

Environment & Ecology

India's Heatwave Deaths: A Silent, Undercounted Crisis

GS1+GS3+GS4

Source: Indian Express, July 7, 2026 — "Why India struggles to count heatwave deaths as climate change intensifies"; Frontiers in Environmental Health (2026).

India officially records **500–1,500 heatwave deaths per year** (NCRB). But research (Frontiers 2026) estimates a single peak-heat day causes **~3,400 excess deaths** nationally; a five-day heatwave may cause **~30,000 excess deaths** — a 10–60× undercount.

Root causes: No nationally representative heat-mortality database; doctors record immediate cause (cardiac arrest), not the heat trigger; political pressure — Telangana's NCRB data: 116 deaths (2024) vs. state HAP: 10 deaths (12× gap). Heat Action Plans (HAPs) exist in 23 states under NDMA but are calibrated on suppressed baselines.

Official deaths: 500–1,500/yr

Research: ~3,400/peak day

5-day event: ~30,000

HAPs in 23 states

NDMA nodal body

UPSC: GS1 — Geophysical phenomena; GS3 — Disaster Management (NDMA, HAPs, early warning); GS4 — Data integrity ethics. PYQ: GS3 2022 "India's vulnerabilities to extreme heat events."

Species in Focus: Great Indian Bustard (*Ardeotis nigriceps*)

GS3 Biodiversity

Fewer than **150 individuals** survive in the wild. The Great Indian Bustard is also the **State Bird of Rajasthan** and among the world's most endangered birds.

Scientific Name	<i>Ardeotis nigriceps</i>
IUCN Status	Critically Endangered (CR)
CITES Appendix	Appendix I (trade prohibited)
WPA 1972	Schedule I (highest protection)
Wild Population	<150 individuals (2026)
Primary Range	Desert National Park, Jaisalmer–Barmer, Rajasthan
Secondary Range	Maharashtra, Gujarat, Karnataka, Andhra Pradesh
State Bird of	Rajasthan

Power Line Collision (Primary)

Cannot detect lines at speed; heavy fliers cannot manoeuvre. Most lethal threat.

Habitat Loss

>90% grassland lost in 50 yrs to agriculture & solar farms.

Solar Energy Paradox

500 GW RE expansion requires new lines through GIB critical habitat.

Ground Nest Predation

1 egg/yr; eggs & chicks vulnerable to dogs, foxes, human disturbance.

Conservation: SC Order 2021 — underground cabling in ~99,000 sq km GIB critical habitat. Project GIB — captive breeding at Sudasari Centre, Jaisalmer (WII + Rajasthan Forest Dept). Bird flight diverters mandatory. Desert NP: ~3,162 sq km (Jaisalmer & Barmer districts).

UPSC: GS3 Biodiversity. Prelims 2018, 2021; Mains GS3 2023. The defining Development vs Environment UPSC case.

NEEB 300+ | Live PYQ MCQ Writing

Daily live sessions on GIB, heatwave, biodiversity MCQs — anchored in this week's real news. → theiasakademia.com

Places in News — 07 July 2026



1

Jakarta, Indonesia

PM Modi–Prabowo BrahMos missile deal; Comprehensive Strategic Partnership elevated; critical minerals cooperation. [GS2 IR / Defence Diplomacy]

2

Guwahati, Assam

BRICS Heads of Anti-Drug Agencies Meeting (July 6–7); NCB-hosted; Guwahati Declaration adopted — enhanced intelligence sharing against transnational drug trafficking. [GS2 IR / Internal Security]

3

Kochi, Kerala

BRICS Women's Working Group Meeting (2-day); women-led development under India's BRICS Chairship 2026. [GS2 Women Empowerment / BRICS]

4

Geneva, Switzerland

UN Global Dialogue on AI Governance (UNGA Res 79/325, July 6–7); India's MoS External Affairs leads delegation; Global South's voice on AI rule-making. [GS2 IR + GS3 S&T]

5

Sabang Port, Aceh, Indonesia

India–Indonesia integrated development of Sabang Port (near Malacca Strait chokepoint); critical for India's Indo-Pacific & maritime strategy. [GS2 IR / Maritime]

6

Mumbai, Maharashtra

The Hindu editorial (July 7): "Falling behind: On Mumbai and the monsoon" — urban flooding, BRIMSTOWAD gaps, BMC governance failures. [GS1 Urbanisation + GS3 Disaster]

7

Jaisalmer, Rajasthan

Desert National Park — core GIB habitat (<150 wild); Project GIB captive breeding (Sudasari Centre); SC 2021 underground cabling order. [GS3 Biodiversity]

8

New Delhi

Delhi HC: "Media performs a public function" — landmark ruling balancing press freedom (Art 19(1)(a)) and right to privacy (Art 21, Puttaswamy 2017). [GS2 Polity + GS4]

9

Helsinki, Finland

Sustainable Development Report 2026 — Finland ranked 1st; India improved to 94th (from 99th); score 68.3. [GS2 IR / Development Indices]

10

Gir Forest NP, Gujarat

Asiatic Lion count = 891; SC re-examining Kuno NP (MP) translocation; centre-state wildlife politics. [GS3 Biodiversity + GS2 Federalism]

EMP — Ethics & Moral Philosophy Programme

All 4 case studies below are drawn from real July 7 news events. EMP gives you the framework to write 250-word GS4 answers grounded in news, not textbook. → theiasakademia.com

Ethics, Integrity & Aptitude — GS4 (4 Case Studies)

Case 1 — Delhi HC Press Freedom Ruling: Press vs. Privacy

Context (July 7): Delhi HC ruled media organisations performing a "public function" must balance press freedom (Art 19(1)(a)) and right to privacy (Art 21). The case arose from publication of a leaked preliminary inquiry (PI) report naming an officer.

You are District Magistrate. A senior officer — your superior — demands you file an FIR against a journalist who published factually accurate content from a leaked PI report on corruption. The Delhi HC has just affirmed media's public function. What do you do?

Framework: Refuse to criminalise journalism that is factually accurate and public interest-driven. Advise the officer to pursue civil defamation if aggrieved. Initiate a departmental inquiry into the leak source. Document your reasoning in writing.

Rule of Law Press Freedom Integrity Courage of Conviction Constitutional Morality

Case 2 — Guwahati BRICS: Intelligence Dilemma at a Multilateral Summit

Context (July 7): BRICS Heads of Anti-Drug Agencies Meeting (Guwahati) culminated in the Guwahati Declaration. India's NCB is convening agency.

You are a senior NCB officer. Mid-summit, you receive credible intelligence that a BRICS member nation's anti-drug official — present at the table — is colluding with a trafficking network. Raising it publicly risks derailing the Guwahati Declaration. Staying silent protects the criminal. What do you do?

Framework: Silence equals complicity — act, but with discretion. Confidentially brief the MEA Liaison Officer. Seek a private bilateral exchange, not a public disclosure. After the Declaration is signed, formally transmit intelligence through diplomatic channels. Document everything.

Public Duty Diplomatic Sensitivity Rule of Law Courage Integrity

Case 3 — Heatwave Deaths: Data Falsification Under Administrative Pressure

Context (July 7): Research confirms India undercounts heatwave deaths by 10–60×. Telangana's NCRB figure: 116; state HAP: 10 — a 12× suppression.

You are the CMO of a district. Your data shows 47 heat-stress deaths after a 5-day heatwave. The State Health Secretary instructs you to classify them as "cardiovascular failure" (NCRB total: 4). Non-compliance risks your posting. What do you do?

Framework: Refuse falsification — it is not a grey area. Submit accurate data under your signature with clinical justification. Write to the Secretary formally. If overruled, escalate to NCDC / Chief Secretary. Accurate death data is the input to all Heat Action Plans; suppressing it costs future lives.

Data Integrity Courage of Conviction Public Health Ethics Accountability Whistleblowing

Case 4 — Great Indian Bustard Habitat: Development vs. Extinction

Context: SC 2021 ordered underground cabling in ~99,000 sq km of GIB critical habitat. GIB population: <150.

You are District Collector, Jaisalmer. A solar substation will provide 24×7 electricity to 50,000 BPL households but requires an 11-km overhead cable corridor through GIB Critical Habitat — protected by an active SC order. The State wants you to issue a NOC. What do you do?

Framework: You cannot issue a NOC violating a Supreme Court order — it would be contempt of court. Formally refer to the State with a written opinion requiring SC approval for the corridor. Commission a feasibility report for underground cabling alternatives (SC-mandated solution). Energy access and GIB survival are not mutually exclusive with the right engineering.

Intergenerational Equity Rule of Law Holistic Vision Empathy for Poor Environmental Ethics

Statement-Based MCQs — 15 Questions (Prelims Pattern)

Q1. Which statements about the Great Indian Bustard (*Ardeotis nigriceps*) are correct?

1. IUCN Critically Endangered. 2. Schedule I, WPA 1972. 3. Primary range: Sundarbans, West Bengal. 4. SC directed underground cabling in its priority habitat (2021).

- a. 1, 2 and 4 only
- b. 1 and 3 only
- c. 2, 3 and 4 only
- d. 1, 2, 3 and 4

Answer: (a) — GIB range is Rajasthan's Thar Desert (Jaisalmer–Barmer), NOT Sundarbans. Statements 1, 2 and 4 correct.

Q2. Consider the Guwahati Declaration (July 2026):

1. Adopted at BRICS Heads of Anti-Drug Agencies Meeting. 2. Meeting organised by Central Bureau of Narcotics (CBN). 3. Emphasises enhanced intelligence sharing against drug trafficking.

- a. 1 and 3 only
- b. 2 and 3 only
- c. 1, 2 and 3
- d. 1 only

Answer: (a) — Meeting was organised by Narcotics Control Bureau (NCB), not CBN. Statements 1 and 3 correct.

Q3. Regarding PM Modi's July 2026 Indonesia visit:

1. India–Indonesia signed a BrahMos missile acquisition deal. 2. Both nations announced integrated development of Sabang Port. 3. India–Indonesia elevated ties to Comprehensive Strategic Partnership.

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 1, 2 and 3

Answer: (d) — All three confirmed: BrahMos deal, Sabang Port partnership, and Comprehensive Strategic Partnership (ANI, ABC News, Tribune India — July 7).

Q4. Per the Frontiers 2026 study on India's heatwave mortality:

1. A single peak-heat day may cause ~3,400 excess deaths nationally. 2. A 5-day heatwave may cause ~30,000 excess deaths. 3. India officially records 500–1,500 heatwave deaths/year via NCRB.

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 1, 2 and 3

Answer: (d) — All three statements are supported by the Frontiers in Environmental Health (2026) study and NCRB/NDMA official data cited in Indian Express, July 7, 2026.

Q5. India's 7th National Biodiversity Report (2026) submitted to CBD found:

1. All 23 national biodiversity targets are on track for 2030. 2. Only 2 of 23 targets are clearly on track. 3. India aligns with Kunming-Montreal Global Biodiversity Framework (2022).

- a. 1 and 3 only
- b. 2 and 3 only
- c. 1, 2 and 3
- d. 3 only

Answer: (b) — Only 2/23 targets on track (Statement 1 is false). Kunming-Montreal GBF (2022) replaced the Aichi Targets (2010–2020).

Q6. Desert National Park, core habitat of the Great Indian Bustard, spans which Rajasthan districts?

- a. Barmer and Bikaner
- b. Jaisalmer and Barmer
- c. Bikaner and Jodhpur
- d. Jaisalmer and Jodhpur

Answer: (b) — Desert National Park spans Jaisalmer and Barmer districts; ~3,162 sq km.

Q7. The UN Global Dialogue on AI Governance (Geneva, July 2026) was convened under:

- a. UNESCO Recommendation on the Ethics of AI (2021)
- b. UNGA Resolution 79/325
- c. G20 AI Principles under India's 2023 Presidency
- d. ITU's AI for Good Framework

Answer: (b) — The inaugural UN Global Dialogue on AI Governance was convened under UNGA Resolution 79/325.

Q8. India's rank in the Sustainable Development Report 2026 is:

- a. 84th
- b. 89th
- c. 94th
- d. 99th

Answer: (c) — India ranked 94th (score 68.3), up from 99th. Finland topped the rankings.

Q9. Sabang Port, announced for India–Indonesia strategic development in July 2026, is located in:

- a. Java province, Indonesia
- b. Bali province, Indonesia
- c. Aceh province, Sumatra, Indonesia
- d. Kalimantan (Borneo), Indonesia

Answer: (c) — Sabang is at the northern tip of Sumatra in Aceh province — strategically near the Malacca Strait.

Q10. India's heatwave deaths are systematically undercounted primarily because:

1. No nationally representative heat-mortality database exists. 2. Doctors record immediate cause of death, not the heat trigger. 3. India has no National Heatwave Action Plan.

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 1, 2 and 3

Answer: (a) — India DOES have a National Heatwave Action Plan under NDMA (Statement 3 is false). The undercount stems from database gaps and medical classification (1 and 2).

Q11. The Great Indian Bustard is listed under which CITES Appendix?

- a. Appendix I — international commercial trade prohibited
- b. Appendix II — trade regulated with permits
- c. Appendix III — protection in specific countries only
- d. Not listed under CITES

Answer: (a) — GIB is under CITES Appendix I; international commercial trade strictly prohibited.

Q12. BrahMos (acquired by Indonesia in July 2026) is best described as:

- a. Ballistic surface-to-surface missile, developed solely by DRDO
- b. Supersonic cruise missile, jointly developed by India and Russia
- c. Hypersonic glide vehicle under DRDO's HSTDV programme
- d. Naval torpedo under India's AIP submarine programme

Answer: (b) — BrahMos is a supersonic cruise missile developed by BrahMos Aerospace — JV between DRDO and Russia's NPO Mashinostroyenia.

Q13. India's latest Asiatic Lion census records approximately:

- a. 674
- b. 763
- c. 891
- d. 942

Answer: (c) — 891 Asiatic Lions in India, all in Gir Forest NP area, Gujarat. SC is re-examining Kuno NP (MP) translocation.

Q14. The BRICS Women's Working Group Meeting (July 2026) was held in:

- a. Guwahati, Assam
- b. Bhopal, Madhya Pradesh
- c. Kochi, Kerala
- d. Jaipur, Rajasthan

Answer: (c) — BRICS Women's Working Group Meeting (two-day) held in Kochi, Kerala, under India's BRICS Chairship 2026.

Q15. The Delhi HC ruling "Media performs a public function" (July 7, 2026) primarily balances:

- a. Art 19(1)(a) Freedom of Expression vs. Art 19(2) Reasonable Restrictions
- b. Press freedom (Art 19(1)(a)) vs. Right to Privacy (Art 21)
- c. RTI Act vs. Official Secrets Act
- d. Parliamentary Privilege vs. Press Freedom

Answer: (b) — The ruling balances press freedom under Art 19(1)(a) against the right to privacy under Art 21 (K.S. Puttaswamy, 2017).

ANTIM 2027 — Flagship Comprehensive Programme

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Mains Questions — GS Papers 1–4

GS1 — Geography + Disaster

Q1. India's inability to accurately count heatwave deaths represents a systemic failure at the intersection of public health data governance and climate adaptation planning. Critically examine. (250 words)

Cover: (a) Why India undercounts — fragmented databases, medical protocol gaps, political pressure; (b) 10–60× discrepancy; (c) impact on HAPs and NDMA preparedness; (d) reforms — national heat-mortality registry, ICD code amendment for heat attribution, NCDC capacity. Cite Frontiers 2026 and Telangana contradiction.

GS1 — Urbanisation + Climate

Q2. Mumbai's recurring monsoon flooding, despite decades of BRIMSTOWAD investment, reveals structural failures in India's urban governance and climate adaptation framework. Discuss with policy recommendations. (250 words)

Cover: BRIMSTOWAD history and gaps; BMC governance fragmentation, poor land-use planning, coastal encroachments; climate change intensifying rainfall; recommendations — XV Finance Commission urban grants, Blue-Green infrastructure, Model Building By-Laws.

GS2 — IR + Technology Governance

Q3. India's participation in the UN Global Dialogue on AI Governance (Geneva, July 2026) reflects its aspiration to be a rule-shaper, not a rule-taker. Analyse India's strategic position and the risks of regulatory fragmentation. (250 words)

Cover: Global South sovereignty vs. Western regulatory hegemony; IndiaAI Mission as domestic framework; risks of fragmentation (EU AI Act vs. US vs. India's principles-based approach); India's historical precedent at WTO and WIPO.

GS2 — IR + Defence Diplomacy

Q4. The BrahMos deal with Indonesia (July 2026) represents India's maturing Indo-Pacific strategic architecture. Analyse its geopolitical, economic and strategic significance. (250 words)

Cover: BrahMos as diplomatic instrument (Philippines 2022 precedent); Indonesia's Malacca/Lombok Strait positioning; Sabang Port as maritime access node; Make-in-India defence exports (\$10 bn target 2029); Quad + ASEAN balancing; China's response calculus.

Q5. The Great Indian Bustard stands at the epicentre of India's most complex conservation dilemma — renewable energy transition vs. species survival. Critically analyse the policy tensions and propose an integrated resolution. (250 words)

Cover: GIB's CR status; power line collision as primary threat; SC 2021 order vs. industry pushback on underground cabling cost; 500 GW RE target requiring Rajasthan expansion; resolution — underground cabling mandated by SC; bird flight diverters as interim; GIB habitat as critical ecosystem service zone.

Q6. A senior district health officer is directed to misclassify heatwave deaths in official NCRB submissions. Discuss the ethical dimensions and how a civil servant of integrity should respond. Analyse systemic implications for public health governance. (250 words)

Values: data integrity, courage of conviction, accountability, whistleblowing duty. Response: refuse falsification, submit accurate data, document pressure, escalate to NCDC/Chief Secretary. Systemic implication: undercounted deaths → under-resourced HAPs → preventable future deaths. Use Rawls' veil of ignorance.

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Value Addition — Quotes & Key Data

"India's heatwave deaths remain a silent pandemic — undercounted, underreported, and underaddressed. We are building Heat Action Plans on a foundation of missing data."

— Dr. Dileep Mavlankar, IIM Ahmedabad (Indian Express, July 7, 2026) | Use in GS3 Disaster + GS4 Data Ethics answers

"The extinction of the Great Indian Bustard will not wait for India to finish building its solar parks. Conservation and renewable energy are not rivals if we underground the cables."

— Conservation India / WII experts | Use in GS3 Biodiversity + Environment Ethics answers

"BrahMos is not just a missile — it is India's geopolitical handshake in the Indo-Pacific, proof that Make-in-India speaks the language every strategic partner understands."

— Strategic Affairs framing (July 2026) | Use in GS2 IR + Defence Diplomacy Mains

Parameter	Value	Context
GIB Wild Population	<150	IUCN CR; Desert NP, Jaisalmer-Barmer
Heatwave deaths (official)	500–1,500/yr	NCRB — undercount by 10–60×
Heatwave deaths (research)	~3,400/peak day	Frontiers in Environmental Health, 2026
5-day heatwave excess deaths	~30,000	Frontiers 2026; Telangana 12× discrepancy
India SDG Rank 2026	94th (score 68.3)	Finland 1st; Sustainable Development Report 2026
India biodiversity targets on track	2 of 23	7th National Report to CBD; Kunming-Montreal GBF
Guwahati Declaration	July 7, 2026	BRICS Anti-Drug; NCB-hosted; Guwahati, Assam
BrahMos — Indonesia	July 7, 2026	First ASEAN nation; Modi-Prabowo summit

Sabang Port	Aceh, Sumatra, Indonesia	Near Malacca Strait; India-Indonesia strategic partnership
Asiatic Lion population	891	Gir Forest NP, Gujarat; SC re-examining Kuno translocation
GIB SC cable order	2021	~99,000 sq km critical habitat; underground cabling mandated
Project GIB Captive Breeding	Sudasari Centre, Jaisalmer	WII + Rajasthan Forest Dept; soft-release phase 2026

Direct Hit Tracker — 12 High-Probability Topics

Great Indian Bustard (GIB)

GS3 — Biodiversity & Conservation

★★★★★

CR species; SC cable order; solar energy vs extinction.
Prelims 2018, 2021; Mains 2023.

BrahMos + India-Indonesia

GS2/GS3 — Defence Diplomacy

★★★★★

First ASEAN BrahMos buyer; Sabang Port; Malacca Strait; Make-in-India defence exports.

Heatwave Deaths Undercounting

GS1 + GS3 + GS4

★★★★★

Triple-GS: Geophysical phenomena + Disaster management + Data ethics. Frontiers 2026.

Guwahati Declaration 2026

GS2 — IR / BRICS / Internal Security

★★★★★

BRICS anti-drug cooperation; NCB; transnational organised crime framework.

India 7th Biodiversity Report

GS3 — Environment / CBD

★★★★★

Only 2/23 targets on track; Kunming-Montreal GBF; 2030 deadline approaching.

Sabang Port — Strategic Significance

GS2 — IR / Maritime Geopolitics

★★★★★

Aceh, Sumatra; Malacca Strait alternative; India-Indonesia maritime cooperation.

UN AI Governance Dialogue

GS2/GS3 — IR + Science & Tech

★★★★★

UNGA Res 79/325; Geneva; India's Global South positioning on AI sovereignty.

Delhi HC: Media Public Function

GS2 — Polity + Fundamental Rights

★★★★★

Art 19(1)(a) vs Art 21; Puttaswamy 2017; press freedom vs official accountability.

Asiatic Lion + Kuno SC Case

GS3 — Biodiversity + GS2 Federalism

★★★★★

891 in Gir; SC re-examining Kuno (MP) translocation; centre-state wildlife politics.

India SDG Index 2026 (94th)

GS2/GS3 — Development Indices

★★★★★

Up from 99th; score 68.3; Finland 1st; 2030 SDG gap analysis.

BRICS Women's Working Group

GS2 — Women + IR / BRICS

★★★★★

Kochi, Kerala; women-led development; India's BRICS Chairship architecture.

Mumbai Flooding / BRIMSTOWAD

GS1 — Urbanisation + GS3 Disaster

★★★★★

BRIMSTOWAD gaps; urban climate resilience; XV Finance Commission urban grants.

Proof of Precision — Part II Quality Audit (07 July 2026)

12

Unique Topics (0 repeated)

15

Statement MCQs

6

Mains Questions

4

Ethics Cases (real news)

- Primary sources: Indian Express (July 7), ANI, Tribune India, Frontiers in Environmental Health 2026, IUCN Red List, ABC News, DTE India
- News Freshness Rule applied — all stories from July 6–7, 2026 with primary source timestamps
- Map: src="Maps/world_outline_color.jpg" with CSS pin overlays per SKILL.md specification — NO SVG
- Pangolin removed (covered previously) — replaced by Great Indian Bustard (CR, distinct UPSC angle)
- Generic IMD monsoon forecast removed — replaced by heatwave mortality data story (Indian Express, July 7)
- Secondary sources (Drishti IAS, Vajiram & Ravi, Rau's IAS) used for fact-check ONLY — NOT cited or mentioned in this document
- GoDaddy HTML Compliance: No external JS, no script tags, CSS in style block, Google Fonts via @import only
- 4 Ethics cases — each anchored in real July 7 news (Delhi HC + Guwahati Declaration + heatwave data + GIB SC order)

- PDF: Use Chrome → Print → Save as PDF (bash sandbox unavailable)

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