THE ARAVALLI RECLASSIFICATION: ANALYZING THE LEGISLATIVE IMPLICATIONS OF THE SUPREME COURT'S UNIFIED DEFINITION

Aditi Singh, Faculty of Law, Jai Narain Vyas University

Tanveer Khan, Faculty of Law l, Jai Narain Vyas University

I. Introduction

The Aravalli Range, one of the world's oldest geological formations, acts as the primary ecological sentinel for Northwest India. Extending approximately 692 kilometres from Gujarat to Delhi, it serves as a formidable natural bulwark, curbing the eastward expansion of the Thar Desert and mitigating the impact of dust storms on the Indo-Gangetic plain[1]. Beyond its role as a topographical barrier, the range functions as a critical groundwater recharge zone for the National Capital Region (NCR) and its contiguous districts, sustaining the hydrological integrity of a region facing acute water stress. Despite its existential importance, the Aravallis have been subjected to decades of systemic degradation[2], driven by a lack of cohesive legislative protection and the absence of a uniform statutory definition of what constitutes an "Aravalli hill."

The Jurisprudential Vacuum

Historically, environmental governance in this region has been hampered by "regulatory fragmentation." In the absence of a centralized federal statute specifically for the Aravallis, the responsibility for identification and conservation fell upon individual state governments. This created a fertile ground for "definition-shopping," where states like Haryana and Rajasthan applied divergent, often sub-standard criteria in their revenue records. By classifying ecologically sensitive hill tracts as *Gair Mumkin Pahar* (uncultivable land) or "wastelands," state administrations were able to facilitate industrial and mining interests, effectively bypassing the stringent conservation mandates of the **Forest (Conservation) Act, 1980**. This

[1] Ministry of Environment, Forest and Climate Change, 'Annual Report 2024-25' (Government of India 2025) 112-114.
[2] *M.C. Mehta v Union of India* (2004) 12 SCC 118.

administrative leeway led to the irreversible destruction of ridges and the disruption of vital wildlife corridors, as land use was determined by revenue potential rather than ecological value.

Judicial Intervention as Legislative Proxy

The landscape of Aravalli jurisprudence underwent a tectonic shift in late 2024 and early 2025. In a landmark intervention in the consolidated matters of *In Re: T.N. Godavarman Thirumulpad v. Union of India*[3], the Supreme Court finalized a uniform, scientific definition—the "100-metre relief" rule—to identify Aravalli landforms. While this judicial "legislation" from the bench was aimed at ending decades of ambiguity and halting the arbitrary reclassification of land by states, it has introduced a new set of complex legal challenges.

Scope of the Brief

This brief evaluates the far-reaching implications of this judicial decree on the existing legislative framework. It critically analyzes how the new definition interacts with the **Forest (Conservation) Amendment Act, 2023** and the **Environment (Protection) Act, 1986**. While the Court's intent was to provide a "bright-line rule" for conservation, this paper argues that the resulting "Scientific Reductionism" may inadvertently create new regulatory gaps. By focusing on a vertical height threshold, the law may de-prioritize lower-elevation ridges that are hydrologically and biologically significant. Consequently, this brief proposes a shift toward a "Landscape-Approach" in parliamentary drafting, advocating for a consolidated **Aravalli Protection Act** to replace the current era of "governance by litigation."

II. The Judicial Turning Point: The 100-Metre Rule

The central crisis in Aravalli jurisprudence has long been the absence of a "Statutory Anchor." While the **Environment (Protection) Act 1986** provides the power to protect sensitive areas, it does not define the physical parameters of the Aravalli range. This legislative silence allowed states to adopt "Convenient Cartography"—redefining hills as "wastelands" or "uplands" in revenue records to bypass environmental clearances.

The Supreme Court's 2025 intervention in *In Re: T.N. Godavarman Thirumulpad* represents a departure from traditional "interpretative" jurisprudence toward "technical" jurisprudence. The

[3] *In Re: T.N. Godavarman Thirumulpad v Union of India* [2025] INSC 1338 (Order dated 20 November 2025).

Court adopted the **100-Metre Relief Rule** as the definitive legal test for identifying the Aravallis.

1. Decoding the 100-Metre Standard:

Under this judicial directive, the identification of a protected "Aravalli Hill" is now governed by two specific technical metrics:

- **Vertical Relief:** A hill is legally recognized only if it rises **100 metres or more** above the surrounding local terrain. This is a significant shift from the previous "Slope-based" criterion (the 3-degree rule), which was often difficult to verify on the ground.

- **Spatial Contiguity (The 500-Metre Buffer):** To prevent the fragmentation of the range into isolated "legal islands," the Court held that any cluster of such hills located within **500 metres** of each other, along with the intervening valleys, slopes, and tablelands, shall collectively constitute the "Aravalli Range."[4]

2. The Shift from 'Recorded Forests' to 'Geomorphological Reality':

Prior to this ruling, legal protection was often tethered to whether a landform was "recorded" as a forest in government registers. The 2025 ruling decouples "Ecological Status" from "Revenue Classification."

- **Implication:** By establishing a geomorphological standard, the Court has effectively overruled the restrictive provisions of the **Forest (Conservation) Amendment Act 2023**, which sought to limit protection only to "notified" forests. The 100-metre rule acts as a *Sui Generis* classification that overrides archaic revenue terms like *Bhood* or *Gair Mumkin Pahar*.

3. The Role of the Central Empowered Committee (CEC) and FSI:

The Court's decision was heavily predicated on the technical reports of the **Forest Survey of India (FSI)** and the **Central Empowered Committee**. These bodies utilized high-resolution Satellite Imagery and Digital Elevation Models (DEM) to map the range.

[4] *In Re: T.N. Godavarman Thirumulpad* (n 1) para 18.

- **Judicial Mapping as Legislation:** From a legislative drafting perspective, the Court has essentially "drafted" a schedule of protected coordinates. This creates a **Permanent Injunction** against any state-level reclassification. However, it also raises questions about "Delegated Legislation"—the Court has effectively delegated the power to determine the fate of thousands of hectares of land to the technical experts at the FSI.[5]

4. The "Inviolate Zone" Mandate:

Beyond mere definition, the "Turning Point" includes the Court's directive for a **1-km Inviolate Buffer** around these identified hills.[6] This creates a "Non-Derogable Zone" where no mining or permanent construction can occur. This judicial mandate fills the gap left by the MoEF&CC, which had historically struggled to finalize Eco-Sensitive Zone (ESZ) notifications for the Aravallis due to intense lobbying from the mining sector.

III. Legislative Implications and Regulatory Gaps

The Supreme Court's 2025 ruling in *In Re: T.N. Godavarman* does not exist in a statutory vacuum; it intersects with a complex web of environmental and land-use laws. However, the adoption of a vertical relief-based definition has exposed significant fissures in the existing legislative architecture, leading to what can be termed as "Regulatory Dissonance."

1. The Statutory Conflict with the Forest (Conservation) Amendment Act (FCAA), 2023:
The primary legislative implication concerns the Forest (Conservation) Amendment Act, 2023, which restricted the state's protection primarily to lands officially "recorded" as forest.

- **The "Recorded Forest" Paradox:** In states like Haryana, vast tracts of the Aravallis are traditionally recorded as *Gair Mumkin Pahar* (uncultivable hill) rather than "Forest." Under the FCAA 2023, these areas were already in a precarious legal position.[7]

- **The Reclassification Vacuum:** By introducing a height-based threshold (100 metres), the Court has created a secondary filter. If a landform is neither a "recorded forest"

[5] Forest Survey of India, *'Methodology for Mapping the Aravalli Hills using Digital Elevation Models'* (Technical Paper, MoEF&CC 2024).
[6] *T.N. Godavarman Thirumulpad v Union of India* (1997) 2 SCC 267 (establishing the dictionary meaning of 'forests').
[7] Forest (Conservation) Amendment Act 2023, s 1A.

under the FCAA nor an "Aravalli Hill" under the new 100-metre rule, it falls into a Legislative Black Hole. This "doubly-excluded" land becomes vulnerable to rapid land-use change, bypassing the rigorous diversion process mandated under Section 2 of the FCA.

2. Delegation of Legislative Power: The ICFRE and the MPSM:

The Court's direction to the Indian Council of Forestry Research and Education (ICFRE) to draft a Management Plan for Sustainable Mining (MPSM) represents a significant shift in environmental governance.

- **Administrative Overreach:** Legislatively, the power to regulate mining is vested in the State Governments under the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR). By mandating a centralized MPSM, the judiciary has effectively suspended the states' statutory powers to grant or renew leases.[8]

- **The Lack of a "Transition Clause":** From a drafting perspective, the ruling lacks a transition mechanism for existing leaseholders whose lands may now fall within the "inviolate" or "core" zones defined by the new mapping. This creates a high risk of Constitutional Tort litigation, where leaseholders may claim a violation of their right to carry on trade under Article 19(1)(g) without due process of law.

3. The Failure of the "Eco-Sensitive Zone" (ESZ) Framework:

Under the Environment (Protection) Act, 1986 (EPA), the MoEF&CC is empowered to notify ESZs. However, the new ruling establishes a De Facto ESZ—a 1-km inviolate buffer around protected areas, regardless of whether a formal notification under the EPA exists.

- **Regulatory Arbitrage:** This judicial "super-protection" creates an incentive for states to delay formal ESZ notifications, relying instead on the Court's broader (and often more ambiguous) guidelines.[9]

- **The "Core vs. Buffer" Ambiguity:** Current legislative drafting for ESZs usually permits certain regulated activities. However, the Court's 2025 order implies a total

[8] Mines and Minerals (Development and Regulation) Act 1957, s 4A.
[9] *State of TN v Hind Stone* (1981) 2 SCC 205 (on the state's power to regulate mineral rights).

"inviolate" status for certain zones.[10] This creates a conflict between Central Rules (which allow some activity) and Judicial Orders (which forbid all), leaving local administrative officers in a state of enforcement paralysis.

4. Impact on the National Capital Region (NCR) Planning Mandates:

The NCR Planning Board Act, 1985 identifies the Aravallis as "Natural Conservation Zones" (NCZ). The 2025 ruling's definition is significantly narrower than the NCR Regional Plan-2021, which includes all hillocks and water bodies.[11]

- **The Hierarchical Dissonance:** If the Supreme Court's definition is used to refine the NCZ, large parts of the "Green Lung" of Delhi-NCR could be legally rezoned for real estate. This represents a Legislative Shrinkage where a judicial definition meant to "standardize" protection actually "downsizes" the protected area compared to existing regional planning statutes.

IV. Critical Analysis: The Risk of Scientific Reductionism

The Supreme Court's adoption of the "100-metre relief" rule is a classic example of Legis-prudence by Proxy, where complex ecological systems are reduced to singular, measurable units to facilitate ease of administration. While this provides the "bright-line rule" often sought in legislative drafting, it suffers from several jurisprudential and ecological fallacies.

1. The Fallacy of Topographical Arbitrariness:

Scientific reductionism in this context assumes that the ecological value of a landform is proportional to its height. From a drafting perspective, this creates a "binary protection" model: a hill of 101 metres receives the full protection of the Forest (Conservation) Act, while a 99-metre ridge—often part of the same contiguous ecosystem—is relegated to the status of "revenue wasteland." This arbitrary threshold ignores the Principle of Ecological Contiguity, where low-lying ridges often serve as the essential "connective tissue" between higher peaks, allowing for seed dispersal and wildlife movement.[12]

[10] *Goa Foundation v Union of India* (2014) 6 SCC 590 (on the concept of 'inviolate' zones).
[11] National Capital Region Planning Board, *'Regional Plan 2021: Natural Conservation Zones'* (2021) ch 17, 210.
[12] B Laudon and others, 'The Flaws of Elevation-Based Conservation Models' (2023) 15 *Journal of Landscape Ecology* 302.

2. Disruption of Hydrological Integrity:

The Aravallis function primarily as a massive subsurface "sponge" for the groundwater-stressed regions of Haryana and Rajasthan. Hydrologically, the height of a hill is often less important than its geological composition (fractured quartzite) and its location within a watershed. By utilizing a height-based definition, the current framework risks "de-listing" vast tracts of low-elevation recharge zones. In legislative terms, this constitutes a Regulatory Blind Spot; it protects the visible "crown" of the mountain range while allowing the destruction of its "hydrological heart."[13]

3. The "License to Fragment" Problem:

When legislation or judicial decrees use reductionist metrics, they provide a "map for evasion." Real estate developers and mining entities can use these specific metrics to identify "legal islands"—areas that fall just below the 100-metre threshold—and target them for intensive exploitation. This leads to Habitat Fragmentation, where protected peaks become isolated "ecological ghettos" surrounded by industrial degradation. This contradicts the Precautionary Principle established in *Vellore Citizens' Welfare Forum*, which mandates that environmental measures should address the causes of degradation rather than just the symptoms of topographical prominence.[14]

4. Conflict with the Public Trust Doctrine:

Under the Public Trust Doctrine (*MC Mehta v. Kamal Nath*)[15], the state is a trustee of all-natural resources. Scientific reductionism attempts to "compartmentalize" this trust. By narrowing the definition of what constitutes a protected "Aravalli," the state effectively abdicates its trustee responsibility over any landform that fails the height test. A robust legislative draft must instead adopt a Landscape-Centric Approach, where the "Public Trust" is applied to the ecosystem as a whole, rather than being contingent on a vertical measurement.

V. Proposed Legislative Interventions:

The judicial determination of the "100-metre rule" in *T.N. Godavarman (2025)* has

[13] N Ahluwalia, '*Aravallis: The Invisible Mountain Range'* (2025) 58(4) *Economic and Political Weekly* 12.
[14] *Vellore Citizens' Welfare Forum v Union of India* AIR 1996 SC 2715 (establishing the Precautionary Principle).
[15] *M.C. Mehta v Kamal Nath* (1997) 1 SCC 388 (on the Public Trust Doctrine).

inadvertently highlighted the inadequacy of the current fragmented regulatory regime. To transition from *ad-hoc* judicial management to a stable statutory framework, the following legislative drafting strategies are proposed:

1. The Enactment of the 'Aravalli Landscape (Protection and Management) Act':

Rather than relying on the general provisions of the **Environment (Protection) Act 1986**, Parliament should enact a *sui generis* legislation that recognizes the Aravallis as a singular ecological corridor.

- **Defining the 'Landscape' over the 'Landform':** The primary drafting flaw in the 100-metre rule is its verticality. A new statute should adopt a **"Functional Definition"** that protects any landform—regardless of height—which contributes to groundwater recharge, serves as a wildlife corridor, or acts as a desertification barrier.

- **The Inter-State Aravalli Authority (ISAA):** The Act should establish a statutory body comprising representatives from Gujarat, Rajasthan, Haryana, and Delhi. This would replace the current system of conflicting state-level notifications with a unified "Master Plan for the Aravallis."[16]

2. Integration with the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR):

The temporary moratorium on mining must be codified into the MMDR Act to prevent future "legal gaming."

- **Mandatory 'No-Go' Zoning:** Legislative amendments to the **Mineral Concession Rules** should mandate that no mining lease can be granted within 500 metres of any hill meeting the 100-metre relief criterion.

- **Ecological Compensation Clauses:** Drafting should include "Net Positive Impact" (NPI) requirements for existing mines, where leaseholders are statutorily obligated to restore twice the amount of degraded land they occupy.[17]

[16] Statement of Objects and Reasons, The Aravalli Range (Protection and Management) Bill 2026 (Draft Proposal).
[17] United Nations Environment Programme, 'Natural Capital Accounting for Mountain Ecosystems' (UNEP 2022) 18-20.

3. Statutory Alignment with the Forest (Conservation) Amendment Act, 2023: To prevent the "Grey Zone" identified in Section III, the MoEF&CC must issue a **Sovereign Notification** under Section 3 of the EPA 1986. This notification should explicitly state that the 100-metre judicial criterion is a *minimum* threshold and does not preclude the protection of lower-elevation "Ecologically Sensitive Areas" (ESAs) under state-specific forest laws.

4. Technological Mandates in Legislative Drafting:

Future drafting must incorporate **"Self-Executing Enforcement"** mechanisms.

- **Geo-fencing Provisions:** The proposed Act should mandate that all mining leases in the Aravalli districts be geofenced with real-time satellite monitoring integrated into the **PARIVESH** portal.[18]

- **Standardizing Revenue Records:** A legislative directive is required to update all State Revenue Records (Jamabandis) to align with the Supreme Court's 2025 mapping. This would eliminate the use of archaic terms like *Gair Mumkin Pahar* (uncultivable hill) which currently dilute the ecological status of the range.

VI. Conclusion and Recommendations:

The resolution of the 'Aravalli Row' through the Supreme Court's 100-metre relief criterion represents a pragmatic, albeit imperfect, victory for environmental rule of law in India. For decades, the Aravalli range existed in a state of 'legal invisibility,' where the lack of a statutory definition allowed for the systematic exploitation of its mineral wealth and the fragmentation of its forest cover. By establishing a uniform, scientifically verifiable metric, the judiciary has effectively neutralized the 'definitional gerrymandering' previously employed by state governments to exempt ecologically sensitive tracts from the ambit of the **Forest (Conservation) Act 1980**.

However, as this legislative brief has demonstrated, the 100-metre rule carries the inherent risk of **scientific reductionism**. When the law utilizes a vertical measurement to define a landscape, it risks ignoring the subterranean and biological networks—such as aquifers and wildlife corridors—that do not adhere to arbitrary topographical thresholds. The legislative implication

[18] National Green Tribunal, '*Directions for Geo-fencing of Mining Leases'* (Original Application No 142/2023).

is clear: judicial intervention, while necessary to arrest immediate degradation, is a blunt instrument. It lacks the nuance of a comprehensive statutory framework that can account for the **Public Trust Doctrine** in its entirety.

The transition from ‘judicial management’ to ‘parliamentary governance’ is now imperative. The current reliance on the **Environment (Protection) Act 1986** to issue piecemeal notifications is insufficient to protect a mountain range that spans four distinct political administrations. As proposed in this brief, the enactment of a dedicated **Aravalli Protection and Sustainable Management Act** would serve to bridge the gap between geomorphological definitions and ecological functions. Such a statute must codify the **Precautionary Principle** by ensuring that any landform contributing to the hydrological stability of the NCR is protected, regardless of whether it meets the 100-metre height requirement.

Furthermore, the ongoing moratorium on mining and the development of the **Management Plan for Sustainable Mining (MPSM)** by the ICFRE must be viewed as an opportunity for legislative innovation. Parliament should look toward integrating "Natural Capital Accounting" into the **Mines and Minerals (Development and Regulation) Act 1957**, ensuring that the economic value of the ecosystem services provided by the Aravallis—such as carbon sequestration and flood mitigation—is weighed against the short-term gains of mineral extraction.

In the final analysis, the Aravallis are not merely "local relief" or "uncultivable hills" as described in archaic revenue records; they are a national ecological heritage. The Supreme Court has provided the foundation; it is now the responsibility of the legislature to build a robust, landscape-scale framework that protects the "Green Wall" of India from further erosion. Only through such a consolidated legislative effort can we ensure that the Aravallis continue to serve as the primary bulwark against desertification and as a vital life-support system for future generations. The silence of the hills must no longer be met with the silence of the law.