MONTHLY MAGAZINE · JUNE 2026

FIRST PRINCIPLES IAS
CLARITY. DISCIPLINE. EXCELLENCE.

Nuance Brief

TEN SUBJECTS · 115 STORIES

UPSC CSE



The Strait of Hormuz from space

02 WORLD · 03 ECONOMY

One strait ran through the whole syllabus

The Hormuz closure shaped the Reserve Bank's hold at 5.25 per cent, the price of fuel and the fate of the rupee. The Islamabad Memorandum makes reopening the strait its first step.

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01 POLITY

The Supreme Court upholds the SIR and draws a line

The Election Commission may check eligibility. It does not decide citizenship.

p. 7

04 ENVIRONMENT

A smaller worst case, the same danger

New climate scenarios retire RCP8.5. Warming reached 1.37°C in 2025.

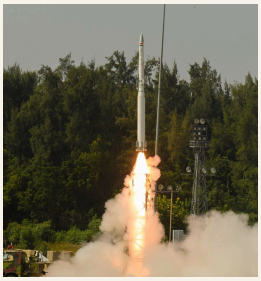
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Chips: packaging, not 3 nm fabs

NITI Aayog asks India to build mature nodes and packaging first.

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Sudarshan Chakra tested

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From the Editors

June 2026 was a month in which one event abroad ran through almost every subject on the syllabus. The war in West Asia, which closed the Strait of Hormuz in late March, set the terms for the Reserve Bank's policy, the government's fuel prices and the rupee. At home, the courts and the Election Commission took decisions that will shape the year's politics. This issue gathers 117 articles across ten subjects. The six threads below are the ones we would read first.

Hormuz, oil and the rupee

About two fifths of India's crude came through the Strait of Hormuz before the war. Dearer oil hit inflation forecasts, fuel prices and the currency all at once. The Reserve Bank held the repo rate at 5.25 per cent and raised its inflation forecast to 5.1 per cent. The Centre and the Reserve Bank opened the door wider to foreign money to steady the rupee. In June the Islamabad Memorandum, a 14 point agreement between the United States and Iran, halted the fighting and named the reopening of the strait as its first step. → pages 27, 51, 45, 48

Rolls, judges and footpaths

The Supreme Court held that the Election Commission may check eligibility but does not decide citizenship. The Special Intensive Revision of electoral rolls then entered its third phase, covering about 36.7 crore electors. An ordinance raised the Court's own sanctioned strength from 34 to 38, the first time the strength has grown without an Act. In June the Court also held that walking on safe footpaths is a fundamental right. → pages 7, 10, 12

A smaller worst case, the same danger

The new emissions scenarios retire RCP8.5. Human caused warming still reached 1.37°C in 2025, and the carbon budget for 1.5°C has about three years left. At Bonn India pressed for finance, a dialogue on unilateral trade measures and a working Just Transition Mechanism. At home, 14 Indian cities are among the world's fifty most heat vulnerable.
→ pages 58, 61, 66

Chips and medicines

A NITI Aayog report advised India to put public money into mature nodes, compound semiconductors and packaging rather than chase the most advanced chips. Nine of the twelve approved projects are packaging units. After children died from a contaminated syrup, the Health Ministry tightened the sale of cough syrups and banned sixteen fixed dose combinations. → pages 79, 81

Fewer children, older States

India's total fertility rate stayed at 1.9, below the replacement level of 2.1. All but six States are now below it, from Bihar at 2.9 to Delhi at 1.2. The numbers frame two arguments that follow in the year: how the States share seats, and whether the population programme should change course. → page 107

Islands and shields

In Seychelles, at fifty, India signed nine agreements, brought UPI to the islands and welcomed Seychelles into the Coalition for Disaster Resilient Infrastructure. It is the latest step of the MAHASAGAR vision. Closer home, DRDO flight tested a multi layered ballistic missile defence in June. The Defence Minister described Mission Sudarshan Chakra as a three layered shield. → pages 24, 101

The Editors

FIVE TO REMEMBER

1. The policy corridor: repo rate 5.25 per cent, Standing Deposit Facility 5.00 per cent, Marginal Standing Facility 5.50 per cent.
2. An ordinance under Article 123 raised the Supreme Court's sanctioned strength to 38, the Chief Justice included.
3. India's total fertility rate is 1.9 (Sample Registration System, 2024); replacement is 2.1.
4. RCP8.5 is retired under CMIP7; human caused warming was 1.37°C in 2025.
5. The industrial and wholesale price indices moved to the base 2022-23, and India published its first Producer Price Indices.

FIRST PRINCIPLES IAS

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About us

First Principles IAS is an institute for the civil services examination. Our name is our method: we begin each topic from the idea underneath it, what a law does, why a treaty was signed, how a technology works, and build up to the news, so that a student can answer a question she has not seen before.

Every article in this magazine is written from primary sources, among them the Press Information Bureau, ministries, the Supreme Court and High Courts, the Reserve Bank, the statistics office and international bodies, and each fact is checked against its source before it goes in. The articles follow the themes of the syllabus, and every Lead and Standard is linked to the past questions on its issue.

The same articles, with their links from month to month, are on our website.

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Geography Optional Foundation Course by Rajesh Govindraj sir, for Papers I and II of Mains.

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HOW TO READ THIS MAGAZINE

Lead	the month's biggest stories, with background, analysis, the way forward and at least one map or diagram.
Standard	an issue explained in full: what it is, what happened and why it matters.
Brief	a short item for Prelims, with its exam lens.
Priority	very high, high or moderate: how likely the issue is to be asked, in our judgement.
Exam lens	what to remember for Prelims and what to prepare for Mains.
Asked before	past UPSC questions on the same issue, so that each topic is read against the exam.

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Facts are as reported in the month of the issue. This magazine is for UPSC preparation and is not an official government publication.

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THE MONTH AT A GLANCE

- The Supreme Court holds that walking on a safe footpath is a fundamental right. The municipality must provide it.
- An ordinance raises the Supreme Court's strength from 34 to 38 judges. It is the first time the strength has grown without an Act.
- The Court upholds the Special Intensive Revision but draws a line: the Election Commission checks eligibility, not citizenship.
- Petitioners take the Transgender Amendment Act to the Supreme Court, and with it the question of self identification.
- Tamil Nadu's Assembly unites against Mekedatu. On the Tungabhadra, a fixed sharing formula shows how a basin can work.
- Foreign funded organisations must now show ₹10 lakh of work in two years to keep their registration.

LEAD · VERY HIGH · PRELIMS AND MAINS

The Special Intensive Revision of electoral rolls

WHY IN NEWS

- The Election Commission's **Special Intensive Revision** (SIR) of electoral rolls was in its third phase in June 2026, covering **16 States and three Union Territories** and about **36.7 crore electors**.
- The Supreme Court upheld the exercise in May 2026, in *Association for Democratic Reforms v. Election Commission of India*, holding that the Commission may check eligibility but does not decide citizenship.
- House to house enumeration began in Delhi at the end of June.
- In a separate petition heard in June, the petitioners said that Aadhaar was being misused as proof of citizenship and residence.

BACKGROUND

- An **electoral roll** is the list of persons entitled to vote in a constituency. It is normally updated every year by a summary revision, which adds and removes names from the existing list.
- An intensive revision prepares the roll afresh, through house to house enumeration by Booth Level Officers, with every elector filling an enumeration form.
- The power to order the revision has two sources. **Article 324** vests the superintendence, direction and control of the preparation of rolls and the conduct of elections in the Election Commission. **Section 21(3)** of the **Representation of the People Act, 1950** allows a special revision at any time for reasons recorded.
- **Article 326** gives the vote to every citizen of 18 years or more on the qualifying date who is not otherwise disqualified. Citizenship is thus a condition of being on the roll.
- The exercise began with Bihar in 2025 and went to a second group of States. The third phase, announced in May 2026, covers the whole country except Himachal Pradesh, Jammu and Kashmir and Ladakh, whose schedules are to follow.

KEY TERM

Elector and voter

- **Elector**: a person whose name is on the electoral roll of a constituency, and so entitled to vote there. The Elector's Photo Identity Card takes its name from this term.
- **Voter**: an elector who actually casts a vote.
- Every voter is an elector, but not every elector votes.

KEY TERM

Qualifying date

The date on which a person must have turned 18 to be enrolled in a revision. The third phase uses 1 July 2026 for eleven States and Union Territories and 1 October 2026 for eight.

KEY TERM

Booth Level Officer

The local official, usually a government employee, who verifies the electors of one polling station area and collects their forms.

WHAT THE SUPREME COURT HELD

- A Bench of Chief Justice Surya Kant and Justice Joymalya Bagchi unanimously upheld the SIR. An exercise is not unconstitutional merely because it follows a different procedure from the usual revision.
- The Commission's power to adopt its own method flows from Article 324 and Section 21(3), and the SIR advances the goal of accurate, inclusive and legally valid rolls.
- The Court rejected the claim that the revision had led to mass exclusion of voters in Bihar.
- It drew a line: the Commission may check whether a person is eligible to be on the roll, but citizenship is decided under the **Citizenship Act, 1955**, by the authorities that law names.
- No name may be removed without notice, a hearing and a right of appeal.

KEY NUMBERS

- About 36.7 crore: electors in the third phase, across 16 States and three Union Territories

How a Special Intensive Revision works

From house to house enumeration to the final roll, with the Court's four conditions

1 Enumeration
Booth Level Officers visit every house; each elector fills a form.

▶

2 Draft roll
Published at the end of enumeration, polling stations rationalised.

▶

3 Claims
One month to seek inclusion (Form 6) or object to a name.

▶

4 Hearings
The Electoral Registration Officer hears doubtful cases.

▶

5 Final roll
Due between 6 September and 23 December 2026, State by State.

The conditions the Supreme Court set in May 2026

- The Commission checks **eligibility**; citizenship is decided under the **Citizenship Act, 1955**.
- No deletion without **notice**, a **hearing** and a right of **appeal**.
- Aadhaar and the voter identity card prove identity, not citizenship (**Section 9, Aadhaar Act**).
- The power rests on **Article 324** and Section 21(3) of the Representation of the People Act, 1950.

Form 6 and Form 7: putting a name on the roll, and taking one off

The two forms of the claims and objections stage, both prescribed by the Registration of Electors Rules, 1960

Form 6
Claim to include a name

Who files

- A new elector who turns 18 on the qualifying date
- An eligible person left out of the draft roll
- A person moving in from another State
- Overseas electors use Form 6A, and Form 8 covers a shift or a correction

Added in the revision

- A declaration of citizenship, age and ordinary residence, with documents
- The name enters the final roll only after the declaration

Form 7
Objection to a name on the roll

Who files

- Any elector of the same constituency
- The objection can be to the elector's own entry or to another's

Grounds

Dead · Shifted · Duplicate · Under age · Not a citizen · Not ordinarily resident

Safeguards against wrong deletion

- Every Form 7 goes on a public list, Form 10, with the objector, the person objected to and the reason
- The registration officer acts only after the list has been up for seven days
- The person objected to gets notice and a hearing, so no name goes off the roll unheard

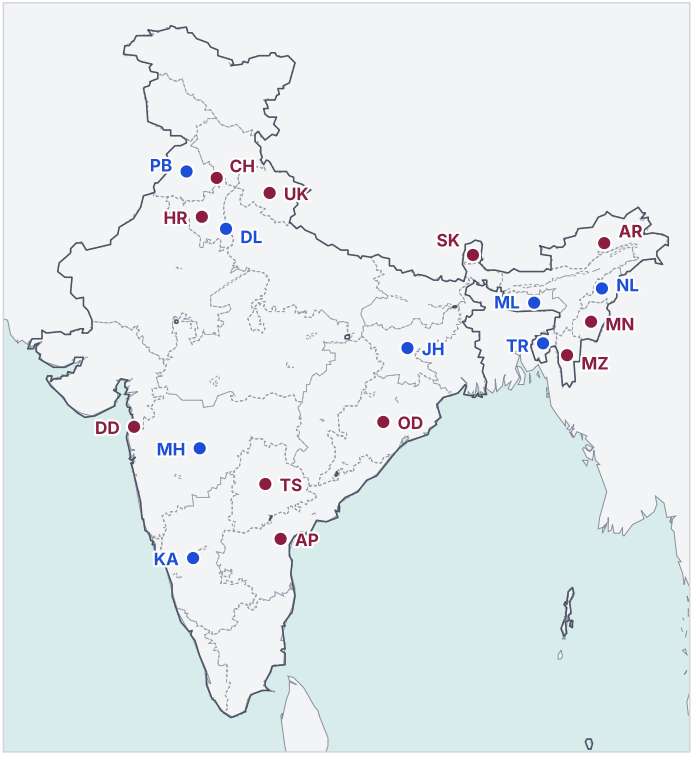
Who must prove what

Under Form 6 the applicant proves eligibility. Under Form 7 the objector proves ineligibility.

A false declaration on either form can mean up to one year in jail, a fine or both, under the Representation of the People Act, 1950.

The third phase of the Special Intensive Revision

India as the Survey of India depicts it; State boundaries dashed. Positions schematic, not to scale.



Qualifying date 1 July 2026 (11)

- OD Odisha · MZ Mizoram · SK Sikkim · MN Manipur
- DD Dadra and Nagar Haveli and Daman and Diu
- UK Uttarakhand · AP Andhra Pradesh
- AR Arunachal Pradesh · HR Haryana
- CH Chandigarh · TS Telangana

Qualifying date 1 October 2026 (8)

- PB Punjab · KA Karnataka · ML Meghalaya
- MH Maharashtra · JH Jharkhand · DL Delhi
- NL Nagaland · TR Tripura

The phase in numbers

- **36.7 crore** electors
- Not yet scheduled: Himachal Pradesh, Jammu and Kashmir, Ladakh

WHY IT IS CONTESTED

- Scale of deletions: reports said that a Home Ministry committee on demographic change was likely to study about **6.5 crore** names deleted in earlier phases.
- The burden on the voter: a person asked to prove eligibility must produce documents that the poor, migrants and married women who have moved often lack.
- Citizenship by the back door: critics say a check of eligibility becomes, in practice, a test of citizenship by an

authority not meant to decide it.
- The case for it: rolls carry the dead, the shifted and duplicates, and a clean roll is a condition of a free and fair election.

AADHAAR AND THE ROLL

- Aadhaar and the voter identity card prove identity, not citizenship.
- **Section 9 of the Aadhaar Act, 2016** says that an Aadhaar number is not proof of citizenship or domicile.
- The revision accepts Aadhaar as proof of identity. The June petition asked the Court to stop the use of Aadhaar as proof of residence and citizenship, and the Court sought the responses of the Centre and the States.

ANALYSIS

- **The Court protected the method and fenced the purpose.** It accepted that the Commission may choose how to clean the roll, but refused to let an electoral exercise decide who is a citizen.
- **The burden of proof is the real issue.** A revision that starts from a fresh roll asks every elector to prove a place on it. Yet *Lal Babu Hussein* (1995) held that a person already on the roll cannot be asked to prove citizenship without material against him.
- **Deletions need audit, not trust.** With crores of names removed across phases, only published reasons, by category and constituency, can show whether the roll became cleaner or merely smaller.
- **Timing matters.** Final rolls arrive between September and December 2026. An appeal not decided before the next election means a vote lost, whatever the Court says later.

THE WAY FORWARD

- Publish the reasons for each deletion, by category, so that the exercise can be audited.
- Accept a wide list of documents, and place the duty of verification on the State and not on the voter.
- Decide appeals before an election is held on the revised roll.
- Keep the roll separate from welfare and citizenship records, as the Court has said.

EXAM LENS

- **Prelims**:
  - Article 324, superintendence of elections
  - Article 326, adult suffrage at 18
  - Rolls under the Representation of the People Act, 1950 (Section 21(3), special revision), elections under the Act of 1951
  - Form 6, application for inclusion
  - Section 9 of the Aadhaar Act, Aadhaar not proof of citizenship
- **Mains**: Can the Election Commission, while revising electoral rolls, examine the citizenship of voters? Discuss with reference to the Special Intensive Revision.
- **Asked before**: Prelims 2018; Mains 2026 GS2: "Is the right to vote a fundamental right? Discuss the position of the Election Commission…".

CASES TO CITE

- *Mohinder Singh Gill v. Chief Election Commissioner* (1978): Article 324 is a reservoir of power where the law is silent, to be exercised fairly.
- *Lal Babu Hussein v. Electoral Registration Officer* (1995): a person on the roll cannot be asked to prove citizenship afresh without material against him.
- *Association for Democratic Reforms v. Election Commission of India* (2026): the SIR upheld, with notice, hearing and appeal before any deletion.

NOTES

LEAD · VERY HIGH · PRELIMS AND MAINS

The Supreme Court's strength raised by ordinance

WHY IN NEWS

- In June 2026 five new judges took the oath in the Supreme Court.
- One of the five, V. Mohana, was a senior advocate, appointed directly from the Bar.
- The new judges filled posts opened by the **Supreme Court (Number of Judges) Amendment Ordinance, 2026**. The President promulgated the ordinance under **Article 123** in May 2026, and it raised the Court's sanctioned strength, including the Chief Justice, from **34 to 38**.
- Every earlier increase came through an amending Act, but this one came through an ordinance. The judges were therefore sworn into seats that existed only for as long as the ordinance lived.

BACKGROUND

- **Article 124(1)** fixes the Court at a Chief Justice and seven other judges "until Parliament by law prescribes a larger number". No constitutional amendment is needed to raise it.
- Parliament does this through the **Supreme Court (Number of Judges) Act, 1956**. The strength, including the Chief Justice, was 8 in 1950 and rose by amending Acts to 11 (1956), 14 (1960), 18 (1977), 26 (1986), 31 (2008) and 34 (2019).

- The President appoints judges under Article 124(2). Since the Second and Third Judges cases (1993 and 1998) the President acts on the recommendation of the **collegium**, the Chief Justice and the four senior most judges.

KEY TERM

Ordinance

- **What it is**: a law made by the President under Article 123, or a Governor under Article 213, when the legislature is not in session and immediate action is needed.
- **Force**: it has the force of an Act of the legislature.
- **Life**: it must be laid before the legislature when it reassembles, and it lapses six weeks after that unless the legislature approves it.
- **Longest life**: the gap between two sessions can be at most six months. An ordinance can therefore live at most six months and six weeks.

KEY TERM

Sanctioned strength

The number of judges' posts that the law provides. Working strength is the number of judges actually in office.

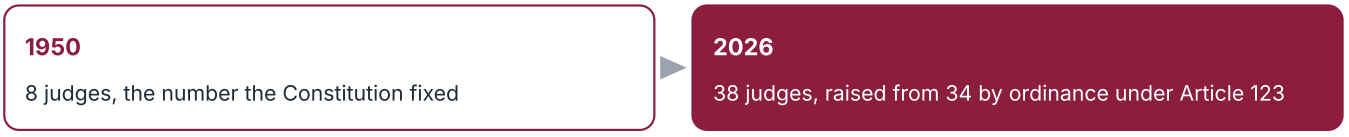
THE ORDINANCE QUESTION

- An ordinance is meant for urgency that cannot wait for Parliament. The Union Cabinet had already cleared a proposal for four more judges before the ordinance, so a Bill could have been introduced in the next session.
- Because the ordinance would lapse if Parliament did not replace it, four of the Court's posts depended on the executive getting a law passed.
- Critics see a risk to judicial independence: the Union is the largest litigant before the Court, and a judge's seat should not depend on the government's legislative agenda.
- Supporters answer that every appointment went through the **collegium**, that the ordinance only created posts and did not choose who filled them, and that Parliament was certain to approve.
- An ordinance is subject to judicial review: in *Krishna Kumar Singh* (2017) the Court held that the satisfaction of the President or Governor can be examined and that laying before the legislature is mandatory.

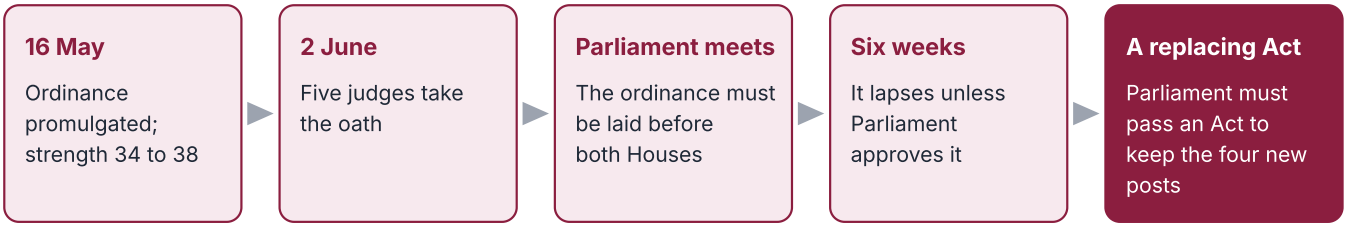
The Supreme Court's strength: raised by Act six times, by ordinance once

Article 124(1) lets Parliament fix the number by law; the Supreme Court (Number of Judges) Act, 1956

Sanctioned strength, including the Chief Justice of India



The life of the ordinance



Sources: the 1956 Act as amended; SCC Online, 18 May 2026; Supreme Court Observer, June 2026.

PENDENCY AS THE REASON

- The ordinance was justified by the growing backlog and workload of the Court. At the end of June more than **94,000 cases** were pending.
- More judges allow more benches to sit at once, including **Constitution Benches** of five or more judges, which many references await.
- But numbers alone do not address the Court's huge load of appeals, the way cases are listed, or the time lost to vacancies.

ANALYSIS

- **Independence is about structure, not intention.** No one suggests the government meant to pressure the new judges. The concern is that a seat which can lapse is held at the pleasure of whoever controls the legislature.
- **The collegium filled the gap quickly.** Recommendations within days of the ordinance show that the appointments system can move fast when posts exist. This speed weakens the argument that vacancies come only from delay in recommending.
- **More judges are not more justice.** A Court that hears thousands of special leave petitions a year will absorb four judges without changing its pendency, unless the way it takes up cases is reformed.

KEY NUMBERS

- 38: the sanctioned strength including the Chief Justice (34 before the ordinance)
- About 94,000: cases pending in the Supreme Court at the end of June 2026
- 6 weeks: the life of an ordinance after Parliament reassembles, unless replaced by an Act

THE WAY FORWARD

- Fix the Court's strength by Act and not by ordinance, since no urgency of this kind prevents Parliament from legislating.
- Pair more judges with reform of how cases reach the Court: limits on routine special leave appeals, and **Constitution Benches** that sit throughout the year.
- Fill vacancies before they arise, by recommending in advance of known retirement dates.

EXAM LENS

- **Prelims**:
  - Article 124(1), Parliament fixes the number of judges by law
  - The Supreme Court (Number of Judges) Act, 1956
  - Strength now 38 including the Chief Justice
  - Article 123, ordinance lapses six weeks after Parliament reassembles
  - The collegium from the Second (1993) and Third (1998) Judges cases
- **Mains**: Was the use of an ordinance to raise the strength of the Supreme Court consistent with the purpose of Article 123? Discuss with reference to judicial independence.
- **Asked before**: Prelims 2025, 2014; Mains 2025 GS2: "Discuss the evolution of collegium system in India. Critically examine the advantages and...".

CASES TO CITE

- *D.C. Wadhwa v. State of Bihar* (1987): repeated repromulgation of ordinances is a fraud on the Constitution.
- *Krishna Kumar Singh v. State of Bihar* (2017): ordinance making is subject to judicial review; laying before the legislature is mandatory.
- *Supreme Court Advocates on Record Association v. Union of India* (2015): the National Judicial Appointments Commission struck down to protect judicial primacy in appointments.

NOTES

LEAD · HIGH · PRELIMS AND MAINS

The right to walk on safe footpaths

WHY IN NEWS

- In June 2026 the Supreme Court held that walking on safe, demarcated footpaths is a **fundamental right** flowing from **Article 19(1)(d)** and **Article 21**.
- A Bench of Justices P.S. Narasimha and A.S. Chandurkar decided the case, *Maniyar Iliyaz v. P. Ayyappan*. The case began as a claim for compensation under the **Motor Vehicles Act, 1988**, after a father lost his five year old son while taking him to school.
- The Court directed development authorities, municipalities and panchayats to build and protect footpaths, and asked the Union to consider a law.

BACKGROUND

- Article 21 protects life and personal liberty. Since *Maneka Gandhi* (1978) the Court has read it to protect what makes life worth living, and not mere animal existence.
- Article 19(1)(d) gives every citizen the freedom to move freely throughout the territory of India, subject to reasonable restrictions under Article 19(5).
- Roads are a municipal function in the **Twelfth Schedule**, which the **74th Amendment (1992)** added. They are also a panchayat function in the **Eleventh Schedule**, which the 73rd Amendment (1992) added. So the duty the Court named falls mainly on local governments.

KEY TERM

Public law compensation

Money that the State pays for violating a fundamental right, awarded by a constitutional court under Article 32 or 226. It is separate from ordinary civil damages, and the State cannot escape it by pleading that its officers acted in good faith.

WHAT THE COURT HELD

- The freedom to move means little if a person cannot walk without risk to life, so the right to walk flows from Articles 19(1)(d) and 21 together.
- The right is primary: pedestrians have **priority over motor vehicles** on public roads.
- It carries a correlative duty. Wherever a road exists, urban development authorities, municipal corporations, municipalities and panchayats must demarcate, construct, maintain and protect footpaths and other pedestrian infrastructure.
- A citizen whose right is violated may claim compensation from the responsible authority under **Article 32**, apart from any claim under the Motor Vehicles Act.
- The Court favoured an **independent regulator** for pedestrian infrastructure, free of government and industry control. It sent the judgment to the Union

through the Ministries of Housing and Urban Affairs, Rural Development, and Road Transport and Highways.

The right to walk on safe footpaths

How the Supreme Court built the right in June 2026, and who must provide it

Article 19(1)(d)
Every citizen may move freely throughout the territory of India.

Article 21
Life and personal liberty, read since 1978 as a life with dignity.

The right to walk
Safe, demarcated footpaths; pedestrians have priority over motor vehicles.

Who must act
Development authorities, municipalities and panchayats: demarcate, build, maintain, protect.

The remedy
Compensation under Article 32 against the authority, apart from the Motor Vehicles Act claim.

What the Court left to Parliament and the government

- An **independent regulator** for pedestrian infrastructure, free of government and industry control.
- A law: the judgment went to the Ministries of **Housing and Urban Affairs**, **Rural Development** and **Road Transport and Highways**.
- Money: the duty falls on local bodies, whose functions are listed in the **Twelfth** and **Eleventh Schedules**, and whose funds depend on State Finance Commissions.

KEY TERM

Twelfth Schedule

The list of 18 functions that a State may assign to urban local bodies, among them urban planning and roads and bridges, added by the 74th Amendment, 1992.

THE GROWTH OF ARTICLE 21

- The Court has read into Article 21 the rights to livelihood (*Olga Tellis*, 1985), to health, to shelter, to a clean environment and to privacy (*Puttaswamy*, 2017).
- Each new right turns a matter of policy into an entitlement that a court will enforce. The right to walk is the first to be built on the safety of public space itself.
- Article 19 rights belong to citizens alone, but Article 21 protects every person. The duty to keep footpaths safe is therefore owed to anyone who walks on them.

ANALYSIS

- **A right with a named duty bearer.** Unlike most Article 21 readings, this one says who must act: the municipality or panchayat that controls the road. That makes the right easier to enforce than a general promise of dignity.
- **Compensation is the real lever.** Allowing claims under Article 32 against the authority, beyond the driver's insurer, gives local bodies a financial reason to build and clear footpaths.
- **The weakest tier carries the heaviest load.** Local bodies cannot fund footpaths without the share of funds that the 73rd and 74th Amendments promised and most States have not devolved. The State Finance Commission question is therefore the other half of this case.
- **The Court stops short of legislating.** By sending the judgment to three ministries rather than framing standards itself, the Court leaves the design to Parliament and the executive, as the separation of powers requires. Yet a right declared without a budget, a standard or a law may stay on paper.
- **Vendors are the hard case.** Vending is a right under Article 19(1)(g), subject to reasonable restrictions, and no vendor has a right to a particular spot (*Sodan Singh*, 1989). The Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014 lets towns mark vending zones so that footpaths stay open to walkers.

THE WAY FORWARD

- Write footpaths into municipal budgets and master plans, with minimum widths and standards for accessibility.
- Give local bodies the funds and powers the 74th Amendment promised, through timely State Finance Commissions.
- Remove encroachments with the rehabilitation of vendors that the street vendors law requires.
- Legislate, so that the right rests on a statute and a regulator and not on litigation alone.

EXAM LENS

- **Prelims**:
  - The right rests on Articles 19(1)(d) and 21
  - Article 19 rights belong to citizens, Article 21 protects every person
  - The Twelfth Schedule (18 functions) was added by the 74th Amendment and the Eleventh (29 subjects) by the 73rd
  - Article 32 allows compensation for violation of a fundamental right (*Nilabati Behera*, 1993)

- **Mains**: "Each new right read into Article 21 is a promise that someone must pay for." Examine with reference to the right to walk on safe footpaths.
- **Asked before**: Mains 2023 GS2: ""The Constitution of India is a living instrument with capabilities of enormous dynamism...."; Mains 2022 GS2: ""Right of movement and residence throughout the territory of India are freely available to...".

CASES TO CITE

- *Maneka Gandhi v. Union of India* (1978): the procedure that takes away liberty must be just, fair and reasonable.
- *Olga Tellis v. Bombay Municipal Corporation* (1985): the right to life includes the right to livelihood.
- *Nilabati Behera v. State of Orissa* (1993): the State must pay compensation for violating a fundamental right.
- *Maniyar Iliyaz v. P. Ayyappan* (2026): the right to walk on safe, demarcated footpaths.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Transgender Persons Amendment Act, 2026: Supreme Court to hear the challenges

WHAT IT IS

- The **Transgender Persons (Protection of Rights) Amendment Act, 2026** amends the Act of 2019. It replaces the broad 2019 definition with a list of categories.
- It ends **self identification**. The **District Magistrate** now issues a certificate of identity on the recommendation of a **medical board**.

WHAT HAPPENED

- In June 2026 the Supreme Court stayed High Court proceedings on challenges to the Act and issued notice on the Union's petition to transfer them to itself (*Union of India v. Nai Bhor Sanstha*).
- The Solicitor General asked for a **three judge Bench**, since two judges decided the 2014 ruling on which the challengers rely. A larger Bench could reconsider that ruling.



KEY TERM

Article 139A

The Supreme Court's power to withdraw to itself cases on the same questions of law pending before different High Courts, so that rulings do not conflict.

WHY IT MATTERS

- In *National Legal Services Authority v. Union of India* (2014) the Court recognised the right to **self identify one's gender** under Articles 14, 19 and 21. Medical verification goes to the heart of that ruling, and *Puttaswamy* (2017) placed gender identity within privacy.

- The State's case is protection against people who force others into transgender identities for begging and servitude.

EXAM LENS

- **Prelims**:
  - The 2019 Act and the 2026 amendment
  - The District Magistrate and the medical board
  - NALSA (2014), self identification under Articles 14, 19 and 21
  - Article 139A, transfer of cases
- **Mains**: Examine whether medical verification of gender under the 2026 amendment can be reconciled with the right to self identification recognised in 2014.
- **Asked before**: Mains 2026 GS2: "Right to privacy relating to self-identity is very dear to every human being and well prot...".

NOTES

STANDARD · MODERATE · PRELIMS AND MAINS

West Bengal Assembly passes a Bill for 12 month preventive detention

WHAT IT IS

- **Preventive detention** is detention to stop a person from acting against the security of the State or public order, without a trial for a past offence.
- Parliament may make such a law for the defence and security of India under Entry 9 of the Union List; Parliament and the States may both make one for the security of a State and the maintenance of **public order** under **Entry 3 of the Concurrent List**.
- **Article 22(4) to (7)** sets the safeguards:
  - no detention beyond three months without the opinion of an **Advisory Board**;
  - the grounds to be communicated as soon as may be;
  - the earliest opportunity to represent against the order.

WHAT HAPPENED

- In June 2026 the West Bengal Assembly passed the **West Bengal Public Safety and Control of Anti Social Activities Bill, 2026**.
- The State government may detain a person for up to **12 months** to prevent anti social activities. An Advisory Board headed by a serving or former High Court judge reviews the orders.

WHY IT MATTERS

- The main objection is to detention on anticipated conduct. A wide definition of a goonda lets the State hold a person without proving any crime. Courts have confined such detention to threats to public order, not ordinary law and order.
- The State's case is that gangs intimidate witnesses so that ordinary prosecution fails.

KEY TERM

Public order and law and order

Public order is disturbed when the even tempo of the life of the community is affected; a crime that affects only individuals is a matter of law and order. Preventive detention is justified only for the first (*Ram Manohar Lohia*, 1966).

EXAM LENS

- **Prelims**:
  - Article 22(4) to (7)
  - Advisory Board for detention beyond three months
  - Entry 9 of List I and Entry 3 of List III
  - Detention of up to 12 months under the 2026 West Bengal Bill
- **Mains**: "Preventive detention is a necessary evil, but the evil must be kept small." Discuss with reference to the West Bengal law of 2026.
- **Asked before**: Prelims 2023.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

State Finance Commissions: a committee lists the data they need

WHAT IT IS

- Every five years the Governor constitutes a **State Finance Commission** under **Article 243I** (panchayats) and Article 243Y (municipalities). It recommends how the State should share its taxes with local bodies and what grants they should get.

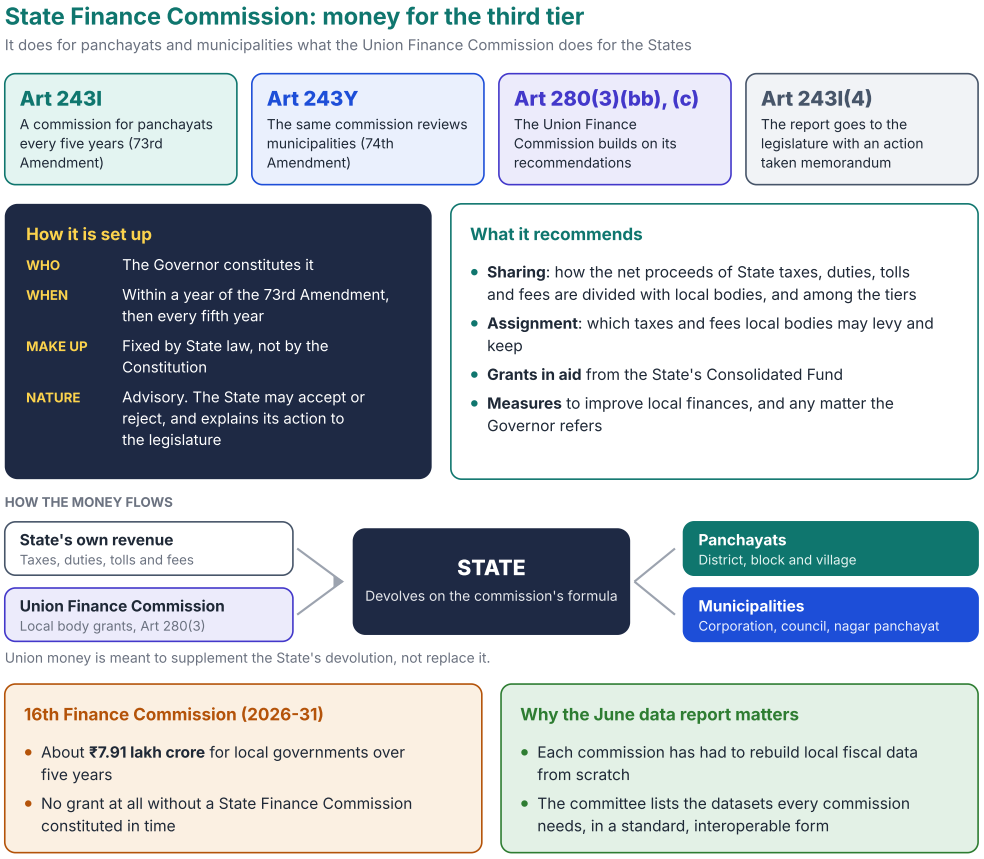
WHAT HAPPENED

- In June 2026 the **Ministry of Panchayati Raj** released the **Report of the Committee on Datasets for State Finance Commissions**. The report identifies the datasets every commission needs and recommends standard, interoperable data.

WHY IT MATTERS

- Money now depends on these commissions. The **16th Finance Commission** gives no local body grant to a State without a State Finance Commission constituted in time.
- The record was poor. In 2020 only **15 States** had set up their fifth or sixth commission. The 15th Finance Commission then tied its grants to a timely commission and an **action taken memorandum**. By November 2024

Arunachal Pradesh was the only State without a commission.



KEY TERM

Action taken memorandum

The State government's statement, laid before its legislature, of what it has done on each recommendation of its finance commission.

EXAM LENS

- **Prelims**:
  - Article 243I (panchayats) and 243Y (municipalities), every five years, constituted by the Governor
  - Article 280(3)(bb) and (c)
  - The 16th Finance Commission's 41 per cent share of the divisible pool and ₹7.9 lakh crore for local bodies over 2026-31
  - The timely State Finance Commission as an entry condition
- **Mains**: "Finance Commission grants have done more for State Finance Commissions than the Constitution did." Examine.
- **Asked before**: Mains 2022 GS2: “To what extent, in your opinion, has the decentralisation of power in India changed the go…”; Mains 2018 GS2: “Assess the importance of the Panchayat system in India as a part of local government. Apar…”.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

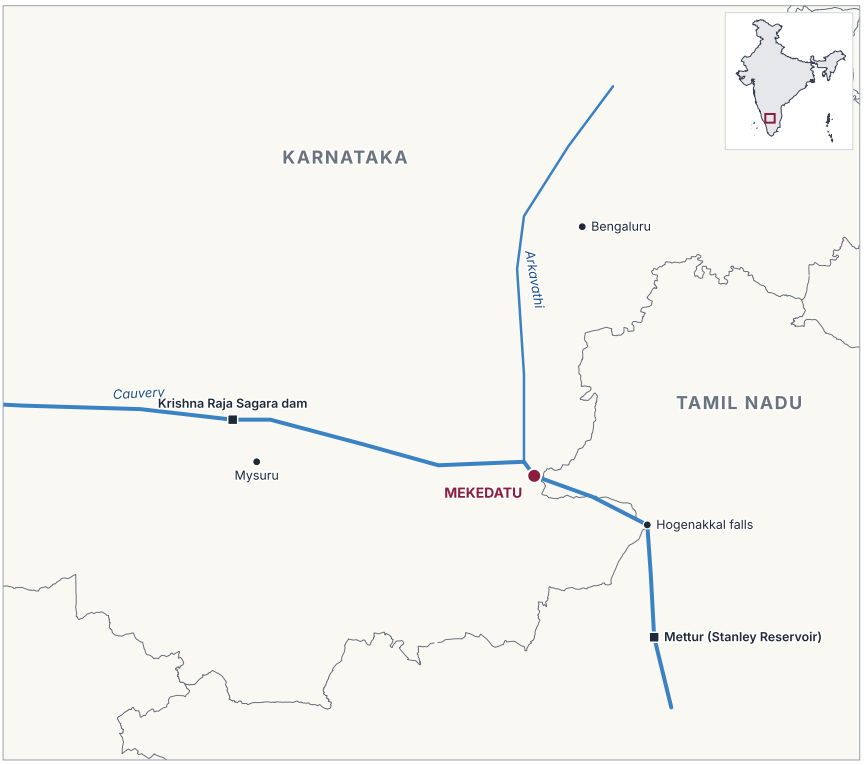
Tamil Nadu Assembly resolves against the Mekedatu reservoir

WHAT IT IS

- The **Cauvery Water Management Authority** implements the sharing of the river between **Karnataka**, **Tamil Nadu**, Kerala and Puducherry. The Supreme Court set it up in 2018 while modifying the Cauvery Water Disputes Tribunal's award (2007).
- **Mekedatu** is a reservoir that Karnataka proposes on the Cauvery at a gorge near the Tamil Nadu border. Tamil Nadu fears it will let Karnataka hold back water due downstream.
- Inter State water disputes fall under **Article 262** and the **Inter State River Water Disputes Act, 1956**, which bars courts from disputes a tribunal hears.

Mekedatu, on the Cauvery

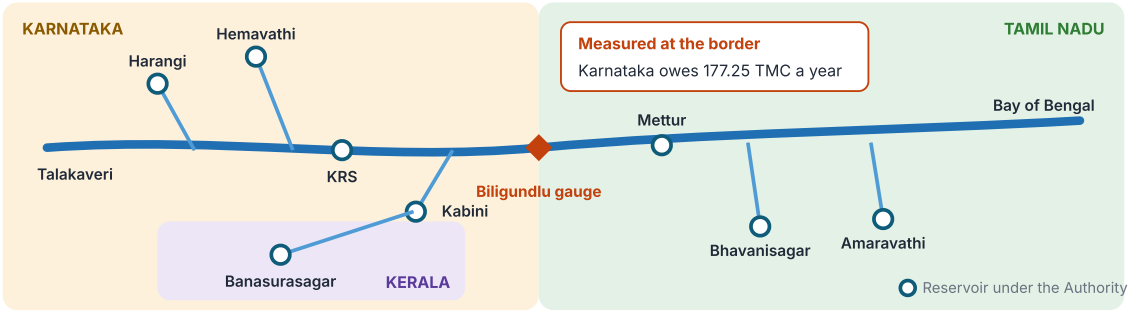
Where Karnataka proposes the reservoir, a few kilometres above the Tamil Nadu border. Rivers schematic.



Rivers drawn schematically, not to scale.
Boundaries: DataMeet India (CC BY 4.0), following the Survey of India outer boundary.

Who manages the Cauvery

Four States share one river. The Authority decides, the Committee measures, and the Biligundlu gauge is the test.



The Authority (CWMA)

- The Cauvery Water Management Authority, set up in 2018 under the Supreme Court's order
- A chairman and eight members, four of them from the States
- **Decides** storage, sharing and releases, and supervises the eight reservoirs
- Its decisions bind the States

The Committee (CWRC)

- The Cauvery Water Regulation Committee, the Authority's technical arm
- **Measures** daily flows at Biligundlu
- **Recommends** releases, which the Authority endorses or changes

Central Water Commission

- Runs the gauges, including Biligundlu
- **Appraises** project reports such as Mekedatu and sends a technical note to the Authority

WHO GETS WHAT (TMC A YEAR, 2018 JUDGMENT)



Tamil Nadu 404.25 · Karnataka 284.75 · Kerala 30 · Puducherry 7 · Environment and sea 14

WHAT HAPPENED

- In June 2026 the Tamil Nadu Assembly adopted a **unanimous resolution** asking the Centre to deny every approval for Mekedatu.
- Tamil Nadu also opposes the new guidelines of the Central Water Commission, the apex technical body under the Ministry of Jal Shakti, for appraising projects in the basin. The guidelines contain a **presumptive concurrence** clause.

How a project in the Cauvery basin is appraised

The Central Water Commission's guidelines, and the step Tamil Nadu contests

1 State report
The State submits a preliminary report.

2 CWC scrutiny
The Central Water Commission checks hydrology and inter State aspects.

3 Project report
Preparation of the detailed project report is approved.

4 Technical note
The CWC sends a technical note to the Cauvery Water Management Authority.

5 Authority's view
The Authority gives its view, or is presumed to concur after six months.

6 Other clearances
Environmental and tribal clearances follow.

Where Tamil Nadu objects

- Step 5: under the new guidelines, the Authority's **silence for six months counts as agreement**.
- The Assembly's **June 2026** resolution asks the Centre to deny every clearance and the CWC not to process the report.

KEY TERM

Presumptive concurrence

Treating an authority's silence within a set time as its agreement. Here, the Authority is presumed to concur if it gives no view on a project report within six months.

WHY IT MATTERS

- The appraisal chain decides who can stop a project. Tamil Nadu's objection is to the fifth step, where the Authority's silence would count as consent and move the project to its other clearances.
- The case tests cooperative federalism, because an Authority built to implement an award is being asked to judge a new project that the award did not foresee.

EXAM LENS

- **Prelims**:
  - Article 262 and the Inter State River Water Disputes Act, 1956
  - The Cauvery Water Disputes Tribunal (award 2007) and the Supreme Court's 2018 modification
  - The Cauvery Water Management Authority
  - Mekedatu on the Cauvery in Karnataka near the Tamil Nadu border
  - The Central Water Commission appraises project reports
- **Mains**: Is the Cauvery Water Management Authority equipped to resolve disputes over new projects, or only to implement an award? Examine with reference to Mekedatu.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

FCRA Rules, 2026: ₹10 lakh of work in two years to keep registration

WHAT IT IS

- The **Foreign Contribution (Regulation) Act, 2010** (FCRA) regulates the receipt and use of foreign donations by associations, to keep foreign money from activities detrimental to the national interest.
- An organisation needs a certificate of registration from the **Ministry of Home Affairs**. A certificate is valid for **five years**.
- The 2020 amendment barred onward transfer of foreign contribution, capped administrative expenses at 20 per cent, and required every receipt to come into the State Bank of India's New Delhi Main Branch. The Supreme Court upheld it in *Noel Harper v. Union of India* (2022).

WHAT HAPPENED

- In June 2026 the Ministry notified the **Foreign Contribution (Regulation) Amendment Rules, 2026**.
- An organisation must now declare its **social media accounts** and the States where it will work, and name its purposes from a list of **105 approved purposes**.
- **Reasonable activity**, which the Act never defined, now means using at least **₹10 lakh** of foreign contribution in the previous two financial years. An organisation must meet this test to obtain or renew a certificate.

	2020 amendment to the Act	2026 amendment to the Rules
Main aim	where foreign money goes	what an organisation does with it, and where

WHY IT MATTERS

- The ₹10 lakh test gives the Ministry a standard where it had none. But a fixed sum treats a village library and a national charity alike, and small organisations may lose their registration for being small.
- Declaring social media accounts brings an organisation's speech within the regulator's view. The requirement bears on the freedom of association under **Article 19(1)(c)**.

EXAM LENS

- **Prelims**:
  - FCRA, 2010 under the Ministry of Home Affairs
  - Registration for five years
  - The 2020 amendment (no transfer, 20 per cent administrative cap, SBI New Delhi Main Branch)
  - *Noel Harper* (2022)
  - The 2026 Rules' ₹10 lakh reasonable activity test
- **Mains**: Do the FCRA Rules of 2026 strike the right balance between accountability for foreign funds and the freedom of association of civil society? Discuss.

NOTES

STANDARD · MODERATE · PRELIMS AND MAINS

Jal Jeevan Mission 2.0: panchayats to run village water schemes

WHAT IT IS

- The **Jal Jeevan Mission** aims to give every rural household a functional tap water connection. Each connection should supply **55 litres a person a day** of water that meets the Bureau of Indian Standards specification **IS 10500**.
- In March 2026 the Cabinet extended the mission to December 2028. Its second phase shifts the focus from building taps to reliable service and community ownership.
- Drinking water is a State subject, and each completed system passes to the **Gram Panchayat**.

SCHEMES TO KNOW

- **Jal Jeevan Mission** (2019; second phase from 2026; Ministry of Jal Shakti)
  - Jal Arpan: handover of a completed scheme to the Gram Panchayat.
  - Jal Seva Aankalan: a yearly assessment of water service in each village.

WHAT HAPPENED

- Under the **16th Finance Commission**, **half of the basic grants** to rural local bodies are tied to water and sanitation. In June 2026 the Ministry of Jal Shakti made **Gram Panchayat Development Plans** a primary condition for releasing these grants.

Tier	Its role in the second phase
State Water and Sanitation Mission	sets the State's policy for operation and maintenance
District Water and Sanitation Mission	prepares village plans; hands schemes over to panchayats
Gram Panchayat and Village Water and Sanitation Committee	runs supply in the village; collects user charges; tests water quality

WHY IT MATTERS

- The first phase left a risk of taps that give no water. Only the panchayat can protect sources, carry out repairs and pay operators every day.
- Tied grants give panchayats money they can plan for, and the Gram Sabha's approval of the plan strengthens local planning.

EXAM LENS

- **Prelims**:
  - The Jal Jeevan Mission under the Ministry of Jal Shakti
  - 55 litres a person a day
  - IS 10500
  - Jal Arpan and Jal Seva Aankalan
  - Half of the 16th Finance Commission's basic grants tied to water and sanitation
  - Gram Panchayat Development Plans approved by the Gram Sabha
- **Mains**: Can the Gram Panchayat sustain rural water supply once the taps are built? Discuss with reference to the second phase of the Jal Jeevan Mission.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Draft rules for AI in courts bar risk scoring for bail

WHAT IT IS

- The draft **Regulations for Use of Artificial Intelligence in Courts, 2026**, prepared by the **Supreme Court's AI Committee**, are a framework of **57 regulations** for every court and tribunal in India.

- **Regulation 4** makes artificial intelligence strictly assistive and subservient to human judgement.
- **Regulation 20** lists the prohibited uses, among them risk scoring for flight risk, recidivism, bail eligibility or witness credibility, and declares them **non derogable**.
- Permitted uses include transcription, translation, legal research and scheduling.

WHAT HAPPENED

- The Committee published the draft in June 2026 for comments, with about 52 million cases pending across the judiciary.

Tier	Its work
Supreme Court Apex Body	sets the framework; may not relax the prohibited uses
High Court AI Secretariats	keep the AI Register and Incident Database, run audits, publish transparency reports
High Court AI Committees	hear litigants' grievances about the use of AI in their cases

KEY TERM

Non derogable

A rule that cannot be set aside in any circumstances, not even in an emergency.

KEY TERM

Risk scoring

Using artificial intelligence to score the probability that a person will offend, reoffend or fail to appear in court.

WHY IT MATTERS

- The ban on risk scoring draws on **COMPAS**, a United States recidivism tool found to misclassify Black defendants, and on **SyRI**, a Dutch welfare risk scoring system that a court struck down in 2020.
- The oversight machinery is the weak point. The draft creates a Supreme Court Apex Body, High Court AI Secretariats and High Court AI Committees, but funds none of them. Courts buy AI tools from private vendors and must judge them largely from the vendors' own descriptions. A vendor could therefore present a risk tool as a scheduling aid.

EXAM LENS

- **Prelims**:
  - The draft Regulations for Use of AI in Courts, 2026 (57 regulations, by the Supreme Court's AI Committee)
  - Regulation 4, assistive use only
  - Regulation 20, prohibited uses, non derogable
  - COMPAS (United States) and SyRI (the Netherlands)
- **Mains**: "Artificial intelligence can help courts decide faster, but must never help them decide." Examine with reference to the draft 2026 Regulations.

NOTES

BRIEF · MODERATE · PRELIMS

Assam passes a Uniform Civil Code Bill, the third State to do so

- A **Uniform Civil Code** is one law of personal matters, marriage, divorce, adoption and inheritance, for all citizens in place of religion based personal laws. **Article 44**, a Directive Principle, asks the State to endeavour to secure such a code, but no court can enforce this directive.
- In May 2026 the **Assam** Assembly passed a Uniform Civil Code Bill, making Assam the third State, after **Uttarakhand** and **Gujarat**, to legislate a code. The Bill exempts the **Scheduled Tribes** and mandates monogamy.
- Personal law is in the Concurrent List (Entry 5). A State code that conflicts with a central law needs the President's assent under Article 254(2).

EXAM LENS

- Article 44 (Part IV, non justiciable)
- Entry 5 of the Concurrent List
- Article 254(2)
- Uttarakhand, Gujarat and Assam
- Tribal exemptions

BRIEF · MODERATE · PRELIMS

Delhi High Court sets a framework for the right to be forgotten

- The **right to be forgotten** is a person's claim to have information about him, such as old court records, removed from easy public access. Courts read it as part of **informational privacy** under **Article 21**, recognised in *Puttaswamy* (2017).
- In May 2026 the **Delhi High Court** held that courts can grant the right even without a statute (*Laksh Vir Singh Yadav v. Union of India*).
- The Court set out two remedies. **De-indexing** removes a judgment from name based search results, while **masking** replaces names with neutral references in public copies.
- Courts weigh the claim on proportionality against free speech and open justice.

EXAM LENS

- Article 21 and informational privacy (K.S. *Puttaswamy*, 2017)
- De-indexing against masking
- Acquitted persons and matrimonial parties as the typical claimants

Asked before: Prelims 2024; Mains 2024 GS2: “Right to privacy is intrinsic to life and personal liberty and is inherently protected und...”.

BRIEF · MODERATE · PRELIMS

Haryana and Rajasthan sign a pact on Yamuna water for Churu, Sikar and Jhunjhunu

- The **Upper Yamuna agreement of 1994** divides the river's water among the basin States: Himachal Pradesh, Uttarakhand, Haryana, Uttar Pradesh, Rajasthan and Delhi. The agreement also envisaged three storage dams, Renuka, Kishau and Lakhwar, which remain incomplete.
- In June 2026 **Haryana** and **Rajasthan** signed a memorandum of understanding to carry about **580 million cubic metres** of Yamuna water a year to Rajasthan, from July to October.
- Rajasthan's share will come from the **Hathnikund barrage**, where the Yamuna leaves the Shivaliks. Three underground pipelines, routed through the Western Yamuna Canal system, will carry the water to Churu, Sikar and Jhunjhunu.
- The pact settles a claim that had been pending for nearly three decades.

EXAM LENS

- The Upper Yamuna agreement of 1994
- The Hathnikund barrage in Yamunanagar, Haryana
- The Renuka, Kishau and Lakhwar projects
- The Upper Yamuna River Board

BRIEF · MODERATE · PRELIMS

NITI Aayog Governing Council: all 28 Chief Ministers meet on human development

- The **Governing Council of NITI Aayog** brings together the Prime Minister, the Chief Ministers of all States and Union Territories with legislatures, and the Lieutenant Governors of the other Union Territories. The Council's resolutions are recommendatory and do not bind the States.
- The **11th meeting**, chaired by the Prime Minister in June 2026 in New Delhi, took the theme "**Inclusive Human Development for Viksit Bharat@2047**".
- The theme rested on **four pillars** (figure).
- All 28 State Chief Ministers took part together for the first time, including those of States ruled by opposition parties.

Inclusive Human Development for Viksit Bharat@2047: the four pillars

The theme of the 11th meeting of the NITI Aayog Governing Council, June 2026



EXAM LENS

- NITI Aayog set up on 1 January 2015 by a Cabinet resolution, replacing the Planning Commission
- The Governing Council
- Cooperative federalism without constitutional or statutory status

Asked before: Prelims 2015; Mains 2018 GS3: “How are the principles followed by the NITI Aayog different from those followed by the ers...”.

BRIEF · MODERATE · PRELIMS AND MAINS

Tungabhadra dam gets 33 new crest gates

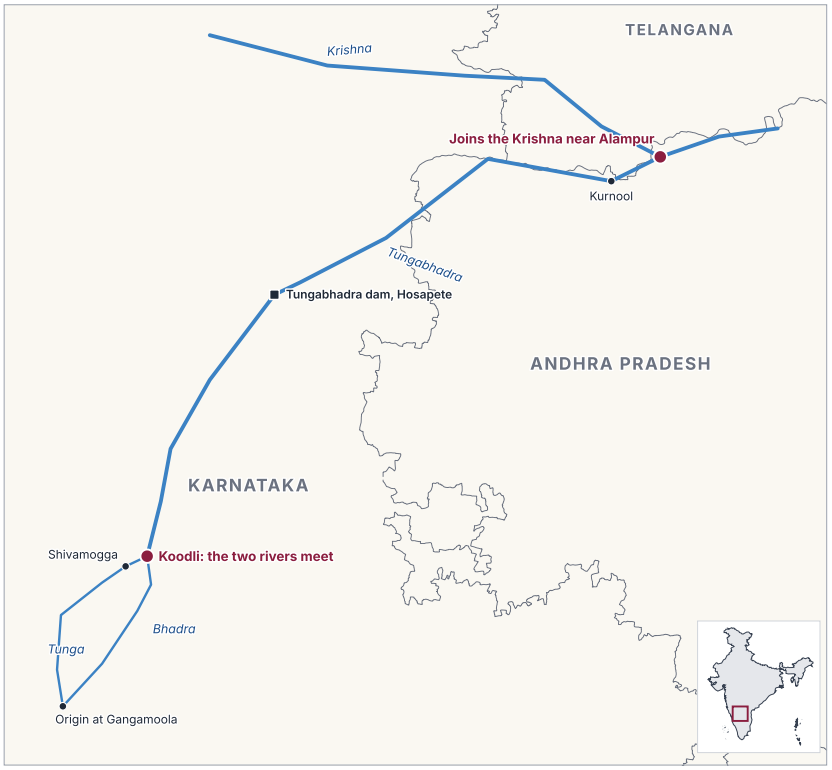
- The **Tungabhadra**, a tributary of the **Krishna**, is formed where the Tunga and the Bhadra join near Shivamogga, and both rivers rise in the Western Ghats. The Tungabhadra dam at **Hosapete** irrigates land in Karnataka, Andhra Pradesh and Telangana.
- In June 2026 the Chief Ministers of the three States and the Union Jal Shakti Minister inaugurated **33 new crest gates**, after one gate was washed away in August 2024.
- The **Tungabhadra Board** regulates supplies under the award of the **Krishna Water Disputes Tribunal**, which in 1976 fixed a 65:35 share between Karnataka and undivided Andhra Pradesh. The fixed formula has kept the project largely free of disputes.

EXAM LENS

- The Tunga and Bhadra join at Koodli near Shivamogga
- The dam at Hosapete
- The Tungabhadra Board
- The Krishna Water Disputes Tribunal award of 1976

The Tungabhadra, from the Western Ghats to the Krishna

The Tunga and the Bhadra meet at Koodli; the joint river is dammed at Hosapete. Positions schematic.



Rivers drawn schematically, not to scale.
Boundaries: DataMeet India (CC BY 4.0), following the Survey of India outer boundary.

Interstate waters in the news, June 2026

India as the Survey of India depicts it; State boundaries dashed. Positions schematic, not to scale.



1 Mekedatu, on the Cauvery

- A reservoir Karnataka proposes near the **Tamil Nadu** border.
- Tamil Nadu Assembly resolution against it, **June 2026**.

2 Tungabhadra dam, Hosapete

- **33 new crest gates** inaugurated, **June 2026**.
- Krishna award of 1976: Karnataka 65 per cent, undivided Andhra Pradesh 35 per cent.
- Since 2015: Andhra Pradesh about 66 per cent and Telangana 34 per cent of the Andhra share.

3 Hathnikund barrage, on the Yamuna

- Haryana to Rajasthan MoU, **June 2026**: about **580 million cubic metres** a year.
- Pipelines to Churu, Sikar and Jhunjhunu (green).

BRIEF · MODERATE · PRELIMS

Prison Statistics India 2024: prisons at 112.7 per cent of capacity

- **Prison Statistics India** is the yearly prison report of the **National Crime Records Bureau**. Prisons are a State subject (Entry 4 of the State List).
- At the end of 2024 India's prisons held about **5.1 lakh** people, an occupancy of **112.7 per cent**.
- **Undertrials** were nearly three of every four inmates. Fewer than a thousand of them were found eligible for early release under **Section 479** of the Bharatiya Nagarik Suraksha Sanhita.

State or Union Territory	Occupancy
Delhi	194.6 per cent
Meghalaya	163.5 per cent
Jammu and Kashmir	148.3 per cent
Madhya Pradesh	147.1 per cent

EXAM LENS

- The National Crime Records Bureau
- Prisons in the State List
- Undertrials about 73 per cent of inmates
- Section 479 BNSS (formerly Section 436A CrPC)

BRIEF · MODERATE · PRELIMS

Supreme Court values a homemaker's unpaid work at ₹30,000 a month

- **Loss of domestic care** is a separate head of compensation that **Motor Accident Claims Tribunals** award for the unpaid work of a homemaker who dies in an accident. The Supreme Court recognised it in June 2026.
- In *Shishupal v. Surjeet*, the Supreme Court valued a homemaker's unpaid work at a notional minimum of **₹30,000 a month**.
- The sum stands in as monthly income where the homemaker earned nothing, and is added to proven income where she also worked outside the home.
- The Court relied on the **2019 Time Use Survey** and on earlier judgments which had held that a homemaker's work has economic value.

EXAM LENS

- The Motor Vehicles Act, 1988 and Motor Accident Claims Tribunals
- Unpaid care work and the Time Use Survey
- ₹30,000 a month as the notional minimum

NOTES



THE MONTH AT A GLANCE

- A 14 point memorandum, mediated by Pakistan, pauses the war in West Asia and names the reopening of Hormuz as its first step. India, which imports close to nine tenths of its crude, welcomes it.
- Seychelles turns fifty, and India arrives with a patrol vessel, UPI and an extradition treaty. Island diplomacy is moving from hardware to systems.
- Évian and Nice in one week bring the G7's outreach, a first meeting with the American President since Operation Sindoor, and an Innovation Roadmap with France.
- Bangladesh asks for talks on the Ganga treaty, which expires in December, and seeks China's help on the Teesta.
- The Indus Waters Treaty stays in abeyance, and a pondage award shows how far the treaty has aged.
- The trade pact with Oman comes into force on 1 June.

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LEAD · VERY HIGH · PRELIMS AND MAINS

Seychelles at fifty: a patrol vessel, UPI and an extradition treaty on the Prime Minister's visit

WHY IN NEWS

- The Prime Minister paid a state visit to **Seychelles** in June 2026 and was Guest of Honour at the fiftieth anniversary of its independence, which falls on 29 June.
- The visit also marked fifty years of diplomatic relations, which India established when Seychelles became independent in 1976.
- India gifted a fast patrol vessel for the Seychelles Coast Guard. The two sides signed nine agreements, among them an **extradition treaty**, a memorandum to bring the **Unified Payments Interface (UPI)** to the islands and an umbrella **line of credit** with the Export Import Bank of India.
- Seychelles joined the **Coalition for Disaster Resilient Infrastructure (CDRI)**, the India led body for infrastructure that can withstand disasters.

BACKGROUND

- Seychelles lies in the western Indian Ocean, north of Madagascar. Its capital, Victoria, is on the main island, **Mahé**.

- India has long supplied the islands with patrol craft, aircraft and coastal radars, and Seychelles is part of India's coastal surveillance radar network.
- Island states matter out of proportion to their size:
  - they hold vast sea zones;
  - they sit beside the shipping lanes of the Indian Ocean;
  - each casts a vote at the United Nations.
- India's framework for the region moved from **Security and Growth for All in the Region (SAGAR)**, announced in 2015, to **MAHASAGAR**, announced in Mauritius in 2025, which joins security help to development and people centred projects.
- The visit reciprocated the state visit of President Patrick Herminie to India in February 2026, when the two sides issued a Joint Vision for the partnership.

KEY TERM

MAHASAGAR

- Full form: Mutual and Holistic Advancement for Security and Growth Across Regions.
- Announced in Mauritius in 2025 as the successor to SAGAR (2015).
- Treats the Indian Ocean as a shared home whose security, sustainability and prosperity are a shared responsibility.

KEY TERM

Exclusive economic zone

- The sea up to 200 nautical miles from a country's coast, where the coastal state alone may fish and exploit resources.
- For an archipelago of scattered islands it can be hundreds of times the land area.

India's island diplomacy in the western Indian Ocean

The state visit to Seychelles, 27 to 29 June 2026, in three strands



Security

- A fast patrol vessel, **Lespwar**, built by Goa Shipyard, for the Coast Guard
- A patrol ship refitted, a Dornier aircraft upgraded, vehicles and boats for the Defence Force

Development

- An umbrella **line of credit** for the 175 million dollar package of February 2026
- A new national hospital prepared, a technical education centre, medicines under Jan Aushadhi

Systems

- **UPI** in Seychelles, an extradition treaty, seafarers' certificates, space cooperation
- Seychelles joins the **CDRI**

Natural Earth 110m (small islands marked, not drawn); India as the Survey of India depicts it. Not to scale.

From SAGAR to MAHASAGAR: fifty years with Seychelles

Milestones of India's Indian Ocean policy and the June 2026 visit

1976 — Seychelles independent on 29 June; India establishes relations

2015 — SAGAR announced; the Assumption Island facility agreed, later stalled

2025 — MAHASAGAR announced in Mauritius: security joined to development

February 2026 — The Seychelles President in India; a 175 million dollar package

June 2026 — State visit 27 to 29 June for the fiftieth anniversary; nine agreements

What changed between the two visions

- **SAGAR** (Security and Growth for All in the Region) centred on maritime security help: patrol craft, aircraft, coastal radars and training.
- **MAHASAGAR** (Mutual and Holistic Advancement for Security and Growth Across Regions) adds hospitals, housing, skills, payments and climate action, because a small island state's first worries are its budget and its coast.

KEY NUMBERS

- 115: islands in the Seychelles archipelago
- About 1.4 million square kilometres: Seychelles' exclusive economic zone, far more sea than land
- 175 million dollars: the Special Economic Package India announced during the Seychelles President's visit to India in February 2026, which the new line of credit funds

WHAT THE VISIT DELIVERED

Strand	What India gave or signed
Security	A fast patrol vessel for the Coast Guard; upgrades for the Coast Guard and the Seychelles Defence Force
Development	The umbrella line of credit for the Special Economic Package; preparations for a new Seychelles National Hospital; a Professional and Technical Education Centre
Systems	UPI through National Payments Corporation of India (NPCI) International Payments Limited and the Central Bank of Seychelles; the extradition treaty; generic medicines under the Jan Aushadhi scheme

- The patrol vessel, built by Goa Shipyard and named Lespwar, is meant for policing the exclusive economic zone against illegal fishing, piracy and trafficking.
- The Prime Minister described the defence and security of the two countries as inseparable and called the Indian Ocean an "Ocean of Opportunity".

KEY TERM

Line of credit

A loan on soft terms that one government offers another for agreed projects, usually executed by firms of the lending country; India's lines are extended through the Export-Import Bank of India.

THE COMPETITION FOR THE ISLANDS

- Other powers court the same small states with ports, loans and security pacts, and an island government can choose among them.
- India's edge is proximity, first response in disasters, training and a long record of supplying the islands' maritime forces; its weakness is thin trade.
- Local opposition still stalls the **Assumption Island** facility, agreed with Seychelles in 2015. A project seen as foreign basing becomes a liability for both governments. By contrast, the coastal surveillance radar network India supplied has worked since 2020, and the Seychelles Coast Guard runs it.

KEY TERM

Information Fusion Centre for the Indian Ocean Region

A regional centre set up by the Indian Navy in 2018 at Gurugram, in its Information Management and Analysis Centre, where partner countries share information on shipping, piracy and other threats at sea.

KEY TERM

Maritime domain awareness

Knowing what is happening at sea that could affect security, safety or the economy, built from radars, patrols, satellite data and shared information.

ANALYSIS

- **From hardware to systems.** Earlier visits gave ships and radars; this one added payments, extradition, certification and medicines, which keep a partner tied in long after a vessel is handed over.
- **MAHASAGAR is SAGAR with development attached.** The 2015 idea was security help to the island states; the 2025 version adds hospitals, housing, skills and climate action, because a small state's first worry is often its budget and its coast, not a navy.
- **The islands are a network, not a list.** Seychelles, Mauritius, Maldives and Sri Lanka together sit across the sea lanes of the western Indian Ocean, which is why India links them through the **Information Fusion Centre for the Indian Ocean Region** at Gurugram and the **Colombo Security Conclave**.
- **Thin trade is the gap.** Without commerce and investment, aid and security help alone leave the

relationship dependent on each visit, not on interests that renew themselves.

THE WAY FORWARD

- Keep projects locally owned and visible to the public: hospitals, payments, scholarships and skills.
- Widen the frame from bilateral to regional. Build maritime domain awareness together through the Gurugram fusion centre and shared radars, rather than seek bases. Work through the Colombo Security Conclave, the **Indian Ocean Rim Association** and the CDRI for disaster resilience.
- Grow trade and investment, including in the blue economy, so that the partnership rests on interests as well as assistance.

EXAM LENS

- **Prelims**:
  - Seychelles, capital Victoria on Mahé, independent on 29 June 1976
  - An archipelago of 115 islands with an exclusive economic zone of about 1.4 million square kilometres
  - SAGAR (2015) and MAHASAGAR (2025, announced in Mauritius)
  - The Information Fusion Centre for the Indian Ocean Region is at Gurugram
  - Seychelles joined the CDRI in June 2026
  - The patrol vessel Lespwar was built by Goa Shipyard
  - Assumption Island
- **Mains**: "For India, the Indian Ocean island states matter far beyond their size." Discuss with reference to the MAHASAGAR vision and the state visit to Seychelles in June 2026.
- **Asked before**: Prelims 2015; Mains 2026 GS2: ""IPMDA (Indo-Pacific Partnership for Maritime Domain Awareness) bridges the gap between In…"; Mains 2024 GS2: "Discuss the geopolitical and geostrategic importance of Maldives for India with a focus on…".

NOTES

LEAD · VERY HIGH · PRELIMS AND MAINS

The war in West Asia and the Strait of Hormuz: what India has at stake

WHY IN NEWS

- In **June 2026** the United States and Iran signed a **14 point memorandum**, known as the **Islamabad Memorandum**, which Pakistan mediated. The memorandum halted almost four months of war and opened a **60 day window** to negotiate a settlement.
- The memorandum's first step was to reopen the **Strait of Hormuz**, which Iran had closed in late March, and to lift the American naval blockade at the same time.
- The Prime Minister had welcomed the understanding, saying he hoped it would restore peace and keep shipping and commerce moving freely. At the BRICS meeting of National Security Advisers in New Delhi in June, India called the opening of the strait a welcome move.

BACKGROUND

- The war began in **February 2026**, when the United States and Israel struck Iran and Iran answered with missiles and drones across the region.
- In late March Iran closed the Strait of Hormuz, and the price shock reached every importer of Gulf oil.
- The strait lies between Iran and Oman's **Musandam peninsula**. It joins the Persian Gulf to the Gulf of Oman and is the only sea route out of the Gulf. About a fifth of the world's oil and liquefied natural gas passes through it.
- Iran has signed but not ratified the **United Nations Convention on the Law of the Sea (UNCLOS)**, and disputes the right of transit passage through the strait.
- A second chokepoint, **Bab el Mandeb**, between Yemen and Djibouti, joins the Red Sea to the Gulf of Aden.



The Strait of Hormuz from space, with Oman's Musandam peninsula jutting into it.

KEY TERM

Transit passage

The right of ships and aircraft of all countries to pass continuously and quickly through a strait used for international navigation, which UNCLOS says a coastal state may not suspend.

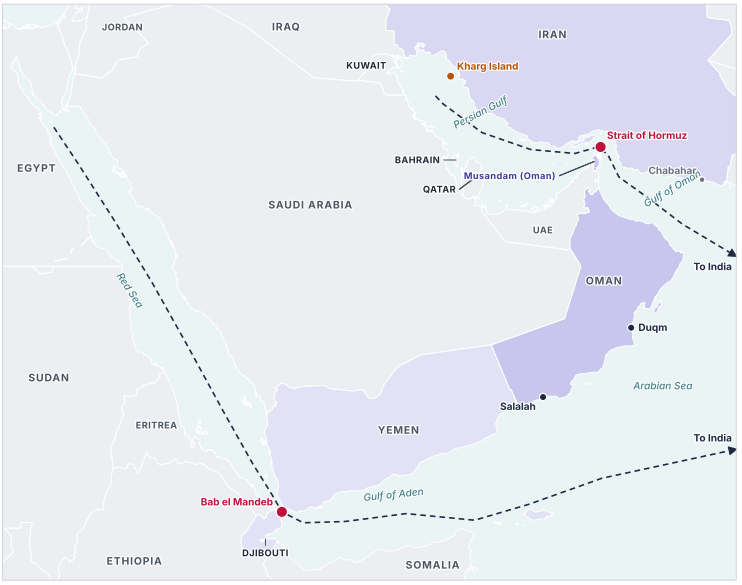
KEY TERM

Chokepoint

A narrow sea passage through which a large share of world trade must pass, so that its closure disrupts economies far away.

The Arabian Peninsula and its two chokepoints

The Strait of Hormuz and Bab el Mandeb on the sea route of Gulf oil, June 2026



Chokepoint · Oil terminal · Port · Main shipping route (schematic)

Coastlines and boundaries: Natural Earth 10m (public domain). India lies east of this map.

Two chokepoints

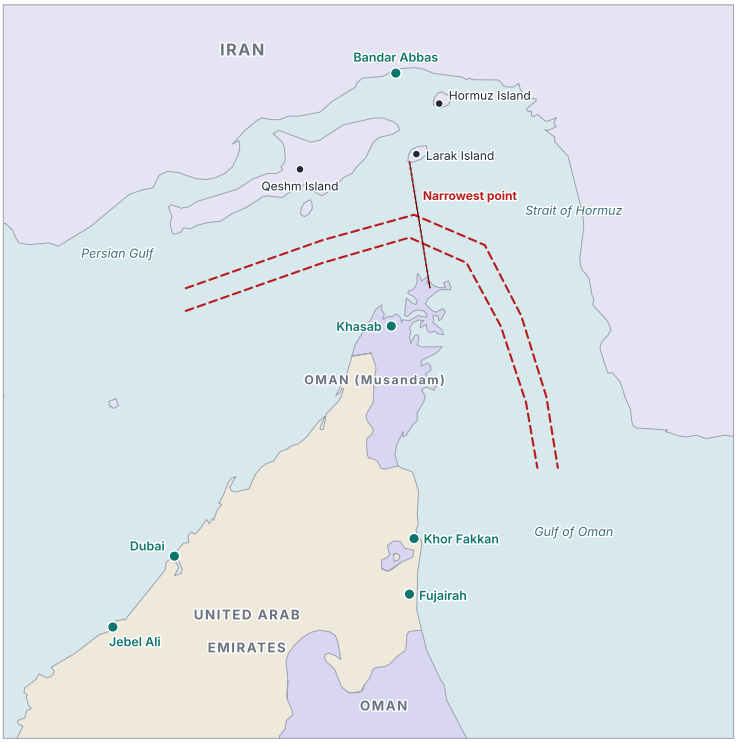
- **Strait of Hormuz**: between Iran and Oman's Musandam peninsula. The only sea route out of the Persian Gulf
- About a fifth of the world's oil and liquefied natural gas passes through it
- **Bab el Mandeb**: between Yemen and Djibouti. It joins the Red Sea to the Gulf of Aden

Around the Gulf

- **Kharg Island**, off Iran's coast, is Iran's main crude oil export terminal
- Oman's ports of **Duqm** and **Salalah** lie on the Arabian Sea, outside the strait
- The India and Oman **CEPA** came into force on 1 June 2026

The Strait of Hormuz and its ports

Iran's coast and islands to the north, Oman's Musandam peninsula to the south, the UAE's ports on either side



Shipping lanes, inbound and outbound (schematic) · Port

Fujairah and Khor Fakkan lie on the Gulf of Oman, outside the strait; Jebel Ali and Dubai lie inside the Gulf.
Coastlines and boundaries: Natural Earth 10m (public domain).

The war in West Asia, February to June 2026

From the first strikes to the memorandum of 17 June

Since 2019
Operation Sankalp: the Navy has been escorting Indian flagged ships in the Gulf of Oman

▶

28 February 2026
The United States and Israel strike Iran; Iran answers across the region

▶

Late March
Iran closes the Strait of Hormuz

▶

17 June
The Islamabad Memorandum: 14 points, mediated by Pakistan; a 60 day window; reopening of the strait first

INDIA'S STAKES

Stake	Why it matters
Energy	A record 88.7 per cent of crude imported (2025-26); about two fifths of it, and about half the LNG, came through Hormuz
People	About 9 million Indians in the Gulf; India is among the largest suppliers of the world's seafarers
Money	The Gulf is the largest regional source of the roughly 130 billion dollars of remittances (2024)
Connectivity	Chabahar port and the International North South Transport Corridor run through Iran; the India Middle East Europe Economic Corridor needs calm in the region

- Indian seafarers have paid with their lives: three Indians died in June on a tanker hit in an American strike off Oman, and India protested to Washington.

INDIA'S RESPONSE

- **Every channel open**: India has kept talking to Israel, the Gulf monarchies, the United States and Iran, and has taken no side in the war, in keeping with its strategic autonomy.
- **Navigation and seafarers first**: it has asked at every forum for freedom of navigation and the safety of seafarers.
- **More suppliers**: India spread its oil buying across more countries, including Venezuela and Russia. The India and Oman **Comprehensive Economic Partnership Agreement (CEPA)**, in force from 1 June, gives access to Oman's ports outside the strait.
- **The Navy at sea**: **Operation Sankalp**, the Indian Navy's escort mission for Indian flagged ships in the Gulf of Oman, has run since 2019.

KEY TERM

Strategic petroleum reserve

- Crude oil stored by the government in underground caverns for use in an emergency.
- India's three sites are at **Visakhapatnam**, **Mangaluru** and **Padur**, and together cover under ten days of demand.

ANALYSIS

- **Exposure is the lesson.** A country that imports close to nine tenths of its crude, much of it through one strait, has a foreign policy that a single closure can rewrite.
- **Neutrality has kept India useful, not decisive.** Talking to every side protected the diaspora and the oil, but the mediation that produced the memorandum went through Pakistan, with Qatar, Oman and China behind it.
- **Stocks are the cheapest insurance.** Reserves of under ten days leave India buying at the worst prices in every crisis. Filling the caverns in calm years is a policy choice, not a geographic fate.
- **The memorandum is a pause, not a peace.** The talks it opened were postponed within days, and the 60 day window left the strait's future to the parties.

THE WAY FORWARD

- Press at the United Nations and through BRICS for transit passage through Hormuz as a principle of the law of the sea, rather than leave it to the warring parties.
- Build oil stocks towards the International Energy Agency's norm of ninety days of net imports, with new reserve sites and commercial storage.
- Keep a standing plan for evacuating the Gulf diaspora, on the model of earlier operations, and for protecting Indian crews on foreign flagged ships.

EXAM LENS

- **Prelims**:
  - The Strait of Hormuz lies between Iran and Oman's Musandam peninsula and joins the Persian Gulf to the Gulf of Oman
  - About a fifth of the world's oil passes through it
  - Bab el Mandeb joins the Red Sea to the Gulf of Aden
  - Iran has signed but not ratified UNCLOS
  - India's strategic reserves are at Visakhapatnam, Mangaluru and Padur
  - Operation Sankalp since 2019
  - The June 2026 memorandum's 14 points and 60 day window
- **Mains**: "The war in West Asia has shown that India's energy security is a question of foreign policy as much as of economics." Examine with reference to the closure of the Strait of Hormuz in 2026.
- **Asked before**: Prelims 2026; Mains 2025 GS2: ""Energy security constitutes the dominant kingpin of India's foreign policy, and is linked…"; Mains 2017 GS2: "The question of India's Energy Security constitutes the most important part of India's eco…".

NOTES

PLACES · HIGH · PRELIMS

Places in news, June 2026

- Foreign places first, then Indian places of national standing.
- Protected areas are not listed here; the free resources maps cover them.

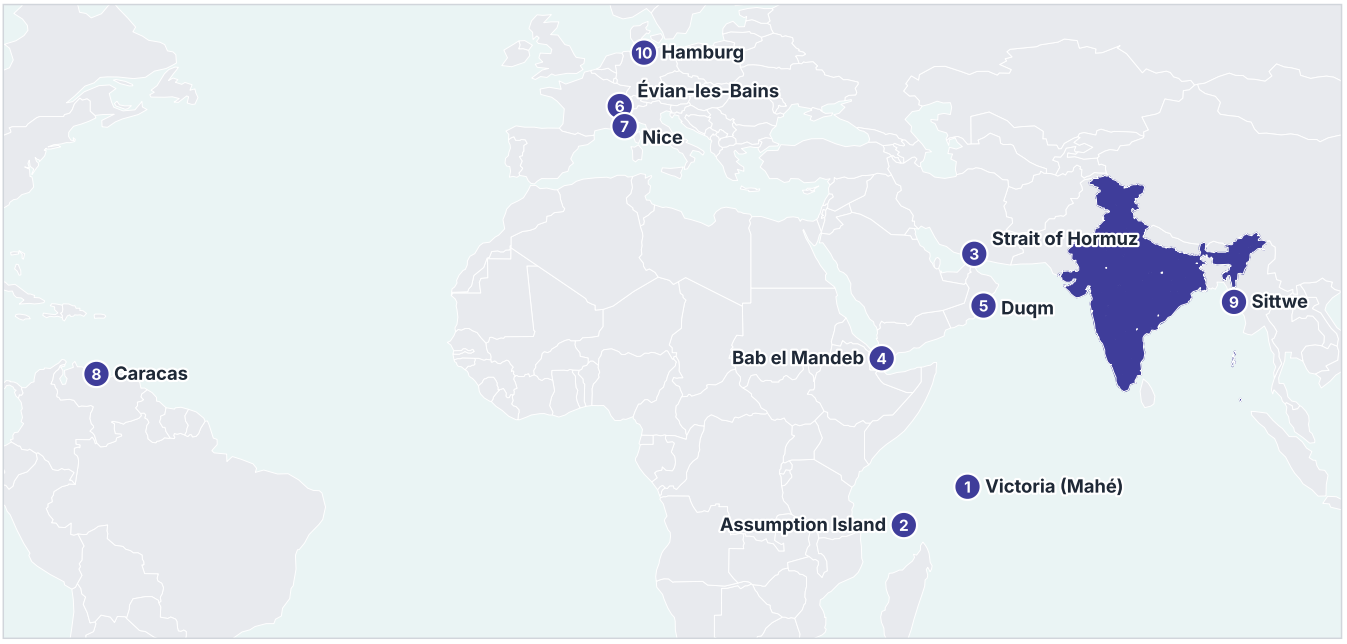
THE WIDER WORLD

No.	Place	Country	Where it is	Why in news
1	Victoria (Mahé)	Seychelles	The capital, on Mahé, the main island of an archipelago of 115 islands north of Madagascar	The Prime Minister's state visit for the fiftieth anniversary of independence
2	Assumption Island	Seychelles	An outer island of the Aldabra group, in the south west of the archipelago	The facility agreed with India in 2015, still stalled
3	Strait of Hormuz	Between Iran and Oman	Joins the Persian Gulf to the Gulf of Oman and the Arabian Sea, beside Oman's Musandam peninsula	Closed by Iran since late March; the June memorandum named its reopening as the first step
4	Bab el Mandeb	Between Yemen and Djibouti	Joins the Red Sea to the Gulf of Aden	A second chokepoint threatened as the war widened
5	Duqm	Oman	A port on Oman's Arabian Sea coast, outside the Strait of Hormuz	With Salalah, it kept supplies moving as the India and Oman pact came into force on 1 June
6	Évian-les-Bains	France	A spa town on the southern shore of Lake Geneva	The 52nd G7 Summit
7	Nice	France	On the Mediterranean coast of the Côte d'Azur	The India and France summit and Bharat Innovates
8	Caracas	Venezuela	The capital, in a valley near the Caribbean coast	Earthquakes in June; India's Operation Amistad
9	Sittwe	Myanmar	A port at the mouth of the Kaladan river in Rakhine State, on the Bay of Bengal	The Kaladan project, discussed during the Myanmar President's visit

No.	Place	Country	Where it is	Why in news
10	Hamburg	Germany	A port city on the Elbe, seat of the International Tribunal for the Law of the Sea	An Indian judge elected to the tribunal for 2026 to 2035

Places in news, June 2026: the wider world

Ten foreign places from the month's articles



Numbers follow the world table in the Places in news article. Natural Earth 110m; India as the Survey of India depicts it. Not to scale.

Places in news, June 2026: India

Twelve places from the month's articles across subjects



Twelve Indian places

- **1 Nathu La**: the Kailash Mansarovar Yatra resumes
- **2 Lipulekh**: Nepal presses its claim
- **3 Farakka**: talks on the 1996 treaty sought
- **4 Gurugram**: the Indian Ocean fusion centre
- **5 Padur**: a strategic petroleum reserve
- **6 Mekedatu**: the Cauvery reservoir opposed
- **7 Hathnikund**: Yamuna water for Rajasthan
- **8 Tungabhadra dam**: new spillway gates
- **9 Aravalli**: the Supreme Court's committee
- **10 Galathea Bay**: leatherback nests at the port site
- **11 Dholera**: the first chip fab
- **12 Tarapur**: old reactors cleared to run

Numbers follow the India table in the Places in news article. Survey of India base; State boundaries dashed. Not to scale.

INDIA

No.	Place	State	Where it is	Why in news
1	Nathu La	Sikkim	A pass in the eastern Himalaya between Sikkim and Tibet	The first batch of the Kailash Mansarovar Yatra crossed in June

No.	Place	State	Where it is	Why in news
2	Lipulekh, Kalapani and Limpiyadhura	Uttarakhand	Himalayan areas at the tri junction of India, Nepal and Tibet, above the Kali river	Nepal said in June it was pressing its claim but not seeking mediation
3	Farakka Barrage	West Bengal	On the Ganga just above where it enters Bangladesh as the Padma	Bangladesh asked in June for talks on renewing the 1996 treaty
4	Gurugram	Haryana	South west of Delhi, seat of the Information Fusion Centre for the Indian Ocean Region	The fusion centre at the heart of India's island diplomacy
5	Padur	Karnataka	On the coast near Udupi, on the Arabian Sea	One of India's three strategic petroleum reserves, with Visakhapatnam and Mangaluru, as the oil shock bit
6	Mekedatu	Karnataka	A gorge on the Cauvery near the Karnataka and Tamil Nadu border	The Tamil Nadu Assembly opposed the reservoir
7	Hathnikund barrage	Haryana	On the Yamuna where it leaves the Shivaliks, in Yamunanagar	Haryana and Rajasthan agreed to carry its water to Sikar, Churu and Jhunjhunu
8	Tungabhadra dam	Karnataka	On the Tungabhadra, a tributary of the Krishna, at Hosapete	New steel spillway gates after a crest gate was washed away in 2024
9	Aravalli range	Gujarat to Delhi	Runs about 700 km through Rajasthan and Haryana, between the Thar desert and the northern plains	The Supreme Court's High Powered Committee on its definition
10	Galathea Bay	Andaman and Nicobar Islands	On the south east coast of Great Nicobar Island	Leatherback nests found where the port is planned
11	Dholera	Gujarat	On the Gulf of Khambhat	India's first commercial chip fabrication plant is expected there
12	Tarapur	Maharashtra	On the Konkan coast north of Mumbai	Units 1 and 2, among the world's oldest operating commercial reactors, cleared for about ten more years

STANDARD · HIGH · PRELIMS AND MAINS

BRICS under India's chairship: security advisers meet in New Delhi, Uzbekistan joins the BRICS bank

WHAT IT IS

- **BRICS** began as Brazil, Russia, India and China; South Africa joined in 2010. Egypt, Ethiopia, Iran and the United Arab Emirates joined in 2024 and Indonesia in 2025, making eleven members.
- The chair rotates in the order of the acronym, and 2026 is India's fourth chairship, after 2012, 2016 and 2021. India's theme spells out the acronym: Building for Resilience, Innovation, Cooperation and Sustainability.
- The grouping's bank, the **New Development Bank**, was established in 2015 and is headquartered in Shanghai. The bank admitted its first members beyond the five founders in 2021.

WHAT HAPPENED

- In **June 2026** the New Development Bank announced that **Uzbekistan** had become its **tenth member**, the first from Central Asia.
- Later in the month India's **National Security Adviser** chaired the **16th meeting of BRICS National Security Advisers** in New Delhi, on cyber security, terrorism and artificial intelligence.
- At the meeting India welcomed the American and Iranian memorandum and called the opening of the Strait of Hormuz a welcome move.

WHY IT MATTERS

- The security advisers' meeting put two members at war with each other, Iran and the United Arab Emirates, in one room. Holding such members together is the test India's chairship faces all year.
- India wants BRICS to stay a forum for development and reform rather than an anti Western bloc. In this way India squares its BRICS membership with its Western partnerships. Cyber security and terrorism are agenda items that serve this aim.
- The bank's widening to Central Asia shows BRICS institutions growing beyond the grouping's own membership, since Uzbekistan is not a BRICS member.

KEY TERM

Strategic autonomy

Deciding one's own positions issue by issue, without belonging to a bloc; India's reason for being in BRICS and the Quad at the same time.

EXAM LENS

- **Prelims**:
  - Eleven members, Indonesia the latest (2025)
  - India's chairships 2012, 2016, 2021 and 2026
  - The New Development Bank (established 2015, Shanghai), ten members with Uzbekistan in June 2026
  - The 16th NSA meeting in New Delhi

- **Mains**: how India can chair an expanded BRICS whose members are at war with each other without letting it become an anti Western platform.
- **Asked before**: Prelims 2025, 2016; Mains 2026 GS2: ""BRICS acts as a powerful counterweight in global governance, actively amplifying the voic...".

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

India at the 52nd G7 Summit, Évian

WHAT IT IS

- The **Group of Seven (G7)** brings together the United States, the United Kingdom, France, Germany, Italy, Japan and Canada, with the European Union attending. It has no treaty or permanent secretariat and works through a rotating presidency that decides whom to invite.
- India was first invited to a G7 summit in 2003, also at Évian. It has been invited to every summit since 2019 and takes part in the outreach sessions.

WHAT HAPPENED

- The **52nd G7 Summit** was held at **Évian-les-Bains**, France, in June 2026. France invited Brazil, Egypt, India, Kenya, South Korea, Qatar, Ukraine and the United Arab Emirates.
- The Prime Minister spoke at the outreach session, pressing for development partnerships between equals and a fair voice for the **Global South**.
- The G7 issued statements on global economic imbalances, critical mineral supply chains and artificial intelligence.
- In bilateral meetings, India and Canada agreed to aim to conclude a **Comprehensive Economic Partnership Agreement** in 2026. India also backed Canada's bid to become a dialogue partner of the **Indian Ocean Rim Association**.
- India and the United Kingdom reviewed the **India UK Vision 2035**. The Prime Minister also met the President of the United States for the first time since Operation Sindoor.

WHY IT MATTERS

- India gains more from G7 outreach in bilateral meetings and in shaping agendas such as critical minerals than from summit texts it does not sign.
- The **G20**, where India is a full member, remains India's main channel for a Global South agenda. The G7 is where India meets the advanced economies on their own ground.

KEY TERM

Global South

The developing countries of Asia, Africa and Latin America, used as a political grouping.

EXAM LENS

- **Prelims**:
  - G7 members (seven countries, the EU attending)
  - No secretariat
  - 52nd summit at Évian-les-Bains, France, June 2026
  - India first invited in 2003
  - At every summit since 2019
  - Canada's bid for IORA dialogue partnership
  - India UK Vision 2035
- **Mains**: what India gains from attending G7 summits as an outreach partner rather than a member.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

India and Oman: the trade pact comes into force

WHAT IT IS

- The **India and Oman Comprehensive Economic Partnership Agreement (CEPA)**, signed in Muscat in December 2025, came into force on **1 June 2026**.
- Oman is a member of the **Gulf Cooperation Council**. The pact is India's second CEPA in the Gulf, after the one with the United Arab Emirates.

WHAT HAPPENED

Area	What the pact provides
Oman's offer	Duty free entry for **98 per cent** of its tariff lines, covering almost all of India's exports by value
India's protection	No concession on wheat, rice, maize, millets, dairy, fruits, vegetables, edible oils, oilseeds, tea, coffee or honey
Services and people	Commitments in professional, IT, education, health and other services, and easier stays for company transferees and contractual service suppliers
Medicines	Indian medicines approved by the American, European, British or Australian regulators get marketing authorisation in Oman within 90 days

WHY IT MATTERS

- The pact's strategic value showed at once. Oman's ports of **Duqm** and **Salalah** lie on the Arabian Sea, outside the Strait of Hormuz. Trade through them kept moving while the strait was closed.
- Oman holds the southern shore of the strait and has mediated in the region before. These two facts make Oman the Gulf partner India most needs during a war that India wants to stay out of.
- The gains depend on use. Complex **rules of origin** have kept Indian exporters' use of trade agreement preferences low. Small firms need help to claim them.

KEY TERM

Comprehensive Economic Partnership Agreement

India's name for a trade agreement that covers goods, services, investment and the movement of professionals, wider than a free trade agreement in goods alone.

EXAM LENS

- **Prelims**:
  - India and Oman CEPA signed in Muscat (December 2025), in force 1 June 2026
  - Oman is a Gulf Cooperation Council member and India's second CEPA partner in the Gulf after the UAE
  - Duqm and Salalah are outside the Strait of Hormuz
  - Dairy and staple farm goods kept out
- **Mains**: how trade agreements with Gulf states serve India's energy and diaspora interests as well as its exports.
- **Asked before**: Prelims 2016.

NOTES

STANDARD · HIGH · PRELIMS

India and France: the Nice summit and the Innovation Roadmap 2030

WHAT IT IS

- France was India's first strategic partner in the West. The **Strategic Partnership** of 1998 was also France's first with a country outside the West, and it rested on defence, civil nuclear energy and space.
- During the French President's visit to Mumbai in February 2026 the relationship was raised to a **Special Global Strategic Partnership**, and 2026 was opened as the India and France Year of Innovation.
- The **Horizon 2047** roadmap, adopted in July 2023, sets the course of the partnership to 2047, the centenary of India's independence and of diplomatic relations.
- France supplies key defence platforms: Rafale fighters, the **26 Rafale Marine** jets ordered for the Navy in April 2025, and the Scorpène (Kalvari class) submarines built in India.

WHAT HAPPENED

- At their first summit since the upgrade, at **Nice** in June 2026, the two leaders adopted an **Innovation Roadmap 2030** and set up a high level mechanism to double bilateral trade within five years.
- They launched a dialogue on economic security and a joint working group on artificial intelligence and its global governance.
- The Indian Space Research Organisation (ISRO) and France's space agency, the **Centre National d'Études Spatiales (CNES)**, signed a letter of intent on microgravity research and human space exploration.

WHY IT MATTERS

- The innovation and AI tracks add technology and startups to the old core of defence, civil nuclear energy and space.
- Bilateral trade, about 16 billion dollars a year, is small for a partnership of this depth. The doubling target and the innovation roadmap aim to give the partnership an economic base to match its strategic one.

EXAM LENS

- **Prelims**:
  - Strategic Partnership (1998)
  - Special Global Strategic Partnership (February 2026)
  - Horizon 2047 (2023)
  - 2026 the Year of Innovation
  - 26 Rafale Marine jets
  - Scorpène (Kalvari class) submarines
  - The Innovation Roadmap 2030 and the trade doubling mechanism (Nice, June 2026)
  - CNES is France's space agency
- **Mains**: what the Special Global Strategic Partnership adds to a relationship built on defence, and what it still lacks.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

India and the United States: talks on an interim trade pact before the 10 per cent tariff lapses on 24 July

WHAT IT IS

- India and the United States hold a **Comprehensive Global Strategic Partnership**, but trade has been its sore point since 2025.
- In February 2026 the **United States Supreme Court** struck down the sweeping tariffs imposed under emergency powers.
- Washington then imposed a temporary **10 per cent tariff** on all countries under **Section 122 of the Trade Act of 1974**. The tariff runs for 150 days and lapses on 24 July.
- The two sides are negotiating an interim trade agreement as the first part of a wider deal.

WHAT HAPPENED

Date	Development
3 June	The US Trade Representative proposed duties of up to **12.5 per cent** on India and others after a **Section 301** inquiry into goods made with forced labour
17 June	The Prime Minister and the President met at the G7 summit in Évian
23 June	The Commerce Minister and the US Trade Representative opened talks in New Delhi on an interim pact

WHY IT MATTERS

- The Section 301 proposal shows that one tariff tool can replace another when a court strikes the first down.
- An interim pact is India's hedge against a permanent tariff arriving when the temporary one lapses.

KEY TERM

Section 301

- Another provision of the Trade Act of 1974. It lets the US Trade Representative investigate a trading partner's practices and impose duties if it finds them unfair.
- Unlike Section 122, it has no time limit.

EXAM LENS

- **Prelims**:
  - The Comprehensive Global Strategic Partnership
  - Section 122 (a temporary tariff of up to 150 days) and Section 301 (unfair practices) of the Trade Act of 1974
  - The Supreme Court ruling of February 2026
  - The G7 meeting at Évian, 17 June
- **Mains**: how India should manage a strategic partner that is also its most unpredictable trade partner.
- **Asked before**: Mains 2021 GS2: “"The USA is facing an existential threat in the form of a China, that is much more challen...”; Mains 2019 GS2: “'What introduces friction into the ties between India and the United States is that Washin...”; Mains 2018 GS2: “What are the key areas of reform if the WTO has to survive in the present context of 'Trad...”.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

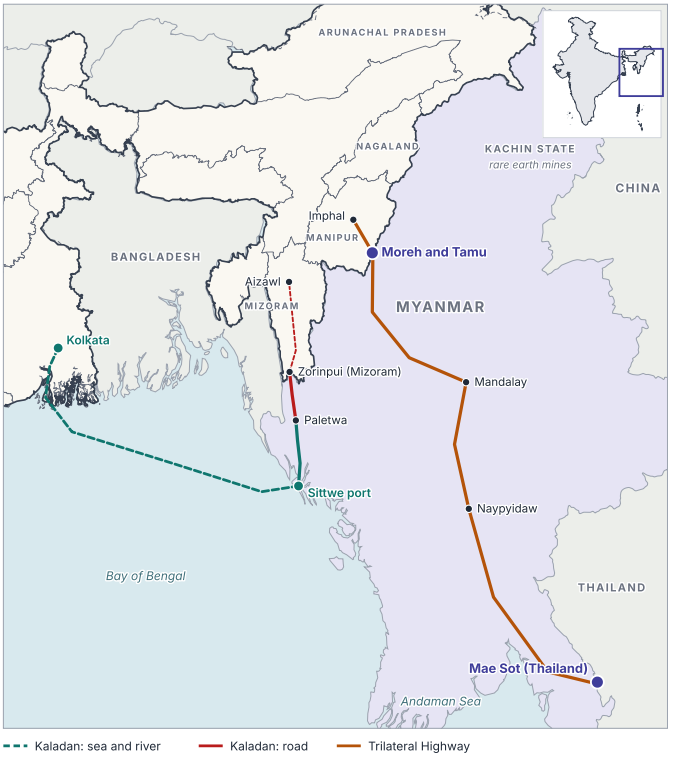
India and Myanmar: the President's first visit since the coup

WHAT IT IS

- **Myanmar** is the only member of the Association of Southeast Asian Nations (ASEAN) that borders India, which makes it central to both **Neighbourhood First** and **Act East**.
- The two countries share a land border of about **1,643 kilometres** with Arunachal Pradesh, Nagaland, Manipur and Mizoram, and a maritime boundary in the Bay of Bengal.
- In 2024 India decided to fence the whole border and scrap the **Free Movement Regime**, which let border residents cross up to 16 kilometres without a visa.
- India's stakes are border security against insurgent groups and two connectivity projects: the **Kaladan Multi Modal Transit Transport Project**, through Sittwe port to Mizoram, and the **India Myanmar Thailand Trilateral Highway**.
- India has dealt with the military government since the 2021 coup and sent aid under Operation Brahma after the 2025 earthquake.

India and Myanmar: the border and two corridors

The Kaladan route to Mizoram and the Trilateral Highway to Thailand. Routes schematic.



Four Indian States border Myanmar: Arunachal Pradesh, Nagaland, Manipur and Mizoram.
Kachin State labelled, not outlined. Routes drawn schematically.
Boundaries: DataMeet India (CC BY 4.0), following the Survey of India outer boundary; other countries Natural Earth.

WHAT HAPPENED

- President **Min Aung Hlaing** made his first official visit to India since the 2021 coup in late May and early June 2026.
- Myanmar assured India that its territory would not be used against India's security interests.
- The two sides discussed the Kaladan project, the Trilateral Highway and critical minerals, of which Myanmar has large deposits in **Kachin State**.

WHY IT MATTERS

- Engaging the government in Naypyidaw serves India's border security and keeps its connectivity projects alive. Refusing it would leave the field to China.
- The conflict inside Myanmar delays both projects. India's connectivity in the east therefore depends on a peace it cannot deliver.
- Critical minerals add a new reason to engage as India tries to cut its dependence on China.

KEY TERM

Act East policy

India's policy, since 2014, of deeper economic, strategic and cultural ties with Southeast and East Asia; Myanmar is its land bridge.

EXAM LENS

- **Prelims**:
  - The 1,643 km border with four States
  - The Kaladan project (Sittwe port to Mizoram)
  - The India Myanmar Thailand Trilateral Highway
  - Operation Brahma (2025)
  - Myanmar the only ASEAN member bordering India
  - All four bordering States, Arunachal Pradesh, Nagaland, Manipur and Mizoram, have the Inner Line Permit system
- **Mains**: the case for and against engaging Myanmar's military government in India's border and connectivity interests.
- **Asked before**: Prelims 2023, 2016; Mains 2020 GS3: "Analyse internal security threats and transborder crimes along Myanmar, Bangladesh and Pak...".

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

India and Nepal: the Foreign Minister's visit, payments and the boundary claim

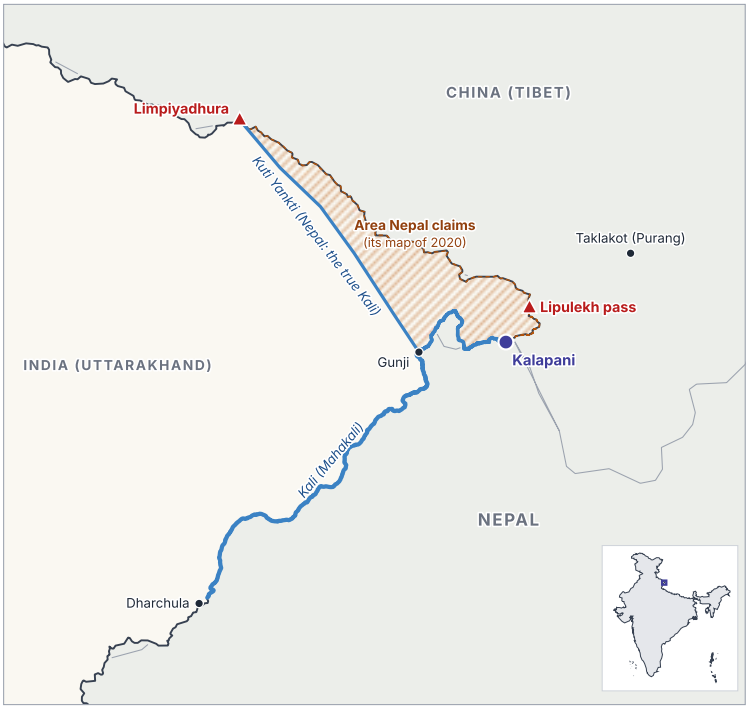
WHAT IT IS

- India and Nepal share an open border of about **1,751 kilometres** under the **Treaty of Peace and Friendship of 1950**.

- Nepal claims **Kalapani**, **Lipulekh** and **Limpiyadhura** under the **Treaty of Sugauli** (1816) and placed them on its map in 2020; India holds them as its own.
- Under a 2024 agreement Nepal is to export **10,000 megawatts** of hydropower to India over ten years, which makes energy the anchor of the relationship.

The India, Nepal and Tibet tri junction

Which stream is the Kali? India's boundary as the Survey of India shows it. Positions approximate.



India holds that the Kali rises at the springs of Kalapani; Nepal holds that the Kuti Yankti, from Limpiyadhura, is the Kali. Rivers schematic; positions of Limpiyadhura and the Kuti Yankti approximate.
Boundaries: DataMeet India (CC BY 4.0), following the Survey of India outer boundary; other countries Natural Earth.

WHAT HAPPENED

- In June 2026, answering remarks by Nepal's Prime Minister on the boundary, the **Ministry of External Affairs** said the two countries have bilateral mechanisms for border issues and there is no role for any third party.
- Nepal's Foreign Minister, who visited India the same week, said Nepal was pressing its claim to the three areas but was not seeking mediation.
- The two sides launched a link between India's **Unified Payments Interface** and Nepal's **National Payments Interface** for cross border remittances. They also completed the steps to bring the **Mutual Legal Assistance Agreement** in criminal matters into force.

WHY IT MATTERS

- Nepal restated its boundary claim and India its "no third party" line in the same week that the two sides moved ahead on payments and legal cooperation. The dispute is parked, not settled, while connections grow.
- Lipulekh is also a route of the Kailash Mansarovar Yatra and a border trading point with Tibet, so the claim touches India's dealings with China as well.

KEY TERM

Treaty of Sugauli

- Signed in 1816 between the East India Company and Nepal after the Anglo Nepal war.
- Fixed the Kali river as Nepal's western boundary.
- The dispute is over which stream is the Kali's source.

EXAM LENS

- **Prelims**:
  - The 1950 Treaty of Peace and Friendship
  - The open border of about 1,751 km
  - The Treaty of Sugauli (1816)
  - Kalapani, Lipulekh and Limpiyadhura
  - Nepal's map of 2020
  - The UPI and National Payments Interface link
  - The 10,000 MW export agreement of 2024
- **Mains**: how India can keep the boundary dispute from overshadowing energy, payments and connectivity with Nepal.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

The Ganga Waters Treaty and Farakka: Dhaka asks for talks

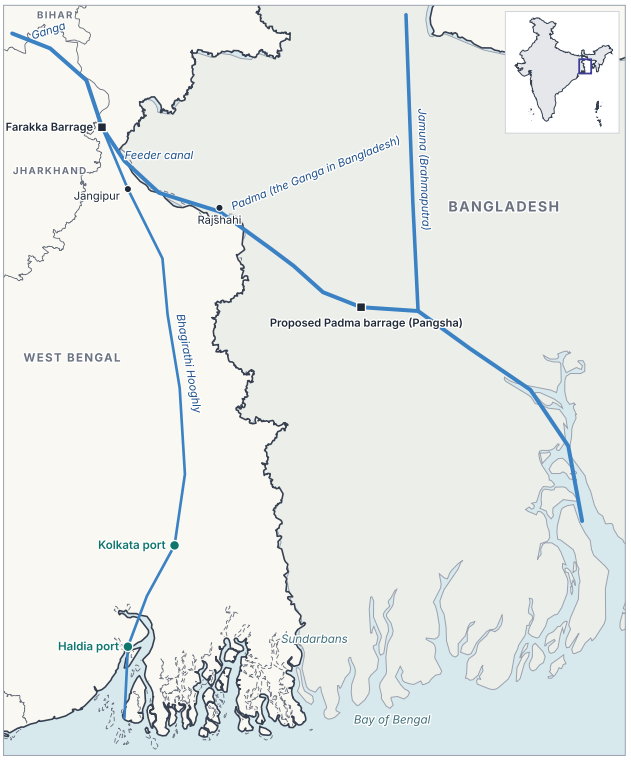
WHAT IT IS

- The **Farakka Barrage**, commissioned in 1975 on the Ganga in West Bengal, diverts water into the Bhagirathi Hooghly river system to keep **Kolkata port** navigable. Downstream, Bangladesh depends on the same water in the dry months.
- The **Ganga Waters Treaty**, signed in **December 1996** for thirty years, shares the flow at Farakka in the lean season, 1 January to 31 May. It expires in **December 2026**.

Flow at Farakka	How it is shared
Below 70,000 cusecs	Half each
70,000 to 75,000 cusecs	Bangladesh 35,000 cusecs, India the rest
Above 75,000 cusecs	India 40,000 cusecs, Bangladesh the rest
11 March to 10 May	Each side guaranteed 35,000 cusecs in alternating ten day periods

The Ganga at Farakka, and the Padma below it

A feeder canal takes water to the Hooghly for Kolkata; the rest flows on into Bangladesh.



The 1996 treaty shares the lean season flow measured at Farakka.
Rivers drawn schematically, not to scale.
Boundaries: DataMeet India (CC BY 4.0), following the Survey of India outer boundary; other countries Natural Earth.

WHAT HAPPENED

- In **June 2026** Bangladesh formally asked India to open talks on renewing the treaty.
- India said the talks would go through the **Joint Rivers Commission**, the bilateral body for shared rivers.
- In May, Bangladesh approved a **Padma barrage** downstream of Farakka.

WHY IT MATTERS

- A lapse would leave the 2027 dry season without any agreement for the first time since 1996.
- Upstream use, silt and climate variability have cut lean season flows since the 1990s. The bands fixed in 1996 may no longer match the river.
- No Ganga arrangement works without West Bengal, whose objections blocked the Teesta agreement in 2011.

KEY TERM

Lean season

- The months when a river's flow is lowest. The treaty shares only these months, because the monsoon brings water enough for both.

KEY TERM

Cusec

A flow of one cubic foot of water per second, the treaty's unit.

EXAM LENS

- **Prelims**:
  - Treaty signed December 1996 for 30 years, expiring December 2026
  - Lean season 1 January to 31 May, measured at Farakka

- Below 70,000 cusecs the flow is shared equally
- The Farakka Barrage (1975) feeds the Hooghly for Kolkata port
- The Joint Rivers Commission

- **Mains**: whether India should seek a rollover of the 1996 treaty or a new basin agreement, and how West Bengal should be brought in.
- **Asked before**: Mains 2026 GS1: ""Water resources are both an asset and a source of conflict in South Asia." Examine this s...".

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

The Indus Waters Treaty in abeyance: a pondage award and an outdated treaty

WHAT IT IS

- The **Indus Waters Treaty**, signed in 1960 and brokered by the **World Bank**, gives India the three eastern rivers (Ravi, Beas and Sutlej) and Pakistan the three western rivers (Indus, Jhelum and Chenab). On the western rivers India may build **run of the river** hydropower, which uses the river's flow without storing large volumes behind a dam.
- Disputes rise in steps: the **Permanent Indus Commission**, then a **Neutral Expert** for technical differences, then a **Court of Arbitration**.
- After the Pahalgam attack of April 2025, India placed the treaty in abeyance until Pakistan gives up support for cross border terrorism.

The Indus rivers: eastern to India, western to Pakistan

The six rivers of the 1960 treaty, with the two projects in the pondage award. Rivers schematic.



India's outer boundary includes the areas of Jammu and Kashmir and Ladakh under Pakistan's occupation.
Rivers drawn schematically, not to scale.
Boundaries: DataMeet India (CC BY 4.0), following the Survey of India outer boundary; other countries Natural Earth.

WHAT HAPPENED

- In **May 2026** the Court of Arbitration constituted at Pakistan's request issued a **supplemental award on maximum pondage** at the **Kishenganga** and **Ratle** projects. India rejected the award as null and void because it does not recognise the court.
- In June, at the UN Human Rights Council, India called the 1960 treaty outdated.

WHY IT MATTERS

- India's case against the court is procedural: the Kishenganga and Ratle questions belong to the Neutral Expert, and the World Bank violated the treaty by setting up a court at the same time.
- India's case for revision is substantive: the treaty has nothing on climate change, population or terrorism.
- Neither argument ends the treaty. India has not withdrawn from it, and the word "abeyance" appears neither in the treaty nor in international law.

KEY TERM

Pondage

- The small volume of water a run of the river project may hold behind its barrage to even out the day's flow.
- The treaty's limit on pondage decides how much power the project can generate at peak hours.

EXAM LENS

- **Prelims**:
  - Treaty of 1960, brokered by the World Bank
  - Eastern rivers to India, western to Pakistan
  - The Permanent Indus Commission, the Neutral Expert and the Court of Arbitration
  - Kishenganga is on a tributary of the Jhelum, Ratle on the Chenab
  - Abeyance since April 2025
- **Mains**: whether "abeyance" gives India leverage or only an argument, and how the treaty could be modernised for climate change.
- **Asked before**: Mains 2026 GS1: ""Water resources are both an asset and a source of conflict in South Asia." Examine this s..."; Mains 2024 GS3: "India has a long and troubled border with China and Pakistan fraught with contentious issu...".

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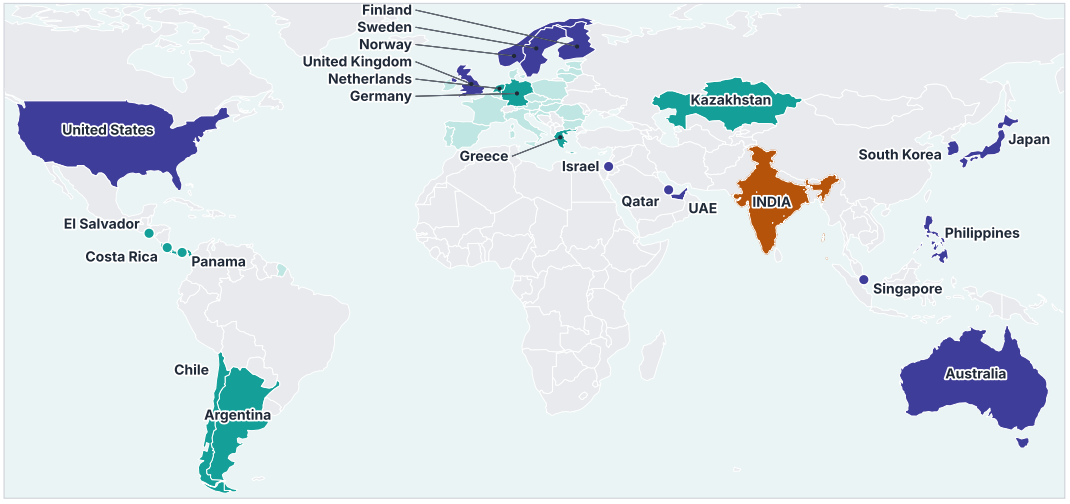
BRIEF · MODERATE · PRELIMS

Pax Silica grows to 24 members at its Washington summit

- **Pax Silica** is an American initiative, launched in **December 2025**, to build trusted supply chains for critical minerals, semiconductors and artificial intelligence. India signed its declaration in **February 2026**.
- Ten more partners signed at the Washington summit in June 2026, taking the membership to **24**.
- The members, by region:
  - Asia and the Pacific: Australia, India, Japan, Kazakhstan, the Philippines, Singapore and South Korea.
  - West Asia: Israel, Qatar and the United Arab Emirates.
  - Europe: the European Union, Finland, Germany, Greece, the Netherlands, Norway, Sweden and the United Kingdom.
  - The Americas: Argentina, Chile, Costa Rica, El Salvador, Panama and the United States.

Pax Silica: 24 signatories after the Washington summit

The American led coalition on trusted supply chains for chips, critical minerals and AI, June 2026



Signed before June 2026 (14, with India)
Signed at the June 2026 summit (10, with the EU)
Other EU member States: covered by the EU's signature
India (signed February 2026)

Taiwan takes part but has not signed. Natural Earth 110m (small States marked by dots); India as the Survey of India depicts it. Not to scale.

Before June 2026 (14)

- Australia, **India**, Israel, Japan, the Philippines, Qatar, Singapore, South Korea, the UAE
- Finland, Norway, Sweden, the United Kingdom, the United States

At the June 2026 summit (10)

- The European Union, Germany, Greece, the Netherlands, Kazakhstan
- Argentina, Chile, Costa Rica, El Salvador, Panama

EXAM LENS

- Pax Silica (December 2025) on trusted supply chains for AI technologies
- India joined in February 2026

- 24 members after the June 2026 summit

BRIEF · MODERATE · PRELIMS

SIPRI Yearbook 2026: India's warheads deployed for the first time

- The **Stockholm International Peace Research Institute (SIPRI)** publishes a yearbook each June that estimates the world's nuclear arsenals.
- The **2026 Yearbook** estimated India's arsenal at about **190 warheads**, against about 170 for Pakistan and 620 for China, as of January 2026.
- For the first time it classed **12 Indian warheads** as operationally deployed, mounted on missiles in peacetime.
- The Yearbook noted that the **New Strategic Arms Reduction Treaty (New START)** between the United States and Russia expired in February 2026 with no successor. No treaty now limits the strategic arsenals of the two countries.

EXAM LENS

- Nine nuclear armed states
- India's estimate about 190, Pakistan's about 170, China's about 620
- New START expired in February 2026
- SIPRI is in Stockholm

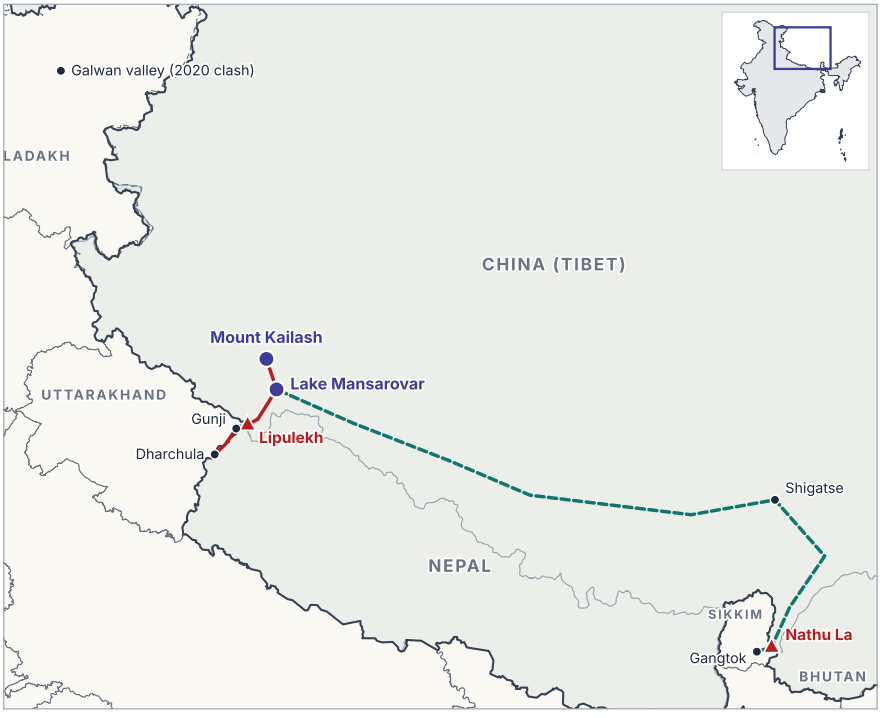
BRIEF · MODERATE · PRELIMS

India and China: the Kailash Mansarovar Yatra crosses Nathu La

- Relations broke down after the **Galwan** clash of June 2020. Recovery began with the **October 2024 understanding on patrolling** in eastern Ladakh, followed by flights, visas and the revival of the boundary talks.
- In **June 2026** the first batch of pilgrims of the **Kailash Mansarovar Yatra** crossed into Tibet through **Nathu La** in Sikkim. The Ministry of External Affairs runs the pilgrimage, which resumed in 2025 after a five year pause.
- The yatra runs from June to August by two routes, Lipulekh in Uttarakhand and Nathu La.
- People to people steps such as the yatra are the visible part of the thaw, while the boundary talks move more slowly.

The Kailash Mansarovar Yatra: two routes into Tibet

Lipulekh in Uttarakhand and Nathu La in Sikkim, June to August. Routes schematic.



Routes drawn schematically, not to scale.
Boundaries: DataMeet India (CC BY 4.0), following the Survey of India outer boundary; other countries Natural Earth.

EXAM LENS

- Kailash Mansarovar Yatra routes, Lipulekh (Uttarakhand) and Nathu La (Sikkim)
- Nathu La is also a border trading point with Tibet
- The October 2024 patrolling understanding

BRIEF · MODERATE · PRELIMS AND MAINS

The Teesta and China: Beijing's assurance to Dhaka

- The **Teesta**, a river shared by India and Bangladesh, rises from Tso Lhamu lake in Sikkim. India uses the river for hydropower in Sikkim and for irrigation at the **Gajoldoba**

barrage in West Bengal. A sharing agreement remains unsigned.

- On his first official visit to China as Prime Minister, in June 2026, Bangladesh's Prime Minister sought Beijing's support for the **Teesta River Comprehensive Management and Restoration Project**, and China promised technical help and a faster feasibility study.
- The project grew from a 2016 agreement between Bangladesh's Water Development Board and the **Power Construction Corporation of China (POWERCHINA)**.
- China later said its cooperation with Bangladesh did not target any third party. The river flows close to the **Siliguri Corridor**. India therefore watches the project closely.

EXAM LENS

- Teesta rises in Sikkim and joins the Brahmaputra (Jamuna) in Bangladesh
- Gajoldoba barrage
- The Siliguri Corridor
- The unsigned Teesta agreement of 2011

The Teesta, from Sikkim to Bangladesh

From north Sikkim, past the Gajoldoba barrage, to the Brahmaputra (Jamuna) in Bangladesh. Rivers schematic.



Rivers drawn schematically, not to scale.
Boundaries: DataMeet India (CC BY 4.0), following the Survey of India outer boundary.

NOTES



THE MONTH AT A GLANCE

- An oil shock in three parts. The Reserve Bank held the repo rate at 5.25 per cent, the Centre and the Reserve Bank opened the doors to foreign money, and the Budget paid for aviation fuel.
- India launches its first Producer Price Indices and moves the wholesale and industrial indices to base 2022-23.
- A tax exemption, a cheap swap and wider share limits make up the June package to defend the rupee.
- A draft amendment to the food security law gives Antyodaya rations per person, not per household.
- The world adopts its first convention on platform work, and India abstains.
- The Reserve Bank tells banks to take "No" for an answer, with rules on mis-selling, dark patterns and fraud compensation.

LEAD · VERY HIGH · PRELIMS AND MAINS

India launches Producer Price Indices and moves the wholesale index to base 2022-23

WHY IN NEWS

- In June 2026 the **Wholesale Price Index** moved to the **base 2022-23**, and India launched its first **Producer Price Indices**. The **Index of Industrial Production** moved to the same base in June.
- The producer indices are to replace the wholesale index after five years.
- Together with the new consumer price and GDP series of 2026, the change means that almost every number used to judge growth and inflation is now measured against a recent year.

BACKGROUND

- An index measures change in a price or a quantity against a base year. The base year fixes the basket of items and the weight each one carries.
- India's main series had used bases more than a decade old: 2011-12 for GDP, industrial output and wholesale prices, and 2012 for consumer prices.
- An old base misses new products and the changed shape of the economy, so the weights drift away from what is actually produced and bought.
- The **National Statistics Office** of the Ministry of Statistics and Programme Implementation compiles the industrial index and consumer prices. The **Office of the Economic Adviser** in the Department for Promotion of Industry and Internal Trade compiles wholesale and producer prices.

KEY TERM

Base year

The year against which an index measures change, and whose basket and weights it uses.

KEY TERM

Producer Price Index

A measure of the prices that domestic producers receive for their output, excluding taxes and transport. It is the international standard for prices at the factory gate.

THE NEW WHOLESALE INDEX AND THE PRODUCER INDICES

- The wholesale basket grows from 697 to 957 items, and the weights now come from the gross value of output rather than the net traded value. Crude petroleum and natural gas move from primary articles to the fuel and power group.
- Three producer indices were launched: an **Output Producer Price Index** for goods, a trial **Input Producer**

Price Index for manufacturing, and a **Services Producer Price Index** for seven major service sectors, among them banking, railways and telecommunications.

- The wholesale index will be released alongside the producer indices for five years and then discontinued. The overlap gives contracts and price escalation clauses tied to the wholesale index time to switch.
- Wholesale inflation for May, the first print on the new series, was 9.68 per cent, driven by fuel and power.

	Wholesale Price Index	Producer Price Index	Consumer Price Index
What it prices	Goods at the first bulk sale	What the producer receives	What the household pays

	Wholesale Price Index	Producer Price Index	Consumer Price Index
Indirect taxes	Excluded	Excluded	Included
Services	Not covered	Covered (seven sectors)	Covered
Counting along the chain	The same rise can be counted at each stage	Each stage counted once	Final price only
Compiled by	Office of the Economic Adviser	Office of the Economic Adviser	National Statistics Office
Base	2022-23	2022-23	2024

Where each price index measures the price

Producer, wholesale and consumer prices along the chain; Office of the Economic Adviser and Ministry of Statistics, June 2026

Producer

The factory or service provider sells its output

Producer Price Index: the price received, without taxes and transport; covers seven services

▶

First bulk sale

The good changes hands in bulk on its way to market

Wholesale Price Index: goods only, without indirect taxes; a rise can be counted again at each stage

▶

Retail

The household buys the good or service

Consumer Price Index: the price paid, on base 2024; the Reserve Bank's target

The new bases, 2026

- **2022-23**: GDP, the Index of Industrial Production, the Wholesale Price Index and the new producer indices.
- **2024**: the Consumer Price Index.
- The wholesale index runs for **five years** beside the producer indices, then ends.

Why the producer index is better

- It counts each stage **once**, so a price rise is not added up along the chain.
- It covers **services**, more than half of output, which the wholesale index leaves out.
- It is the **international standard**, used to deflate output into real growth.

KEY NUMBERS

- 2022-23: the new base of the industrial index, the wholesale index and GDP; consumer prices use 2024
- 957: items in the new wholesale basket, up from 697
- 5 years: the period for which the wholesale index will run alongside the producer indices before it is discontinued
- 7: service sectors covered by the new Services Producer Price Index

ANALYSIS

- **Better prices make better growth figures.** Output in rupees becomes real output only after dividing by a price index, so a price index that leaves out services or counts a rise twice distorts the growth figure itself.
- **The wholesale index measured the wrong thing.** The wholesale index priced only goods at the first bulk sale and covered no services in an economy where services are more than half of output. Its weights also let the same price rise count again at each stage. The producer index fixes both faults.
- **The numbers carry policy.** The Reserve Bank targets consumer prices. The Budget, the GDP deflator and many contracts rely on wholesale and producer prices. The switch therefore reaches well beyond statistics.
- **Trust is the stake.** India's national accounts had been criticised abroad for dated methods. A jump in growth or inflation that comes only from a change of base weakens confidence, unless the old and new series are linked openly.
- **Two series at once is a cost worth paying.** Five years of parallel release lets users compare and switch, but only if the back series and the linking factors are published.

THE WAY FORWARD

- Publish the back series and the linking method with each new series.
- Fix a calendar for revising base years, about every five years, so that revision becomes routine rather than an event.

- Move the deflators, contracts and policy from the wholesale index to the producer index in step, and say when.
- Extend the Services Producer Price Index beyond seven sectors as data allow.

IN BRIEF

The new industrial index on base 2022-23

- The new index adds a fourth section, **water supply, sewerage and waste management**, with a weight of about 2 per cent, to mining, manufacturing, and electricity and gas.
- Manufacturing carries about 76 per cent of the weight and mining about 11 per cent.
- Output reported in rupees is turned into volume with a price index. For now that price index is still the wholesale index. The Ministry of Statistics says the Output Producer Price Index will replace the wholesale index once the producer index has been released and found stable.
- Industrial output grew 4.9 per cent in April 2026 on the new base.

KEY TERM

Deflator

A price index used to turn a value at current prices into a value at constant prices.

EXAM LENS

- **Prelims**:
  - Base years now, GDP, industrial output and wholesale prices 2022-23, consumer prices 2024
  - The industrial index's new fourth section, water supply, sewerage and waste management
  - The three producer indices (Output, trial Input, Services for seven sectors)
  - A producer index covers services and counts each stage once, the wholesale index does neither
  - Both leave out indirect taxes, which consumer prices include
  - The Reserve Bank's target is on consumer prices
  - The compiling bodies
- **Mains**: "India is replacing the Wholesale Price Index with a Producer Price Index." Explain the difference between the two and why the change matters for measuring growth and for policy.
- **Asked before**: Prelims 2020, 2015.

NOTES

LEAD · VERY HIGH · PRELIMS AND MAINS

Reserve Bank holds the repo rate at 5.25 per cent as dearer oil lifts the inflation forecast

WHY IN NEWS

- In June 2026 the **Monetary Policy Committee** of the Reserve Bank of India unanimously kept the **repo rate** at **5.25 per cent** with a **neutral stance**, the second hold in a row in 2026-27.
- It cut its forecast of growth for 2026-27 to 6.6 per cent from 6.9 per cent and raised its forecast of consumer price inflation to 5.1 per cent from 4.6 per cent.
- The reason for both was the same: the war in West Asia and the disruption in the **Strait of Hormuz** had pushed the price of crude oil up sharply.

BACKGROUND

- Since 2016 the Reserve Bank has followed **flexible inflation targeting** under **Section 45ZA** of the Reserve Bank of India Act, 1934: consumer price inflation of 4 per cent, within a band of 2 to 6 per cent.
- The Centre sets the target in consultation with the Reserve Bank, for five years at a time.
- A committee of six sets the repo rate: three members from the Reserve Bank, including the Governor, and three appointed by the Centre. The Governor has a casting vote.
- The committee had cut the rate through 2025 to 5.25 per cent and then held it.
- In spring 2026 the conflict in West Asia took the **Indian crude basket** to about 110 dollars a barrel.

KEY TERM

Repo rate

The rate at which the Reserve Bank lends overnight to banks against government securities; the policy rate that the committee sets. A higher repo rate makes borrowing dearer, so less money is lent and spent. Lower spending cools demand pull inflation.

KEY TERM

Standing Deposit Facility

A window where banks park surplus funds with the Reserve Bank without collateral. The Standing Deposit Facility rate is the floor of the corridor. The ceiling is the Marginal Standing Facility rate, which applies to emergency overnight borrowing.

A SUPPLY SHOCK, NOT A DEMAND SURGE

- Inflation in May was still below 4 per cent, at 3.93 per cent, yet the committee raised its forecast for the year because it assumed dearer crude.
- A rise in prices caused by costlier oil is a **supply shock**. Raising interest rates does not produce more oil. It only cuts demand, and with it output and jobs.
- So a central bank looks through the first round of such a shock, the direct rise in fuel prices.
- It acts if the shock spreads into wages and into what people expect prices to be. These are the **second round effects**, and preventing them is what the inflation target is for.
- Wholesale inflation, at 9.68 per cent in May, showed that producers' costs had risen far more than retail prices. More of that rise was still to reach retail prices.

KEY TERM

Second round effects

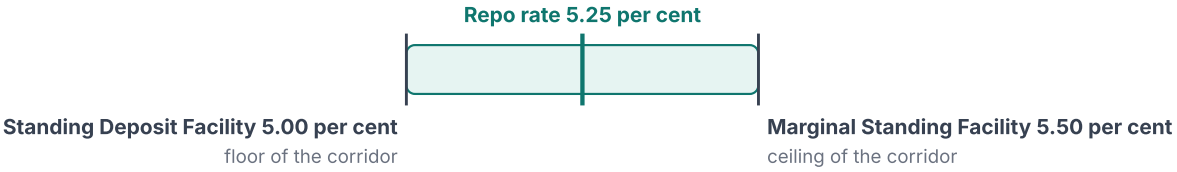
The spread of a price shock into wages, other prices and expectations, after its first, direct effect.

WHY NOT CUT, AND WHY NOT RAISE

- Growth was slowing: the forecast fell to 6.6 per cent, and a weak monsoon was expected. That argued for a cut.
- But the rupee was falling and foreign investors were leaving. A cut would have narrowed India's interest advantage over rates abroad and added to the outflow.
- A rise would have raised borrowing costs for a slowing economy without easing an inflation caused by a supply shock.
- So the committee held the rate. To draw in foreign money, the Reserve Bank used other tools: the swap window and the opening of more government bonds to foreign investors.

The policy corridor, and how an oil shock pulls two ways

Monetary Policy Committee, June 2026: repo rate held at 5.25 per cent, stance neutral; Reserve Bank of India



Growth pulled down

- Forecast for 2026-27 cut to **6.6 per cent** from 6.9.
- Dearer fuel squeezes spending; a weak monsoon was expected.
- This argued for a **cut**.

Inflation pulled up

- Forecast for 2026-27 raised to **5.1 per cent** from 4.6.
- Crude near 110 dollars a barrel; wholesale inflation 9.68 per cent in May.
- This argued for a **rise**, but rates cannot make oil cheaper.

Why the committee held the repo rate steady

- An oil shock is a **supply shock**: look through the first round, act only if it spreads into wages and expectations.
- A cut would have widened the gap with rates abroad as the **rupee** fell and foreign investors left.
- Other tools did the work: the swap window and more government bonds open to foreigners.

THE LIMITS OF INFLATION TARGETING

- Food and fuel make up a large part of the consumer price basket, and both are driven by supply rather than by demand.
- The weight of food and fuel revives an old question: should the target be headline inflation or **core inflation**, which leaves out food and fuel?
- The first line of defence against a fuel shock is often fiscal. A cut in fuel taxes lowers the price directly, something monetary policy cannot do.

KEY TERM

Core inflation

Inflation measured after leaving out food and fuel, whose prices swing with harvests and world markets.

ANALYSIS

- **Holding was the least bad choice.** The committee faced a stagflationary shock, with prices up and growth down. Either a cut or a rise would have traded one harm for another, while a neutral hold kept both options open.
- **The rupee tied its hands.** With capital leaving, the interest gap over the United States mattered as much as

domestic growth. The episode shows how open capital accounts limit an independent rate policy.

- **The target worked as designed.** Raising the forecast while holding the rate told markets that the Reserve Bank would not let a fuel shock become a wage and price spiral. That signal is what anchors expectations.
- **Supply shocks need other hands.** Fuel taxes, buffer stocks of food and the Budget act on the first round faster than any rate move. Monetary policy guards the second round.
- **The core versus headline debate returns.** A headline target makes the Reserve Bank answer for prices it cannot control, but a core target would leave out what households feel most. This trade off is why the five yearly review of the target matters.

Four policy stances, from dovish to hawkish

The stance tells markets which way the next repo rate move can go. In June 2026 the committee kept it neutral.

DOVISH: GROWTH FIRST — HAWKISH: INFLATION FIRST

Accommodative

NEXT MOVE: Cut | Pause | ~~Hike~~

SIGNAL
Growth comes first. Rates can only fall or stay put.

LIQUIDITY
In surplus

WHEN
A slowdown or a shock, with mild inflation

Neutral — June 2026

NEXT MOVE: Cut | Pause | Hike

SIGNAL
No bias. Each move depends on the data.

LIQUIDITY
Close to balance

WHEN
Risks are balanced or the outlook is unclear

Withdrawal of accommodation

NEXT MOVE: ~~Cut~~ | Pause | Hike

SIGNAL
Unwind the earlier easing and bring inflation to the target.

LIQUIDITY
The surplus is drained

WHEN
The exit from crisis era easing

Calibrated tightening

NEXT MOVE: ~~Cut~~ | Pause | Hike

SIGNAL
A bias to tighten. Hikes come in measured steps, not in a row.

LIQUIDITY
Tighter

WHEN
Inflation risks are building up

June 2026: neutral, with the repo rate held at 5.25 per cent

A cut or a hike both stay open. The next move depends on the paths of oil and the monsoon.

THE WAY FORWARD

- Keep the stance neutral until the paths of oil and the monsoon are clear.
- Use fuel tax and buffer stocks against the first round, and monetary policy against the second.
- Communicate clearly and often, since what people believe the central bank will do anchors their expectations.
- Use the five year review of the target to weigh the inflation band and the measure on evidence, not on one bad year.

EXAM LENS

- **Prelims**:
  - The committee of six (three from the Reserve Bank, three appointed by the Centre; Governor's casting vote)
  - Target 4 per cent within 2 to 6, set by the Centre for five years under Section 45ZA
  - The corridor of Standing Deposit Facility 5.00, repo 5.25, Marginal Standing Facility 5.50
  - The Bank Rate moves with the Marginal Standing Facility rate
  - The Standing Deposit Facility was introduced in 2022
- **Mains**: "Monetary policy is a blunt tool against a supply shock." Discuss with reference to the Reserve Bank's response to the oil shock of 2026.
- **Asked before**: Prelims 2022, 2020, 2017.

NOTES

LEAD · VERY HIGH · PRELIMS AND MAINS

A tax exemption, cheap swaps and wider share limits to defend the rupee

WHY IN NEWS

- In June 2026 the Centre and the Reserve Bank of India announced a joint package to draw foreign money into India as the rupee fell.
- An **Income-tax (Amendment) Ordinance, 2026** exempted **foreign portfolio investors** from tax on interest and capital gains from government securities. The package also opened more bonds to foreigners. The Reserve Bank, for its part, offered banks and public sector firms a cheap **currency swap** for dollars raised abroad.
- Later in June the foreign exchange rules were amended so that any individual resident outside India, not only a non resident Indian, may buy shares of listed Indian companies, with higher limits.

BACKGROUND

- India imports more goods than it exports. Services exports and remittances cover much of the gap. The rest is the **current account deficit**, and capital coming in must pay for it.
- In 2026 costlier oil widened the import bill, and foreign portfolio investors pulled money out, so reserves fell and the rupee weakened.
- The rupee's rate has been **market determined since March 1993**. The Reserve Bank steps in to curb sharp swings, not to defend a level. To do this, it sells dollars from its reserves.
- India has used deposits before: in 2013, during the "taper tantrum", a concessional window for foreign currency deposits brought in about 34 billion dollars.

KEY TERM

Taper tantrum

In 2013 the United States Federal Reserve hinted that it would slow (taper) the bond buying it had begun after the 2008 crisis. Expecting higher American interest rates, foreign investors pulled money out of emerging markets such as India, and the rupee fell to record lows.

KEY TERM

Current account deficit

The excess of a country's payments for goods, services, income and transfers over its receipts.

THE PARTS OF THE PACKAGE

- **Tax**: the ordinance exempts foreign portfolio investors from income tax on interest from government securities and on capital gains from them.
- **Access**: more government bonds were opened to non residents without limit under the **Fully Accessible Route**, introduced in 2020.
- **Swaps**: the Reserve Bank offered a cheap swap for dollars raised through **Foreign Currency Non Resident (Bank)** deposits and through long term borrowing abroad. Depositors hold these accounts in a foreign currency. The bank, not the depositor, bears the exchange risk.
- **Equity**: any individual resident outside India may invest in listed Indian companies. A single such investor may now hold below 10 per cent of a company's paid up equity, up from 5 per cent. All such investors together may hold 24 per cent, up from 10 per cent.

How foreign portfolio investors buy Indian government bonds

Three routes, from the most restricted to the most open. Limits for 2026-27, Reserve Bank of India.

		HOW MUCH	EXIT	RULES
CAPPED	**General route** Medium Term Framework	**6%** of central, **2%** of State and **15%** of corporate bonds outstanding	At any time	Short term and concentration limits apply
COMMITTED	**Voluntary Retention Route** VRR, 2019	Within the general route limits from April 2026	Keep **75%** invested for at least **3 years**	Free of the short term and concentration limits
UNLIMITED	**Fully Accessible Route** FAR, 2020	**No limit**	At any time	Only notified central government bonds

Why FAR matters

Global bond indices take only bonds that foreigners can buy without limit. FAR bonds put India in the indices of JP Morgan (2024), Bloomberg (2025) and FTSE Russell (2025), so funds that track them must buy.

The trade off

Open access brings larger inflows, but money can leave as fast as it came. In June 2026 more bonds were opened under FAR to draw money in as the rupee fell.

HOW THE SWAP WINDOW WORKS

- A non resident places dollars with an Indian bank as a deposit for three to five years, or a firm borrows dollars abroad.
- The bank or firm hands the dollars to the Reserve Bank and takes rupees, with a promise to reverse the deal later at a rate fixed today.
- The Reserve Bank's circular covers **external commercial borrowings** of public sector firms and overseas borrowings of banks, of three years or more. For these it fixes the swap cost at 1.5 per cent a year, for a tenor of up to five years, on inflows received up to 31 December 2026.
- The Reserve Bank's reserves rise, and the rupee gets support without the Reserve Bank selling any dollars. The swap also covers the bank or firm against a fall in the rupee.
- The cheap swap is a subsidy: it lets the bank offer the depositor an attractive rate.

How the swap window draws dollars into the reserves

Capital flows package, June 2026; Reserve Bank of India

Depositor or lender
A non resident places dollars in an FCNR(B) deposit, or a firm borrows dollars abroad for three years or more

▶

Indian bank or firm
Receives the dollars and swaps them with the Reserve Bank for rupees

▶

Reserve Bank
Takes the dollars into reserves and promises to sell them back at a rate fixed today

▶

After 3 to 5 years
The swap is reversed: the Reserve Bank returns the dollars and the deposit or loan is repaid

What India gains

- Reserves rise **without the Reserve Bank selling dollars**.
- The bank or firm is **covered against a fall in the rupee**.
- A cheap swap, **1.5 per cent a year** for long term borrowing, lets the bank pay the depositor more.

What it costs the Reserve Bank

- The inflows are **debt**: repaid, with interest, in three to five years.
- When the swaps unwind the Reserve Bank must **deliver the dollars back**.
- The concession is a **subsidy** borne by the Reserve Bank.

Bank accounts for non resident Indians

The choice turns on where the money was earned and whether it must go back abroad. Rules under FEMA, 1999, set by the Reserve Bank.

	NRE Non Resident External	NRO Non Resident Ordinary	FCNR(B) Foreign Currency Non Resident (Bank)
HELD	In rupees	In rupees	In a foreign currency such as dollars
REPATRIATION	**Full**	**Up to 1 million dollars** a financial year	**Full**
INTEREST TAX	**Exempt**	**Taxable**	**Exempt**
FUNDED BY	Income earned abroad	Income earned in India, such as rent and pension, and also abroad	Foreign currency sent from abroad
DEPOSIT TYPES	Savings, current, recurring and fixed	Savings, current, recurring and fixed	Term deposits only, 1 to 5 years
EXCHANGE RISK	The depositor	The depositor	**The bank**
TRANSFERS	**NRE to NRO** Allowed freely	**NRO to NRE** Within the same limit, once tax is paid	**NRE and FCNR(B)** Either way, with currency conversion

Why FCNR(B) matters in June 2026

The Reserve Bank offered a cheap swap for dollars raised through these deposits, as it did with a similar window in 2013.

ANALYSIS

- **The package buys time, not a cure.** The deficit comes from oil and from goods imports. The package finances the deficit for a while but does nothing to shrink it. The package is therefore only a bridge to a smaller oil bill and larger exports.
- **Most of the money is debt.** Banks and firms must repay the deposits and borrowings under the swap, with interest, in three to five years. When the swaps unwind, the Reserve Bank must deliver the dollars back.
- **Bond money is hot money.** Investors drawn by a tax exemption can leave as quickly as they came. The same outflow that the package now meets could then return in the next shock.
- **The tax cut has a cost and a process question.** The exemption costs revenue. It also came through an ordinance, which Parliament must approve within six weeks of reassembling.

THE WAY FORWARD

- Draw equity and direct investment, which do not have to be repaid.
- Keep the share of short term external debt low, since that is what turns pressure into a crisis.
- Plan now for the repayment of the swaps, so that their unwinding in three to five years does not become a second shock.

EXAM LENS

- **Prelims**:
  - Foreign Currency Non Resident (Bank) deposits are in foreign currency and the bank bears the exchange risk
  - Non Resident External deposits are in rupees and fully repatriable
  - The Fully Accessible Route (2020)
  - The rupee has been market determined since March 1993
  - Export proceeds must now be brought home within nine months
  - A currency swap
- **Mains**: "Capital inflows can finance a current account deficit but cannot cure it." Examine with reference to the measures taken to support the rupee in June 2026.
- **Asked before**: Prelims 2022, 2021, 2019.

NOTES

LEAD · VERY HIGH · PRELIMS AND MAINS

Oil shock: an aviation fuel fund, dearer cooking gas and higher export duties

WHY IN NEWS

- Through June 2026 the government used budget support, taxes and export duties to manage the rise in crude oil prices caused by the war in West Asia.
- In June the government took four steps:
  - The Union Cabinet approved a **₹10,000 crore price stabilisation fund** for aviation turbine fuel.
  - The price of a cooking gas cylinder went up.
  - Petrol with a higher ethanol blend was exempted from central excise.
  - Export duties on diesel and aviation fuel were raised.
- Each step chose who would carry the cost of dearer crude: the consumer, the oil companies, the Centre or the States.

BACKGROUND

- India imports over 85 per cent of its crude oil, and about two fifths of it normally passes through the Strait of Hormuz.
- So a conflict in the Gulf hits India three ways at once: through prices, through the rupee and through the Budget.
- In principle, petrol prices have been market determined since 2010 and diesel prices since 2014. In practice, the three public sector oil marketing companies hold these prices steady when crude swings and absorb the gap as an **under recovery**.
- Petrol, diesel, crude oil, natural gas and aviation fuel are outside the **Goods and Services Tax** for now. The Centre levies excise on them and the States levy value added tax.
- Central excise on petrol and diesel is a specific tax, a fixed sum per litre. Most State VAT, by contrast, is ad valorem, a percentage of the price. So VAT collections rise as fuel gets dearer.
- India keeps **strategic petroleum reserves** in underground caverns at Visakhapatnam, Mangaluru and Padur.

KEY TERM

Indian crude basket

A weighted average of the prices of the Oman and Dubai grades and the Brent grade, in the proportion Indian refineries process them.

KEY TERM

Under recovery

The gap between the price an oil company would get at international parity and the lower price at which it actually sells.

WHO CAN BEAR THE COST

- **The consumer**, through higher pump and cylinder prices. This feeds inflation directly.
- **The oil companies**, by selling below cost. This erodes their profits and their capacity to invest.
- **The Centre**, by cutting excise duty or paying a subsidy. This widens the fiscal deficit.
- **The States**, which also tax fuel and could cut their value added tax collections.

KEY TERM

Windfall tax

A levy on the unusual profit a producer or refiner makes when prices rise sharply for reasons outside its control.

THE TOOLS USED IN JUNE

- **Budget support for aviation fuel**: the ₹10,000 crore fund lets the oil companies cap the price of aviation turbine fuel for airlines.
- **A higher cylinder price**: the price of domestic cooking gas went up by ₹29. Households under the **Pradhan Mantri Ujjwala Yojana** still get ₹300 off each cylinder.
- **Ethanol**: petrol blended with 22 to 30 per cent ethanol was exempted from central excise, to stretch petrol supplies and reward higher blending.
- **Export duty**: the duties on exports of diesel and aviation fuel were raised, with petrol unchanged. Reviewed every fortnight, they keep fuel at home and tax the refiner's windfall from high export prices.
- **Other suppliers**: India raised its purchases from Russia, which remained its largest source of crude, and from the United Arab Emirates.

Who can bear the cost of dearer crude, and the June 2026 tools

India imports over 85 per cent of its crude, about two fifths of it through the Strait of Hormuz; Ministry of Petroleum and Natural Gas

The consumer

- Pays more at the pump and for the cylinder
- **June**: cooking gas up ₹29

The oil companies

- Sell below cost and absorb an under recovery
- **June**: export duty on diesel and aviation fuel raised

The Centre

- Cuts excise, a specific tax per litre, or pays a subsidy, and the deficit widens
- **June**: ₹10,000 crore fund for aviation fuel; excise waived on 22 to 30 per cent ethanol blends

The States

- Tax fuel outside the GST through VAT, an ad valorem tax, and can cut it
- Their value added tax adds to the pump price on top of central excise

What the crisis exposed

- **Import dependence** is the root, and it has risen, not fallen.
- The largest supplier in the crisis, Russia, was under Western sanctions; ports outside the Strait, such as Oman's, gained value.
- Strategic reserves at **Visakhapatnam, Mangaluru and Padur** cover under ten days of imports.

KEY NUMBERS

- Over 85 per cent: India's dependence on imported crude oil
- About two fifths: the share of India's crude that normally comes through the **Strait of Hormuz**
- ₹10,000 crore: the price stabilisation fund for aviation fuel
- Nearly 2.5 times: the rise in international aviation fuel prices between March and May 2026

ANALYSIS

- **Import dependence is the root.** India's dependence on imported crude, now over 85 per cent, has risen rather than fallen over two decades. So every Gulf crisis becomes an Indian inflation, rupee and budget crisis at once.
- **The June tools spread the cost.** The consumer paid more for cooking gas, the Budget paid for aviation fuel, and the refiners paid through export duties. No single group bore the whole shock.
- **Energy security is foreign policy.** India's largest supplier in the crisis, Russia, was under Western sanctions. Ports outside the Strait, such as Oman's, also became as valuable as the oil itself.
- **Fuel outside the GST is a double edged tool.** Separate, heavy taxation gives both the Centre and the States room to cut in a shock, but it also makes fuel one of the most heavily taxed goods in normal years.
- **Ad hoc changes cost credibility.** Duties revised every fortnight and funds created in a crisis work, but a rule set in good years would smooth prices with less uncertainty.

THE WAY FORWARD

- Fill and enlarge the strategic petroleum reserves, which cover under ten days of imports.
- Diversify suppliers and routes; terminals and ports outside the Strait of Hormuz matter.
- Cut demand through electric mobility, ethanol and gas.
- Build a price stabilisation fund in years of cheap oil, to smooth prices without ad hoc tax changes.

EXAM LENS

- **Prelims**:
  - India imports over 85 per cent of its crude
  - The Strait of Hormuz lies between Iran and Oman and joins the Persian Gulf to the Gulf of Oman
  - Petrol, diesel, crude, natural gas and aviation fuel are outside the GST
  - Strategic reserves at Visakhapatnam, Mangaluru and Padur
  - The Indian crude basket
  - The Ujjwala scheme gives free cooking gas connections to women of poor households
- **Mains**: "An oil shock forces a choice among the consumer, the oil companies and the exchequer." Discuss with reference to India's response in 2026.
- **Asked before**: Mains 2017 GS2: "The question of India's Energy Security constitutes the most important part of India's economic...".

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Agriculture Ministry to exempt quality fertilisers from field trials

WHAT IT IS

- A new fertiliser can be sold in India only after it is registered under the **Fertiliser (Control) Order, 1985**. The **Indian Council of Agricultural Research** and State agricultural universities run two seasons of bio efficacy trials on the product, and the **Central Fertiliser Committee** reviews the results.
- **Nutrient use efficiency** is the share of a nutrient that the crop actually takes up. The rest is lost: nitrogen as ammonia to the air and as nitrate to groundwater, and phosphorus by locking into insoluble compounds in the soil.

Fertiliser	Share of the nutrient the crop takes up
Urea	30 to 40 per cent
Diammonium phosphate	15 to 25 per cent
Controlled release	60 to 70 per cent
Water soluble	80 to 95 per cent

WHAT HAPPENED

- In June 2026 the **Agriculture Ministry** agreed in principle to exempt fertilisers that meet quality and safety standards from the mandatory field trials, to speed up approvals of new and speciality products.
- The step came as the fertiliser subsidy for 2026-27 was set to far exceed the budget after world prices of gas and fertilisers rose.

WHY IT MATTERS

- The fertilisers India subsidises most heavily, urea and diammonium phosphate, deliver the smallest share of their nutrient to the crop. Much of the subsidy is spent on nutrients that end in the air and in groundwater.
- The **Nutrient Based Subsidy** pays a fixed amount per kilogram of nutrient, but urea sits outside it and its price stays controlled. Cheap urea leads farmers to use too much nitrogen, which unbalances the soil.
- Faster approval can bring efficient products to the farmer sooner. Quality and safety must then be checked strictly in the market, because the field trial was the old safeguard.

EXAM LENS

- **Prelims**:
  - The Fertiliser (Control) Order, 1985 (under the Essential Commodities Act)
  - The Central Fertiliser Committee
  - Urea and diammonium phosphate have the lowest nutrient use efficiency
  - Nitrogen lost as ammonia and nitrate
  - The Nutrient Based Subsidy of 2010 covers all major fertilisers except urea
- **Mains**: "India subsidises the least efficient fertilisers most." Discuss, and suggest how registration and subsidy policy could reward efficiency.
- **Asked before**: Prelims 2020, 2015.

NOTES

STANDARD · VERY HIGH · PRELIMS AND MAINS

National Food Security (Amendment) Bill, 2026: Antyodaya rations per person

WHAT IT IS

- The **National Food Security Act, 2013** gives a legal right to subsidised foodgrains through the public distribution system to up to 75 per cent of the rural and 50 per cent of the urban population.
- It recognises two kinds of ration card. **Priority households** get 5 kg of grain a person a month. The poorest, the **Antyodaya Anna Yojana** households, get a flat 35 kg a household a month, whatever their size.

WHAT HAPPENED

- In June 2026 the **Department of Food and Public Distribution** released a draft **National Food Security (Amendment) Bill, 2026** for comments.
- The draft amends **Section 3** of the Act so that an Antyodaya household gets **7 kg a person** a month, up to a ceiling of 35 kg a household.
- The Department says the flat entitlement creates inequities. A small Antyodaya household gets far more grain a person than a large one. A large Antyodaya family can even get less grain a person than a less poor priority household.

WHY IT MATTERS

- The change cuts grain for every Antyodaya household of one to four members and gives nothing to families of five or more, who are already at the ceiling.
- The change moves the Act further from a household entitlement to an individual one. An individual entitlement needs accurate, seeded ration card data on who lives in each household.

EXAM LENS

- **Prelims**:
  - The 2013 Act covers up to 75 per cent rural and 50 per cent urban population
  - Priority households 5 kg a person a month
  - Antyodaya 35 kg a household, to become 7 kg a person up to 35 kg under the draft
  - The eldest woman of 18 or above is the head of the household for the ration card

- Section 3 sets the entitlement

- **Mains**: Examine whether a per person entitlement for Antyodaya households makes the public distribution system fairer, and what it costs the smallest households.
- **Asked before**: Prelims 2018; Mains 2022 GS3: “What are the major challenges of Public Distribution System (PDS) in India? How can it be made...”; Mains 2021 GS3: “What are the salient features of the National Food Security Act, 2013? How has the Food Security...”.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Punjab's paddy area nears a record as cotton falls and the High Court lifts the hybrid ban

WHAT IT IS

- Paddy is a water hungry **kharif** crop; in Punjab it needs about 25 to 30 irrigation cycles a season.
- It has what cotton and maize lack: assured procurement at the **minimum support price**, timely payment, a network of mandis and **free electricity** for irrigation.
- The kharif area is fixed, so land that other crops give up moves to paddy. The water for that paddy comes from under the ground, and about 72 per cent of Punjab's groundwater blocks (111 of 153) are **overexploited**.

WHAT HAPPENED

- Punjab's paddy area in 2026 was expected to match its record, while cotton area fell to its lowest ever, despite repeated drives to diversify.
- The **Punjab and Haryana High Court** struck down the State's ban on hybrid paddy, holding that an administrative order cannot bar seeds notified under the **Seeds Act, 1966**.
- Hybrids yield more and mature early, which saves water and leaves time to manage stubble. But farmers must buy the seed every season, and millers say the grain gives less than the **67 per cent** of rice that procurement norms require.
- The crop sown in spring, before paddy, matters too. Groundnut needs a fraction of the water that maize does:

	Spring maize	Spring groundnut
Irrigations	12 to 19	3 to 6
Effect on soil	None	Fixes nitrogen, breaks pest cycles

WHY IT MATTERS

- The incentives decide the crop. As long as paddy alone has them, advice to diversify will not change what farmers sow.
- A legume such as groundnut fixes nitrogen through its root nodules, which saves urea for the next crop.

KEY TERM

Overexploited block

A block where more groundwater is drawn each year than is recharged.

EXAM LENS

- **Prelims**:
  - Paddy needs 25 to 30 irrigations a season in Punjab
  - About 72 per cent of the State's groundwater blocks (111 of 153) are overexploited
  - The Seeds Act, 1966
  - Legumes fix nitrogen through root nodules
  - The 67 per cent outturn norm for rice
- **Mains**: "Punjab's groundwater crisis is a crisis of incentives." Examine, with reference to the 2026 paddy season.
- **Asked before**: Prelims 2020; Mains 2025 GS3: “Examine the factors responsible for depleting groundwater in India. What are the steps taken by the...”.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

ILO Convention 193 on platform work, and India's abstention

WHAT IT IS

- **Convention No. 193, Decent Work in the Platform Economy**, is the first international labour standard for people who find work through digital platforms.
- The **114th International Labour Conference** in Geneva adopted the Convention in June 2026.
- A convention binds only the countries that **ratify** it, which must then bring their laws and practice into line.

WHAT IT REQUIRES

- **Status**: platform workers must be classified on the facts of how the work is performed and paid, not on the label in the contract.
- **Rights for all**: freedom of association and collective bargaining, and safe and healthy work, whatever the worker's status.
- **Pay and social security**: timely pay, minimum pay for employees, and social security no less favourable than for other workers of the same status.
- **Algorithmic management**: platforms must disclose the automated systems that allocate, monitor and judge

work. A worker can ask for a written explanation and a human review of a serious adverse decision such as **deactivation**, the removal of access to the app that ends work without a formal dismissal.

WHAT HAPPENED IN INDIA'S CASE

- India's government delegate **abstained**; India's employers' and workers' delegates both voted in favour.
- India's **Code on Social Security, 2020** defines gig workers and platform workers as separate categories outside the employer and employee relationship, with social security schemes funded partly by aggregators.
- This definition sits uneasily with the Convention's test of how the work is actually done.

WHY IT MATTERS

- With a gig workforce that NITI Aayog expects to reach 23.5 million by 2029-30, India's stand carries weight for the Global South.
- An abstention is not a rejection, since India can ratify at any time.

EXAM LENS

- **Prelims**:
  - Convention No. 193 adopted in June 2026 at the 114th International Labour Conference
  - Binds only on ratification
  - The Code on Social Security, 2020 defines gig workers and platform workers
  - The International Labour Organization's tripartite delegations (government, employers, workers)
- **Mains**: India abstained on the first international convention on platform work. Discuss what the convention requires and whether India's labour codes meet it.
- **Asked before**: Mains 2024 GS3: "Discuss the merits and demerits of the four 'Labour Codes' in the context of labour market reforms..."; Mains 2021 GS1: "Examine the role of 'Gig Economy' in the process of empowerment of women in India.".

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Regulator rejects PTC India's plea to trade on its own power exchange

WHAT IT IS

- A **power exchange** is a platform where generators, distribution companies, traders and large consumers buy and sell electricity, mostly for the next day.
- India has three exchanges regulated by the **Central Electricity Regulatory Commission**: the **Indian Energy Exchange**, with over 80 per cent of the market, and the Power Exchange India Limited and the Hindustan Power Exchange, which share the rest.
- Today each exchange discovers its own price from the bids placed on it.
- Under **market coupling**, a **Market Coupling Operator** would pool the bids from all the exchanges anonymously and discover one clearing price for the whole market. Draft amendments of 2026 to the Commission's power market regulations name the **Grid Controller of India** for the role.

WHAT HAPPENED

- Under the Power Market Regulations, 2021, a trader member may not hold more than **5 per cent** of the equity of an exchange it trades on, so that a trader cannot influence the price on its own platform.
- PTC India, the largest power trader and a promoter of the Hindustan Power Exchange, cannot trade on it for this reason. The exchange sought a three year exemption while PTC India diluted its stake.
- In June 2026 the Commission rejected the plea.

WHY IT MATTERS

- With all bids in one pool, the whole country gets a single price for power each hour.
  - Buyers and sellers have more partners.
  - The grid operator can plan supply across regions.
- Today most traders use the largest exchange because most buyers and sellers are there. Pooling removes that advantage, and smaller exchanges would have to win users on service and fees.
- The 5 per cent cap made sense while each exchange set its own price. In a pooled market no single exchange sets the price, which is why PTC India says the cap has lost its purpose.

EXAM LENS

- **Prelims**:
  - The three power exchanges and the Indian Energy Exchange's share of over 80 per cent
  - The Central Electricity Regulatory Commission regulates them
  - Grid Controller of India as the proposed Market Coupling Operator
  - The 5 per cent cap on a trader's equity in an exchange (2021 Regulations)
- **Mains**: Discuss how market coupling would change price discovery in India's electricity market, and who gains and who loses.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Reserve Bank bans dark patterns and sets compensation for small digital frauds

WHAT IT IS

- The Reserve Bank of India's **Responsible Business Conduct** directions set how banks and other regulated entities must treat customers in sales and in fraud.
- The Reserve Bank amended the directions twice in June 2026 to deal with mis selling and small electronic frauds.

WHAT HAPPENED

- **Consent**: a regulated entity must take the customer's explicit consent before selling a product, and the default choice must be "No".
- **Dark patterns**, such as false urgency and phrases like "limited time only", are banned.
- **Fraud**: the bank bears the burden of proving the customer's fault. The customer has **zero liability** if the bank was negligent, or if a breach elsewhere in the system is reported within five days.
- **Compensation**: from **1 January 2027**, a customer who loses up to ₹50,000 to electronic fraud through their own negligence gets **85 per cent of the net loss or ₹25,000**, whichever is less, once in a lifetime. The customer must report the fraud within five days on the **1930** helpline, the national cybercrime portal or to the bank. The Reserve Bank, the customer's bank and the bank that received the money share the cost.

WHY IT MATTERS

- Small frauds through phishing, fake links and "digital arrest" calls hit customers who are least able to bear the loss, and until now negligence meant they bore it all.
- Sharing the cost with the receiving bank pushes banks to watch the **mule accounts** into which fraud money flows.
- The once in a lifetime limit and the five day window are meant to stop the scheme from encouraging carelessness.

KEY TERM

Dark pattern

A design in an app or website that tricks or pressures a user into a choice they would not otherwise make.

EXAM LENS

- **Prelims**:
  - Compensation of 85 per cent of the net loss or ₹25,000, whichever is less, for a loss up to ₹50,000, once in a lifetime, from 1 January 2027
  - Report within five days on 1930 or the cybercrime portal
  - Zero liability where the bank is negligent
  - The default "No" on consent
  - Dark patterns banned
- **Mains**: Discuss how the Reserve Bank's 2026 conduct rules shift the burden of digital fraud from the customer to the banking system.

NOTES

BRIEF · MODERATE · PRELIMS

Open market share buybacks return, and a fast track for alternative funds

- A **share buyback** is a company buying back its own shares. In the **open market route** the company buys them through the stock exchange, rather than by a tender offer to all shareholders.
- In June 2026 the **Securities and Exchange Board of India** brought back the open market route. The board had phased the route out by April 2025 because only shareholders who sold during the buyback gained, unlike in a tender offer open to all. The Budget 2026-27 had already moved the taxation of buybacks to capital gains.
- The board also set up **GARUDA**, a fast track route that lets alternative investment funds raise money 10 working days after filing, instead of 30.

Alternative investment funds

Privately pooled funds that invest money from large investors by a set policy, regulated by SEBI under the AIF Regulations, 2012

₹20 crore	₹1 crore	1,000	Private
Minimum corpus of a scheme	Minimum per investor (₹25 lakh for employees and directors)	Maximum investors in a scheme	Raised by private placement, never a public issue

RISK AND LEVERAGE RISE

Category I — Close ended, 3 years at least	Category II — Close ended, 3 years at least	Category III — Open or close ended
Funds with spillovers the government wants to encourage	Every fund that is neither Category I nor III	Short term returns through complex trading
Venture capital, angel, SME, social impact, infrastructure and special situation funds	Private equity, debt and fund of funds	Hedge funds and funds that trade derivatives
LEVERAGE: Only for temporary needs	LEVERAGE: Only for day to day operations	LEVERAGE: Up to 2 times net asset value
TAX: Pass through: investors pay	TAX: Pass through: investors pay	TAX: Taxed at the fund level

EXAM LENS

- The tender offer and open market routes
- Taxation of buybacks as capital gains
- Alternative investment funds are regulated by SEBI

BRIEF · MODERATE · PRELIMS

Record exports, a wider trade deficit, and a current account surplus in the last quarter

- The **goods trade deficit** is the gap between merchandise imports and exports; the **current account** adds trade in services, remittances and investment income.
- In May 2026 goods exports reached a record **45.2 billion dollars**, but imports grew faster and the goods trade deficit was **28.21 billion dollars**.
- The Reserve Bank's balance of payments data, released in June, showed a current account **surplus of 7.1 billion dollars**, 0.7 per cent of GDP, in January to March 2026.
- For 2025-26 as a whole the current account deficit was **0.6 per cent of GDP**.

EXAM LENS

- India runs a deficit on goods offset by services and remittances, so the current account deficit has usually stayed between 1 and 2 per cent of GDP
- The Commerce Ministry releases trade data monthly, the Reserve Bank the balance of payments quarterly

BRIEF · MODERATE · PRELIMS

GDP grows 7.7 per cent in 2025-26

- The provisional estimates of national income for 2025-26 by the **National Statistics Office** put **real GDP growth** at **7.7 per cent**, up from 7.1 per cent in 2024-25.
- Growth in January to March 2026 was 7.8 per cent. For the year as a whole, **gross value added** grew 7.9 per cent.
- Manufacturing grew 10.7 per cent but agriculture only 3 per cent. Growth rested on industry and services.

EXAM LENS

- GDP against gross value added (GVA plus product taxes less product subsidies equals GDP)
- The new series on base 2022-23
- The provisional estimates are due by the end of May each year

BRIEF · MODERATE · PRELIMS

Retail inflation at 3.93 per cent in May, wholesale at 9.68

- The **Consumer Price Index** measures retail inflation and is the Reserve Bank's target measure: **4 per cent** within a band of 2 to 6 per cent.
- Consumer price inflation for May 2026 was **3.93 per cent**, the highest in about 16 months but below the target.
- Wholesale inflation was **9.68 per cent** in May, led by fuel and power. The gap shows that producers have not yet passed the cost of dearer oil on to retail prices.

EXAM LENS

- The consumer series on **base 2024** since February 2026
- Food and beverages carry about 37 per cent of the basket, down from about 46 per cent in the 2012 series
- The wholesale index is compiled by the Office of the Economic Adviser and is to give way to a **Producer Price Index**

NOTES



THE MONTH AT A GLANCE

- New scenarios retire the worst case for climate. The middle path still runs to 2.8°C, and the 1.5°C budget has about three years left.
- At Bonn India asked for finance, a dialogue on unilateral trade measures and a working Just Transition Mechanism. The talks ended in gridlock.
- The Supreme Court reopens the Aravalli definition it accepted six months ago and bars fresh mining leases until a plan is ready.
- Heat stress beyond the body's ability to cool itself covers 8 per cent of India in summer and could cover half at 2°C. Fourteen Indian cities are among the world's 50 most heat vulnerable.
- Bhitarkanika's mangroves held Odisha's coast against Cyclone Dana. Coastal States still spend on seawalls and other hard defences.
- In Great Nicobar, the tribal reserve land inside the project rises from 7.11 to 84.1 sq km, and the project must move the corals.

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LEAD · VERY HIGH · PRELIMS AND MAINS

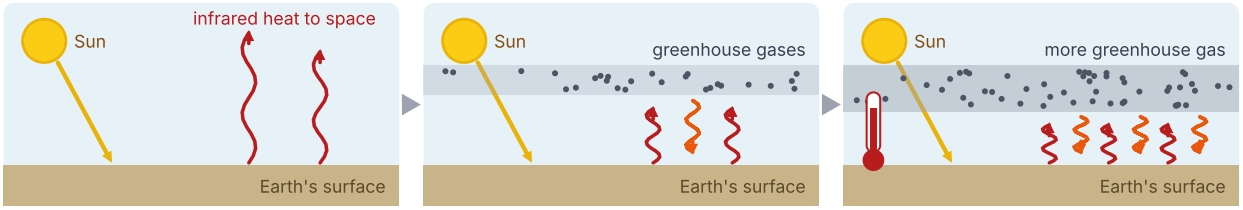
New climate scenarios retire RCP8.5, but the middle path still leads to 2.8°C

WHY IN NEWS

- New emissions scenarios for the next assessment of the **Intergovernmental Panel on Climate Change** (IPCC) were published in April 2026 under the **Coupled Model Intercomparison Project** (CMIP7). They retire the worst case scenario known as **RCP8.5**.
- In June a global report, the **Indicators of Global Climate Change**, put human caused warming at **1.37°C** in 2025 and found the carbon budget for 1.5°C nearly spent.
- Tipping points and the timing of the next IPCC report were argued over at the Bonn talks (see the two boxes).

Global warming: the basics

How greenhouse gases warm the Earth, and what the numbers in the scenario names mean



1. Sunlight in, heat out

- Sunlight passes through the air and **warms the surface**
- The warm surface gives off **infrared heat**, which rises towards space

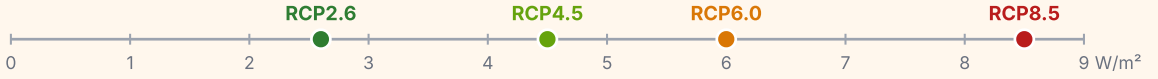
2. Gases trap the heat

- **Greenhouse gases** absorb that heat: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O) and water vapour
- They send part of it **back down**, so the surface stays warmer

3. More gas, more warming

- Extra gas traps extra energy, called **radiative forcing** and measured in watts per square metre (W/m^2)
- This extra energy has caused **1.37°C** of warming (2025) over pre industrial levels, 1850 to 1900

The number in an RCP name is the radiative forcing reached by 2100, in W/m^2



about 5°C by 2100; now retired

BACKGROUND

- The IPCC is an intergovernmental body of 195 members. The IPCC does no research of its own. Scientists assess published studies for it.
- The IPCC reports in cycles through three **Working Groups**: I on the physical science, II on impacts and adaptation, and III on mitigation. A **Synthesis Report** brings their findings together.
- The four **Representative Concentration Pathways** (RCPs) of 2011 set out concentration paths. In 2016 the **Shared Socioeconomic Pathways** added economic growth and population.

KEY TERM

Emissions scenario

A storyline of future greenhouse gas emissions, built on assumptions about technology, the economy and population, which climate models use to project warming. A scenario is not a forecast; it says what follows if the world takes a given path.

KEY TERM

Representative Concentration Pathway 8.5 (RCP8.5)

- A path of greenhouse gas concentrations, one of four set out in 2011.
- The number 8.5 is the radiative forcing it reaches by 2100: 8.5 watts per square metre of extra energy trapped over pre industrial levels.
- It is not a temperature. It gave about 5°C of warming by 2100.
- It was the highest of the four, an edge case later treated as "business as usual".

KEY TERM

Shared Socioeconomic Pathways

- Five storylines of how society and the economy might develop this century, from sustainable growth to rivalry between regions to a fossil fuelled boom.
- Each carries its own assumptions about population, growth, education and technology.
- The SSPs describe the world that produces the emissions. The RCPs describe the emissions and concentrations.

Three generations of emissions scenarios

The worst case falls from about 5°C to about 3.5°C of warming by 2100; the budget for 1.5°C is nearly spent

2011

Four Representative Concentration Pathways; the worst case, RCP8.5, gives about 5°C by 2100

Assumed coal use rising four to five times

2016

Shared Socioeconomic Pathways: five storylines of how society and the economy may develop

Combined with the concentration pathways

2026

Seven CMIP7 scenarios, published in April; the worst case gives about 3.5°C by 2100

RCP8.5 retired as implausible

Where today's emissions are heading

- The present path is near the **middle scenario**, up to 2.8°C by 2100
- No new scenario keeps warming to 1.5°C without **overshoot**

The budget for 1.5°C

- Human caused warming: **1.37°C** in 2025
- At present emissions the budget runs out in about **three years**

WHAT THE NEW SCENARIOS DO

- RCP8.5 assumed carbon dioxide tripling to 850 to 900 parts per million and coal use rising four to five times.
- The seven new scenarios prepared under CMIP7 drop it as implausible. The new highest scenario gives about 3.5°C of warming by 2100, against about 5°C under RCP8.5.
- The world's present path is near the middle scenario, up to 2.8°C.
- No new scenario holds warming to 1.5°C by 2100 without **overshoot**.

KEY TERM

Overshoot

Temporarily exceeding 1.5°C of warming before returning below it by 2100. The return depends on removing carbon dioxide from the air, which is why every overshoot path is also a carbon removal path.

THE CARBON BUDGET

- The **carbon budget** is the carbon dioxide that can still be emitted if warming is to stay below a given limit.
- At present emissions the budget for 1.5°C runs out in about three years.

ANALYSIS

- **A smaller worst case is not good news.** Retiring RCP8.5 removes a scenario that was never likely, but the middle path, up to 2.8°C, is still far above the Paris goals. The change shifts attention from the improbable to the probable.
- **Planning has been aimed at the wrong risk.** Adaptation plans built on RCP8.5 overstated the likely end point and understated how soon moderate warming causes harm.
- **1.5°C is now an overshoot goal.** The question becomes how far above the limit the world goes and for how long. An overshoot path also assumes that someone will take carbon dioxide back out of the air later, which shifts the burden to future generations.

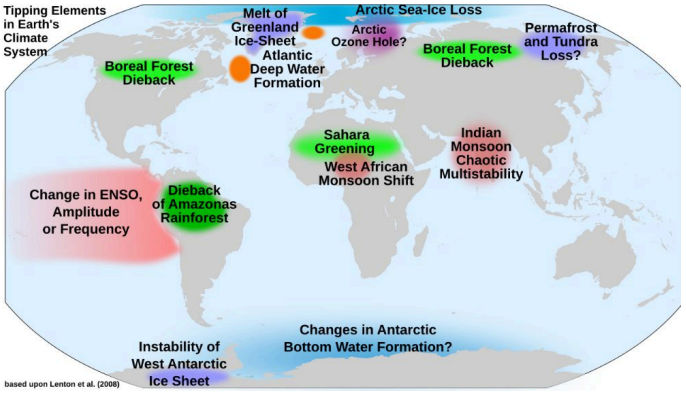
THE WAY FORWARD

- Plan adaptation against the middle scenario, not the retired worst case.
- Keep pressing for deep cuts by developed countries under common but differentiated responsibilities, since the budget left is too small to share without them.

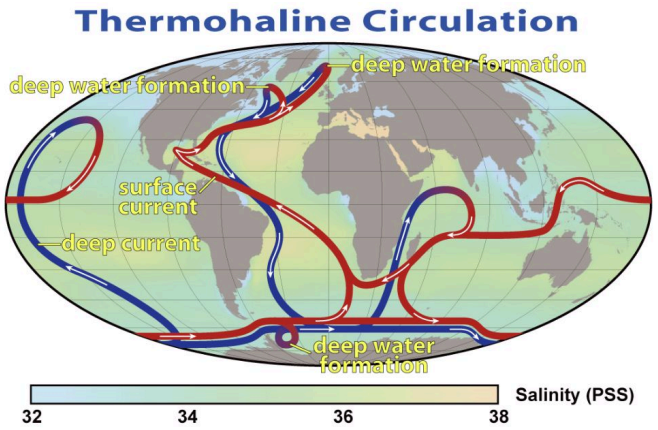
IN BRIEF

Tipping points

- A **tipping point** is a threshold beyond which part of the climate system shifts to a new state that is hard to reverse, even if the cause is removed.
- The candidates include the Greenland ice sheet, the Amazon forest, coral reefs and the **Atlantic Meridional Overturning Circulation** (AMOC).
- At the Bonn talks India asked for care in using the term. **The caution has a basis:** thresholds are uncertain, and a term used loosely can be turned into a demand on developing countries.



Tipping elements of the Earth's climate system, after Lenton and others (2008).



The thermohaline circulation, the ocean's conveyor: warm surface currents in red, cold deep currents in blue. Its Atlantic limb, the AMOC, is one of the tipping elements.

IN BRIEF

The dispute over the next IPCC report

- The **Global Stocktake** is the five yearly review of collective progress under the Paris Agreement. It informs the next round of national pledges.
- An IPCC cycle takes six to seven years. The second stocktake concludes in 2028.
- Many developed countries want all the reports of the seventh assessment, except the Synthesis Report, ready before then.
- India, with China, Saudi Arabia and Kenya, opposes advancing them. Haste would leave out research from the Global South, which takes longer to be published.
- **The way forward:** keep the IPCC's timing tied to the quality of its assessment rather than to one stocktake.

EXAM LENS

- **Prelims**:
  - The IPCC does no research of its own
  - Working Group I is physical science, II impacts and adaptation, III mitigation
  - RCP8.5 was the highest of the 2011 scenarios and is now retired
  - CMIP is the Coupled Model Intercomparison Project
  - The Shared Socioeconomic Pathways date from 2016
  - The Global Stocktake is held every five years, the second concluding in 2028
- **Mains**: "The retirement of the worst case climate scenario changes the question, not the danger." Discuss with reference to the carbon budget and overshoot.
- **Asked before**: Prelims 2014; Mains 2023 GS3: "The Intergovernmental Panel on Climate Change (IPCC) has predicted a global sea level rise..."; Mains 2022 GS3: "Discuss global warming and mention its effects on the global climate. Explain the control...".

NOTES

LEAD · VERY HIGH · PRELIMS AND MAINS

Bonn climate talks end in gridlock over finance and trade

WHY IN NEWS

- The mid year climate talks at **Bonn**, held in **June 2026**, ended in gridlock over finance and trade.
- The session was the 64th meeting of the **subsidiary bodies** (SB64) of the **United Nations Framework Convention on Climate Change** (UNFCCC). India used it to press three demands before **COP31 at Antalya**: finance, a dialogue on unilateral trade measures, and a working Just Transition Mechanism.

BACKGROUND

- The UNFCCC of 1992 is the parent treaty; the **Paris Agreement** of 2015 sits under it.
- The UNFCCC's yearly **Conference of the Parties** (COP) takes the decisions. Two subsidiary bodies prepare them: the **Subsidiary Body for Implementation** and the **Subsidiary Body for Scientific and Technological Advice**.
- These bodies meet every June at Bonn, the seat of the UNFCCC secretariat. The June session prepares the draft texts that the COP then finalises.
- COP30 was held at Belém in Brazil; COP31 is at Antalya in Turkey, with Australia presiding over the negotiations.

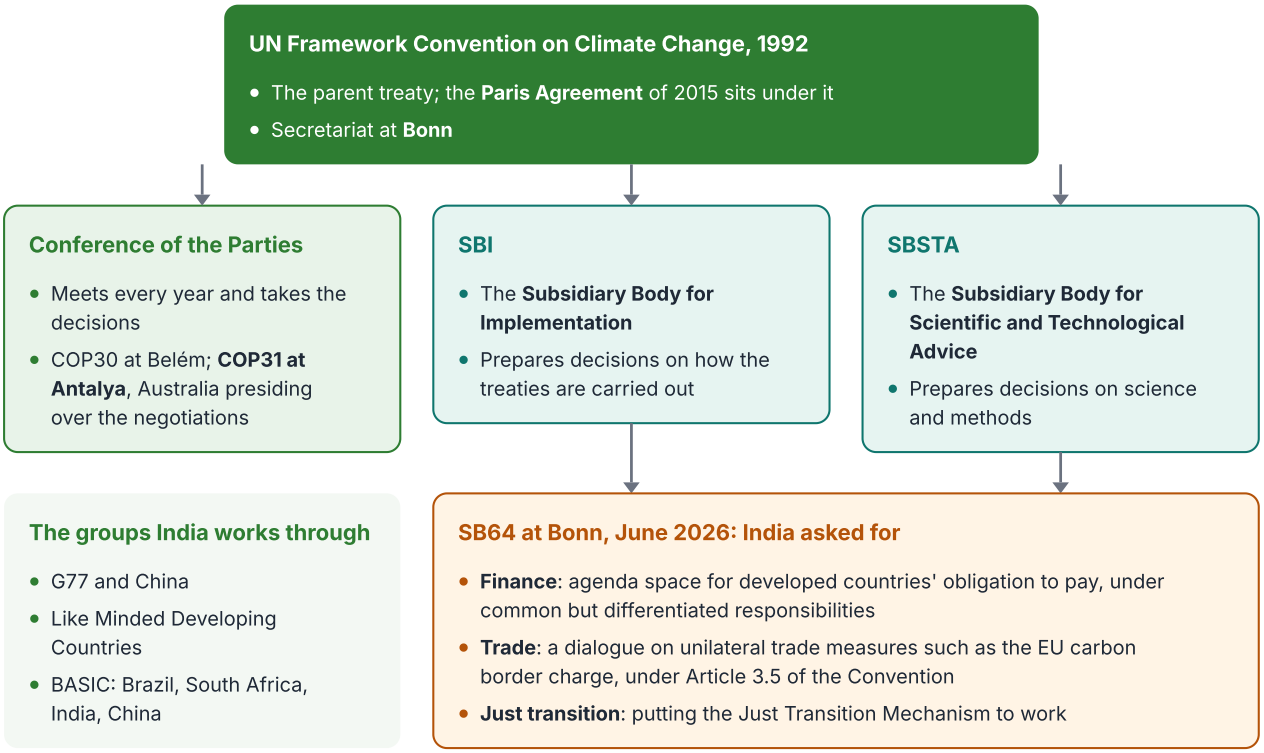
KEY TERM

Subsidiary bodies

The UNFCCC's two standing bodies, on implementation and on science and technology, which meet between COPs to prepare draft decisions.

How the climate talks are organised

The subsidiary bodies meet every June at Bonn to prepare the year's COP



INDIA'S THREE DEMANDS

- **Finance**: India wants dedicated agenda space for the obligation of developed countries, under the Paris Agreement, to provide finance to developing ones. This obligation rests on the principle of **common but differentiated responsibilities**.
- **Trade**: India wants a dialogue on **unilateral trade measures** such as the European Union's carbon border charge. India anchors this demand in **Article 3.5** of the Convention. Under Article 3.5, measures taken to combat climate change should not be a disguised restriction on international trade.
- **Just transition**: putting the **Just Transition Mechanism** to work, so that the move from fossil fuels protects the workers and regions that depend on them.

KEY TERM

Common but differentiated responsibilities

The principle that all countries share the duty to act on climate change, but those who polluted more and can afford more must do more.

KEY TERM

Unilateral trade measure

A trade restriction that one country or bloc imposes on others for climate reasons without agreement under the Convention, such as a border charge on the carbon in imports.

THE GROUPS INDIA WORKS THROUGH

Group	Who	What India uses it for
G77 and China	The largest bloc of developing countries	Finance and the developing country line as a whole
Like Minded Developing Countries	A smaller group within it	Defending common but differentiated responsibilities, so that developed countries act first
BASIC	Brazil, South Africa, India and China	The large emerging economies' common positions

WHY THE TALKS STALLED

- The session ended in gridlock over finance and the European Union's carbon border charge, the recurring sticking points for developing countries.
- The same division has run through the talks since they began: who pays, and who cuts first.
- The science track argued over the term "tipping points" and the timing of the next IPCC report (see the box in the climate science lead).

ANALYSIS

- **The dispute was over what to discuss.** India and other developing countries asked for finance and unilateral trade measures to be put on the agenda. Developed countries refused, so neither was discussed. Both now go to COP31.
- **Trade is the new battleground.** India argues that a carbon charge imposed by one bloc, such as the EU's, is climate policy made outside the Convention. India relies on Article 3.5 to turn a trade quarrel into a treaty question, and on that question the G77 backs India.

- **Finance is the old front, and still the decisive one.** Every new mitigation demand on developing countries runs into the question of who pays. Developed countries have delivered less finance than they pledged.
- **Coalitions add weight, but only where members agree.** Through the G77, the Like Minded Developing Countries and BASIC, India's positions carry the weight of most of the world's people. But these groups differ on fossil fuels, and that limits how far they move together.

THE WAY FORWARD

- Tie any new mitigation target to finance actually delivered, with a common way of counting it.
- Settle trade measures inside the multilateral process, not by unilateral rules, through the dialogue India proposed.
- Measure the transition by the share of energy that is electrified, not by renewable capacity alone.
- Give the Just Transition Mechanism money and a work plan before COP31, so that it is more than a name.

IN BRIEF

The electrification gap

- Turkey, the host of COP31, proposed that electricity meet at least a third of the world's energy needs by 2035.
- Electricity makes up about a fifth of the energy the world finally uses. Less than half of that electricity comes from non fossil sources, so only about 8 per cent of the world's energy is clean.
- Renewables can replace fossil fuels only after they become electricity. The world must therefore electrify transport, heating and industry, and adding renewable capacity alone does not do this.
- **Electrification is the honest measure.** Installed renewable capacity overstates progress. The true measure of the transition lies where energy is used.
- Key numbers:
  - About a fifth: electricity's share of the energy the world finally uses
  - About 8 per cent: the share of the world's energy that is clean
  - One third by 2035: Turkey's proposal for electricity's share of world energy

EXAM LENS

- **Prelims**:
  - The Bonn session is of the UNFCCC's subsidiary bodies, the SBI and the SBSTA, and this was SB64
  - The UNFCCC secretariat is at Bonn
  - COP30 was at Belém, COP31 is at Antalya, Turkey, with Australia presiding over negotiations
  - BASIC is Brazil, South Africa, India and China
  - Article 3.5 of the Convention concerns trade measures
- **Mains**: "At the climate talks the question of who pays has become the question of who sets the rules of trade." Discuss with reference to India's demands at Bonn in 2026.
- **Asked before**: Prelims 2016; Mains 2025 GS3: “Write a review on India's climate commitments under the Paris Agreement (2015) and mention…”; Mains 2021 GS3: “Describe the major outcomes of the 26th session of the Conference of the Parties (COP) to…”.

NOTES

LEAD · VERY HIGH · PRELIMS AND MAINS

Supreme Court reopens the Aravalli definition and halts fresh mining leases

WHY IN NEWS

- By an order in **May 2026** the Supreme Court set up a **High Powered Committee** to review the definition of the Aravalli hills that it had accepted in **November 2025**. The Court also barred **fresh mining leases** until a management plan is ready.
- The Director General of the **Indian Council of Forestry Research and Education** (ICFRE) heads the committee. It is to look at the range across Delhi, Rajasthan, Haryana and Gujarat as a single unit rather than State by State, and is to report before 31 August 2026.

BACKGROUND

- The Aravallis are among the oldest **fold mountains** in the world. They run about 700 km from Gujarat through Rajasthan and Haryana to Delhi. Their highest point is Guru Shikhar on Mount Abu.
- They stand between the **Thar desert** and the northern plains, slowing the eastward spread of sand.
- Their fractured rock lets rain soak in, so they **recharge groundwater** for the region around Delhi.
- The hills hold building stone and minerals, which is why mining has cut into them for decades.

KEY TERM

Fold mountains

Mountains formed where layers of the Earth's crust are pushed together and folded. The Aravallis are so old that erosion has worn them down to low, broken ridges. A height test therefore leaves much of the range out.

The Aravallis: about 700 km across four States

Gujarat to Delhi. India as the Survey of India depicts it; the range line is schematic. Not to scale.



What the range does

- Slows the spread of **Thar** sand eastward
- **Recharges groundwater** around Delhi

The Supreme Court, May 2026

- Definition under review by a High Powered Committee
- No fresh mining lease until a range wide plan is ready

Alwar

- The Forest Survey of India found in 2018 that **31 of 128** hills had vanished

THE DEFINITION AND WHY IT MATTERS

	The ministry's definition, accepted in November 2025	The Forest Survey of India's view
What counts	A hill that rises 100 m or more; a range is two or more such hills within 500 m	Any land higher than its surroundings in the Aravalli region
Why	A clear test that States can apply	Even low hills stop sand and recharge water
What it leaves open	The low hills and the gaps between them	Little; mining would need a plan for each area

- What the law protects depends on what counts as Aravalli. A height test leaves open to mining the low hills and gaps that do much of the work of stopping sand.
- The question is old. The Court rejected Rajasthan's 100 m definition in 2010. It has now reopened the ministry's version within six months of accepting it.

The Aravalli question: three decades of definitions

The Court reopened the definition it had accepted within six months

1992 — A notification on the Aravallis

2002 — The Supreme Court recognises a contiguous ecosystem

2010 — Rajasthan's 100 m definition rejected

2018 — FSI: 31 of 128 hills in Alwar have vanished

Nov 2025 — The Court accepts the ministry's definition

May 2026 — The Court sets up a committee to review it

WHAT THE COURT HAS NOW ORDERED

- A committee under the Director General of ICFRE will review the definition.
- ICFRE will prepare a **management plan for sustainable mining** for the whole range, across the States, on the model of the plan for the **Saranda forest** in Jharkhand.
- No fresh mining lease may be granted until then.
- Saranda is among the most pristine **sal forests** in the world and is also rich in iron ore. The Environment Ministry's **Management Plan for Sustainable Mining** of 2018 for Saranda marked conservation areas and no mining zones. In November 2025 the Court ordered Jharkhand to notify about 314 sq km of Saranda as a wildlife sanctuary.

KEY TERM

Sustainable mining plan

A plan that fixes where and how much mining a landscape can bear without lasting damage, by marking zones where mining is barred and zones where it may go on under conditions.

THE LARGER ARGUMENT

- Campaigners say a definition is not a precondition for conservation: the Western Ghats were protected through administrative units, without first defining a hill.
- They ask for the whole range to be treated as a critical ecological zone, with miners liable under the **polluter pays principle**.
- States point to the livelihoods and revenue that mining brings.

KEY TERM

Polluter pays principle

Whoever causes environmental damage must bear the cost of repairing it. The Supreme Court has held this principle to be part of Indian environmental law.

ANALYSIS

- **Function, not height, is the ecological test.** The height test looks technical, but it decides where mining may go. Low ridges stop sand and hold water as well as tall hills do. A test that counts only tall hills protects the part that needs protection least.
- **One range, one plan.** Treating the Aravallis State by State let each State define them to suit its mining. The Court now insists on a single unit and a single plan.
- **Saranda shows both sides.** A zoning plan protects a forest only if the zones are honoured, and the Saranda case reached the Court because the State tried to shrink the protected area.
- **Restoration cannot replace protection.** The Green Wall plants on degraded land, but a hill quarried away cannot be planted back.

THE WAY FORWARD

- Make the sustainable mining plan binding on all four States, with no mining zones published and monitored.
- Restore mined land, as the Aravalli Green Wall initiative aims to do, and hold miners liable for the cost under the polluter pays principle.

KEY NUMBERS

- 31 of 128: hills in Alwar that the Forest Survey of India found had vanished by 2018

IN BRIEF

Aravalli Green Wall and land restoration

- On 17 June, the **World Day to Combat Desertification and Drought**, the Environment Ministry said the **Aravalli Green Wall** initiative had exceeded its annual targets in 2025-26.
- Key numbers:
  - 97.85 million hectares: land under degradation and desertification in India (Desertification and Land Degradation Atlas), about 30 per cent of its area
  - 26 million hectares: India's land restoration target under the **Bonn Challenge** by 2030, against 21.76 million brought under restoration

EXAM LENS

- **Prelims**:
  - The Aravallis run through Gujarat, Rajasthan, Haryana and Delhi
  - They are fold mountains, with Guru Shikhar the highest point
  - The accepted definition uses a height of 100 m and a distance of 500 m
  - The review committee is headed by the Director General of ICFRE
  - The Saranda forest, the model for the mining plan, is in Jharkhand
  - The World Day to Combat Desertification and Drought is 17 June
  - India's Bonn Challenge target is 26 million hectares by 2030
- **Mains**: "What the law protects depends on how it defines the land." Examine with reference to the Aravalli case.
- **Asked before**: Mains 2025 GS3: “Mineral resources are fundamental to the country's economy and these are exploited by mini...”; Mains 2022 GS4: “The Supreme Court has banned mining in the Aravalli Hills to stop degradation of the fores...”; Mains 2018 GS2: ““Policy contradictions among various competing sectors and stakeholders have resulted in i...”.

NOTES

LEAD · VERY HIGH · PRELIMS AND MAINS

Humid heat spreads into India's monsoon, and cooling adds to the warming

WHY IN NEWS

- Studies published in June 2026 found that **humid heat** is spreading in India beyond the summer into the monsoon, and that India has more cities among the world's most heat vulnerable than any other country.
- India's peak power demand reached a record in May, much of it for cooling. Cooling is the other half of the problem, because the way India protects itself from heat adds to the warming that causes it.

BACKGROUND

- **Heat stress** is the net heat load on the body. It depends on temperature, humidity, wind and radiation, and not on temperature alone.
- The body cools itself by sweating. When the air is humid, sweat does not evaporate and the cooling fails.
- The **India Meteorological Department** declares a heatwave on temperature, but humid heat can be dangerous at temperatures well below that threshold.
- Heat risk has three parts: exposure to the hazard, the vulnerability of the people exposed, and their capacity to cope.

KEY TERM

Uncompensable heat stress

A condition in which the body cannot cool itself by sweating because of extreme heat and humidity. Core temperature then rises whatever a person does, short of reaching a cooler place.

WHAT THE STUDIES FOUND

- Uncompensable heat stress now affects about 8 per cent of India in summer; at 2°C of global warming it could affect more than half the country.
- Summer heat stress concentrates in the Indo Gangetic plain and the coasts, driven by high temperatures and pre monsoon moisture from the Bay of Bengal.
- Monsoon heat stress is humid. It arrives at moderate temperatures of 35 to 38°C when humidity is high, especially during **monsoon breaks**. The northwest and the Gangetic plain will see more of it.
- An Oxford study of 205 cities of over a million people, scoring hazard, vulnerability and coping capacity, placed 14 Indian cities in the global top 50.
- Across the world the warmest nights are warming faster than the warmest days, which denies the body its recovery.

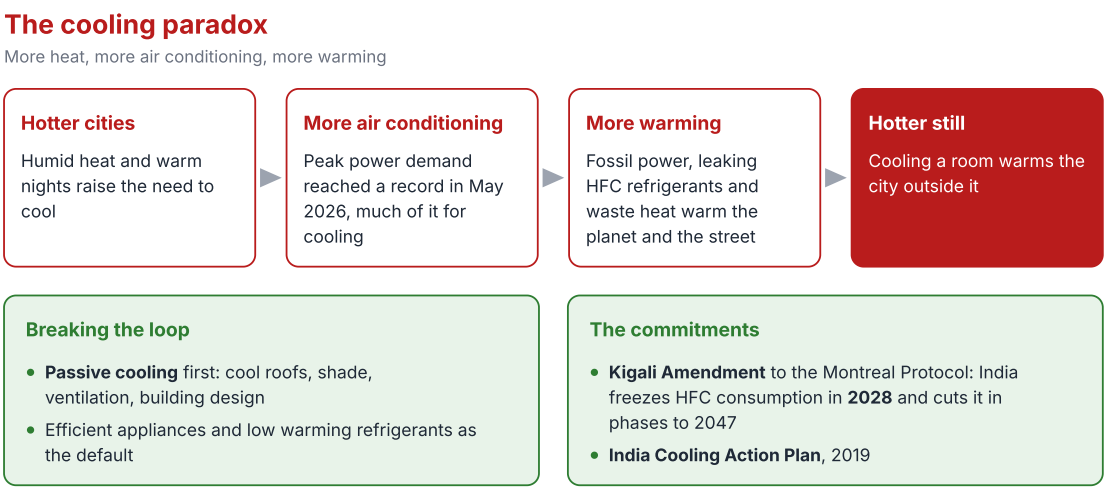
Share of the world's people	1970s	Now
At least 90 days of strong heat stress a year	55 per cent	70 per cent
At least one day of extreme heat stress a year	16 per cent	22 per cent

WHO IS MOST EXPOSED

- Outdoor workers, and people in slum housing without ventilation, power or water.
- Children: a United Nations Children's Fund report gives India the highest score for children's exposure to extreme heat.
- The poor are exposed twice: they work in the heat by day and sleep in the hottest housing at night, when warm nights deny recovery.

THE COOLING PARADOX

- Cooling protects people from heat, but air conditioners draw fossil power and use **hydrofluorocarbons** (HFCs), gases with a high **global warming potential**.
- Cooling a room therefore warms the planet. The machine's waste heat also warms the city outside the room.
- Under the **Kigali Amendment** to the **Montreal Protocol**, India freezes its HFC consumption in 2028 and cuts it in phases until 2047.
- The **India Cooling Action Plan** of 2019 aims to cut cooling demand and refrigerant demand over two decades.



KEY TERM

Hydrofluorocarbons

Refrigerant gases used in air conditioners, refrigerators and cold chains. They replaced ozone depleting gases and do not harm the ozone layer, but many have a high global warming potential, which is why the Kigali Amendment phases them down.

KEY TERM

Global warming potential

How much a gas warms the planet over a given period compared with the same mass of carbon dioxide.

ANALYSIS

- **Temperature is the wrong trigger.** India declares heatwaves on temperature, but the danger the studies describe is humid heat at 35 to 38°C and warm nights, which a temperature threshold does not catch.
- **Heat is a disaster of vulnerability.** The same heat kills the outdoor worker and spares the office worker. The city rankings score coping capacity because that is where policy can act.
- **The monsoon no longer brings relief.** Humid heat in monsoon breaks extends the dangerous season into months that heat plans treat as safe.
- **Cooling must not become the next source of warming.** Air conditioning is adaptation for those who can afford it, but it adds to emissions instead of cutting them. Without efficient machines and low warming refrigerants, air conditioning locks in power demand and HFC emissions.
- **Passive cooling is the cheapest protection.** Cool roofs, shade, ventilation and building design protect everyone in a building, including those who cannot run a machine.

THE WAY FORWARD

- Put passive cooling first: cool roofs, shade, ventilation and building design in codes and in public housing.
- Make efficient appliances and low warming refrigerants the default, in step with the Kigali timetable.
- Extend **Heat Action Plans** to cover humid heat and warm nights, and not only daytime temperature.
- Protect outdoor workers through changed working hours, water and shade, as a labour duty rather than advice.

KEY NUMBERS

- About 8 per cent: the share of India under **uncompensable heat stress** in summer now
- More than half: the share that could be under it at 2°C of global warming, in the monsoon as well as the summer
- 14: Indian cities among the world's fifty most heat vulnerable, more than any other country
- 2028: the year India freezes its consumption of hydrofluorocarbons under the Kigali Amendment

EXAM LENS

- **Prelims**:
  - Heat stress depends on temperature, humidity, wind and radiation
  - The Kigali Amendment is to the Montreal Protocol and deals with HFCs
  - HFCs do not deplete ozone but have high global warming potential
  - India freezes HFC consumption in 2028 and cuts it in phases to 2047
  - The India Cooling Action Plan dates from 2019
- **Mains**: "India must cool its people without warming its cities." Discuss the cooling paradox and suggest how heat adaptation can avoid it.
- **Asked before**: Prelims 2025, 2023; Mains 2019 GS3: “Vulnerability is an essential element for defining disaster impacts and its threat to peop...”.

NOTES

STANDARD · VERY HIGH · PRELIMS AND MAINS

Carbon Border Adjustment Mechanism: the EU's charge and India's steel

WHAT IT IS

- The **Carbon Border Adjustment Mechanism** (CBAM) is the European Union's charge on the carbon emitted in making certain imports, priced in line with the Union's own **carbon price**. An imported good thus carries the same carbon cost as one made inside the bloc.
- It entered its **definitive phase** in January 2026.
- It covers **iron and steel, aluminium, cement, fertilisers, electricity and hydrogen**.
- Iron and steel are about **90 per cent** of India's exports to the European Union that the mechanism covers.

KEY TERM

Carbon leakage

The shifting of production, and of the emissions that go with it, to countries with weaker climate rules in response to a carbon price at home. Preventing it is the stated purpose of the CBAM.

WHAT HAPPENED

- In June 2026 the Centre was reported to be working on a scheme to absorb **90 per cent** of the compliance cost for small and medium enterprises.
- A paper by the **Indian Council for Research on International Economic Relations** (ICRIER) estimates that EU imports of Indian iron and steel could fall about **24 per cent**.

THE TWO CASES

	The case for	The case against
Principle	Prevents carbon leakage	Cuts across common but differentiated responsibilities

WHY IT MATTERS

- India objects to the way the measure is made, not to its climate logic. At the Bonn talks in June, India asked for a dialogue on **unilateral trade measures**, anchored in **Article 3.5** of the climate Convention.
- Compliance falls hardest on small firms, which must verify the emissions embedded in each consignment.
- For steel the lasting answer is decarbonisation through cleaner power and scrap based and hydrogen based routes, which is costly and slow.

EXAM LENS

- **Prelims**:
  - CBAM is the European Union's
  - Six sectors: iron and steel, aluminium, cement, fertilisers, electricity and hydrogen
  - Definitive phase from January 2026
  - Iron and steel dominate India's covered exports
  - The purpose is to prevent carbon leakage
- **Mains**: "The Carbon Border Adjustment Mechanism is climate policy made as trade policy." Examine India's objections and its options.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Europe's record heatwave impossible without climate change, attribution finds

WHAT IT IS

- **Extreme event attribution** is the science that estimates how much likelier, or how much more intense, climate change made a particular weather event.
- It asks not whether climate change caused a flood, but how much likelier it made one.
- Attribution compares model runs of a pre industrial world against today's warmer world. The result is a **probability** rather than a cause.
- It works best for heat, less well for rain, and hardly at all for a single **cloudburst**, which builds and empties within an hour over a small area.

WHAT HAPPENED

- In June 2026 **World Weather Attribution** found that Europe's most severe recorded heatwave would have been impossible without climate change.
- Record warm nights are now almost **100 times** as likely, and record daytime peaks almost **10 times** as likely, as in the climate of 2003.
- The heat was held in place by a **heat dome** under an **omega block**.

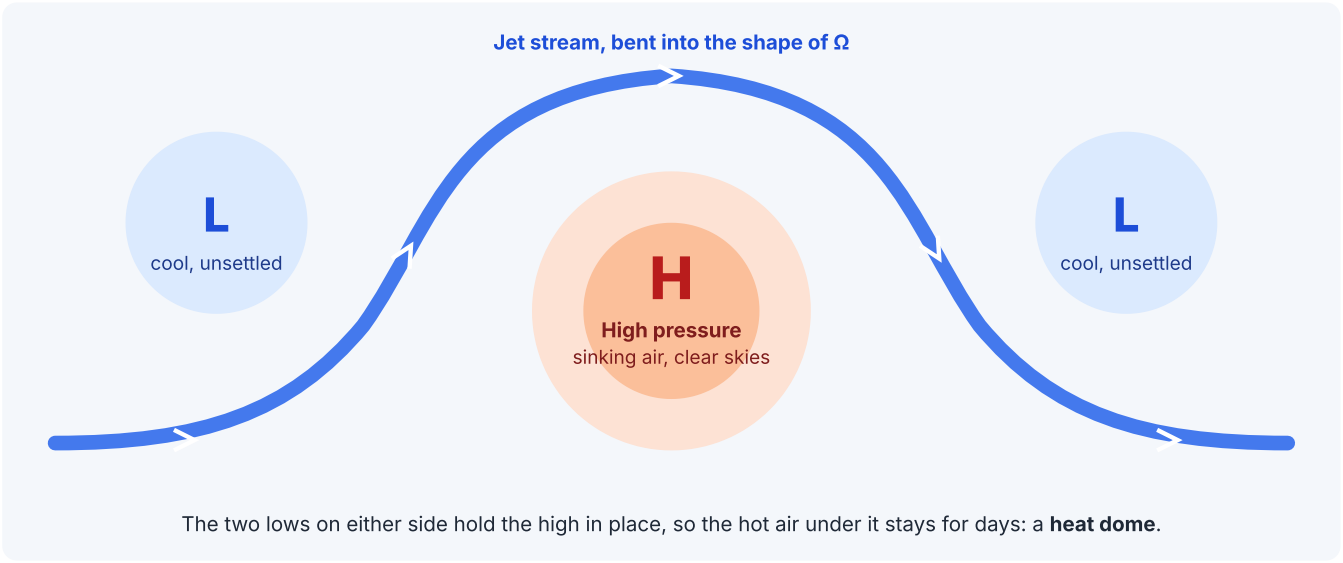
KEY TERM

Heat dome and omega block

A heat dome is a persistent area of high pressure in the upper atmosphere that traps hot air over a region. An omega block is a stuck wind pattern, shaped like the Greek letter Ω, that holds such a system in place for days.

The omega block and the heat dome

How Europe's June 2026 heatwave was held in place: a schematic, not a weather chart



The two lows on either side hold the high in place, so the hot air under it stays for days: a **heat dome**.

- Air under the high sinks and warms as it is compressed, and clear skies let the sun heat the ground all day.
- Weather normally moves west to east; a block stops that movement, which is why such heatwaves last.

WHY IT MATTERS

- Attribution turns climate change from a global average into a local event with a date. Adaptation planning and **loss and damage** claims need exactly that.
- Warm nights matter most for health, because the body recovers at night and a warm night denies it that recovery.

EXAM LENS

- **Prelims**:
  - World Weather Attribution
  - Attribution gives a probability, not a cause
  - A heat dome is high pressure trapping hot air
  - An omega block holds it in place
  - IMD treats more than 100 mm of rain in an hour over a small area as a cloudburst
- **Mains**: what attribution science can and cannot say about a disaster, and why it matters for loss and damage.
- **Asked before**: Mains 2024 GS3: "Flooding in urban areas is an emerging climate-induced disaster. Discuss the causes of thi..."; Mains 2022 GS3: "Discuss global warming and mention its effects on the global climate. Explain the control...".

NOTES

STANDARD · MODERATE · PRELIMS AND MAINS

Dam safety: a quarter of India's large dams are over 50 years old

WHAT IT IS

- The **Dam Safety Act, 2021** came into force on **30 December 2021**. It makes the safe operation and upkeep of **specified dams** a statutory duty of their owners.
- A specified dam is one over **15 m** high, or 10 to 15 m high if it meets prescribed criteria.
- The Act sets up a four tier structure:

Tier	Body	Role
National policy	National Committee on Dam Safety	The apex policy body
National regulator	National Dam Safety Authority	The regulatory and implementing arm
State policy	State Committees on Dam Safety	Policy for each State
State operations	State Dam Safety Organisations	Surveillance, inspection and compliance

WHAT HAPPENED

- A government backgrounder in May 2026 put India's count at **6,628 specified dams**, third in the world.
- **1,681 dams**, about a quarter, are over 50 years old. States own almost all of them.
- All specified dams are registered on the **DHARMA** database.

KEY TERM

DHARMA

The Dam Health and Rehabilitation Monitoring Application is the Central Water Commission's online database of large dams. It records each dam's details, inspections and health status.

KEY TERM

Dam Rehabilitation and Improvement Project

The Centre's programme, with World Bank support, to repair and strengthen existing dams.

WHY IT MATTERS

- A dam failure is a man made disaster with a natural trigger, usually extreme rain. Climate change makes such rain more frequent. The weak point is an ageing dam designed for an older rainfall regime.
- Where a dam stands in one State and is owned or operated by another, the national authority can act as the State Dam Safety Organisation. This power gives the Act a federal dimension.

EXAM LENS

- **Prelims**:
  - The Act of 2021 in force from 30 December 2021
  - A specified dam is over 15 m (or 10 to 15 m with criteria)
  - NCDS, NDSA, SCDS and SDSO
  - India has 6,628 specified dams, third in the world
  - DHARMA (Dam Health and Rehabilitation Monitoring Application) is the Central Water Commission's dam database
  - DRIP is World Bank assisted
- **Mains**: India's dams are old, State owned and exposed to a changing rainfall regime; how far does the Dam Safety Act meet the risk?
- **Asked before**: Mains 2026 GS3: “Discuss how the contradiction between 'rapid infrastructure development' and 'disaster-ris...”; Mains 2019 GS3: “Vulnerability is an essential element for defining disaster impacts and its threat to peop...”.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

India launches a Cell Broadcast Alert System for disaster warnings

WHAT IT IS

- The **Cell Broadcast System** is an indigenous public warning system that sends a geo targeted alert at the same moment to every mobile phone in a defined area.
- The **Centre for Development of Telematics** (C-DOT) built the system with the **National Disaster Management Authority** (NDMA). It was launched in **May 2026**.
- It is integrated with **SACHET**, the NDMA's Integrated Alert System, which is built on the **Common Alerting Protocol** (CAP).

KEY TERM

Common Alerting Protocol

An international standard format for emergency alerts, recommended by the International Telecommunication Union, so that one warning can be carried by text message, broadcast, app and siren alike.

HOW IT DIFFERS FROM TEXT MESSAGE ALERTS

	SMS alerts	Cell broadcast
Speed under load	Queues when networks are congested	Arrives within seconds, without queuing
Who receives	Subscribers whose numbers are reached	Every phone in the area, roaming users included
On the phone	A text message	A pop up with a loud tone, read aloud on supported handsets; cannot be switched off

- It is meant for time critical events such as tsunamis, earthquakes and gas leaks.

WHAT HAPPENED

- The system has already reached people in Andhra Pradesh, Odisha and Uttarakhand during disasters.

WHY IT MATTERS

- The last mile is where warnings fail, because a forecast that does not reach a fisherman or a village in time saves no one.
- An alert that cannot be switched off works only if people trust it. False or vague alerts wear away that trust.

EXAM LENS

- **Prelims**:
  - C-DOT developed it
  - SACHET is NDMA's CAP based Integrated Alert System
  - CAP is recommended by the ITU
  - Cell broadcast reaches all phones in an area at once, roaming users included
- **Mains**: early warning is only as good as its last mile; examine with reference to India's alert systems.
- **Asked before**: Mains 2022 GS1: “Discuss the meaning of colour-coded weather warnings for cyclone prone areas given by Indi...”; Mains 2020 GS3: “Discuss the recent measures initiated in disaster management by the Government of India de...”.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Mission Mausam: IMD opens regional centres at Jammu and Lucknow

WHAT IT IS

- **Mission Mausam** is the Ministry of Earth Sciences programme to widen India's observing network and sharpen its weather models. The mission was launched in January 2025.
- By 2030 it aims to deliver hazard forecasts on a **5 km grid** to every household. The **Bharat Forecast System** is the model at its centre.

WHAT HAPPENED

- In June 2026 the India Meteorological Department (IMD) opened its seventh **Regional Meteorological Centre** at **Jammu**, for Jammu and Kashmir, Ladakh and Himachal Pradesh.
- **Doppler weather radars** across India have risen from 17 in 2014 to **50**. Jammu and Kashmir and Ladakh had none in 2014 and now have four.

KEY TERM

Doppler weather radar

A radar that sends out a microwave pulse and reads the echo from raindrops, snow and hail, which tells it where precipitation is and how heavy. The **Doppler shift** in the echo gives the speed at which the drops move, which lets the radar read the wind inside a cloud.

THE RADAR AND THE HILLS

- In the hills a ridge blocks the beam and leaves the valley behind it unwatched.
- A cloudburst builds and empties within the hour, and where the radar cannot see, no warning comes. The new radars are going to the Himalayan States for this reason.

WHY IT MATTERS

- A regional centre brings forecasting closer to the State disaster authorities that must act on it.
- The network is the precondition for a warning reaching a household: the radar sees the storm, the model forecasts it, and the alert system carries it to the phone.

EXAM LENS

- **Prelims**:
  - Mission Mausam is under the Ministry of Earth Sciences
  - The Bharat Forecast System
  - Jammu is the seventh Regional Meteorological Centre
  - A Doppler radar measures the speed of raindrops from the shift in echo frequency
- **Mains**: why the Himalayan States remain the hardest to warn, and what the observing network must add.
- **Asked before**: Mains 2022 GS1: "Discuss the meaning of colour-coded weather warnings for cyclone prone areas given by Indi…"; Mains 2020 GS3: "Discuss the recent measures initiated in disaster management by the Government of India de…".

NOTES

STANDARD · MODERATE · PRELIMS AND MAINS

Ammonia leak kills ten at a Tiruvallur seafood plant

WHAT IT IS

- **Ammonia** is a colourless, pungent gas used in fertilisers, dyes and refrigeration.
- In body tissue it forms **ammonium hydroxide**, a corrosive alkali that burns the airways, eyes and skin. There is no antidote. Treatment means removal from exposure and supportive care.
- Nearly half of process safety incidents occur during **transient operations**, at start up or shutdown.

THE LAWS THAT APPLY

Law	What it covers
Factories Act, 1948	Worker safety and hazardous processes inside the factory
Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989	Under the Environment (Protection) Act: site safety reports, on site emergency plans and notification of major accidents
Boilers Act, 1923	Pressure vessels and boilers

WHAT HAPPENED

- In June 2026 ammonia used as a refrigerant leaked from a seafood processing plant in **Tiruvallur**, Tamil Nadu, killing ten.
- The State government told the Assembly that a valve on a pipeline to an ice flake machine failed.
- The State's industrial safety directorate had flagged a missing alarm and fire hydrant, but the unit had not installed them.
- Tamil Nadu announced an inspection of all its hazardous industries.

WHY IT MATTERS

- The rules exist, but enforcement is missing. Enforcement would have meant **ammonia sensors** and water curtains linked to alarms, which would have given warning and contained the leak.
- Small units, such as cold storage and seafood plants, use ammonia without the safety culture of large chemical works, and inspections reach them least.
- A leak is a local disaster. Handling it needs an off site emergency plan, warnings to nearby residents and trained responders. This is where industrial safety meets disaster management.

EXAM LENS

- **Prelims**:
  - Ammonia forms ammonium hydroxide in tissue
  - No antidote
  - The 1989 Hazardous Chemicals Rules fall under the Environment (Protection) Act, 1986
  - Nearly half of process safety incidents occur at start up or shutdown
- **Mains**: "India's industrial accidents are failures of enforcement, not of law." Examine with reference to chemical leaks.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Clean mobility scheme for Delhi NCR trucks and buses

WHAT IT IS

- The **clean mobility scheme** replaces **BS IV** and older trucks and buses registered in Delhi NCR with **BS VI** or electric vehicles. The Cabinet approved it in June 2026.
- The **National Capital Region Planning Board** funds the scheme, which the Centre runs with Delhi, Haryana, Rajasthan and Uttar Pradesh. The outlay is **₹9,585 crore**.
- BS III or older vehicles must be scrapped. BS IV vehicles may be scrapped or sold outside NCR.

KEY TERM

Bharat Stage

India's vehicle emission standards, numbered in stages of increasing strictness. The standards regulate tailpipe nitrogen oxides, carbon monoxide and particulate matter.

WHO GIVES WHAT

- **Centre**: cheaper loans through interest subvention, and fuel vouchers.
- **States**: no registration fee and a cut in motor vehicle tax.
- **Manufacturers**: a discount on the price.

WHY IT TARGETS HEAVY VEHICLES

- Trucks and buses are **3 per cent** of the fleet but **36 per cent** of transport PM2.5.
- A BS IV heavy vehicle emits 2.7 times as much as a BS VI one, because older engines lack diesel particulate filters.

WHY IT MATTERS

- The scheme aims at the small share of vehicles that does a large share of the harm. Targeting these vehicles costs less per tonne of pollution cut than restricting all traffic.
- Nitrogen oxides are also ozone precursors. Cutting them helps in summer as well as in winter.
- Selling BS IV vehicles outside NCR moves part of the pollution to other towns rather than ending it.

EXAM LENS

- **Prelims**:
  - The NCR Planning Board funds it
  - BS IV and older replaced by BS VI or electric
  - BS III or older must be scrapped
  - Trucks and buses are 3 per cent of the fleet and 36 per cent of transport PM2.5
- **Mains**: targeting the dirtiest vehicles as a strategy for urban air quality; its merits and its leaks.
- **Asked before**: Prelims 2016; Mains 2021 GS3: "Describe the key points of the revised Global Air Quality Guidelines (AQGs) recently relea...".

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Summer air pollution: PM10 and ozone

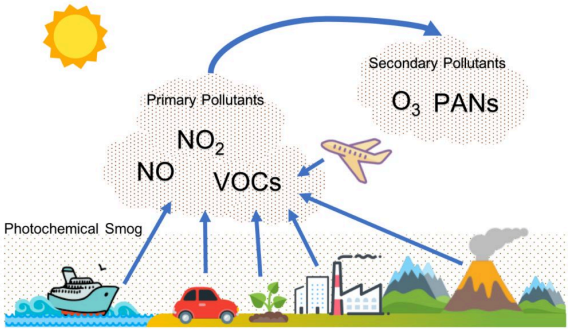
WHAT IT IS

- Coarse **PM10** and **ground level ozone** drive summer air pollution in India. In winter, fine **PM2.5** trapped by cold, still air dominates.
- Heat speeds the reaction that makes ozone. A heatwave therefore turns pollutants into ozone, which outlasts the heat itself.
- Heat lows produce hot winds that carry West Asian and Thar dust, and thunderstorm downdrafts raise local dust storms, the **andhi**.

KEY TERM

Ground level ozone

A secondary pollutant formed when nitrogen oxides and volatile organic compounds react under strong sunlight. High in the stratosphere ozone shields life from ultraviolet light, but at ground level it damages lungs and crops.



How ground level ozone forms: nitrogen oxides and volatile organic compounds from vehicles, industry and plants react in sunlight.

WINTER AGAINST SUMMER

	Winter	Summer
Main sources	Combustion and burning	Dust and photochemistry
Control	Graded Response Action Plan stages	Dust control and cuts in precursor gases

WHAT HAPPENED

- The **Commission for Air Quality Management** (CAQM) revoked the winter **Graded Response Action Plan** (GRAP) curbs in March 2026 but reimposed Stage 1 in April and May as summer pollution rose.
- A study in **npj Clean Air** found that surface ozone stays high three to four days after a heatwave ends. It attributed over 830 deaths in India in 2024 to heat driven rises in ozone.

WHY IT MATTERS

- Ozone is controlled only by cutting the gases that make it, not by watering roads.
- Coupled heat and ozone extremes need **integrated climate and air quality policy**. Heat action plans and clean air plans written apart miss the combined risk.

EXAM LENS

- **Prelims**:
  - Ozone is a secondary pollutant
  - Its precursors are nitrogen oxides and volatile organic compounds
  - PM10 is 10 micrometres or less, PM2.5 is 2.5 or less
  - GRAP is applied by the CAQM in Delhi NCR
  - Andhi is a local dust storm
- **Mains**: "India's air pollution is a winter problem only in its headlines." Discuss summer pollution and the policy it needs.
- **Asked before**: Prelims 2022, 2016; Mains 2022 GS3: "Discuss in detail the photochemical smog emphasizing its formation, effects and mitigation...".

NOTES

STANDARD · HIGH · MAINS

Coastal adaptation: seawalls, mangroves and managed retreat

WHAT IT IS

- Coastal protection has three options. **Hold the line** keeps the shore in place with seawalls and **groynes**, low walls that trap sand. **Retreat** moves people away from the hazard. **Ecosystems** such as mangroves, reefs and dunes absorb the waves.
- Hard armouring can shift erosion to the next stretch of coast and can draw investment into hazard zones. Both effects are **maladaptation**.
- **Managed retreat** is one of the four coastal adaptation strategies of the Intergovernmental Panel on Climate Change (IPCC).
- India undercounts **ecosystem based adaptation** because restoration schemes such as the **Mangrove Initiative for Shoreline Habitats and Tangible Incomes** (MISHTI) record it under other labels.

KEY TERM

Maladaptation

An adaptation measure that increases risk instead of reducing it.

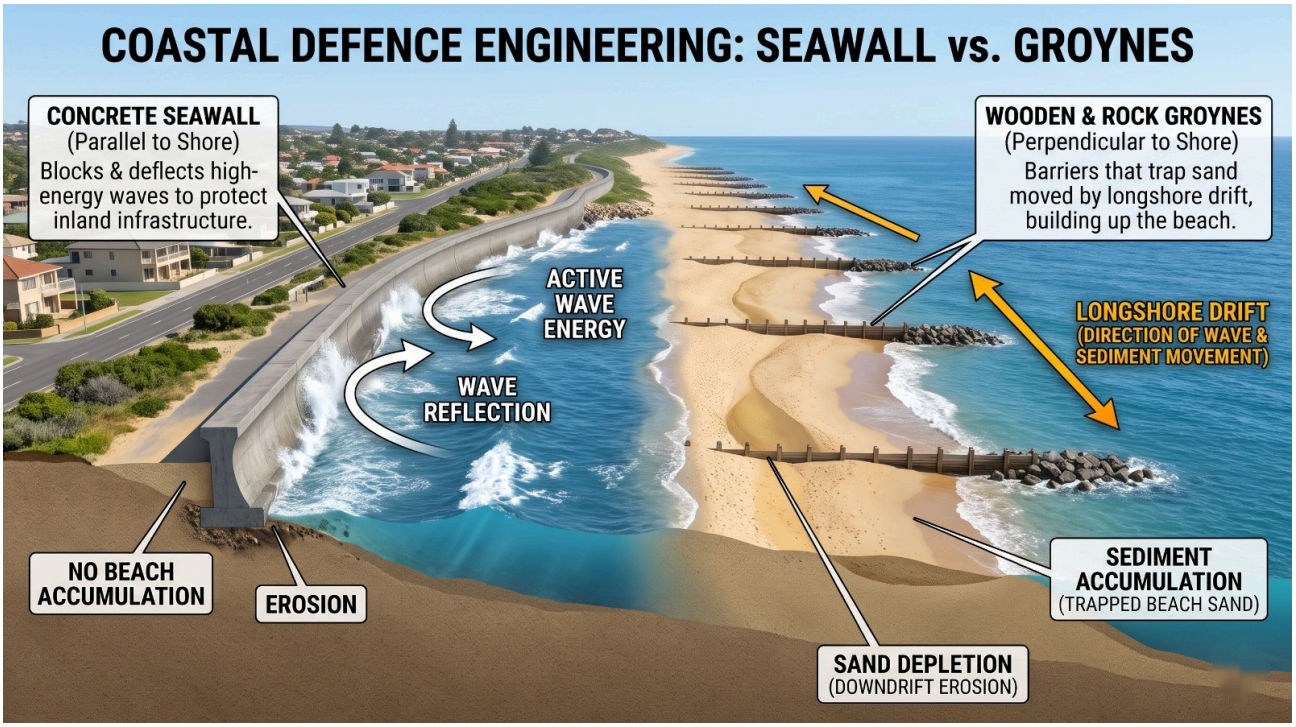
KEY TERM

Managed retreat

The purposeful, coordinated movement of people, assets or infrastructure away from areas at risk.

THREE WAYS TO MEET THE SEA

	Hold the line	Managed retreat	Ecosystem based
Indian example	Kerala's armoured coast	Satabhaya to Bagapatia, Odisha, 2018	The Sundarbans and Bhitarkanika



A seawall runs parallel to the shore and reflects waves, so the beach in front of it erodes. Groynes run out to sea and trap sand moving along the coast, which builds the beach up but starves the shore downdrift.

WHAT HAPPENED

- The **National Coastal Mission**'s budget fell between 2022-23 and 2024-25, while coastal States kept spending on hard protection.
- In Odisha, **Bhitarkanika**'s mangroves held the coast when Cyclone Dana made landfall.
- After Odisha moved families from **Satabhaya** to Bagapatia, landowners there became daily wage labourers.

WHY IT MATTERS

- Retreat fails when it moves people without moving their livelihoods. Receiver towns must be planned before relocation.
- India must classify and measure ecosystem based adaptation and plan for retreat. It cannot engineer its way out of the sea.

EXAM LENS

- **Prelims**:
  - MISHTI restores mangroves
  - Bhitarkanika is in Odisha
  - Managed retreat is one of the IPCC's coastal strategies
  - Maladaptation means adaptation that raises risk
- **Mains**: "Seawalls protect property; mangroves protect people." Discuss the choice between hard and ecosystem based coastal adaptation in India.
- **Asked before**: Prelims 2026; Mains 2025 GS3: "Seawater intrusion in the coastal aquifers is a major concern in India. What are the cause…"; Mains 2019 GS1: "Discuss the causes of depletion of mangroves and explain their importance in maintaining c…".

NOTES

STANDARD · VERY HIGH · PRELIMS AND MAINS

Great Nicobar project: corals to be moved, and tribal reserve land put at 84.1 sq km

WHAT IT IS

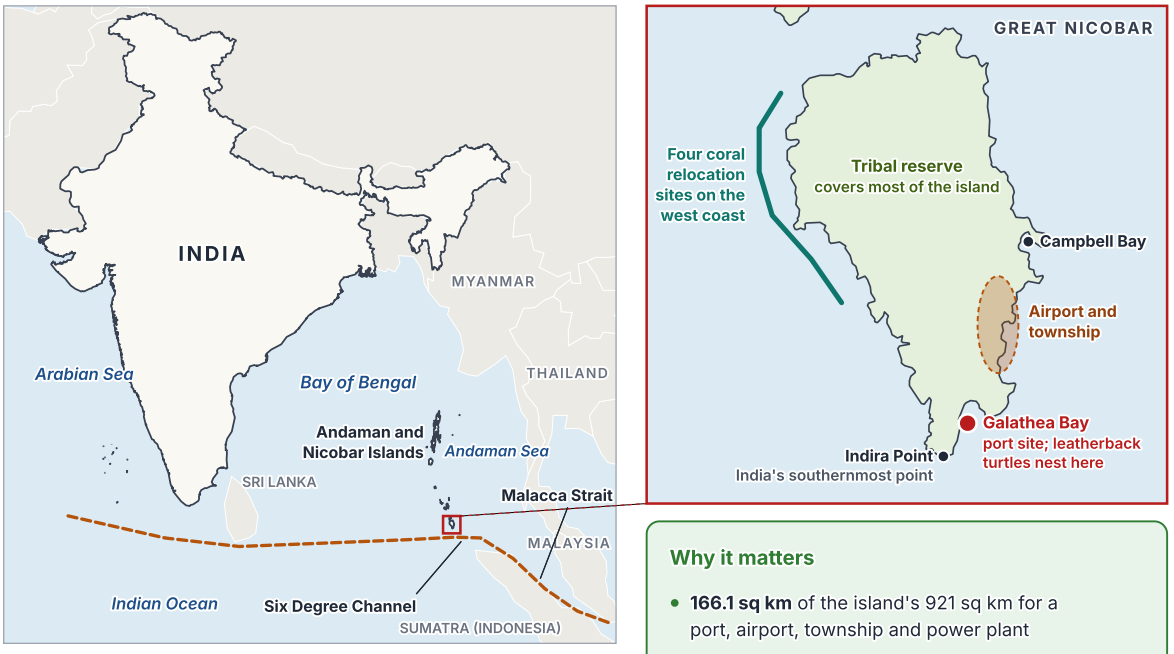
- The **Great Nicobar project** is a plan for an **International Container Transshipment Port** at **Galathea Bay**, an airport, a township and a power plant on Great Nicobar Island, the southernmost of the Andaman and Nicobar Islands.
- The island lies close to the Six Degree Channel and the Malacca Strait, on the main shipping route to East Asia. This position is the strategic case for the port.

WHY THE ISLAND MATTERS

- The island is a biodiversity hotspot and home to the **Shompen**, a particularly vulnerable tribal group.
- The **leatherback turtle** nests at Galathea Bay, where the wildlife sanctuary was denotified in 2021 to make way for the port.
- The island is seismically active and subsided in the 2004 earthquake.

Great Nicobar: where the island is, and what is planned on it

The island sits beside the Six Degree Channel, the gateway to the Malacca Strait. Project sites are schematic.



Dashed orange line: the main shipping route, indicative. Project sites, the tribal reserve and the coral sites are schematic. Not to scale.
Boundaries: DataMeet India (CC BY 4.0), following the Survey of India outer boundary; other countries: Natural Earth.

KEY TERM

Particularly vulnerable tribal group

A tribal community marked by a pre agricultural level of technology, a stagnant or falling population, very low literacy and a subsistence economy. India lists 75.

WHAT HAPPENED

- In June 2026 the **Zoological Survey of India** chose sites on the west coast to receive coral and giant clam colonies moved from the port area. Both are **Schedule I** species under the Wild Life (Protection) Act, 1972.
- A **Wildlife Institute of India** survey found leatherback nests at the port site.
- The government now says **84.1 sq km** of the project falls in tribal reserves, against its own 2023 figure of 7.11 sq km.

WHY IT MATTERS

- **Translocation** of coral is a mitigation, not an exemption. Moved colonies may not survive, and the reef left behind is lost.
- The tribal reserve figure, more than ten times the first estimate, raises the question of consent under the **Forest Rights Act, 2006**.

EXAM LENS

- **Prelims**:
  - Galathea Bay is on the southeast coast of Great Nicobar
  - The leatherback is the largest sea turtle
  - The Shompen are a particularly vulnerable tribal group
  - Corals and giant clams are Schedule I
- **Mains**: weigh the strategic case for the Great Nicobar project against its ecological and tribal costs.
- **Asked before**: Prelims 2017, 2014; Mains 2026 GS3: “Discuss how the contradiction between 'rapid infrastructure development' and 'disaster-ris...”.

NOTES

STANDARD · MODERATE · PRELIMS AND MAINS

Sand mining at Thottappally erodes Kerala's coast and salts Kuttanad's paddy

WHAT IT IS

- The **Kollam to Alappuzha** coast of Kerala is dense **black sand**, rich in ilmenite, monazite, rutile, zircon and sillimanite, the minerals of titanium, thorium and zirconium.
- The sand acts as a natural wall against erosion and keeps sea water out of the backwaters.
- The **Thottappally spillway** of 1954 and its estuary drain low lying **Kuttanad**, about 3 m below sea level, to the sea. The fine grains of the estuary stabilise the coast.
- **Monazite** in the sand is radioactive, so stockpiles left in the open are a radiation source.

KEY TERM

Beach sand minerals

Heavy minerals concentrated in coastal sands, such as ilmenite and rutile (titanium), monazite (thorium and rare earths) and zircon, which India mines through public sector firms.

WHAT HAPPENED

- A report in June 2026 found that estuary sand mining by **Indian Rare Earths Limited** and **Kerala Minerals and Metals Limited**, expanded after the 2018 flood, is eroding the coast.
- About **3,000 hectares** of Kuttanad paddy land became uncultivable between 2020 and 2023 from salt water intrusion.
- A December 2025 case in the Kerala High Court, over harm to paddy and to nesting sea turtles, led to an expert committee being constituted.

Thottappally: from harbour dredging to lost paddy

Removing the sand that holds the sea back turned harbour works into a loss of farmland

Harbour dredging — Dredging for the harbour, 2010 to 2014 ▶

Estuary mining — Mining of the estuary sand expands after the 2018 flood ▶

Barrier lost — The black sand wall between sea and backwater thins ▶

Erosion and salt — The coast erodes and salt water intrudes ▶

Paddy lost — About 3,000 ha of Kuttanad paddy uncultivable, 2020 to 2023

Why the sand matters

- Black sand rich in **ilmenite, monazite, rutile, zircon and sillimanite**; monazite is radioactive
- The **Thottappally spillway** of 1954 drains Kuttanad, about 3 m below sea level, to the sea

WHY IT MATTERS

- Dredging justified as harbour maintenance and flood management has become mineral extraction, and the cost falls on farmers and fishers rather than on the miners.
- Removing the sand that holds the sea back worsens three things at once: erosion, salinity and radiation exposure.
- Kuttanad lies below sea level and depends on the barrier more than any other landscape in India. Once salt enters its fields, the loss is slow to reverse.

EXAM LENS

- **Prelims**:
  - Black sand minerals of the Kerala coast
  - Monazite is radioactive and a source of thorium
  - Kuttanad lies below sea level
  - The Thottappally spillway dates from 1954
- **Mains**: when does dredging for disaster management become mining? Discuss with reference to Thottappally.
- **Asked before**: Mains 2025 GS3: “Mineral resources are fundamental to the country's economy and these are exploited by mini…”; Mains 2025 GS3: “Seawater intrusion in the coastal aquifers is a major concern in India. What are the cause…”.

NOTES

BRIEF · MODERATE · PRELIMS

National Biodiversity Authority sets a procedure to notify threatened species

- **Section 38 of the Biological Diversity Act, 2002** lets the Centre, after consulting the State, notify a species on the verge of extinction as **threatened**. Notification regulates or bans the collection of that species and provides for its rehabilitation. The power may be delegated to States.
- In **June 2026** the **National Biodiversity Authority** released a standard operating procedure for the process, from scientific assessment through notification to recovery plans and periodic review.
- **State Biodiversity Boards** identify candidates and recommend them.
- The Environment Ministry has notified **159 plant and 173 animal species** as threatened.

EXAM LENS

- Section 38 of the Biological Diversity Act, not the Wild Life (Protection) Act
- The National Biodiversity Authority is at Chennai

- The SOP supports Target 4 of the National Biodiversity Strategy and Action Plan 2024 to 2030

BRIEF · MODERATE · PRELIMS

India and Japan adopt rules for their Joint Crediting Mechanism

- The **Joint Crediting Mechanism** is a bilateral framework under **Article 6.2 of the Paris Agreement** for projects that reduce or remove emissions in India with Japanese investment and low carbon technology. The two countries share the credits, and each credit counts toward only one country's **Nationally Determined Contribution**. A corresponding adjustment prevents double counting.
- In **June 2026** India and Japan adopted its **Rules of Implementation**, following the Memorandum of Cooperation signed the previous year.
- The rules provide for:
  - a **Joint Committee** of both governments
  - transparent project approval
  - third party validation and verification
  - sustainable development safeguards
  - national registries to track the issue and transfer of credits.

EXAM LENS

- Article 6.2 covers cooperative approaches between countries, with internationally transferred mitigation outcomes
- Article 6.4 is the UN supervised mechanism

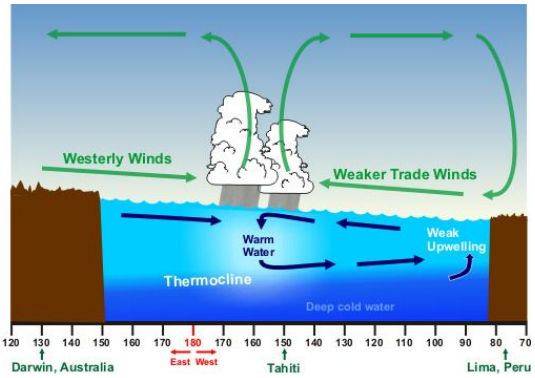
BRIEF · MODERATE · PRELIMS

INCOIS El Niño bulletins for the seas

- The **Indian National Centre for Ocean Information Services** (INCOIS), Hyderabad, under the Ministry of Earth Sciences, released its first specialised **El Niño bulletin** for maritime sectors in **June 2026**.
- INCOIS expects the El Niño to peak between November 2026 and January 2027. Indian Ocean surface waters should stay warmer than normal until April or May 2027, with thermal stress in the Arabian Sea and the Bay of Bengal.
- Warmer water brings more **coral bleaching** and **marine heatwaves**. Catches of sardine and mackerel may fall as stocks move away or fewer young fish survive.
- The Bay of Bengal is likely to stay rough in the monsoon, with more erosion and flooding on the east coast.

EXAM LENS

- INCOIS is under the Ministry of Earth Sciences
- El Niño is a warming of the eastern Pacific that also warms the Indian Ocean
- Sardine and mackerel are the fisheries at risk



El Niño conditions: the trade winds weaken, a warm pool spreads east towards South America and the cold upwelling off its coast fails.

BRIEF · MODERATE · PRELIMS

Monsoon onset over Kerala, three days late

- The **India Meteorological Department** (IMD) declared the monsoon's onset over Kerala on **4 June 2026**, three days after the normal date of 1 June. IMD had forecast 26 May, plus or minus four days, so the onset came five days past the upper bound of its own forecast. This is the first miss beyond the error margin since 2015.
- IMD declares onset only after **10 May**, and only when three tests are met: steady **rain** at stations across Kerala and nearby, strong westerly **winds** over the southeast Arabian Sea, and deep **cloud**, seen from satellites as low **outgoing longwave radiation**.
- The tests rule out a false pre monsoon onset. The onset date has little bearing on the season's total rain.

EXAM LENS

- The normal onset date is 1 June
- The three criteria are rain, wind and outgoing longwave radiation
- Low OLR means deep cloud

BRIEF · MODERATE · PRELIMS

Coral translocation and the Gulf of Mannar

- Corals from the Great Nicobar port site are to be moved (see the Great Nicobar article). Whether moved corals survive depends on India's restoration record.
- India's longest restoration record is in the **Gulf of Mannar**. There, since 2002, a programme led by the **Suganthi Devadason Marine Research Institute** has transplanted over **51,000 coral fragments**.
- Survival of the transplanted fragments has ranged from over 55 to about 80 per cent. Live coral cover rose **sevenfold** between 2006 and 2020.
- The **Gulf of Mannar Marine National Park** covers 560 sq km, including 21 islands.

EXAM LENS

- India's reefs are in the Gulf of Mannar and Palk Bay, the Gulf of Kachchh, Lakshadweep and the Andaman and Nicobar Islands
- Corals are Schedule I

- Restoration is not a licence to destroy a reef elsewhere



Dead corals in the Gulf of Mannar after an algal bloom, November 2021.

NOTES



THE MONTH AT A GLANCE

- NITI Aayog tells India not to chase 3 nanometre chips. It points to mature nodes, compound semiconductors and packaging, where nine of the twelve approved projects already sit.
- After the glycol deaths, four rule changes follow: cough syrups leave the village shop, sixteen fixed dose combinations go, and QR codes follow risk.
- NFHS-6 arrives two years late with thirty fewer indicators, anaemia and mortality among them.
- Health moves to open protocols: the Unified Health Interface, a Drug Registry and Aarogya Setu reborn as a health record app.
- Gaganyaan slips again: the first uncrewed flight to the third quarter of 2027, and the crew to 2028.
- The first national assessment finds that India's reservoirs could carry 102 GW of floating solar.

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LEAD · VERY HIGH · PRELIMS AND MAINS

NITI Aayog's chip report: build mature nodes and packaging, not 3 nm fabs

WHY IN NEWS

- In June 2026 **NITI Aayog's Frontier Tech Hub** released a report, *Future of India's Semiconductor Industry*.
- It advises India to put public money into **mature nodes**, **compound semiconductors** and **packaging**, and not to chase the most advanced chips of 3 to 7 nanometres.
- At the end of the month the Ministry of Electronics and Information Technology reported that **12 semiconductor projects** had been approved under the **India Semiconductor Mission**, nine of them packaging units.

BACKGROUND

- A semiconductor chip is made in three stages: **design**, **fabrication**, and **packaging and testing**.
- The firms in the chain are of three kinds, much like a book's author, its printing company and the printing press:

	What it is	Book analogy	Examples
Fabless company	Designs chips but owns no factory	The author and publisher	Nvidia, Apple, AMD

	What it is	Book analogy	Examples
Foundry	A company that makes chips to others' designs	The printing company	TSMC, GlobalFoundries
Fab	The factory where wafers are etched	The printing press	TSMC's Fab 18 at Tainan

- A fab takes four to five years to start production, needs costly imported equipment, and then needs time to raise its yield.
- India is strong in design, and much of the world's chip design work is done in India. Yet India has no commercial fab; the first is expected at **Dholera** in Gujarat.
- The India Semiconductor Mission, with a corpus of ₹76,000 crore, pays a share of the cost of fabs and packaging units.

KEY TERM

Node

A measure, in nanometres, of how small a chip's features are. A smaller node means a more advanced chip; mature nodes are the older, larger ones that run cars, appliances, power equipment and defence systems.

KEY TERM

Transistor and Moore's law

- A transistor is a microscopic switch that turns current on and off. Every chip is built from transistors, and a modern chip packs billions of them.
- The more transistors fit into a given area, the faster and more efficient the chip. The industry therefore races to make them smaller.
- **Moore's law**: in 1965 Gordon Moore observed that the number of transistors on a chip doubled every year. In 1975 he revised this to every two years.
- Moore's law is not a law of physics. It is an observation about engineering and cost.
- The doubling has slowed. Gains now come from new transistor shapes, 3D stacking and advanced packaging.

WHAT THE REPORT SAYS

- India's ecosystem cannot yet meet its own demand, but India must still pursue manufacturing for national security.
- India should not chase the frontier of 3 to 7 nanometres, where a handful of firms abroad lead; it should build mature node and compound semiconductor capacity.
- Packaging should be treated as a core pillar of production, not an afterthought.
- India should work with partners for equipment, materials and know how: the United States, Japan, the European Union and South Korea.
- The idea is **selective depth**: be strong in chosen parts of the chain rather than copy all of it.

	Frontier nodes	Mature nodes
Size	3 to 7 nanometres	Older and larger
Used in	The most advanced processors, including AI chips	Cars, appliances, power equipment, defence systems
Who makes them	A few firms abroad	Many fabs worldwide
The report's advice	Do not chase	Build capacity, with compound semiconductors

KEY TERM

Compound semiconductor

A semiconductor made of two or more elements, such as gallium nitride, used in power electronics, radio frequency and optical devices.

WHY PACKAGING MATTERS NOW

- Packaging places the bare chip in a protective case with connectors, and testing checks that it works.
- As shrinking transistors gets harder, performance comes from **advanced packaging** (defined below). Chip on wafer on substrate (CoWoS) is one such technology.
- One Taiwanese firm, **TSMC**, does nearly all advanced packaging for artificial intelligence chips. Supply falls short of demand, and that makes advanced packaging a choke point.
- AI chips need so much **high bandwidth memory**, stacked vertically and linked to the processor through very wide data paths, that memory makers have moved their factories over to it. The price of ordinary memory has more than tripled.

KEY TERM

Advanced packaging

Bundling several chips into one module so that they work together at high speed, the route to more performance now that transistors are hard to shrink further.

WHAT IT MEANS FOR INDIA

- The twelve approved projects, with an investment pipeline of about ₹1.64 lakh crore, are one silicon fab, two compound semiconductor fabs and nine packaging units. That mix matches the report's advice.
- Packaging needs less capital than a fab, and it builds the skills and supplier base that can later lead to fabrication.
- In design, 24 projects are supported under the Design Linked Incentive scheme and 23 designs have been taped out, that is, finished and sent to foundries to be made.

ANALYSIS

- **Realism over prestige.** A frontier fab would take up a large part of India's ₹76,000 crore mission and would depend on equipment no Indian firm makes.
- **Packaging is the near term opening.** It is cheaper and faster to build, and it is now strategic, because advanced packaging, not the transistor, limits the supply of AI chips.

- **Compound semiconductors fit India's needs.** Gallium nitride and similar materials serve power electronics and radio frequency, which the energy transition and telecom networks need.
- **Selective depth still needs a base.** India imports its equipment, specialty chemicals and gases, and a fab without a local supplier base stays cut off.

The chip chain, and where India stands

Design, fabrication, packaging and testing; NITI Aayog report of June 2026 and the approved projects

1 Design

India is strong: much of the world's chip design is done here

24 projects under the Design Linked Incentive; 23 designs sent to foundries to be made

2 Fabrication

Etching circuits on wafers in a fab; four to five years to production

One silicon fab (Dholera) and two compound fabs approved

3 Packaging and testing

Encasing and testing the chip; advanced packaging bundles many chips

Nine of the twelve approved projects

The report: selective depth, mature and compound nodes, packaging as a core pillar

Why packaging now

- Transistors are now very hard to shrink, so chips gain speed by bundling several into one package
- One Taiwanese firm, TSMC, does nearly all advanced packaging for AI chips, so supply is a choke point
- A packaging unit needs far less money than a fab, and builds skills that lead on to fabrication

Why not the frontier

- Chips of 3 to 7 nanometres are made by a few firms abroad, with decades of lead
- One frontier fab would take up a large part of the ₹76,000 crore mission
- Its equipment, specialty chemicals and gases would all be imported

THE WAY FORWARD

- Build advanced packaging capacity and the skills for it, so that the nine units move up from assembly.
- Help Indian design firms own their intellectual property, since Indian engineers now design chips mostly for foreign firms.
- Secure equipment, specialty chemicals and gases through the partnerships the report names.

EXAM LENS

- **Prelims**:
  - The chip chain of design, fabrication, and packaging and testing
  - A smaller node means a more advanced chip
  - India's first fab expected at Dholera, Gujarat
  - CoWoS is an advanced packaging technology
  - Compound semiconductors such as gallium nitride
  - The India Semiconductor Mission and the Design Linked Incentive scheme
- **Mains**: "India need not build every part of the semiconductor chain to be secure in it." Discuss with reference to the case for mature nodes and packaging.
- **Asked before**: Prelims 2026; Mains 2025 GS3: “India aims to become a semiconductor manufacturing hub. What are the challenges faced by t...”.

NOTES

LEAD · VERY HIGH · PRELIMS AND MAINS

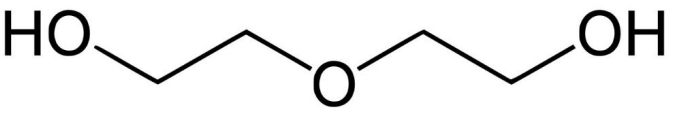
After the cough syrup deaths: curbs on village sales, 16 FDCs banned and QR codes by risk

WHY IN NEWS

- In June 2026 the **Ministry of Health and Family Welfare** made four changes to how medicines are regulated, after the cough syrup deaths of October 2025.
- The changes cover the sale of cough syrups in villages, a ban on sixteen fixed dose combinations, QR codes for high risk drugs and lighter penalties for paperwork lapses.

BACKGROUND

- Medicines are regulated under the **Drugs and Cosmetics Act, 1940** and the **Drugs Rules, 1945**.
- The **Central Drugs Standard Control Organisation (CDSCO)** approves new drugs, while State drug controllers license manufacture and sale; the **Drugs Technical Advisory Board (DTAB)** advises the government on technical matters.
- In October 2025 at least 20 children in Madhya Pradesh died after taking Coldrif, a cough syrup adulterated with **diethylene glycol**. WHO had issued alerts on Indian made syrups after deaths in The Gambia (October 2022), Indonesia (November 2022) and Uzbekistan (January 2023).



Diethylene glycol, the industrial solvent found in the cough syrups that killed children; every oral liquid must now be tested for it.

Drug schedules at a glance

Schedules of the Drugs Rules, 1945, made under the Drugs and Cosmetics Act, 1940

AT THE CHEMIST'S COUNTER: WHO MAY BUY

Stricter from left to right →

G — Caution
The label warns: take only under medical supervision

H — Prescription
Sold only on a doctor's prescription, marked Rx

H1 — Prescription and register
The chemist records each sale and keeps the register three years

X — Narcotic and psychotropic
A prescription in duplicate, and the chemist keeps one copy two years

BEYOND THE COUNTER: MAKING, TESTING AND CLAIMING

M — Good manufacturing practice
Revised in 2023 to match WHO standards, with risk based quality systems

H2 — QR codes (In the news)
Track and trace codes. Began with the top 300 brands and now extends by risk

K — Exemptions (In the news)
Drugs freed from parts of the Act, such as household remedies

J — No cure claims
Diseases, such as cancer and AIDS, that no drug may claim to cure or prevent

C, C1 — Biological products
Vaccines, sera, insulin and other products that need special handling and testing

Y — Clinical trials
Now governed by the New Drugs and Clinical Trials Rules, 2019

KEY TERM

Diethylene glycol

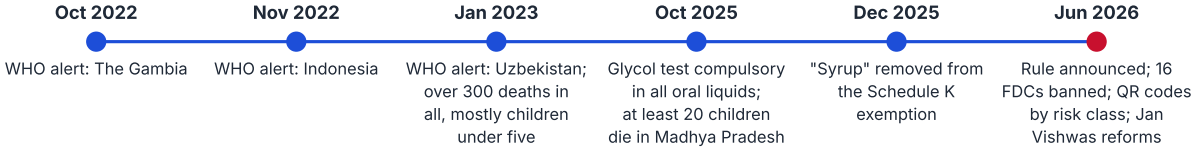
An industrial solvent and antifreeze agent, fatal even in small amounts, that enters medicines when a manufacturer uses an adulterated excipient such as glycerin, propylene glycol or sorbitol. Ethylene glycol is its close relative.

THE FOUR CHANGES AT A GLANCE

Change	Rule	What it does
Cough syrups	Schedule K of the Drugs Rules	Removes "syrup" from the exemption for small villages
Fixed dose combinations	Section 26A of the Act	Bans 16 combinations as lacking therapeutic justification
QR codes	Schedule H2 of the Drugs Rules	Track and trace for vaccines, anti cancer, narcotic and psychotropic drugs, then antimicrobials
Minor offences	Jan Vishwas Act, 2026	Procedural lapses draw administrative penalties; spurious and adulterated drugs stay criminal

Syrup deaths to the rule

Diethylene glycol in cough syrups, at home and abroad, and the regulatory response



Where the deaths began

- An adulterated excipient, such as glycerin or propylene glycol
- A raw material not tested before use
- A finished batch not tested before sale

What June 2026 changed

- Cough syrups only through licensed pharmacies
- Track and trace for high risk drugs from 2027 and 2028
- Paperwork lapses penalised; spurious drugs stay criminal

KEY NUMBERS

- 16: fixed dose combinations banned
- At least 20: children who died in Madhya Pradesh in October 2025 after taking a contaminated cough syrup
- Over 300: deaths, mostly of children under five, that the World Health Organization (WHO) linked to contaminated syrups in its alerts of 2022 and 2023
- 1,000: the village population under which the old exemption let syrups be sold without a retail licence
- July 2027 and July 2028: the dates from which QR codes become compulsory for the high risk classes

1. COUGH SYRUPS: SCHEDULE K

- One entry in **Schedule K** let shops in villages of fewer than 1,000 people sell cough syrups without a retail licence.
- The notification of December 2025 removed the word "syrup" from that entry. Cough syrups must now be sold through licensed pharmacies, while lozenges, pills and tablets stay exempt.

2. FIXED DOSE COMBINATIONS

- A **fixed dose combination (FDC)** holds two or more active drugs in fixed proportions in one dose. An FDC is irrational when a drug in it adds nothing to the effect. Such a combination exposes the patient to needless drugs, and in antibiotics it breeds resistance.
- The Supreme Court had directed a review of FDCs. An expert committee set up by DTAB found that these sixteen lacked therapeutic justification.

KEY TERM

Section 26A

The power of the Central Government, under the Drugs and Cosmetics Act, 1940, to prohibit the manufacture, sale or distribution of a drug in the public interest when it is satisfied that the drug is risky or has no therapeutic value.

3. QR CODES: SCHEDULE H2

- **Schedule H2** first covered the top 300 brands. It now extends to all vaccines, anti cancer drugs and narcotic and psychotropic drugs from July 2027, and to antimicrobials from July 2028.
- The shift is from regulating by sales, the best selling brands, to regulating by risk.

IN BRIEF

Jan Vishwas Act, 2026 and the drug law

- The **Jan Vishwas (Amendment of Provisions) Act, 2026** decriminalises minor offences across 79 Central Acts.
- Under the Drugs and Cosmetics Act, paperwork lapses such as record keeping now draw administrative penalties.
- Spurious and adulterated drugs and cosmetics stay criminal.

ANALYSIS

- **The rule follows the deaths, not the cause.** Restricting where syrups are sold does little if a manufacturer still buys contaminated glycerin. The real lapse was that raw material and batches went untested.
- **Testing exists on paper.** The Indian Pharmacopoeia has required diethylene and ethylene glycol tests in all oral liquids since October 2025, but State drug controllers, who enforce it, are short of inspectors and laboratories.
- **Traceability is the real reform.** QR codes by risk class let a regulator pull a bad batch and find fakes, but only if pharmacists scan and State databases talk to each other.

THE WAY FORWARD

- Strengthen State drug controllers, who are understaffed, since rules made at the Centre are enforced in the States.
- Test excipients and finished batches, and publish the results of failed samples.
- Make traceability work: build real time State databases that connect across States, and get pharmacists into the habit of scanning.
- Enforce FDC bans at the pharmacy counter, where banned stocks have kept selling in the past.

EXAM LENS

- **Prelims**:
  - Drugs and Cosmetics Act, 1940 and Drugs Rules, 1945
  - Section 26A for bans in the public interest
  - Schedule K (exemptions), Schedule H (prescription), Schedule H2 (QR codes)
  - CDSCO and DTAB
  - Diethylene and ethylene glycol as the contaminants tested for in oral liquids
  - The Jan Vishwas Act, 2026
- **Mains**: "India's drug deaths are a failure of enforcement more than of law." Examine with reference to the regulatory changes of June 2026.
- **Asked before**: Prelims 2019.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Herbicide tolerant mustard hybrids reach farms this rabi to fight Orobanche

WHAT IT IS

- Herbicide tolerant mustard hybrids carry a single DNA change that lets them survive **imidazolinone** herbicides.
- The change was made by **mutation breeding**, selecting and preserving a natural mutation, not by genetic modification, so the hybrids are not GM crops.
- Imidazolinone herbicides kill plants by inhibiting **acetolactate synthase**, an enzyme essential for growth. In the hybrids, the DNA change makes their own enzyme resistant to the herbicide.

WHAT HAPPENED

- Wide scale cultivation of imidazolinone resistant mustard hybrids begins in the 2026 to 2027 rabi season to counter **Orobanche**.
- Orobanche, or broomrape, is a parasitic weed that attaches to mustard roots and drains their water and nutrients. Because it lives below ground, hand weeding cannot reach it.
- Because the tolerant crop can be sprayed, the herbicide reaches the parasite in the soil without killing the mustard.

WHY IT MATTERS

- India imported about **16 million tonnes of edible oil** in 2024 to 2025, and mustard is its main oilseed in the arid north. A pest that cuts mustard yields therefore adds to the import bill.
- Spraying the same herbicide year after year kills only the weeds it can kill. The few weeds that resist it survive, multiply and take over the field, and the herbicide stops working.
- The technology stays viable only as part of a mixed weed control plan:
  - crop rotation;
  - herbicides with different modes of action, used in turn;
  - continued hand weeding.
- Because the trait is not GM, it does not need the biosafety approval that GM mustard required.

KEY TERM

Mutation breeding

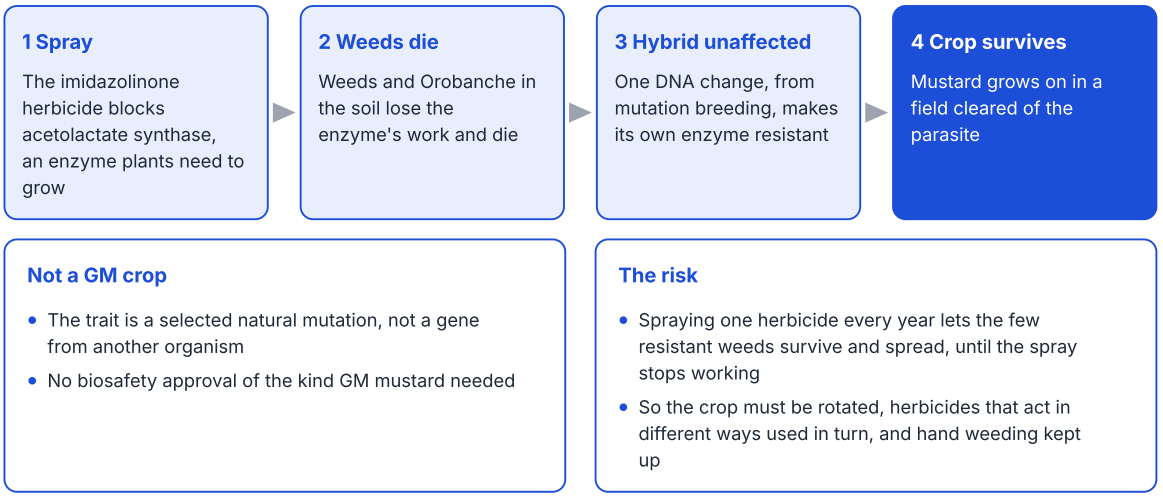
Selecting and preserving natural or induced mutations in a crop, using radiation or chemicals or screening for spontaneous change, as distinct from inserting a gene from another organism.

EXAM LENS

- **Prelims**:
  - Imidazolinone herbicides inhibit acetolactate synthase
  - Orobanche (broomrape) is a root parasite
  - Mutation breeding is not genetic modification
  - Mustard is a rabi oilseed
- **Mains**: Can herbicide tolerant crops help India's edible oil self reliance without repeating the problems of herbicide resistance? Discuss.
- **Asked before**: Prelims 2018.

Why the hybrid survives the spray

Imidazolinone tolerant mustard against the root parasite Orobanche



NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Data centres: two Adani sites at Visakhapatnam cleared in nine days, without a public hearing

WHAT IT IS

- A data centre's size is measured in **megawatts of IT load**. A data centre needs uninterrupted power, and that power turns into heat that needs constant cooling.
- India's capacity has grown more than fourfold since 2020, driven by cloud services and now artificial intelligence. It reached almost **1.5 GW** of IT load in 2025, according to the Ministry of Electronics and Information Technology.
- Data centres gained **infrastructure status** through the Finance Ministry's **Harmonised List** in 2022 to 2023, which opens them to cheaper and longer term lending.

WHAT HAPPENED

- In June 2026 two Adani data centres for the Google Adani AI hub at **Visakhapatnam**, Andhra Pradesh, were cleared within nine days as **category B** projects under the **Environment Impact Assessment (EIA) Notification, 2006**.
- A category B building project needs no public hearing when its built up area is under 1,50,000 square metres, and both sites sit just under that line.
- A petition before the **National Green Tribunal** challenges the clearances.
- United Nations researchers estimated in the same month that AI will double data centres' power and water consumption by 2030.

WHY IT MATTERS

- The EIA Notification predates hyperscale data centres and lets them be appraised as buildings, although their load on power and water is closer to an industry's.
- Critics argue for category A appraisal, with a public hearing, where sites lie within 10 km of protected or critically polluted areas.
- Water is the hidden cost: cooling draws on the same sources as towns and farms, which is why siting matters as much as capacity.
- The demand is real and strategic, since sovereign AI needs domestic computing. The question is whether clearance rules keep pace with the scale.

KEY TERM

Harmonised List

The Finance Ministry's list of sectors that count as infrastructure, which opens them to cheaper and longer term lending from banks and infrastructure financiers.

EXAM LENS

- **Prelims**:
  - Capacity measured in megawatts of IT load
  - Infrastructure status through the Harmonised List
  - Category A and B projects under the EIA Notification, 2006
  - The public hearing threshold of 1,50,000 square metres for building projects
  - The National Green Tribunal
- **Mains**: Should hyperscale data centres be appraised as buildings or as industries? Discuss with reference to the EIA Notification, 2006.
- **Asked before**: Prelims 2017.

NOTES

STANDARD · HIGH · MAINS

Export controls reach AI models: the United States cuts foreign access to Anthropic's newest models

WHAT IT IS

- **Export controls** are curbs on what a country lets out of its jurisdiction. In artificial intelligence they have so far worked on scarce hardware, above all the **advanced chips** that train models.
- A **frontier model** is one of the most capable AI models of its time. Controls on models themselves are harder, because a model whose weights have been published cannot be withdrawn.

WHAT HAPPENED

- In June 2026 the United States Commerce Department used export control powers to order Anthropic to cut all foreign nationals' access to its newest models, Mythos 5 and Fable 5.
- The reported concern was a narrow **jailbreak** that bypassed a cybersecurity guardrail.
- Earlier that month select Indian agencies and firms had gained access to Mythos through **Project Glasswing**, Anthropic's cyber defence programme.
- The two countries have tried very different rules for testing AI before release, as the table shows.

	United States executive order, 2026	India's advisory, March 2024
Nature	A voluntary testing window of up to 30 days before release	Permission required before launch
Scope	Covered frontier models	All untested AI
Fate	In force in June 2026	Withdrawn a fortnight later

WHY IT MATTERS

- **Strategic dependence**: frontier AI is now a strategic input, like fuel or chips, and access to it can be withdrawn for reasons unrelated to the user.
- India need not seek self sufficiency across the whole AI value chain. It should build only where dependence creates strategic exposure: compute for sensitive workloads, cyber defence and targeted frontier capabilities.

KEY TERM

Jailbreak

A method of getting an AI model to bypass the safeguards built into it, usually by crafting the instructions it is given.

EXAM LENS

- **Prelims**:
  - Export controls act on scarce hardware such as advanced chips
  - Published model weights cannot be withdrawn
  - The United States order's voluntary pre release testing window
  - India's AI advisory of March 2024, withdrawn
- **Mains**: "Strategic autonomy in AI does not mean building everything at home." Examine with reference to the 2026 restrictions on frontier models.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Floating solar: India's reservoirs could carry 102 GW, says the first national assessment

WHAT IT IS

- **Floating solar** mounts solar panels on anchored floating platforms over reservoirs, lakes or ponds.
- A reservoir carries no crop and costs nothing to acquire. That is the whole argument for floating solar, because land acquisition is a chokepoint for ground mounted plants.
- About 700 MW floats in India already, led by **278 MW at Omkareshwar** on the Narmada in Madhya Pradesh.

WHAT HAPPENED

- In June 2026 the **National Institute of Solar Energy (NISE)** published the first national assessment of floating solar potential and put India's reservoir potential at **about 102 GW**.
- The figure counts water bodies of suitable size, depth, sunlight and access, and caps use at **20 per cent** of any reservoir.

	Floating solar	Land based solar
Efficiency	Water keeps panels cool, and a cooler cell converts a little more light	Panels sit in still hot air and lose efficiency
Water	Shading cuts evaporation from the reservoir	No effect
Cost	Costs more to build; must survive wind, waves and changing water levels	Cheaper per megawatt; simpler to install and maintain
Risks	May harm aquatic life and birds; needs many agencies to agree	Land conflict

WHY IT MATTERS

- The engineering is not settled: Omkareshwar has shown loosening float joints and uneven buoyancy, which a national programme must solve before scale.
- Floating plants add to the daytime surplus that the grid already struggles to absorb, which is why storage at the site matters.

KEY TERM

Curtailment

Deliberately cutting a plant's output below what it could generate, because the grid cannot carry or absorb the electricity.

EXAM LENS

- **Prelims**:
  - Floating solar
  - NISE's first assessment of about 102 GW of reservoir potential
  - The 20 per cent cap
  - Omkareshwar, 278 MW, on the Narmada
  - NISE is under the Ministry of New and Renewable Energy
- **Mains**: Examine the promise and the limits of floating solar for India's renewable targets.
- **Asked before**: Prelims 2022.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

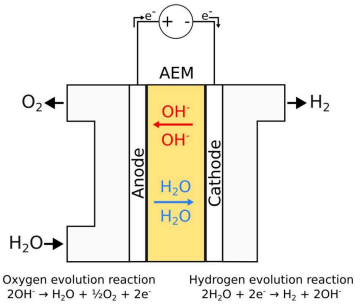
National Green Hydrogen Mission: a certification portal and the first contracts

WHAT IT IS

- **Green hydrogen** is made by splitting water with electricity from renewable sources, so producing it releases no carbon dioxide, unlike hydrogen reformed from natural gas.
- Green hydrogen matters because hydrogen is already an industrial raw material in refineries and fertiliser plants, and today that hydrogen is made from fossil gas.
- The **National Green Hydrogen Mission**, approved in 2023 with an outlay of ₹19,744 crore and run by the **Ministry of New and Renewable Energy (MNRE)**, targets **5 million tonnes** of green hydrogen a year by 2030, backed by about 125 GW of dedicated renewable capacity.
- **SIGHT**, Strategic Interventions for Green Hydrogen Transition, is the Mission's incentive arm, paying separately for making electrolysers and for making hydrogen.

WHAT HAPPENED

- In June 2026 the MNRE launched the **Green Hydrogen Certification Portal of India** for certification and compliance under the **Green Hydrogen Certification Scheme of India**.
- Incentives have been awarded for about 8.62 lakh tonnes a year of green hydrogen capacity and for 3,000 MW a year of electrolyser manufacturing.
- Supply of 6.7 lakh tonnes a year of green ammonia has been contracted for fertiliser plants, and 30,000 tonnes a year of green hydrogen for refineries.
- Standards for green ammonia and green methanol have been finalised.



How an electrolyser splits water: hydrogen forms at the cathode and oxygen at the anode (an anion exchange membrane cell).

WHY IT MATTERS

- Certification proves that hydrogen sold as green really is green. Buyers abroad will ask for that proof before they pay a premium.
- Refineries and fertiliser plants are the first buyers because they already use hydrogen; replacing grey hydrogen there cuts emissions without new end uses.
- The cost gap with grey hydrogen is still wide, which is why the Mission pays for both electrolysers and output.

KEY TERM

Electrolysis

Passing electricity through water to separate it into hydrogen and oxygen. The electrolyser is the machine that does this, and electrolysis is the route the Mission's money is built around.

EXAM LENS

- **Prelims**:
  - Green hydrogen by electrolysis with renewable power
  - The Mission's 5 million tonnes by 2030 and ₹19,744 crore
  - SIGHT
  - The certification scheme and portal
  - Green ammonia for fertiliser
- **Mains**: Why are refineries and fertiliser plants the first market for green hydrogen in India? Discuss the Mission's design.
- **Asked before**: Prelims 2026, 2023.

The National Green Hydrogen Mission's value chain

From renewable power to the first users; Ministry of New and Renewable Energy, June 2026

1 Renewable power
About 125 GW of dedicated renewable capacity planned

2 Electrolysers
Split water into hydrogen and oxygen
3,000 MW a year of manufacturing awarded

3 Green hydrogen
Production supported by SIGHT incentives
About 8.62 lakh tonnes a year awarded

4 Uses
Refineries, fertiliser through green ammonia, steel, mobility
6.7 lakh tonnes a year of green ammonia contracted

Certification across the chain: the Green Hydrogen Certification Portal of India, June 2026

The target

- 5 million tonnes of green hydrogen a year by 2030
- Outlay ₹19,744 crore, approved in 2023

Why refineries and fertiliser first

- They already use hydrogen, made from fossil gas
- Replacing it cuts emissions without new end uses

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Anemia Mukt Bharat Abhiyaan: from 6×6×6 to 7×7×7

WHAT IT IS

- **Anemia Mukt Bharat** ran for eight years on a **6x6x6 strategy**: six beneficiary groups, six interventions and six institutional mechanisms, with prophylactic iron and folic acid supplementation at its centre.
- Anaemia is a shortage of healthy red blood cells or haemoglobin, caused in India mainly by iron deficiency.
- The programme screened, treated and counselled under **T3**: Test, Treat, Talk.

WHAT HAPPENED

- In June 2026 the Union Health Ministry's revised guidelines renamed the programme **Anemia Mukt Bharat Abhiyaan**.
- The strategy becomes **7x7x7**, with a seventh of each element, as the table shows.
- T3 becomes **T4** by adding Track, which follows up each case.
- The guidelines add intravenous iron for pregnant and lactating women with severe anaemia or a poor response to treatment.
- A unified portal draws haemoglobin records from maternal and child health portals.

	6×6×6	7×7×7
Beneficiary groups	Six	Seven: adds low birth weight babies, 0 to 6 months
Interventions	Six	Seven: adds Eating Right
Institutional mechanisms	Six	Seven: adds digital monitoring and evaluation

WHY IT MATTERS

- The shift is from prophylaxis to therapy: finding and treating anaemia case by case rather than handing out tablets to everyone.
- Including low birth weight babies aims to break the cycle in which anaemic mothers have low weight babies who grow into anaemic adults.
- Tracking needs data, yet NFHS-6 dropped the anaemia measures that judged the programme. The portal must now fill that gap.

KEY TERM

T4

Test, Treat, Talk and Track: the screening to follow up sequence of the Anemia Mukt Bharat Abhiyaan.

EXAM LENS

- **Prelims**:
  - 6x6x6 to 7x7x7
  - The seventh group (low birth weight babies, 0 to 6 months), intervention (Eating Right) and mechanism (digital monitoring)
  - T3 to T4
  - Intravenous iron for severe cases in pregnancy
- **Mains**: Why has India's anaemia burden resisted two decades of supplementation? Examine the 2026 shift to therapeutic care.
- **Asked before**: Prelims 2023; Mains 2020 GS2: "In order to enhance the prospects of social development, sound and adequate health care po…".

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

NFHS-6: thirty indicators dropped, anaemia and mortality among them

WHAT IT IS

- The **National Family Health Survey (NFHS)** is India's periodic household survey of health, nutrition and fertility, run for the Ministry of Health and Family Welfare by the **International Institute for Population Sciences (IIPS)**, Mumbai.
- Its district and State estimates are what most health and nutrition schemes are judged by.
- The sixth round, **NFHS-6**, covers 2023 to 2024.

WHAT HAPPENED

- The NFHS-6 factsheets were released in June 2026, about two years after fieldwork ended.
- They cover **101 indicators**, against 131 in NFHS-5.
- Thirty indicators were dropped. The table lists the main ones.
- Anaemia was dropped after experts questioned the finger prick test. NFHS-5 measured haemoglobin in capillary blood, which studies found can read too high or too low against venous blood, the gold standard.
- The **total fertility rate** held at 2.0, below the replacement level of 2.1.

	NFHS-5	NFHS-6 (2023 to 2024)
Indicators	131	101
Anaemia and haemoglobin	Measured from finger or heel prick blood	Dropped
Mortality, sex ratio, sanitation, clean fuel, registration	Reported	Dropped
Malaria testing	Measured from dried blood spots	Dropped
External support	Technical and financial support from outside	None: IIPS alone

WHY IT MATTERS

- The omissions remove the evidence needed to judge Anemia Mukt Bharat, Poshan Abhiyaan, Swachh Bharat and Ujjwala, the very schemes whose outcomes NFHS used to measure.
- The **Sample Registration System** cannot fill the gap on mortality and sex ratio below the State level, because it is only a sample and is not built for district estimates.
- A two year lag between fieldwork and factsheets also weakens the survey's use in planning.
- The fertility figure is the month's main population finding: a total fertility rate of 2.0 confirms that India is below replacement.

KEY TERM

Total fertility rate

The average number of children a woman would have over her lifetime at current age specific birth rates. A rate of about 2.1 is taken as replacement level, at which a population holds steady in the long run.

EXAM LENS

- **Prelims**:
  - NFHS is run by IIPS, Mumbai, for the Health Ministry
  - NFHS-6 covers 2023 to 2024
  - 101 indicators against 131
  - Total fertility rate 2.0
  - Replacement level 2.1
- **Mains**: "What is not measured cannot be governed." Discuss with reference to the indicators dropped from NFHS-6.
- **Asked before**: Prelims 2024.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Ayushman Bharat Digital Mission: the Unified Health Interface, the Drug Registry and Aarogya Setu 2.0

WHAT IT IS

- The **Ayushman Bharat Digital Mission (ABDM)**, run by the **National Health Authority (NHA)**, builds the digital public infrastructure of Indian health care: identities for patients, registries of providers and a consent based exchange of records.
- The **Unified Health Interface (UHI)** is its service layer: an open network on common protocols, so a patient and a provider need not use the same app.

WHAT HAPPENED

- In June 2026 the Union Health Minister launched UHI with five services, among them hospital search and ambulance booking.
- The **Drug Registry** became ABDM's fourth core registry. It uses **SNOMED CT** codes so the same medicine is not entered under different names across systems.
- **Aarogya Setu**, the COVID 19 contact tracing app, moved to the NHA and relaunched as a **Personal Health Record** app.
- C-DAC launched **eSushrut@clinic**, a low cost hospital management system for small clinics.

ABDM registry	What it identifies
Ayushman Bharat Health Account (ABHA)	Individuals

ABDM registry	What it identifies
Healthcare Professional Registry	Doctors and other health professionals
Health Facility Registry	Hospitals, clinics and other facilities
Drug Registry	Medicines, by brand, generic, substance and manufacturer

WHY IT MATTERS

- **Open protocols** end platform lock in and give small and rural providers the same visibility as large chains, as the Unified Payments Interface did for payments.
- The weak link is adoption at small clinics, where full hospital systems cost too much. A cheap, light system matters as much as the protocol.

KEY TERM

Personal Health Record

A citizen held digital record of an individual's and family's health information, shared with a provider only with the person's consent.

EXAM LENS

- **Prelims**:
  - ABDM is run by the NHA
  - ABHA and the three other registries
  - UHI as the service layer
  - SNOMED CT
  - Aarogya Setu moved to the NHA
  - ESushrut@clinic by C-DAC
- **Mains**: Can open protocols do for health care what the Unified Payments Interface did for payments? Discuss.
- **Asked before**: Prelims 2022; Mains 2018 GS2: "Appropriate local community-level healthcare intervention is a prerequisite to achieve 'He...".

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Ebola: a Bundibugyo outbreak in Congo and Uganda becomes a public health emergency

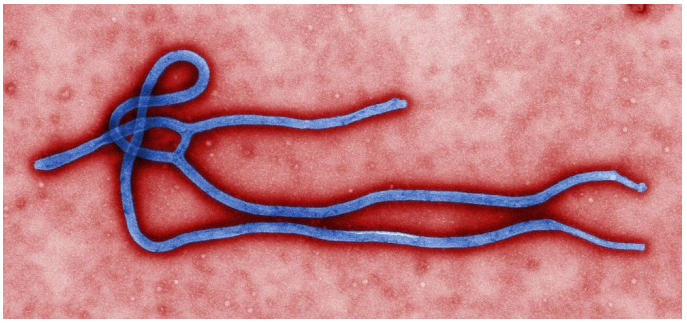
WHAT IT IS

- **Ebola** disease is caused by several species of ebolavirus, spread by contact with the body fluids of an infected person or animal.
- The **Bundibugyo** species has had a fatality rate of about 30 to 50 per cent in past outbreaks and no approved vaccine or treatment.
- The Zaire species has an approved vaccine, **Ervebo**, built on the rVSV platform. Candidate vaccines against Bundibugyo reuse two proven platforms: rVSV and **ChAdOx1**, the platform of the Oxford AstraZeneca COVID 19 vaccine.

WHAT HAPPENED

- An outbreak in eastern **Democratic Republic of the Congo**, declared in May 2026, spread to **Uganda**.
- The **World Health Organization (WHO)** declared it a **Public Health Emergency of International Concern** in May 2026 under the **International Health Regulations (2005)**.
- India had no confirmed case. In June 2026 India launched **Air Suvidha 2.0**, a self declaration portal on which international arrivals give their travel and exposure history for the past 21 days.

	Zaire ebolavirus	Bundibugyo virus
Vaccine	Ervebo, approved, on the rVSV platform	None approved; rVSV and ChAdOx1 candidates



An Ebola virus particle under the transmission electron microscope, showing the long filament typical of the virus.

WHY IT MATTERS

- Diagnosis is the bottleneck: rapid tests built for the Zaire species miss Bundibugyo cases until viral load is very high, which delays isolation.
- Preparedness is strongest for crises seen repeatedly and weakest for novel ones. It must therefore become broader, not only deeper.

KEY TERM

Public Health Emergency of International Concern

An extraordinary event that the WHO Director General declares under the International Health Regulations (2005) when a disease risk spreads across borders and needs a coordinated international response.

EXAM LENS

- **Prelims**:
  - Bundibugyo species
  - Ervebo for Zaire, on rVSV
  - ChAdOx1 platform
  - PHEIC under the IHR (2005)
  - Air Suvidha 2.0
- **Mains**: "Pandemic preparedness must become broader, not only deeper." Discuss with reference to the 2026 Ebola outbreak.
- **Asked before**: Prelims 2015; Mains 2020 GS2: "Critically examine the role of WHO in providing global health security during the COVID-19…".

NOTES

STANDARD · HIGH · PRELIMS

Indian Pharmacopoeia Commission: the glycol test and the first blood standards

WHAT IT IS

- A **pharmacopoeia** is the official book of standards that a medicine must meet for identity, purity and strength.
- The **Indian Pharmacopoeia Commission (IPC)**, an autonomous institution under the Ministry of Health and Family Welfare at Ghaziabad, writes the **Indian Pharmacopoeia (IP)**.
- The IP carries the official drug standards under the **Drugs and Cosmetics Act, 1940**, so a medicine that fails an IP test is legally substandard.

WHAT HAPPENED

- An amendment to **IP 2022**, in force from October 2025, made the test for **ethylene glycol and diethylene glycol** compulsory in all oral liquid formulations.
- In June 2026 the Commission trained drug testing laboratories of the States in that test.
- **IP 2026** is the first pharmacopoeia with dedicated monographs for **blood and blood components**.

WHY IT MATTERS

- The two glycols are fatal even in small amounts. They enter syrups through contaminated excipients such as glycerin and propylene glycol, the route of the cough syrup deaths at home and abroad.
- A compulsory test is only as good as the laboratories that run it. The Commission is therefore training State laboratories, not only publishing the standard.

What the IPC does	How
Sets standards	Publishes the Indian Pharmacopoeia and its amendment lists
Watches medicines	Pharmacovigilance Programme of India
Watches medical devices	Materiovigilance Programme of India
Watches blood	Haemovigilance Programme of India
Guides prescribers	The National Formulary of India

KEY TERM

Pharmacovigilance

The monitoring of a medicine after it reaches the market, through reports of adverse effects, so that harm seen only in wide use is caught and acted on. Materiovigilance is the same watch kept on medical devices.

EXAM LENS

- **Prelims**:
  - The IPC is autonomous, under the Health Ministry, at Ghaziabad
  - It publishes the IP and runs the Pharmacovigilance and Materiovigilance Programmes
  - The glycol test in all oral liquids since October 2025
  - IP 2026 with blood component monographs
- **Mains**: Standards set at the Centre and enforced in the States: examine the gap with reference to drug quality failures in India.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

The PCPNDT Act and the child sex ratio: no room for errors in Form F

WHAT IT IS

- The **Pre Conception and Pre Natal Diagnostic Techniques (Prohibition of Sex Selection) Act, 1994**, amended in 2002 and 2013, prohibits sex selection before or after conception.
- It limits prenatal diagnostic techniques, such as ultrasound, to detecting genetic abnormalities, metabolic disorders and similar conditions, and bans telling a family the sex of the foetus.
- Ultrasound clinics must register and keep a **Form F** for each pregnant woman scanned. Violations can bring cancellation of registration and up to **three years** in jail for a first offence, and up to **five years** for a repeat offence.

WHAT HAPPENED

- In June 2026 the **Supreme Court** dismissed a Nanded doctor's plea to quash proceedings under the Act over incomplete Form F records.

- It held that the Act leaves no room for errors in record keeping.
- The court noted that the **child sex ratio** fell to **919** girls per 1,000 boys in the 2011 Census. The sex ratio at birth has since shown a partial correction.

Year	Event
1994	The Act is passed
2002	Amended to cover sex selection before conception
2013	Amended again

WHY IT MATTERS

- The child sex ratio kept falling for two decades after the Act. The courts therefore read the Act's record keeping rules strictly, because a missing entry in Form F is how sex determination stays hidden.
- Strict enforcement must continue, alongside schemes such as **Beti Bachao Beti Padhao**, until social attitudes change.

KEY TERM

Child sex ratio

The number of girls per 1,000 boys in the 0 to 6 age group, measured by the Census.

EXAM LENS

- **Prelims**:
  - The PCPNDT Act, 1994, amended 2002 and 2013
  - Form F
  - Up to three years in jail for a first offence and five for a repeat offence
  - Child sex ratio of 919 in 2011
  - The age group 0 to 6
- **Mains**: Why has a strict law not been enough to correct India's child sex ratio? Discuss with reference to enforcement and social attitudes.

NOTES

STANDARD · MODERATE · PRELIMS

An M class flare, a G2 storm and red auroras over Ladakh: the Sun's corona explained

WHAT IT IS

- The **corona** is the Sun's outermost atmosphere, far hotter than the visible surface below it. Its magnetic field drives **solar flares** and **coronal mass ejections**. A flare is a sudden release of magnetic energy.
- **Auroras** form when charged particles caught by the Earth's magnetic field collide with oxygen and nitrogen high in the atmosphere near the poles.

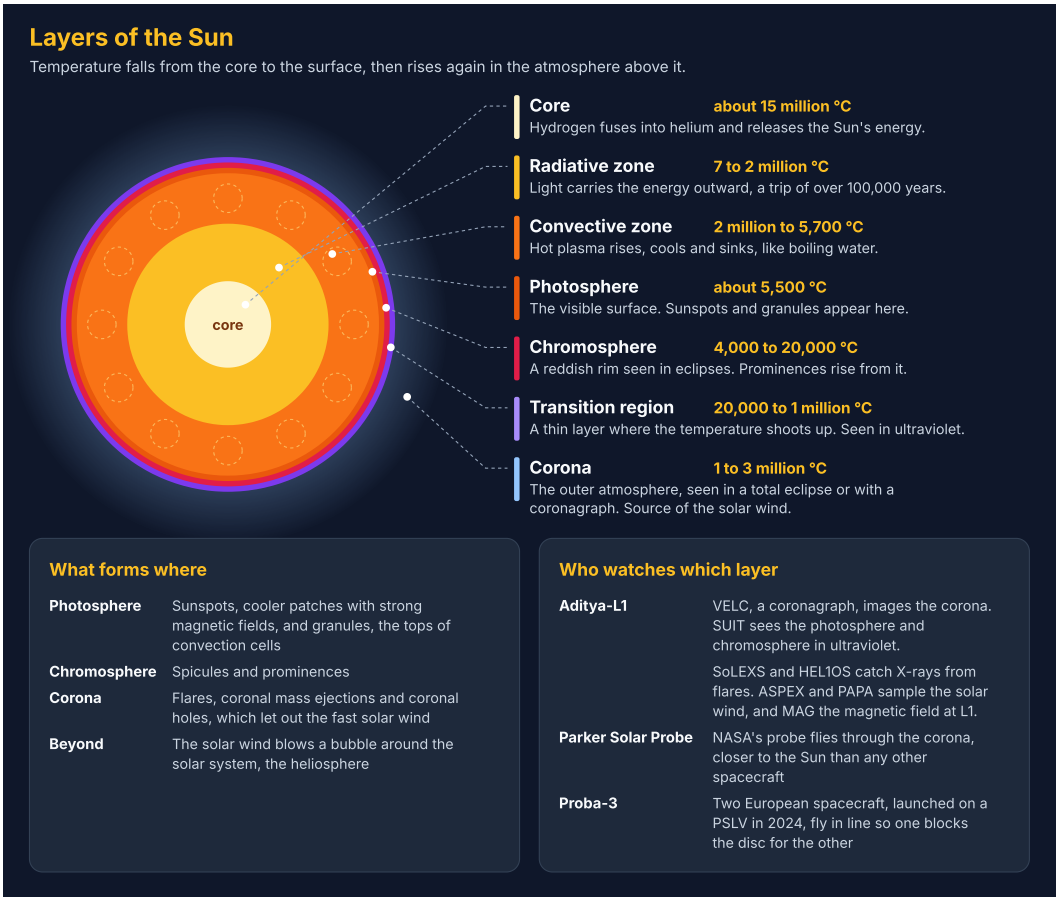
WHAT HAPPENED

- In June 2026 a plasma cloud from an **M1.8 flare** reached the Earth, and the United States National Oceanic and Atmospheric Administration (NOAA) forecast a **G2 storm**.
- Auroras were expected over Kashmir, upper Uttarakhand and **Ladakh**.
- From India's low latitude, observers see only the high part of the auroral glow, where oxygen glows red rather than green.

Scale	Grades, weakest to strongest	This event
Flare class	C, M, X	M1.8 flare
G scale of geomagnetic storms	G1 (minor) to G5 (extreme)	G2 storm forecast

WHY IT MATTERS

- A flare's class and the storm it causes on Earth are graded separately. A mid range M flare was enough to bring a G2 forecast.
- The strongest events do the most damage. An X class flare can black out high frequency radio on the sunlit side of the Earth. A G4 or G5 storm can disrupt satellites, navigation and power grids.
- Space weather forecasting, the task of **Aditya-L1**, India's solar observatory at the first Lagrange point, now counts as essential infrastructure.



KEY TERM

Coronal mass ejection

A huge burst of magnetised plasma thrown out of the corona into space, which can reach the Earth and disturb its magnetic field.

EXAM LENS

- **Prelims**:
  - Corona, flare and coronal mass ejection
  - Flare classes C, M and X
  - The G1 to G5 scale
  - Why auroras seen from India are red
  - Coronagraph
- **Mains**: What is space weather, and why does it matter for a country dependent on satellites?
- **Asked before**: Prelims 2022; Mains 2024 GS1: "What are aurora australis and aurora borealis? How are these triggered?".

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Gaganyaan: first uncrewed flight slips to the third quarter of 2027, crew to 2028

WHAT IT IS

- **Gaganyaan** is the first human spaceflight programme of the **Indian Space Research Organisation (ISRO)**. It will carry a crew module to low Earth orbit and back on the **Human rated LVM3 (HLVM3)**, a crew rated version of ISRO's heaviest rocket.
- Three uncrewed missions are planned before the first crewed flight; the first is to carry **Vyommitra**, a half humanoid robot.
- Gaganyaan is the first step towards the **Bharatiya Antariksh Station**, which will have five modules. The baseline design review of the station's first module, BAS-01, is complete.

WHAT HAPPENED

- In June 2026 the ISRO chairman indicated that the first uncrewed test flight could slip to the third quarter of 2027, pushing the crewed flight to 2028.
- He cited two successive failures of the **Polar Satellite Launch Vehicle (PSLV)** and the **NavIC** navigation constellation being down to three working satellites.

When the target was set	Crewed flight expected
Original plan	2022
February 2026	By the end of 2027
June 2026	2028, after an uncrewed flight in the third quarter of 2027

WHY IT MATTERS

- Each restatement has pushed the crewed flight about a year further out. ISRO will not risk a crew until it has explained the PSLV failures.
- The delay ripples forward, because the Bharatiya Antariksh Station is planned on Gaganyaan's timeline.

KEY TERM

Human rating

The certification that a launch vehicle and spacecraft are safe enough to carry people, with redundant systems and a crew escape system that works at every phase of flight.

EXAM LENS

- **Prelims**:
  - Gaganyaan to low Earth orbit
  - Vyommitra on the first uncrewed flight
  - Three uncrewed flights before the first crewed one
  - The Bharatiya Antariksh Station of five modules, BAS-01 first
- **Mains**: Examine the reasons for the delays in India's human spaceflight programme and their consequences for the space station.
- **Asked before**: Prelims 2025; Mains 2019 GS3: "What is India's plan to have its own space station and how will it benefit our space progr...".

NOTES

BRIEF · MODERATE · PRELIMS

India's fastest supercomputer on the June 2026 TOP500 list

- A supercomputer's speed is measured in **petaflops**; one petaflop is a thousand trillion floating point operations a second, and an exaflop is a thousand petaflops. The twice yearly **TOP500** list ranks the world's machines by their speed on the High Performance Linpack benchmark.
- India's highest ranked system on the June 2026 TOP500 list is **Shakti Cloud**, a private cloud of Yotta Data Services, at **No. 32** with 84.31 petaflops. It is the only Indian system in the top hundred.
- The list's No. 1 is **LineShine** at the National Supercomputing Centre in Shenzhen, China, at about 2.2 exaflops.
- C-DAC and the Indian Institute of Science implement the **National Supercomputing Mission**, which the government launched in 2015. Its machines carry the **PARAM** name, and **AIRAWAT** is the national AI computing system.

EXAM LENS

- Petaflop and exaflop
- The TOP500 list
- The National Supercomputing Mission (2015), C-DAC and IISc
- The PARAM series and AIRAWAT for AI

BRIEF · MODERATE · PRELIMS

Prompt injection and ASCII smuggling

- **Prompt injection** is feeding an AI system text that it reads as instructions rather than as content, so that it follows what an attacker wrote. **ASCII smuggling** hides such text in invisible **Unicode tag characters**. These characters copy the 128 ASCII characters but never show on screen, so software reads what a human cannot see.
- In June 2026 attackers manipulated **Meta's AI support chatbot** into linking Instagram accounts to attacker controlled emails and resetting passwords, without proving ownership.
- The risk is greatest when a model is given tools to act for users: crafted instructions in plain language, not code, make it act outside its rules.
- OpenAI introduced a **Lockdown Mode** to protect against such attacks.

EXAM LENS

- ASCII stores 128 characters
- Unicode extends it to the world's scripts and keeps ASCII as its first 128
- Tag characters are invisible
- Prompt injection works through language, not code

ASCII smuggling: text the software reads and the human cannot see

Invisible Unicode tag characters and prompt injection

1 Hide

Invisible tag characters are slipped into a message, inside a word or as hidden instructions

2 Software reads them

A spam filter reads "fun" and "ding" instead of "funding"; an AI tool obeys the hidden text

3 Human sees nothing

The reader sees only an ordinary word and ordinary text

The codes

- ASCII stores 128 English letters, digits and symbols as numbers
- Unicode extends it to the world's scripts and keeps ASCII as its first 128
- Tag characters copy those 128 but never show on screen

Why AI agents raise the stakes

- A model given tools can act: reset a password, link an account
- The attack is written in language, not code
- June 2026: Meta's support chatbot was talked into linking accounts to attackers' emails

BRIEF · MODERATE · PRELIMS

The Majorana dispute: Microsoft's quantum claim questioned again

- A **qubit** is the basic unit of quantum information. Unlike an ordinary bit, it can be in a superposition of 0 and 1. Qubits are fragile and soon lose their state. **Microsoft** therefore seeks a **Majorana**, a long theorised quasi particle whose stable states at the ends of a special superconducting wire could make longer lasting **topological qubits**.
- A peer reviewed critique in **Nature** in June 2026 questions Microsoft's February 2025 Nature paper, the basis of its plan for a working quantum system by 2029. The critique says the wider data show only noise.
- The paper itself did not claim a Majorana. Microsoft made that claim for its **Majorana 1** chip, and the claim has not passed peer review. Two earlier Microsoft backed Nature papers were retracted.

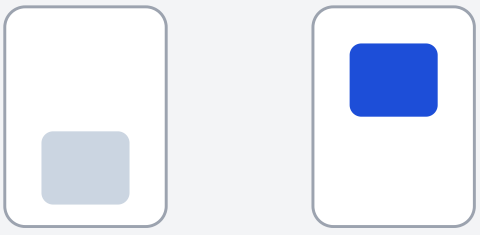
EXAM LENS

- Qubit and superposition
- Majorana and topological qubits
- The Majorana 1 chip
- Peer review and retraction

A bit and a qubit

Why a quantum computer is different, and why its qubits are fragile

Ordinary bit



Like a switch: off or on, 0 or 1, never both.

Qubit



In a superposition: partly 0 and partly 1 at once, until it is measured and gives one answer.

A slight disturbance, heat, vibration or a stray field, knocks a qubit out of its superposition. Microsoft's Majorana approach aims at **topological qubits**, built to resist such disturbance.

BRIEF · MODERATE · PRELIMS AND MAINS

Compressed biogas: city waste into the gas grid

- In June 2026 reports described a plant at Harohalli that turns Bengaluru's wet waste into **compressed biogas**. Its gas has fed the **GAIL** pipeline since April.
- Compressed biogas comes from the **anaerobic digestion** of non food waste such as **crop residue** and **press mud**. It can take the place of natural gas. Crop residue that farmers would otherwise burn finds a buyer.
- India's **Sustainable Alternative Towards Affordable Transportation (SATAT)** initiative of 2018 drives the build out of plants.

Compressed biogas: from wet waste to the gas grid

Purified biogas matches natural gas, so it can run vehicles and flow through the same pipelines.

Feedstock
Crop residue, cattle dung, press mud and wet city waste

▶

Digester
Bacteria break the waste down without oxygen
Anaerobic digestion

▶

Raw biogas
Methane 55 to 65% and carbon dioxide 35 to 45%
Traces of hydrogen sulphide

▶

Purification
Scrubbing strips out carbon dioxide, hydrogen sulphide and water

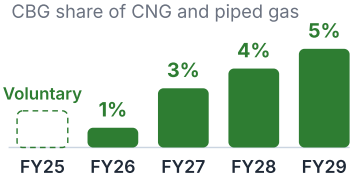
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CBG
96% methane, at about 250 bar
BIS minimum: 90%

Uses: in place of fossil gas
- CNG for vehicles
- Piped gas for homes
- Industrial fuel
- City gas grids

Co product: fermented organic manure
- The leftover digestate replaces some chemical fertiliser and earns the plant a second income

Blending obligation
CBG share of CNG and piped gas



Announced in November 2023. Voluntary till FY25, mandatory from FY26.

Target and reality

About 130
plants running, of 5,000

Running by January 2026. SATAT (2018) aims at 5,000 plants and 15 million tonnes a year.

Support
- Oil companies buy CBG at an assured price (SATAT)
- GOBARdhan portal registers plants
- Central aid for machinery and pipelines
- No excise duty on the CBG in blended CNG

Hurdles
- Scattered feedstock, costly to collect
- High capital cost and scarce credit
- Weak pipeline links to plants
- A small market for the manure

EXAM LENS
- Anaerobic digestion
- Compressed biogas is about 96 per cent methane
- Press mud
- The link to stubble burning
- The target of 5,000 plants

BRIEF · MODERATE · PRELIMS AND MAINS

Drug resistant malaria: parasites in young red blood cells survive artemisinin

- **Artemisinin based combination therapies (ACTs)** pair a fast acting artemisinin drug with a partner drug that clears the remaining parasites. Partial artemisinin resistance, linked to **kelch13** mutations, has spread in Africa. *Plasmodium vivax* relapses when its dormant liver forms, the **hypnozoites**, reactivate. Primaquine kills them.
- In June 2026 the **Rajiv Gandhi Centre for Biotechnology**, Thiruvananthapuram, reported that parasites inside **reticulocytes**, young red blood cells rich in antioxidants, tolerate artemisinin's oxidative damage far better than those in mature red cells.
- The tolerance comes from where the parasite lives, not from a mutation.
- India left the WHO's **High Burden to High Impact** group in 2024 and aims to eliminate malaria by 2030.

EXAM LENS
- ACTs
- Kelch13 mutations
- Hypnozoites and primaquine for vivax
- Reticulocytes
- India out of the High Burden to High Impact group in 2024

BRIEF · MODERATE · PRELIMS AND MAINS

HPV vaccination: no cervical cancer deaths among vaccinated women in England; HPV behind throat cancers in India

- Persistent infection with the **human papillomavirus (HPV)** causes almost every case of cervical cancer, most

of them through high risk types 16 and 18. India's **National HPV Vaccination Campaign**, launched in February 2026, offers girls of 14 a **single free dose**. In 2022 the **World Health Organization** accepted that one dose protects about as well as two.

- A **Lancet** study reported in June 2026 found no cervical cancer deaths among young women in England vaccinated at 12 to 13.
- An Indian hospital review found HPV increasingly behind throat cancers in young men and women who do not use tobacco.
- Prevention must therefore widen beyond tobacco control to **vaccination of boys** and early screening.

EXAM LENS

- HPV types 16 and 18
- A single dose for girls of 14
- WHO's single dose position of 2022
- HPV also causes throat cancers

BRIEF · MODERATE · PRELIMS

Leprosy: five States carry nearly half the burden

- **Leprosy** is a chronic infection of the skin and peripheral nerves caused by the bacterium *Mycobacterium leprae*. Multidrug therapy cures it. In **2005** India eliminated leprosy as a public health problem nationally, which means a prevalence below one case per 10,000 people. Transmission continues in endemic districts, and the **National Leprosy Eradication Programme** now aims at zero transmission.
- A regional workshop in Nava Raipur reported in June 2026 a prevalence of **0.56 per 10,000** in 2025 to 2026 and about **92,000 new cases**.
- Maharashtra, Chhattisgarh, Jharkhand, Odisha and Madhya Pradesh carry nearly half the burden.
- The programme relies on active case detection, contact tracing and **post exposure prophylaxis** with single dose rifampicin for healthy contacts.

EXAM LENS

- Elimination as a public health problem: prevalence below 1 per 10,000, achieved nationally in 2005
- Single dose rifampicin as post exposure prophylaxis

BRIEF · MODERATE · PRELIMS AND MAINS

SUMAN Roadmap 2030: maternal mortality below 70, and one home care programme for infants

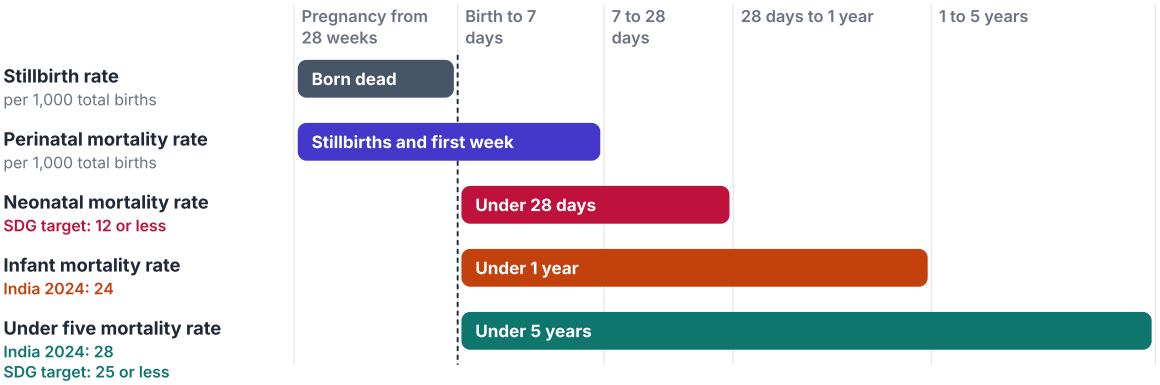
- The **Surakshit Matritva Aashwasan (SUMAN) Roadmap 2030**, launched in June 2026, takes a **life cycle approach** from pre pregnancy to the postnatal period and tracks high risk pregnancies through each stage.
- The roadmap targets a **Maternal Mortality Ratio (MMR)** below **70** by 2030, against 88 in 2021 to 2023. It also targets zero preventable maternal and newborn deaths.
- It focuses on **130 districts in 13 high focus States**.
- The **Samagra Shishu Bal Swasthya Karyakram (SSBSK)** merges **Home Based Newborn Care (HBNC)** and **Home Based Care for Young Child (HBYC)** into one risk stratified programme for children from birth to 36 months. **Accredited Social Health Activists (ASHAs)** make the home visits, more of them for at risk newborns.

EXAM LENS

- SUMAN targets MMR below 70 by 2030
- SSBSK merges HBNC and HBYC for children up to 36 months
- ASHAs make the home visits

Which deaths each mortality indicator counts

Child rates are per 1,000 live births unless marked. India values from the Sample Registration System (SRS).



About two thirds of infant deaths happen in the neonatal period, so newborn care is the main lever on infant mortality.

Maternal death: a death in pregnancy or within 42 days of its end, from a cause linked to the pregnancy

Maternal mortality ratio (MMR)

$$\frac{\text{maternal deaths}}{\text{live births}} \times 100{,}000$$

88
India 2021 to 2023

Risk per birth. SDG and SUMAN target: below 70 by 2030.

Maternal mortality rate

$$\frac{\text{maternal deaths}}{\text{women aged 15 to 49}} \times 100{,}000$$

Risk per woman. It also reflects how often women give birth.

BRIEF · MODERATE · PRELIMS AND MAINS

TB Mukt Bharat Abhiyaan: the second phase of the 100 day campaign

- The intensified 100 day **TB Mukt Bharat Abhiyaan**, a campaign against tuberculosis begun in December 2024, moves from waiting for patients to **active case finding**. Screening uses handheld X ray and two molecular tests, **Truenat** and cartridge based nucleic acid amplification tests (**CBNAAT**).
- In June 2026 the Union Health Minister reviewed the campaign's second phase, which began in March 2026.
- Since December 2024 over 28 crore people have been screened and 20 lakh given TB preventive treatment.
- Between 2015 and 2024 TB **incidence** fell by 21 per cent, to 187 per lakh people. Deaths fell by a quarter.
- **Nikshay Mitras** give community support, and nutritional support is stressed to cut mortality.

EXAM LENS

- Active case finding
- Truenat and CBNAAT as molecular tests
- Nikshay Mitra
- Incidence 187 per lakh in 2024

BRIEF · MODERATE · PRELIMS AND MAINS

Seismic doublets: Venezuela's twin quakes and India's withdrawn seismic code

- A **seismic doublet** is two earthquakes of similar size from distinct but related ruptures, seconds to hours apart. The main quake drives an aftershock, which is usually a magnitude or more smaller. A doublet hits buildings already weakened by the first shock.
- In June 2026 a magnitude 7.2 quake west of Caracas came 39 seconds before a magnitude 7.5 mainshock, a pair the **United States Geological Survey** called a doublet.
- The **Kangra and Chamba** belt of Himachal Pradesh lies in the highest hazard zone of the **Bureau of Indian Standards** seismic map.
- A 2025 revision of the design code added a **sixth zone** for a badly underestimated Himalayan hazard. The Bureau withdrew it in early 2026 over the higher construction cost, restoring the four zones (II to V) of the 2016 code.

EXAM LENS

- Doublet against aftershock
- Seismic zones on the BIS map
- Kangra and Chamba in the highest zone

BRIEF · MODERATE · PRELIMS

TRL Compass: a national standard for technology readiness

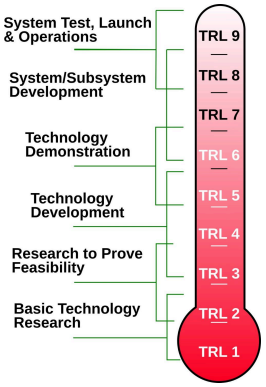
- The **Technology Readiness Level (TRL)** scale judges how mature a technology is on nine levels, from a basic principle observed to a system proven in operation. Many Indian innovations stall between laboratory and market because there is no shared way to judge how far along they are.
- In June 2026 the **Office of the Principal Scientific Adviser** and the **Data Security Council of India** launched **TRL Compass**, which adapts the global nine level scale to

India as a common national standard for projects seeking public funding.

- It is meant for projects under the **Anusandhan National Research Foundation** and the **Research, Development and Innovation (RDI) Fund**.
- It replaces subjective judgement with a documented assessment of technology, manufacturing, quality and programme readiness.

EXAM LENS

- The nine level TRL scale
- TRL Compass by the Office of the Principal Scientific Adviser with DSCI
- For ANRF and RDI Fund projects



The nine Technology Readiness Levels, from basic research at TRL 1 to a system proven in operation at TRL 9.

BRIEF · MODERATE · PRELIMS

Tarapur units 1 and 2: the world's oldest operating power reactors get ten more years

- **Tarapur Atomic Power Station** units 1 and 2, north of Mumbai, are India's first commercial nuclear power reactors and have operated since **1969**. The two units are **boiling water reactors** built under a 1963 India United States agreement.
- In June 2026 the two units returned to the grid after a shutdown since 2020 for life extension and modernisation. The **Atomic Energy Regulatory Board (AERB)** had cleared them to run for about **ten more years**.
- They are described as the oldest operating commercial power reactors in the world.
- The clearance followed a multi tiered safety review that inspects pressure vessel welds to judge ageing and residual life.

EXAM LENS

- Tarapur 1 and 2 are boiling water reactors, unlike India's pressurised heavy water fleet
- Commissioned 1969
- The AERB's clearance and return to the grid in June 2026

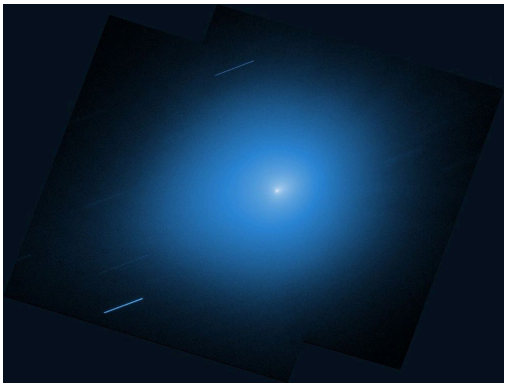
BRIEF · MODERATE · PRELIMS

3I/ATLAS: an interstellar comet older than the solar system

- **3I/ATLAS** is the third interstellar object seen passing through the solar system, after **1I/'Oumuamua** (2017) and **2I/Borisov** (2019). The **Asteroid Terrestrial impact Last Alert System (ATLAS)** survey telescope found it in July 2025. Isotope ratios reveal where such a body was born: hydrogen isotopes, for example, show the temperature and radiation where it formed.
- A study in **Nature** using the **James Webb Space Telescope**, reported in June 2026, estimates that the comet formed 10 to 12 billion years ago. That makes it more than twice as old as the solar system and probably the oldest known object to pass through it.
- The comet's water holds about 30 times more **deuterium**, the heavy isotope of hydrogen, than the water of solar system comets.

EXAM LENS

- The three interstellar objects in order
- Deuterium is heavy hydrogen
- The James Webb Space Telescope observes in the infrared



Interstellar comet 3I/ATLAS seen by the Hubble Space Telescope on 30 November 2025.

BRIEF · MODERATE · PRELIMS AND MAINS

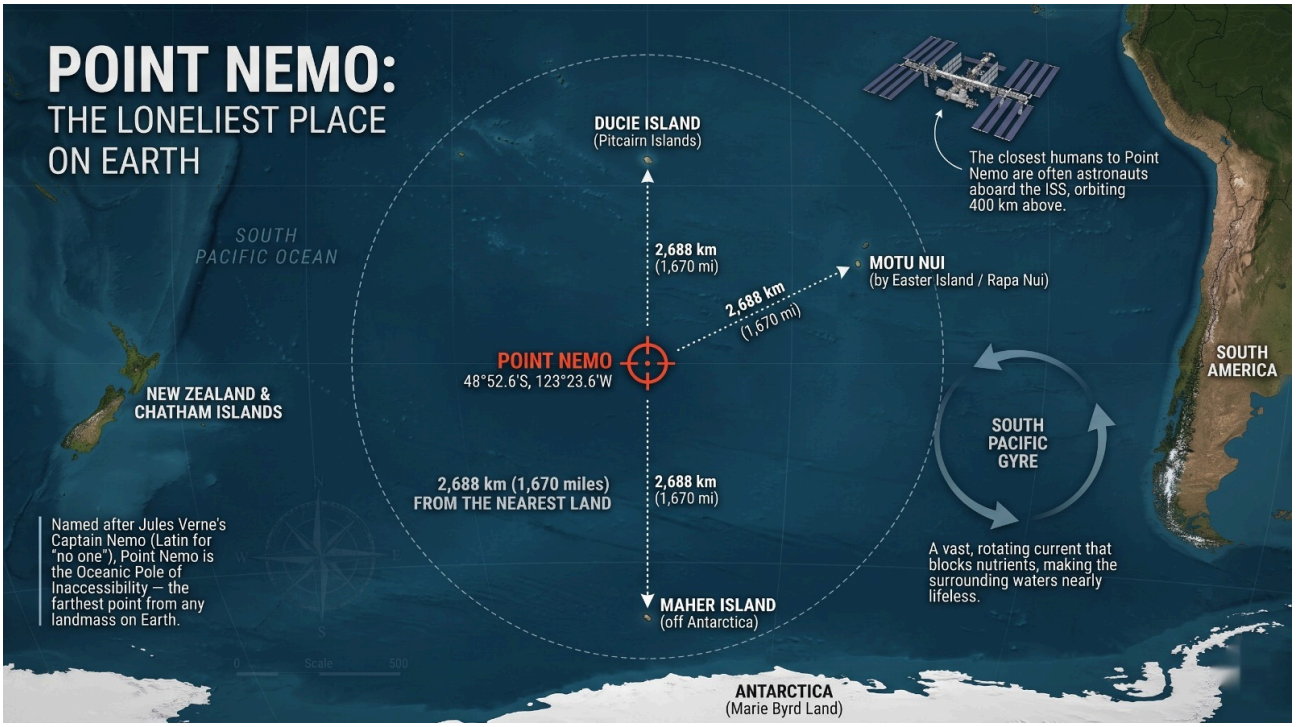
Deorbiting the International Space Station into Point Nemo

- The **International Space Station**, occupied since 2000, is to retire around 2030. A **US Deorbit Vehicle** built by SpaceX will guide the station down in a controlled re entry into **Point Nemo**, the place in the South Pacific farthest from any land. The descent will be the largest controlled re entry ever attempted.
- In June 2026 a United States **Government Accountability Office** report noted that parts of the station and of the deorbit vehicle will survive re entry and reach the ocean.
- The Ocean Foundation asked for a **full environmental assessment** of the disposal.
- The **Liability Convention, 1972**, makes the launching State pay for damage its space objects cause on the Earth's surface, including to ships and aircraft. Harm to

the high seas themselves, which no State owns, is not covered.

EXAM LENS

- Point Nemo, the oceanic pole of inaccessibility
- Controlled against uncontrolled re entry
- The liability gap for the high seas



Point Nemo, the point in the ocean farthest from land, about 2,688 km from the nearest islands. Spacecraft are brought down in this empty stretch of the South Pacific.

NOTES



THE MONTH AT A GLANCE

- DRDO tests a multi layered ballistic missile defence two days before the Defence Minister sets out Mission Sudarshan Chakra.
- Defence production reaches ₹1.78 lakh crore, and exports reach ₹38,424 crore to more than 80 countries.
- The NCRB counts more than one lakh cybercrime cases in 2024, while conventional crime falls six per cent.
- The Navy commissions three GRSE built ships in one day, among them the fifth Project 17A frigate.
- Netra gets its final operational clearance, nine years after the Air Force inducted the first aircraft.

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LEAD · VERY HIGH · PRELIMS AND MAINS

Mission Sudarshan Chakra: DRDO tests a multi layered ballistic missile defence

WHY IN NEWS

- In three consecutive flight tests in **June 2026**, the **Defence Research and Development Organisation (DRDO)** demonstrated a multi layered defence against long range ballistic missiles. In the same series DRDO flew the **Naval Anti Ship Missile Medium Range** for the first time.
- DRDO said the tests place India in a small group of nations able to defend against **intercontinental ballistic missiles**.
- The Prime Minister announced **Mission Sudarshan Chakra**, a national missile shield, on Independence Day 2025. In June the Defence Minister described the Mission as a **three layered** defence for military, critical and civil infrastructure.

BACKGROUND

- A **ballistic missile** is powered only at the start of its flight. It then follows a high, mostly unpowered arc, leaving the atmosphere for part of its path on longer ranges, and falls on its target at very high speed.
- A **cruise missile** is powered and steered all the way, flying low like a pilotless aircraft, which makes it hard for ground radar to see.
- DRDO's **ballistic missile defence programme** has two tiers: an **exo atmospheric** interceptor, which destroys a missile outside the atmosphere, and an **endo**

atmospheric interceptor, which engages it inside. Phase I was built against missiles with ranges of up to about 2,000 km. Phase II, with the AD-1 and AD-2 interceptors, is built against longer ranges.

KEY TERM

Ballistic missile defence

A system that detects an incoming ballistic missile with long range radar, tracks it, and destroys it in flight with an interceptor missile, either outside the atmosphere or inside it.

WHAT THE MISSION IS

- Mission Sudarshan Chakra is a multi level national missile defence system.
- It is to protect military installations, critical infrastructure, civil infrastructure and key establishments, in three layers, so that what one layer misses the next can stop.
- The Mission joins sensors, command systems and interceptors of different ranges into one network. The Defence Minister said the Mission must also be able to deliver a decisive strike when needed.
- The Minister gave no cost, timeline or list of systems.

KEY TERM

Layered defence

A defence in depth in which interceptors of different ranges and heights engage the same threat in turn, from long range interception outside the atmosphere to point defence of a single site.

THE JUNE TESTS

- In the three tests from the coast of Odisha, the ballistic missile defence interceptors engaged their targets. DRDO did not name the interceptors or give the ranges.

A layered missile shield: how the tiers fit

The Mission promises three layers but has not named them; shown is the standard model built on India's two tier BMD.

Layer 1: outside the atmosphere

Exo atmospheric interceptors meet a long range ballistic missile in mid course, high above the Earth.

▶

Layer 2: inside the atmosphere

Endo atmospheric interceptors engage what gets through as it falls back towards its target.

▶

Layer 3: close in

Short range air defence guns and missiles protect a site against what is left, and against cruise missiles, aircraft and drones.

What joins the layers

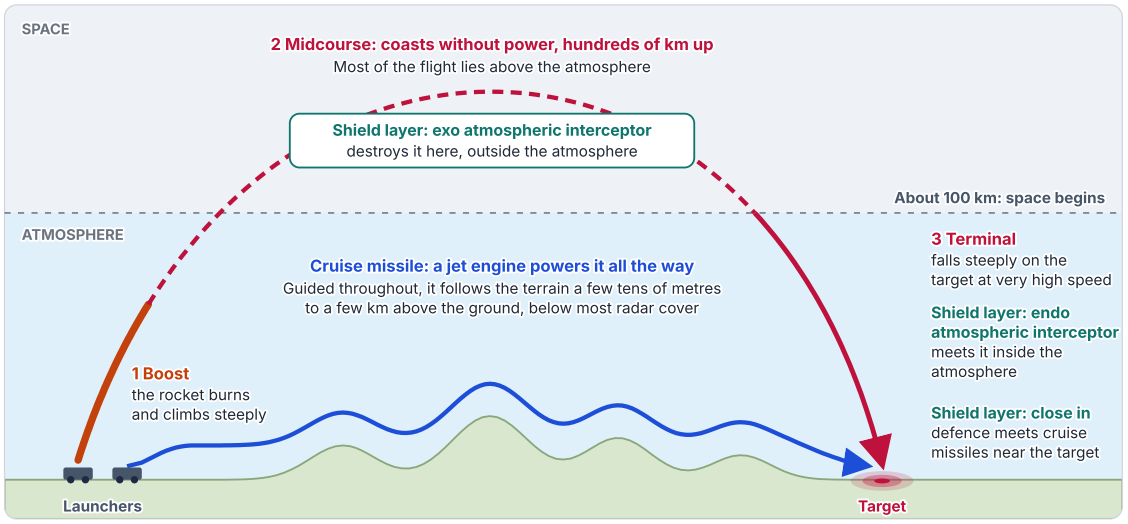
- Long range **radars** that detect and track the incoming missile.
- A **command and control** network that hands a target from one layer to the next.
- Interceptors of different ranges, so that what one layer misses the next can stop.

Ballistic and cruise missiles

- **Ballistic**: powered only at launch, then a high, mostly unpowered arc; very fast on the way down.
- **Cruise**: powered and steered all the way, flying low, hard for ground radar to see.
- An intercontinental ballistic missile flies more than **5,500 km**.

Ballistic and cruise missiles: two ways to reach a target

A ballistic missile arcs through space. A cruise missile stays low inside the atmosphere. Heights are not to scale.



Ballistic missile

- A rocket burns only at the start, then the missile coasts on an arc
- Rises **hundreds of km**, well above the 100 km line where space begins
- Hard to stop late in flight because it falls so fast

Cruise missile

- A jet engine flies it all the way, like a small pilotless aircraft
- Stays inside the atmosphere, **a few tens of metres to a few km** up
- Slower, but radar sees it late as it flies low

IN BRIEF

Other DRDO missile tests in June 2026

- The **Naval Anti Ship Missile Medium Range** made its maiden flight in the same series as the ballistic missile defence tests.
- In June DRDO flew the **Long Range Land Attack Cruise Missile** from Dr APJ Abdul Kalam Island. The Aeronautical Development Establishment, Bengaluru, is the missile's nodal laboratory.
- DRDO and the Indian Air Force also flight tested the **RudraM-II** air to surface missile, developed by the Research Centre Imarat, Hyderabad.

THE PLAN BEHIND IT

- The Defence Minister's message at Hyderabad was that production must be built into development: shorter timelines, simpler manufacture and systems that can be made in numbers when needed.
- The Minister credited indigenous missiles, naming Akash and BrahMos, for their performance in **Operation Sindoor**. In that operation, he said, air defence thwarted the enemy's intentions.
- The **Defence Forces Vision 2047** stresses integration of the three services and dedicated missile and drone forces, both of which a national shield needs.

ANALYSIS

- **A shield is a cost contest, not only a technical one.** An interceptor costs far more than many of the weapons it is fired at. A defender who answers cheap missiles and drones with expensive interceptors loses on cost even when every shot hits.
- **Saturation is the shield's limit.** No layered system stops everything if enough missiles and drones arrive together. The honest claim is that a shield raises the price of an attack, not that it removes the threat.
- **The stability question cuts both ways.** A shield can strengthen deterrence by denial, since an adversary is less sure of success. It can also push an adversary to build more and faster missiles to beat it.
- **The June tests prove the interceptors, not the network.** The hard part of Sudarshan Chakra is joining the three services' radars and command systems into one picture. The Defence Forces Vision 2047 calls for this joining, but no test can show it.
- **Production, not demonstration, decides the outcome.** The Minister is right to stress mass production. A shield with a few interceptors is only a demonstration, and a long conflict consumes stocks.

THE WAY FORWARD

- Bring private industry into interceptor production, as DRDO has committed to do, so that stocks can be built and replenished.
- Add cheaper layers against drones and cruise missiles: jamming, guns and directed energy weapons, so that the costliest interceptors are kept for ballistic threats.
- Put the three services' air defence under one command and control system, the precondition of any national shield.
- Publish a broad cost and timeline for the Mission, so that Parliament can scrutinise a programme of this size.

EXAM LENS

- **Prelims**:

- Mission Sudarshan Chakra announced on Independence Day 2025, three layers
- Ballistic missiles are powered only at launch, cruise missiles throughout
- Exo and endo atmospheric interception
- An ICBM's range exceeds 5,500 km
- RudraM-II is an air to surface missile
- The LRLACM's nodal laboratory is ADE Bengaluru
- Dr APJ Abdul Kalam Island is off Odisha

- **Mains**: "A missile shield raises the price of an attack; it does not remove the threat." Examine Mission Sudarshan Chakra in the light of the June 2026 tests.
- **Asked before**: Prelims 2026, 2023; Mains 2021 GS3: "How is S-400 air defence system technically superior to any other system presently available...".

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Crime in India 2024: cybercrime up, conventional crime down

WHAT IT IS

- **Crime in India** is the annual compilation of crime registered by the police, published by the **National Crime Records Bureau (NCRB)** under the Ministry of Home Affairs. It counts First Information Reports, not convictions.
- The 2024 report, released in **May 2026**, is the first to cover a year in which the **Bharatiya Nyaya Sanhita** replaced the Indian Penal Code, from **1 July 2024**.

WHAT IT FOUND

Head	2023	2024	Change
Total cognisable crimes	62.41 lakh	58.85 lakh	down 6 per cent
Cybercrime cases	86,420	1,01,928	up 17.9 per cent
Crimes against women	4.48 lakh	4.41 lakh	down 1.5 per cent
Murders	27,721	27,049	down 2.4 per cent
Crimes against senior citizens	27,886	32,602	up 16.9 per cent

- **Cybercrime** crossed one lakh cases, and fraud was the motive in 72.6 per cent of them. Telangana, Karnataka and Maharashtra were among the States reporting the most cases.
- Officials tie the rise in crimes against the elderly to online financial fraud, including **digital arrest** scams.

WHY IT MATTERS

- Conventional crimes are falling, while crimes that travel through phones and bank accounts are rising fastest. Local police are least equipped to investigate these crimes.
- Recorded crimes against women fell slightly, but the count measures reporting, not safety.
- Year on year comparisons need care, since 2024 mixes Indian Penal Code and Bharatiya Nyaya Sanhita sections.

EXAM LENS

- **Prelims**:
  - The NCRB is under the Home Ministry
  - Cybercrime 1,01,928 cases in 2024, up 17.9 per cent, fraud the main motive
  - Total crime down 6 per cent
  - The BNS in force from 1 July 2024
- **Mains**: why cybercrime rises while conventional crime falls, and what policing must change to meet it.
- **Asked before**: Mains 2022 GS3: "What are the different elements of cyber security? Keeping in view the challenges in cyber..."; Mains 2020 GS3: "Discuss different types of cybercrimes and measures required to be taken to fight the...".

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Defence production reaches a record ₹1.78 lakh crore in 2025-26, exports ₹38,424 crore

WHAT IT IS

- **Defence production** is the value of defence goods made in India in a year by the **Defence Public Sector Undertakings**, other public sector units and private firms. The **Department of Defence Production** in the Ministry of Defence compiles the figure.
- The Department counts defence exports from the export authorisations it issues.

WHAT HAPPENED

- In **June 2026** the Defence Minister announced that defence production in **2025-26** reached a record **₹1.78 lakh crore**, up 15.6 per cent and almost four times the 2013-14 figure.
- The public sector made about **76 per cent** of this production. The private sector's share of **24 per cent** is its highest yet.
- Earlier, in April, the Ministry had reported record defence exports of **₹38,424 crore** for 2025-26, to more than **80**

countries.

Indicator	2024-25	2025-26
Defence production	₹1.54 lakh crore	₹1.78 lakh crore
Private sector share of production	22 per cent	24 per cent
Defence exports	₹23,622 crore	₹38,424 crore

WHY IT MATTERS

- The growth in exports came mostly from the public sector. DPSU exports rose about two and a half times, while private exports rose about 14 per cent. DPSUs exported less than private firms in 2024-25, but now export more.
- The Ministry credits a simpler procedure for export authorisations and the larger policy of Aatmanirbhar Bharat in defence. The **positive indigenisation lists**, which bar imports of listed items after set dates, are part of the same push.

EXAM LENS

- **Prelims**:
  - 2025-26 production ₹1.78 lakh crore (15.6 per cent growth)
  - Private share 24 per cent
  - Exports ₹38,424 crore to more than 80 countries
  - The Department of Defence Production compiles both
- **Mains**: whether record production and exports amount to self reliance in defence, and what the public sector's large share of both says about the private sector's place.
- **Asked before**: Prelims 2026.

NOTES

BRIEF · HIGH · PRELIMS AND MAINS

Digital arrest scams: NHRC hears calls for a distinct offence

- In a **digital arrest** scam, callers posing as police or investigating officers keep a victim on a video call, under threat of arrest, until the victim transfers money. The money moves through **mule accounts**. No Indian law provides for a "digital arrest".
- In **June 2026** the **National Human Rights Commission (NHRC)** held an open house on the scams. Data from the **Indian Cyber Crime Coordination Centre** show that Indians lost about **₹52,976 crore** to cyber enabled fraud over six years.
- The suggestions before the Commission:
  - Make digital arrest a **distinct offence**.
  - Criminalise renting out mule accounts.
  - Add holds on suspicious transfers.
- Victims report through the **1930** helpline and the national cybercrime portal.

EXAM LENS

- Digital arrest is not a legal procedure
- Mule accounts
- The I4C under the Home Ministry
- The 1930 helpline
- The NHRC's suggestion of a distinct offence

BRIEF · MODERATE · PRELIMS

Exercises in news, June 2026

Exercise	Partner	Service	Place	Dates
Khaan Quest 2026 (23rd edition)	Mongolian Armed Forces, multinational	Army (a Jat Regiment contingent of 40)	Five Hills Training Area, Ulaanbaatar	20 June to 3 July 2026

- **Khaan Quest** began in 2003 as a United States and Mongolia exercise and became multinational in 2006. The exercise trains forces for **peace support operations** under **Chapter VII** of the United Nations Charter.

BRIEF · MODERATE · PRELIMS

Navy commissions INS Dunagiri, INS Sanshodhak and INS Agray in one day

- **Project 17A** is the Navy's class of seven **Nilgiri class** stealth frigates. The Navy's **Warship Design Bureau** designed the frigates, and Mazagon Dock and Garden Reach Shipbuilders and Engineers (GRSE) built them with more than **75 per cent** indigenous content.
- On **21 June 2026** three GRSE built ships were commissioned in Kolkata:
  - **INS Dunagiri**, the fifth Project 17A frigate.
  - **INS Sanshodhak**, the fourth Survey Vessel (Large), for hydrographic and oceanographic surveys.
  - **INS Agray**, an **Anti Submarine Warfare Shallow Water Craft** (the Arnala class), which hunts submarines and mines in waters too shallow for larger ships.
- The Mahe class built at Cochin Shipyard is the other line of these shallow water craft.

EXAM LENS

- Project 17A, seven Nilgiri class frigates, over 75 per cent indigenous
- The Warship Design Bureau
- The Survey Vessel (Large)
- What a shallow water anti submarine craft is for

BRIEF · MODERATE · PRELIMS AND MAINS

Netra AEW&C gets Final Operational Clearance; Mk II to follow on the A321

- An **airborne early warning and control (AEW&C)** aircraft is a flying command post. The aircraft carries a radar that watches the air and sea far beyond the horizon, and it directs fighters.
- In **June 2026** DRDO handed the Indian Air Force the **Final Operational Clearance** of **Netra**, India's first indigenous AEW&C system, nine years after Netra's Initial Operational Clearance in 2017. The Air Force cited Netra's use at **Balakot** and in **Operation Sindoor**.
- DRDO's **Centre for Air Borne Systems**, Bengaluru, developed Netra on the Embraer EMB-145. Netra carries an **active electronically scanned array** radar, which steers its beams electronically and tracks many targets at once.
- The next step is the **Mk II**, built on converted A321 airliners with radar and mission systems developed in India.

EXAM LENS

- AEW&C
- Netra on the EMB-145, FOC June 2026
- AESA radar
- The Centre for Air Borne Systems
- The Mk II on the A321

NOTES



THE MONTH AT A GLANCE

- India's fertility rate holds at 1.9. Six States of the north, centre and east stay above replacement, Delhi is at 1.2, and every State is older than a decade ago.
- Women and Men in India 2025 finds that rural women's work is rising while urban women's has stalled. Women now outnumber men in higher education enrolment.
- Assam passes a uniform civil code that keeps the marriage age at 18 for women and 21 for men. The Union Bill to make it 21 for all has lapsed.
- Almost a tenth of Indians are 60 or older, and the law for their care still caps maintenance at ₹10,000.
- SHe-Box 2.0 puts every workplace harassment committee on one portal.

LEAD · VERY HIGH · PRELIMS AND MAINS

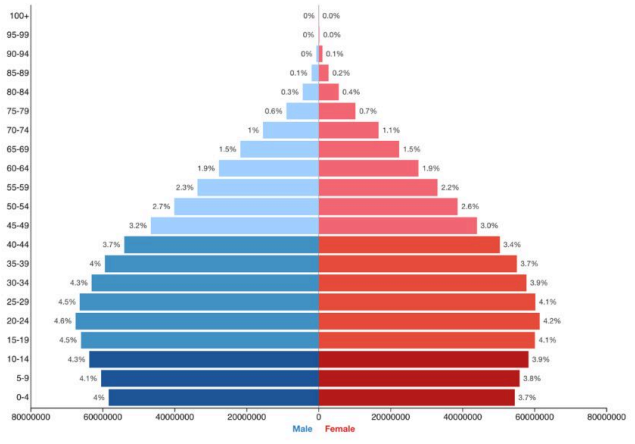
SRS 2024: India's fertility rate holds at 1.9, below replacement

WHY IN NEWS

- The Office of the Registrar General of India released the **Sample Registration System (SRS) Statistical Report 2024** in May 2026. The report put India's **total fertility rate at 1.9** for the second year running, below the replacement level of 2.1.
- All but **six States**, all in the north, centre and east, are now below replacement. Bihar has the highest rate at 2.9 and Delhi the lowest at 1.2.
- The report's age tables show the other side of the same change: the share of children is falling and the share of people aged 60 and above is rising in every State.
- The numbers drew debate through June. They now shape two questions for the rest of the year: how the States share seats, and whether the population programme should change course.

BACKGROUND

- The SRS, run since 1970, is the main annual source of birth, death and fertility rates for India and the States.
- India's family planning programme began in **1952**, the first national programme of its kind. The **National Population Policy, 2000** set replacement fertility as its medium term goal for 2010. India reached replacement fertility about a decade later.
- The national rate fell from 5.2 in 1971 to 3.6 in 1991 and 1.9 in 2024. The rural rate is now 2.1 and the urban rate 1.5.



India's population by age and sex, 2026 projection: the base narrows as fewer children are born and the older bands widen.

Population and fertility indicators

India values from the SRS Statistical Report 2024 unless marked. Census 2011 for the child and overall sex ratios.

Births and deaths — per 1,000 people

Crude birth rate (CBR) — 18.3

Live births in a year for every 1,000 people

$$\text{CBR} = \frac{\text{live births}}{\text{mid year population}} \times 1{,}000$$

Crude because the denominator counts everyone, not only women who can bear children.

Crude death rate (CDR) — 6.4

Deaths in a year for every 1,000 people

$$\text{CDR} = \frac{\text{deaths}}{\text{mid year population}} \times 1{,}000$$

A young population can show a low CDR even with poor health care.

Rate of natural increase — 11.9

Births minus deaths, leaving out migration

18.3 − 6.4 = 11.9 per 1,000

That is growth of about 1.2 per cent a year.

Fertility — women aged 15 to 49

General fertility rate (GFR)

Live births in a year for every 1,000 women of childbearing age

$$\text{GFR} = \frac{\text{live births}}{\text{women aged 15 to 49}} \times 1{,}000$$

Sharper than the CBR because it counts only women who can give birth.

Total fertility rate (TFR) — 1.9

Children a woman would have over her life at this year's rate for each age

$$\text{TFR} = 5 \times \Sigma\ \text{ASFR}$$

Rural 2.1, urban 1.5. ASFR is the age specific fertility rate per woman in each five year age group from 15 to 49. Replacement level is about 2.1, a little above 2 because some girls die before they become mothers and slightly more boys are born. It is higher where many children die young.

GRR and NRR — NRR = 1

These count only daughters, the future mothers

GRR = TFR × share of girls at birth

TFR	GRR	NRR
all children	daughters only	daughters who survive

NRR also allows for daughters who die before their mother's age. An NRR of 1 means each generation exactly replaces itself. Below 1 the population shrinks in the long run.

Sex ratios — females per 1,000 males

Sex ratio at birth — 918 (SRS 2024)

Girls born for every 1,000 boys born in a year

$$\text{SRB} = \frac{\text{female live births}}{\text{male live births}} \times 1{,}000$$

The natural ratio is about 105 boys to 100 girls, or about 950 girls. A lower figure points to sex selection.

Child sex ratio — 918 (Census 2011)

Girls for every 1,000 boys aged 0 to 6

$$\text{CSR} = \frac{\text{girls aged 0 to 6}}{\text{boys aged 0 to 6}} \times 1{,}000$$

It reflects sex selection at birth and higher deaths of young girls. Beti Bachao Beti Padhao (2015) targets it.

Overall sex ratio — 943 (Census 2011)

Females for every 1,000 males in the whole population

$$\text{Sex ratio} = \frac{\text{females}}{\text{males}} \times 1{,}000$$

Natural, at birth	about 950
Overall, 2011	943
At birth, 2024	918
Child, 2011	918

Bars start at 850.

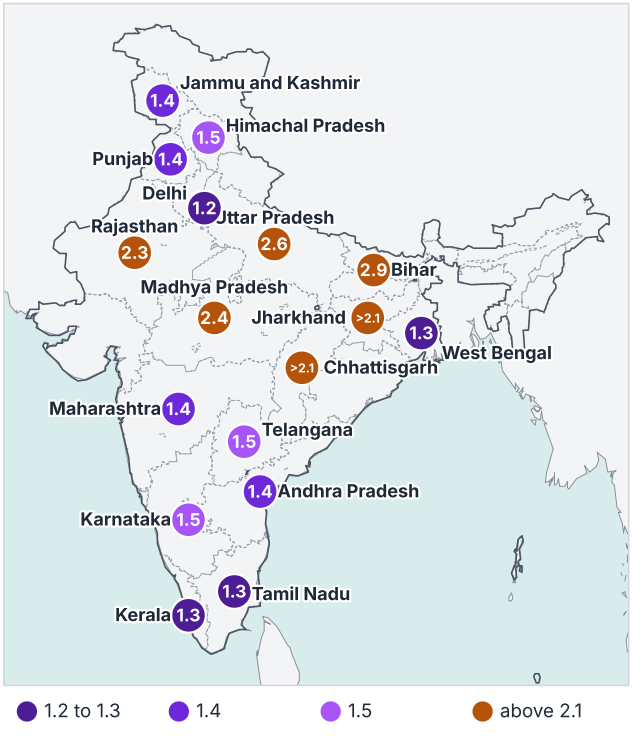
Kerala, at 1,084, is the only State above 1,000.

WHERE THE STATES STAND

- **Above replacement**: Bihar (2.9), Uttar Pradesh (2.6), Madhya Pradesh (2.4), Rajasthan (2.3), Chhattisgarh (above 2.1) and Jharkhand (above 2.1).
- **Lowest**: Delhi (1.2); Kerala, Tamil Nadu and West Bengal (1.3); Andhra Pradesh, Jammu and Kashmir, Maharashtra and Punjab (1.4); Himachal Pradesh, Karnataka and Telangana (1.5).

Fertility in 2024: six States above replacement, the rest below

Total fertility rate, children per woman (SRS Statistical Report 2024). Survey of India base; State boundaries dashed. Not to scale.



What the 2024 report shows

- India: **1.9**, the same as in 2023 and below the replacement level of **2.1**.
- Rural **2.1**, urban **1.5**; literate mothers 1.8, illiterate mothers 3.2.
- Six States above replacement: Bihar (**2.9**, the highest), Uttar Pradesh, Madhya Pradesh, Rajasthan, Chhattisgarh and Jharkhand.
- Lowest: **Delhi 1.2**; Kerala, Tamil Nadu and West Bengal 1.3.

The age structure it is producing

- Aged 0 to 14: **24 per cent** of the population (Tamil Nadu 18, Bihar 31.5).
- Aged 15 to 59: **66.4 per cent**, up from 64 in 2014.
- Aged 60 and above: **9.7 per cent**, up from 8.6 in 2014; Kerala 15 per cent.

KEY TERM

Demographic transition

The shift of a population from high birth and death rates to low ones.

- Stage 1: high birth and death rates, slow growth.
- Stage 2: death rates fall first, so the population grows fast.
- Stage 3: birth rates follow and growth slows.
- Stage 4: both rates are low and the population ages.

THE AGE STRUCTURE THAT FOLLOWS

- Children aged 0 to 14 are **24 per cent** of the population, from 18 per cent in Tamil Nadu to 31.5 per cent in Bihar.
- The working age share, 15 to 59, is **66.4 per cent**, up from 64 per cent in 2014, and still rising even in the States with the lowest fertility.
- People aged 60 and above rose from 8.6 to **9.7 per cent** between 2014 and 2024, in every State. Kerala has the highest share at 15 per cent.
- India is in its **demographic dividend** years, but the dividend is unequal: the southern States are already ageing, while the northern States still have the youngest populations.

WHY IT MATTERS

- **Representation**: seats in the Lok Sabha are frozen on the 1971 Census until the first census after 2026. The States that brought fertility down fastest fear that a redistribution by population will cost them seats.
- **Federal finance**: population is a weight in the Finance Commission's formula, so the same shift moves money as well as seats.
- **Labour and migration**: workers from a young north will keep moving to an ageing south and west, where services must plan for the old.
- **Policy instruments**: incentives and disqualifications built to bring births down are still in force in States where fertility is already far below replacement.

ANALYSIS

- **Education explains more than region.** Illiterate mothers have a rate of 3.2 against 1.8 for literate mothers. The fall follows girls' schooling, and the northern States' rates are coming down as their enrolment rises.
- **The old programme is aimed at the wrong target.** Where fertility is 1.3, sterilisation incentives and two child norms spend public money to push down a number that is already low. The programme's other services, such as birth spacing, contraception and safe delivery, remain worth funding everywhere.

THE WAY FORWARD

- Re-aim family planning at the high fertility districts of the six States above replacement, through girls' education and reproductive health services rather than targets.
- Review incentives and disqualifications that reward small families in States already below replacement.
- Plan for ageing in the southern States now: pensions, geriatric care and the care workforce.
- Settle the representation question by consensus, so that the States that met the national goal are not penalised for it.

SCHEMES TO KNOW

- **Mission Parivar Vikas** (2016, Ministry of Health and Family Welfare)
  - A family planning drive launched in 146 high fertility districts of seven States, extended in 2021 to all their districts and six North Eastern States.
- **Pradhan Mantri Matru Vandana Yojana** (2017; PMMVY 2.0 from April 2022, Ministry of Women and Child Development)
  - ₹5,000 in two instalments for the first living child.
  - ₹6,000 in one instalment for a second child if she is a girl.

EXAM LENS

- **Prelims**:
  - SRS Statistical Report 2024 released by the Registrar General
  - Total fertility rate 1.9 (rural 2.1, urban 1.5)
  - Replacement level 2.1
  - Bihar highest at 2.9, Delhi lowest at 1.2
  - Six States above replacement
  - 60 and above at 9.7 per cent, Kerala highest at 15 per cent
  - Family planning programme of 1952
  - National Population Policy, 2000
  - Mission Parivar Vikas 2016
- **Mains**: "India's fertility has fallen below replacement, but its consequences are being decided State by State." Examine the economic, federal and social implications of India's declining fertility.
- **Asked before**: Prelims 2024; Mains 2026 GS1: "Critically examine the challenges of demographic transition in contemporary India.".

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Marriage age: State civil codes keep 18 for women after the Union Bill for 21 lapsed

WHAT IT IS

- The **Prohibition of Child Marriage Act, 2006** sets the minimum age of marriage at **18 for women and 21 for men**. A marriage below these ages is voidable at the option of the party who was a child, and solemnising one is an offence.

- The **Prohibition of Child Marriage (Amendment) Bill, 2021** proposed to raise the age for women to **21**, to make the Act override every personal law on the point, and to let a person seek annulment until the age of 23. The Bill **lapsed** with the dissolution of the 17th Lok Sabha in 2024.
- With the Union Bill gone, the question has moved to the States. **Himachal Pradesh** raised women's age to 21 in August 2024.

WHAT HAPPENED

- In May 2026 the **Assam** Assembly passed a Uniform Civil Code Bill. Like the codes of Uttarakhand and Gujarat, it keeps the marriage age at 21 for men and 18 for women.

WHY IT MATTERS

- **The case for 21**: equality between the sexes in the law itself, more years of schooling and work before marriage, and later first births. In the **National Family Health Survey (NFHS-5)**, 23 per cent of women aged 20 to 24 had married before 18.
- **The case against**: 18 is the age of majority, and raising the marriage age criminalises the choices of adults. In 2008 the Law Commission recommended **18 for both**, which would bring equality by lowering men's age.
- **The federal turn**: marriage is in the Concurrent List, and each State that writes its own code sets its own rule. Article 44's goal of a uniform civil code is now pursued State by State.

KEY TERM

Voidable marriage

A marriage that is valid until one party asks a court to annul it. Under the 2006 Act the party who was a child may seek annulment within two years of reaching majority.

EXAM LENS

- **Prelims**:
  - Prohibition of Child Marriage Act, 2006 (18 and 21)
  - The 2021 Bill (21 for both, override of personal laws, annulment to 23) and its lapse
  - Himachal Pradesh's 2024 amendment
  - Article 44
  - Marriage in the Concurrent List
- **Mains**: "Equal in law, unequal in life." Examine whether raising women's marriage age to 21 is the right instrument against child marriage.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Women and Men in India 2025: rural women's work rises, urban women's stalls

WHAT IT IS

- ***Women and Men in India*** is the **National Statistics Office**'s annual compendium of sex disaggregated data under the **Ministry of Statistics and Programme Implementation**. The 2025 volume is the **27th edition**.

WHAT HAPPENED

- The 2025 volume was released in April 2026, with labour data from the **Periodic Labour Force Survey (PLFS)** for 2025.
- **Labour**: the female labour force participation rate was **40 per cent** in 2025 against 79.1 per cent for men. Rural women's participation has risen to 45.9 per cent, while urban women's stays near 27.7 per cent.
- **Earnings**: a woman in a regular salaried job earned about three quarters of what a man did.
- **Sex ratio at birth**: up from **904** in 2017-19 to **917** in 2021-23.
- **Education**: women's gross enrolment ratio in higher education, **30.2** in 2022-23, is now above men's 28.9.

WHY IT MATTERS

- **Women's work has risen, mostly as rural self employment and unpaid family help**. This kind of work explains why higher participation has not closed the earnings gap.
- **The urban gap is the puzzle**. Educated urban women work far less than educated men because of the lack of jobs, safe transport and childcare, not any lack of skill.
- **Unpaid work explains the rest**. Women spend more than three times as many minutes a day on unpaid domestic work as men.

KEY TERM

Labour force participation rate

The share of people in an age group who are working or looking for work.

SCHEMES TO KNOW

- **Palna** (2022, under Mission Shakti, Ministry of Women and Child Development)
  - Crèches for children aged six months to six years.

EXAM LENS

- **Prelims**:
  - *Women and Men in India* published by the National Statistics Office (MoSPI), 27th edition
  - Female labour force participation 40 per cent (rural 45.9, urban 27.7) in PLFS 2025
  - Sex ratio at birth 917 (2021-23)
  - Women's higher education enrolment ratio 30.2 above men's 28.9

- **Mains**: why women's participation has risen in villages and stalled in cities, and what would raise it.
- **Asked before**: Mains 2025 GS2: “Women's social capital complements in advancing empowerment and gender equity. Explain.”; Mains 2024 GS1: “Distinguish between gender equality, gender equity and women's empowerment. Why is it impo...”.

NOTES

STANDARD · HIGH · PRELIMS AND MAINS

Ageing India: 9.7 per cent over 60, and the 2007 care law still caps maintenance at ₹10,000

WHAT IT IS

- India had about **10 crore** people aged 60 and above in 2011, and the government expects about **23 crore** by 2036.
- The **Maintenance and Welfare of Parents and Senior Citizens Act, 2007** makes children and heirs liable to maintain a senior citizen. A tribunal under the Act can order maintenance of up to ₹10,000 a month.

WHAT HAPPENED

- The **Sample Registration System (SRS) Statistical Report 2024**, released in May 2026, put the share of people aged 60 and above at **9.7 per cent**.
- The figures put fresh weight on the **Maintenance and Welfare of Parents and Senior Citizens (Amendment) Bill, 2019**, which would have removed the ₹10,000 ceiling. It lapsed with the 17th Lok Sabha.

WHY IT MATTERS

- **Old age is poorer and more female**: more than half of elderly women are widows with little income of their own, and the old age pension has not risen in years.
- **The family is shrinking**: lower fertility and migration mean fewer children live near ageing parents. The 2007 Act's answer, a duty on children enforced by a tribunal, assumes a family that is often no longer there.

SCHEMES TO KNOW

- **Atal Vayo Abhyuday Yojana (AVYAY)**, the umbrella scheme for senior citizens (Ministry of Social Justice and Empowerment)
  - Includes the **Rashtriya Vayoshri Yojana** (2017): free assistive devices for poor seniors.
  - Includes **Elderline, 14567**, the national helpline for senior citizens.
- **Ayushman Bharat PM-JAY for 70 and above** (October 2024, Ministry of Health and Family Welfare)
  - Health cover of ₹5 lakh a year for every person aged 70 and above, regardless of income.
- **Indira Gandhi National Old Age Pension Scheme** (Ministry of Rural Development)
  - ₹200 a month for people below the poverty line aged 60 to 79, ₹500 from 80.

EXAM LENS

- **Prelims**:
  - The 2007 Act and its ₹10,000 ceiling
  - The lapsed 2019 Amendment Bill
  - AVYAY, the Rashtriya Vayoshri Yojana, Elderline 14567
  - PM-JAY for 70 and above
  - The old age pension of ₹200 and ₹500
  - 9.7 per cent aged 60 and above in 2024
- **Mains**: "India will grow old before it grows rich." Examine the adequacy of India's legal and welfare framework for its elderly.

NOTES

BRIEF · MODERATE · PRELIMS

SHe-Box 2.0: one window for workplace harassment complaints

- In June 2026 the **Ministry of Women and Child Development** launched **SHe-Box 2.0**, the new version of its **Sexual Harassment electronic Box** portal for complaints of workplace sexual harassment.
- It is a single window for women in the organised and unorganised sectors. The new version brings employers' **Internal Committees** and the district **Local Committees** onto one platform.
- The portal rests on the **Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013**. Every employer with ten or more employees must set up an Internal Committee. A district Local Committee hears complaints from smaller establishments and from domestic workers. An inquiry must be completed within 90 days.

EXAM LENS

- SHe-Box run by the Ministry of Women and Child Development
- The 2013 Act
- Internal Committee for ten or more employees, Local Committee in every district
- 90 day inquiry

NOTES



THE MONTH AT A GLANCE

- NEET UG 2026 leak and re test: should the examination be cancelled or allowed to stand? The GS4 question of the month, on the integrity of institutions, fairness and the duty to disclose.
- Safe footpaths as a fundamental right: a city that built none. Dignity, the capability approach of Sen and Nussbaum, and administrative apathy.
- Research integrity: UK design registrations sold to Indian academics as international patents. Honesty in science, institutional incentives and whistleblowing.

ETHICS CASE · VERY HIGH · MAINS

NEET UG 2026 leak and re test: cancel the examination or let it stand?

THE FACTS

- In May 2026 a leak of the NEET UG question paper led to protests by candidates and parents. The National Testing Agency cancelled the examination it had held earlier that month. The government handed the case to the Central Bureau of Investigation.
- The Agency held the examination again on **21 June 2026** for over 22 lakh candidates.
- The Public Examinations (Prevention of Unfair Means) Act, 2024 covers the major recruitment and entrance examinations, including those of the National Testing Agency. Offences under the Act are cognisable, non bailable and non compoundable.
- An accused in an earlier leak case got default bail because the investigators did not file the charge sheet in time.
- In *Vanshika Yadav v. Union of India* (2024) the Supreme Court declined to cancel the medical entrance test without proof of a systemic breach. The Court asked for reform of the testing agency, which remains a registered society rather than a body set up by law.

THE ETHICAL ISSUES

- **Cancel or proceed**: cancelling punishes every honest candidate for the act of a few, while proceeding tells the honest that cheating pays.
- **The duty to disclose**: an examining body that hides a leak has chosen its own reputation over the candidates' right to know.
- **Responsibility in a chain**: the officer who outsources an examination to a service provider cannot treat the contractor's failure as someone else's.

VALUES AND PRINCIPLES TESTED

- **Integrity of institutions**: an examination is a public promise that rank follows merit.
- **Utilitarian and deontological choice**: Bentham and Mill would weigh the cost of a re test against the harm of a tainted list. Kant would ask whether the rule "let a known leak stand when cancelling is costly" could be willed as a universal law, and he would answer that it could not.
- **Transparency, accountability and courage**: the courage to recommend the costly course and to say in public what went wrong.

THE STAKEHOLDERS

- The candidates, honest and dishonest, and their families.
- The examining body, its chairperson and its service provider.
- The police and the courts, who investigate and try leak cases.
- The institutions that admit from the merit list, and the public.

AS A GS4 QUESTION

You are the chairperson of a national body that conducts an entrance examination taken by over twenty lakh candidates. Results are due in three days. Your vigilance cell reports that the question paper was circulated on a messaging group a few hours before the examination, and that candidates at about a dozen centres in two States appear to have received it. The cell cannot yet say whether the paper went further. The ministry advises you to declare the results on time and handle the affected centres "quietly", since a re test would delay admissions across the country

and invite litigation. Candidates' groups have already heard rumours and are demanding a statement.

(a) Identify the ethical issues involved. (b) Examine the options before you, with their merits and demerits. (c) What course would you take, and how would you justify it to the ministry and to the candidates? (20 marks, 250 words)

MODEL APPROACH

Introduction. The NEET UG leak of 2026 forced a re test for over twenty lakh candidates. The Public Examinations Act, 2024 punishes a leak, but the first test of integrity falls on the body that learns of it.

(a) The issues. Fairness to the honest candidate, whose rank is worth something only if no one above it was bought. The duty to disclose, which a "quiet" handling would violate. The cost of a re test, set against the principle that a known fraud cannot stand. Accountability for an outsourced process.

(b) The options. Declaring the results on time saves the calendar, but bought ranks stay on the list and the result will unravel in court. Cancelling the whole examination at once is clean but may be disproportionate if the leak was local. The third option is to defer the results by a few days, establish the scale of the leak and disclose it, then hold a re test at the affected centres, or of the whole examination if the leak cannot be contained.

(c) The course. I would take the third course and issue a statement the same day on what is known and what is being done. I would ask the police to register the case at once, so that the charge sheet is filed in time and no accused gets default bail. I would recommend the narrowest re test that the evidence allows, and act against the service provider under its contract and the Act. To the ministry I would say that a list built on a known leak will not survive the first petition. To the candidates I would say that the same rule must hold for all of them, and no one who bought the paper will keep a rank. The delay of a few days is the price of a list that every candidate can trust.

Asked before: Mains 2021 GS4: “You are Vice Principal of a degree college in one of the middle-class towns. Principal has…”; Mains 2017 GS4: “Examine the relevance of the following in the context of civil service: (a) Transparency (…”.

NOTES

ETHICS CASE · HIGH · MAINS

Research integrity: UK design registrations sold to Indian academics as international patents

THE FACTS

- A report in the International Journal of Educational Integrity, covered in June 2026, found that eight firms are likely selling thousands of United Kingdom registered designs to Indian academics.
- A registered design protects only the look of a product, not an invention. The United Kingdom grants one in about eleven days without examining it. Academics present these designs as "international patents" in applications for promotion and in institutional rankings.
- India is among the three countries with the most retracted research papers. Experts link both problems, the bought designs and the retractions, to promotion and ranking rules that count outputs rather than judge their quality.

THE ETHICAL ISSUES

- **Deception for advancement**: calling a bought design an "international patent" is a misstatement made to gain a post or a rank. The harm falls on the colleague who was passed over and on the public that funds the university.
- **Rules that reward the wrong thing**: when promotion counts patents and papers, some will manufacture patents and papers. The institution that set the count shares the blame for what it invited.
- **Complicity of the committee**: a selection committee that does not check what it is shown becomes part of the deception it was set up to prevent.
- **The cost of speaking up**: the junior researcher who notices a colleague's fake patent risks a career by reporting it. Silence stays the safe choice unless the institution makes reporting safe.

VALUES AND PRINCIPLES TESTED

- **Honesty in science**: science depends on trust that a reported result or invention is what it claims to be. A retraction is the system correcting itself, but each fraud uses up trust that honest work needed.
- **Institutional incentives**: rewarding a single number invites people to game it at the expense of the real goal. Economists call this Goodhart's law. Promotion rules that count patents and papers invite exactly this gaming.
- **Whistleblowing**: the Whistle Blowers Protection Act, 2014 protects public servants who report wrongdoing. A university needs its own channel, with protection from reprisal, for research misconduct.
- **Integrity and objectivity**, the foundational values of the civil service, apply to the officer who judges an application as much as to the scientist who files it.

THE STAKEHOLDERS

- Honest researchers who compete for the same posts.
- The students taught and supervised by those promoted.
- The university and its ranking.
- Funding bodies and the taxpayers behind them.
- Journals and patent offices.
- The firms that sell the designs.
- The wider public, whose trust in Indian science each fraud weakens.

WHAT AN OFFICER IN THE SEAT SHOULD DO

- Take the seat of the Vice Chancellor of a State university, when a junior faculty member reports that several "international patents" in this year's promotion files are United Kingdom registered designs bought from a firm.

- Protect the person who reported first: confidentiality, and an assurance on record that no adverse action will follow from the report.
- Verify, do not presume: check each claimed patent against the issuing office's register, and give every applicant a hearing before any finding.
- Act in proportion: withdraw the false claims from the files, decide the promotions on the remaining record, and refer deliberate misrepresentation to the disciplinary authority.
- Fix the rule that invited the fraud: count only patents granted after examination, and weigh the quality of work through peer review rather than the number of items.
- Publish the policy and an annual integrity report, so that the correction is seen as well as made.

Asked before: Mains 2026 GS4: "Owing to paucity of time, a university professor generates a Ph.D. evaluation report using…"; Mains 2024 GS4: "Dr. Srinivasan is a senior scientist working for a reputed biotechnology company known for…"; Mains 2022 GS4: "Whistle-blower, who reports corruption and illegal activities, wrongdoing and misconduct t…".

NOTES

ETHICS CASE · HIGH · MAINS

Safe footpaths as a fundamental right: a city that built none

THE FACTS

- In June 2026, in *Maniyar Iliyaz v. P. Ayyappan*, the Supreme Court held that walking on safe, demarcated footpaths is a fundamental right flowing from Articles 19(1)(d) and 21. Pedestrians have priority over motor vehicles on public roads.
- The case began as a claim for compensation under the Motor Vehicles Act, 1988 by a father whose five year old son died while he was taking him to school.
- A citizen whose right is violated may claim compensation from the responsible authority under Article 32, apart from any claim under the Motor Vehicles Act, 1988.
- The duty to build and maintain footpaths falls mainly on local bodies, which depend on State grants. Footpaths are also the workplace of street vendors, whom the Street Vendors Act, 2014 protects.

THE ETHICAL ISSUES

- **Neglect as harm**: no one decided to kill a child on the way to school. The harm came from decisions not taken: a footpath never budgeted, an encroachment never cleared. The absence of a culprit does not mean the absence of a wrong.
- **Whose road it is**: planners have designed road space for those who drive, though most citizens walk. The allocation is a moral choice dressed as an engineering one.
- **The weakest walker**: the child, the elderly, the disabled and the poor walk most and are hurt most. A road without footpaths is therefore unequal in its effect, even if it is equal on paper.
- **Two rights on one pavement**: clearing footpaths for walkers can take away the livelihood of vendors, whose right the Court has also recognised.
- **Administrative apathy**: a duty that every office acknowledges and no office owns is the commonest failure in local government.

VALUES AND PRINCIPLES TESTED

- **Dignity**: since *Maneka Gandhi* (1978) the Court has read Article 21 to protect a life worth living. Walking to school or to work without fear of death is part of that life.
- **The capability approach**: Amartya Sen judges a society by what its people are able to do and to be. Martha Nussbaum lists bodily integrity and the ability to move freely among the central capabilities. A city without footpaths takes away a basic capability from those who cannot afford a vehicle.
- **Accountability**: the Court named the duty bearer and attached compensation to the duty, which turns a vague good into an answerable obligation.
- **Empathy and compassion for the weaker sections**, the foundational values the civil service code asks for, are the reason to start with the walkers who have no alternative.

THE STAKEHOLDERS

- Pedestrians, above all children, the elderly and persons with disabilities.
- The families of those killed or injured.
- Street vendors and the shopkeepers who extend onto the pavement.
- Motorists and transport operators.
- The municipal corporation, its engineers and its councillors.
- The State government that controls the funds.
- The courts, which will now hear compensation claims.

WHAT AN OFFICER IN THE SEAT SHOULD DO

- Take the seat of the Municipal Commissioner of a large city the week after the judgment, when the engineering wing reports that most arterial roads have no continuous footpath and the finance wing reports no budget head for one.
- Map the gaps first: the roads near schools, hospitals and transit stops, and the stretches where pedestrians have been killed, so that the first rupee goes where the risk is highest.
- Create a budget head for pedestrian infrastructure and a standard for width and accessibility, and publish both.
- Clear encroachments in step with the street vending plan the 2014 Act requires: vending zones first, removal after, so that one right is not secured at the cost of another.
- Ask the State for the devolved funds the 74th Amendment promised, and put the request and the reply on the

record.

- Report progress publicly, ward by ward, so that the duty the Court named has a face and a date.

Asked before: Mains 2025 GS4: “Subash is Secretary, PWD in the State Government. He is a senior officer, known for his co…”; Mains 2020 GS4: “You are a municipal commissioner of a large city, having the reputation of a very honest a…”.

NOTES



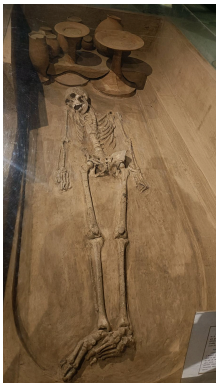
THE MONTH AT A GLANCE

- Eight burials from Rakhigarhi's cemetery mound go to Kolkata for study, and a sample goes to Lucknow for DNA.
- The country remembers Birsa Munda, Dharti Aaba, on the day he died in Ranchi Jail in 1900.
- Hul Diwas marks the rising of Sidho and Kanhu at Bhognadih in 1855.

BRIEF · HIGH · PRELIMS

Rakhigarhi: the Mound 7 burials go for scientific study

- **Rakhigarhi**, in Hisar district of Haryana, spreads over about **550 hectares** and is the **largest known Harappan settlement**, occupied without a break from the **Early to the Mature Harappan** period.
- In the 2025-26 season the **Archaeological Survey of India** found **eight burials** at **Mound 7**, the site's cemetery. In June 2026 the Survey sent skeletal remains from these burials to the **Anthropological Survey of India**'s laboratory in Kolkata.
- Two women among the burials wore **shell bangles**, and about 40 pots lay with them as grave goods. A sample went to the **Birbal Sahni Institute of Palaeosciences**, Lucknow, for DNA analysis.



A Harappan burial at Rakhigarhi: a woman laid north to south, with pots beside her.

EXAM LENS

- Rakhigarhi in Haryana, the largest Harappan site
- Mound 7 the cemetery
- ASI excavates, the Anthropological Survey studies bones, the Birbal Sahni Institute studies ancient DNA

BRIEF · MODERATE · PRELIMS

Birsa Munda's martyrdom day

- On **9 June 2026** the Prime Minister paid tribute to **Birsa Munda** on his martyrdom day, recalling his fight against foreign rule for water, forest and land.
- Birsa Munda was born on **15 November 1875** in present day Jharkhand and was called **Dharti Aaba**. He led the **Ulgulan**, the "great tumult" of the Munda against the British and the landlords who took tribal land.
- The Ulgulan pushed the colonial government to pass the **Chotanagpur Tenancy Act, 1908**. The Act protected **Khuntkatti** rights, the clan's joint ownership of land, and barred the transfer of tribal land to non tribals.
- He died in custody in **Ranchi Jail** on 9 June 1900, aged 24. Since **2021** India has observed his birthday, 15 November, as **Janjatiya Gaurav Divas**.

EXAM LENS

- Ulgulan
- Dharti Aaba

- 15 November is Janjatiya Gaurav Divas (since 2021)
- Died in Ranchi Jail, 1900
- Chotanagpur Tenancy Act, 1908: Khuntkatti rights, no transfer of tribal land to non tribals



The 1988 stamp for Birsa Munda.

BRIEF · MODERATE · PRELIMS

Hul Diwas and the Santhal rebellion of 1855

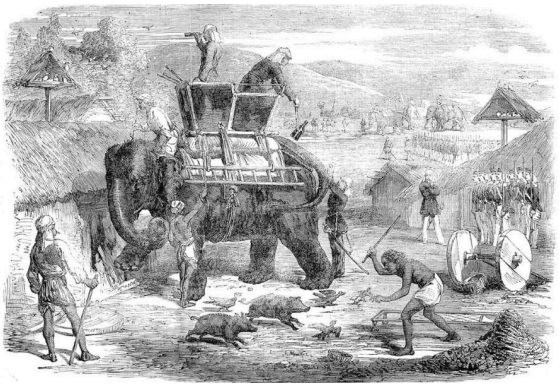
- On **30 June 2026**, **Hul Diwas**, the President, the Lok Sabha Speaker and the Home Minister paid tribute to the leaders of the **Santhal Hul**.
- The rising began at **Bhognadih** on 30 June **1855** against moneylenders, landlords and the East India Company's officials. The brothers **Sidho and Kanhu Murmu** led it, with Chand and Bhairav and their sisters Phulo and Jhano.
- The British put down the rising in 1856.
- After the Hul the colonial government passed the **Santhal Parganas Act, 1855**. The Act made the **Santhal Parganas** a separate district outside the general laws of Bengal, run by officers who held both civil and criminal powers.
- Tribal land in the region is protected by the **Santhal Parganas Tenancy (Supplementary Provisions) Act, 1949**, which supplements the Settlement Regulation of 1872 and lets tribal land pass only to other tribal cultivators.

EXAM LENS

- 1855, Sidho and Kanhu Murmu, Bhognadih
- 30 June is Hul Diwas
- Santhal Parganas Act, 1855 (separate district); Santhal Parganas Tenancy (Supplementary Provisions) Act, 1949



The 2002 stamp for Sidho and Kanhu Murmu.



The search for Santhal rebels, from The Illustrated London News, 23 February 1856.

NOTES

FIRST PRINCIPLES IAS
CLARITY. DISCIPLINE. EXCELLENCE

MISCELLANEOUS



THE MONTH AT A GLANCE

- Andhra Pradesh's natural farming programme wins the Food Planet Prize, the world's largest environmental award.
- IIT Delhi is India's best in the QS rankings at 118, and 52 Indian institutions are ranked.
- India climbs to 94 in the Sustainable Development Report and stands at 127 in the Global Peace Index.

BRIEF · MODERATE · PRELIMS

Awards and indices in news, June 2026

FOOD PLANET PRIZE 2026

- The **Curt Bergfors Foundation** of Sweden gives the prize of **1.5 million dollars**, the world's largest environmental award.
- **2026 laureate**: **Andhra Pradesh Community Managed Natural Farming** (APCNF), for moving over a million farmers to natural farming.

QS WORLD UNIVERSITY RANKINGS 2027

- Published by **Quacquarelli Symonds** (QS), London.
- **MIT** first in the world.
- **IIT Delhi** India's best at **118**.

SUSTAINABLE DEVELOPMENT REPORT 2026

- Published by the UN **Sustainable Development Solutions Network**; ranks **169 countries** on the 17 Sustainable Development Goals.
- **India 94**, up from 99 in 2025.
- **Finland** first.

GLOBAL PEACE INDEX 2026

- Published by the **Institute for Economics and Peace**, Sydney; covers **163 countries and territories**.
- **Iceland** the most peaceful.
- **India 127**, down three places.

EXAM LENS

- Who publishes each index and India's place
- APCNF and the Food Planet Prize

NOTES

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