoil in the Middle East:** Iran's potential retaliatory actions could escalate regional tensions further, affecting economic stability and oil prices. Shipping costs in key areas like the Strait of Hormuz may rise due to increased military activity.

Implication of Israel-Iran war on India:

- a. **Threat to Energy Security:** For India, which imports nearly 2 million barrels of oil daily through the crucial Strait of Hormuz, any instability would mean supply shortages, spiralling energy costs, rising inflation, and constraints on economic growth.
- b. **Indian Diaspora at peril:** Over 66% of India's 1.34 crore NRIs live in the Middle East, mainly in the UAE, Saudi Arabia, Kuwait, Qatar, Oman, and Bahrain. The large Indian diaspora in West Asia, especially the Persian Gulf, could face risks from regional tensions, making their safety a key priority for New Delhi.
- c. **Obstruction to connectivity:** India's key connectivity projects like the Chabahar port in Iran, which links it to Afghanistan and Central Asia, could be affected by regional turmoil.
- The India-Middle East-Europe Economic Corridor (IMEC) faces risks from the conflict, threatening its progress and impacting bilateral trade and regional economic dynamics.
- Furthermore, shipping disruptions in the Red Sea and surrounding waters could cause delays, higher shipping costs, and lead to instability in global trade routes.

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A worsening Israel-Iran conflict risks disrupting India's delicate diplomatic balance, which it has effectively maintained over the past decade with Israel, Iran, and the Gulf Arab nations.

Operation Sindhu

Operation Sindhu is a humanitarian evacuation mission launched by the Indian government to bring back Indian citizens from conflict zones in Iran, specifically due to the escalating tensions between Iran and Israel. The operation was initiated by the Ministry of External Affairs (MEA) on June 18, 2025. It involves coordinating safe passage and evacuation for Indian nationals, mainly students, from Iran via Armenia to India.

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Place in News: Strait of Hormuz

- The Strait of Hormuz is a strategically vital, narrow waterway that connects the Persian Gulf to the Gulf of Oman and the Arabian Sea

Location: The Strait of Hormuz is situated between Iran to the north and Oman (including the Musandam Peninsula) to the south.

Iran's Leverage over the Strait of Hormuz



Importance of Strait of Hormuz: It is a crucial chokepoint for global oil and gas trade, with about 20% of the world's daily oil consumption and a substantial amount of liquefied natural gas (LNG) passing through it.

The strait's narrow width and the high volume of traffic make it a point of potential geopolitical tension and a focus of military and naval activity.

Countries Involved:

Iran, Oman, and the UAE are the main countries bordering the strait.

Potential for Disruption: YOUR ZEAL • OUR EXPERTISE

Any disruption to shipping in the Strait of Hormuz could have a significant impact on global energy markets, causing price spikes and supply disruptions.

Ceasefire:

The 12-day long conflict ended with total and complete ceasefire by the US President Donald Trump. Although, USA was able to destruct Iran's Nuclear weapons but it does not mean that Iran cannot build back its nuclear power, given, it has a stockpile of enriching uranium to 60% purity, which is significantly higher than what is needed for civilian energy and close to weapons-grade material.

India-Bangladesh

Context: India has decided to ban the import of jute products and woven fabrics from Bangladesh through all land routes.



What is the issue?

- India imposed strict restrictions on the import of jute products from Bangladesh through all land routes, restricting entry only through the Nhava Sheva seaport in Maharashtra.

- This policy shift, announced via a Directorate General of Foreign Trade (DGFT) notification, excludes Bangladeshi goods in transit to Nepal and Bhutan.
- This move comes amidst rising concerns about Dhaka's growing strategic proximity to Beijing and persistent trade malpractices by Bangladeshi exporters, including circumvention of anti-dumping duties (ADD).
- These factors have combined to harm India's domestic jute industry, especially in states like West Bengal and Bihar.
- The restrictions apply to a wide range of jute-related goods, including:
- Jute products, Flax tow and waste, Jute and other bast fibres, Single yarn of jute or flax, Multiple folded woven fabrics, Unbleached woven jute fabrics
- These categories previously enjoyed duty-free access under the South Asian Free Trade Area (SAFTA) Agreement.

Impact of the Ban:

- Advantageous for Indian farmers:** India's jute sector has long suffered due to dumped and subsidised imports from Bangladesh. According to official sources, Bangladeshi exporters continue to receive direct subsidies from their government, undermining Indian manufacturers.
- Upliftment of the Jute industry in India:** The increased influx of low-cost jute goods has disrupted the domestic market. In FY 2024-25, jute prices in India fell below Rs. 5,000 per quintal, lower than the Minimum Support Price (MSP) of Rs. 5,335, triggering liquidity crises and mill closures. Six jute mills remain shut with Rs. 1,400 crore in unpaid dues, including Rs. 400 crore in legacy liabilities.
- Better employment opportunities:** Over 4 lakh workers are employed in the organised jute sector, with rural livelihoods in West Bengal, Bihar, Assam, and Odisha heavily dependent on the crop.
- The availability of under-priced Bangladeshi products has also led to under-utilisation of Indian mills, threatening their viability and disrupting local procurement.

Long-term benefits:

- India's jute industry is poised for regulatory protection, with more streamlined import monitoring and potential policy reforms on the horizon.
- Officials indicate a willingness to enforce tighter scrutiny and push back against trade practices that destabilise domestic production.
- Moreover, the government may explore extending protection mechanisms to raw jute, which currently remains outside the ADD regime, to protect the incomes of Indian farmers.

Way forward:

The Indian government's decision to channel imports exclusively through Nhava Sheva port is a calibrated move aimed at:

- Ensuring better quality checks (especially hydrocarbon oil-free status)
- Preventing misdeclaration and fraudulent labelling
- Closing loopholes that allow routing through third countries

India's response is not limited to trade concerns. It signals dissatisfaction with Bangladesh's interim government's increasing tilt towards China and its inadequate response to repeated trade violations.

While Bangladesh has made minor adjustments under diplomatic pressure, it has continued to incentivise the export of value-added jute products, further exacerbating the trade imbalance.

China-Pakistan-Bangladesh First Trilateral Meeting

In News: China recently hosted a trilateral meeting involving the foreign secretaries of Pakistan and Bangladesh, marking a significant diplomatic development from the perspective of India. The meeting, held in Kunming, Yunnan Province, aimed to enhance cooperation among the three countries.



Key aspects of the Meeting:

- Focus on Cooperation:** The discussions centered on enhancing cooperation in trade, investment, health, education, and maritime affairs.
- Working Group:** A working group was formed to implement the agreements reached during the meeting.
- Multilaterism and Regionalism:** The meeting emphasized a commitment to true multilateralism and open regionalism, without targeting any third party.
- Geopolitical implications:** The meetings are being viewed with interest by India, as they could potentially impact regional dynamics and India's influence.
- China Pakistan Economic corridor:** The meetings are also seen as part of China's broader strategy to expand the CPEC and increase its influence in the region.

Context for holding the meeting:

- Pakistan-Bangladesh Relations:** Pakistan has been working to strengthen ties with Bangladesh, particularly in defence, trade, and diplomacy.
- Shift in Leadership:** The ousting of Bangladesh's Prime Minister Sheikh Hasina has altered diplomatic dynamics, with China leveraging economic partnerships to maintain influence.
- Indian Context:** The meetings have raised concerns in India about potential Chinese expansionism and its impact on regional stability.



Implications for India:

- China's expanding influence:** The meeting highlights China's expanding regional footprint and its efforts to strengthen ties with countries bordering India.
- Strategic Concerns:** Any trilateral or multilateral grouping that excludes India could be seen as a move to counterbalance India's influence in the region.
- Economic connection:** Increased Chinese engagement in Bangladesh, particularly through projects like the Belt and Road Initiative, could lead to greater economic competition for India.
- Security reasons:** A closer relationship between China, Pakistan, and Bangladesh could have security implications for India, especially given the ongoing tensions with Pakistan.

While the Kunming trilateral meeting has generated some apprehension in India, the situation is still unfolding. India will need to closely monitor developments and respond strategically to ensure its interests are protected while fostering positive relationships with all its neighbours.

PASSEX Exercise

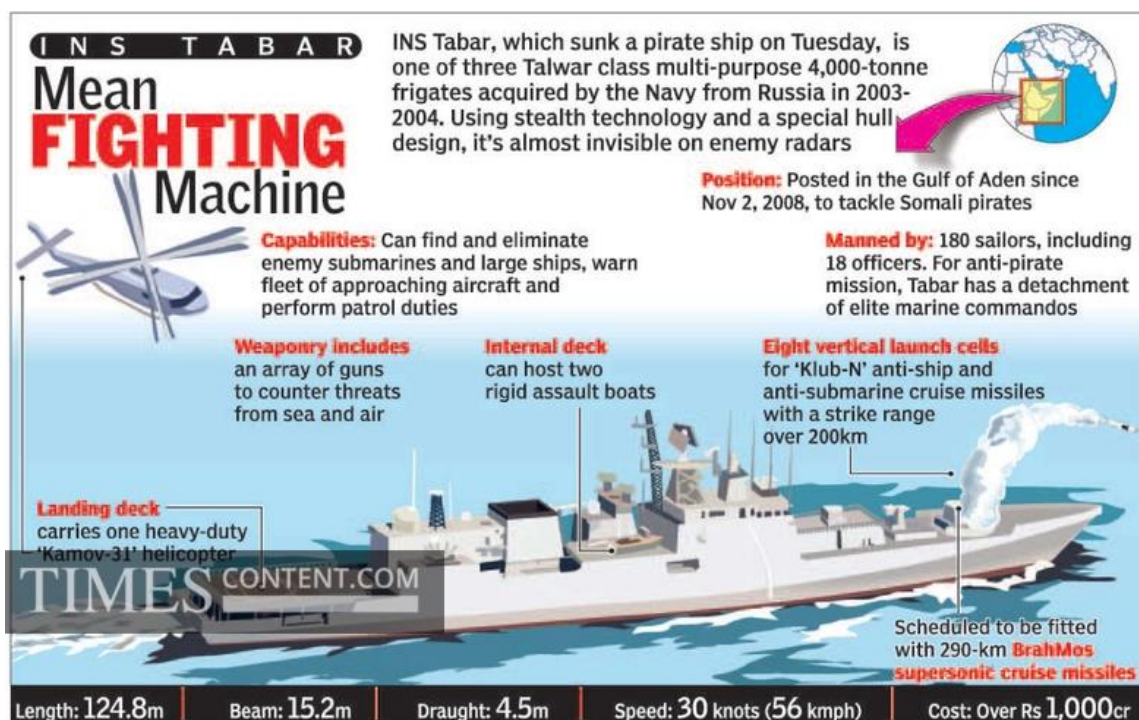
Context: The **Indian Navy** and the UK Royal Navy conducted a **Passage Exercise (PASSEX)** in the **North Arabian Sea**.

About: PASSEX refers to **joint naval exercises carried out between allied navies** when their deployments intersect. It strengthens **interoperability, communication, and strategic collaboration at sea**.

It also aims to enhance **tactical manoeuvres, maritime domain awareness**, and reaffirming commitment to **Indo-Pacific maritime security**.

Key Features:

- Helicopter control drills, fleet manoeuvres, joint ASW operations, officer exchanges, real-time data sharing, and communication protocol testing for seamless coordination.
- India's fleet includes the stealth **frigate INS Tabar**, a conventional submarine, and the **P-8I long-range maritime aircraft**.
- It aligns with the **India–UK Comprehensive Strategic Partnership** and the **India–UK 2030 Roadmap**, while also supporting India's **SAGAR vision (Security and Growth for All in the Region)** and strategic presence in the Indo-Pacific.



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INS TABAR:

- It is the third Talwar-class stealth frigate commissioned in April 2004 in Russia, and the first to carry BrahMos missiles.
- Serving with the Western Fleet in Mumbai, it is equipped for air, surface, and sub-surface missions, and operates independently or within a naval task force, featuring advanced weapons like Barak-1 and modern sensors.

P-8I

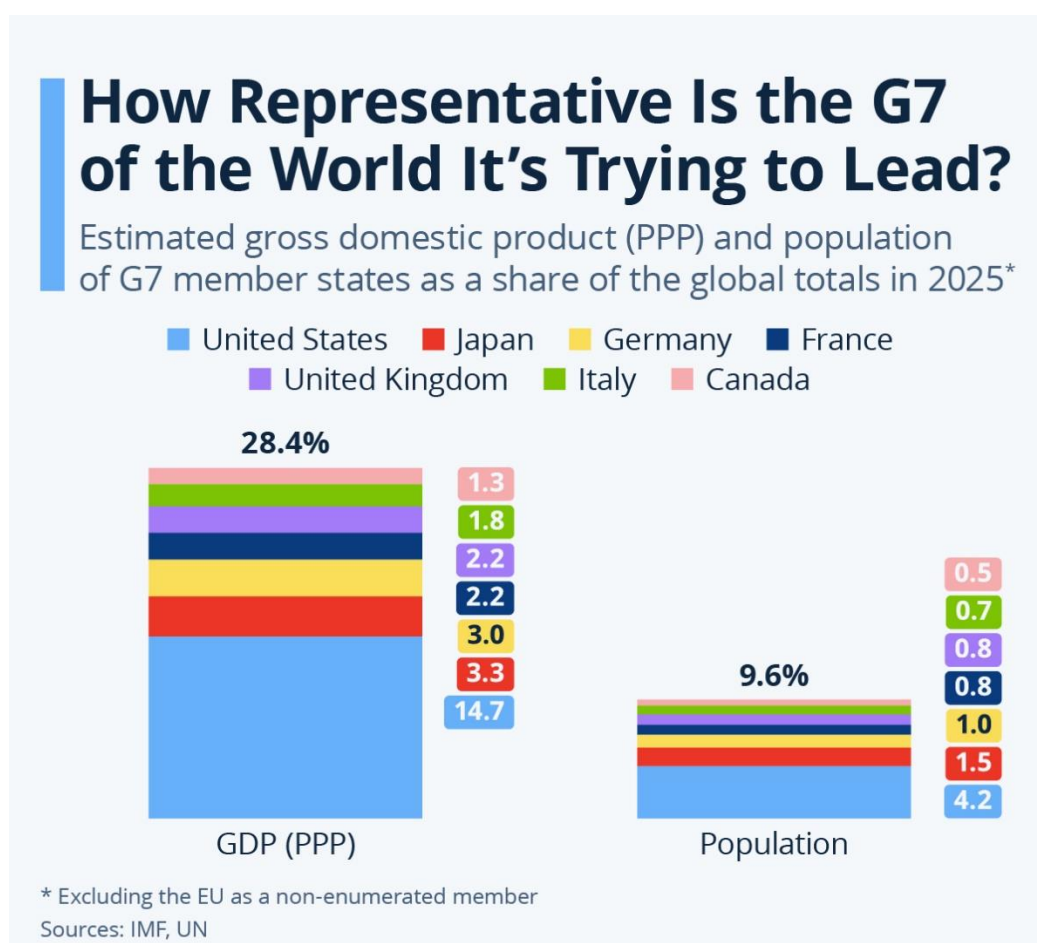
- The P-8I is a long-range maritime patrol and anti-submarine aircraft, developed by US Boeing for India.

- With a range of over 1,200 nautical miles and a speed of 907 kmph, it detects and neutralizes threats far from Indian shores, enhancing maritime security.

51st G-7 Summit

Context: India's Prime Minister attended the 51st G7 Summit at Kananaskis, Canada. Though India is not a part of the G7 grouping, it has been invited for the global summit each year for the last six years and twelve times in total as an outreach country.

- **The President of the European Commission was invited to attend the G7 Summit for the first time.**



Key Outcomes of the Summit:

- **Kananaskis Wildfire Charter:** It commits to addressing wildfire threats through science-based, local actions and nature-based solutions, aligning with the goal to halt and reverse deforestation and land degradation by 2030 under the Glasgow Leaders' Declaration (2021).

- **G7 Critical Minerals Action Plan:** It focuses on **diversifying critical mineral** production, boosting investment and local value creation, and promoting innovation, building on the 2023 Five-Point Plan for Critical Minerals Security (also endorsed by India).
- **RISE:** The G7 also committed to strengthening the World Bank-led Resilient and Inclusive Supply Chain Enhancement (RISE) Partnership.
- **Condemned Transnational Repression (TNR):** The G7 condemned Transnational Repression (TNR), which refers to aggressive foreign interference where states or their proxies seek to intimidate, harass, harm, or coerce individuals or communities beyond their own borders.
- **Prevent Migrant Smuggling:** G7 committed to preventing migrant smuggling through the G7 Coalition to Prevent and Counter the Smuggling of Migrants and the 2024 G7 Action Plan targeting this issue.

About G-7:

- The G7 (Group of Seven) is an informal forum of the world's most advanced economies — France, Germany, Italy, the UK, Japan, the US, and Canada.
- The European Union (EU) participates as a non-enumerated member, with leaders from the International Monetary Fund (IMF), World Bank, and United Nations (UN) often invited to its meetings.
- The G7 was formed in 1975 as the G6 (US, UK, France, West Germany, Japan, Italy) in response to the 1973 oil crisis and financial turmoil, with Canada joining in 1976 to make it G7. The year 2025 marked the 50th anniversary of the G7.
- It became G8 in 1997 with the inclusion of Russia, but reverted to G7 in 2014 after Russia's expulsion over the annexation of Crimea.

India-Japan

Context: India and Japan have held high-level bilateral discussions to deepen cooperation in maritime affairs, including port digitisation, shipbuilding, and the employment of Indian seafarers, marking a new phase in strategic maritime collaboration.



Key Highlight about India-Japan Maritime Relation:

- a. **Investment and Infrastructure:** Japan showed interest in investing in Indian shipyards and port infrastructure, such as Imabari Shipbuilding's proposed Greenfield project in Andhra Pradesh.
- b. **Port Digitisation:** Agreement on enhancing digital technologies in port operations to improve efficiency and reduce carbon emissions.
- c. **Smart Islands Development:** Japan to assist India in converting Andaman & Nicobar and Lakshadweep into smart, green islands using renewable energy and disaster-resilient systems.
- d. **Employment and Training:** Japan expressed interest in employing skilled Indian seafarers; India has over 1.54 lakh trained personnel available.
- e. **R&D and Technology Transfer:** Collaboration in next-gen ship design, sustainable maritime tech, and increased cooperation in research through Indian agencies and Cochin Shipyard Limited (CSL).

Over view of India-Japan Relations:

- a. **Strategic Partnership:** Both nations share the Indo-Pacific vision (Free and Open Indo-Pacific and Indo-Pacific Oceans Initiative), work under the Quadrilateral Security Dialogue and Supply Chain Resilience Initiative frameworks to counter China's dominance in the region.
- b. **Economic Engagement:** Bilateral trade was United States Dollar 21.96 billion in Financial Year 2022-23; target of five trillion-yen (Rs 3.2 lakh crore) investment by 2027.
- c. **Infrastructure Development:** Joint ventures in Mumbai-Ahmedabad Bullet Train and North-East development align with Japan's Partnership for Quality Infrastructure model.
- d. **Energy and Technology Collaboration:** Clean Energy Partnership (2022), civil nuclear agreement (2017), and Lunar Polar Exploration Mission with Indian Space Research Organisation and Japan Aerospace Exploration Agency.
- e. **People-to-People Ties:** Programmes like Technical Intern Training Programme and Specified Skilled Worker help India supply skilled manpower to Japan's aging economy.

Challenges in Bilateral Ties:

- a. **Trade Imbalance:** Comprehensive Economic Partnership Agreement has not yielded expected growth and India's exports remain low due to non-tariff barriers and strict standards.
- b. **Foreign Direct Investment Limitations:** Japan's total Foreign Direct Investment in India is still a small share of its global investment footprint.

- c. **Geopolitical Divergences:** Different approaches to China and Russia; Japan aligns more with United States strategy while India maintains strategic autonomy.
- d. **Project Delays:** High-speed rail and Asia-Africa Growth Corridor have faced slow implementation due to procedural bottlenecks.

Significance of the Maritime Agreement:

- a. **Strategic Leverage:** Enhances maritime security, strengthens port connectivity, and supports India's Indo-Pacific strategy.
- b. **Green Shipping Push:** Aligns with India's Maritime India Vision 2030 and Maritime Amrit Kaal Vision 2047 for carbon-neutral logistics.
- c. **Employment Boost:** Leverages India's large seafaring workforce and creates new skilled job avenues.
- d. **Innovation and Technology Transfer:** Fosters sustainable maritime innovation through Japanese technology and research and development partnerships.

Way Forward:

India-Japan maritime cooperation represents a convergence of economic, strategic, and environmental interests. As both nations navigate regional challenges, this partnership can serve as a model for Indo-Pacific collaboration. Strengthening maritime ties will be pivotal for a resilient and secure maritime future.

Interpol published India's first-ever silver Notice

Context: India has successfully leveraged INTERPOL's newly introduced Silver Notice system to trace assets and seek international cooperation in tracking down economic fugitives.

INTERPOL:

- **INTERPOL, officially the International Criminal Police Organization**, is the world's largest international police organization, facilitating global police cooperation in combating transnational crime.
- With 196 member countries, including India, it serves as a vital platform for sharing criminal intelligence and coordinating investigations across borders.
- INTERPOL's core function is to enable police forces worldwide to work together, even when diplomatic relations are strained, to address issues like terrorism, cybercrime, and human trafficking

About INTERPOL SILVER NOTICE:

INTERPOL Silver Notice: Launched in 2025, it helps trace and recover criminal assets, combat transnational organized crime, and enhance international police cooperation.

- It is currently in a pilot phase involving 51 countries, which will run until November 2025. During this period, each country can request up to nine Silver Notices.
- In India, the Central Bureau of Investigation (CBI) acts as India's nodal agency for Interpol-related matters. It coordinates requests from all Indian law enforcement agencies seeking Interpol's international assistance.

BHARATPOL, developed by the CBI, gives both central and state agencies real-time access to INTERPOL data. It streamlines cooperation against transnational crimes like cybercrime and trafficking, and simplifies Red Notice processing.

Interpol's Colour-coded Notices System: INTERPOL notices are requests for cooperation or alerts shared among police in 196 member countries.

Interpol issues nine colour-coded notices for various purposes; it is issued by INTERPOL's General Secretariat on request from a country's National Central Bureau (NCB).

It can also be issued at the request of International Criminal Tribunals and the International Criminal Court to seek persons wanted for committing crimes within their jurisdiction, notably genocide, war crimes, and crimes against humanity.

They may also be issued on behalf of the UN Security Council to enforce its sanctions.

COLOUR-CODED INTERPOL NOTICES AND WHAT THEY SIGNIFY	
There are seven types of notices that help in tracing miscreants hiding in foreign countries or in announcing alerts on suspicious objects	
Red For tracing miscreants against whom a chargesheet has been filed in court	
Blue This helps countries share alerts on suspects and respond to requests on information about wanted persons	
Yellow To locate missing persons, minors in particular	
Orange To warn against any imminent threat from a person, object, material	
hidden in parcels, disguised weapons and other hazardous substances	Green To alert foreign countries about repeat offenders involved in sex-related crimes and cybercrimes
	
	Purple This is meant to track, arrest and deport members of international crime syndicates, involved in piracy and drug smuggling
	
	Black To identify unidentified dead bodies believed to be of foreign nationals
	

Significance of INTERPOL SILVER NOTICE:

- Asset Tracing and Recovery:** The primary purpose of the Silver Notice is to enable member countries to request and share information about assets linked to criminal activities such as fraud, corruption, drug trafficking, and environmental crimes, facilitating their tracing and recovery

- b. **Combating Transnational Organized Crime:** It provides a crucial tool in the fight against money laundering and the illicit flow of funds across borders, which are integral to transnational criminal organizations.

Enhanced International Cooperation:

The notice strengthens international police cooperation by providing a structured mechanism for countries to collaborate in identifying and seizing criminal proceeds hidden globally.

Pilot Phase and Implementation:

Launched in 2025, it is currently in a pilot phase involving multiple countries, including India, indicating its growing importance in global law enforcement efforts.

In NEWS

Operation SINDHU

Context: The first flight under Operation Sindhu carrying 110 Indian students evacuated from Iran amid the escalating Iran-Israel conflict landed safely in New Delhi.

What it is?

Operation Sindhu is a government-led evacuation mission to safely bring back Indian nationals trapped in conflict-affected regions of Iran.

Launched By:

Ministry of External Affairs (MEA), Government of India o Supported by Indian Embassies in Iran and Armenia **Objectives:**

- To ensure the safe evacuation of Indian citizens, especially students, from war affected regions of Iran.
- To coordinate safe passage via Armenia due to volatile conditions inside Iran.

Mission Name	Aim
Vande Bharat Mission	- Evacuation of Indians stranded abroad during COVID-19 (2020)
Operation Devi Shakti	- Evacuation from Afghanistan after Taliban takeover (2021)
Operation Ganga-	Evacuation of Indians from Ukraine war zones (2022)
Operation Kaveri-	Rescue of Indian citizens from Sudan conflict (2023)
Operation Ajay-	Return of Indians from Israel during conflict (2023)
Operation Sindhu-	Ongoing evacuation from war-hit Iran (2025)

Cyprus confers its highest civilian honour on PM Modi

Cyprus President Nikos Christodoulides conferred the award ‘**Grand Cross of the Order of Makarios III**’ on the Prime Minister.

The Order of Makarios III is the senior order of knighthood awarded by the country named after the first President of Cyprus, Archbishop Makarios III.



Science and Technology

BharatGen: India's First AI Multimodal LLM

Context: The Union Minister of State (IC) for Science & Technology launched “BharatGen LLM” at the BharatGen Summit 2025.

The summit is India's largest event focused on Generative Artificial Intelligence (AI) and Large Language Models (LLMs).

BharatGen

About: It is India's first indigenously developed, government-funded Multimodal Large Language Model (LLM) in 22 Indian languages.

- Multimodal LLMs are large language models trained on diverse data types (text, images, audio, and video), enabling them to understand and interpret complex human language and multimedia.

- They overcome limitations of uni-modal models (such as earlier versions of ChatGPT) by providing cohesive responses across multiple data forms.

Developed Under: National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS), implemented by the TIH Foundation for IoT and IoE at IIT Bombay.

NM-ICPS was launched in 2018 by the Ministry of Science and Technology to promote innovation and R&D in Cyber-Physical Systems (CPS) and new-age technologies.

Objectives: Promote ethical, inclusive, multilingual AI rooted in Indian values, provide region-specific solutions in healthcare, agriculture, education, and governance, and boost rural telemedicine with AI doctors speaking native languages.



India's first Polar Research Vessel

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Context: Garden Reach Shipbuilders and Engineers Limited (GRSE), a Government of India undertaking, has signed a MoU with Norway's Kongsberg firm to develop India's first indigenously built Polar Research Vessel (PRV).

Polar Research Vessel:

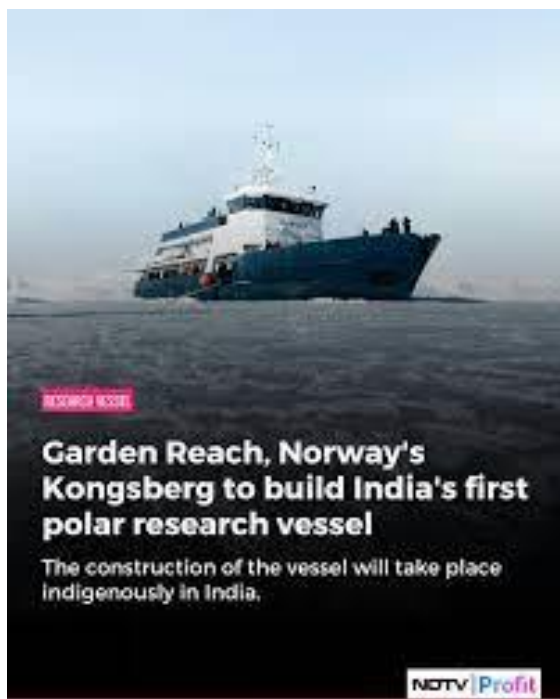
- A PRV is a ship that supports research in the Polar Regions (around the North and South Poles) and ocean areas, tailored to the needs of the National Centre for Polar and Ocean Research.
- PRV will support India's polar and ocean research missions, strengthening its existing three research stations: Bharati and Maitri in Antarctica, and Himadri in the Arctic.

- The vessel will be equipped with advanced scientific instruments to explore marine ecosystems and deep-sea biodiversity in polar and southern ocean realms.

MAHASAGAR (Mutual and Holistic Advancement for Security across the Regions)

- The Project will reinforce India's commitment to MAHASAGAR
- Under Sagarmala 2.0, India aims to become a global maritime leader by bridging infrastructure gaps and enhancing shipbuilding, repair, and recycling.

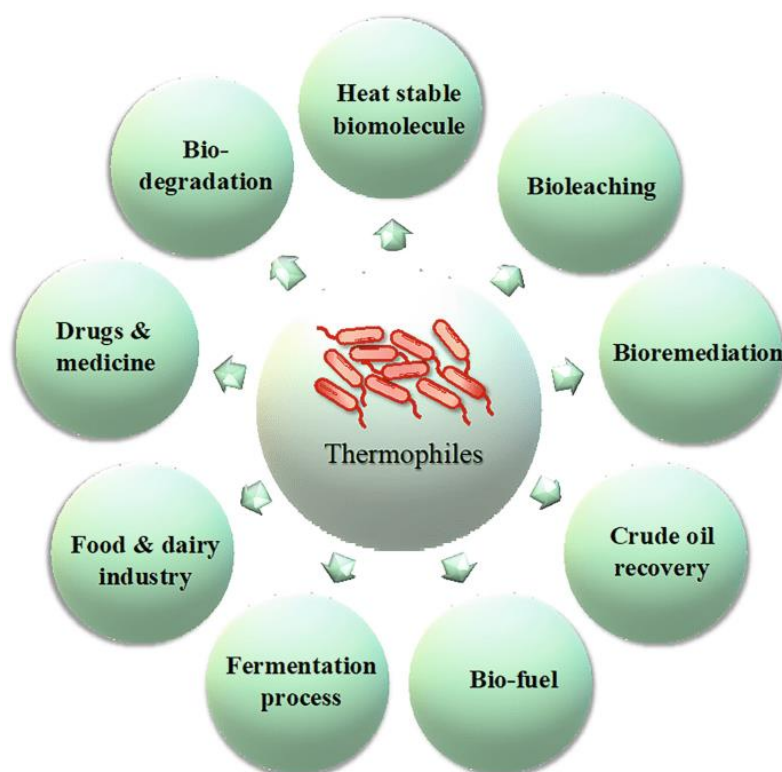
The collaboration with Norway also aligns with India's 'Make in India' and Atmanirbhar Bharat goals by boosting indigenous shipbuilding capability.



Thermophilic Bacteria for AMR Treatment

Context: Thermophilic bacteria thriving in extreme heat environments like hot springs in Rajgir (Bihar) hold great promise as sources of potent antibiotics against resistant bacteria and have significant industrial and agricultural applications.

They are classified as extremophiles because they can survive and even flourish where most other life forms cannot. These bacteria are of particular interest due to their potential for producing antimicrobial compounds and enzymes with industrial applications.



Rajgir hot springs were studied using 16S rRNA metagenomics to identify microbial diversity, especially focusing on antibiotic producers.

Significance of the Study:

The extraction of potent antibacterial compounds is vital to combat antimicrobial resistance (AMR)—a silent epidemic fuelled by antibiotic overuse.

AMR has increased healthcare costs, often requiring multiple antibiotics per infection, with the WHO projecting global healthcare costs to reach USD 1 trillion by 2050.

About Thermophilic Bacteria:

Thermophilic bacteria (heat lovers) inhabit hot springs, deep-sea vents, and compost piles, exploiting mineral-rich, low-competition niches.

Thermophiles from Saudi Arabia produce antibiotics effective against gram-positive pathogenic bacteria.

Application: PCR test enzyme (used for Covid-19) and a bacterial combination from a Leh hot spring promote plant growth.

Nanozyme

In News: Researchers at the Indian Institute of Science (IISc.) recently developed an artificial metal-based nanozyme that can potentially be used to clamp down on abnormal blood clotting caused by conditions like pulmonary thromboembolism (PTE).

Nanozymes:

A nanozyme is a nanomaterial (1–100 nm) that mimics the activity of natural enzymes, catalyzing biochemical reactions like biological enzymes.

Nanozymes can be made from various materials, such as metals, metal oxides, carbon-based substances, and metal-organic frameworks (MOFs).

- Normal blood clotting (haemostasis) involves platelets clustering at injury sites, triggered by signals from physiological agonists like collagen and thrombin.
- In disorders like PTE or Covid-19, oxidative stress and toxic Reactive Oxygen Species (ROS) increase, causing excessive platelet activation and dangerous clot formation (thrombosis).
- Redox-active nanomaterials (nanozymes) mimic natural antioxidant enzymes, helping scavenge reactive oxygen species (ROS) and prevent platelet over-activation.
- Among them, spherical-shaped vanadium pentoxide (V_2O_5) nanozymes were most effective, mimicking glutathione peroxidase, a key natural antioxidant enzyme.

It could help prevent ischemic stroke caused by blood vessel blockages and may also aid in managing Covid-19-related clotting complications.

India's First Variable Speed Pumped Storage Plant (VSPSP) Begins Operations in Uttarakhand's Tehri

In NEWS: Tehri Hydro Development Corporation India Limited (THDCIL) announced start of commercial electricity supply from first unit (250 MW) of 1 GW Tehri Pump Storage Plant located on the Bhagirathi River.

- VSPSP is a hydroelectric power plant that uses variable speed technology to adjust the speed of the turbines and pumps, offering greater flexibility and efficiency than traditional PSPs.
-

What is Pumped Storage Plant?

It is a **configuration of two water reservoirs at different elevations** that can generate power as water moves down from one to

The other (discharge), **passing through a turbine.**

Principal of Operation:

It uses **principle of gravitational potential energy** to store and generate electricity.

It is a type of **hydroelectric long duration energy storage.**

Working:

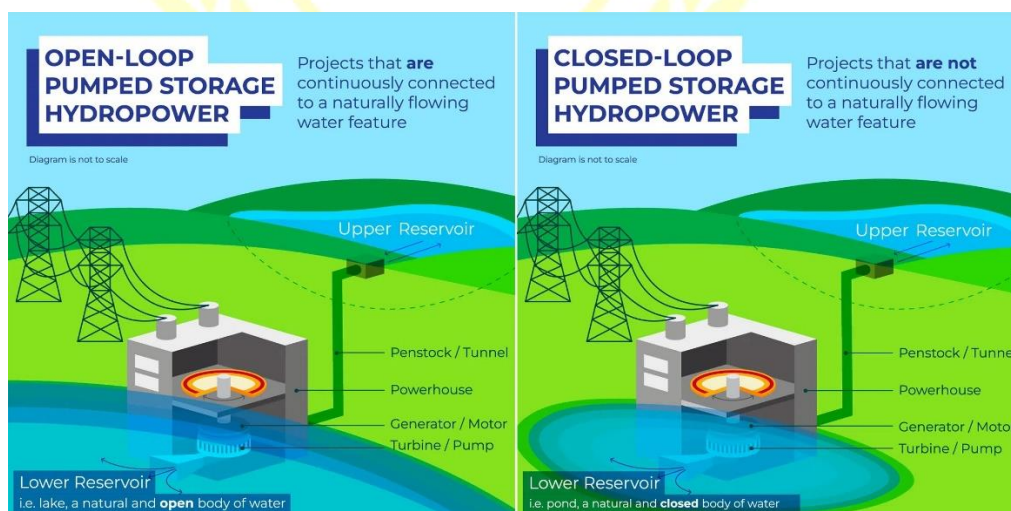
When the demand for electricity is low and there is **abundant renewable energy** available from wind or solar sources this excess energy is used **to pump water to upper reservoir.**

During **periods of high electricity demand**, the stored water is **released back down to the lower reservoir through turbines**, generating electricity.

Types: PSP can be characterized as open-loop or closed-loop

Status of pump-storage Hydropower in India

Installed Hydro Pumped Storage Project capacity: In India it is approximately 4.8 GW (February 2025). Around 175 GW of pumped hydro storage capacity is installed worldwide as of 2022, with leading countries being **China, followed by Japan, and the United States.**



Portulaca Bharat

In News: A new flowering plant species, **Portulaca Bharat**, has been discovered in the rocky and semi-arid landscape of the Aravali hills near Jaipur. This addition to the list of Indian endemics highlights the region's hidden biodiversity.



Key Characteristics and Classification

- **Morphology:** Opposite and slightly concave leaves, pale-yellow flowers turning creamish-white towards the apex.
- **Classification:** Provisional assessment as "data deficient" under the IUCN Red List guidelines due to its narrow endemism and specific habitat requirements.
- **Habitat:** Highly vulnerable to habitat degradation and climate change, known from a single location near the Galtaji hills.

Significance and Conservation

- **Genus *Portulaca*:** Comprises about 153 species worldwide, with 11 known species in India, including four endemics.
- **Conservation Needs:** Calls for enhanced field surveys, habitat protection, and ex situ conservation efforts, especially in dry zones like the Aravalis.
- **Symbolism:** Naming it *Portulaca Bharat* serves as a reminder of India's rich natural heritage and opens new avenues for studies in phytogeography, ecology, and evolutionary biology.

AXIOM-4 MISSION

In News: It is NASA's fourth all private astronaut mission to the International Space Station. Shubhanshu Shukla will be India's second national astronaut to go to space since 1984. Other Crew members are from USA, Poland and Hungary.

About Axiom Mission 4

- Axiom Mission 4 (Ax-4) is the fourth private astronaut mission to the International Space Station (ISS), organized by Axiom Space in collaboration with NASA, SpaceX, and ISRO.



Objectives:

- Enable commercial activities in low Earth orbit, including space tourism and private research.
- Demonstrate the feasibility of commercial space stations as platforms for business and science.
- Strengthen international collaboration in space exploration.
- Conduct scientific experiments in microgravity, focusing on materials science, biology, Earth observation, and life sciences.

Launch Vehicle & Capsule: First flight of Crew Dragon C213—the fifth and final new Dragon capsule—to be launched atop a Falcon-9 Block 5 from LC-39A, Kennedy Space Centre.

Axiom Space's 14-day mission aboard the ISS will conduct **scientific experiments, tech demonstrations, and educational outreach**, advancing its goal to build the **first commercial space station** and transition from **ISS reliance to an independent orbital platform**.

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Key Experiment:

- **Physical and cognitive impact** of using computer screens in microgravity.
- **Behaviour and response of tardigrades** (water bears) in space
- Impact of spaceflight on **six varieties of crops** specifically on **moong dal**.
- Growth rate, cellular responses, and biochemical activity of **cyanobacteria** (a group of bacteria that are known to produce energy through **photosynthesis** just like plants).

Significance for India:

- a. Strengthens Indo-US space collaboration through ISRO-NASA partnership while conducting 10 critical experiments (microgravity, seed growth, tardigrade studies) to validate research for Gaganyaan mission (2027).
- b. Boosted the success of Gaganyaan mission by providing hands-on experience for Gaganyaan crew training, advancing astrobiology research, and positioning India as a key player in future commercial space stations.

Tardigrades (also known as water bears or moss piglets) are microscopic, eight-legged organisms about 0.5 mm long that feed on plant and algae fluids.

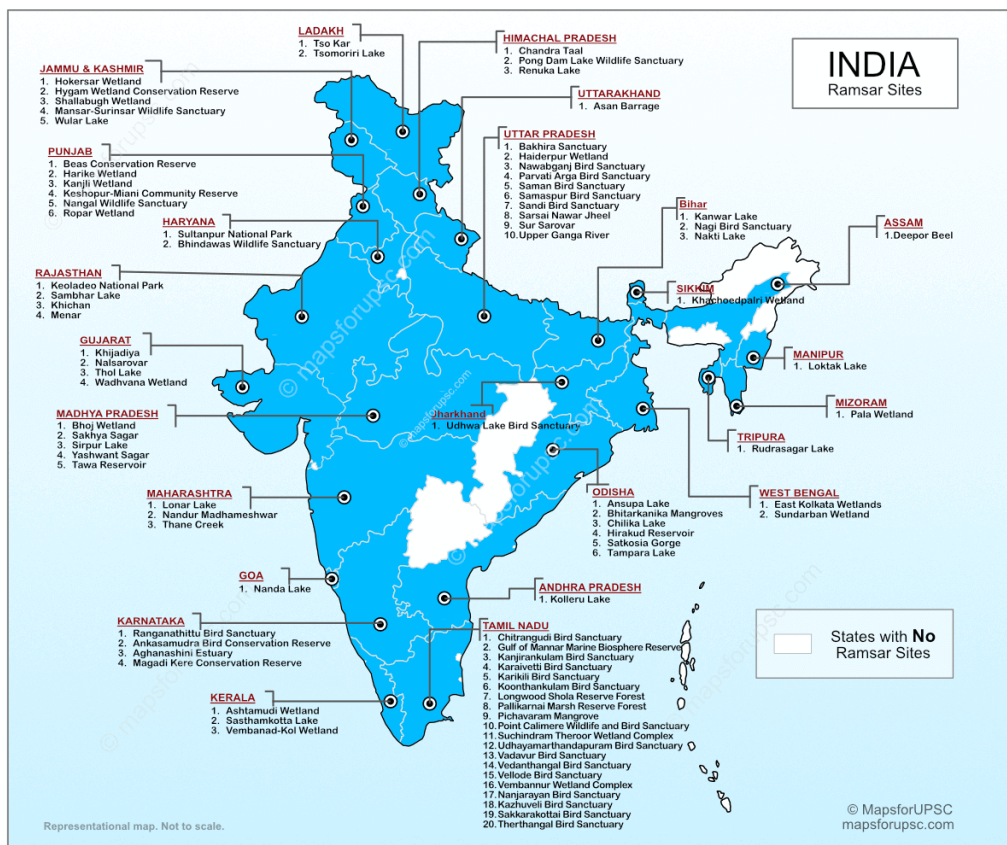
- They've existed for ~600 million years and survived all five mass extinctions, making them one of the most resilient life forms on Earth.
- They are found in diverse moist habitats—from mountaintops to deep seas—and are known for their extreme durability.

Zero-G indicator is a small item, often a plushie (soft, stuffed toy), that provides astronauts a visual cue that they have entered a state of weightlessness. The zero-G indicator for the Axiom-4 mission is a swan plushie named 'Joy'.

Environment and Ecology

India adds two more Wetland into RAMSAR list

In News: Two wetlands in Rajasthan, Khichan and Menar were declared Ramsar Sites on world environment day 2025, raising India's total count to 91.



- With the addition of these wetlands, Rajasthan now has four Ramsar sites, including Sambhar Salt Lake and Keoladeo Ghana National Park in Bharatpur.

Ramsar Convention on Wetlands

- Genesis: The Convention was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975.
- About: It is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources.
- Almost 90% of UN member states have acceded to become "Contracting Parties".
- India became a party to the Ramsar Convention on February 1, 1982.
- India has the highest number of Ramsar sites in Asia.
- To be designated a "wetland of international importance," a wetland must meet at least one of nine criteria established by the Ramsar Convention on Wetlands.

The Ramsar sites in India span diverse ecosystems, from high-altitude lakes to coastal mangroves and urban marshlands. Previously, on February 2, 2025, the following four wetlands were designated as Ramsar sites:

- Sakkarakottai Bird Sanctuary (Tamil Nadu)

- Therthangal Bird Sanctuary (Tamil Nadu)
- Khecheopalri Wetland (Sikkim)
- Udhwa Lake (Jharkhand)

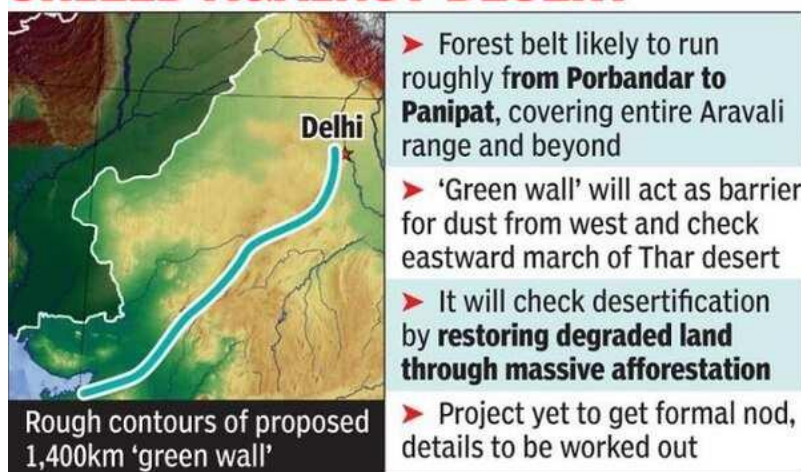
These sites, designated under the Ramsar Convention, operate as critical habitats for diverse flora and fauna and provide essential ecosystem services to local communities.

World Environment Day

Context: **World Environment Day is being celebrated on 5th June 2025, with South Korea (Republic of Korea) serving as the global host.**

Additionally, the Prime Minister will plant a Banyan sapling under the **Ek Ped Maa Ke Naam** initiative as part of the **'Aravalli Green Wall project'**.

SHIELD AGAINST DESERT



THEME for 2025: Beat Plastic Pollution

According to the United Nations, "The celebration of this day provides us with an opportunity to broaden the basis for an enlightened opinion and responsible conduct by individuals, enterprises, and communities in preserving and enhancing the environment."



Objectives of World Environment Day

The objectives of World Environment Day are:

- To educate the public about pressing environmental issues and the importance of sustainable practices.
- To mobilize individuals, communities, and organizations to participate in activities that promote environmental protection and conservation.
- To advocate for the adoption of eco-friendly habits and technologies in daily life and across industries.
- To draw attention to global environmental challenges such as climate change, deforestation, pollution, and biodiversity loss, among others.
- To encourage collaboration between countries, organizations, and communities to address environmental issues collectively.
- To promote policies and initiatives that aim to protect the environment and ensure sustainable development.

- To recognize and celebrate the efforts and successes of individuals, organizations, and countries in environmental conservation and sustainability.
- To involve young people and local communities in environmental initiatives to foster a sense of responsibility and stewardship for the planet.

Clean Plant Programme

In News: Recently, the union government has launched the 'Clean Plant Programme' for grapes, oranges and pomegranates from Maharashtra.

About Clean Plant Programme

It is an initiative by the Indian Government aimed at boosting the availability of disease-free and high-quality planting material for horticultural crops, such as fruits, vegetables, and flowers.

- Its focus is to enhance the productivity and quality of horticultural produce by ensuring that farmers have access to certified, disease-free planting material, which can significantly reduce crop losses and improve yields.

The programme consists of three key components

- **Establishment of Nine Clean Plant Centers (CPCs):** These centres will offer disease diagnostics and treatments, develop mother plants for nurseries, and quarantine all domestic and imported planting materials intended for commercial propagation and distribution.
- **Infrastructure Development:** This includes setting up large-scale nurseries to efficiently multiply clean planting material. The mother plants produced by the CPCs will be propagated in these nurseries and then distributed to farmers.
- **Regulatory and Certification Framework:** A robust regulatory and certification process will be created to ensure complete accountability and traceability in the production and distribution of planting material.

Implemented by: It is implemented by the Ministry of Agriculture and Farmers Welfare through the National Horticulture Board (NHB) and the Indian Council of Agricultural Research.

Greater Flamingo Sanctuary

In News: The Tamil Nadu officially notified a Greater Flamingo Sanctuary in Dhanushkodi to safeguard critical wetland habitats along the Central Asian Flyway.

The sanctuary covers over 500 hectares and forms part of the Gulf of Mannar Biosphere Reserve.

Tamil Nadu government notifies greater flamingo sanctuary at Dhanushkodi



Safe zone: Flamingos in Dhanuskodi, Ramanathapuram district. As per the latest bird survey, Dhanushkodi region has over 10,700 wetland birds, representing 128 species. L. BALACHANDAR

About Dhanuskodi Sanctuary:

- A newly notified wildlife sanctuary aimed at protecting migratory wetland birds, especially greater flamingos, in their natural stopover habitat.
- Location: Situated in **Ramanathapuram district**, Tamil Nadu.
- Spans **7 hectares** of revenue and forest land within **Rameshwaram taluk**.

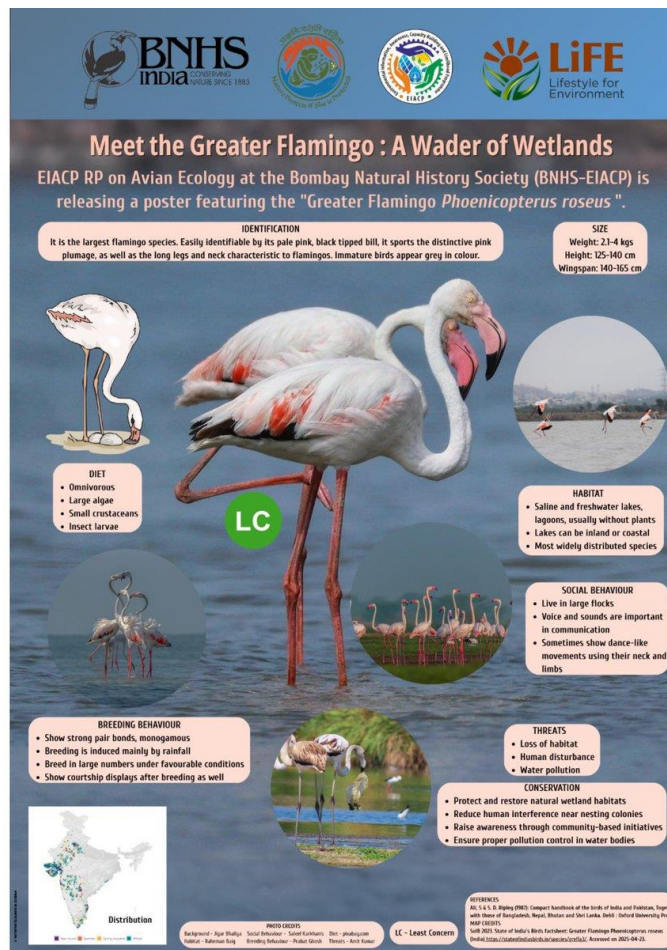
Ecological Features:

- Located within the [Gulf of Mannar Biosphere Reserve](#), one of India's richest marine ecosystems.
- Home to **128 bird species** including flamingos, herons, sandpipers, and egrets.
- Hosts [mangroves](#) (*Avicennia* and *Rhizophora*), mudflats, marshes, and sand dunes.
- Recorded over **10,700 wetland birds** in the 2023–24 bird survey.
- Supports **sea turtle nesting** and other marine biodiversity.

Significance:

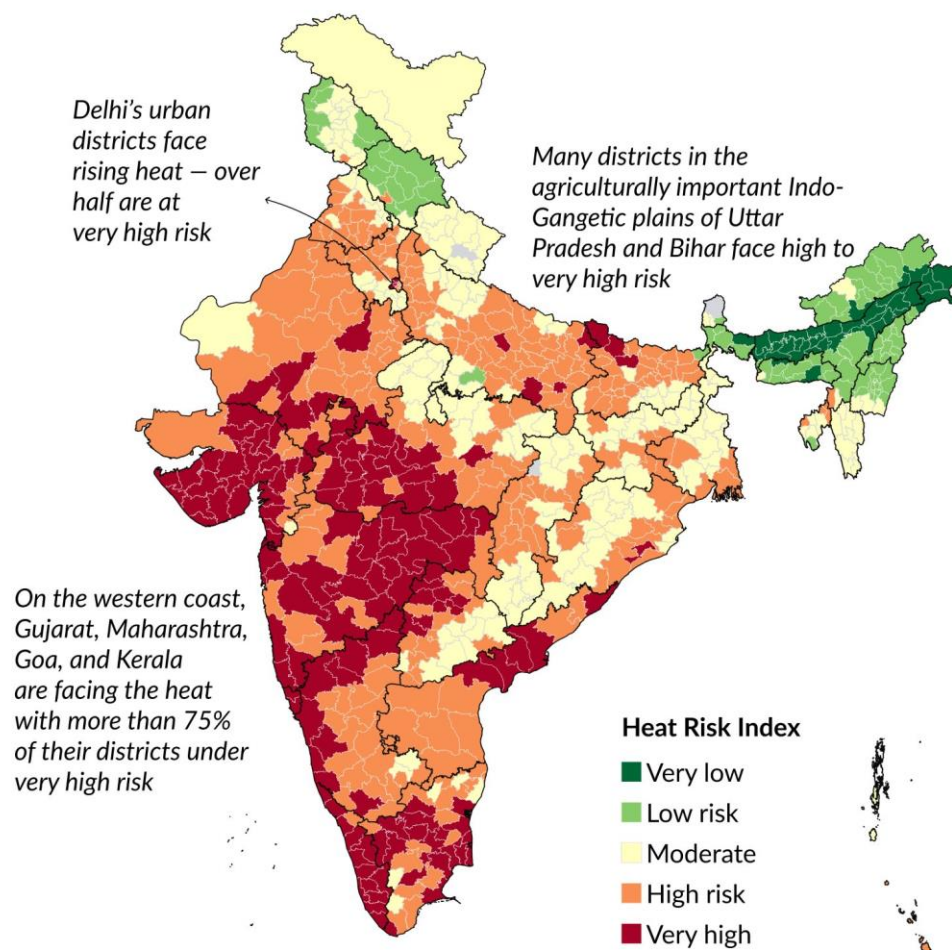
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- Serves as a vital node on the Central Asian Flyway for migratory birds.
- Enhances ecotourism, biodiversity conservation, and local livelihood generation.
- Provides natural protection against coastal erosion and climate impacts.





57% of Indian districts, home to three-fourths of the population, now face high to very high heat risk



Source: How extreme heat is impacting India (2025)

Note: Grey indicates no data available

States facing the highest risk include Delhi, Maharashtra, Goa, Kerala, Gujarat, Rajasthan, Tamil Nadu, Andhra Pradesh, Madhya Pradesh, and Uttar Pradesh.

The Council on Energy, Environment and Water (CEEW), based in New Delhi, is one of the world's leading and best-managed independent climate think tanks

Heat Risk is not the same as Heat waves or Heat stress

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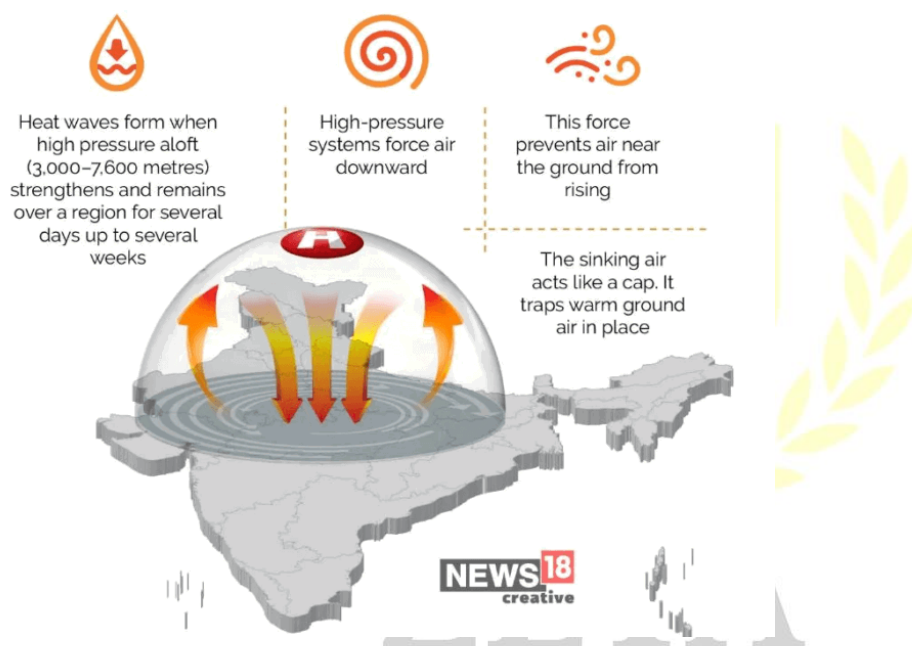
Heat waves: heat waves are essentially prolonged periods of abnormally high temperatures in a specific region.



ANATOMY OF A HEATWAVE

What causes a heatwave?

Heatwaves are generally the result of trapped air. They occur when a system of high atmospheric pressure moves into an area and lasts two or more days



Heat stress:

- Occurs when the body temperature exceeds 37°C.
- Body struggles to release excess heat, causing discomfort, cramps, and exhaustion.
- If body temperature exceeds 40°C, it may lead to heat stroke.

Heat Risk:

Heat risk refers to the potential for experiencing heat-related illnesses or death due to exposure to extreme temperatures. It's not just about the intensity of the heat, but also about who is exposed and how vulnerable they are.

Warmer nights, more humidity: Why 57% of districts face extreme heat risk

ALIND CHAUHAN
NEW DELHI, JUNE 17

AROUND 57% of Indian districts, where about 70% of the country's population lives, are at high or very high risk from extreme heat, a recent study found. Delhi, Maharashtra, Goa, Kerala, Gujarat, Rajasthan, Tamil Nadu, Andhra Pradesh, Madhya Pradesh, and Uttar Pradesh face the highest risk from heat, the analysis suggests.

Titled 'How Extreme Heat is Impacting India: Assessing District-level Heat Risk', the study by the Council on Energy, Environment and Water (CEEW) was published on May 20.

What is heat risk?

Heat risk is not the same as heat waves and heat stress.

While they do not have a universal definition, heatwaves are essentially prolonged periods of abnormally high temperatures in a specific region.

Heat stress occurs when the body's internal temperature rises due to an inability to effectively dissipate heat, leading to discomfort, cramps, exhaustion, and beyond a certain threshold, heat strokes.

On the other hand, heat risk is the probability of experiencing heat-related illnesses or death due to exposure to extreme temperatures. It depends on three crucial factors: "the intensity of the heat (and its compounding effects such as humidity); the degree of exposure; and the underlying vulnerabilities of affected communities," according to the CEEW study.

To analyse Indians' susceptibility to heat risk, the CEEW researchers developed a heat risk index (HRI) based on 35 indicators, including an increase in frequency of very hot days, population density, percentage of persons with disability, and change in land use and land cover. The analysis covered 734 districts of the country.

EXPLAINED CLIMATE

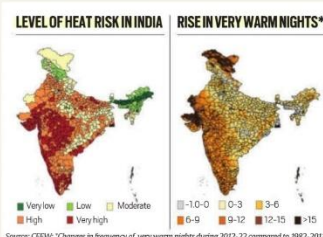
What drives heat risk in India?

The study identifies three key factors.

Warm nights, more common:

Between 2012 and 2022, the number of very warm nights has increased faster than very warm days: more than 70% of districts analysed witnessed five or more additional very warm nights per summer (March to June) during this period, the study found.

This is concerning because higher night temperatures make it difficult for the body to cool down after intense daytime heat. This can increase heat-associated health risks such as heat strokes, and worsen non-



communicable diseases like diabetes and hypertension.

North India more humid: The study found that between 2012 and 2022 the relative humidity—the amount of water that is present in the air compared to the greatest amount it would be possible for the air to hold at that temperature—has significantly increased in North India, particularly

in the Indo-Gangetic Plain.

From a range of 30%–40% relative humidity during the baseline period (1982–2011), relative humidity in 2012–22 rose to 40–50% between 2012 and 2022. Higher relative humidity exacerbates heat stress on the human body, especially during the peak summer months by making it harder for the body to cool down by sweating.

"This can increase the occurrence of several heat-related illnesses at a faster rate," the CEEW study said.

Urbanisation, high population density: The study found that places with high population density, such as Mumbai and Delhi, face the highest exposure to extreme heat.

Districts, especially tier II and III cities such as Pune, Thodhukudi and Gurugram, which have seen rapid urbanisation in recent years have witnessed hotter nights—concrete absorbs a lot of heat during the day and releases it during the night.

Heat risk is also compounded by socio-economic and existing health vulnerabilities (older people are more at risk, so are people with non-communicable diseases such as diabetes).

What is the significance of the findings?

Last year was the warmest on record for the world, including India.

The global average annual mean temperature in 2024 was more than 1.5 degrees Celsius higher than pre-industrial levels (1850–1900 period), and India was roughly 1.2 degrees Celsius warmer than the 1901–1910 average.

India is already witnessing adverse effects of global warming. For instance, in 2024, India saw its longest recorded heat wave since 2010. There were more than

44,000 cases of heat stroke in the country last year. And things are only expected to get worse over the coming years and decades.

Yet India's heat action plans (HAPs)—early warning systems and preparedness plans for extreme heat events—remain lacking in more ways than one.

For example, most of the HAPs put forth by multiple Indian cities lack long-term strategies to tackle the growing threat of extreme heat in the country, according to a study published in March this year, by the Sustainable Futures Collaborative (SFC), a New Delhi-based research organisation. The analysis also said that the cities having such strategies did not implement them effectively.

Such gaps in planning could result in a higher number of heat-related deaths due to more frequent, intense, and prolonged heat waves in the following years, according to the study.

The CEEW analysis said, "These [HAPs] plans have reduced the occurrence of heat-related illnesses and mortalities in the last decade; however, they need further strengthening, since 95 per cent of HAPs lack a detailed assessment of heat risks and vulnerabilities. This gap makes it challenging for authorities to pinpoint and prioritise high-risk areas and allocate financial resources effectively."

Factors determining Heat Risk:

- Heat hazards:** intensity of the heat, including factors like temperature and humidity.
- Exposure to heat:** The degree to which people are exposed to the heat, including duration and frequency
- Vulnerability:** Individual and community factors that make some people more susceptible to heat-related illnesses, such as age, pre-existing conditions, and lack of access to resources like air conditioning.
- Heat waves
- Heat stress

Driving factors of heat risk in India:

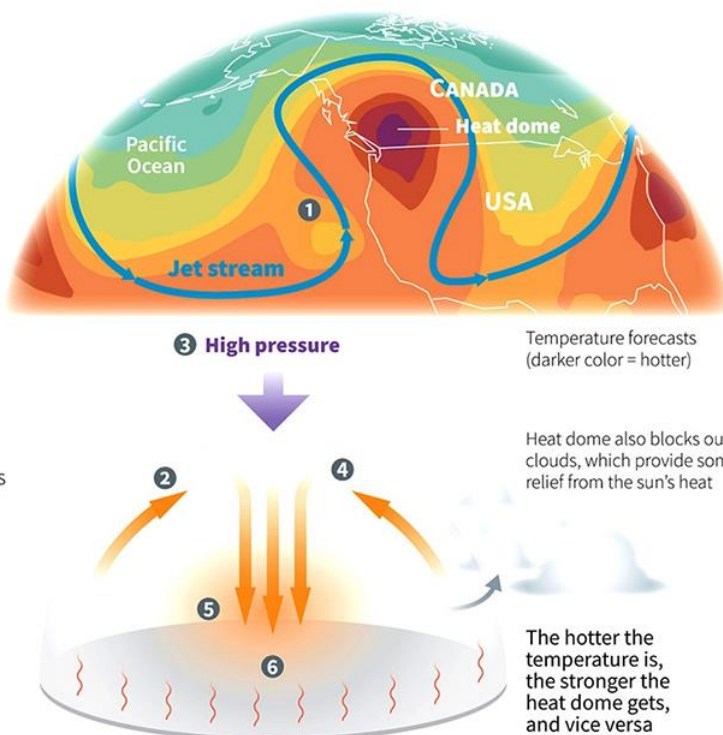
- Warmer nights:** the number of very warm nights have seen a major rise during 2012-2022. High Night temperature makes it difficult for the body to cool down after high a daytime temperature. This can increase the risk of heat stroke, and non-communicable diseases like diabetes and hypertension.
- North-India is more humid:** the relative humidity has increased significantly in North India especially in Indo-Gangetic belt. A high relative humidity exacerbates heat stress in body making it difficult to cool down through sweating.
- Urbanisation and high population density:** rapid urbanisation has caused temperatures to rise. Places like Mumbai, Delhi, Gurugram have witnessed hotter nights than other cities as concrete absorbs high heat during the day and releases it at night.

Heat-Dome:

The 'heat dome'

Occurs when the atmosphere traps hot ocean air like a lid or cap

- 1 In summer, the **jet stream** (which moves the air) shifts northward
- 2 Hot and stagnant air expands upwards
- 3 Strong and **high-pressure** atmospheric conditions combine with influences from La Nina act like a dome or cap
- 4 In a process known as **convection**, hot air attempts to escape but high pressure pushes it back down
- 5 Under the dome, the air sinks and **compresses**, releasing more heat
- 6 As winds move the hot air east, the jet stream traps the air where it sinks, resulting in **heat waves**



Key Findings of the Study

- **2024: Warmest Year on Record** 2024 marked the hottest year globally, including in India. Global average temperature was 1.5°C above pre-industrial levels (1850–1900). India's temperature was 1.2°C higher than the 1901–1910 average.
- **India's Climate Impact:** Already Evident India experienced its longest recorded heat wave since 2010. Over 44,000 cases of heatstroke were reported in 2024 alone.
- **Inadequate Heat Action Plans (HAPs):** India's HAPs (early warning and preparedness plans) are often. Lacking long-term strategies, or poorly implemented, even when they exist. According to the Sustainable Futures Collaborative (SFC), this weakens India's response to growing heat threats.
- **Future Risks:** Without stronger planning and execution, heat-related deaths may rise. The country faces increasing threats from more frequent, intense, and prolonged heat-waves.

Significance of the study:

Significance

The year 2024 was the warmest on record, with global temperatures over 1.5°C higher than pre-industrial levels. In India, temperatures were about 1.2°C higher compared to the early 20th century. This has resulted in the longest recorded heat wave since 2010 and over 44,000 cases of heatstroke in 2024. Despite these studies India's Heat action Plan remains inadequate, which should be a cause of concern for the Government.

This study can boost India's preparation to fight climate change due to global warming with more effectiveness.

Ocean Acidification- Evil twin of Global warming

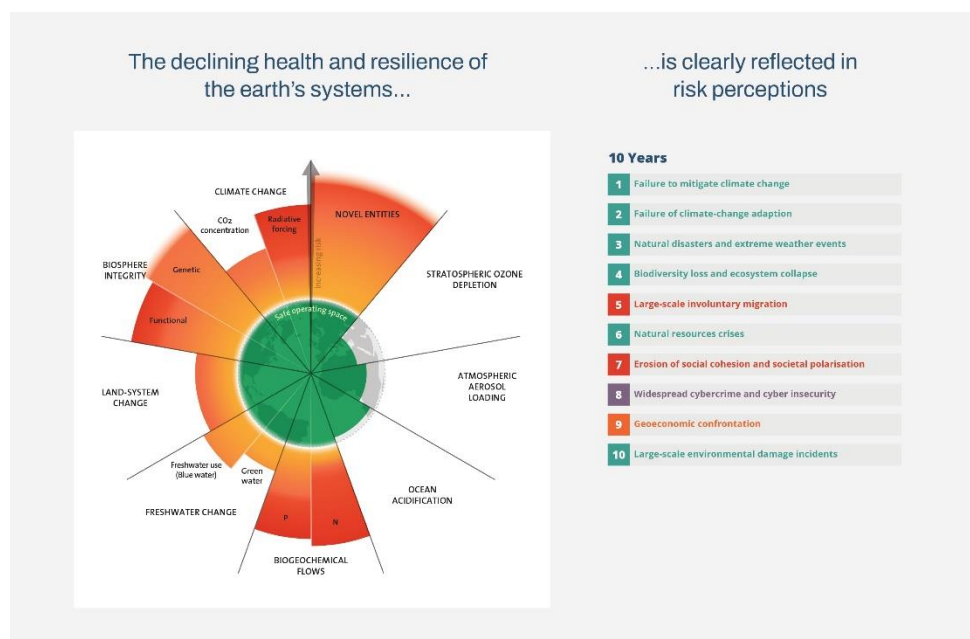
Context: A study proved that Ocean acidification breaches planetary boundary, putting marine ecosystems at severe risk.

Ocean Acidification:

Ocean acidification refers to a reduction in the pH of the ocean over an extended period of time, caused primarily by uptake of carbon dioxide (CO₂) from the atmosphere.

Ocean acidification has been called the "**evil twin of global warming**" and "the other CO₂ problem".

Process of ocean acidification:

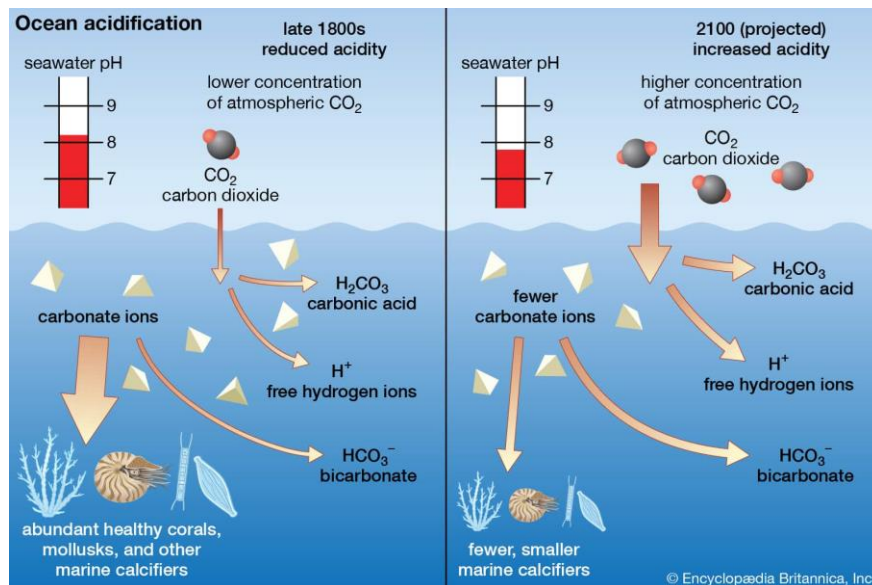


Carbon dioxide (CO₂) from the atmosphere dissolves in the ocean, creating aqueous carbon dioxide (CO₂ (aq)). This dissolved CO₂ reacts with water (H₂O) to form carbonic acid (H₂CO₃). Carbonic acid then breaks down into bicarbonate (HCO₃⁻) and hydrogen ions (H⁺). The increase in hydrogen ions makes the ocean more acidic.

Causes of Ocean Acidification:

- Burning Fossil Fuels:** The most significant contributor is the burning of fossil fuels (coal, oil, and natural gas) for energy production, transportation, and industrial processes.
- Deforestation:** Trees absorb CO₂ from the atmosphere. Deforestation reduces the planet's capacity to remove CO₂, leading to higher atmospheric concentrations and increased absorption by the oceans.
- Industrial Process:** Various industrial activities release CO₂ as a by-product, contributing to the overall increase in atmospheric CO₂.

- While human activities are the dominant cause, natural processes like volcanic eruptions and decomposition of organic matter can also release CO₂ into the atmosphere and oceans, contributing to acidification to a lesser extent.



Impact of Ocean Acidification

- Acidic waters lead to dissolution of calcium carbonate structures (Affecting organisms like corals, shellfish, and plankton) and Ecosystem alterations affecting fisheries and coastal protection.
- Ocean acidification harms phytoplankton, thus reducing ocean's productivity.
- Ocean acidification can indirectly affect cloud formation by impacting the production of dimethyl sulphide (DMS) by phytoplankton.
- DMS is a sulphur compound that acts as a cloud condensation nucleus, meaning it helps form cloud droplets.

Global Wind Day

In News: Every year on 15 June, the world unites to celebrate World Wind Day—a day dedicated to discovering the power of wind and the transformative role it plays in reshaping global energy systems.

India's wind energy capacity:

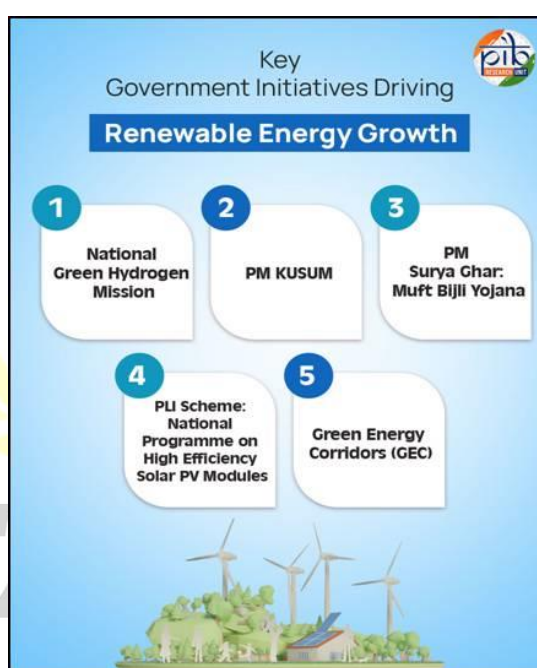
Union Minister for New and Renewable Energy stated on the occasion of Global Wind Day 2025 (15th June) India's total renewable energy capacity grew 17.13 per cent year-on-year to 226.74 gigawatts.

Of the total, solar power capacity expanded 31.49 percent.

Status of wind energy in India:

- **Global status:** India has fourth largest wind power installed capacity and is third largest renewable energy producer in the world.
- **Significant growth:** From 21.04 GW in 2014 to 51.5 in May 2025.
- **Role in Renewable Energy:** Wind power is the second-largest contributor to India's renewable energy mix following solar power.
- **Highest potential states:** Gujarat, Maharashtra, Karnataka, Tamil Nadu, and Andhra Pradesh etc.

Initiatives to Increase Wind production:



- Government initiatives:** The Government, through the National Institute of Wind Energy (NIWE), has deployed over 900 wind-monitoring stations nationwide.
- Wind Potential Mapping:** Wind potential maps have been issued at various heights above ground level, including 50m, 80m, 100m, 120m, and 150m.
- Recent Assessments:** Recent assessments show a gross wind power potential of 695.50 GW at 120 meters and 1163.9 GW at 150 meters above ground level.
- Eight Windy States:** The majority of this potential is concentrated in eight windy states: Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, and Telangana.

Progress of India's Wind Energy Sector: India's wind energy sector, led by indigenous industry, has made steady progress, boasting a manufacturing base of about 15,000 MW per year and ranking fourth globally in installed capacity.

Issues involved in wind power in India

- **Infrastructure Limitations:** Can cause grid instability, adequate transmission infrastructure, lack of mechanism for power evacuation etc.
- **Economic Factors:** Minimum Project Size is very high, High investment Costs and Financial risks due to fluctuating tariffs.
- **Technical Challenges:** Complex Installation and Commissioning, Transportation of equipment in remote areas and Maintenance and Operations.

First assembly of International Big cats Alliance

In News: The first Assembly of the International Big Cat Alliance (IBCA) was held in New Delhi on Monday (June 16), presided over by the Union Minister for Environment, Forests and Climate Change, Bhupender Yadav.

About IBCA

- It is a multi-country, multi-agency coalition of 95 big cat range countries, non-range countries with an interest in big cat conservation.
- These Big Cats include Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar & Puma. (refer to table)
- Genesis: Launched in April 2023 (occasion of 50 years of India's Project Tiger)
- Main Goal: To foster collaboration and synergy by establishing a platform dedicated to sharing best practices in big cat conservation.
- Founding Members (16): Armenia, Bangladesh, Bhutan, Cambodia, Egypt, Ethiopia, Ecuador, India, Kenya, Malaysia, Mongolia, Nepal, Nigeria, Peru, Suriname, & Uganda.

India is the host country & Secretariat for the IBCA.



1. India and Sustainable Development Goals

Context: India has for the first time, secured a place within the top 100 countries in the Sustainable Development Goals (SDG) Index, according to the UN Sustainable Development Solutions Network. It now ranks at 99th place out of 167 countries.

This shows a significant improvement from its previous rankings (e.g. 109th in 2024, 112th in 2023) in the Sustainable Development Goals (SDG) Index.

Key Findings of the 10th Sustainable Development Report (SDR) 2025?

- a. **Global SDG Progress Status:** Projections show that only 17% of SDG targets are on track to be met by 2030, highlighting a significant slowdown in global progress.
- b. **Top Performers:** Nordic countries lead the SDGs rankings, with Finland (1st), Sweden (2nd), and Denmark (3rd); notably, 19 out of the top 20 countries are European. East and South Asia have shown the fastest regional progress since 2015—India ranks ahead of Bangladesh (114th) and Pakistan (140th) but trails Bhutan (74th), Nepal (85th), Sri Lanka (93rd), and Maldives (53rd).
- c. **Successes & Setbacks in SDGs:** Most countries have made strong progress on basic services and infrastructure—notably in mobile broadband and internet use (SDG 9), electricity access (SDG 7), and reducing under-five and neonatal mortality (SDG 3).
- d. **Ranking on Multilateralism:** Barbados, Jamaica, and Trinidad & Tobago are the top 3 countries most committed to UN multilateralism. Brazil ranks highest among G20 nations (25th), and Chile leads Organisation for Economic Co-operation and Development (OECD) countries (7th).
- e. **Strong Commitment to SDGs:** A decade into Agenda 2030 (2015-25), 190 of 193 UN member states have participated in the Voluntary National Review (VNR) process, sharing their SDG progress and priorities. Only Haiti, Myanmar, and the United States have not participated.

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50 years of Crocodile conservation project

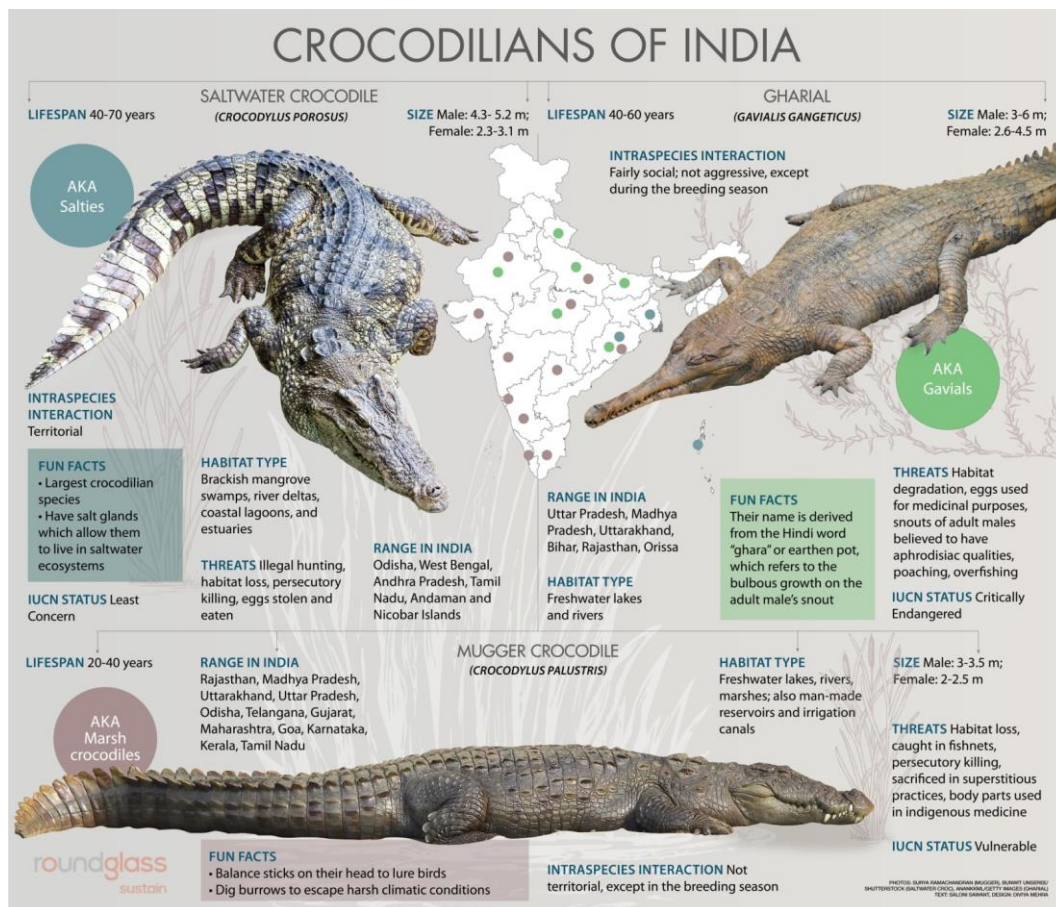
In News: On World Crocodile Day (17th June), India commemorates 50 years of its Crocodile Conservation Project (CCP) (1975–2025), with Odisha emerging as the epicentre of this pioneering ecological effort.

Odisha is the only Indian state to host wild populations of all three native crocodilian species (Gharial (*Gavialis gangeticus*), Mugger crocodile (*Crocodylus palustris*) and saltwater crocodile (*Crocodylus porosus*)).

Crocodile conservation Project:

India launched its Crocodile Conservation Project in Odisha's Bhitarkanika National Park in 1975 with the assistance of United Nations Development Programme (UNDP) and the UN's Food and Agriculture Organisation (FAO).

It adopted the "rear and release" method, created protected habitats like Bhitarkanika and Satkosia Tiger Reserve, and promoted captive breeding and community awareness, making it a national model for crocodilian conservation.



ZETA Geography

Delhi Prepares For Its First-Ever Artificial Rain

Context: The Delhi government is all set to conduct its first-ever artificial rain through cloud seeding to combat air pollution. The initiative, led by IIT Kanpur, involves cloud seeding using modified aircraft.

What is Artificial Rain?

Artificial rain, also known as cloud seeding, is a weather modification technique aimed at enhancing precipitation (generate artificial rain) from clouds.

Method: Uses chemicals like silver iodide, potassium iodide, and dry ice, which are dispersed into the sky via aeroplanes and helicopters.

These chemicals attract water vapour (acting as nuclei), helping form rain clouds.

OPENING UP THE CLOUDS

WHAT IS CLOUD SEEDING

A weather-modification technology that can create rain in drought-affected areas and also help fight air pollution

HOW IT WORKS

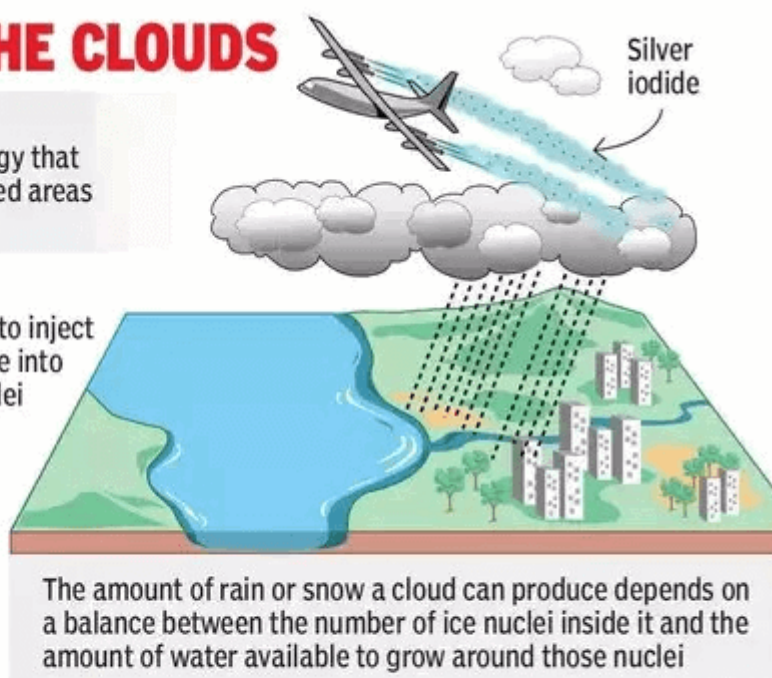
Scientists use aircraft or rockets to inject silver iodide or another substance into the atmosphere to mimic ice nuclei

HELPING HAND

Clouds often lack naturally occurring ice nuclei, so injecting them with silver iodide particles (which are very similar in structure to ice) increases the number of nuclei

HOW IT HAPPENS

It makes the clouds more efficient at generating ice crystals that either fall as snowflakes or melt to produce raindrops, depending on temperatures in and beneath the cloud. Cloud seeding is also used to disperse fog banks near some airports



Ecological Impacts of Artificial Rain

:

- Disruption of Natural Weather Patterns:** Cloud seeding can alter precipitation patterns, potentially depriving downwind areas of rainfall and leading to droughts in those regions
- Environmental Damage:** Chemicals used in cloud seeding, such as silver iodide, can accumulate in soil and water bodies, potentially harming ecosystems.
- Water Quality Concerns:** Contaminants from cloud seeding agents could degrade water quality if concentrations become significant.
- Impact on Flora and Fauna:** Altering natural weather patterns could disrupt local flora and fauna that are dependent on specific hydrological cycles.

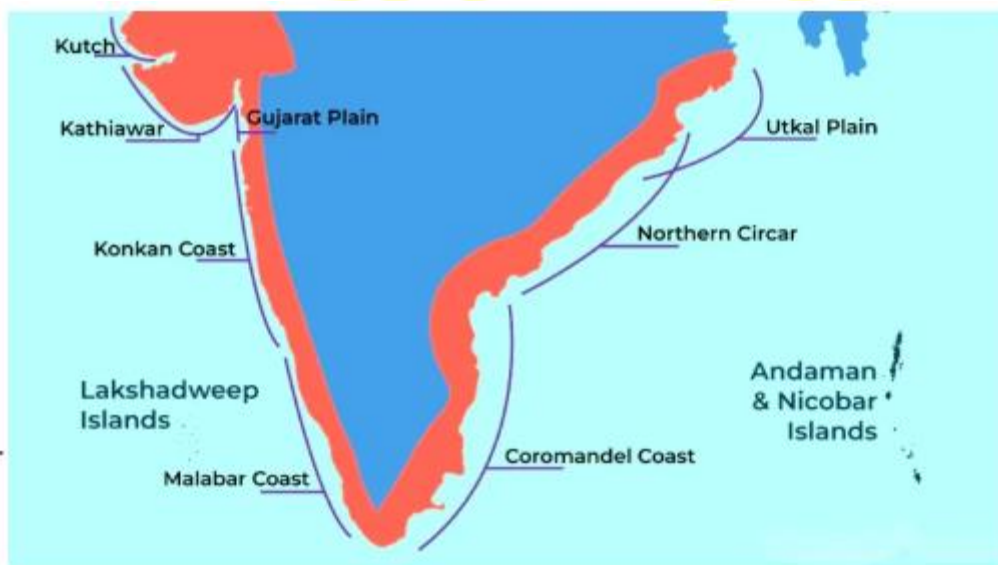
Health Issues:

- Chemical Residues:** The accumulation of chemicals like silver iodide in the environment could pose health risks if ingested through contaminated water or food sources.
- Potential Toxicity:** While silver iodide is generally considered safe at low concentrations, long-term exposure to high levels could lead to argyria (a bluish-gray discoloration of the skin), though it's largely considered a cosmetic issue.

In addition to above problems, artificial rain could be significantly expensive without certainty of success.

India's coastline grows by 3500km

In News: India's coastline is now far longer than it used to be, almost 50% more than the previous length.



Earlier, the length of India's coastline used to be 7,516 km. Now this coastline has been measured to be 11,098 km.

India's coastline length has increased, not due to territorial expansion, but because of more precise measurement techniques.

Reasons for Increase in Coastline:

- Improved Measurement Techniques:** The earlier measurements relied on maps at a scale of 1:4,500,000 or smaller. This smoothed out many of the finer details of the

coastline, such as inlets and bays. The current measurements use a scale of 1:250,000, capturing these details more accurately.

- b. **GIS Software:** Modern Geographic Information System (GIS) software allows for more precise calculations of land irregularities compared to manual methods used previously.
- c. **Inclusion of Offshore Islands:** The previous measurements did not include the coastlines of many offshore islands. The current measurements include the coastlines of these islands, further contributing to the increased length.
- d. **Coastline Paradox:** The increase highlights the "coastline paradox," where the measured length of a coastline varies depending on the scale and method of measurement.
- e. **Not Territorial Expansion:** It's crucial to note that this increase in coastline length is not due to any new land being added to India's territory.

Economic significance of long coastline:

- a. **Trade and commerce:** Coastal ports are vital for international trade, connecting India to global markets in Europe, Africa, the Middle East, and Southeast Asia.
- b. **Boost to fisheries sector:** The coastline is a hub for fisheries, providing food security and livelihoods for millions.
- c. **Tourism:** Coastal regions with scenic beauty and marine life attract tourists, contributing to local and national economies.
- d. **Energy security:** Coastlines offer potential for renewable energy generation through tidal and offshore wind projects.



Cloudburst Triggers flash floods in Himachal Pradesh

In News: a sudden flash floods triggered by cloudbursts occurred in the Kangra and Kullu districts of Himachal Pradesh.

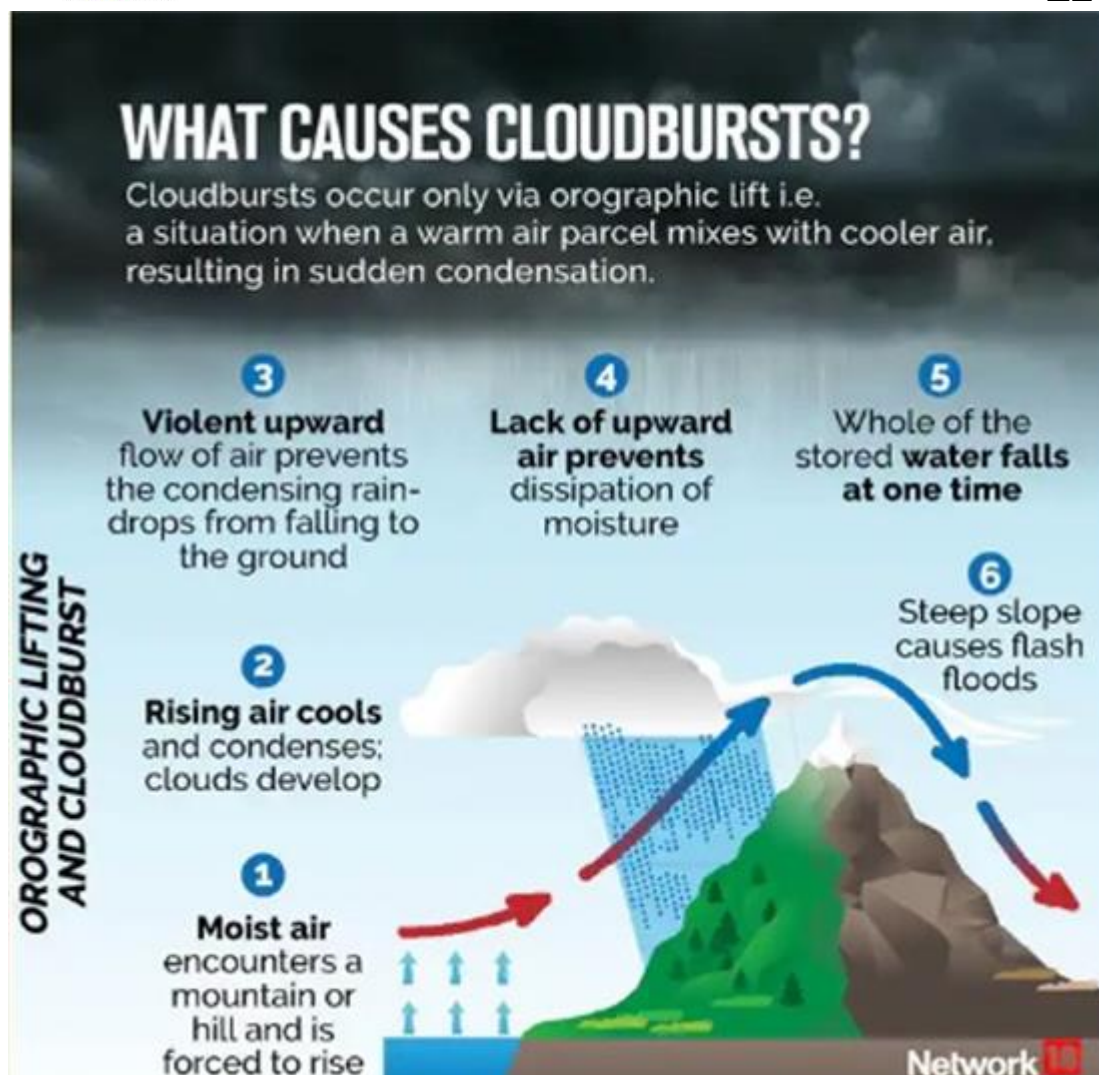


A cloudburst is a sudden and intense rainfall event over a small geographical area, often leading to flash floods and landslides. In India, these events are common in hilly regions like the Himalayas and are becoming more frequent due to climate change.

What are Cloudbursts?

- A cloudburst is a localised but intense rainfall activity. Short spells of very heavy rainfall over a small geographical area can cause widespread destruction, especially in hilly regions where this phenomenon is the most common.
- Not all instances of very heavy rainfall, however, are cloudbursts.
- A cloudburst has a very specific definition:
- Rainfall of 10 cm or more in an hour over a roughly 10 km x 10-km area is classified as a cloudburst event.
- By this definition, 5 cm of rainfall in a half-hour period over the same area would also be categorized as a cloudburst.

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Challenges posed by Cloudburst:

- a. **Forecast:** Cloudbursts are difficult to predict with precision due to their localized and short-lived nature. Current forecasting methods struggle to accurately pinpoint the exact location and intensity of rainfall.
- b. **Difficult terrain:** Hilly and mountainous regions, where cloudbursts are more frequent, often have limited infrastructure and sparse weather monitoring systems, making it harder to detect and respond to these events effectively.
- c. **Poor Infrastructure:** Inadequate drainage systems, poorly designed roads, and unstable slopes in vulnerable areas exacerbate the impact of cloudbursts, leading to landslides, flash floods, and significant damage to infrastructure.
- d. **Lack of training among local people:** Lack of awareness, limited training, and insufficient community-based disaster management plans can hinder timely evacuation and response efforts during cloudburst events.

- e. **Land use pattern:** Inconsistent land use planning, poor enforcement of building codes, and lack of coordinated disaster management strategies can increase vulnerability to cloudbursts.
- f. **Climate change:** Climate change is expected to intensify extreme weather events, including cloudbursts, making it crucial to understand and adapt to the changing patterns of rainfall and its associated risks.

Cloudbursts Disaster Risk Reduction (DRR) (National Disaster Management Plan, 2019)

- **Understanding risk:** Compile and maintain data on cloudburst events, Landslide Hazard Zonation, etc.
- **Invest in DRR:** Repair and maintain natural drainage systems, rivulets, etc., to ensure unhindered flow of storm water, etc.
- **Capacity building:** Enhance capabilities of local bodies to prepare and cope with cloudburst events, promote use of insurance, risk transfer, etc.

Flash Floods:

- Flash floods occur when heavy rainfall exceeds the ability of the ground to absorb it.
- Flash floods are the most dangerous kind of floods, because they combine the destructive power of a flood with incredible speed.

HIMACHAL AT HIGH-RISK

➤ Study used geospatial data and GIS-based mapping to classify risk zones, identifying lower-elevation river valleys as prone to floods and landslides, while high-altitude areas face a greater threat of avalanches

➤ Researchers found slopes between 5.9° and 16.4° (up to 1,600m elevation) are vulnerable to landslides and floods, while steeper slopes (16.8° to 41.5°) at higher elevations are prone to avalanches and landslides. Areas above 3,000m are at the highest risk



Heavy rainfall in July 2023 triggered devastating floods and landslides in Himachal Pradesh, causing significant infrastructure damage and loss

➤ Study highlights how one hazard can trigger another due to shared causes, underscoring need for better disaster risk management

Thirst-waves

Context: Researchers have coined a new term to describe extended periods of atmospheric thirsts called Thirst wave.

What are Thirst waves?

A thirst wave has at least three consecutive days when daily evaporative demand is greater than its historical 90th percentile value for that period. Evaporative demand is a measure of how thirsty the atmosphere is.

Causes: Thirst waves are influenced by temperature, humidity, solar radiation, and wind speed, unlike heat waves, which are mainly driven by temperature and wind.

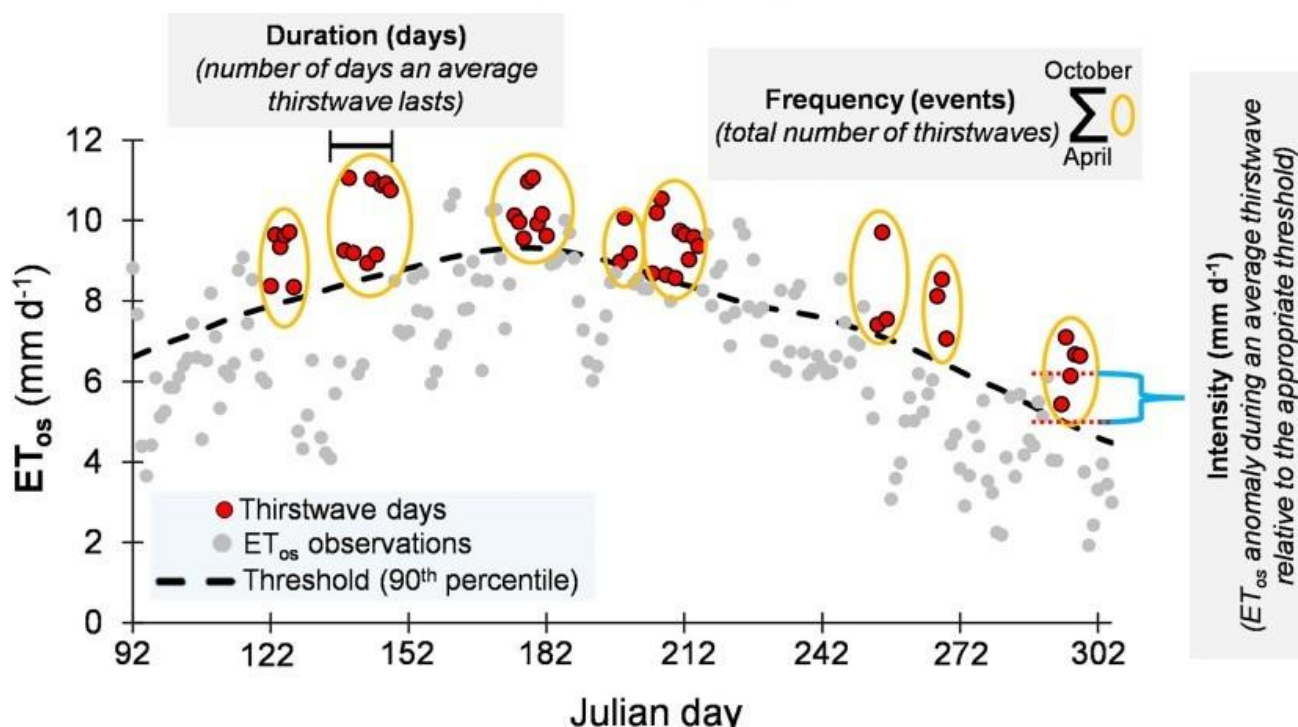
Measurement: It is measured through Short-crop evapotranspiration that measures water loss from a well-watered 12-cm grass surface.

Rising evapotranspiration indicates higher temperatures, lower humidity, and increased wind speed and solar radiation

Impact: Stronger thirst waves lead to faster soil moisture loss, greater irrigation requirements, and a higher risk of crop stress and yield reduction.

Thirst waves & India: Studies show that evaporative demand is increasing in parts of India, including Northern India and the Western/Eastern Himalayas, driven by agricultural expansion and vegetation growth.

While in the past, higher humidity helped offset the impact of rising temperatures, future warming is expected to further raise evaporative demand.



The Atlantic Meridional Overturning Circulation (AMOC)

Context: A study by Utrecht University (Netherlands) finds that under moderate emissions, global warming may not be enough to offset the cooling caused by a potential collapse of the AMOC.

What is Atlantic meridional Overturning Circulation (AMOC)?

- The Atlantic Meridional Overturning Circulation (AMOC) is a large system of ocean currents in the Atlantic Ocean that plays a crucial role in regulating global climate by redistributing heat.
- It acts like a giant conveyor belt, transporting warm surface waters from the tropics northward and returning cold, deep waters southward.
- This process significantly influences regional and global weather patterns, including rainfall in the tropics and winter temperatures in Europe.



How does AMOC work?

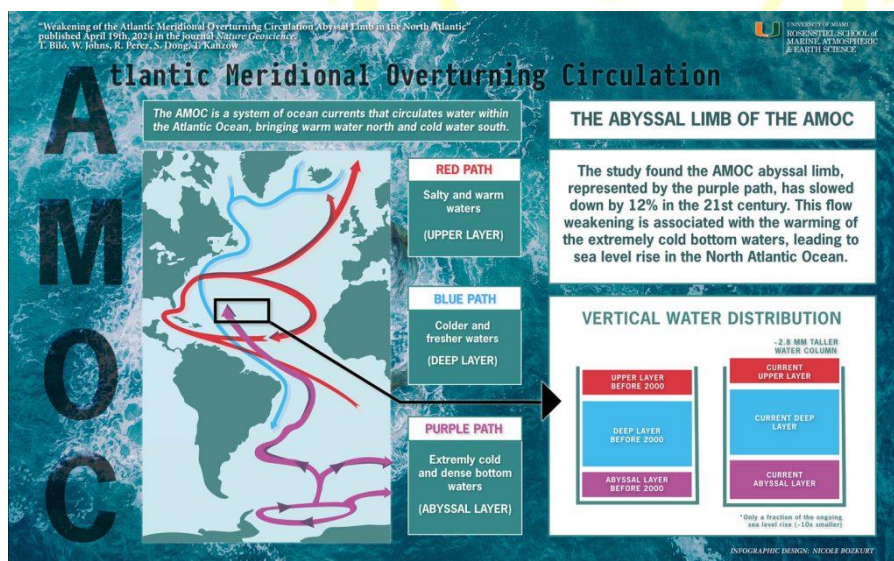
- **Warm Water Transport:** The AMOC carries warm, salty surface waters from the tropics northward towards the North Atlantic.
- **Heat Transfer:** As this warm water travels, it releases heat into the atmosphere, influencing temperatures in regions like Europe and contributing to a milder climate.
- **Cooling and Sinking:** In the North Atlantic, the warm water cools, becomes denser due to increased salinity (salt left behind as sea ice forms), and sinks to the ocean depths.
- **Return Flow:** This cold, deep water then flows southward, eventually upwelling in other parts of the ocean and completing the circulation cycle.

- **Global Impact:** The AMOC is a major component of the global thermohaline circulation, which distributes heat and nutrients throughout the world's oceans.
- **Potential for Weakening:** There is concern that the AMOC is weakening due to climate change, which could have significant consequences for global weather patterns.

How does AMOC affect global temperatures?

- Heat Distribution:** The AMOC carries a substantial amount of heat from the tropics towards the North Atlantic, influencing the climate of Europe and North America. Without the AMOC, these regions would likely be significantly colder.
- Differential regional temperatures:** A weakening AMOC would mean less warm water reaches the North Atlantic, potentially leading to cooling in Europe and the Arctic, while the tropics might experience increased warming.
- Changes in sea level:** Changes in the AMOC can affect sea levels, particularly along the North American coast, where a slowdown could cause a noticeable rise.
- Monsoon Variation:** The AMOC also influences the Intertropical Convergence Zone (ITCZ), which impacts rainfall patterns in the tropics, including monsoon seasons in Asia and Africa.

Impact of weakened AMOC:



- Changes in Precipitation:** A weakened AMOC can lead to widespread changes in precipitation patterns, with some regions experiencing drying and others experiencing increased rainfall.
- Temperature changes:** The AMOC's weakening can cause a reduction in warming in the Northern Hemisphere and increase warming in the Southern Hemisphere
- Ocean Currents:** The AMOC's weakening can affect ocean currents and sea surface temperatures, potentially impacting El Niño-Southern Oscillation (ENSO) variability.
- Sea Ice:** Changes in ocean currents and temperatures due to a weakened AMOC can influence sea ice formation and extent in both the Arctic and Antarctic.

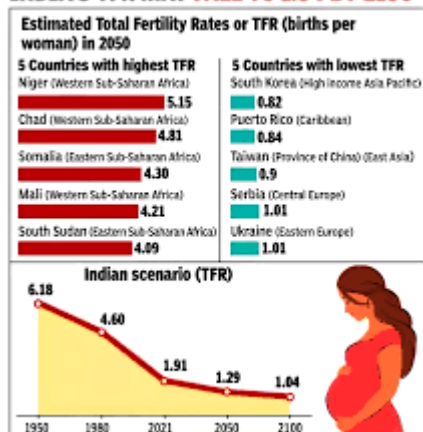
- e. **Atmospheric Circulation:** The AMOC's weakening can affect atmospheric circulation patterns, including the jet stream and blocking events, potentially leading to changes in weather patterns and extreme weather events.

Indian culture, society and History

India's fertility rate drops below the replacement level

Context: In 2025, India's total fertility rate (TFR) has dropped to 1.9 births per woman, which is below the replacement level of 2.1, according to the UNFPA's State of World Population report.

INDIA'S TFR MAY FALL TO 1.04 BY 2100



- This demographic transition, while not unique to India, signals a long-term shift in population trends driven by a complex mix of economic, social, and health-related factors.
- Despite this decline, India remains the world's most populous country, with an estimated population of 146.39 crore as of April 2025.
- The population is projected to peak around 170 crore over the next four decades before beginning to shrink.

Demographic Transition:

- In 1960, Indian women had an average of six children. Since then, India has achieved a dramatic reduction in fertility rates, largely through enhanced access to reproductive healthcare, greater educational outreach, and sustained efforts at women's empowerment.
- The UNFPA attributes this demographic shift not to coercive policies but to an organic transition supported by awareness campaigns and policy interventions.
- The decline aligns with India's own projections, such as those published in the National Family Health Survey (NFHS-5), which pegged the 2022 fertility rate at 2.0 nationally, with urban fertility at 1.6 and rural fertility at 2.1.
- Some states, however, still have above-average fertility rates, including Bihar (2.98), Meghalaya (2.9), Uttar Pradesh (2.35), Jharkhand (2.26), and Manipur (2.2).

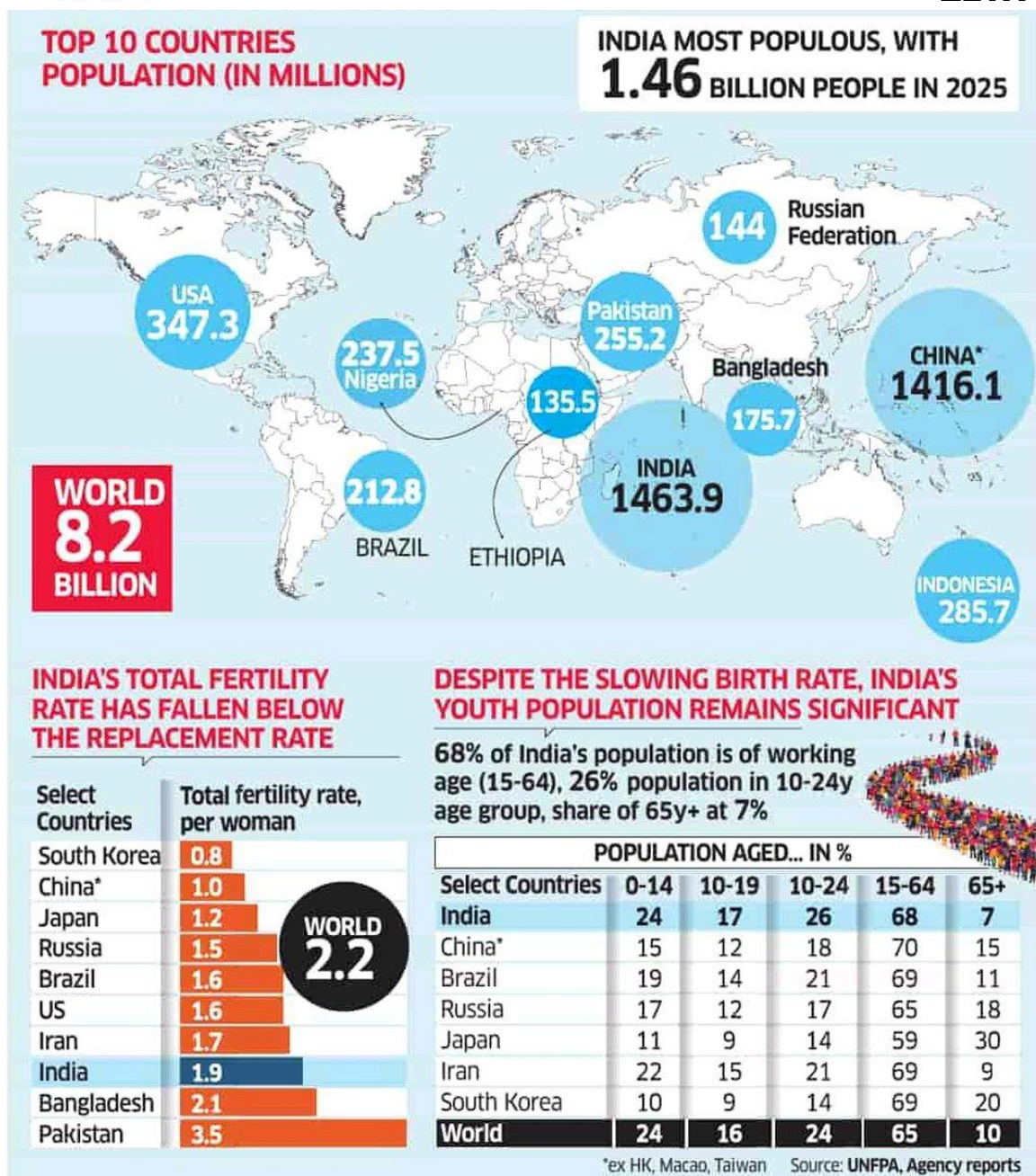
Finding of the report:

- A. Financial strain is a leading factor in decisions to have fewer children.

- B. Job Insecurity and unemployment are also major reasons behind constraints.
- C. There is also a growing disconnect between the ideal number of children and the number couples expect to have.
- D. Family dynamics play a crucial role in fertility decision, lack of household support in sharing responsibilities also affects reproductive choices.
- E. Pressure from doctors or health workers led them to have fewer children than they desired. This highlights a concerning gap between reproductive rights and institutional practices.

Changing population of India:

- a. **Demographic dividend:** With 68% of India's population in the working-age group (15-64 years), the country still enjoys a significant demographic dividend. As life expectancy increases, projected at 71 years for men and 74 for women, India's elderly population (currently 7%) is expected to rise steadily in the coming decades. This shift necessitates increased expenditure on health and social welfare infrastructure.
- b. **Informed sexual and reproductive choices:** the real crisis is not overpopulation or under population but rather the inability of individuals to realize their fertility intentions. It calls for safeguarding reproductive agency, the right to make informed choices about sex, contraception, and family planning, especially in rapidly changing socio-economic contexts.



Way forward for India:

India must adapt its health and welfare policies to reflect this demographic reality. Key focus areas should include:

- Enhancing women's participation in the workforce.
- Expanding social support for childcare and elderly care.
- Reforming workplace norms to reduce the economic burden of parenting.
- Investing in universal access to contraception and fertility counselling.

Global gender gap report 2025

Context: The World Economic Forum's Global Gender Gap Report 2025 ranks India at 131 out of 148 countries, with a gender parity score of 64.1% down from 129th place in 2024.

What is the Global Gender Gap Index?

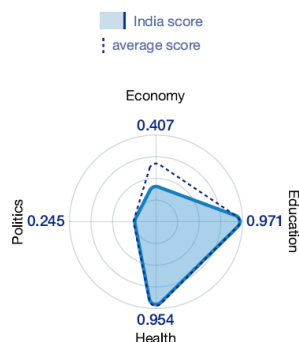
- Published annually since 2006, it is the longest-standing global index for assessing gender equality, measuring countries' progress in closing gender gaps across 4 key dimensions:
 - Economic Participation and Opportunity
 - Educational Attainment
 - Health & Survival
 - Political Empowerment

India's performance:

- India shows gains in Economic Participation (40.7%) with improvement in income parity from 28.6% to 29.9%, and Educational Attainment at a high 97.1%, indicating near-parity in literacy and tertiary education enrolment.
- Health and Survival improved with better sex ratio and life expectancy. However, Political Empowerment fell by 0.6 points, with women's representation in Parliament down from 14.7% to 13.8% and ministerial representation fell from 6.5% to 5.6%.

Economy Profile	Score (imparity = 0, parity = 1)	Rank (out of 148 countries)	Index Edition
India	0.644	131st	2025

Global Gender Gap Index 2025 Edition



Overview

Index and Subindex	2025		2024	
	Score	Rank	Score	Rank
Global Gender Gap Index	0.644	131st	0.641	129th
Economic Participation and Opportunity	0.407	144th	0.398	142nd
Educational Attainment	0.971	110th	0.964	112th
Health and Survival	0.954	143rd	0.951	142nd
Political Empowerment	0.245	69th	0.251	65th




Global Trends: Top 5 countries in Global Gender Gap Index 2025 were Iceland (for the 16th consecutive year), Finland, Norway, UK and New Zealand.

Women in India: Educated, But Excluded



World Economic Forum's Global Gender Gap Report 2025 ranks India at 131st out of 148 countries, a decline from 129th ranking in 2024



Category	India	Change from 2024	Global
Global Gender Gap Index	64.4% (Score)	0.3% ↑	68.8% Score
 Educational Attainment	97.1	0.7 ↑	95.1
 Health and Survival	95.4	0.3 ↑	96.2
Economic Participation & Opportunity	40.7	0.9 ↑	61
 Political Empowerment	24.5	-0.6 ↓	22.9

Source: Global Gender Gap Report 2025, WEF | Graphic: Piyush Aggarwal, Sarfaraz



Manosphere- A threat to gender inequality

Context: The manosphere is an umbrella term for a 'network of online communities' that promote narrow & aggressive definitions of masculinity, along with the false narrative that feminism & gender equality have harmed men's rights.

These communities promote the idea that emotional control, material wealth, physical appearance and dominance, especially over women, are markers of male worth.

Why is it a problem?

The manosphere targets male audiences on social media, podcasts, gamer communities, dating apps and just about all digital spaces. Many participants engage with it while searching for forums to openly discuss or learn about men's issues. But while content may appear focused on men's self-improvement, many of these groups promote unhealthy behaviours, like instructing boys and men to build themselves up by putting others down.



Reasons behind Rising Manosphere

- Need for Validation:** Increasing social isolation & a desire for belonging drive many young men toward the manosphere, where they seek support, & validation.
- Digital Anonymity:** Lowers social/legal consequences, making it easier to spread misogyny & hatred.
- Social Media Algorithms:** Amplify harmful & anti-women narratives.
- Masculinity Influencers:** Many young men follow masculinity influencers who promote regressive gender roles and portray 'men as victims of feminism'.

Impact of increasing Manosphere:

- Corruption of digital space:** With more than 5.5 billion people online – and nearly as many on social media – digital spaces have become central to how we learn and connect. But alongside its benefits, the internet is also being used to spread hate, abuse and misogyny.
- Focus shifts from real victim:** as these men portray themselves as victims, the expansion of this group shifts the focus away from real victims, like women who are sexually, mentally and emotionally harassed and exploited.
- Normalization of violence:** two-thirds of young men regularly engage with masculinity influencers online. Experts are finding that the popularity of extreme language in the manosphere not only normalizes violence against women and girls, but has growing links to radicalization and extremist ideologies.

Gender stereotypes about men in the manosphere act as a cycle. If boys and men aren't encouraged to speak openly about their emotions or issues, they may gravitate towards these online

communities as a place to get advice on topics like relationship struggles, fatherhood, anxiety and sexual health.

This creates negative ripples in the society, as it leads to deepening of gender biasedness. Therefore educating youth about gender sensitivity is very important.

Prada vs. Kolhapuri Chappals- a cultural appropriation

In News: After viral photos from a Milan fashion show drew criticism from Indian artisans who make the sandals, named after the historic city of Kolhapur in Maharashtra, Prada was forced late last month to acknowledge that its new open-toe footwear was inspired by ancient Indian designs.

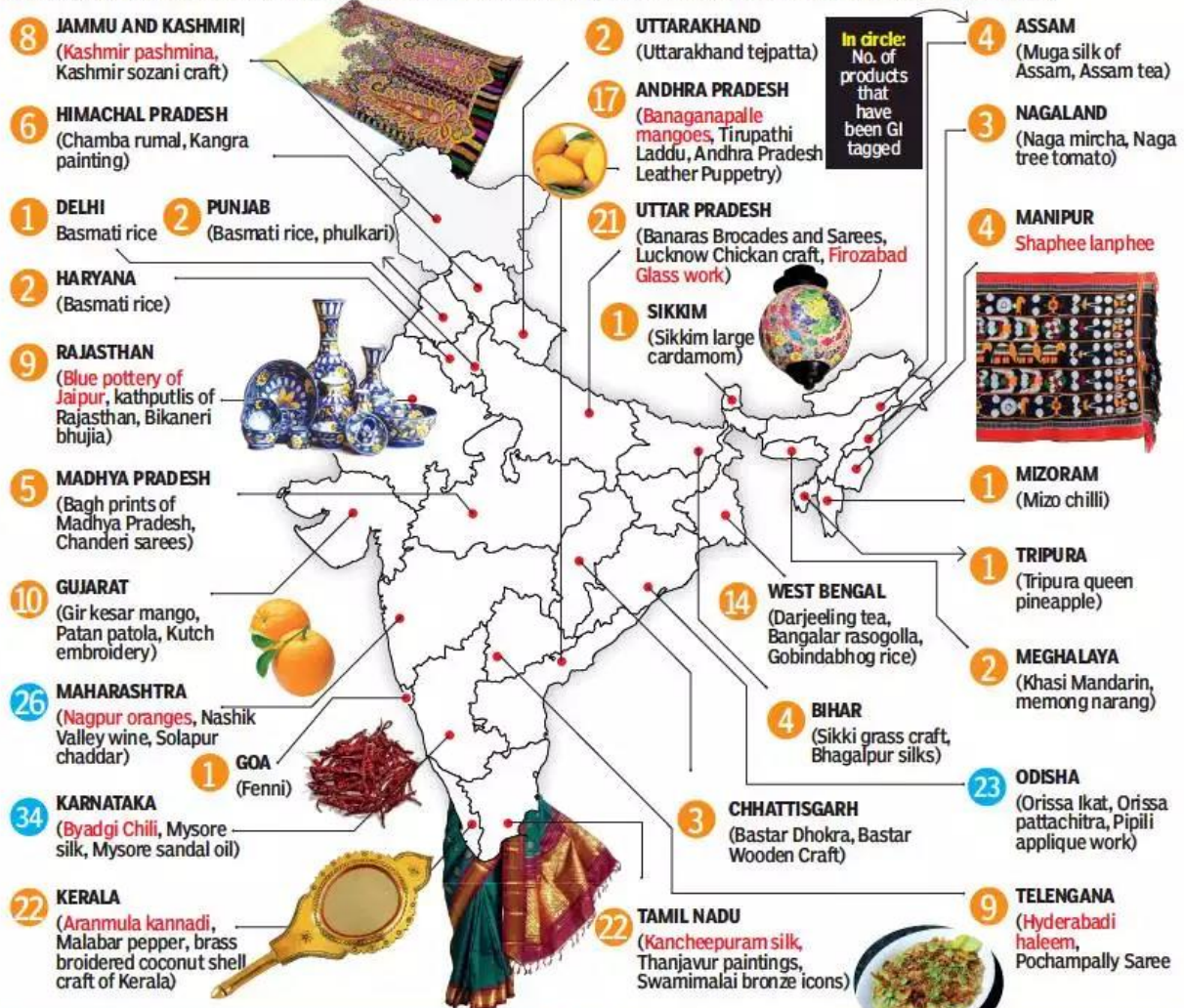
About Kolhapuri chappals:

- Kolhapuri chappals are handcrafted, open-toed, T-strap leather sandals, originating from the Kolhapur region of Maharashtra, India and nearby districts like Sangli, Satara, and Solapur, dating back to the 12th–13th century, and was originally made for royalty.
- It is made using vegetable-tanned leather from cow, buffalo, or goat, and is fully handmade without nails or synthetic components.
- GI Tag Recognition: It was granted Geographical Indication (GI) status in 2019, covering eight districts in Maharashtra and Karnataka.

The development has sparked debates about cultural appropriation, the economic struggles of Indian artisan communities, and the limits of global intellectual property (IP) protections.

JOINED BY BORDERS, DIVIDED BY CULTURES

Having got GI tags for 34 products, Karnataka has the most number of registrations, followed by Maharashtra (26) and Odisha (23)



WHAT IS A GI TAG?

- > A GI tag is a geographical indication of an item which is specific to a particular place
- > GI status can be sought for agricultural products, handicrafts, handloom and food products
- > The RGI (registration of geographical indications) logo given to a particular product can

only be used by registered and authorised users

- > When marketed, a GI tagged product must carry a logo showing its place of origin
- > Civil and criminal proceedings can be initiated against those using the logo in unauthorised manner

HOW TO APPLY?

- > An association or collective body can apply to GI Registry
- > Application should be backed by proof of uniqueness, historical records to show proof of origin, quality and special character
- > After rounds of verification, presentation and meetings, if registry is satisfied, application goes to GI Registry journal
- > If application receives no opposition within four months, it gets the GI tag

People in News

Ahilya Bai Holkar

In News: 300th Birth Anniversary of Ahilya Bai Holkar

- Ahilyabai Holkar was the queen of Indore within the Maratha Confederacy. She established Maheshwar (in Madhya Pradesh) on the banks of the Narmada River as the capital of the Holkar Dynasty.

Leadership and Administration

- After her husband's death in the 1754 Battle of Kumbher against the King of Bharatpur, Ahilyabai took control of Malwa.
- She excelled at administrative and military strategies under the guidance of her father-in-law, who believed she should lead her people and not die by Sati.
- After the death of her father-in-law and son a few years later, she petitioned the Peshwa to become the ruler, backed by the support of her army.
- She defended the Malwa state against intruders and personally led armies into battle, with Tukoji Rao Holkar as her military commander.
- Ahilyabai was known for her administrative acumen, breaking traditional gender norms in 18th century India.

Contribution of Ahilya Bai Holkar:

- Ahilyabai was a prolific builder, constructing Hindu temples and Dharmashalas across the Indian Subcontinent.
- Ahilya Bai resurrected the jyotirlingas across the country as a tribute to Lord Shiva.
- She carried out renovations in Somnath temple, Kashi Vishwanath temple Varanasi (1780), Trambak, Gaya, Pushkar, Vrindavan, Nathdwara, Haridwar, Badrinath, Kedarnath and many other sacred sites.
- She patronised many artists, including Marathi poet Moropant, Shahir Ananta Gandhi, and Sanskrit scholar Khushali Ram.
- She established Maheshwar (in Madhya Pradesh) as the seat of the Holkar Dynasty.
- **She promoted Maheshwari saris (from Maheshwar) and paved the way for empowering women.**
- Ahilyabai repealed a traditional law that allowed the state to confiscate the property of childless widows.
- She made efforts to develop the city of Indore, conserve forests and animals, and was responsible for the flourishing trade and commerce.
- Benevolence, social reforms, and support for arts and culture marked her reign.

She was described as "a very able ruler and organiser" by Jawaharlal Nehru in 'A Discovery of India'.

Jagadguru Rambhadracharya

In news: The President of India, Smt Droupadi Murmu conferred the 58th Jnanpith Award on Sanskrit scholar Jagadguru Rambhadracharya.

He is a revered Sanskrit scholar and Hindu spiritual leader, has held the title of Jagadguru Ramanandacharya since 1982. He is the founder and head of Tulsi Peeth in Chitrakoot (MP), a prominent religious and literary institution.

A prolific author of over 240 works, he has penned four Sanskrit epics (Bhargava Raghavam, Sri Ramayanam, Dasavatara Tirtham, and Ramanandacharya Tirtham). He was honoured with the Padma Vibhushan in 2015.

Sampooran Singh Kalra (Gulzar) is a celebrated Urdu poet, lyricist, author, and filmmaker was also awarded the Jnanpith award.

Indian Economy

RBI's Monetary Policy

Context: the June 2025 Monetary Policy Committee (MPC) meeting, the Reserve Bank of India (RBI) Governor highlighted the fragility of the global economy, noting that despite 100 bps rate cuts since February 2025, monetary policy has limited space to support growth.



RBI has recommended a shift from an accommodative to a neutral stance due to slow pace of inflation and external uncertainties.

An accommodative stance means the RBI lowers or maintains low policy rates to boost growth, increase liquidity, and encourage investment during slow growth or low inflation.

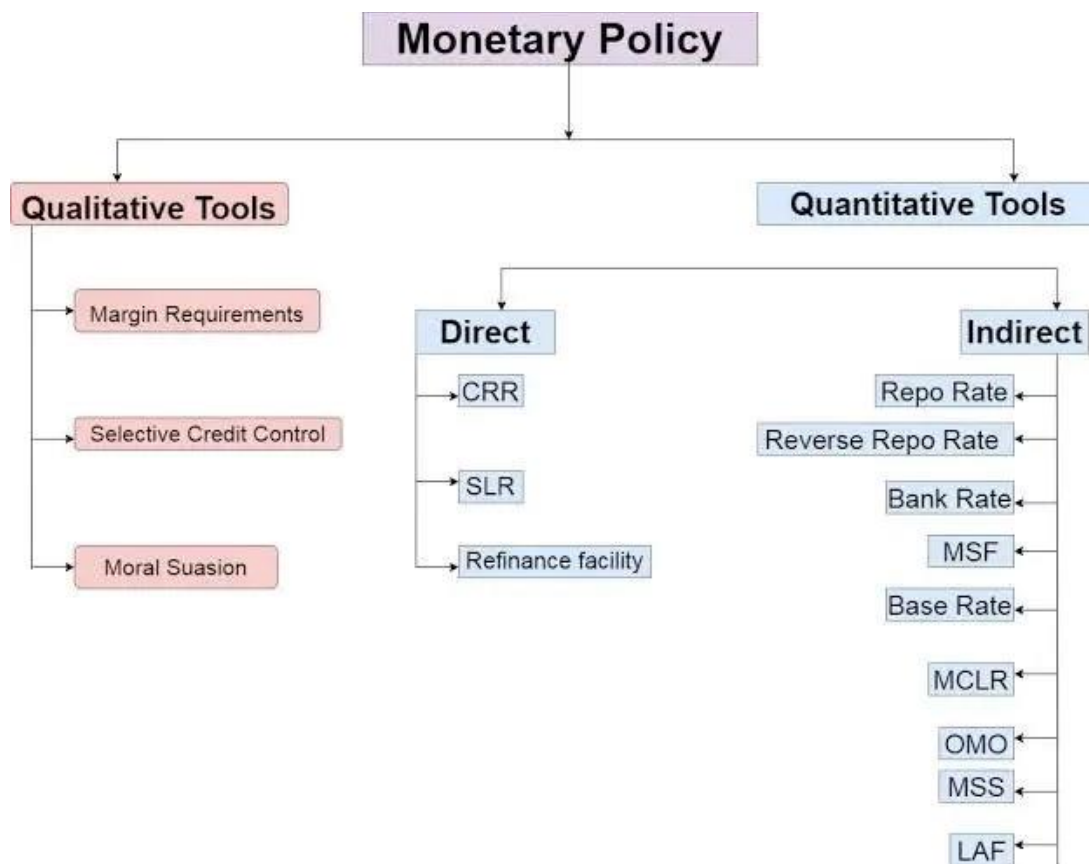
A neutral stance gives the RBI flexibility to raise or cut rates depending on evolving inflation or growth risks, aiming for a balanced policy approach.

Monetary Policy :

ZETA IAS, 313 Third Floor 4-B Grover Chamber, Next to Croma. PUSA Road, Old Rajendra Nagar
Our contact information- 8850452151

- Monetary policy is the process through which the RBI regulates the money supply in the economy by using various monetary instruments under its control to achieve the objectives outlined in the RBI Act, 1934.
- The primary objective is price stability, with inflation targeting as the primary focus. The target is CPI (Combined) inflation within the 2-6% range, set by the Government in consultation with the RBI.
- Other objectives include promoting growth, generating employment, and ensuring exchange rate stability.

Tools of Monetary Policy:



Quantitative Tools

Reserve Ratios:

- Cash Reserve Ratio: The percentage of a bank's Net Demand and Time Liabilities (NDTL) that must be maintained as cash reserves with the RBI.
- Statutory Liquidity Ratio: Banks are required to hold a fixed portion of their NDTL as liquid assets such as cash, gold, and unencumbered securities

Open Market Operations (OMO): Purchase and sale of government securities.

Repo & Reverse Repo Rate:

- **Repo Rate:** It is the rate at which the RBI offers overnight liquidity to banks in exchange for government and other approved securities as collateral.
- **Reverse Repo Rate:** It is the rate at which the RBI absorbs overnight liquidity from banks in exchange for eligible government securities as collateral.

Bank Rate: It is the rate at which the Reserve Bank is willing to purchase or rediscount bills of exchange or other commercial papers.

Marginal Standing Facility (MSF): It is the amount of overnight funds that scheduled commercial banks can borrow by utilizing their SLR portfolio up to a specified limit, at a penal interest rate.

Liquidity Adjustment Facility (LAF): It consists of overnight as well as term repo auctions.

Market Stabilisation Scheme (MSS): MSS bonds are special bonds issued by the RBI on behalf of the government to absorb excess liquidity when regular government bonds are insufficient.

Qualitative Tools

Margin Requirement: It is the difference between the market value of the assets and its maximum loan value.

Consumer Credit Control: Setting rules on down payments and maximum repayment periods for installment credit used to purchase goods.

Rationing: Regulation of credit by commercial banks, e.g., RBI may limit loans to sectors like real estate to check excessive lending.

Moral Suasion: A request by the RBI urging commercial banks to adopt specific measures in line with economic trends.

Direct Action: Steps taken by the RBI against banks that fail to meet specified conditions or requirements.

Steering Indian Economy amidst Global troubles

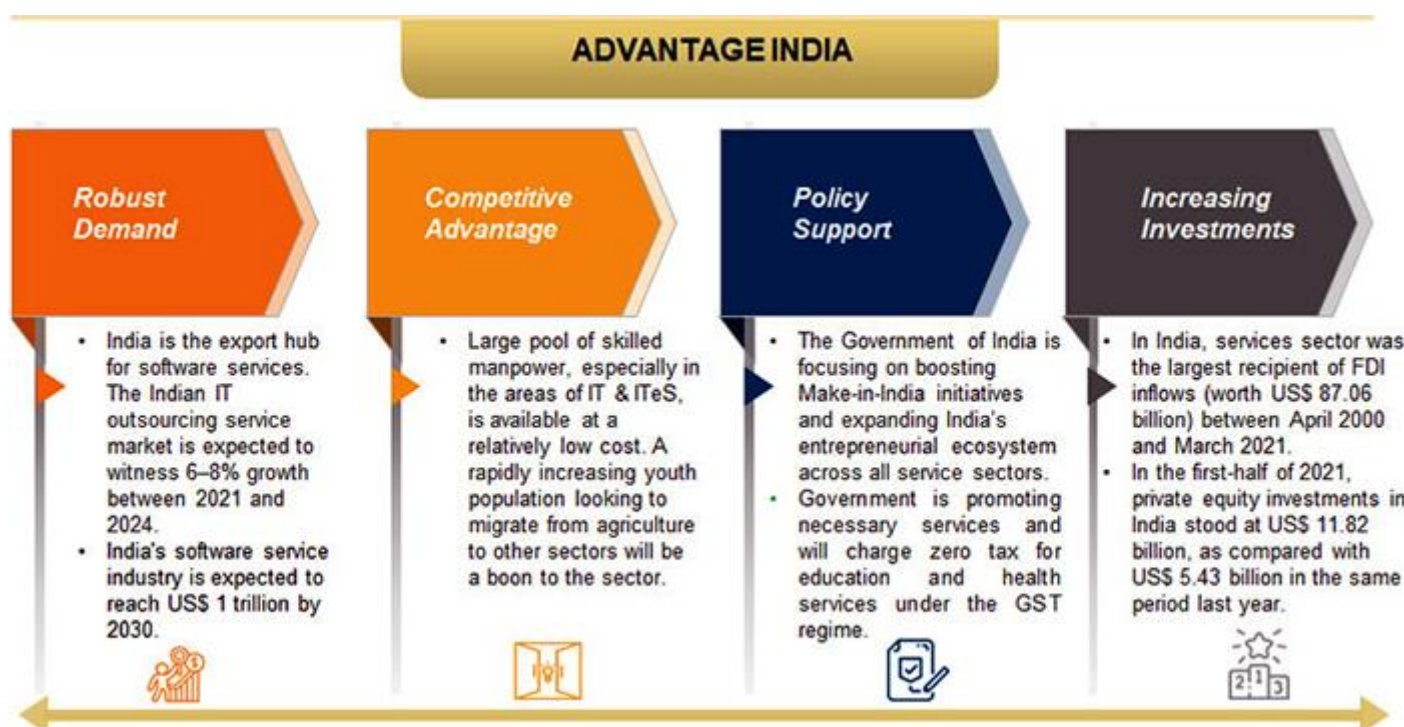
Context: As the global economy faces trade wars, geopolitical tensions, and supply chain disruptions, India's ability to navigate these will depend on strategic recalibration by both policymakers and industry leaders.

India's Sectoral Vulnerabilities & Global Uncertainties

- Geopolitical Tensions and Trade Disruptions:** Ongoing conflicts, such as the Israel-Iran standoff, have heightened risks to global oil prices and supply chains. India's reliance on energy imports makes it vulnerable to such shocks.
- Export Vulnerabilities:** India's export sectors — particularly textiles, pharmaceuticals, electronics, and auto components — are heavily reliant on foreign markets like the United States & European Countries. Uncertainties in tariff regimes

and the threat of reciprocal duties by the USA have created anxiety among exporters, especially MSMEs.

- c. **Financial Market Volatility:** Escalating regional tensions, including with neighboring countries, have led to spikes in market volatility, as seen in the India VIX index. Capital Flow Uncertainty: Foreign portfolio investment remains sensitive to global interest rate cycles, while domestic institutional investors have increased their share in Indian equities.



IAS

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How ready is India?

- Macroeconomic Resilience and Fiscal Discipline:** India has maintained a steady growth trajectory, with real GDP projected to grow at 6.4% in FY25—close to its decadal average, despite global turmoil.
- Monetary Policy and Inflation Management:** Dual focus on growth and price stability has been a cornerstone of India's macroeconomic strategy.
 - Cutting the repo rate to 5.5% by RBI to stimulate investment amid slowing credit growth.
 - Retail inflation controlled to 4.9% in 2024 and expected to align with the 4% target in FY26.
- Supply Chain Resilience and Industrial Strategy:** India has encouraged domestic capacity building in critical sectors such as electronics, pharmaceuticals, and renewable energy. The push for digital infrastructure and logistics modernization has helped mitigate supply chain bottlenecks.

- d. **External Sector Strength:** India's foreign exchange reserves stood at over USD 640 billion by end-2024, sufficient to cover nearly 11 months of imports.
- e. **Strategic Trade Engagements:** A proposed Bilateral Trade Agreement (BTA) with the US and the recently concluded Free Trade Agreement (FTA) with the UK are seen as key steps. However, India needs to ensure these agreements secure zero tariffs in critical sectors while safeguarding domestic priorities.

Way forward:

- **Strengthening External Sector Resilience:** India is pursuing bilateral trade agreements and expanding its PLI schemes to diversify export markets and reduce import dependence.
- **Policy Stability and Institutional Strength:** The RBI emphasizes India's 'ring-fenced' stability — monetary, financial, and political — as a key buffer against global shocks. Transparent and rule-based policymaking continues to inspire investor confidence.
- **Supply Chain Modernization:** Investments in logistics, digital infrastructure, and domestic manufacturing are helping India build resilience against global supply disruptions.
- **Strategic Global Positioning:** Indian Prime Minister has positioned India as a 'trusted friend' and 'engine of global growth', emphasizing people-centric development and inclusive prosperity.

New Non-permanent Members to UNSC

Context: The United Nations General Assembly (UNGA) has elected Bahrain, Colombia, the Democratic Republic of the Congo (DRC), Latvia, and Liberia as non-permanent members of the UN Security Council (UNSC).

- These nations will serve a two-year term starting on January 1, 2026, replacing the outgoing members: Algeria, Guyana, the Republic of Korea, Sierra Leone, and Slovenia.
- In addition to the above, Pakistan has been appointed as the Chair of the UNSC 1988 Taliban Sanctions Committee for 2025 and will also serve as vice-chair of the UNSC Counter-Terrorism Committee during its 2025–26 tenure as a non-permanent member of the Council.

About the United Nations Security Council (UNSC)

- The UNSC is one of the five principal organs of the United Nations (UN), with the primary responsibility of maintaining international peace and security.
- Under the UN Charter, all member states must comply with UNSC decisions.
- It determines threats to peace, recommends settlement methods, imposes sanctions, and authorises military actions.

Structure and Membership

- The UNSC consists of 15 members, each having one vote.
- Five permanent members (P5) with veto power:

China, France, Russia, the United Kingdom, and the United States.

- Ten non-permanent members, elected by the UN General Assembly for two-year terms, with equitable geographical representation:
- 5 from Africa/Asia, 1 from Eastern Europe, 2 from Latin America, and 2 from Western Europe/others.

The UNSC is headquartered at the United Nations Headquarters in New York City.

Role of UNSC:

The United Nations Security Council (UNSC) is vital for maintaining international peace and security. It has the power to authorize peacekeeping operations, impose sanctions, and even authorize the use of force to resolve conflicts. Its decisions are binding on all UN member states.


Challenging time for UNSC:

- Lack of consensus among the permanent members:** The UNSC's effectiveness is heavily reliant on cooperation between its permanent members (P5). However, increasing tensions, particularly between the P5, have led to gridlock and limited action on critical global issues.
- Misuse of VETO power:** The veto power of the P5 can be used to block resolutions, even when there is a clear majority in favour. This can undermine the council's legitimacy and ability to respond to crises.
- Need for Reforms:** Many argue that the UNSC's structure and composition are outdated and no longer reflect the realities of the 21st century. The G4 countries (Brazil, Germany, India, and Japan) are among those pushing for reforms to make the council more representative and inclusive.

UNSC Reforms that must be pushed forward so that the UNSC does not lose its credibility:

UN Security Council (UNSC)

The UN Charter vests the primary responsibility for maintaining international peace and security to the UNSC

About One of the 6 principal organs of UN; established in 1945 by UN Charter	Headquarters New York City	First Session 17 January 1946 at Church House, Westminster, London	Membership <ul style="list-style-type: none">15 members - 5 Permanent Members (P5), 10 Non-Permanent Members elected for two-year terms (5 elected each year)P5 - the US, the UK, Russia, France and China	Presidency <ul style="list-style-type: none">Rotates every month among the 15 membersIndia's Presidency for year 2022 - December		
Voting Powers <ul style="list-style-type: none">1 member = 1 voteP5 have veto powerMembers of UN sans membership of UNSC participate without vote	UNSC Committees/Resolutions <table><tr><td>Terrorism<ul style="list-style-type: none">Resolution 1373 (Counter Terrorism Committee)Resolution 1267 (Da'esh and Al Qaeda Committee)</td><td>Non-Proliferation Committee<ul style="list-style-type: none">Resolution 1540 (against nuclear, chemical and biological weapons)</td></tr></table>				Terrorism <ul style="list-style-type: none">Resolution 1373 (Counter Terrorism Committee)Resolution 1267 (Da'esh and Al Qaeda Committee)	Non-Proliferation Committee <ul style="list-style-type: none">Resolution 1540 (against nuclear, chemical and biological weapons)
Terrorism <ul style="list-style-type: none">Resolution 1373 (Counter Terrorism Committee)Resolution 1267 (Da'esh and Al Qaeda Committee)	Non-Proliferation Committee <ul style="list-style-type: none">Resolution 1540 (against nuclear, chemical and biological weapons)					
India and UNSC <ul style="list-style-type: none">Served 7 times as non-permanent member; elected for the 8th time for 2021-22; advocates for a permanent seatArguments for a permanent seat:<ul style="list-style-type: none">43 peacekeeping missionsActive participation in formulating Human Rights Declaration (UDHR)India's population, territorial size, GDP, economic potential, cultural diversity, political system etc.	<div><p>G4</p><p>Group of 4 countries (Brazil, Germany, India and Japan) which advocate each other's bids for permanent seats in the UNSC</p></div>					
Uniting for Consensus (UfC) Movement <ul style="list-style-type: none">Informally known as the Coffee ClubCountries oppose the expansion Permanent Seats of UNSCPrime movers of the club - Italy, Spain, Australia, Canada, South Korea, Argentina and PakistanItaly and Spain are opposed to Germany's bid; Pakistan - India's bid; Argentina - Brazil's bid and Australia - Japan's bid			Major Challenges in UNSC <ul style="list-style-type: none">Usual UN rules don't apply to UNSC deliberations; no records of meetings keptPowerplay in UNSC; anachronistic veto powers of P5Deep polarisation among P5; frequent divisions end up blocking key decisionsInadequate representation of many regions among of the world			

Democratization of UNSC:

The power imbalance between the P5 and other countries in the UNSC needs to be addressed urgently to make the council more democratic and increase its legitimacy in governing international peace, security and order.

Expansion of UNSC:

The changing needs of global governance for peace and security require significant reforms in the UNSC, including expanding its permanent and non-permanent seats to better address the complex and evolving challenges to international peace and security.

Equitable Representation:

Equitable representation of all the regions in the UNSC is critical to decentralizing its governing power and authority over nations.

The decentralization of the UNSC's decision-making processes will enable its transformation to a more representative, participatory body.

What are the Hurdles in Reforming UN?

- The General Assembly has always been very much divided. Among the 193 countries, there are five negotiating groups and they are neutralising each other.

- The functioning of the General Assembly is as much important as the permanent members of the UNSC in ensuring reform of the United Nations system.
- The permanent members were “historically not enthusiastic” about reform of the UN system but they have all agreed that it is necessary for introducing changes in the Security Council.

Agri-Import Surge in India

Context: India is facing a dual challenge in the agricultural sector, pricing dependence on imported pulses and edible oils, & falling returns for domestic farmers cultivating crops like soybean & moong.

This trend not only undermines self-reliance in essential food commodities but also raises critical questions about the sustainability and resilience of India’s agri-economy in the long term.

What’s the issue?

- **Pulses Imports:** In 2024–25, India imported 7.3 million tonnes (mt) of pulses worth \$5.5 billion, breaking previous records set in 2016–17. The surge follows a sharp decline in imports over the last five years, driven by earlier gains in domestic production.
- **Vegetable Oil Imports:** Edible oil imports hit 16.4 mt in 2024–25, double the volume a decade ago.
- India now depends on imports for over 60% of its vegetable oil consumption.

Reasons for rising Imports:

- Weather Shocks:** El Niño-induced drought in 2023–24 led to a dip in pulses production from 27.3 mt (2021–22) to 24.2 mt, causing inflation and triggering duty cuts on imports.
- Government Procurement Apathy:** Despite an MSP of ₹8,682 per quintal for moong, farmers are forced to sell at ₹6,000 due to poor procurement. Farmers growing pulses & oilseeds lack the assured procurement available to rice & wheat growers.
- Policy Moves Encouraging Imports:** In May 2025, the Centre cut basic customs duty on crude palm, soyabean, and sunflower oils from 20% to 10%, slashing the total tariff from 27.5% to 16.5%.
- Underdeveloped Mining Sector:** Only ~10% of India’s mineral-rich geography has been explored due to outdated policies and low private investment.
- Lack of Processing Infrastructure:** Inadequate oilseed crushing units and critical mineral refining capacities limit domestic value addition.

INDIA'S TOP AGRI IMPORT ITEMS (\$ million)

	2021-22	2022-23	Apr-Sep 22	Apr-Sep 23
Vegetable oils	18991.62	20837.70	11097.64	8508.76
Fresh fruits	2460.33	2483.95	1236.66	1131.58
Pulses	2228.95	1943.89	595.78	1265.23
Spices	1299.38	1336.65	755.20	774.55
Cashew	1255.46	1805.67	1412.52	968.79
Raw cotton	559.55	1438.69	1081.43	401.20
Natural rubber	1032.71	937.60	542.18	380.37
TOTAL*	32422.30	35686.20	19311.21	16444.83

*Includes other items.

Source: Department of Commerce.

Impact of Rising Imports:

- Unviable Cultivation:** Falling mandi prices for pulses & oilseeds make cultivation economically unviable.
- Sowing Disincentive:** Farmers are disincentivised from sowing soyabean and other oilseeds in the upcoming kharif season, risking a further drop in domestic production.
- Threat from Cheap Imports:** The Soyabean Processors Association of India has warned that cheaper imports could flood the market, harming farmer incomes and rural livelihoods.
- Rural Livelihood Stress:** Lower earnings from agriculture contribute to rural distress, migration, and economic insecurity.
- Erosion of Crop Diversification:** Farmers revert to rice or wheat due to assured procurement, weakening efforts to promote sustainable crop diversification.

Way forward:

- Strengthen MSP Procurement:** Provide institutional support for oilseeds and pulses, similar to rice and wheat, ensuring fair prices to farmers.
- Climate-Resilient Agriculture:** Promote drought-tolerant, short-duration pulse and oilseed varieties to safeguard against erratic weather.
- Boost Domestic Processing Capacity:** Increase investments in oil extraction and pulse milling to make domestic production competitive.
- Review Import Duty Structure Periodically:** Maintain a balance between controlling food inflation and protecting farmers interests.

- e. **Promote Diversification of Crops:** Incentivise farmers to grow pulses and oilseeds through subsidies, extension services, and assured marketing.

Government schemes

Scheme / Initiative	Description	Launched / Major Update (June 2025)	Implementing Ministry
Bharat Forecasting System	High-resolution (6 km grid) weather forecasting system to improve prediction accuracy for monsoons, cyclones, etc.	Launched 26 May 2025	Ministry of Earth Sciences
National Broadband Mission 2.0	Aims to extend optical fiber connectivity to 2.7 lakh villages, enable 100 Mbps speeds, and support 5G/6G infrastructure	Launched 17 Jan 2025; continued rollout in June 2025	Department of Telecommunications, Ministry of Communications
PM JANMAN & Dharti Aaba Outreach (Janjatiya Gaurav Varsh)	Tribal welfare drive across 1 lakh+ villages delivering entitlements like Ayushman cards, pensions, Aadhaar, Jan	Active June 2025	Cabinet Secretariat (tribal outreach), Ministry of Tribal Affairs, + 16 other ministries

Scheme / Initiative	Description	Launched / Major Update (June 2025)	Implementing Ministry
	Dhan accounts		
Scheme to Promote Manufacturing of Electric Passenger Cars in India (SPMEPCI)	Boosts domestic EV production via reduced import duty (15% on CBUs), with DVA and investment criteria	Rules updated March 2024; featured in UPSC current affairs in June 2025	Ministry of Heavy Industries
EPFO Auto-Settlement Limit Increase	Raised auto-settlement threshold for advance PF claims from ₹1 lakh to ₹5 lakh to ease member benefits	Announced 25 June 2025	Ministry of Labour & Employment (EPFO)
Bhashini – National Language Translation Mission	Real-time multilingual translation for e-governance platforms; integrated with Panchayati Raj systems	MoU signed June 2025	Ministry of Electronics & IT (MeitY), Ministry of Panchayati Raj
Training of Trainers (ToT) under RGSA	Enhances panchayat trainers' capacity to improve own-source revenue collection and governance	Launched June 2025	Ministry of Panchayati Raj (with IIM Ahmedabad & IIPA)

Scheme / Initiative	Description	Launched / Major Update (June 2025)	Implementing Ministry
SVAMITVA Yojana	Uses drone technology for mapping rural land and issuing property cards; over 65 lakh cards distributed	Ongoing through 2025	Ministry of Panchayati Raj

Other important schemes:

Poverty:

a. PM SVANidhi

UPI-linked credit cards with a Rs.30000 limit for street vendors to enhance financial inclusion. Launched on June 1, 2024 by the Ministry of Housing and Urban Affairs.



EXTENSION OF PM SVANIDHI SCHEME

Posted On: 08 DEC 2022 2:45PM by PIB Delhi

The Government of India has extended the PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi) Scheme beyond March, 2022 with the following provisions:

1. Extension of lending period till December 2024;
2. Introduction of 3rd loan of upto ₹50,000 in addition to 1st & 2nd loans of ₹10,000 and ₹20,000 respectively.
3. To extend 'SVANidhi Se Samriddhi' component for all beneficiaries of PM SVANidhi scheme across the country;

b. SWAMIH Fund 2.0:

A Rs. 15,000 crore fund to complete 1 lakh stalled housing units. Introduced on November 6, 2019 to provide priority debt financing for the completion of stalled residential projects, the first SWAMIH fund scheme is managed by SBICAP Ventures Ltd, a State Bank Group company.

c. Urban challenge fund:

Urban Challenge Fund (UCF) of Rs 1 lakh crore aims to encourage states to think innovatively towards attaining sustainable urbanization and redevelopment goals in existing cities. Fund is to implement the proposals for 'Cities as Growth Hubs', 'Creative Redevelopment of Cities' and 'Water & Sanitation'.

The fund was announced in Budget 2025-26.

d. Jal Jeevan Mission extension:

Focused on rural piped water supply infrastructure until 2028. In 2019, only 3.23 crore (17%) of rural households had tap water connections. As of 2024, it covered 15 crore households (80% of rural India).

Youth:

a. 50,000 Atal Tinkering Labs:

In 2024, the Union Cabinet decided to extend Atal Tinkering labs (ATLs) under NITI AAYOG, marking the launch of AIM 2.0 to strengthen India's innovation ecosystem until 2028. The main objective of AIM2.O is to expand and deepen India's innovation and entrepreneurship ecosystem.

50,000 Atal Tinkering labs will be established in government schools over five years to foster innovation.

b. Skilling Initiatives:

Under the Rural Prosperity and Resilience program to address agricultural underemployment.

c. Centre for AI in Education:

Rs.500 crore allocated to advance AI-driven learning.

d. 10,000 New Medical Seats:

Part of a plan to add 75,000 seats in five years.

Farmers:

a. Prime Minister Dhan-Dhaanya Krishi Yojana: Targets 100 low-productivity districts to improve irrigation, storage, and credit access for 1.7 crore farmers.

b. Makhana Board in Bihar: To boost production and value addition of Makhana (foxnuts).

Makhana Board to be established in Bihar

Govt to focus on sustainable harnessing of fisheries, especially in Andaman and Nicobar Islands, Lakshwadeep

PM Dhan Dhanya Krishi Yojana announced to enhance agri productivity, benefit 1.7 crore farmers

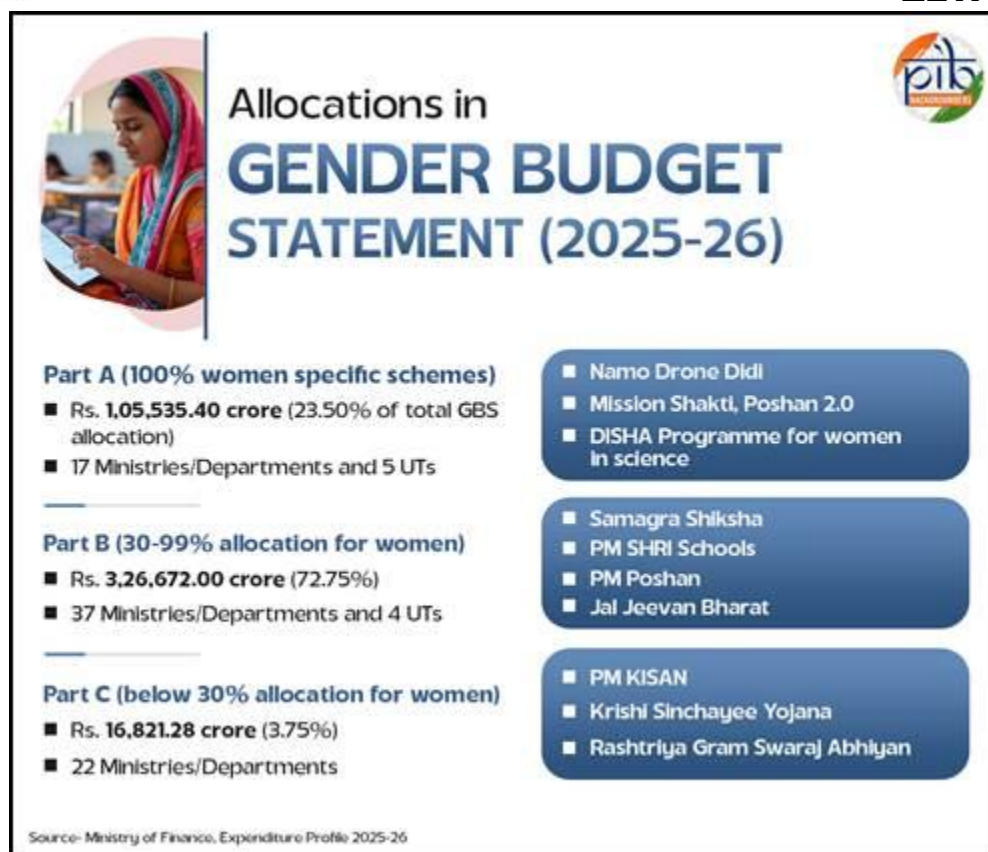
UNION
BUDGET
2025



- c. **Sustainable Fisheries Framework:** Focuses on Andaman and Nicobar and Lakshadweep. Sustainable fisheries management involves practices that ensure fish populations and their ecosystems are maintained at healthy levels, supporting both present and future needs
- d. **Enhanced Kisan Credit Card (KCC) Limit:** Increased from Rs.3 Lakh to Rs.5 lakh for 7.7 crore farmers.
- e. **Atma Nirbharta in Pulses:** The PM-AASHA scheme helps farmers get fair prices through price support, price deficiency payments, and private procurement initiatives. In Budget 2025, the government launched the Mission for Atma Nirbharta in Pulses for climate resilient seeds and procurement of Tur, Urad and Masoor.

Women:

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- Gender Budget Allocation:** Rs.4.49 lakh crore with 9% of the total budget dedicated to women-centric schemes.
- PMMVY Omission:** the Maternity benefit scheme's absence from the budget raises concerns about tracking allocations.
- National Rural Livelihood Mission (NRLM):** Upgraded a Part A of the Gender Budget, emphasis=ing Self-Help Group (SHG)-led empowerment.
- Target of 70% Women in Economic Activities:** Part of the Viksit Bharat vision.

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Schemes for Tribal People:

Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (JANMAN)

Elevating PVTG* socio-economically
in 18 States & Andaman-Nicobar

Benefits to more than 28L+ people
in 22.5K+ habitations
across 220 districts

11 critical interventions
for essential amenities -
pucca house,
road connectivity,
piped water supply etc



- Identification of gaps, implementation and monitoring mechanism
- Enhancing socio-economic status
- Improving community infrastructure
- Saturating individuals/households with Government Schemes
- Provision of Funds

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Foundational
Features of PM
JANMAN

- Inter-Ministerial Convergence
- Alignment of Schemes/Programs
- Coverage of the scheme

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Thank you, Monish Sir, for your consistent guidance. Your daily feedback on my GS 2 and GS 4 answers helped me identify gaps and improve steadily. Greatful for your time and support.

- Madhav Agarwal, AIR 16

Expressing my gratitude to Monish Sir. I wrote daily GS 2 and GS 4 answers before prelims under his guidance. It helped me to identify mistakes early on.

- Suramya Sharma, AIR 281

Monish Sir helped me improve the quality of my answers. The personal attention given by Sir on my answer copies with detailed feedbacks helped me a lot. I thank Sir for my success.

- Gaurav Singh, AIR 859



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- **Madhav Agarwal, AIR 16**

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