INFOCADEMY

INFOGRAPHICS | MIND MAPS | FLOWCHARTS | TIMELINES | DARK HUMOR

LEAKS 2027

Not the questions. The possibilities.

WEEKLY-13

SUPER EL NIÑO

SONE RIVER

AGRIVOLTAIC FARMING

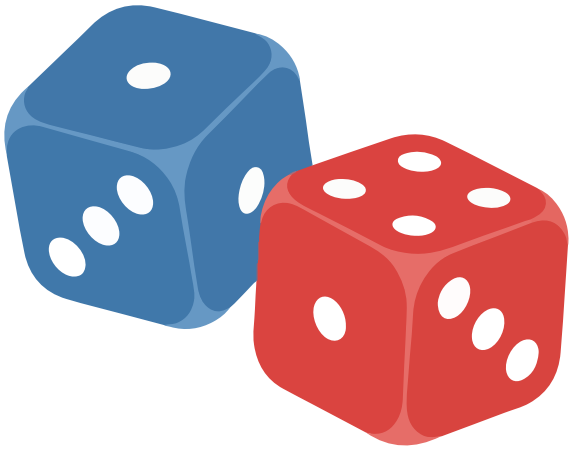
EOS-05 (GISAT-1A)

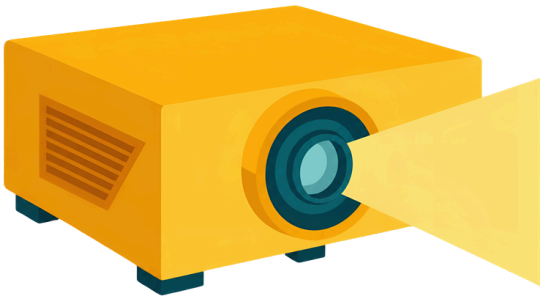
CBI CONSENT & DSPE ACT, 1946

WHY LEAKS 2027?

PROBABILITY DRIVEN SELECTION-

AI models, including Empirical and Bayesian probability Theories, analyse the last three years' UPSC Prelims patterns to prioritise high-probability topics.





VISUAL INFOGRAPHICS-

Every topic is presented through engaging infographics to strengthen pictorial memory and improve revision.

NO INFORMATION OVERLOAD-

No lengthy stories, editorials or unnecessary research content—only what matters for UPSC Prelims.



NO ONE CAN COVER 100% OF THE CURRENT AFFAIRS; IT'S WISER TO TAKE A SMALL GAMBLE BY OMITTING LOW-PROBABILITY TOPICS.

SUPER EL NIÑO

El Niño: Abnormal warming of the central-eastern equatorial Pacific Ocean

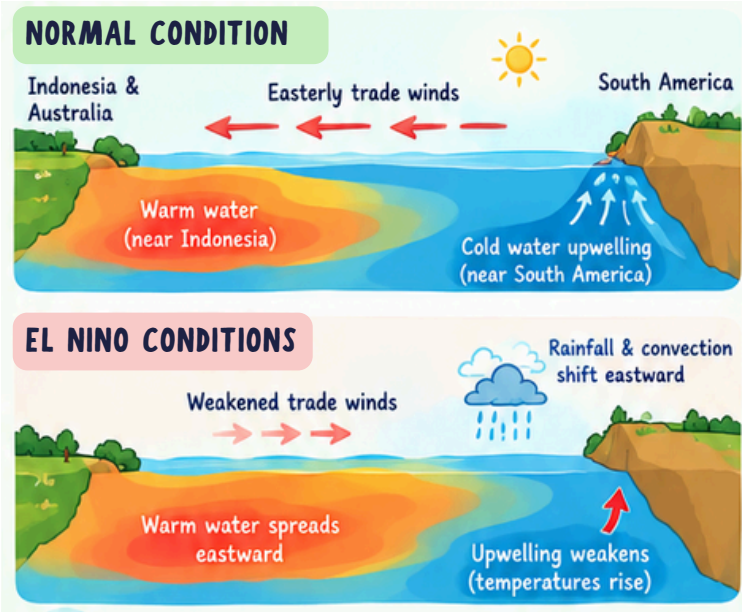
Super El Niño: Informal term for an exceptionally strong El Niño event.

+2°C

Often associated with Niño 3.4 temperature anomalies near or above +2°C.

It is a stronger expression of El Niño–Southern Oscillation (ENSO).

HOW DOES EL NIÑO DEVELOP?



Normal conditions:

- Easterly trade winds push warm surface water westward.
- Warm water accumulates near Indonesia and northern Australia.
- Cold, nutrient-rich water upwells along the South American coast.

El Niño:

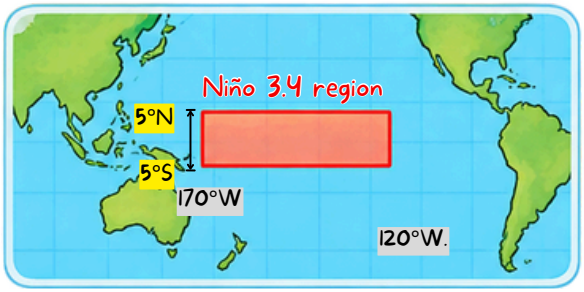
- Trade winds weaken; warm water spreads eastward.
- Eastern Pacific upwelling weakens; surface temperatures rise.
- Atmospheric convection and rainfall shift towards the central-eastern Pacific.

ENSO

ENSO has three phases:

El Niño | La Niña | Neutral

HOW IS ITS INTENSITY MEASURED?



Niño 3.4 region: 5°N–5°S; 170°W–120°W.

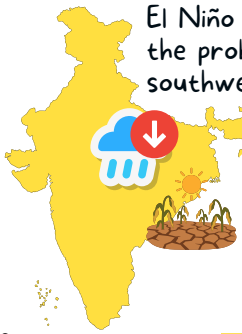
Oceanic Niño Index (ONI): Three-month average sea-surface temperature anomaly.

El Niño threshold: +0.5°C with sustained ocean-atmosphere conditions.

NOAA classifies anomalies of +2°C or more as very strong El Niño.

IMPACT ON INDIAN MONSOON

Positive Indian Ocean Dipole (IOD) can sometimes offset El Niño's influence.



El Niño generally increases the probability of a weaker southwest monsoon.

Reduced rainfall can affect agriculture, reservoirs and food production.

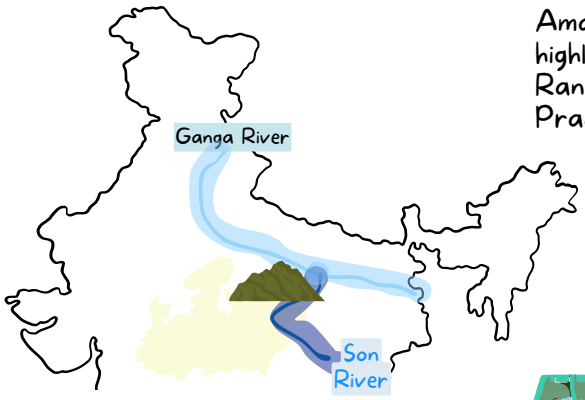
Positive IOD: Western Indian Ocean warmer than the eastern part.

Negative IOD: Eastern Indian Ocean warmer than the western part.



El Niño does not guarantee drought across India.

SONE RIVER



ORIGIN:
Amarkantak highlands, Maikal Range, Madhya Pradesh.

Major right-bank tributary of the Ganga.

CONFLUENCE:
Joins the Ganga near Maner, west of Patna.

RIVER BASIN:
Madhya Pradesh, Uttar Pradesh, Jharkhand & Bihar.

MAJOR TRIBUTARIES:
Rihand, Kanhar, North Koel, Gopad and Banas.

BANSAGAR DAM:
Madhya Pradesh

INDRAPURI BARRAGE:
Bihar

IMPORTANT STRUCTURES:
Bansagar Dam & Indrapuri Barrage.

2026 WATER-SHARING AGREEMENT

TOTAL ALLOCATION
7.75 MAF

Bihar
5.75 MAF

Jharkhand
2.00 MAF

MAF:
Million Acre-Feet, a unit measuring water volume.

The agreement supports irrigation, reservoir and water-development projects

CONSTITUTIONAL PROVISIONS

Who controls river water?
The constitution divides legislative powers between the Union & the States

ARTICLE 246 — Distribution of Legislative Powers

7TH SCHEDULE

Distributes legislative subjects through the Seventh Schedule.

Seventh Schedule contains Union, State and Concurrent Lists.

STATE LIST — ENTRY 17

Water supply | Embarkments | Irrigation

Covers:
- Drainage
- Canals
- Water storage

Subject to Union List Entry 56.

UNION LIST — ENTRY 56

Covers regulation and development of inter-State rivers and river valleys.

Applies where Parliament declares Union control expedient in public interest.

ARTICLE 131 — Supreme Court

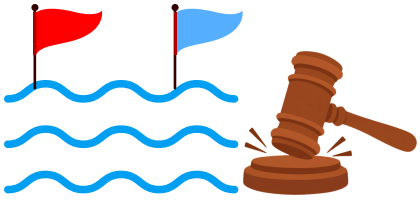
Provides original jurisdiction in specified Centre–State and inter-State disputes.

Its application is subject to other constitutional provisions and statutory exclusions.

ARTICLE 262 — Inter-State Water Disputes

- Clause (1): Parliament may legislate for adjudicating inter-State water disputes.
- Clause (2): Parliament may exclude courts' jurisdiction over specified water disputes.

HOW ARE RIVER-WATER DISPUTES RESOLVED?



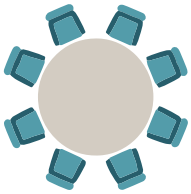
Inter-State River Water Disputes Act, 1956

Provides for water-dispute tribunals



Section 3

A state may request Central Government intervention.



Section 4

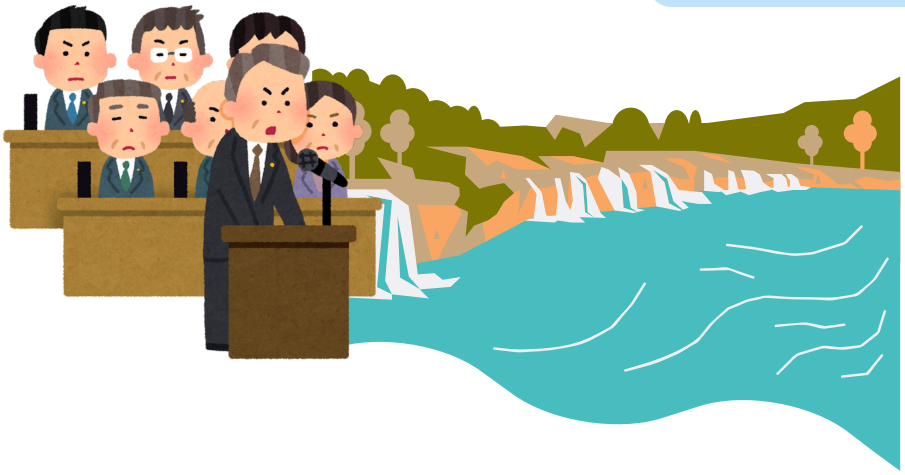
Centre constitutes a tribunal when negotiations cannot settle a dispute.



Section 11

Bars court jurisdiction over disputes referable under the Act.

RIVER BOARDS ACT, 1956



Enables advisory bodies for inter-State river development

Negotiated agreements can resolve disputes without tribunal adjudication.

AGRIVOLTAIC FARMING

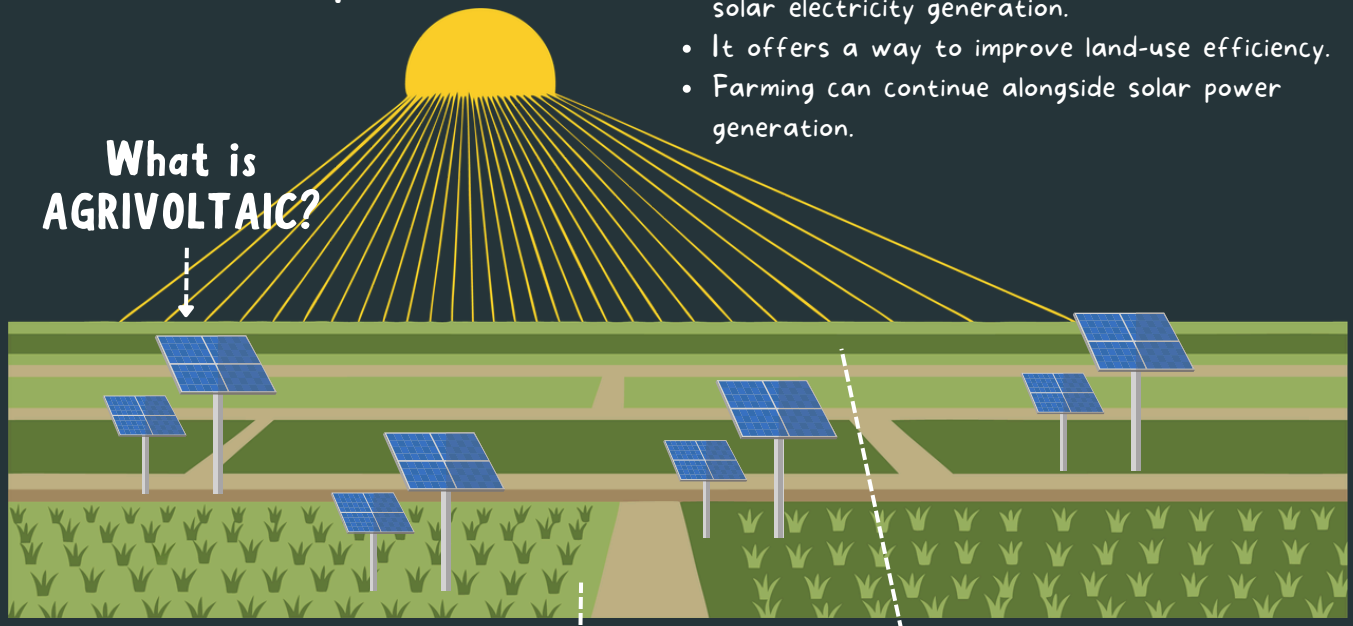
One Land • Two Outputs

WHY IN NEWS?

Featured in The Indian Express UPSC Economy Quiz — September 2026.

- The concept combines agricultural cultivation and solar electricity generation.
- It offers a way to improve land-use efficiency.
- Farming can continue alongside solar power generation.

What is AGRIVOLTAIC?



Simultaneous agricultural production and solar photovoltaic electricity generation on shared land.

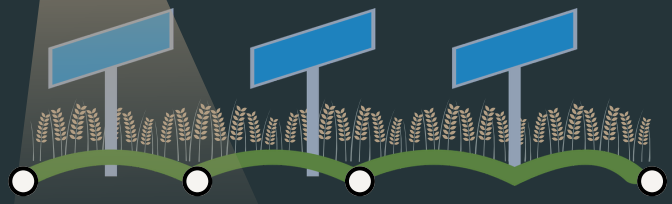
Also called agrophotovoltaics or dual-use solar farming.

Solar panels are installed above or between agricultural crops.

Crops receive sunlight through gaps and partially shaded spaces

Dual purpose: Food production + Renewable energy.

HOW DOES IT WORK?



Install solar PV panels over agricultural land.

Panels convert sunlight directly into electricity.

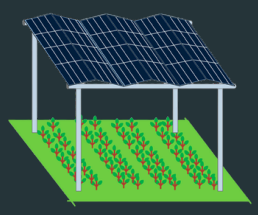
Remaining sunlight reaches crops beneath or between panels.

Farming continues alongside electricity generation.

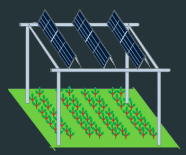
Result: One land area produces both crops and electricity.

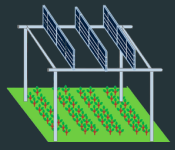
TYPES OF AGRIVOLTAIC SYSTEMS

1. **Elevated panels:** Crops grow beneath raised solar structures.

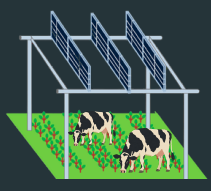


2. **Inter-row systems:** Crops grow between solar-panel rows.





3. **Vertical panels:** Upright solar modules leave space for agricultural activities.



4. **Solar grazing:** Livestock graze beneath or between solar panels



5. **Pollinator-friendly systems** Solar sites support flowering plants and pollinator habitats.

EOS-05 (GISAT-1A)

INDIA'S GEO-IMAGING SATELLITE



WHY IN NEWS?

4 September 2026: ISRO successfully launched EOS-05 aboard GSLV-F17.

It is India's first dedicated Earth-imaging satellite designed for geosynchronous orbit.

GSLV-F17 placed EOS-05 into its intended transfer orbit.

WHAT IS EOS-05?

EOS: Earth Observation Satellite.

Other designation: GISAT-1A (Geo Imaging Satellite).

Developed by: Indian Space Research Organisation (ISRO).

Launch vehicle: GSLV-F17.

Launch site: Satish Dhawan Space Centre, Sriharikota, Andhra Pradesh.

Mission life: 10 years, as designed

Mass: 2,360 Kg

GISAT-1 (EOS)-03 whose 2021 launch failed

MAJOR OBJECTIVES & APPLICATIONS



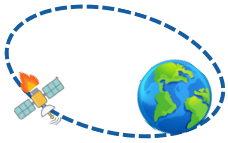
HOW WAS EOS-05 LAUNCHED?



Step 1: GSLV-F17 lifted off from Sriharikota.



Step 2: Rocket placed EOS-05 into a Sub-Geosynchronous Transfer Orbit.



Step 3: Satellite performs orbit-raising manoeuvres using onboard propulsion.



Step 4: Satellite moves towards its intended geosynchronous operational orbit

CBI CONSENT & DSPE ACT, 1946

WHAT IS THE CBI?

Central Bureau of Investigation.



India's principal Central investigating agency for corruption and selected serious crimes.

Established: 1963, through a Government of India resolution.

Administrative ministry: Ministry of Personnel, Public Grievances and Pensions.

Department: Department of Personnel and Training (DoPT).

Legal foundation: Delhi Special Police Establishment (DSPE) Act, 1946.

Not created through a separate CBI Act.

Jurisdiction: operates under the DSPE Act.

GENERAL CONSENT vs SPECIFIC CONSENT



- Standing permission by a state government.
- Allows investigation of covered offences without case-wise approval.
- Scope depends on state's notification.
- Can be restricted or withdrawn



- Permission for a particular case
- Relevant when general consent does not cover the case.
- Does not authorise investigations beyond its specified scope.

WHAT IF GENERAL CONSENT IS WITHDRAWN?

👉 Fresh investigations: Case-specific state consent is generally required where standing consent no longer applies.

👉 Earlier lawful investigations: Not automatically invalidated.

👉 Connected matters: Withdrawal does not automatically eliminate CBI jurisdiction over every related matter.

👉 Constitutional courts: Supreme Court or High Court may direct a CBI investigation without state consent.

IMPORTANT SECTIONS OF THE DSPE ACT, 1946

Section 3 — Offences

- Central Government specifies offences or classes of offences for DSPE investigation.

Section 5 — Extension of Jurisdiction

Central Government may extend DSPE powers beyond Union Territories to specified offences and areas

Section 6 — State Consent

DSPE generally requires state consent to exercise extended powers within states. Protects federal division of policing.

CONSTITUTIONAL BASIS: WHY IS STATE CONSENT REQUIRED?

Seventh Schedule, State List, Entry 2: Police is a state subject.

State List, Entry 1: Public order is a state subject.

Article 246: Distributes legislative powers between Centre and states.

Section 6: Restricts ordinary extension of CBI jurisdiction within states.

Core principle: Supports India's federal division of powers

WHEN IS STATE CONSENT NOT REQUIRED?



Union Territories: Section 6 state-consent requirement does not apply.



Railway areas: Expressly excluded from Section 6's consent requirement.



Supreme court: May order CBI investigations under constitutional jurisdiction



High court: May order CBI investigations under Article 226.

Courts must exercise this power cautiously, not routinely.

GEOGRAPHY INFO-NOTES



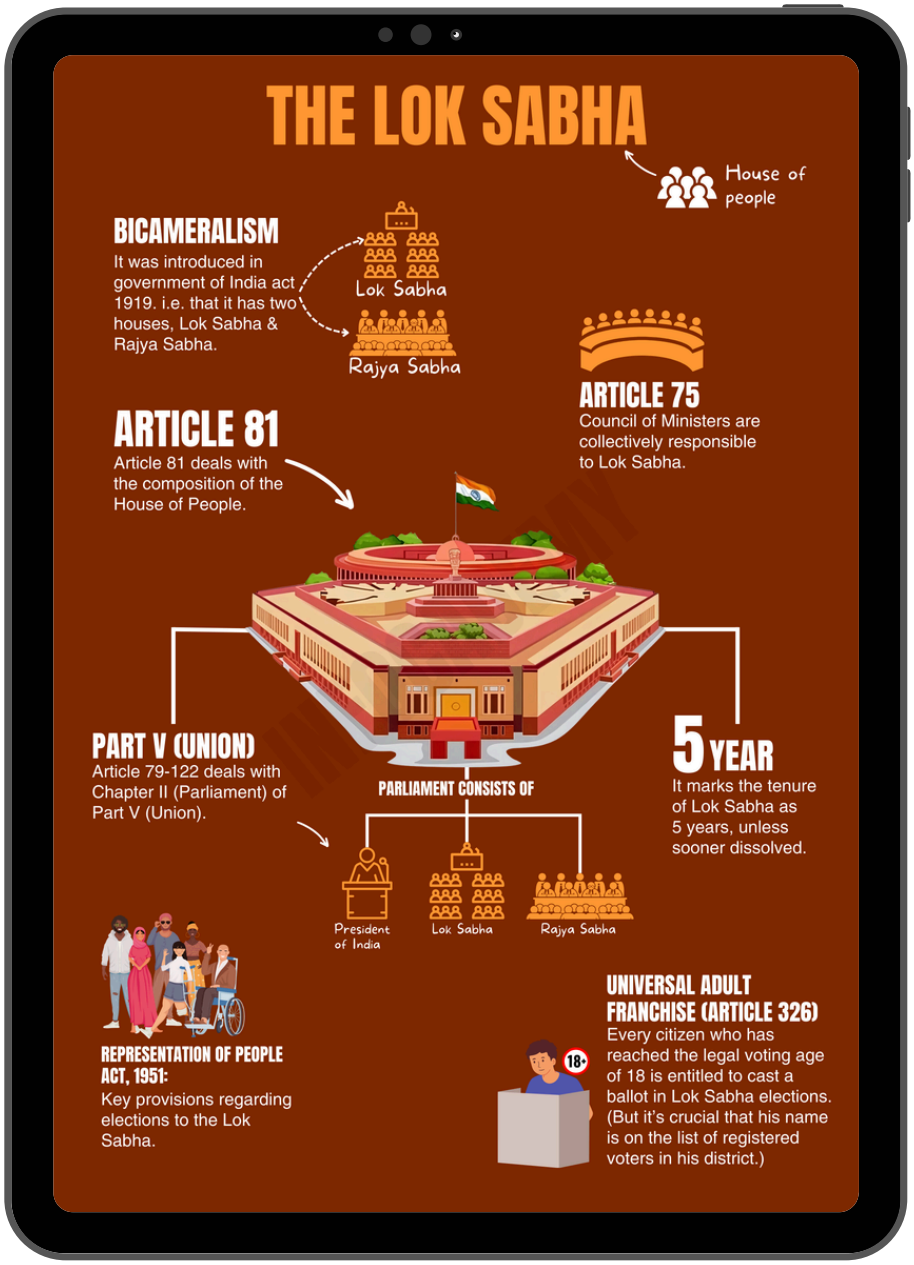
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