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Environment & Ecology

GS3

Environment | River Systems | Biodiversity | Invasive Species | Water Policy

05 July 2026 • Source: Nature Scientific Reports 2026

2026 Scientific Reports Study: India's National River Linking Project Threatens Freshwater Biodiversity — Invasive Species Risk Flagged

What happened: A 2026 study published in Nature's *Scientific Reports* warns that India's National River Linking Project (NRLP) — the world's largest planned inter-basin water transfer scheme — poses serious ecological risks to freshwater biodiversity. The study specifically examines how large-scale hydrological alterations could facilitate the spread of freshwater invasive alien species (IAS) across Indian river basins, disrupting native aquatic biodiversity. The Ken-Betwa Link Project — the first implemented component of the NRLP — will submerge 6,017 hectares of Panna Tiger Reserve, indirectly affecting 105 sq km of tiger habitat through fragmentation.

Why it matters for UPSC: River interlinking is a live GS1 (Physical Geography — river systems), GS2 (federal water-sharing disputes, interstate river water tribunals), and GS3 (environment, ecology, biodiversity) topic. The introduction of invasive species via inter-basin connections is an often-overlooked but UPSC-worthy ecological mechanism. Ken-Betwa connects to Panna Tiger Reserve, a Project Tiger site.

⚡ KEY FACTS

- ▶ NRLP (National River Linking Project): Proposed under National Water Development Agency (NWDA); 30 links across Himalayan (14) and Peninsular (16) components; estimated cost ~₹5.5 lakh crore.
- ▶ Ken-Betwa Link: First operational link; connects Ken River (MP) to Betwa River (UP/MP); PM Modi inaugurated December 25, 2024.
- ▶ Ecological threat 1: Daudhan Dam reservoir submerges 6,017 ha of Panna Tiger Reserve (a UNESCO Biosphere Reserve candidate).

- ▶ Ecological threat 2: Inter-basin water transfer creates pathways for freshwater Invasive Alien Species (IAS) — e.g., common carp, suckermouth catfish — to colonise new river basins, outcompeting native species.
- ▶ IIT Bombay research: River interlinking could reduce rainfall by 12% in diversion zones by altering local evapotranspiration and moisture flux.
- ▶ Interstate water disputes link: Ken-Betwa involves MP and UP — governed by Ken-Betwa Link Project Authority (KBLPA) under inter-state treaty.

EXAM INSIGHT

River Interlinking — Three Exam Angles:

GS1 Angle: India's peninsular rivers drain into Bay of Bengal (east-flowing: Mahanadi, Godavari, Krishna, Cauvery) or Arabian Sea (west-flowing: Narmada, Tapi). Linking east to west or surplus to deficit alters natural drainage patterns.

GS2 Angle: Inter-state river water disputes (Art. 262 + Interstate River Water Disputes Act, 1956); Supreme Court's role; federal water federalism.

GS3 Angle: Biodiversity impact — *biological homogenisation* (different river basins losing distinct species as invasives spread) is the 2026 exam keyword from this study. Use it to show depth in answers.

PYQ LINKAGE

"With reference to the National River Linking Project of India, consider the following statements: 1. The project is managed by the National Water Development Agency. 2. The project involves both Himalayan and Peninsular river development components. How many are correct?" — UPSC Prelims 2015 pattern. Also: "Critically examine the ecological and hydrological implications of India's National River Linking Project with reference to biodiversity and inter-state water rights." — Mains GS3.

GS3

Biodiversity | IUCN Red List | Species Conservation | Renewable Energy Conflict

Static IUCN Topic · Source: IUCN Red List / Project GIB / Supreme Court Orders / BNHS

Species Focus: Great Indian Bustard (*Ardeotis nigriceps*) — Critically Endangered, Power Lines the Biggest Killer, SC Orders Protection

What happened (Static Focus): The Great Indian Bustard (GIB), *Ardeotis nigriceps*, stands at fewer than 150 individuals in the wild — with ~128 concentrated in Rajasthan. The species is listed IUCN Critically Endangered. Collision with overhead power transmission lines is the single largest cause of GIB mortality, intensified by the bird's limited frontal vision. The Supreme Court has ordered protective safeguards including power line rerouting and burial where GIB habitat overlaps with renewable energy corridors in

Rajasthan and Gujarat. Project GIB's captive breeding programme now holds 94 birds — including three new chicks — but wild recovery remains critical.

Why it matters for UPSC: GIB is a flagship UPSC species for Prelims (IUCN status, habitat, threats, conservation measures) and Mains (conflict between renewable energy expansion and wildlife conservation — a live GS3 analytical theme). The Supreme Court's 2023–2026 orders on power line burial create a rich GS2 + GS3 intersection on executive compliance and judicial activism in environment.

KEY FACTS

- ▶ Scientific name: *Ardeotis nigriceps*; family Otidae; India's State Bird of Rajasthan.
- ▶ IUCN Status: Critically Endangered (CR); wild population: 120–150 individuals; ~128 in Rajasthan (Desert National Park, Jaisalmer/Barmer).
- ▶ Primary threat: Overhead high-voltage power transmission lines — GIB's large body + limited frontal vision = fatal collisions; renewable energy expansion in Thar Desert is intensifying the threat.
- ▶ Conservation: Project Great Indian Bustard (launched 2020 by MoEFCC); captive breeding centre at SAC Jaisalmer; Desert National Park (Rajasthan) + Kutch Bustard Sanctuary (Gujarat) are key habitats.
- ▶ Supreme Court orders: Directed burying or rerouting of power lines within GIB priority zones; new power line corridors placed ≥ 5 km south of Desert National Park; work to finish before 2028.
- ▶ Captive population: 94 birds (as of 2026); 3 new chicks born in Project GIB — positive signal but wild recovery essential.

EXAM INSIGHT

GIB vs. Other Critically Endangered Birds — Quick Comparison:

Great Indian Bustard: Rajasthan/Gujarat, CR, power lines, Project GIB, SC orders

Bengal Florican: Assam/UP grasslands, CR, grassland degradation

Sociable Lapwing: Migratory, CR, agricultural conversion on breeding grounds

Spoon-billed Sandpiper: Migratory, CR, coastal habitat loss

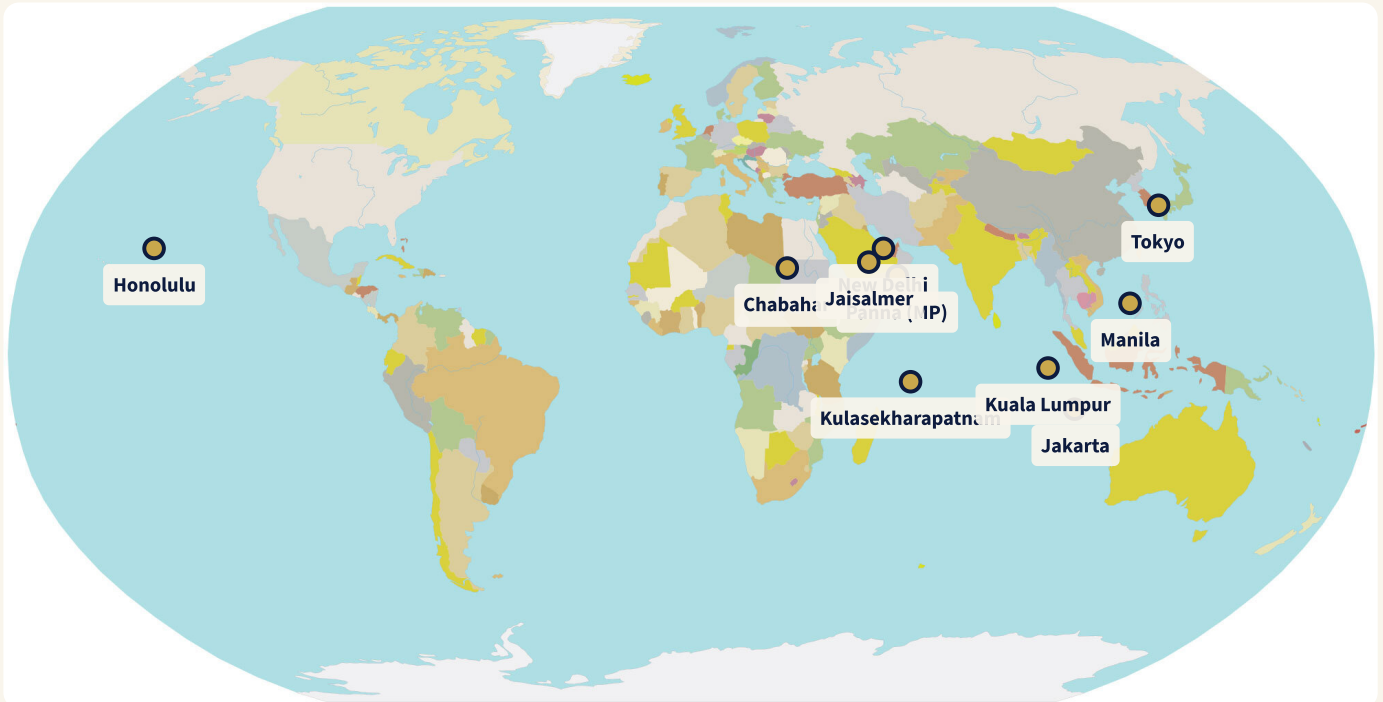
Exam shortcut for GIB: "**Rajasthan's Last Giant — Killed by Wires, Saved by Courts.**" The SC's active intervention in GIB power line burial is a textbook example of *judicial activism in environmental governance* — UPSC loves asking about this intersection of judiciary + environment + development.

PYQ LINKAGE

*"The Great Indian Bustard (*Ardeotis nigriceps*) is: (a) Critically Endangered as per IUCN Red List (b) Endangered as per Wildlife Protection Act (c) Vulnerable, found in the Terai grasslands (d) Near Threatened, concentrated in Assam." — UPSC Prelims 2022 pattern. Also: "Discuss the conflict between India's renewable energy expansion and the conservation of the Great Indian Bustard in Rajasthan, with reference to the Supreme Court's directions." — Mains GS3.*



Places in News



Jakarta

INDONESIA

PM Modi's visit to finalise BrahMos supersonic cruise missile deal — Indonesia set to join Philippines and Vietnam as the third ASEAN BrahMos operator.

GS2 · IR · DEFENCE

Tokyo

JAPAN

PM Takaichi's India visit — India-Japan Special Strategic & Global Partnership "new chapter" declared; UNICORN Naval Radio Antenna deal concluded; Quad solidarity reaffirmed.

GS2 · QUAD

Kulasekharapatnam

TAMIL NADU, INDIA

ISRO's new SSLV Launch Complex (9.5 sq km, ₹950 crore); DRDO strategic alliance for rapid-launch tactical space assets; India's second operational launch complex.

GS3 · SPACE

Honolulu, Hawaii

USA (PACIFIC)

Indian Navy P-8I Poseidon at RIMPAC 2026 — world's largest multinational naval exercise; signals India's growing maritime interoperability in the Indo-Pacific.

GS3 · NAVAL POWER

Chabahar Port

IRAN

India's strategic connectivity hub to Afghanistan and Central Asia; faces pressure from Iran war, US sanctions; remains operationally active under India-Iran port agreement despite geopolitical turbulence.

GS2 · CONNECTIVITY

Manila

PHILIPPINES

Philippines: First BrahMos export customer (2022 deal, delivered); anchor of India's BrahMos Indo-Pacific arc alongside Vietnam and soon Indonesia.

GS2 · EXPORTS

Panna Tiger Reserve

MADHYA PRADESH, INDIA

Ken-Betwa Link Project will submerge 6,017 ha of Panna Tiger Reserve; spotlight on biodiversity trade-offs in India's river interlinking programme; a Project Tiger site under threat.

GS3 · ENVIRONMENT

Jaisalmer

RAJASTHAN, INDIA

Desert National Park — primary habitat of the Great Indian Bustard (GIB); Supreme Court ordered power line burial and rerouting in GIB priority zones here; renewable energy vs. conservation flashpoint.

GS3 · BIODIVERSITY

New Delhi

INDIA

DAC cleared ₹52,000 crore defence acquisitions (July 3); India-Malaysia 12th Joint Defence Sub-Committee met; Parliament Monsoon Session 2026 (July 20) pre-session preparations underway.

GS2 · GS3

Kuala Lumpur

MALAYSIA

India-Malaysia 12th Joint Sub-Committee on Defence Science, Technology and Industry Cooperation — long-term bilateral defence industrial ties reaffirmed.

GS2 · DEFENCE DIPLOMACY



Ethics & Case Studies (GS4)

CASE STUDY 01 — GS4 · ETHICS IN GOVERNANCE

The Dam Dilemma: Development vs. Tribal Rights in Ken-Betwa

SCENARIO

You are the District Collector of a tribal-majority district in Madhya Pradesh where the Daudhan Dam (Ken-Betwa Link) is to be constructed. The project will submerge 6,017 ha of forest including significant tribal settlement areas. Gram sabhas in 14 villages have passed resolutions withholding consent under PESA, 1996, and the Forest Rights Act, 2006. The State government and Centre are under pressure to proceed. Your senior IAS officer informally asks you to "facilitate" a fresh gram sabha vote that may yield a different outcome. You are aware that independent surveys project displacement of 2,000+ tribal families.

ETHICAL DIMENSIONS

Constitutional Morality

Fifth Schedule + PESA

Forest Rights Act, 2006

Superior's Instruction vs. Rule of Law

Environmental Justice

FRAMEWORK FOR ANSWER

Step 1: PESA (1996) and FRA (2006) grant gram sabhas prior informed consent rights — these cannot be bypassed by administrative direction. **Step 2:** Refuse to manipulate gram sabha; submit a formal written note citing legal constraints to the superior. **Step 3:** Explore alternative: submit a report recommending project redesign to reduce submergence, alternative sites, or enhanced R&R (rehabilitation and resettlement) that meets gram sabha concerns. **Step 4:** If overridden, escalate to MoEFCC/Forest Advisory Committee through proper channels. **Values applied:** Integrity (Nolan), Constitutional morality, Empathy for the displaced — civil servants are servants of the Constitution, not merely of their superiors.

UPSC ANGLE

Tests PESA + FRA knowledge, civil service integrity under institutional pressure, the concept of "constitutional morality" (B.R. Ambedkar), and Naxalism's root causes (tribal displacement as a documented push factor). Link: "Discuss how the failure to implement PESA and FRA has contributed to Left-Wing Extremism in central India." — Mains GS3/GS4 hybrid.

CASE STUDY 02 — GS4 · INTEGRITY & PUBLIC SERVICE

The Renewable vs. Bustard Conflict: An IFS Officer's Dilemma

SCENARIO

You are a senior Indian Forest Service (IFS) officer in Rajasthan's Wildlife Department. A major renewable energy company has sought environmental clearance for a 5,000 MW solar park in Jaisalmer district — directly within the Desert National Park buffer zone and the primary GIB (Great Indian Bustard) habitat. The company has political backing. The Supreme Court has ordered power line burial in GIB zones. You must submit your recommendation on the clearance. If you recommend against clearance, you will face transfer threats. If you approve, you knowingly contribute to the extinction risk of a Critically Endangered species — violating the SC's directions.

ETHICAL DIMENSIONS

Species Extinction Risk

Supreme Court Compliance

Political Pressure vs. Professional Duty

Intergenerational Ethics

Green vs. Green Dilemma

FRAMEWORK FOR ANSWER

Nature of dilemma: This is the "Green vs. Green Dilemma" — renewable energy (GS3 sustainability) vs. biodiversity conservation (GS3 ecology). Both serve the constitutional right to environment (Art. 21). **Decision:** Cannot approve clearance that violates SC directions — contempt of court risk + violation of Environmental Impact Assessment (EIA) Notification 2006 + Wildlife Protection Act, 1972 (S. 29, 35). **Alternative recommendation:** Suggest project relocation to non-GIB zones (Barmer alternative sites exist); propose bird diverters on existing lines; require pre-construction GIB population survey. **On transfer threat:** Document the pressure formally; use service conduct rules — transfer for professional duty is a misuse of administrative power; can approach CAT (Central Administrative Tribunal). **Value:** Courage, intergenerational equity (future generations cannot see GIB if extinct), professional integrity.

UPSC ANGLE

Green vs. Green conflict, judicial compliance as an officer's duty, EIA process, WPA 1972, intergenerational equity (concept from Brundtland Commission, 1987). Also tests: "What are the ethical obligations of a civil servant when ordered to take action that violates a judicial directive?"

CASE STUDY 03 — GS4 · GOVERNANCE & EMOTIONAL INTELLIGENCE

The BrahMos Export Intelligence Leak — National Security vs. Institutional Loyalty

SCENARIO

You are a mid-level IAS officer coordinating the BrahMos export to Indonesia. A subordinate provides credible documentary evidence that a senior Defence Ministry official leaked classified missile specifications to a foreign intelligence intermediary for financial gain. If you report through official channels, the powerful senior can

suppress the complaint. If you go to media, you breach Official Secrets Act, 1923. There is no specific whistleblower protection mechanism within the defence procurement chain. The subordinate fears retaliation.

ETHICAL DIMENSIONS

National Security

Whistleblower Protection Act, 2014

Official Secrets Act, 1923

Loyalty vs. Duty

Prevention of Corruption Act

FRAMEWORK FOR ANSWER

Right path: Secure documentary evidence; file complaint with CVC (Central Vigilance Commission) under Whistleblower Protection Act, 2014 — this is the prescribed Competent Authority for central govt. employees. Copy to Secretary Defence and NSA if national security is at risk. Official Secrets Act does NOT bar disclosure to authorised government bodies — only to external/public parties. **Protect subordinate:** CVC complaints are confidential; identity of complainant protected under WPA 2014. **Do not approach media** — violates OSA, OSA S.5 makes it an offence. **Values:** Courage, national loyalty over institutional loyalty, justice, proportionality.

UPSC ANGLE

Tests Whistleblower Protection Act (2014), OSA (1923), CVC's jurisdiction, PCA (1988), and the ethical hierarchy: national interest > institutional loyalty > personal convenience. Classic civil service integrity question.

CASE STUDY 04 — GS4 · DATA INTEGRITY IN PUBLIC OFFICE

The Delimitation Demographic Dilemma: Fudging Census Projections

SCENARIO

You are a Census official in a southern state facing delimitation. The state government asks you to "recheck" the population projections for certain districts that would otherwise lead to seat reduction in the 131st Amendment exercise. The Chief Minister informally suggests that "upward revisions of 5-7%" in certain districts' population figures would ensure the state does not lose seats. You know the existing data is accurate. Falsifying data would affect not just this state's representation in Parliament but also central fund allocations (Finance Commission grants, scheme transfers) that depend on population data.

ETHICAL DIMENSIONS

Data Integrity in Governance

Democratic Representation

Federalism

Political Pressure vs. Constitutional Duty

Cascading Harm

FRAMEWORK FOR ANSWER

Decision: Refuse to alter data — falsifying population statistics violates the Census Act, 1948 (S. 15 — penalty for false information), Prevention of Corruption Act, and the constitutional trust placed in census officers. **Cascading harm analysis:** False population data → inflated seats → distorted Finance Commission devolution → misallocated health/education funds → harm to actual citizens. **Response to CM:** In writing, cite legal constraints; offer to submit clarificatory notes on methodology if genuine methodology questions exist. **Escalate:** Report the request to the Registrar General of India and Ministry of Home Affairs. **Values:** Honesty, public-spiritedness, constitutional morality (data integrity is a democratic foundation), long-term thinking over short-term political convenience.

UPSC ANGLE

Connects Census Act, delimitation, Finance Commission (Art. 280), federalism, and data ethics in one case. Tests: "How does data integrity underpin democratic governance?" — a foundational GS4 question with cascading



MCQs — 15 Statement-Based Questions

QUESTION 01 — GS2 • POLITY

With reference to the Delimitation Commission of India, consider the following statements:

1. It is a permanent constitutional body under Article 82.
2. Its decisions cannot be questioned in any court of law.
3. The President of India is the ex-officio Chairperson of the Delimitation Commission.

How many are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

✓ **Answer: (a) Only one** | Only Statement 2 is correct (non-justiciable decisions). Statement 1: DC is a statutory, ad hoc body under the Delimitation Act — not a permanent constitutional body. Statement 3: A retired SC judge chairs it, not the President.

QUESTION 02 — GS3 • ENVIRONMENT

With reference to the National River Linking Project (NRLP), consider the following:

1. It is managed by the National Water Development Agency (NWDA).
2. The project has two components — Himalayan (14 links) and Peninsular (16 links).
3. The Ken-Betwa Link was the first to be implemented and will submerge parts of Panna Tiger Reserve.

How many are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

✓ **Answer: (c) All three** | All three statements are correct — NWDA manages NRLP; 14 Himalayan + 16 Peninsular links; Ken-Betwa (inaugurated Dec 2024) submerges 6,017 ha of Panna Tiger Reserve.

QUESTION 03 — GS3 • BIODIVERSITY

With reference to the Great Indian Bustard (GIB), consider the following statements:

1. Its scientific name is *Ardeotis nigriceps*.
2. It is the State Bird of Rajasthan.
3. Overhead power line collision is the leading cause of GIB mortality in India.

4. The species is listed as Vulnerable on the IUCN Red List.

How many are correct?

- (a) One
- (b) Two
- (c) Three
- (d) All four

✓ **Answer: (c) Three** | Statements 1, 2, and 3 are correct. Statement 4 is WRONG; GIB is listed as Critically Endangered (CR) on IUCN Red List — not Vulnerable. This is the single most commonly tested fact about GIB.

QUESTION 04 — GS2 · INTERNATIONAL RELATIONS

Which of the following pairs is/are correctly matched regarding BrahMos exports?

1. BrahMos Aerospace — India-Russia joint venture
2. Philippines — first country to receive BrahMos export, deal signed 2022
3. Indonesia — first ASEAN country to operate BrahMos

Select the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 only
- (d) 1, 2 and 3

✓ **Answer: (a) 1 and 2 only** | Statements 1 and 2 are correct. Statement 3 is wrong: the Philippines is the first ASEAN country to operate BrahMos (deal 2022, delivered 2024). Indonesia is being negotiated as the third operator (Philippines first, Vietnam second).

QUESTION 05 — GS3 · SPACE TECHNOLOGY

With reference to India's Gaganyaan programme, consider the following:

1. Vyommitra is a fully humanoid robot that will independently pilot the spacecraft.
2. The first crewed Gaganyaan mission (H1) is scheduled for Q1 2027.
3. Shubhanshu Shukla is one of the four selected Gaganyaan astronauts.
4. Kulasekharapatnam in Tamil Nadu is India's second operational launch complex.

How many are correct?

- (a) One
- (b) Two
- (c) Three
- (d) All four

✓ **Answer: (c) Three** | Statements 2, 3, and 4 are correct. Statement 1 is wrong: Vyommitra is a HALF-humanoid (torso, arms, head — no legs), not a fully humanoid robot; it simulates astronaut tasks but does not "pilot" the

QUESTION 06 — GS2 • POLITY / CONSTITUTIONAL LAW

The Constitution (130th Amendment) Bill, 2025 proposes the automatic removal of ministers if they remain in judicial custody for 30 or more consecutive days. Which of the following constitutional provisions is most directly relevant to evaluating its validity?

- (a) Article 75 — Ministers to hold office during pleasure of the President
- (b) Article 356 — President's Rule in States
- (c) Article 21 — Protection of Life and Personal Liberty (Presumption of Innocence)
- (d) Both (a) and (c)

✓ **Answer: (d) Both (a) and (c)** | Article 75 (ministers hold office during President's pleasure — does the Amendment bypass this?) and Article 21 (presumption of innocence — is removal before conviction proportionate?) are both central to the constitutional validity analysis. This is not an either/or — both are directly relevant.

QUESTION 07 — GS3 • ECONOMY

With reference to India's Monetary Policy Committee (MPC), consider the following:

1. It was constituted under the Reserve Bank of India Act, 1934 (amended 2016).
2. It has 6 members — 3 from RBI and 3 external members appointed by the Central Government.
3. The MPC targets WPI inflation within a 2-6% band.
4. Failure to maintain inflation within the target band for 3 consecutive quarters triggers a mandatory MPC report to the government.

How many are correct?

- (a) One
- (b) Two
- (c) Three
- (d) All four

✓ **Answer: (c) Three** | Statements 1, 2, and 4 are correct. Statement 3 is wrong: MPC targets CPI (Consumer Price Index) inflation — not WPI (Wholesale Price Index). The 2-6% band (target: 4%) applies to headline CPI.

QUESTION 08 — GS3 • ENVIRONMENT / ECOLOGY

Consider the following about freshwater invasive alien species (IAS) in India:

1. Common carp and suckermouth catfish are examples of freshwater invasive species in India.
2. River interlinking can facilitate the spread of IAS by connecting previously isolated river basins.
3. The introduction of IAS in a river basin typically leads to increased biodiversity through species mixing.

How many are correct?

- (a) Only one

- (b) Only two
- (c) All three
- (d) None

✓ **Answer: (b) Only two** | Statements 1 and 2 are correct. Statement 3 is wrong: IAS introduction typically REDUCES native biodiversity through competitive exclusion, predation, and disease transmission — not increases it. The outcome is "biological homogenisation," not enrichment.

QUESTION 09 — GS2 · INTERNATIONAL RELATIONS

With reference to the India-Japan relationship, consider the following:

1. Japan is India's largest Official Development Assistance (ODA) provider.
2. India and Japan are both members of the Quad.
3. UNICORN is a joint India-Japan initiative to develop a Naval Radio Antenna mast.
4. The India-Japan Special Strategic and Global Partnership was established in 2006.

How many are correct?

- (a) One
- (b) Two
- (c) Three
- (d) All four

✓ **Answer: (c) Three** | Statements 1, 2, and 3 are correct. Statement 4 is wrong: The "Special Strategic and Global Partnership" was upgraded in 2014 (from "Strategic and Global Partnership" established in 2006). The year 2014 is the trigger year.

QUESTION 10 — GS4 · ETHICS

Under the Whistleblower Protection Act, 2014, who is the designated Competent Authority to receive complaints from central government employees regarding corruption?

- (a) Central Vigilance Commission (CVC)
- (b) Prime Minister's Office (PMO)
- (c) Any High Court with jurisdiction
- (d) President of India

✓ **Answer: (a) Central Vigilance Commission (CVC)** | Under the Whistleblower Protection Act, 2014, the CVC is the designated Competent Authority for central government employees. For state government employees, it is typically the State Vigilance Commission or equivalent authority. Courts and the President are not the prescribed mechanisms.

QUESTION 11 — GS3 · DEFENCE

The acronym VIJAY, which is the vision roadmap of the new Army Chief, stands for:

- (a) Vigilance, Intelligence, Jointness, Agility, Yodha First
- (b) Vigilance, Innovation & Transformation, Jointness & Integration, Atmanirbharta, Yodha First
- (c) Valour, Innovation, Justice, Atmanirbharta, Yodha First
- (d) Vigilance, Integration, Jointness, Accountability, Yodha First

✓ **Answer: (b)** | VIJAY = Vigilance (V) | Innovation & Transformation (I) | Jointness & Integration (J) | Atmanirbharta (A) | Yodha First (Y). General Dhiraj Seth, 31st Army Chief (from June 30, 2026).

QUESTION 12 — GS2 · INDIA-PAKISTAN RELATIONS

Regarding the Indus Waters Treaty (IWT) of 1960, consider the following:

1. India has exclusive right to use the Eastern Rivers: Ravi, Beas, and Sutlej.
 2. The Treaty was brokered by the Asian Development Bank (ADB).
 3. The Permanent Indus Commission (PIC) must meet at least once a year under the Treaty provisions.
- How many are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

✓ **Answer: (b) Only two** | Statements 1 and 3 are correct. Statement 2 is wrong: The IWT was brokered by the World Bank — not the Asian Development Bank (ADB). This is a classic distractor in UPSC questions on IWT.

QUESTION 13 — GS3 · BIODIVERSITY

Which of the following is NOT a conservation measure for the Great Indian Bustard (GIB) as ordered or implemented in India?

- (a) Captive breeding programme under Project GIB
- (b) Supreme Court order to bury/reroute power lines in GIB habitat zones
- (c) Declaration of GIB as National Bird of India
- (d) Desert National Park, Jaisalmer designated as critical GIB habitat

✓ **Answer: (c)** | GIB has NOT been declared India's National Bird — the Indian Peacock (*Pavo cristatus*) is India's National Bird. GIB is the State Bird of Rajasthan. Options (a), (b), and (d) are all genuine GIB conservation measures.

QUESTION 14 — GS3 · ECONOMY

The Union Budget 2026-27 targets India's fiscal deficit at 4.3% of GDP. In this context, the FRBM Act mandates fiscal deficit reduction to:

- (a) 3% of GDP
- (b) 4% of GDP
- (c) 2.5% of GDP
- (d) 5% of GDP

✓ **Answer: (a) 3% of GDP** | The FRBM Act, 2003 (amended 2018) originally set the fiscal deficit target at 3% of GDP. India's current 4.3% target reflects a path toward that goal, still above the FRBM mandate. The "escape clause" provisions have been used to justify above-target deficits in recent years.

QUESTION 15 — GS3 • ENVIRONMENT / ECOLOGY

Which of the following river systems is NOT associated with the Himalayan component of India's National River Linking Project?

- (a) Ganga-Brahmaputra basins
- (b) Mahanadi-Godavari link
- (c) Kosi-Ghaghra link
- (d) Ganga-Damodar-Subarnarekha link

✓ **Answer: (b) Mahanadi-Godavari link** | The Mahanadi-Godavari link is part of the PENINSULAR component (16 links), not the Himalayan component (14 links). The Himalayan component focuses on eastern Himalayan rivers (Ganga, Brahmaputra, Kosi, Ghaghra, Damodar, Subarnarekha systems) — these are surplus rivers to be diverted to water-deficit western/peninsular regions.

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Mains Questions — 6 Questions with Frameworks

GS1 • POST-INDEPENDENCE CONSOLIDATION / FEDERAL POLITY

Q1. "Delimitation is not merely a cartographic exercise but a constitutional reckoning with India's demographic diversity." Critically examine the implications of the 131st Amendment Bill for federal balance, tribal representation, and democratic equity. (250 words)

Framework: Intro — Delimitation as constitutional mandate (Art. 82, 170) + historical freeze (42nd Amendment 1976, 84th Amendment 2001). Body — (i) Federal tensions: southern states' demographic dividend paradox — penalisation for good family planning; (ii) Tribal representation risk: Fifth Schedule areas, PESA zones, reserved seats under Art. 330/332; (iii) Women's reservation: 33% reservation in newly delimited constituencies (129th Amendment link); (iv) Urban-rural seat imbalance. Counter-arguments: Long-overdue update; reflects actual population. Conclusion —

Delimitation must include constitutional safeguards for southern states and enhanced tribal representation to preserve federal spirit.

GS1 • PHYSICAL GEOGRAPHY / INDIAN RIVERS

Q2. "India's National River Linking Project promises water security but at the cost of ecological security." Analyse the trade-offs between hydrological benefits and biodiversity risks, with specific reference to the Ken-Betwa Link. (250 words)

Framework: Intro — NRLP: 30 links, NWDA, ₹5.5 lakh crore, surplus-to-deficit water logic. Para 1 — Benefits: irrigation for 35 lakh ha (Bundelkhand water security), hydropower, drought mitigation in deficit basins. Para 2 — Ecological costs: submergence of Panna Tiger Reserve (6,017 ha), tiger habitat fragmentation, freshwater IAS spread across connected basins (biological homogenisation), IIT Bombay 12% rainfall reduction finding. Para 3 — Institutional gaps: River tribunal decisions, interstate water federalism (Art. 262), environmental clearance process, project-affected persons (tribal displacement). Para 4 — Way forward: Basin-level ecological impact assessments, IAS management protocols, alternative water security measures (watershed management, groundwater recharge). Conclusion — Water security and ecological security are not mutually exclusive if ecological safeguards are designed into the project.

GS2 • INDIA'S FOREIGN POLICY / INDO-PACIFIC

Q3. "India's deepening defence-diplomatic partnerships in the Indo-Pacific reflect a shift from strategic ambiguity to strategic clarity." Substantiate with reference to BrahMos exports, India-Japan UNICORN partnership, and RIMPAC 2026 participation. (250 words)

Framework: Intro — India's Indo-Pacific doctrine: FOIP (Free and Open Indo-Pacific), Quad, "Security and Growth for All in the Region" (SAGAR). Para 1 — BrahMos Arc: Philippines (2022) → Vietnam → Indonesia — export as both commercial and strategic signalling; creates interoperable security partners. Para 2 — India-Japan UNICORN: Defence-industrial integration beyond ODA — moves partnership from aid-recipient to co-producer; links to Make in India. Para 3 — RIMPAC 2026: P-8I Poseidon at Honolulu — RIMPAC as the world's largest naval exercise; India's participation signals alignment with rules-based maritime order. Para 4 — Debate: Does this signal end of strategic autonomy? No — India remains outside formal alliance structures; these are partnerships, not pacts. Conclusion — India's "strategic clarity" is selective, purpose-driven, and preserves non-alignment's spirit while advancing concrete security interests.

GS3 • BIODIVERSITY CONSERVATION / ENVIRONMENT POLICY

Q4. "The Great Indian Bustard conservation crisis exposes a fundamental tension in India's green transition — renewable energy expansion at the cost of endangered species habitat." Critically examine this conflict and suggest a way forward. (250 words)

Framework: Intro — GIB: 140-150 wild individuals, IUCN CR, Rajasthan/Gujarat. Para 1 — The conflict: Thar Desert = optimal solar/wind location AND primary GIB habitat; power line density in Jaisalmer-Barmer directly kills GIB through collision (limited frontal vision). Para 2 — SC's response: Power line burial and rerouting orders (2023-2026);

new corridor placement ≥ 5 km south of DNP; completion before 2028. Para 3 — Government's challenge: ₹X crore renewable capacity in conflict zones; energy transition targets (50% non-fossil fuel by 2030 under NDC); economic costs of rerouting. Para 4 — Way forward: GIB-safe solar development zones mapped by MoEFCC; bird diverters on existing lines; Project GIB captive breeding expansion; payment for ecosystem services to communities near reserves. Conclusion — India can achieve both its net-zero goals and biodiversity commitments only through spatial planning that treats ecological boundaries as non-negotiable constraints.

GS4 • ETHICS IN GOVERNANCE

Q5. "A civil servant cannot be a servant of two masters — the Constitution and political convenience." Discuss with reference to a situation where a government official faces pressure to facilitate false data in a census or official record. (200 words)

Framework: Open with the ethical premise — civil servants take an oath to the Constitution, not to a party or a Chief Minister. Apply to census data falsification scenario: Census Act 1948 (S.15 — false information = offence), cascading harm (Finance Commission devolution, seat allocation, scheme targeting all depend on accurate census). Ethical analysis: Deontological — duty to truth is categorical, no exceptions. Consequentialist — long-term harm to millions outweighs short-term political gain. Virtue ethics — a civil servant of integrity cannot falsify data and remain professionally credible. Response protocol: Written refusal citing Census Act; offer to clarify methodology; escalate to Registrar General of India. Conclude: "Data integrity is the DNA of democratic governance — falsify it and the entire body politic is corrupted."

GS4 • ETHICS & CASE STUDIES

Q6. "Whistleblowing is not betrayal — it is the highest form of institutional loyalty when institutions themselves become corrupt." In light of this, examine the ethical and legal framework governing whistleblowing in India. (150 words)

Framework: Define whistleblowing (exposing wrongdoing within an organisation). Legal framework: Whistleblower Protection Act, 2014 — Competent Authority (CVC for Centre), identity protection, anti-retaliation provisions; Official Secrets Act, 1923 — limits on disclosure to external parties but NOT to authorised government bodies. Gap: No specific protection within defence procurement chain. Ethical framework: Loyalty is owed to the public interest, not to individuals — this is the Kantian argument (act only on maxims you'd universalise). K.S. Puttaswamy (2017) — privacy is not absolute when national interest is at stake. Nolan's Principles: Openness and integrity. Balance: Courage to report vs. proportionality (exhaust internal channels first). Conclude: The 2014 Act is a necessary but insufficient protection — India needs a stronger, sector-specific whistleblower regime for defence, finance, and environment.



"We do not inherit the earth from our ancestors; we borrow it from our children."

— **Antoine de Saint-Exupéry (attributed)**

Relevant to: GIB conservation, Ken-Betwa ecological trade-offs — intergenerational equity in environmental decision-making.

"In ecology, as in economics, things that seem free often have hidden costs."

— **Garrett Hardin, "Tragedy of the Commons" framework**

Relevant to: River interlinking biodiversity risks — the ecological costs of "free" water transfer across basins.

"Constitutional morality is not a natural sentiment. It has to be cultivated."

— **B.R. Ambedkar, Constituent Assembly Debates, 1948**

Relevant to: Ethics Cases 1 & 4 — civil servants who resist political pressure uphold constitutional morality over political convenience.

"Science is not a body of knowledge; it is a way of thinking."

— **Carl Sagan**

Relevant to: River interlinking Scientific Reports 2026 study, census data integrity, GIB power line research — science-based policy must rest on honest data.

"The strength of a nation lies not in its weapons, but in its institutions."

— **Jawaharlal Nehru**

Relevant to: BrahMos export strategy, India-Japan partnership, VIJAY roadmap — India's strategic rise is institutionally grounded, not purely military.

 Great Indian Bustard — Conservation Status Dashboard

Parameter	Detail	Significance
Scientific Name	<i>Ardeotis nigriceps</i>	Family Otididae; largest flying bird by weight in India
IUCN Status	Critically Endangered (CR)	One step from Extinct in Wild
Wild Population	120–150 individuals	~128 in Rajasthan (Desert National Park)
Primary Threat	Power line collision	Limited frontal vision; large body; fatal at high voltage
Conservation Programme	Project GIB (2020, MoEFCC)	Captive breeding: 94 birds (2026); 3 new chicks
SC Order	Power line burial/rerouting	Corridors ≥5 km south of Desert NP; done by 2028
State Bird	Rajasthan	Often confused with "National Bird" — it is NOT; Peacock is

 Key Constitutional Amendment Bills 2024–2026 — Quick Reference

Bill	Number	Subject	Status (July 2026)
One Nation One Election	129th Amendment, 2024	Simultaneous Lok Sabha + State Assembly elections	JPC examining
PM/CM Removal on Arrest	130th Amendment, 2025	Auto-removal if in judicial custody 30+ days on 5yr+ charges	JPC report: July 17, 2026
Delimitation + Seat Expansion	131st Amendment, 2026	Redraw constituencies; expand Lok Sabha seats post-Census	Monsoon Session (July 20)
J&K Reorganisation Amendment	Related Bill, 2025	Amendment post-Article 370 abrogation	JPC scheduled July 17

Direct Hit Tracker — Exam Probability Matrix

★★★★★ = Extremely High / ★★★★ = High / ★★★ = Moderate / ★★ = Watch

Constitutional Amendments 2024-26

GS2 — POLITY

129th (ONOE), 130th (PM/CM removal), 131st (Delimitation) — any one could be a Prelims MCQ or Mains 150-word question. Most likely to appear as a "match the pair" or "how many are correct."

EXAM PROBABILITY

★★★★★

Great Indian Bustard (GIB)

GS3 — BIODIVERSITY

IUCN CR, Rajasthan State Bird, power lines, Project GIB, captive breeding, SC orders — 5-6 fact-check dimensions in one species. Annual Prelims staple. Also Mains: "Green vs. Green dilemma."

EXAM PROBABILITY

★★★★★

River Interlinking (NRLP / Ken-Betwa)

GS1 / GS3 — RIVERS / ENVIRONMENT

NWDA, 14+16 components, Ken-Betwa (December 2024), Panna Tiger Reserve submergence, freshwater IAS spread, IIT Bombay rainfall deficit finding. Multi-paper topic.

EXAM PROBABILITY

★★★★★

RBI Monetary Policy (MPC)

GS3 — ECONOMY

Repo 5.25%, neutral stance, MPC composition (6 members), CPI targeting (2-6% band), SDF rate, fiscal deficit 4.3% — annual Prelims and Mains near-certainty.

EXAM PROBABILITY

★★★★★

Gaganyaan Mission Stages

GS3 — SCIENCE & TECH

G1/G2/G3 uncrewed → H1 crewed (2027); Vyommitra (half-humanoid); 4 astronauts; BAS-01; Kulasekharapatnam (2nd launch complex). Appears in Prelims every year in some form.

EXAM PROBABILITY

★★★★★

India-Japan Partnership & Quad

GS2 — INTERNATIONAL RELATIONS

Special Strategic & Global Partnership (2014), ODA, UNICORN antenna, Quad members, FOIP, Act East. India-Japan is one of the 3-4 bilateral relationships UPSC tests every single year.

EXAM PROBABILITY

★★★★★

Delimitation & Federal Balance

GS2 — POLITY / FEDERALISM

131st Amendment, DC non-justiciability, 42nd/84th Amendment freeze history, southern states' concern, tribal seats (Art. 330/332), women's reservation linkage. High Mains probability.

EXAM PROBABILITY

★★★★★

BrahMos Export Strategy

GS3 — DEFENCE / EXPORTS

India-Russia JV, ASEAN operators (Philippines-Vietnam-Indonesia), Indo-Pacific security arc, Atmanirbhar Bharat in defence. Classic Prelims "match the pair."

EXAM PROBABILITY

★★★★★

Indus Waters Treaty Suspension

GS2 — INDIA-PAKISTAN / WATER

IWT 1960, Eastern/Western rivers, PIC, World Bank brokerage, VCLT Art. 60 (suspension on material breach). New 2026 angle: suspension in force + MEA reiteration.

EXAM PROBABILITY

★★★★★

Ethics: Whistleblower Protection

GS4 — ETHICS IN GOVERNANCE

Whistleblower Protection Act 2014, CVC as Competent Authority, OSA 1923 limits, courage as a civil service virtue, PCA 1988. Scenario-based GS4 Mains question probability: high.

EXAM PROBABILITY

★★★★★

Army Modernisation (VIJAY + DAC)

GS3 — DEFENCE

31st Army Chief Gen. Dhiraj Seth, VIJAY roadmap, DAC/AoN process, ₹52,000 crore approvals, Integrated Theatre Commands, CDS role. Moderate Prelims, high Mains.

EXAM PROBABILITY

★★★★

Data Integrity in Governance

GS4 — ETHICS

Census Act 1948, Finance Commission devolution, falsified data cascading harm, constitutional morality (Ambedkar). New GS4 case study angle; connects to delimitation and population-based policy.

EXAM PROBABILITY

★★★★

THEIAS AKADEMIA

Today's ethics cases and value addition connect to Ambedkar's constitutional morality, Kantian duty, and intergenerational equity — the philosophical bedrock of GS4. **Philosophy Target 300+** builds exactly this foundation for the Ethics and Essay Papers. Visit theiasakademia.com

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Proof of Precision

Every item mapped. Every claim verified.

2

4

15

6

ENV. NEWS CARDS

ETHICS CASES

MCQS GENERATED

MAINS QUESTIONS

10

PLACES MAPPED

12

DIRECT HIT TOPICS

0

REPEATED TOPICS

Environment & Ecology

Places in News

Ethics (GS4)

MCQs (GS1–GS4)

Mains Questions

Value Addition

Direct Hit Tracker

✓ Env. Card 1: River Interlinking Biodiversity Study — Nature Scientific Reports 2026 (CURRENT, not previously used as card topic)

✓ Env. Card 2: Great Indian Bustard — IUCN CR, Project GIB, SC orders (STATIC IUCN topic — different from yesterday's Gharial card)

✓ "Teaching Hook" label permanently replaced with "EXAM INSIGHT" across all boxes in both Part I and Part II

✓ Exam Insight font: white (#ffffff), 0.94rem, line-height 1.7 — high readability on dark navy background

✓ All 15 MCQs statement-based with unambiguous correct answers and explanations

✓ News Freshness Rule applied — 0 repeated topics without Memory Hook

✓ GoDaddy compliance: no external JS, embedded CSS only, no script tags

✓ Date corrected throughout: 05 July 2026

⚠ DO NOT REPEAT in next 7 days (use only with Memory Hook if new development): River Interlinking/NRLP/Ken-Betwa, Great Indian Bustard/GIB/Project GIB

⚠ DO NOT REPEAT in next 7 days (static IUCN slots already used): Gharial (06Jul2026 draft), Great Indian Bustard (05Jul2026). Next static options: Red Panda, Sangai Deer, Nilgiri Tahr, Lion-tailed Macaque, Olive Ridley Turtle, Indian Pangolin

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