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JULY 31



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Pellet guns part of graded police response, says SC

Top court touches on 'exceptional circumstances' for their use without expanding on it; state must not meet students' protests with brutality, Bench says, but flags the possible 'hijacking' of protests

Krishnadas Rajagopal
NEW DELHI

The Supreme Court on Thursday said the use of pellet guns by the police in "exceptional circumstances" was part of a graded approach to break civilian protests. The court, however, did not expand on which "exceptional circumstances" justified the use of pellet guns, nor did it ask the Union government for an explanation during the hearing.

"Police rules allow the use [of pellet guns] in exceptional circumstances. One of the graded responses is the use of pellet guns," Justice Joymalya Bagchi, one of the three judges on the Bench headed by Chief Justice of India Surya Kant, observed orally. Hesitant to consider a blanket ban on pellet guns, the court said it would examine particular incidents during which the police had used pellet guns indiscriminately or arbitrarily in violation of the standard regulations mapping graded responses for crowd control.

The court was hearing a petition filed by former Indian Police Service (IPS) officer Yashovardhan Azad, and two pellet injury victims, Prashant Kumar



The use of such projectile activated guns for crowd dispersal fails the constitutional tests of necessity, proportionality, and reasonableness

PETITION AGAINST PELLET GUNS



Police rules allow the use [of pellet guns] in exceptional circumstances. One of the graded responses is the use of pellet guns

JUSTICE JOYMALYA BAGCHI
Supreme Court judge



Singh and Sheikh Irshad Mansoori, primarily for a direction to ban the use of kinetic metallic pellets by law enforcement agencies on civilian assemblies.

Constitutional tests

The petition argued that the use of projectile-activated guns (PAG) or pellet guns loaded with partly or wholly metallic pellets for crowd dispersal fails the constitutional tests of necessity, proportionality, and reasonableness.

Though the court "completely agreed" that the state must meet students' protests with non-violence and not brutality, the Bench flagged the possibility of unscrupulous elements "hijacking" a bona fide students' protest, driv-

ing it into a spiral of violence. The police have to be prepared with a graded response, which includes the use of force, to every possible turn of events while dealing with a restive crowd, the court said.

"We are completely in agreement with pleas of no-violence principle when it comes to agitation of students or persons expressing dissatisfaction with a government policy... But there is also the question of elements hijacking students' protests. A protest must have started with a bona fide purpose, but it may end up as a vehicle for various ulterior purposes... The hijacking may even be intended to sabotage the bona fide protests," Justice Bagchi said.

No adverse action over CJP protest, says Delhi govt.

NEW DELHI

The Delhi government issued an order stating no adverse legal action will be taken against people involved in the protests against the NEET-UG paper leaks. "The protection shall not extend to persons having criminal antecedents," the order said. » [PAGE 4](#)

Justice Bagchi sounded out the Centre on the need to arm the police with protective gear. This, he said, would give personnel the confidence of a precious few seconds to think before unleashing violence.

"The best way is to arm your police with defensive gear. That gives them the confidence to ponder... Everyone is a human being. If someone comes with a lathi at you... if you wear a helmet, you would take a few more seconds to gauge the situation before deciding the course of action. These aspects must also be included in this debate here," Justice Bagchi said.

KASHMIR'S PELLET VICTIMS
» [PAGE 4](#)

- **Key Terms and Explanations**
- **Graded Police Response**
 - **Definition:** A doctrine of crowd control wherein law enforcement agencies apply force in a calibrated, step-by-step manner. Force escalates strictly in proportion to the level of threat posed by an assembly.
 - **Mechanism:** It begins with non-violent interventions (verbal warnings, negotiations, physical barricades), moves to low-impact physical measures (water cannons, tear gas), and advances to kinetic projectiles or lethal force only as an absolute last resort.
- **Projectile Activated Guns (PAG) and Pellet Guns**
 - **Definition:** Specialized pump-action shotguns designed to fire cartridges containing hundreds of small, metallic (often lead) pellets. Classified as "less-lethal" weapons, they aim to disperse aggressive crowds over wide areas.
 - **Operational Dynamics:** Upon discharge, the cartridge bursts, spraying pellets in an expanding cone. While intended to cause non-fatal pain, the unpredictable spread frequently strikes vulnerable areas above the waist, including the eyes, neck, and vital organs.
- **Constitutional Tests: Necessity, Proportionality, and Reasonableness**
 - **Definition:** A three-tiered judicial framework used by courts to evaluate whether state action unlawfully infringes upon Fundamental Rights guaranteed under the Constitution.
 - **Necessity:** The state must prove that no less intrusive alternative exists to achieve a legitimate objective (e.g., maintaining public order).
 - **Proportionality:** The severity of the force used must directly match the level of threat posed, ensuring the harm caused does not outweigh the objective.
 - **Reasonableness:** State action must be non-arbitrary, objective, and guided by clear procedural safeguards rather than personal discretion.
- **Subversive Hijacking of Protests**
 - **Definition:** The tactical infiltration of genuine, non-violent civic agitations (such as student or labor demonstrations) by hostile, external, or opportunistic actors seeking to provoke state violence or sabotage legitimate grievances.
 - **Impact on Governance:** It complicates law enforcement by blurring the line between peaceful dissenters exercising constitutional rights and violent instigators threatening public safety.
- **Standard Operating Procedures (SOPs) and Rules of Engagement**
 - **Definition:** Codified executive instructions and police manuals that dictate the precise conditions, approval hierarchy, and technical methods for deploying force during civil unrest.
 - **Key Mandate:** SOPs routinely require warning the assembly prior to action, aiming below the waist, using the minimum necessary force, and providing immediate medical assistance to the injured.

Main Arguments and Substantive Parts

The Executive Mandate for a Graded Force Continuum

- **Calibrated Intervention:** Law enforcement frameworks maintain that police must possess a wide spectrum of tools—ranging from tear gas to kinetic projectiles—to respond dynamically to changing crowd behavior.
- **The Threat of Mob Violence:** Security agencies contend that complete prohibition of intermediate kinetic options leaves an unsafe operational gap. Without less-lethal options like pellet guns, police faced with intense stone-pelting or armed crowds might be forced to choose between retreating or using live ammunition.

The Constitutional and Human Rights Challenge

- **Infringement on Right to Life (*Article 21*):** Critics and human rights advocates argue that indiscriminate kinetic weapons cause severe, irreversible injuries, including permanent blindness and physical disability, violating the core right to live with dignity.
- **Arbitrary and Disproportionate Application:** Because pellet spread cannot be controlled once fired, these weapons harm peaceful protesters, bystanders, and violent instigators alike, failing the constitutional benchmarks of proportionality and reasonableness.

Judicial Balancing: Protection of Dissent vs. Public Order

- **Safeguarding Genuine Agitations:** The judiciary maintains that peaceful student protests and civic assemblies must not be met with state brutality. The right to express dissatisfaction with government policies is a fundamental democratic vent.
 - **Accounting for Threat Dynamics:** Courts recognize that public assemblies can be manipulated by malicious elements aiming to create chaos. Rather than imposing an absolute, blanket ban on specific weapons, judicial focus targets instances where police deploy force arbitrarily or in violation of statutory regulations.
- ### Defensive Gear as a Tactical De-escalation Strategy
- **Psychological Buffer for Security Forces:** Equipping law enforcement personnel with high-grade protective armor (bulletproof vests, helmets, face shields, anti-riot gear) reduces their immediate vulnerability during violent clashes.
 - **Fostering Tactical Patience:** Protective equipment gives officers crucial seconds to assess the situation and choose non-violent or low-impact de-escalation strategies rather than reacting out of fear or immediate panic.

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- **Historical Evolution of the Issue**
 - **1. Colonial Era: The Police Act of 1861 and Public Suppression**
 - **Colonial Control Framework:** Policing in pre-independence India was structured around the Police Act of 1861, designed primarily to protect imperial interests and suppress anti-colonial movements rather than serve the populace.
 - **Coercive Public Order:** Public assemblies were managed through harsh provisions in the Code of Criminal Procedure (CrPC), where force was used to disperse political gatherings with minimal regard for human rights.
 - **2. Post-Independence Maintenance of Public Order (1947–2000s)**
 - **Continuity of Colonial Methods:** Independent India retained much of the colonial policing architecture. Crowd control relied predominantly on lathi charges, tear gas, water cannons, and, during intense riots, live ammunition.
 - **Escalating Urban and Social Agitations:** As socio-political movements intensified across various regions, traditional methods often resulted in either high civilian fatalities from live fire or police officers being overwhelmed due to inadequate protective equipment.
 - **3. Introduction of Pellet Guns as "Less-Lethal" Options (2010)**
 - **Searching for Intermediate Force:** Following violent street protests in Jammu & Kashmir in 2010, security agencies introduced metal pellet guns as a less-lethal alternative to live ammunition, aiming to reduce fatalities during severe stone-pelting incidents.
 - **Operational Reality:** While fatal injuries decreased compared to live bullets, the widespread deployment of pellet guns led to high numbers of severe eye injuries, permanent vision loss, and long-term physical trauma among civilians.
 - **4. Public Outcry, Expert Committees, and Alternative Searches (2016–Present)**
 - **The 2016 Crisis and Technical Review:** Widespread civil unrest in 2016 highlighted the severe collateral damage caused by metallic pellets. In response, the Ministry of Home Affairs constituted the **T.V.S.N. Prasad Committee** to explore non-lethal alternatives.
 - **Testing Alternatives:** The committee recommended alternatives such as PAVA (Pelargonic Acid Vanillylamide) pepper-based shells, chemical irritants, rubber bullets, and acoustic dispersal devices to replace metallic pellets.
 - **Judicial Intervention and Modern Standards:** Supreme Court reviews and civil petitions have shifted the debate toward strict compliance with Standard Operating Procedures, accountability for non-compliance, and prioritizing defensive police gear over offensive weapons.

PELLET GUNS & THE GRADED POLICE RESPONSE: A COMPREHENSIVE UPSC CSE ANALYSIS

GRADED FORCE CONTINUUM



THE CONSTITUTIONAL TRIPARTITE TEST



LOGICAL & PHILOSOPHICAL BASE



GS 2
F. Rights
Judicial Review

GS 3
• Internal Security
• Crowd Control

LINKAGES

GS 4
Ethics in
Administration

NCERT
• Pol Sci 11 Rights
• 12 Movements

WAY FORWARD

- ✓ Modernize Defensive Police Gear
- ✓ Statutory Regulation of SOPs
- ✓ Precise Non-Lethal Tech
- ✓ Intelligence-Led Crowd Control
- ✓ Build Institutional Accountability

SOCIAL
Alienation

ECONOMIC
Human
Capital Loss

ECONOMIC
Human
Capital Loss

POLITICAL
Freedom vs
Authority

LEGAL
Art 14/21
Compliance

ETHICAL
UN Principles
Compliance

**MULTIDIMENSIONAL
IMPACTS**
(UPSC Syllabus GS 1, 2, 3, 4)

CWMA upholds order directing release of Cauvery water to T.N.

B.S. Satish Kumar
BENGALURU

In a setback to Karnataka, the Cauvery Water Management Authority (CWMA), which met in Delhi on Thursday, upheld the Cauvery Water Regulation Committee's (CWRC) order directing Karnataka to release water to Tamil Nadu at a rate of 3,500 cusecs a day for 15 days.

The CWMA, which is the apex body that monitors implementation of water release as per the Supreme Court's verdict, asked Karnataka to release water to Tamil Nadu in accordance with the CWRC's order.

The CWRC had on Tuesday ordered Karnataka to commence release of water to Tamil Nadu with effect from Wednesday. However, Karnataka, facing drought, had filed an appeal against the CWRC's order before the CWMA.

"Super El Nino effect"

At Thursday's meeting, Karnataka appealed to the CWMA to keep the CWRC's order to release water in abeyance for another fortnight and take a call after reviewing the evolving hydrological situation.

But the CWMA, which looked into the issue besides taking stock of the



Pro-Kannada activists protest against the directions to release Cauvery water to Tamil Nadu, in Mysuru on Thursday. M.A. SRIRAM

T.N. sought 9.45 tmcft under distress formula over next 15 days at the rate of 7,000 cusecs per day

hydrological conditions, endorsed the CWRC's order.

In its submission before the CWMA, Karnataka said that it was facing an acute hydrological distress, and the cumulative inflows into all the four reservoirs in the Cauvery basin were 65.65% below the 30-year average due to the super El Nino effect.

Karnataka argued that while the southwest monsoon is the mainstay for Karnataka, the forthcoming northeast monsoon would benefit Tamil Nadu.

It argued that Tamil Nadu, therefore, had the "dual advantage" of benefiting from the southwest monsoon in Karnataka in the form of water release and also from the forthcoming northeast monsoon.

Historical trend had shown that in distress years, northeast monsoon had significantly augmented Tamil Nadu's storages, Karnataka argued.

Karnataka also contended that Tamil Nadu already had a substantial quantum of carryover storage from its earlier releases.

Tamil Nadu, on its part, stepped up its demand and urged the CWMA to direct Karnataka to increase the rate of daily releases beyond 3,500 cusecs while highlighting the prevailing hydrological distress in its

basin and sought a release of 9.45 tmcft under the distress formula in the next 15 days at a rate of 7,000 cusecs a day.

The CWMA referred to the CWRC's observation that inflows to four reservoirs of Karnataka has increased. It said that while Kabini reservoir is nearing full storage level, Karnataka's reservoirs may get a minimum of 15 tmcft of water in next 15 days. The CWMA observed that it will not affect the drinking water requirements of Karnataka even after releasing 4.5 tmcft.

Karnataka Chief Minister D.K. Shivakumar has convened an all-party meeting in Bengaluru on Sunday to deliberate on the CWMA's decision to uphold the CWRC's order to Karnataka to release water to Tamil Nadu, and take their advice on the next move by the State.

Sources in the government said the government would now discuss the issue with legal experts to arrive at a decision on its next legal fight. Karnataka is said to be considering all the legal options before it now as already there is an unrest in its Cauvery basin since the farmers have resorted to protest against any water release.

- **Key Terms and Explanations**
- **Cauvery Water Management Authority (CWMA) & Cauvery Water Regulation Committee (CWRC):**
 - **Definition:** These are statutory bodies constituted by the Central Government under Section 6A of the Inter-State River Water Disputes Act, 1956, following the 2018 Supreme Court verdict. CWMA serves as the apex implementation body responsible for enforcing water allocation among basin states, while the CWRC acts as its technical and executive arm to monitor daily rainfall, reservoir inflows, storage, and water releases.
- **Cusec vs. TMCFT (Thousand Million Cubic Feet):**
 - **Definition:** **Cusec** is a unit of flow rate representing one cubic foot of water passing a specific point per second (1 cusec $\approx$ 28.317 liters per second). **TMCFT** is a volumetric measure representing total water storage or volume (1 TMCFT = 1,000,000,000 cubic feet $\approx$ 28.32 billion liters).
- **Distress Sharing Formula:**
 - **Definition:** A scientifically predetermined, proportional allocation framework designed to share water deficits during lean or drought years when rainfall falls significantly below historical averages.
- **Super El Niño and Hydrological Distress:**
 - **Definition:** A **Super El Niño** refers to an extreme warming of equatorial Pacific sea surface temperatures. In the Indian context, it often disrupts normal atmospheric circulation, suppressing the Southwest Monsoon over the Western Ghats and creating severe deficits in catchment runoffs.
- **Inter-State River Water Disputes Act, 1956 & Article 262:**
 - **Definition:** Article 262 of the Indian Constitution empowers Parliament to enact laws for adjudicating disputes related to inter-state rivers. Pursuant to this, the Inter-State River Water Disputes (ISRWD) Act, 1956 was enacted, barring the jurisdiction of the Supreme Court over river disputes referred to a specialized tribunal, although Supreme Court intervention continues through Special Leave Petitions under Article 136.

Main Arguments and Substantive Parts

Inter-state water disputes often showcase a fundamental tension between upper riparian survival priorities and lower riparian historical entitlements. The core thesis centers on balancing human drinking water survival against agricultural livelihoods during periods of severe hydrological deficit.

- **Upstream State Assertions (Upper Riparian Dynamics)**
- **Catchment Deficit and Drought Imperatives:** Upstream states often experience severe catchment deficits due to El Niño-induced weak monsoons. When cumulative inflows into major reservoirs fall significantly below the long-term average, upstream regions face structural water stress.
- **Drinking Water Priority:** Upstream administrations argue that basic human consumption and urban drinking water needs (such as for metropolitan centers like Bengaluru) must take precedence over agricultural irrigation downstream, aligning with the National Water Policy's hierarchy of water use.
- **Dependence on Monsoons:** Upper riparian regions rely heavily on the Southwest Monsoon (June to September). They contend that downstream states benefit from dual monsoonal patterns, receiving additional precipitation during the Northeast Monsoon (October to December), which should offset early-season deficits.
- **Downstream State Entitlements (Lower Riparian Rights)**
- **Agricultural Sowing Cycles and Livelihood Protection:** Downstream delta regions depend on predictable and timely water flows to sustain crucial cropping patterns, such as the *Kuruvai* (short-term) and *Samba* (long-term) rice crops. Delays in releasing baseline quotas threaten standing crops and jeopardize rural livelihoods.
- **Historical Usage and Final Awards:** Downstream states rely on final tribunal awards and Supreme Court mandates, maintaining that allocated quotas are non-negotiable legal entitlements. They argue that carryover storage in upstream reservoirs should not be withheld based on future monsoon projections.
- **Objections to Arbitrary Withholding:** Downstream regions counter the "dual monsoon benefit" argument by pointing out that Northeast Monsoon rainfall is frequently unpredictable, localized, or prone to extreme cyclonic events, making it an unreliable substitute for sustained river flows.
- **Institutional Evaluation and Oversight**
- **Data-Driven Decision Making:** Technical bodies like the CWRC and CWMA evaluate real-time hydrological parameters—including daily inflows, satellite-tracked soil moisture levels, and reservoir capacities—to resolve disputes objectively.
- **Balancing Distributive Demands:** Institutional directives often adopt a middle path. They mandate partial releases to mitigate lower riparian agricultural loss while preserving enough upstream reservoir storage to guarantee basic drinking water security.

- **Historical Evolution of the Issue**
- **Pre-Independence Era: Agreements of 1892 and 1924**
 - **1892 Agreement:** The initial agreement between the Princely State of Mysore and the Madras Presidency established that Mysore could not construct new irrigation reservoirs on the Cauvery without the consent of the Madras government.
 - **1924 Agreement:** Mysore sought to build the Krishnarajasagara (KRS) dam, while Madras planned the Mettur Dam. A 50-year agreement was negotiated, defining storage capacities, irrigation limits, and release schedules. This agreement established lower riparian rights while permitting upstream development under regulated conditions.
- **Post-Independence and State Reorganization (1956)**
 - **Territorial Realignment:** The State Reorganization Act of 1956 reshaped regional boundaries. The Cauvery basin now spanned four political entities: Karnataka (formerly Mysore), Tamil Nadu (formerly Madras), Kerala (incorporating parts of Malabar), and the Union Territory of Puducherry.
 - **Expiration of the 1924 Agreement (1974):** As the 1924 agreement reached its 50-year term in 1974, Karnataka asserted its right to construct new dams (such as Hemavathi and Harangi) to expand irrigation in its dry regions. Tamil Nadu objected, arguing this infringed upon its historical downstream usage.
- **Institutional Adjudication: CWDT and the 2007 Final Award**
 - **Constitution of the Tribunal (1990):** Following persistent inter-state friction and a Supreme Court directive, the Central Government constituted the Cauvery Water Disputes Tribunal (CWDT) under the ISRWD Act, 1956.
 - **The 2007 Final Award:** After 17 years of deliberations, the CWDT issued its final verdict in February 2007. It allocated 419 TMCFT to Tamil Nadu, 270 TMCFT to Karnataka, 30 TMCFT to Kerala, and 7 TMCFT to Puducherry out of an estimated total yield of 740 TMCFT in a normal year.
- **Supreme Court Verdict (2018) and the Statutory Mechanism**
 - **2018 Supreme Court Judgment:** Reviewing appeals under Article 136, the Supreme Court modified the CWDT award. It reduced Tamil Nadu's share by 14.75 TMCFT and increased Karnataka's allocation by the same quantum to meet the growing drinking water demands of Bengaluru.
 - **National Resource Doctrine:** The Apex Court held that no single state can claim exclusive ownership over inter-state river waters, declaring them national property.
 - **Establishment of CWMA and CWRC (2018):** Pursuant to the Court's directive, the Centre notified the Cauvery Water Management Scheme, creating the CWMA and CWRC to enforce the allocation framework on the ground.

- **Way Forward**
- **1. Codifying a Dynamic, Scientific Distress Formula**
 - **Data-Driven Allocation Rules:** Establish an agreed-upon, automated formula for sharing water during deficits. This formula should account for soil moisture levels, evapotranspiration rates, real-time rainfall, and satellite-monitored reservoir storage rather than relying on fixed annual release targets.
 - **Tiered Allocation Protocols:** Define clear triggers based on rainfall deficits to automatically scale down required water releases, avoiding time-consuming legal disputes during dry spells.
- **2. Agricultural Reform and Crop Realignment**
 - **Shifting Away from Water-Intensive Crops:** Encourage farmers in the basin to transition away from water-heavy crops like sugarcane and flood-irrigated paddy toward millets, pulses, and oilseeds through targeted Minimum Support Price (MSP) incentives.
 - **Promoting Precision Irrigation:** Mandate micro-irrigation systems (drip and sprinkler technology) in canal command areas to improve water-use efficiency in agriculture.
- **3. Integrated River Basin Management (IRBM)**
 - **Empowering River Basin Authorities:** Transform the CWMA into an empowered, autonomous River Basin Authority modeled on successful global examples like the Murray-Darling Basin Authority in Australia.
 - **Ecological Flow Protections:** Ensure river health by enforcing minimum environmental flows (*E-flows*) to sustain downstream ecosystems, prevent estuarine salinity intrusion, and preserve coastal biodiversity.
- **4. Demand-Side Management in Urban Centers**
 - **Mandatory Urban Wastewater Recycling:** Major urban centers like Bengaluru must reduce their reliance on fresh river water by scaling up tertiary wastewater treatment for industrial, commercial, and non-potable uses.
 - **Rainwater Harvesting and Aquifer Recharge:** Enforce rainwater harvesting regulations across urban centers to improve local groundwater recharge and ease pressure on distant river reservoirs.
- **5. Transparent Hydrological Data Architecture**
 - **Open-Access River Monitoring:** Deploy automated, telemetry-based gauges across all major reservoirs, canals, and river cross-sections. Making this data accessible to all stakeholder states in real time helps build trust and minimizes political posturing.



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RISE ABOVE THE REST

HYDROMETEOROLOGICAL DYNAMICS AND CONFLICT RESOLUTION

MONSOON
PATTERNS
(SW & NE)

CATCHMENT YIELD

NORMAL YEAR

PRESCRIBED
ALLOCATION FLOW

HYDROLOGICAL
DISTRESS



**DISTRESS SHARING
FORMULA**

Proportional reduction
in the potential dams,
of neurons-reduction in
the upstream dams



DISTRESS YEAR
(e.g., Super El Niño)



Withered
paddy



Reduced
rainfall

HYDROLOGICAL
DISTRESS

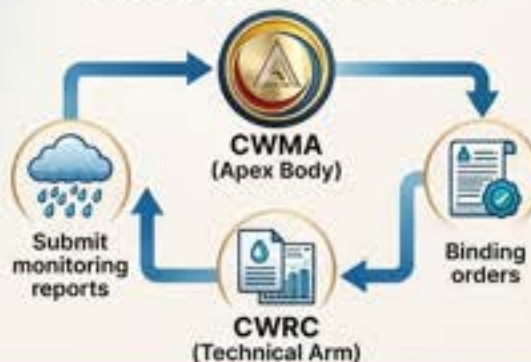


KRS, Kabini

**DRINKING
WATER PRIORITY**
(Karnataka)

**AGRICULTURAL
NEEDS**
(Tamil Nadu Delta)

CWMA & CWRC ROLE



SMART SOLUTIONS & WAY FORWARD



PM reviews impact of West Asia conflict in CCS meet

Saurabh Trivedi
NEW DELHI

Prime Minister Narendra Modi on Thursday chaired the fourth special meeting of the Cabinet Committee on Security (CCS) to review the evolving situation arising from the conflict in West Asia and assess the preparedness of various Ministries and departments to mitigate its impact on India.

According to sources, the Prime Minister was concerned over the safety and welfare of Indian seafarers in conflict zones. Mr. Modi directed the establishment of a dedicated mechanism to provide timely information, emergency assistance and counselling to seafarers and their families.

Emphasising the need to protect Indian citizens, the Prime Minister instructed all agencies to continue efforts to safeguard them from the consequences of the regional conflict.

The Cabinet Secretary briefed the CCS on the pre-



Narendra Modi

vailing geopolitical situation and outlined measures taken to ensure uninterrupted supplies of petroleum products, including crude oil, LNG, LPG and fertilizers.

LPG, PNG and fertilizer

According to the government, India has diversified its LPG import sources, while the overall stock and supply position of major petroleum products remains adequate.

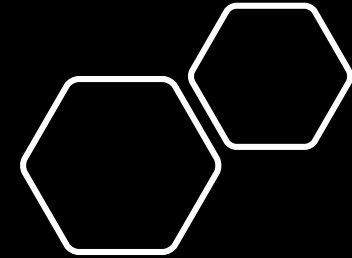
Adequate crude oil availability has enabled Central Public Sector Enterprise (CPSE) refineries to operate at utilisation levels exceeding 100%, ensuring uninterrupted pro-

duction of petrol, diesel and other petroleum products.

The CCS was informed that the government has significantly expanded Piped Natural Gas (PNG) connections. The Centre is also promoting industrial substitution of LPG through the expansion of the National Gas Grid, augmentation of LNG import and regasification infrastructure, expansion of City Gas Distribution networks, and time-bound approvals for pipelines and last-mile connectivity under the Pipeline Infrastructure Order, 2026.

The meeting also reviewed fertilizer availability for the upcoming Rabi season. Alternative fertilizer sources were discussed, and the Prime Minister directed all concerned ministries to ensure uninterrupted availability for farmers.

Mr. Modi also stressed the importance of accelerating India's energy independence by increasing the adoption of renewable energy, particularly non-fossil fuel-based sources.



- **Key Terms and Concepts**
 - **Cabinet Committee on Security (CCS):** The apex executive body in India's administrative setup responsible for strategic decision-making regarding national defense, nuclear policy, foreign affairs, and internal security. Chaired by the Prime Minister, it comprises the Ministers of Home Affairs, External Affairs, Defence, and Finance.
 - **Strategic Energy Vulnerability:** A nation's exposure to supply disruptions or sharp price shocks in critical energy imports (crude oil, Liquefied Natural Gas, and Liquefied Petroleum Gas) caused by geopolitical conflict, sea-lane blockades, or regional sanctions.
 - **Maritime Seafarer Welfare Framework:** Institutionalized protocols designed to track, assist, counsel, and evacuate merchant navy personnel operating in international waters, specifically high-risk areas prone to missile strikes, piracy, or vessel seizures.
 - **Refinery Capacity Utilization Rate:** The operational efficiency metric representing the volume of crude oil processed relative to a refinery's installed nameplate capacity. Sustained operation above 100% signifies process optimization to compensate for global supply chain shortages.
 - **City Gas Distribution (CGD) Network:** Interconnected urban infrastructure delivering Piped Natural Gas (PNG) directly to households and commercial establishments, along with Compressed Natural Gas (CNG) to vehicles, reducing dependency on imported bottled LPG.
 - **National Gas Grid:** An interconnected cross-country pipeline network designed to transport natural gas from import terminals (regasification plants) and domestic fields to major industrial consumers, fertilizer plants, and urban distribution hubs.
 - **Pipeline Infrastructure Order:** A regulatory and administrative mechanism that streamlines land acquisition, statutory clearances, and last-mile connectivity approvals to accelerate pipeline construction in energy corridors.
- **Core Arguments and Strategic Analysis**
 - Geopolitical friction in West Asia triggers systemic risk across India's foreign policy, energy architecture, and macro-economy. Analyzing this requires examining core structural arguments and counter-perspectives:
 - **Human-Centric Maritime Governance:** Overseas Indian seafarers play a vital role in global merchant marine operations. Conflict in key maritime transit corridors (such as the Strait of Hormuz or the Red Sea) demands dedicated tracking, real-time intelligence sharing, and psychological support mechanisms for maritime workers and their families.
 - **Supply Chain Diversification vs. Price Volatility:** To prevent severe domestic fuel shortages during regional conflicts, state refineries must diversify source countries, secure long-term purchase contracts, and optimize domestic refining output above normal thresholds to stabilize finished petroleum products (petrol, diesel, LPG).
 - **Agricultural Input Shielding:** West Asia remains a primary source for raw materials essential to fertilizer production (such as rock phosphate, ammonia, and sulfur). Securing alternative supplies is vital to protect the agricultural sector—particularly during peak sowing cycles like the Rabi season—from price spikes and crop failure risks.
 - **Accelerating Gas-Based Transition:** Replacing traditional liquid fuels with natural gas via the National Gas Grid and City Gas Distribution network acts as a crucial strategic bridge. It lowers the import burden while advancing long-term clean energy targets.
 - **Counter-Arguments & Policy Trade-offs:** Rapid diversification can carry higher freight costs and operational friction. While transitioning to a gas-based economy builds medium-term resilience, immediate geopolitical shocks still expose structural dependencies that can only be resolved through long-term adoption of domestic renewable energy.

- **Historical Evolution of India's West Asian Vulnerabilities**

- The relationship between West Asian security dynamics and India's economic resilience has evolved across distinct historical phases:
 - **Pre-1970s Era (Post-Independence Foundations):** India's energy demands were relatively modest, relying on legacy crude imports and traditional trade linkages. Energy policy was largely commercial rather than treated as a critical national security priority.
 - **1973 OPEC Shock:** The global oil embargo exposed India's acute vulnerability to Middle Eastern politics, causing severe trade deficits and driving initial domestic exploration efforts, such as the development of the Bombay High offshore fields.
 - **1990–1991 Gulf War Crisis:** The Iraqi invasion of Kuwait caused a sharp rise in international crude prices and forced India to execute the massive air-evacuation of over 170,000 citizens. The economic strain contributed directly to India's Balance of Payments crisis, accelerating the 1991 LPG (Liberalization, Privatization, Globalization) reforms.
 - **2000s–2010s (Strategic Reserves and Non-Alignment):** India established the Indian Strategic Petroleum Reserves Limited (ISPRL) to build physical stockpiles of crude oil. Simultaneously, New Delhi adopted a policy of strategic autonomy, maintaining functional ties with all major West Asian actors.
 - **2020s to Present (Infrastructure Expansion and Decoupling):** Escalating maritime threats in West Asian chokepoints have shifted policy toward structural interventions: expanding cross-country gas grids, accelerating domestic renewable integration, and enforcing dedicated maritime protection frameworks.

- **Strategic Way Forward**

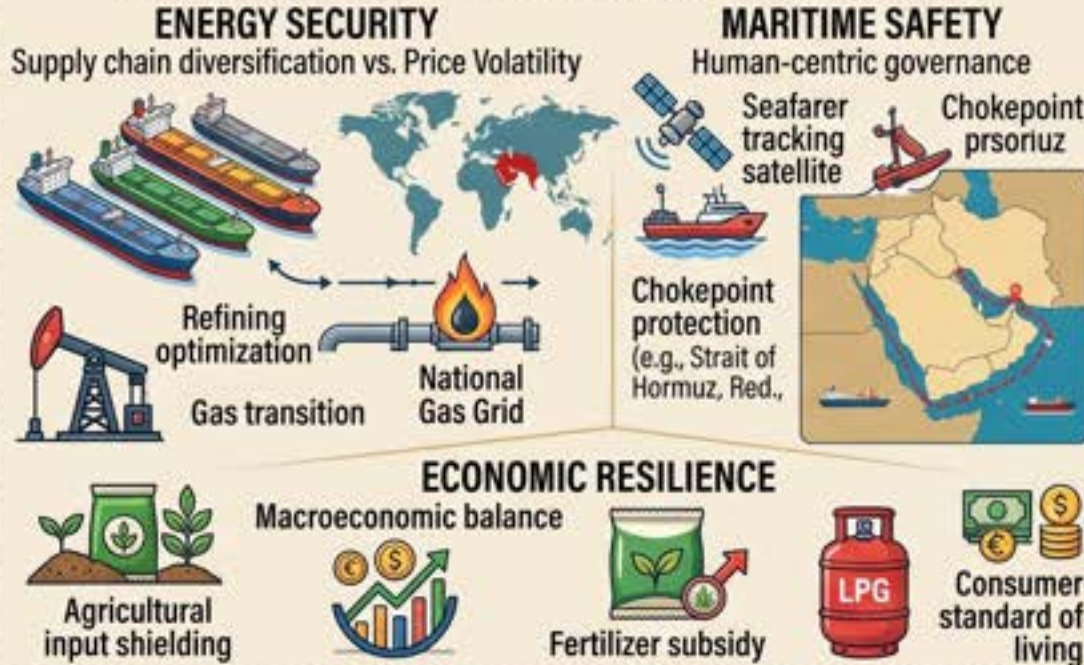
- **Expanding Strategic Petroleum Reserves (SPR):** Phase II construction of SPR storage facilities must be accelerated to expand crude stockpiles, providing a larger buffer against sudden supply disruptions or price spikes.
- **Accelerating Natural Gas Integration:** Timely implementation of pipeline regulations can speed up last-mile connectivity for the National Gas Grid and City Gas Distribution networks, lowering industrial reliance on imported LPG and crude derivatives.
- **Institutionalizing Seafarer Support:** Establishing a permanent, multi-agency maritime crisis desk featuring real-time tracking, emergency helplines, and rapid diplomatic intervention protocols can help safeguard Indian crew members operating in conflict zones.
- **Promoting Sustainable Fertilizer Alternatives:** Expanding domestic production of Nano Urea, Nano DAP, and organic soil nutrients reduces vulnerability to imported raw material shortages (such as rock phosphate and ammonia) during regional crises.
- **Securing Maritime Trade Routes:** Expanding targeted maritime security operations (such as Operation Sankalp) alongside international naval cooperation ensures the protection of Indian-flagged vessels navigating high-risk chokepoints.

GEOPOLITICAL INSTABILITY IN WEST ASIA & INDIA'S STRATEGIC IMPERATIVES: Energy Security, Maritime Safety, and Economic Resilience.

KEY CONCEPTS

- Cabinet Committee on Security (CCS):**
Apex executive body, chaired by Prime Minister, Ministers of Home, External Affairs, Defence, Finance.
- Strategic Energy Vulnerability:**
Supply disruptions, price shocks from regional conflicts.
- Maritime Seafarer Welfare Framework:**
Dedicated tracking, family support, evacuation protocols.
- Refinery Capacity Utilization:**
Operating efficiency metric, optimizing for shortages.
- City Gas Distribution (CGD):**
Urban infrastructure for PNG and CNG, reducing LPG dependency.
- National Gas Grid:**
Interconnected cross-country pipeline network.
- Pipeline Infrastructure Order:**
Regulatory streamlining, last-mile connectivity.

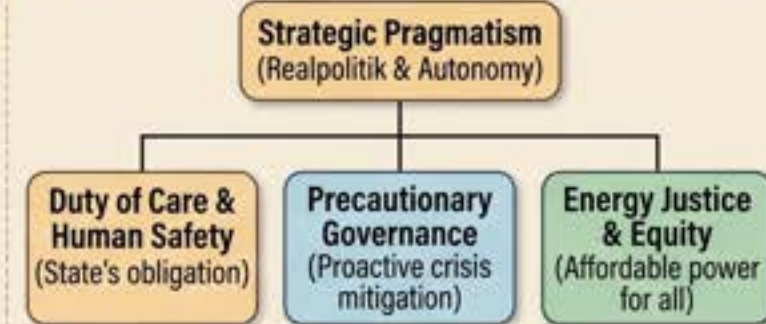
CORE ARGUMENTS & MULTI-DIMENSIONAL ANALYSIS



HISTORICAL EVOLUTION



LOGICAL & PHILOSOPHICAL FOUNDATIONS



EXAM RELEVANCE

NCERT Linkages	UPSC CSE Syllabus Linkages
Class 12 Pol Sci: • Globalisation & Slobaltation & Security	GS 1: Geography-Resources
Class 12 Geography: • Mineral & Energy Resources	GS 2: IR-West Asia, Executive Bodies
	GS 3: Economy-Energy Infra, Agri Inputs
	GS 4: Ethics in IR

STRATEGIC WAY FORWARD



Centre defends CEC panel without CJI

Union govt. says if the decision of the Prime Minister cannot be trusted, then an 'outsider' or a former judge must sit in to advice on the appointment of Cabinet Ministers too; Supreme Court says that it is not about 'lack of faith' in the PM, but about 'justice not only being done, but shown to be done'

Krishnadas Rajagopal
NEW DELHI

The Union government questioned in the Supreme Court on Thursday the insistence on having the Chief Justice of India (CJI) on the Prime Minister's panel which selects the Chief Election Commissioner (CEC), saying if the decision of the Prime Minister cannot be trusted then an "outsider" or a former judge must sit in to advise on the appointment of Cabinet Ministers too.

The Centre's submission came while hearing petitions challenging the Chief Election Commissioner and other Election Commissioners (Appointment, Conditions of Service, and Term of Office) Act of 2023.

The petitions have contended that the Act "defeated" a Constitution Bench judgment in the Anoop Baranwal case,

which had constituted a CEC selection panel chaired by the Prime Minister and including the Leader of the Opposition in the Lok Sabha and the CJI. The 2023 Act, passed within months of the judgment, had replaced the Chief Justice with a Cabinet Minister nominated by the Prime Minister.

'Lack of neutral person'

A Bench headed by Justice Dipankar Datta had, in past hearings, questioned the lack of even "one absolutely neutral person" on the Prime Minister's committee. The court had remarked that a Cabinet Minister would hardly defy the Prime Minister. The court had said the "dominant" presence of the Executive in the selection panel would send wrong signals to the public.

"If the Prime Minister's decision is not to be trusted, why not have someone



The appointment procedure should be shown to be fair... The issue is that the composition of this committee tilts in favour of one side. There is a two versus one here, two of the Executive and one of the Opposition. Should there not be a show of fairness in the appointment to one of the most important offices of this country?

JUSTICE DIPANKAR DATTA
Supreme Court judge



from outside or a former judge to select the Ministers also," Solicitor-General Tushar Mehta, for the government, asked on Thursday.

Mr. Mehta, quoting from a 2014 apex court judgment in the Manoj Narula case, said the Prime Minister's office held constitutional trust and high sanctity.

The law officer asked if a constitutional court, while deciding the composition of a committee in a statute,

could presume abuse of power, bad faith and *mala fide* intention on part of the constitutional functionaries.

Justice Datta said the question was not about "lack of faith" in the Prime Minister, but about the principle of "justice not only being done, but shown to be done".

"The appointment procedure should be shown to be fair... The issue is that the composition of this committee tilts in favour of

one side. There is a two versus one here, two of the Executive and one of the Opposition. Should there not be a show of fairness in the appointment to one of the most important offices of this country?" Justice Datta asked the Union government.

Baranwal judgment

Mr. Mehta queried whether the Anoop Baranwal judgment could really restrict the wisdom of Parliament to replace the CJI with a Cabinet Minister on the CEC selection panel. Like independence of the judiciary, the Constitution has also envisaged independence for the Legislative and Executive, the Solicitor-General said.

Justice Datta referred to the government's oft-repeated complaint about the Collegium system of "judges selecting judges".

"We wonder whether judges are really selecting

judges nowadays," Justice Datta said in a veiled comment about Executive interference in judicial appointments to the highest courts.

The court reserved judgment on the point whether the case should be referred to a five-judge Constitution Bench. Advocate Kaleeswaram Raj, on the petitioners' side, said a reference was uncalled for as no novel question relating to constitutional interpretation has been identified or framed, other than the ones already dealt with in the Anoop Baranwal judgment.

The judgment by a Constitution Bench in March 2023 had declared that the CEC should be a person of "fierce independence, neutrality and honesty". It had called for an end to government monopoly and "exclusive control" over appointments to the highest poll body.

- **Key Terms and Explanations**
 - **Constitutional Trust**
 - *Concept:* A doctrine positing that high constitutional office holders—such as the Prime Minister and Cabinet Ministers—are presumed to act in good faith, upholding the Constitution rather than narrow partisan interests.
 - *Example:* When the Prime Minister advises the President on major appointments, the law assumes this advice is given to uphold institutional integrity, rather than to gain a political advantage.
 - **Institutional Neutrality & Structural Bias**
 - *Concept:* Institutional neutrality means designing selection processes so no single entity can dominate or tilt outcomes. Structural bias occurs when the composition of a committee naturally guarantees a majority for one side, regardless of individual intentions.
 - *Example:* If a three-member panel consists of two government representatives and one opposition leader, the government naturally holds a built-in 2:1 majority, creating structural bias.
 - **Principle of Natural Justice: Perceived Fairness**
 - *Concept:* Derived from the legal maxim "*justice must not only be done, but must also be seen to be done.*" It dictates that a process must not only be fair in practice, but must also appear unbiased to an objective observer.
 - *Example:* A judge stepping aside from a case involving a former business partner—even if completely capable of remaining neutral—to preserve public faith in the verdict.
 - **Doctrine of Separation of Powers**
 - *Concept:* A constitutional model dividing government duties among distinct branches—Legislature, Executive, and Judiciary—to prevent any single branch from exercising unchecked control.
 - *Example:* Parliament passes laws, the Executive implements them, and the Judiciary interprets them to ensure they align with the Constitution.
 - **Article 324(2) of the Indian Constitution**
 - *Concept:* The constitutional provision governing the appointment of the Chief Election Commissioner (CEC) and Election Commissioners (ECs). It states that appointments are made by the President, subject to any law passed by Parliament.
 - *Example:* For decades, Parliament did not enact a specific selection law, leaving appointments entirely to Executive discretion until recent legislative and judicial interventions.

- **Main Arguments and Substantive Parts**

- **Core Thesis**

- The debate centers on whether the Executive branch should hold dominant authority in selecting the guardians of Indian democracy—the Election Commissioners—or whether institutional credibility requires an independent, neutral selection mechanism free from Executive supremacy.

- **Supporting Evidence and Executive Stand**

- **Democratic Legitimacy of the Executive:** The government asserts that the Prime Minister and Cabinet hold a direct mandate from the electorate. Questioning the Prime Minister's neutrality in choosing an Election Commissioner indirectly undermines the integrity of executive authority.
- **Presumption of Constitutional Good Faith:** Drawing on precedent, the Executive argues that constitutional authorities must be presumed to act in good faith. Assuming potential abuse of power or bias without evidence compromises the functioning of administrative machinery.
- **Legislative Competence under Article 324(2):** Article 324(2) explicitly grants Parliament the authority to frame laws regulating these appointments. Passing statutory provisions to establish a selection committee falls squarely within legislative domain.
- **Reciprocity and Judicial Independence:** The Executive highlights that the Judiciary retains exclusive control over its own appointments via the Collegium system. By that logic, judicial interference in Executive-led selection committees disrupts the balance of powers.

- **Counterarguments and Judicial Perspectives**

- **Prevention of Structural Bias:** A selection committee made up of the Prime Minister, a Union Cabinet Minister, and the Leader of the Opposition inherently tilts decisions 2: 1 in favor of the ruling party. Even with good intentions, this structure compromises perceived neutrality.
- **Free and Fair Elections as Part of Basic Structure:** Elections form the bedrock of democracy, which itself is part of the Constitution's Basic Structure. If the body overseeing elections is perceived as aligned with the ruling party, public trust in democratic outcomes breaks down.
- **Distinction Between Selection and Governance:** While routine policy decisions rest with the Executive, selecting an impartial watchdog requires cross-party consensus or neutral arbitration to guarantee a level playing field for contestants.

- **Historical Evolution of the Issue**
- **The Pre-1989 Era: Single-Member Commission and Executive Discretion**
 - From the inception of the Republic, the Election Commission operated as a single-member body led solely by the Chief Election Commissioner. Appointments were made directly by the President on the advice of the Prime Minister and Cabinet, operating under the implicit assumption of executive restraint and institutional norms.
- **1989–1993: Multi-Member Expansion and Institutional Friction**
 - In October 1989, the government expanded the Election Commission into a multi-member body by appointing two additional Election Commissioners. Though briefly rescinded, this change was permanently codified via the Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act, 1991 (amended in 1993), placing the CEC and ECs on equal legal footing regarding decision-making.
- **The Reform Commissions (1990–2015): Calls for a Neutral Selection Mechanism**
 - **Dinesh Goswami Committee (1990):** First recommended that the CEC be appointed in consultation with the Leader of the Opposition and the Chief Justice of India.
 - **National Commission to Review the Working of the Constitution (NCRWC, 2002):** Suggested a broader selection committee consisting of the Prime Minister, Leader of the Opposition, Speaker of the Lok Sabha, and Deputy Chairman of the Rajya Sabha.
 - **Law Commission of India (255th Report, 2015):** Formally advocated for a three-member selection panel comprising the Prime Minister, the Leader of the Opposition (or leader of the largest opposition party), and the Chief Justice of India.
- **The Landmark *Anoop Baranwal* Judgment (March 2023)**
 - A five-judge Constitution Bench ruled that leaving appointments entirely to executive discretion violated the spirit of Article 324(2). Exercising powers under Article 142, the Supreme Court instituted an interim selection committee consisting of the **Prime Minister, the Leader of the Opposition, and the Chief Justice of India**, designed to operate until Parliament enacted a dedicated law.
- **The Statutory Shift (December 2023)**
 - Parliament enacted the *Chief Election Commissioner and other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act, 2023*. This legislation substituted the Chief Justice of India on the selection panel with a **Union Cabinet Minister nominated by the Prime Minister**. This statutory change shifted the structural balance back toward executive dominance, provoking ongoing legal challenges regarding its constitutionality.

SECTION 1: CORE CONFLICT & KEY CONCEPTS

CONSTITUTIONAL CONFLICT ON ECI APPOINTMENTS

JUDICIAL CONCERNS & PERCEIVED FAIRNESS

-  **1. Structural Tilt**
(2:1 Majority)
-  **2. Perceived Fairness**
(Justice Seen to be Done)
-  **3. Free & Fair Elections**
(Basic Structure)

EXECUTIVE ARGUMENTS & PRINCIPLES

-  **1. Democratic Legitimacy**
(Popular Mandate)
-  **2. Presumption of Good Faith**
-  **3. Separation of Powers**

MULTIDIMENSIONAL IMPACTS



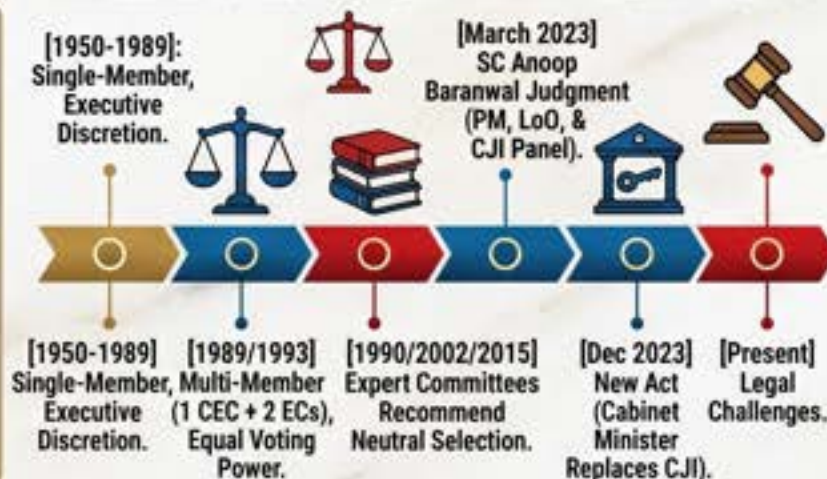
LOGICAL AND PHILOSOPHICAL BASE

MAJORITARIAN vs. CONSTITUTIONALISM



SECTION 2: TIMELINE OF APPOINTMENTS & LOGICAL BASES

TIMELINE OF ECI APPOINTMENT MECHANISMS



SECTION 3: UPSC/NCERT CONNECT & WAY FORWARD

UPSC & NCERT SYNERGY



GS Paper:

- GS-2: Constitutional Bodies, Separation of Powers
- GS-4: Ethics, Impartiality



Essay/Ethics, Optional PSIR



NCERT:

- **Class 11 (Indian Const. at Work):**
Ch 3 (Elections, Art 324)
Ch 6 (Judiciary, Basic Structure)



Class 12: Ch 2 (Early Democratic Norms)

THE WAY FORWARD: BALANCED REFORMS



Girl's death in China reveals human cost of unregulated science

The case has prompted debate about first-in-human gene-editing trials, particularly for rare but serious disorders. Investigation into the death has raised important questions about the oversight of such an experimental personalised trial and the way the researchers and their institutions communicated their choices

Samuel van Nostrand

A 19-year-old girl in China died in March 2023 after receiving what researchers said they believed was the world's first gene-edited therapy directed at the brain, according to an investigation by science and medicine blogs.

The investigation has raised important questions about the oversight of an experimental personalised gene-editing trial and the way the researchers and their institutions communicated their choices.

The girl had Hughes-Rasmussen syndrome, a rare neurodevelopmental disorder caused by a mutation in the *PCDH19* gene. Although the condition affects intellectual development and its severity varies widely, most people with the condition live full lives.

But that such a case could still die the bar for an experimental, highest-level intervention was surprising, albeit a reality among with disability and neurodiversity of the last few months.

The girl's parents sought the experimental treatment after learning of research by the neuroscientist Liang Jin at the Shanghai Jiao Tong University.

After waiting a year, a cancer treatment from 2019/2020 was approved. Biochemist David Liang developed at the Howard Hughes Medical Institute a way to convert one DNA base (thymine) into another – say, C to T – without cutting both strands of the DNA double helix, as CRISPR-based editing does.

As a result, gene editing is, in principle, safer, simpler and can cause fewer unintended mutations. In development that involved trials that gene editing could gradually turn into a proof of concept and to treating rare diseases (possibly, defects in single genes).

That said, the university of the parent, the Chinese scientist who announced in 2018 that he had edited the genomes of his girl at the embryonic stage, edited adequate ethical review, scientific justification, and more disclosure to the university, but weighed heavily on the trial.

He was later criticised in three years in prison for his actions, and the university faced China's right to refuse to finance gene editing research. But as the new government by Liang and his team would have found, the risks to society that the late age and how it is relevant have remained wide enough for a similar future to occur.

Dr Liang's team designed a personalised gene-editing therapy designed to correct the genetic mutation in the girl's brain cells.

However, delivering the 'edit' to the brain required the researchers to inject large doses of adeno-associated virus (AAV), which are known to carry risks of severe immune reactions.

According to the investigation report, the girl's parents helped finance much of the therapy's development, contributing around 100,000 RMB (13,000 USD) over their personal savings and money borrowed from relatives.



Researchers have reported the oversight of an experimental personalised gene editing trial, which the researchers and their institutions communicated their choices, in China.

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THE GIST

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- **Key Terms and Explanations**
- **Gene Editing vs. Base Editing**
 - **Gene Editing (CRISPR-Cas9):** A biological technique that acts like "molecular scissors," making double-stranded cuts in DNA to disable, replace, or repair targeted genes. While powerful, double-strand breaks carry risks of unintended genomic rearrangements or broad off-target mutations.
 - **Base Editing:** A refined, next-generation gene-editing technology developed by researchers like David Liu. Instead of cutting double strands of DNA, base editors precisely convert one single DNA letter (nucleotide) into another—such as changing a Cytosine (C) to a Thymine (T)—without breaking the DNA backbone.
 - *Analogy:* If standard CRISPR-Cas9 is like using a pair of scissors to cut out a full line in a manuscript, Base Editing is like using a fine eraser and pencil to correct a single misspelled letter without damaging the surrounding page.
- **Adeno-Associated Virus (AAV) Vector**
 - **Definition:** A engineered, non-pathogenic virus used as a biological vehicle or "delivery truck" to carry gene-editing tools or therapeutic genes directly into human target cells, such as neurons in the brain.
 - **Clinical Significance:** While effective at delivering genetic payloads, administering AAVs in high dosages can trigger severe, potentially fatal systemic immune responses or microvascular clotting complications in patients.
- **Investigator-Initiated Trials (IITs)**
 - **Definition:** Clinical research studies initiated, designed, and managed directly by individual academic researchers or clinicians, rather than sponsored by commercial pharmaceutical corporations.
 - **Governance Issue:** In several regulatory jurisdictions, IITs operate under institutional review boards at local hospital levels rather than undergoing comprehensive evaluation by central, national drug authorities. This creates potential enforcement gaps in safety oversight.
- **Thrombotic Microangiopathy (TMA)**
 - **Definition:** A severe medical condition characterized by microscopic blood clots forming in small blood vessels throughout the body, leading to organ ischemia, damage to key organs like the kidneys and liver, and low platelet counts.
 - **Relevance:** It is a recognized hyper-inflammatory risk factor linked with high-dose viral vector delivery systems (such as high-titer AAV infusions) in human clinical applications.
- **Preclinical Studies**
 - **Definition:** The mandatory phase of biomedical research where therapeutic candidates are tested in laboratory settings and animal models (such as non-human primates) to evaluate toxicity, optimal dosage, and physiological safety before human trials commence.

- **Main Arguments and Substantive Parts**
- **Core Thesis**
 - The rapid acceleration of novel, precision gene-editing techniques outpaces existing institutional governance and regulatory enforcement frameworks. When experimental 'first-in-human' biomedical interventions bypass centralized oversight, rely on incomplete safety validation, or exploit patient desperation, the human cost of unregulated science becomes devastatingly visible.
- **Key Arguments and Evidence**
- **Premature Bench-to-Bedside Translation**
 - Researchers sometimes proceed to human trials despite explicit toxicity signals in preclinical stages. In high-stakes genetic trials, advancing to human administration when non-human primate models exhibit acute liver or kidney failure represents a breakdown in risk assessment protocols.
- **Institutional Governance and Regulatory Arbitrage**
 - A critical flaw in biotechnology governance is the divergence between formal national regulations and local enforcement. Hospital-based internal review boards often possess the authority to approve investigator-initiated trials without mandating clearance from central regulatory authorities. This creates institutional blind spots where high-risk brain interventions proceed unchecked.
- **Vulnerability of Families and Information Asymmetry**
 - Families facing rare, incurable genetic conditions operate under severe emotional distress and structural information asymmetry. Parents often liquidate life savings, incur enormous debt, or crowdsource funds to pursue experimental treatments. This vulnerability can lead to financial exploitation and blurred boundaries between validated therapy and risky experimentation.
- **Scientific Disclosure Deficits and Journal Accountability**
 - Top-tier scientific journals and institutional peer-review processes sometimes fail to flag incomplete preclinical safety assessments prior to publishing preliminary findings. The systemic delay in reporting trial adverse events or withdrawing faulty research papers compromises scientific integrity and risks misleading the broader research community.

- **Historical Evolution of the Issue**
 - **1975 (The Asilomar Conference on Recombinant DNA):** Early landmark gathering where scientists self-imposed voluntary moratoriums and safety guidelines for genetic engineering, establishing the baseline principle that scientific freedom requires public safety boundaries.
 - **1999 (The Jesse Gelsinger Case):** An 18-year-old participant died during an AAV gene therapy trial at the University of Pennsylvania due to a massive systemic immune reaction. This watershed event led to a global overhaul of human trial safety, stricter informed consent mandates, and heightened oversight of viral vectors.
 - **2012–2016 (CRISPR-Cas9 and Base-Editing Breakthroughs):** The emergence of CRISPR-Cas9 and subsequent base-editing tools shifted genetic engineering from theoretical research to therapeutic application, triggering a race among nations to lead in biotechnology innovation.
 - **2018 (The He Jiankui Germline Editing Scandal):** The unsanctioned creation of the world's first gene-edited human infants in China sparked global condemnation, prison sentences, and legislative revisions to tighten bio-safety laws across major research hubs.
 - **Present Day (Personalized 'N-of-1' Trials & Regulatory Ambiguity):** The focus has shifted toward bespoke gene therapies targeting rare single-gene mutations. While offering hope for conditions with no existing cures, these rapid individual trials test the enforcement boundaries of local versus national health regulators.
- **Way Forward**
 - **Mandatory National-Level Clearance for First-in-Human Trials**
 - Abolish administrative loopholes that allow hospital institutional review boards to approve experimental gene therapies independently. All 'first-in-human' biological procedures must require explicit approval and oversight from centralized national drug regulatory bodies (such as India's DCGI or equivalent central agencies).
 - **Independent Preclinical Data Audits**
 - Establish independent scientific oversight panels to audit preclinical safety data—especially animal model toxicity markers in the liver and kidneys—prior to authorizing human clinical trials. Human trials should be automatically suspended if severe toxicity is observed in non-human primate studies.
 - **Enhanced Consent Frameworks and Patient Protection**
 - Develop specialized, non-coercive consent protocols for experimental therapies targeting rare diseases. These frameworks should include independent bio-ethicists and patient advocates who ensure families understand the risks without being misled by experimental optimism.
 - **Transparent Pre-registration and Mandatory Reporting**
 - Require all investigator-initiated clinical trials to pre-register on public registry platforms. Mandate full disclosure of adverse events, side effects, and trial suspensions, with strict regulatory sanctions for non-compliance or undisclosed commercial conflicts of interest.

UNREGULATED BIOTECHNOLOGY: CASE STUDY

ANALYSIS OF A "FIRST-IN-HUMAN" TRIAL DEATH

(Based on 'Girl's death in China reveals human cost of unregulated science' analysis)

KEY TERMS & EXPLANATIONS

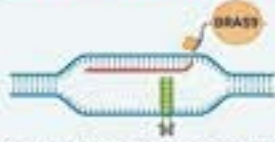
CRISPR-Cas9

vs.

BASE-EDITING



- Double-strand cuts like scissors
- Single-strand huge cusses
- Precision tonal transitor



- Single-letter conversion without break
- Conversion minoah eation



AAV VECTORS

- AAV vectors can lead to vectors and vecotors such as health, morhnum (sour protein data)
- Assistentment cultural to comforonis our esfects run with unsmdoend menezummatimy



THROMBOTIC MICROANGIOPATHY (TMA)

- Thrombotic microangiopathy (TMA) = understanding preciwwar vrough through and repotations.
- Thrombotic microangiopathy = microangiopathy exoin (TMA)

MAIN ARGUMENTS & EVIDENCE



PREMATURE TRANSLATION

Ignoring preclinical toxicity signals

- Ponvtusive xcomaroforn preclinical exisive tan to thensaity owals
- Comtitutional governance: netauding to institutional cummurimars to premature translation.



INSTITUTIONAL GOVERNANCE GAPS

IIT regulatory arbitrage

- IIT regulatological unlonewe rit regulatory underotorconservation contronomunalities
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THERAPEUTIC VULNERABILITY

Catastrophic expenditures under distress

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HISTORICAL EVOLUTION (Timeline)



LOGICAL BASE & MULTIDIMENSIONAL ANALYSIS

PRECAUTIONARY PRINCIPLE

First, Do No Harm

VS

TECHNO-OPTIMISM

Fast innovation



WAY FORWARD: PRACTICAL REFORMS



Mandatory National-Level Clearance



Independent Preclinical Audits



Enhanced Consent Frameworks



Open Data Reporting



Public Vector Production Platforms

UPSC/APSC SYLLABUS LINKAGES & PYQs

GS Paper 1-4	Sub-points	NCERT Linkages
Social Issues	• Social issues of bars clearance • Social issues, terntors, prover anoliar and etvema • Identific tnoohomanisomat & Surits • Governance, tionorhoid poristory	NCERT Linkage, Social issues
Governance	• Mandatory national-Level government, mandatorers preclinical clearance • Resume only tne Independent, conopennon-testlimal audits	NCERT Linkage, Governance Case
Sci & Tech	• Precision consert and resources • Dvalunated germline editing incensend and enciations • Subtrritistic for ceoholic disease	NCERT Linkage, Sci & Tech
Ethics	• Identify-nocor humana method • Expecitlors of pethodoimies	NCERT Linkage, Sci & Thics

Reference analysis: PYQ themes from the analysis: Girl 'Girl's death of unreguology, humn cost of uregulated science' analysis.

How common are cloudbursts in India?

What counts as a cloudburst under the IMD's definition? How do they form over mountainous regions? Why are they so difficult to forecast? Can the term obscure the role of poor planning, inadequate infrastructure? What is India doing to improve forecasting and early warnings?

EXPLAINER

Yasudevan Mukunth

The story so far:

When a wall of water suddenly crashes from the sky and sweeps away homes and roads within minutes, one of the first words officials and the media in India reach for is 'cloudburst'. However, the term is often misused in a way that can distract from poor planning and crumbling infrastructure.

What counts as a cloudburst?

According to the India Meteorological Department (IMD), a cloudburst occurs when a small area, around 20-30 sq. km, receives 10 cm or more of rain in an hour.

To put this in perspective, Indore receives 1,062 mm of rain every year on average. A cloudburst could dump nearly 10% of this in 60 minutes.

Heavy rains are a common feature of the southwest monsoon, but a cloudburst is still an extraordinary amount of rainfall and much rarer. Because the water falls so quickly over a relatively small area, the ground cannot absorb all of it, leading to rapid and voluminous flooding.

Some scientists have also advocated for a category called 'mini-cloudburst' for 5 cm of rain in an hour over the same area, as, depending on the local topography, this can be devastating as well.

How common are cloudbursts in India?

Although cloudbursts are relatively rare, global warming, in particular as the atmosphere warms and can hold more moisture, is making them more frequent.

In response to a question, former Union Earth Sciences Minister Harsh Vardhan told Parliament in 2019 that between 1970 and 2016, the IMD had recorded only around 30 such incidents. However, many experts believe this number is an underestimate.

Counting them is not straightforward



Debris lies scattered after a cloudburst triggered flash floods, at Pithulgam in Kavaratti, on July 12. PTI

because most cloudbursts occur in remote, high-altitude regions, where rain gauges and weather stations are sparse.

In fact, if a cloudburst occurs a few kilometres from a monitoring station, it may not be officially recorded as a cloudburst even if it causes large-scale destruction downstream.

Uttarakhand, Himachal Pradesh, and Jammu and Kashmir have, of late, reported a surge in events that locals have described as cloudbursts, especially in July and August.

How does a cloudburst form?

A cloudburst typically begins with convection, when warm, moist air rises rapidly into the atmosphere. In mountainous areas, this is called orographic lifting, where monsoon winds are forced upwards by steep slopes.

As the air rises, it cools and condenses into towering cumulonimbus clouds, which can be up to 15 km tall.

Water droplets begin to form inside these clouds and, as they get heavier, they would normally fall as rain. However, if the currents of warm air moving upwards are very strong, they can keep raindrops suspended in the air for longer.

Eventually, the weight of the water droplets becomes too great for gravity and the updrafts to hold, or the updrafts

weaken, sending the water plummeting down like an ocean descending on the ground.

Can the label obscure accountability?

By calling a heavy downpour a 'cloudburst', authorities can turn it into a singular and unforeseeable act of nature, obscuring the role of human negligence.

That is, if the cause of a tragedy is said to be a 'cloudburst', the blame can be written off, which is harder to do when the real cause is "heavy rain combined with poor drainage".

In 2025, during the Bihari floods in Uttarakhand, initial reports blamed a cloudburst. However, meteorological data later showed that the actual rate of rainfall was much lower than the threshold for a cloudburst.

The underlying causes were illegal construction on riverbeds, deforestation that had left soil vulnerable to erosion, and the absence of drainage infrastructure along new "all weather" roads.

Had the downpour indeed been a cloudburst, officials may have been able to avoid questions about why the State had allowed buildings to be constructed in high-risk zones and why early warning systems failed.

Last week, the IMD rejected reports

that Assam and Nagaland had experienced cloudbursts over the preceding few days and that they were responsible for the Upper Assam floods.

Are cloudbursts hard to forecast?

Cloudbursts are very difficult to forecast. Meteorologists can usually say whether a region is at risk of heavy rain but cannot say precisely which patch of land will experience a cloudburst.

First, most weather models study the atmosphere in grids and estimate the average weather for each cell.

A cloudburst, on the other hand, occurs over an area smaller than the size of each grid cell. To detect one, scientists need very high-resolution models, which in turn require immense computing power that is not always readily available.

Because of the mechanism through which cloudbursts form, they also develop and occur quickly. Cyclones and monsoon systems, on the other hand, can be tracked for weeks or even months, giving scientists more data to work with.

Finally, mountains are challenging environments for weather monitoring, and cloudbursts have a greater propensity to occur there. For instance, Doppler weather radars work by emitting and receiving radar beams, which mountains can block, creating blind spots over many areas where cloudbursts are also more common.

Because the terrain is so rugged, there are also fewer automatic weather stations. If there are no sensors on the ground to tell a computer what is happening at a given moment, it cannot reliably predict what could happen in the next hour.

That said, the IMD is currently working on 'nowcasting', a technology that issues short-term alerts every few hours.

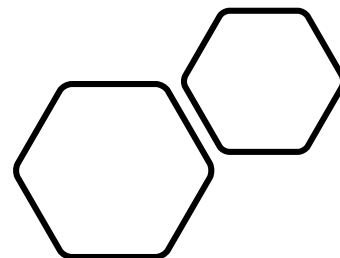
Under the government's new 'Mission Mausam', India also plans to more than double its radar network, from the current 40 or so, and use AI to better predict hyperlocal events.

That said, even with the best technology, a cloudburst is likely to remain more difficult to predict than a typical rainstorm.

THE GIST

A cloudburst is a highly localised weather event in which at least 10 cm of rain falls over 20-30 sq. km in an hour, making it difficult to forecast despite advances in nowcasting and radar coverage.

The term is often incorrectly used for heavy rainfall events, even though many disasters are exacerbated by poor drainage, deforestation, construction in high-risk zones and other human factors.



- **Key Terms and Explanations**
- **Cloudburst**
 - A cloudburst is an extreme, localized hydro-meteorological event where an extraordinarily large amount of rain falls over a short duration across a limited geographical area. Official criteria define it as receiving **10 cm (100 mm) or more of rainfall in an hour over an area of roughly 20 to 30 square kilometers**.
- **Mini-Cloudburst**
 - This term is used by meteorologists to describe high-intensity rain events that fall just below the official threshold but still trigger flash floods due to steep terrain. It refers to rainfall of **5 cm (50 mm) in one hour** over a similarly localized area (20–30 sq. km).
- **Orographic Lifting**
 - The physical process in which air currents are forced to rise over topography, such as mountain ranges. As moisture-laden monsoon winds hit steep slopes, they ascend rapidly, cool down, condense, and form dense cloud structures.
- **Convective Updrafts & Cumulonimbus Clouds**
 - Convection occurs when warm, moist air rises rapidly into cooler atmospheric layers, condensation forming towering **cumulonimbus clouds** that can reach heights up to 15 kilometers. Strong upward currents of air (**updrafts**) suspend heavy water droplets inside the cloud, preventing them from falling immediately until the weight of the water overcomes the updraft or the thermal current suddenly collapses.
- **Sub-Grid Scale Phenomenon**
 - In numerical weather prediction, the atmosphere is divided into three-dimensional grid cells to calculate future weather. A sub-grid phenomenon occurs over a spatial area smaller than the resolution of these standard computational grid cells.
- **Nowcasting**
 - A specialized weather forecasting technique that delivers short-term predictions—typically covering a time horizon of 0 to 6 hours—based on real-time observational data like satellite feeds and radar signals.
 - **Example:** Sending automated text alerts to mountain districts three hours ahead, warning that severe convective activity is gathering over a specific river catchment.
- **Doppler Weather Radar (DWR)**
 - An advanced radar system that uses the Doppler effect to measure the velocity, direction, and intensity of precipitation particles inside clouds. In hilly terrain, mountains often block the radar's line-of-sight signal, creating **radar shadows** or blind spots.
 - **Example:** A radar station placed in a deep valley cannot "see" behind adjacent high mountain peaks, leaving those reverse slopes unmonitored.

- **Main Arguments and Substantive Parts**
- **Core Thesis**
 - Cloudbursts are localized meteorological phenomena driven by rapid convective lifting and terrain dynamics. However, the administrative label of "cloudburst" is frequently misapplied to ordinary high-intensity rainfall to rebrand man-made structural planning failures, reckless construction, and environmental degradation as unavoidable "acts of God."
- **Substantive Arguments & Supporting Logic**
 - **Dynamic Atmospheric Mechanisms:** Cloudbursts rely on strong convective movements where warm air carries moisture aloft. In high-altitude terrain, orographic lifting accelerates this process, pushing air into towering cumulonimbus clouds. When these updrafts weaken or are overpowered by suspended moisture mass, the cloud releases its water rapidly, causing extreme surface runoff.
 - **The Problem of Observational Underreporting:** Official records often capture only a small fraction of actual cloudburst events. Because weather monitoring networks, automatic weather stations (AWS), and rain gauges are sparse across high-altitude and border regions, many occurrences go officially unrecorded despite causing widespread flash floods downstream.
 - **Administrative Weaponization of Disaster Labels:** Local administrative bodies frequently categorize localized flash floods as "cloudbursts" without meteorological verification. By framing disasters as sudden, unpredictable extreme weather, institutions attempt to deflect accountability away from illegal riverbed construction, deforestation, hill-slopes destabilized by unscientific road widening, and missing urban drainage infrastructure.
 - **Spatial and Temporal Forecasting Limitations:** Predicting cloudbursts remains technically difficult for three main reasons:
 - Their spatial scale (20--30 sq. km) is far smaller than standard numerical weather model grids.
 - Their life cycle develops rapidly over minutes or hours, unlike slow-moving tropical cyclones.
 - Mountainous topographies create physical radar shadows that blind Doppler weather radars from detecting low-level cloud dynamics in narrow valleys.
- **Historical Evolution of the Issue**
 - **Pre-Independence Era:** Mountain communities historically relied on traditional architecture (such as *Kath-Kuni* in Himachal Pradesh or *Koti Banal* in Uttarakhand) and spatial planning that avoided settling on active floodplains or landslide-prone channels. Siting decisions were guided by natural drainage lines and ridge-line geography.
 - **1970s to 1990s (Early Post-Independence Expansion):** The expansion of state infrastructure, heavy dams, and hill roads began altering mountain slopes. The India Meteorological Department (IMD) started tracking extreme weather events systematically, though high-altitude observational tools remained primitive. Development priorities often overlooked local geomorphology.
 - **2010s (High-Altitude Disasters & Public Shift):**
 - **2010 Leh Cloudburst:** Highlighted the vulnerability of cold, high-altitude desert ecosystems to sudden convective rainfall events.
 - **2013 Kedarnath Tragedy:** A critical turning point exposing how extreme atmospheric events, combined with rapid building expansion on floodplains and unscientific hill cuts, create severe human and economic catastrophes.
 - **2020s to Present (Technological Transition):** Rising atmospheric temperatures driven by global warming have increased atmospheric moisture capacity, elevating the frequency of intense rain bursts across the Himalayan arc and North-East India. Modern efforts focus on Doppler Weather Radar (DWR) expansion, short-range Nowcasting, and state initiatives like **Mission Mausam**, which targets AI integration and denser observational grid networks.

- **Way Forward**
- **1. Technological & Forecasting Reforms**
 - **Expand Radar Integration:** Accelerate deployment of compact, high-resolution X-band Doppler Weather Radars along mountain valleys to bypass peak blockage and eliminate radar shadow zones.
 - **Micro-scale Observation Grid:** Scale up Automatic Weather Stations (AWS) and automated rain gauges across high-altitude river basins under **Mission Mausam** to reduce computational blind spots.
 - **AI and Numerical Weather Prediction:** Combine real-time radar data, satellite inputs, and machine learning models to improve sub-grid nowcasting accuracy, providing localized 1-to-3-hour advance warnings.
- **2. Ecological & Spatial Infrastructure Reforms**
 - **Enforce Floodplain Zoning:** Prohibit permanent residential, commercial, or resort construction within designated riverfront zones, historical stream beds, and active debris flow channels.
 - **Eco-Sensitive Hill Road Construction:** Move away from unchecked slope cutting. Mandatory slope stabilization using bio-engineering techniques, terrace retaining walls, and dedicated drainage channels along high-altitude roads can lower landslide risks.
 - **Cumulative Environmental Impact Assessments (EIA):** Require comprehensive regional EIAs that consider the combined ecological footprint of all hydropower, road expansion, and urban construction projects across an entire river basin.
- **3. Institutional Integrity & Community Readiness**
 - **Independent Scientific Audits:** Establish objective protocol teams—comprising meteorologists, hydrologists, and geologists—to audit reported cloudburst sites, verifying whether severe damages stemmed from actual extreme downpours or structural planning failures.
 - **Community-Led Early Warning Networks:** Connect IMD nowcasting systems directly to local administrative units, village panchayats, and regional disaster quick-response teams using automated multi-channel messaging platforms.



UNDERSTANDING CLOUDBURSTS IN INDIA: A COMPREHENSIVE ANALYSIS

WHAT IS A CLOUDBURST?

Definition & Formation.



CONCENTRATED DOWNPOUR & FLOODING



- **IMD Criteria:**
10cm of rain or more per hour over 20-30 sq. km

WHY IS FORECASTING HARD?

Sub-grid Scale & Topography.



Sub-grid Scale:
Occurs in small area (< model grid)



Quick Formation:
Develops faster than cyclones (tracked for weeks)



Mountain Monitoring:
Terrain blocks Doppler Weather Radar signal & creates blind spots

THE "CLOUDBURST LABEL": OBSCURING ACCOUNTABILITY?

Distracting from poor planning.



- Can a label obscure accountability?
- **Poor Planning and Crumbling Infrastructure:**
 - Illegal Riverbed Construction
 - Deforestation (soil vulnerability)
 - Lack of Drainage Infrastructure (along new roads)
 - Poor Drainage
- Human Negligence → Misapplied Label

HISTORICAL CONTEXT & TRENDS



MULTIDIMENSIONAL ANALYSIS (GS Papers 1-4)



WAY FORWARD: PRACTICAL SOLUTIONS



Why did Cauvery panel order Karnataka to release water?

What factors did the committee consider before fixing the quantum of release?

T. Ramakrishnan

The story so far:

The Cauvery Water Management Authority (CWMA), at its meeting on Thursday in New Delhi, endorsed the Cauvery Water Regulation Committee's (CWRC) order, issued on July 28, that Karnataka release 3,500 cubic feet per second (cusecs) to Tamil Nadu for 15 days, starting from July 29. If the quantity of 3,500 cusecs is available throughout the day for 15 days, the quantum of water is about 4.5 thousand million cubic feet (tmc ft).

What is the brief for the CWRC in tackling the Cauvery dispute?

The CWRC functions within the ambit of the Cauvery Water Management Authority (CWMA), which constitutes the implementation mechanism for the final award (2007) of the Cauvery Water

Disputes Tribunal as modified by the Supreme Court in 2018.

The committee is headed by the Member (Water Resources) of the CWMA, Vineet Gupta, and has as its members the Chief Engineers of all the basin constituents and a representative each of the India Meteorological Department, Central Water Commission, and Union Ministry of Agriculture and Farmers' Welfare.

According to a notification issued by the Union Jal Shakti Ministry in June 2018, the committee monitors daily water levels, inflows and storage at each of the reservoirs – Hemavathy, Harangi, Krishnarajasagara (KRS) and Kabini (all in Karnataka), Mettur, Bhavanisagar and Amaravathy (Tamil Nadu), and Banasarasagar in Kerala. It is to ensure 10 daily releases of water on a monthly basis from the reservoirs as directed by the authority. It is also to prepare seasonal – southwest monsoon (June-October 15);

northeast monsoon (October 16-January 31) and hot weather (February-May) – and annual reports of the water account.

During either of the monsoons, the CWRC ordinarily holds meetings once every 15 days in a hybrid mode. As there has been scanty rainfall in the Cauvery catchment this time and Tamil Nadu pressing its demand for the release of its share of water, the CWRC met on July 28 to review the situation. It will meet again on August 11.

How does the committee arrive at decisions in times of distress?

The hydro-meteorological conditions prevailing in the Cauvery basin, including the rainfall recorded and the forecast or outlook for the ensuing fortnight, live storage position, inflows into and outflows from the eight reservoirs, and the realisation of flows at Biligundulu are reviewed and deliberated upon in detail. Compliance with the decision and

directions issued during the previous meeting is also reviewed at the next meeting.

What else was considered by the CWRC?

The committee took into account net inflow to the four reservoirs in Karnataka during the current season and compared it with 30-year data. Mr. Gupta, in a conversation with *The Hindu* on Wednesday, said the shortfall suffered was to the extent of 60%.

The CWRC considered the flow of river water at Biligundulu and in the intermediate catchment – between KRS-Kabini and Mettur, both of which presented a gloomy picture. At Biligundulu, the deficit was 90%.

Given that the Meteorological Department did not give an optimistic outlook for the subsequent weeks, the CWRC, according to its chief, had arrived at the decision that would make Karnataka comfortable to release the water. As on July 30, the combined storage of the four reservoirs in the upper riparian State was 65.34 tmc ft against a total capacity of 114.57 tmc ft.

What were the reactions?

As Karnataka has not commenced water supply for irrigation this time in view of deficient rainfall, it is naturally upset at the decision. At the meeting of the CWMA, it filed an appeal against the

CWRC's order, but this was rejected. Chief Minister D.K. Shivakumar, now in New Delhi, subsequently announced that an all-party meeting would be held in Bengaluru on August 2 to seek the advice of the parties on the next move.

In Tamil Nadu, where the authorities have not commenced the water release for irrigation in the Cauvery delta, there are no takers for the Committee's move. The quantum is viewed as insufficient. There is a view that the CWRC should have ordered Karnataka to release the entire deficit of 9.8 tmc ft, as worked out by it. According to an estimate, the State's water requirement for the ongoing and short-term *kuruvai* cultivation season is at least 30 tmc ft, given the current coverage of 3.5 lakh acres. But the storage in Mettur is around 36 tmc ft, of which 10 tmc ft has to be kept apart for drinking water needs and dead storage. However, Tamil Nadu would require much more water for the next *samba-thaladi* cultivation season, which facilitates livelihood opportunities to lakhs of agricultural labourers in the delta. It needs a minimum of 180 tmc ft.

What is the way forward?

The States, as Mr. Gupta also pointed out, have to evolve a distress-sharing formula. This issue can be covered in the proposed visit of Tamil Nadu Chief Minister C. Joseph Vijay to Bengaluru to persuade the Karnataka government to release his State's share of the Cauvery river water.

- **Key Terms and Explanations**
- **Cauvery Water Management Authority (CWMA) & Cauvery Water Regulation Committee (CWRC):** Statutory bodies constituted by the Central Government under the direction of the Supreme Court in 2018 to implement the final Cauvery Water Disputes Tribunal award as modified by the apex court.
 - *CWMA* acts as the overarching decision-making executive authority overseeing water allocation among basin states (Karnataka, Tamil Nadu, Kerala, and Puducherry).
 - *CWRC* functions as the technical monitoring arm. It tracks daily reservoir levels, inflows, rainfall patterns, weather forecasts, and crop water requirements, making operational recommendations to the CWMA.
- **Cusec vs. TMC Ft (Units of Volumetric Flow and Volume):**
 - *Cusec (Cubic feet per second):* A unit measuring the **rate of flow** of water. One cusec represents one cubic foot of water passing a specific point every second (approximately 28.317 liters per second).
 - *TMC Ft (Thousand Million Cubic Feet):* A unit measuring the total **volume** of water stored or released. One TMC ft equals 1,000,000,000 cubic feet or approximately 28.31 billion liters.
 - *Example:* Releasing 3,500 cusecs continuously over a period of 15 days yields roughly 4.5 TMC ft of total water volume.
- **Biligundulu Inter-State Gauge Station:** A critical hydrometric measuring station situated at the Karnataka-Tamil Nadu border. It acts as the legal and technical reference point to measure whether the upper riparian state (Karnataka) has released the stipulated quantum of water due to the lower riparian state (Tamil Nadu).
- **Riparian States (Upper vs. Lower Riparian):**
 - *Upper Riparian State:* A state located closer to the origin or upstream portion of a river system (e.g., Karnataka for the Cauvery River). It exerts geographical control over headwater reservoirs.
 - *Lower Riparian State:* A state located downstream along the river course (e.g., Tamil Nadu and Puducherry). It depends heavily on regulated releases from upstream storage dams for its agricultural and domestic needs.
- **Distress-Sharing Formula:** A scientifically derived policy framework intended to govern water allocation during bad monsoon years or severe rainfall deficit conditions. Unlike normal years—where fixed monthly release schedules apply—a distress-sharing formula calculates proportional cutbacks for all basin states based on relative shortfall in total inflows.
- **Kuruvai and Samba Cultivation Seasons:**
 - *Kuruvai:* The short-term paddy cropping season in the Cauvery delta of Tamil Nadu, typically extending from June to September. It depends heavily on early southwest monsoon releases.
 - *Samba / Thaladi:* The long-term paddy cropping season lasting from August/September through January, relying on both storage reserves and the northeast monsoon.

- **Core Conceptual Framework & Substantive Mechanics**

- **The Core Dilemma**

- The central issue in inter-state water management revolves around balancing upper riparian water security with lower riparian historical rights during period of severe hydro-meteorological distress. When monsoons fail, fixed volumetric allocations become unviable, exposing the absence of an operational, legally binding distress-sharing mechanism.

- **Technical Mechanics of Technical Water Regulation**

- The operational arm of river governance relies on multi-factor hydro-meteorological assessments:

- **Daily Reservoir Dynamics:** Continuous monitoring of total live storage across key basin dams—Hemavathy, Harangi, Krishnarajasagara (KRS), and Kabini in the upper riparian region; Mettur, Bhavanisagar, and Amaravathy in the lower riparian region; and Banasurasagar in Kerala.

- **Catchment Inflow Realities:** Assessing the net inflow shortfall compared to multi-decade historical averages (e.g., 30-year baseline data).

- **Intermediate Catchment Contributions:** Tracking run-off generated between upstream dams and border gauge stations (such as the intermediate catchment between KRS/Kabini and Biligundulu), which can either buffer deficits or exacerbate shortages.

- **Meteorological Outlook:** Integrating short-to-medium-range weather forecasts from the India Meteorological Department (IMD) to project future basin yields.

- **Strategic Interests and Conflicting Priorities**

- **Upper Riparian Concerns:** Priorities center on reserving adequate water storage within domestic reservoirs to guarantee drinking water security for major urban centers (such as Bengaluru) and preserving basic irrigation needs for local standing crops during erratic monsoons.

- **Lower Riparian Demands:** Priorities revolve around ensuring timely, predictable water releases to sustain extensive delta agriculture, protect agricultural livelihoods, and prevent crop failure across critical seasonal cycles like *Kuruvai* and *Samba*.

- **Historical Evolution of the Inter-State River Water Dispute**

- **Pre-Independence Era (1892–1924):** The roots of the dispute lie in colonial-era agreements executed between the Princely State of Mysore and the Madras Presidency. The 1892 agreement established the principle that Mysore could not construct new irrigation structures on the Cauvery without the prior consent of Madras. The 1924 agreement permitted Mysore to build the Krishnarajasagara dam while safeguarding Madras's historical irrigation rights over 11 lakh acres, with a clause that the agreement would be open for review after 50 years.

- **Post-Independence & State Reorganisation (1956–1974):** With the States Reorganisation Act of 1956, territorial boundaries shifted. Mysuru became part of expanded Karnataka, while Madras became Tamil Nadu. As the 50-year period of the 1924 agreement drew to a close in 1974, Karnataka rapidly constructed upper river dams (Hemavathy, Harangi, Kabini) to expand its internal irrigation potential. Tamil Nadu objected, asserting that upstream impoundment infringed upon its historical riparian rights.

- **Tribunal Phase (1990–2007):** Following persistent litigation, the Central Government constituted the Cauvery Water Disputes Tribunal (CWDT) in 1990 under the Inter-State River Water Disputes Act, 1956. In 2007, after 17 years of deliberations, the CWDT delivered its final award, quantifying annual allocations for all four basin entities based on a normal yield year of 740 TMC ft.

- **Supreme Court Intervention (2018):** Dissatisfied with the tribunal award, basin states filed appeals before the Supreme Court under Article 136. In a landmark 2018 judgment, the apex court modified the award:

- It reduced Tamil Nadu's allocation slightly while increasing Karnataka's share by 14.75 TMC ft, primarily catering to Bengaluru's expanding drinking water demands.
- It affirmed that inter-state river waters are national assets and no single state can claim exclusive ownership.
- It directed the Union Government to establish the Cauvery Water Management Authority (CWMA) and the Cauvery Water Regulation Committee (CWRC) for institutionalized enforcement.

- **Post-2018 Era to Present:** While institutional architecture is now in place, operationalizing distress-sharing during severe drought or monsoonal deficit years remains an ongoing administrative and political challenge.

- **Strategic Way Forward and Policy Recommendations**
- **Institutionalizing an Automated Scientific Distress-Sharing Formula**
 - Rather than relying on ad-hoc or post-crisis tribunal orders, the Union Government and CWMA should formalize an explicit, rule-based distress-sharing formula embedded in dynamic hydrological modeling.
 - **Key Mechanism:** Shortfalls in monsoonal yields relative to historical baselines must automatically trigger proportional, pre-calculated reductions in water releases for all basin states, removing discretion and political friction during drought years.
- **Agricultural Transformation and Cropping Pattern Re-Engineering**
 - **Shift Away from Water-Intensive Paddy:** Lower riparian regions need to diversify away from water-heavy paddy varieties during low-water seasons (*Kuruvai*) and adopt short-duration, drought-tolerant crops, millets, or pulses.
 - **Upstream Cropping Regulation:** Upper riparian states must regulate sugarcane and heavy paddy expansion in upstream zones, encouraging less water-intensive cash crops.
- **Adoption of Precision Irrigation Techniques**
 - Large-scale micro-irrigation projects—such as drip and sprinkler systems funded under *Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)*—must be mandated across the basin to improve water-use efficiency in agriculture.
- **Integrated River Basin Management (IRBM) Framework**
 - Transition from state-centric resource management to a unified **Integrated River Basin Management (IRBM)** approach. Treat the entire Cauvery basin as a single ecological unit, managing groundwater recharge, afforestation along riverbanks, wetland restoration, and soil-moisture conservation holistically.
- **Real-Time IoT and Remote Sensing Infrastructure**
 - Deploy automated digital telemetry sensors, IoT-enabled gauge meters, and satellite-based remote sensing technologies across all control reservoirs, main canals, and inter-state entry/exit points. Transparent, real-time data sharing accessible to all states reduces mutual suspicion and prevents data-falsification claims.



COMPREHENSIVE ANALYSIS: CAUVERY RIVER WATER DISPUTE & INTER-STATE CONFLICTS

FOR UPSC CSE PREPARATION

KEY TERMS & DEFINITIONS



CWMA/CWRC

- Agrarian distress, agrarian water river
- Drinking security (CWMA/CWRC)



Riparian States (Upper/Lower)

- Upper States in order
- Riparian States in upstream



Cusec/TMC Ft

- Sub-national identity for environment
- Biligundulu



Kuruvai/Samba

- Kuruvai/Samba in season
- Kuruvai/Samba in season

HISTORICAL EVOLUTION TIMELINE



MULTIDIMENSIONAL IMPACT ANALYSIS



NCERT FOUNDATION LINKAGES



Chapter 1: Comprehensions

- Chapter 1: Guvai River Conkins Sistence



Chapter 2: Comprehended lines

- Chapter 2: Cauvery Rivers



Chapter 3: Germal Setars

- Chapter 3: Resrme with the Communization

UPSC CSE SYLLABUS MAPPING



WAY FORWARD: STRATEGIC SOLUTIONS



PREVIOUS YEARS' QUESTIONS (UPSC/APSC)



Prelims

- e.g. Art 262 Q
- e.g. Palcary Rorms



Mains

- e.g. Federal challenges
- e.g. Federal challenges

• LEGAL

SC sets 'public interest' test on retrospective green nod

The judgment has sought to strike a middle path, closing the door on blanket regularisation but leaving limited room for government action



JAY MAZUMDAR

THE SUPREME COURT's judgment on Wednesday striking down the Centre's 2021 Office Memorandum (OM) that allowed retrospective approval for projects that had already commenced construction without environmental clearances (ECs), now closes the door on blanket and open-ended regularisation of such projects. It leaves limited room for government action under statutory authority.

The judgment has sought to strike a middle path in the top court involving environmental jurisprudence, distinguishing between the source of executive power and the limits of regularisation.

The court held that ex-post facto ECs cannot be created through an OM, but recognised that the government may, in exceptional circumstances and in public interest, provide such amelioration through a statutory notification issued under delegated legislative powers.

The test will depend on how narrowly the government frames any future amnesty scheme and whether it meets the Supreme Court's benchmark of "public interest".

An OM is an administrative instruction issued by a ministry or department and does not have the force of law. A statutory notification, by contrast, is issued under authority granted by a statute — the Environment Protection Act, 1986, in this case — and notified in the Gazette.

Applying this distinction, the court set aside the Environment Ministry's July 2021 OM, which introduced a standard operating procedure (SOP) for granting ex-post facto ECs to "violation cases". The court held that the OM had created a continuing or "perpetual" regime for condoning violations. It did not invalidate the March 2017 notification, which provided a limited, one-time six-month amnesty window.

The judgment also departed from the court's May 2021 position that prohibited ex-post facto ECs "in any form or manner". Instead, it held that a "narrowly tailored amnesty scheme" may be permissible where justified by "superior public interest".

• SC'S EVOLVING ENVIRONMENTAL JURISPRUDENCE

MAR 14, 2023: The Environment Ministry issues notification establishing a six-month window for non-compliant projects or activities to apply for environmental clearance (EC).

AUG 2, 2019: In *Common Cause v. Union of India*, the Supreme Court declares retrospective ECs invalid and "completely alien to environmental jurisprudence".

APR 1, 2020: In *Alembic Pharmaceuticals Ltd v. Rajlaxmi Pragnati*, the Supreme Court reiterates its post-facto clearance is alien to environmental jurisprudence. But adopts a "balanced approach" by imposing penalties instead of ordering closure of long-operating units.

MAY 24, 2021: The National Green Tribunal, in *Binaghi & Gamble v. Chief Secretary, Govt of Maharashtra*, directs Environment Ministry to formulate a proper SOP to address frequency of projects without prior EC.

JUL 7, 2021: Ministry issues office memorandum (OM) establishing an SOP for projects that failed to obtain prior EC to get regularised after paying penalties.

DEC 8, 2021: In *Electrosteel Steel Ltd v. Union of India*, Supreme Court says ex-post facto ECs can be granted in exceptional circumstances to protect livelihoods and the economy.

MAY 16, 2023: In *Venushakti v. Union of India*, Supreme Court strikes down 2017 notification and 2021 OM as illegal. It

rules that they were in violation of the principles laid down in *Common Cause* and *Alembic*.

NOV 18, 2023: In review petition, the Supreme Court recalls May 2023 ruling. Then C J B R Gavai holds that the Venushakti order went against the established judgement and that a "balanced approach" is necessary to avoid waste of money spent on building projects. SC orders fresh adjudication of the matter.

JUL 28, 2023: Supreme Court upholds 2017 notification but quashes 2021 OM, holding that post-facto ECs can be granted only through statutory notifications, not administrative actions.

— COMPILED BY VINET BHALLA



No blanket amnesty or bar

The court held that ex-post facto environmental clearances can't be created through an office memorandum.

But it recognised that the government may, in exceptional circumstances and in public interest, provide such a mechanism.

Already benefited

After Mumbai-based environmental NGO Venushakti approached the Supreme Court, the July 2021 OM was stayed, suspended the SOP route for violation cases, by a bench of Justices B R Gavai and Sanjay Kishan Kulkarni in January 2024.

By then, as reported by The Indian Express on February 20, 2024, the Environment Ministry had issued ex-post facto ECs to more than 100 projects and issued terms of reference for environmental impact assessment (EIA) to at least another 150 projects under the violation category since March 2017.

These projects included coal, iron, and bauxite mines, a greenfield airport, distilleries, wind and iron plants, industrial estates, cement plants, limestone quarries, chemical units, and buildings.

Among the project proponents were Ringarpet Collieries Company Ltd, Mahanadi Coalfields Ltd, Jaypee Cement, Ultra-Tech Cement, Ramco Cement, Bhushan Iron Ltd, Steel Authority of India, Godrej Agrovet Ltd, Hindustan Copper, Udyot Metals & Energy Ltd, Hindustan Marbles, Aronika Hospital, Pushpawati Singham Hospital, Space Towers, Hotel Leela Ven-

ture Ltd, and the Special Protection Group.

Scope of amnesty

Under the Environmental Impact Assessment Notification, 2004, projects requiring EC must obtain approval before starting operations. Several projects, however, began work or expanded operations without prior clearance.

In March 2017, the ministry issued a statutory notification offering a one-time six-month opportunity to such projects to disclose violations and seek approval for EC, subject to environmental assessment and other legal consequences.

After the window expired in September 2017, the Madras High Court disposed of challenges to the notification after recording the Union government's undertaking that it was a "one-time measure".

Subsequently, in *Apparawady Roof Estate v. Palacherry Environmental Protection Association*, the Madras High Court granted a limited extension in March 2018.

The ministry issued a second OM the same month allowing eligible projects that were already in violation as of March 2017 to submit applications within 30 days. The policy shifted in July 2021 when the Ministry in-

nstructed an OM introducing an SOP as an ongoing mechanism for violation cases.

Judicial evolution

In *Common Cause v. Union of India* (2017), a bench of Justices Madan B Lokar and Deepak Gupta held that mining operations requiring EC could not commence without prior approval. It emphasised that the EIA regime is preventive and intended to assess environmental consequences before irreversible harm occurs.

In *Alembic Pharmaceuticals v. Rajlaxmi Pragnati* (2020), a bench of Justices DY Chandrachud and Jay Byington held that ex-post facto ECs were inconsistent with fundamental principles of environmental jurisprudence. The court observed that retrospective approval undermines the precautionary principle by allowing project proponents to commence activities first and seek approval later.

However, in *Pushpa Plastics v. Dastul* (2022), a bench of Justices Indira Banerjee and J K Maheshwari adopted a more pragmatic approach that closure was not always the appropriate remedy, particularly where regulatory uncertainty existed and environmental compliance remained possible. The court held that regulation and remediation could, in some cases, better serve environmental protection than immediate closure.

Venushakti litigation

In *Venushakti v. Union of India*, a bench of Justices Abhay S Oka and Ujjal Bhuyan in May 2023 struck down both the March 2017 notification and the July 2021 OM, holding that ex-post facto ECs were impermissible "in any form or manner". The court also held that the one-time amnesty introduced in 2017 had exhausted itself and could not justify future regularisation.

Following review petitions by the Union government and industry bodies, a bench comprising then Chief Justice of India B R Gavai and Justices Vinod Chandran and Ujjal Bhuyan recalled the May 2023 judgment by a 2:1 majority, holding that the earlier decision had failed to consider binding precedents and required fresh adjudication.

The subsequent judgment now draws a distinction between a limited statutory amnesty justified by public interest and a continuing administrative mechanism that permits routine regularisation of environmental violations.

- **Key Terms and Concepts**

- **Environmental Clearance (EC):**

- **Concept:** A mandatory prior administrative approval granted by the Ministry of Environment, Forest and Climate Change (MoEFCC) or State Environment Impact Assessment Authorities (SEIAA) before starting any construction or operational activity for specified industrial, mining, or infrastructure projects.

- **Ex-Post Facto / Retrospective Environmental Clearance:**

- **Concept:** The regularisation or approval of an industrial or development project *after* construction or commercial operations have already commenced without obtaining mandatory prior EC.

- **Office Memorandum (OM) vs. Statutory Notification:**

- **Office Memorandum (OM):** An internal administrative instruction issued by an executive department to guide administrative procedures. It lacks legislative character, does not carry statutory power, and cannot alter or bypass statutory rules or parent Acts.
 - **Statutory Notification:** A formal regulation or rule framed under powers conferred by a parent statute (such as Section 3 of the Environment (Protection) Act, 1986). It is published in the Official Gazette, undergoes executive scrutiny, and possesses the force of law.

- **Precautionary Principle:**

- **Concept:** A core principle of environmental law stating that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. It mandates prior risk assessment before an activity begins.

- **Doctrine of Supervening Public Interest:**

- **Concept:** A legal doctrine holding that strictly applied procedural mandates or strict legal bars may be relaxed or modified if doing so serves a paramount, undeniable, and extraordinary public welfare requirement.

- **Delegated / Subordinate Legislation:**

- **Concept:** The exercise of rulemaking authority granted by Parliament to executive bodies (ministries) to fill in administrative details within the boundaries of a parent statute. Delegated legislation must remain within the limits of the parent Act and cannot contradict it.

- **Main Arguments and Substantive Issues**
- **Limits of Executive Discretion via Administrative Orders**
 - **Administrative Overreach:** Executive departments cannot use informal circulars or Office Memoranda (OMs) to establish permanent, routine mechanisms for regularising illegal acts.
 - **Preserving Statutory Authority:** Environmental laws like the Environment (Protection) Act (EPA), 1986, derive their power from legislative mandates. Converting "prior approval" into "routine post-facto regularisation" through administrative memo bypasses parliamentary intent and dilutes environmental protections.
- **The Standard for Regularisation: Statutory Amnesty vs. Administrative SOP**
 - **Permissibility of Statutory Amnesty:** Executive agencies can grant a limited, one-time amnesty scheme, provided it is promulgated through a formal statutory notification under delegated legislative powers and published in the Official Gazette.
 - **Rejection of Perpetual SOPs:** Establishing a continuous, permanent Standard Operating Procedure (SOP) that allows proponents to build first and seek approval later creates a "pay-and-pollute" culture, rendering prior EIA requirements meaningless.
- **Rejection of Absolute Judicial Extremes**
 - **Avoiding Rigid Absolute Bans:** Blanket bans that mandate immediate closure or demolition of all non-compliant projects—regardless of their utility, socio-economic contribution, or public necessity—can be counterproductive.
 - **Establishing the "Public Interest" Benchmark:** Retrospective regularisation must not be treated as a routine remedy for private project proponents. It is permissible only under exceptional circumstances justified by a strict, supervening public interest test.
- **Economic Realities vs. Environmental Restoration**
 - **Harm of Immediate Demolition:** Shutting down operational projects leads to loss of capital, widespread unemployment, disruption of supply chains, and stranded bank assets.
 - **Remediation and Heavy Penalties over Closure:** Where a project is otherwise ecologically viable and serves public necessity, imposing financial penalties, requiring environmental restoration funds, and mandating strict pollution controls offer a pragmatic middle path compared to immediate demolition.

- **Historical Evolution of the Issue**
- **Phase 1: Statutory Inception and Mandatory Prior Approvals (1994–2006)**
 - **1994 EIA Notification:** Introduced environmental impact assessments under Section 3 of the Environment (Protection) Act, 1986.
 - **2006 EIA Notification:** Replaced the 1994 framework, explicitly mandating that project proponents obtain *prior* Environmental Clearance before commencing any construction, site preparation, or expansion.
- **Phase 2: One-Time Amnesties and Early Judicial Resistance (2017–2020)**
 - **March 2017 Notification:** MoEFCC created a six-month window allowing non-compliant projects to apply for regularisation subject to an assessment of ecological damage and remediation plans.
 - **Common Cause v. Union of India (2017):** In a landmark judgment involving illegal mining in Odisha, the Supreme Court ruled that ex-post facto ECs are completely alien to environmental jurisprudence.
 - **Alembic Pharmaceuticals Ltd v. Rohit Prajapati (2020):** The Supreme Court reiterated that retrospective clearances violate the precautionary principle. However, recognizing that the industrial units had operated for decades, the Court ordered heavy fine-based penalties for ecological restoration rather than immediate demolition.
- **Phase 3: Administrative SOPs and Judicial Divergence (2021–2025)**
 - **July 2021 Office Memorandum:** MoEFCC issued an administrative OM establishing a permanent, continuous SOP to regularize projects operating without prior EC by charging penalties.
 - **Electrosteel Steels Ltd v. Union of India (2021) & Pahwa Plastics (2022):** The Supreme Court adopted a pragmatic approach, holding that ex-post facto clearances could be granted in "exceptional circumstances" to safeguard livelihoods, economic assets, and investments.
 - **Vanashakti v. Union of India (May 2025):** A division bench struck down both the 2017 notification and the July 2021 OM, declaring ex-post facto ECs illegal in any form or manner.
- **Phase 4: Judicial Synthesis and the Dual Test (Late 2025–2026)**
 - **Review and Recalling (November 2025):** The Supreme Court recalled its May 2025 decision to reconsider the balance between strict environmental compliance and economic disruption.
 - **Definitive Ruling (July 2026):** The Supreme Court established a clear distinction between administrative instruments and delegated legislation. It quashed the July 2021 administrative OM for creating a routine, unauthorized regularisation system, while holding that narrowly tailored statutory amnesties issued under Gazette notifications are permissible if justified by **exceptional circumstances and supervening public interest**.

KEY TERMS DEFINED

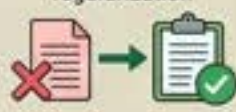
Environmental Clearance (EC)



Prior approval clearance for projects for projects

Ex-Post Facto EC

Retrospective regularization



Illegal start → legal end, illegal start → legal end

OM vs Notification



Administrative memo vs statutory rule

Precautionary Principle



Prior risk assessment

Supervening Public Interest



Extraordinary welfare

Delegated Legislation



Rulemaking under parent Act

HISTORICAL EVOLUTION TIMELINE

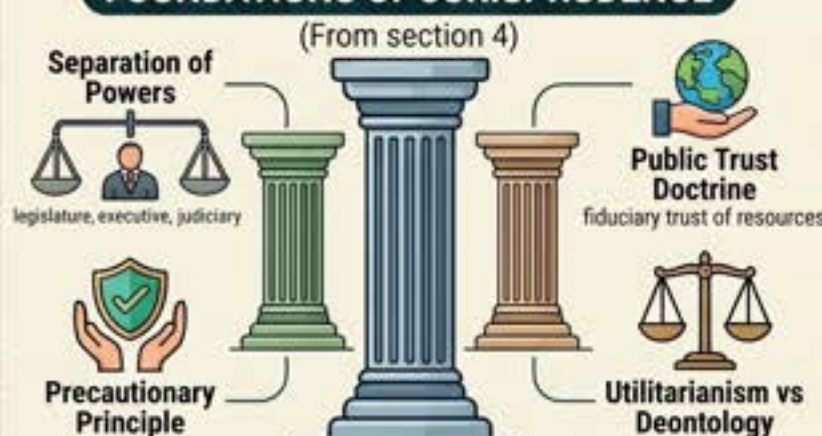


COMPREHENSIVE ANALYSIS: ENVIRONMENTAL JURISPRUDENCE & EX-POST FACTO CLEARANCES

CORE LEGAL DISTINCTIONS



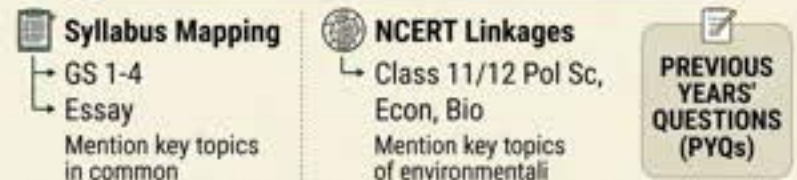
FOUNDATIONS OF JURISPRUDENCE



MULTIDIMENSIONAL IMPACT ANALYSIS



UPSC SYLLABUS & NCERT LINKAGES



WAY FORWARD & POLICY RECOMMENDATIONS



• HISTORY

Ravidas: Icon of Dalit resistance in Punjab, beyond

Manraj Grewal Sharma
Chandigarh, July 30

SEVEN MONTHS before Sant Ravidas's 650th birth anniversary, the BJP launched a nationwide commemoration campaign Wednesday at his birthplace near Varanasi, in the presence of UP CM Yogi Adityanath. Punjab's AAP government, too, launched a campaign in February.

Centuries after his lifetime, Guru Ravidas continues to shape religious thought, social reform, politics and Dalit assertion in India, particularly Punjab. A Bhakti saint, philosopher and poet, he challenged caste hierarchies while remaining rooted in his occupation as a cobbler, preached dignity of labour and envisioned an equal society.

Unique among Bhakti saints

Guru Ravidas was a 15th-16th century saint whose teachings emphasised devotion to a formless God. He belonged to the chamar community of leather workers.

Ronki Ram, a professor emeritus at the Institute for Development and Communication, Chandigarh, and an eminent scholar of Guru Ravidass, told *The Indian Express* that the saint neither renounced his religion nor abandoned his hereditary occupation. In doing so, his life itself became a form of peaceful social protest at a time when the Bhakti movement sought to challenge social hierarchies.

While he rejected ritualism, accounts say he wore the sacred thread (*janita*) and applied the *tilak*. Ram said these actions symbolically challenged the upper castes' monopoly over religious symbols.



A Ravidas statue in Varanasi. PH

with philosophical depth and humility."

A central idea of his philosophy was of Begumpura, an ideal society founded on principles of equality, justice and freedom. Prof Angrish says Guru Ravidas was among the earliest thinkers to imagine a society free from caste, class and hierarchy. His famous hymn, included in the Guru Granth Sahib, begins: "*Begumpura seha ko creat; dookh andoh nahi tith thaau* (Begumpura is the name of the city. There is no suffering or anxiety there)." The hymn describes a city free from sorrow, fear, oppressive taxation and discrimination, where all people enjoy equality, dignity and unrestricted movement.

Prof Ram says Begumpura represents a society free of caste hierarchy, poverty and oppression, where everyone has enough to live with dignity and God alone is sovereign. Scholars including Gail Omvedt have described it as one of India's earliest visions of a casteless, classless society.

Raising Dalit consciousness

Guru Ravidas occupies a unique place in Sikhism. Forty of his hymns (*shabads*) and one *shloka* are included in the Guru Granth Sahib, alongside compositions of Kabir, Sheikh Farid and other Bhakti and Sufi saints. Prof Sarabjit Singh of Punjabi University said these saints lived before Guru Nanak Dev, who carried forward many of their ideas.

Prof Ram described him as one of the earliest voices of Dalit resistance, who transformed personal experience into a universal message of equality without hatred or revenge. His influence became more visible during Punjab's Ad Dharm movement of the 1920s, which adopted Ravidas as its patron saint to champion an independent socio-political consciousness. As he put it: "*Aisa chhaton raj matn jahaan milai sabhan ko ann; chhot bado sab sam basai*, Ravidas rahai prasann (I long for such a kingdom where everyone has enough to eat, where the small and the great live as equals; then Ravidas shall be content)."

For millions of Dalits, Ravidas is the foremost spiritual figure. His followers, the Ravidassias, are a Dalit community of whom around 12 lakh live in Punjab's Doaba. The politically influential community separated from Sikhism in 2010 and follows its own scripture.

- **Key Terms and Explanations**
- **Nirguna Bhakti**
 - **Definition:** A stream within the Bhakti movement that centers on devotion to a formless, transcendent, and attribute-less ultimate reality (*Nirguna Brahman*), rejecting idol worship, ritualistic hierarchies, and priestly mediation.
 - **Context & Application:** Guru Ravidas belonged to this tradition, arguing that since the Divine resides within every individual equally regardless of birth, external rituals and caste barriers are spiritually meaningless.
- **Begumpura (The City Without Sorrow)**
 - **Definition:** A socio-political vision created by Guru Ravidas describing an egalitarian utopia free from caste hierarchies, poverty, physical or mental suffering, unjust taxation, and spatial segregation.
 - **Context & Application:** Unlike classical Western utopias that focus primarily on political structures, *Begumpura* integrates economic justice, civil liberties (unrestricted movement), and moral governance under divine sovereignty, serving as an early indigenous model of a welfare state.
- **Dignity of Labour (*Shram Meva Jayate*)**
 - **Definition:** The philosophical and socio-ethical principle asserting that physical labor and hereditary crafts—traditionally designated as "polluting"—carry innate moral worth and spiritual purity.
 - **Context & Application:** By continuing his hereditary craft of leatherworking (*chamar*) throughout his life, Guru Ravidas challenged the traditional ritual purity-pollution spectrum, sanctifying manual labor as a legitimate path to spiritual enlightenment.
- **Sadhukari**
 - **Definition:** A composite vernacular language blend incorporating Awadhi, Braj, Khari Boli, Punjabi, Rajasthani, and Sanskrit elements, used extensively by medieval saint-poets.
 - **Context & Application:** It served as a linguistic bridge to bypass Sanskrit's monopoly, allowing complex socio-philosophical ideas to be communicated directly to common people through memorable oral poetry.
- **Ad Dharm Movement**
 - **Definition:** A major socio-political anti-caste movement initiated in the 1920s in Punjab, led by figures like Mangoo Ram Mugowalia, asserting an independent identity for marginalized communities outside traditional religious frameworks.
 - **Context & Application:** The movement adopted Guru Ravidas as its spiritual patron, transforming devotional heritage into a vehicle for political consciousness, land rights, and electoral representation.

- **Main Arguments and Substantive Parts**

- The life, poetry, and philosophy of Guru Ravidas represent a crucial turning point in Indian socio-religious history, offering a framework for social reform rooted in spiritual equality.

- **Synthesis of Labour and Spiritual Liberation**

- **Refusal of Renunciation:** Unlike many ascetic traditions that mandated abandoning worldly affairs, Guru Ravidas maintained his profession as a cobbler.

- **De-stigmatization of Occupations:** By demonstrating that leathercraft was compatible with deep spiritual insight, he dismantled the Brahminical nexus between occupational status and moral purity.

- **Subversion of Sacred Symbols**

- **Appropriation of Caste Markers:** Historical accounts record his wearing of the sacred thread (*janeu*) and applying the *tilak*—practices traditionally restricted to the upper castes.

- **Symbolic Resistance:** Rather than rejecting sacred symbols entirely, using them while remaining an active leather worker challenged exclusive upper-caste control over spiritual authority.

- **Begumpura as a Model for Modern Governance**

- **Universal Rights:** His famous hymn outlines a society free from fear, distress, and economic exploitation, guaranteeing freedom of movement and economic security for all citizens.

- **Universal Subsistence:** His core economic philosophy is captured in the couplet:

- *"Aisa chahoon raaj main jahaan milai sabhan ko ann; Chhot bado sab sam basai, Ravidas rahai prasann."*
(I long for a realm where everyone receives adequate food, where the high and low live as equals, and Ravidas finds joy.)

- **Scriptural Integration and Historical Continuity**

- **Inclusion in Sikh Canon:** Forty hymns (*shabads*) and one verse (*shloka*) of Guru Ravidas were compiled into the *Guru Granth Sahib* by Guru Arjan Dev in 1604 CE.

- **Institutionalization:** This inclusion elevated his teachings from regional folk poetry to canonized scripture, preserving his social critique across centuries.



GURU RAVIDAS & DALIT RESISTANCE: A COMPREHENSIVE UPSC CSE ANALYSIS

KEY TERMS & CONCEPTS

 **Nirguna Bhakti**
(Devotion to formless God)

 **Begumpura**
(City without sorrow)

 **Sadhukari**
(Vernacular linguistic blend - list of components)

 **Dignity of Labour**
(Cobbler's craft)

THE CORE PHILOSOPHY


• Equality and rights on social/spiritual egalitarianism.

 + 
janeu Challenging monopolies

• Challenging monopolies of sacred knowledge and social status.



HISTORICAL EVOLUTION (TIMELINE)

(15th-16th C)
Bhakti Saint



Holy

(1604 CE)
Hymns in Guru Granth Sahib



(1920s)
Ad Dharm Movement



(Post-1947)
Political Mobilization & Separate Identity (2010)

THE BEGUMPURA VISION

The City Without Sorrow



MULTIDIMENSIONAL ANALYSIS



UPSC SYLLABUS LINKAGES



GS I: History
(Development of Bhakti movement, socio-cultural impact)



GS II: Social Justice
(Upliftment of vulnerable sections, equality before law)



GS III: Economy
(Dignity of labour, economic contribution of informal sector)

GS IV: Ethics, Essay
(Values of social thinkers, socio-political thought)

NCERT LINKS



Class 12 Sociology
Propworded questions and seat exatbction anccore class 12 sociology.



Class 7 History
Description of aavitiltxion brichave prouidectelation out of history.

PYQ SAMPLES (UPSC & APSC)

1. Discuss the relevance of Guru Ravidas's 'Begumpura' in contemporary social justice discourse.
2. Evaluate the impact of the Bhakti movement on language and literature, with specific reference to regional saints.
3. Analyze the role of non-violent resistance movements in challenging caste structures in colonial India.

• POLICY

New paper leak Bill: Bigger fines, longer jail terms, fast-track courts

Damini Nath
New Delhi, July 30

AFTER DAYS of disruptions in both Houses of Parliament over the NEET paper leak and the police action on protesting students on July 20, Lok Sabha on Thursday passed the Public Examination (Prevention of Unfair Means) Amendment Bill, 2026 by voice vote. Rajya Sabha, which took the Bill up for discussion on Thursday, also cleared it by voice vote.

Why was the Bill introduced?

Parliament had passed the Public Examination (Prevention of Unfair Means) Act, 2024 in 2024 to provide strict punishments for those involved in unfair means, including leaking of question papers, in examinations conducted by the Union Public Service Commission, the Staff Selection Commission, the Railway Recruitment Board, the Institute of Banking Personnel Selection and the National Testing Agency, which conducts the NEET exam. The Act came into effect in June 2024.

Amid the students' movement against paper leaks, sparked by the leak of the NEET UG paper in May this year, Prime Minister Narendra Modi, in a late-night so-

cial media post on July 23, announced that the government would bring a Bill with stringent measures against paper leaks. On July 24, the Cabinet approved the Bill amending the 2024 Act.

In the statement of objects and reasons of the Bill, Minister of State for Personnel, Public Grievances and Pensions Jitendra Singh wrote: "In recent years, there have been some incidents of question paper leakages and malpractices in examinations conducted by public examination authorities, which tend to affect the transparency and fairness of the public examinations system. Hence, in order to further strengthen the fairness, to enhance the credibility of the public examinations system and to facilitate speedy trial and ensure time bound investigations of offences under the said Act, it is necessary to make amendments in the said Act."

What are its key features?

The amendment Bill, as passed by Lok Sabha, enhances punishment for individuals, organised groups and service providers found guilty of adopting unfair means in a public examination.

The following is the structure of punishments laid out in the Bill:

Track record

- Cases registered in fast-track courts has gone up from 81,471 in 2023 to 88,902 in 2024 and 1,43,936 in 2025, according to a Parliamentary reply.
- The number of pending cases, too, has gone up from 2.02 lakh in 2023 to 2.04 lakh in 2024 and 2.45 lakh in 2025.
- Cases disposed of have increased from 76,319 in 2023 to 85,595 in 2024 to 66,500 in 2025.

INDIVIDUALS

- **2024 law:** Imprisonment of three to five years; fine upto Rs 10 lakh
- **New Bill:** imprisonment to five to 10 years, fine upto Rs 50 lakh

SERVICE PROVIDERS

- **2024 law:** Fine upto Rs 1 crore; ban on being assigned any responsibility relating to a public examination for four years
- **New Bill:** Fine upto Rs 5 crore; ban on being assigned any responsibility relating to a public examination for eight years

DIRECTORS, SENIOR MANAGEMENT OR PERSONS IN-CHARGE OF SERVICE PROVIDER FIRM FOUND GUILTY

- **2024 law:** Imprisonment of at least three years; fine of Rs 1 crore
- **New Bill:** Imprisonment of at least five years, fine of Rs 5 crore

ORGANISED CRIME

- **2024 law:** Imprisonment of five to 10 years; fine of Rs 1 crore
- **New Bill:** Imprisonment of least seven years; fine of Rs 10 crore.

Apart from enhancing the existing punishments, the Bill also gives statutory back-

ing for fast-track courts to be set up to try offences under the Act.

The Bill also mandates a five-month timeline for the investigation and trial of such offences by fast-track courts.

The Bill gives the Union government the power to establish a Special Task Force to investigate offences under the Act.

How have other fast-track courts performed?

The government has announced that fast-track courts would be set up in the four High Courts where cases related to the NEET leak are ongoing. If the Bill is passed and comes into effect, any offence under the Act would also be tried by fast-track courts.

In the past, the government has set up fast-track courts to try crimes under different laws, including the Protection of Children from Sexual Offences (POCSO) Act, 2012. In a reply in Lok Sabha on July 24, Law and Justice Minister Arjun Ram Meghwal said there were 775 fast-track courts in the country as on April 30, including 398 exclusive POCSO courts. As on December 31, 2025, there were 2.45 lakh cases pending with these fast-track courts, the Minister's reply showed.

- **Key Terms and Explanations**

- **Public Examination**

- Refers to any competitive test, entrance examination, or recruitment assessment conducted by designated public authorities—such as the Union Public Service Commission (UPSC), Staff Selection Commission (SSC), Railway Recruitment Boards (RRBs), Institute of Banking Personnel Selection (IBPS), National Testing Agency (NTA), or State Public Service Commissions—to select candidates for government posts or admissions into higher educational institutions.

- **Organised Examination Syndicate / Crime**

- Systemic, multi-tiered operations undertaken by an organized group or cartel to manipulate public examinations through illegal means such as question paper leaks, digital hacking, paper solving, or mass impersonation for monetary gains.

- **Fast-Track Courts (FTCs)**

- Specialized judicial forums established under specific statutory frameworks or administrative directives to try designated categories of offences within expedited timeframes, bypassing the standard procedural delays of regular trial courts.

- **Service Provider**

- Third-party private or quasi-government agencies hired by public examination authorities to handle critical infrastructure, software development, computer-based test (CBT) administration, printing, or logistics.

- **Special Task Force (STF)**

- A specialized, multi-disciplinary investigative unit constituted by the government with dedicated powers to handle complex, cross-jurisdictional, or high-stakes criminal investigations.

- **Deterrence Theory of Punishment**

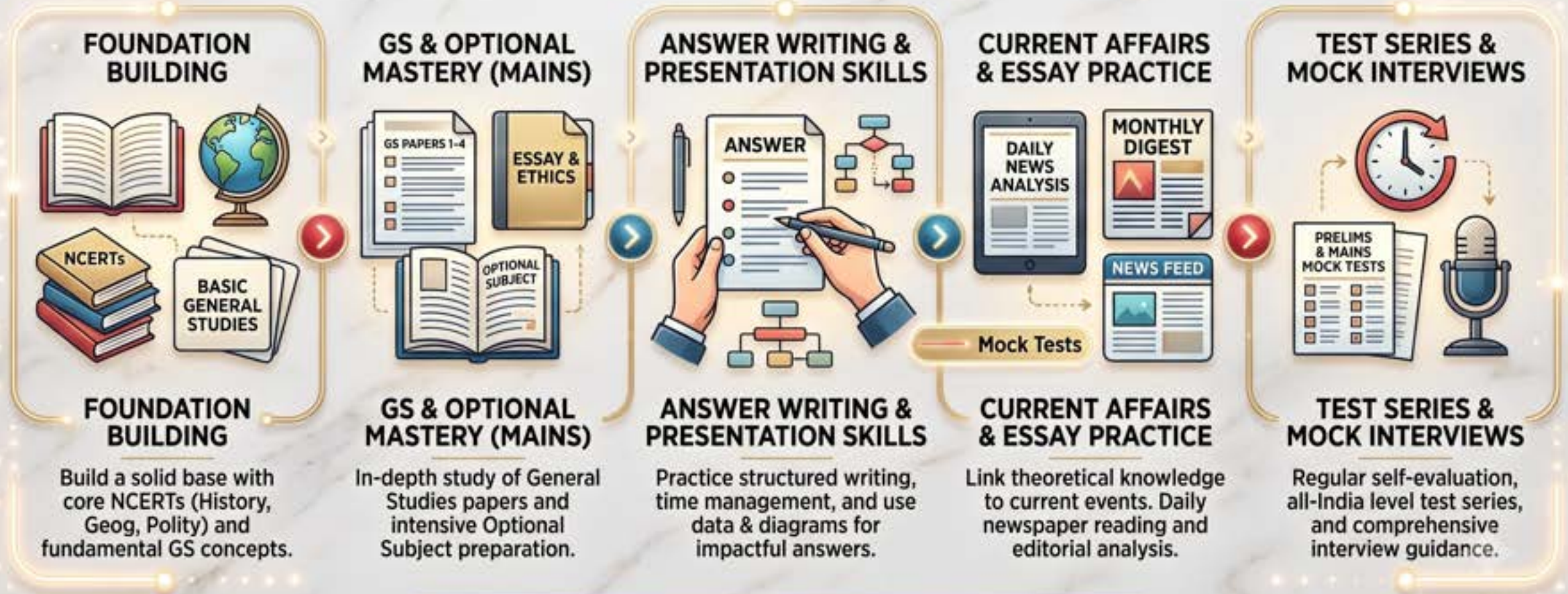
- A doctrine in criminology holding that the severity, certainty, and swiftness of punishment directly deter both the individual offender (*specific deterrence*) and the broader public (*general deterrence*) from committing crimes.

- **Main Arguments and Substantive Parts**
- **Core Thesis**
 - The sanctity of public competitive examinations is a bedrock of meritocracy, public trust, and social mobility in India. To combat the rising sophistication of examination cartels, a penal framework must combine enhanced criminal sanctions, swift judicial adjudication, and centralized investigative authority.
- **Key Legislative Enhancements**
 - **Escalation of Penalties:** The punitive architecture against unfair means distinguishes between individual aspirants, institutional service providers, senior corporate management, and organized cartels, escalating financial and custodial liabilities significantly across all tiers.
 - **Corporate and Institutional Accountability:** Private service providers face steep monetary penalties (up to ₹5 crore) and multi-year debarment (up to 8 years), holding corporate directors and operational managers directly liable for security lapses.
 - **Statutory Timelines and Judicial Expedite:** The institutional framework establishes dedicated Fast-Track Courts mandated to conclude investigations and trials within a strict 5-month timeline, seeking to eliminate judicial delay.
 - **Centralized Investigation Mechanism:** The framework grants explicit statutory power to the Union government to constitute a dedicated Special Task Force (STF) to investigate complex, cross-border examination cartels.
- **Operational and Judicial Ground Realities**
 - **Escalating Pendency in Fast-Track Courts:** While fast-track courts aim for rapid disposal, structural data indicates growing pendency. Nationwide fast-track court pending cases increased from 2.02 lakh in 2023 to 2.45 lakh in 2025, despite case disposals fluctuating between 66,000 and 85,000 annually.
 - **Overburdened Judicial Capacity:** Over 775 fast-track courts operate across the country (including nearly 400 dedicated POCSO courts). Simply assigning additional specialized categories of crime to existing judicial infrastructure without proportional capacity expansion runs the risk of procedural bottlenecks.
- **Structural Counterarguments & Nuances**
 - **Punitive Deterrence vs. Systemic Reforms:** Critics argue that relying heavily on severe punishments (such as ₹10 crore fines and multi-year prison terms) addresses symptoms rather than root causes. Without robust digital architecture, secure logistics, and strict vendor vetting, punitive laws alone cannot fully prevent insider malpractices.
 - **Enforcement Capacity vs. Statutory Intent:** Setting a strict 5-month trial mandate requires substantial improvements in forensic capacity, digital evidence gathering, and police staffing; without these, statutory deadlines risk becoming aspirational rather than operational.

- **Historical Evolution of the Issue**
- **Pre-1990s: Decentralized Testing and Traditional Malpractice**
 - Public recruitment and university admissions operated through localized, paper-based examination systems.
 - Examination malpractices were largely restricted to individual-level cheating, localized impersonation, or physical copying at test centers.
 - Legal redress relied primarily on general provisions of the Indian Penal Code (IPC) (e.g., cheating, forgery) and state-level education board regulations, which lacked specialized provisions for organized paper leaks.
- **2000s–2010s: Expansion of Mass Testing and Emerging Syndicates**
 - The expansion of professional higher education and central government job recruitment led to mass national competitive exams (e.g., AIEEE, AIPMT, Banking, SSC).
 - Organized cartels emerged, utilizing early digital communication technologies (e.g., Bluetooth devices, micro-earpieces, high-speed photocopiers) to leak papers pre-exam or relay answers into examination halls.
 - High-profile regional examination scandals highlighted the vulnerability of state public service commissions and medical recruitment boards.
- **2010s–Early 2020s: Outsourcing, Computer-Based Tests, and Technological Compromises**
 - To manage millions of candidates, testing bodies increasingly outsourced logistics, software management, and center administration to private service providers, introducing Computer-Based Testing (CBT).
 - New vulnerabilities surfaced, including remote access hacking of test center computers, compromise of server credentials, and physical breaches at third-party printing presses and transit routes.
 - Public outcry and widespread student protests over repeated cancellations of national and state-level exams pressured the executive and legislature for dedicated statutory intervention.
- **2024: The Baseline Central Legislative Framework**
 - Parliament enacted the Public Examination (Prevention of Unfair Means) Act, 2024, establishing the first unified central law targeting unfair means across major national bodies (UPSC, SSC, RRB, IBPS, NTA).
 - It defined unfair means comprehensively and established baseline criminal liabilities for candidates, organized cartels, and test-conducting service providers.
- **2026: Enhanced Anti-Leak Framework and Strict Judicial Timelines**
 - Recognizing operational gaps and the persistence of paper leaks, Parliament enacted stringent amendments to the 2024 law.
 - The updated framework substantially increased fines and prison terms across all categories, mandated Fast-Track Courts with a strict 5-month investigation-cum-trial limit, and authorized a national Special Task Force (STF) for cross-border investigations.



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