
DEFINING TO DESTROY: HOW THE LEGAL REDEFINITION OF THE ARAVALLI [2024-25] UNDERMINES CONSERVATION AND WHAT FRAMEWORK WOULD ACTUALLY WORK

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ABSTRACT

Measurement, when substituted for meaning, produces a law that sees mountains by height and misses what they do. The Apex court, in November 2025, through its ruling in a matter concerning the definitional framework of the Aravalli hills and ranges, approved an elevationbased definition proposed by an expert committee operating under the Ministry of Environment, Forest and Climate Change, which classifies the Aravalli hills at a minimum local relief of 100 meters or above as legally recognizable. The Forest Survey of India had documented 12,081 hill formations across the region; only 1,048 of those clear that bar. The 91.3 per cent excluded are not ecologically peripheral they recharge the aquifer belt that supplies three states, collectively arrest the westerly sand-bearing winds that would otherwise advance the Thar Desert eastward, and provide the connective terrain without which the Sariska–Asola wildlife corridor would collapse. Thirty-nine days after the order, the Court withdrew it not a resolution, but a confession that elevation-based governance had no ecological foundation. This paper diagnoses five structural causes of that failure and proposes, under Section 3(1) of the Environment (Protection) Act 1986, a definition tethered to what the Aravalli terrain performs its recharge, barrier, and its corridor function.

Keywords: Aravalli, Supreme Court, ecological function, continuing mandamus, Ecological Function Framework, environmental constitutionalism, mining regulation, wildlife corridors, groundwater recharge, Section 3(1), Environment (Protection) Act, 1986.

RESEARCH QUESTIONS

1. Why did the Apex Court's 2024-25 definitional process produce an ecologically indefensible threshold, and what institutional factors enable this?
2. How does the 100-m rule compare against prior Apex court's orders and India's constitutional obligations?
3. What percentage of Aravalli's ecological functions, aquifer recharge, desert barrier, and Wildlife corridor, would be lost under the 100 m definition?
4. What would an enforceable ecologically grounded definition of the Aravalli look like, and what legislative pathway exists for its adoption?

LIST OF ABBREVIATIONS

ABBREVIATIONS	FULL FORMS
AIR	All India Reporter
ATREE	Ashoka Trust for Research in Ecology and the Environment
CEC	Central Empowered Committee
CGWB	Central Ground Water Board
EFF	Ecological Function Framework
EIA	Environmental Impact Assessment
EPA	Environment (Protection) Act, 1986
FC Act	Forest (Conservation) Act, 1980
FSI	Forest Survey of India
GSI	Geological Survey of India
ICFRE	Indian Council of Forestry Research and Education
INSC	India Supreme Court (neutral citation)
MoEFCC	Ministry of Environment, Forest and Climate Change

MPSM	Management Plan for Sustainable Mining
PIL	Public Interest Litigation
RQ	Research Question
SCC	Supreme Court Cases
SC	Supreme Court of India
TERI	The Energy and Resources Institute
WII	Wildlife Institute of India
WP	Writ Petition
WWF	World Wildlife Fund

I. INTRODUCTION

An incident was covered in the news in April 2022, where a leopard was found roaming the crowded lanes of Bhiwadi, an industrial township in Rajasthan. Six months later, a twelve year-old was attacked by a leopard in a residential colony of Gurugram situated barely 12 kilometers (Km) from the Aravalli region. These incidents are not anomalies. They are symptoms of ecological imbalance persisting across India's most ancient and irreplaceable mountain system.¹

A. THE ARAVALLI RANGE: STAKES OF THE DEFINITION

The Aravalli range is not just a geographic feature posing as a scenic backdrop – it is a living geological monument. Standing strong for approximately 670 million years, these ranges stretch 700-800 km across Rajasthan, Haryana, Gujarat and Delhi and function as a hydrological lifeline of northwestern India.² It serves as a desert barrier against the eastward advance of the Thar, a groundwater recharge zone, a biodiversity corridor and a microclimate regulator for Delhi and its satellite cities. Between 1975 and 2019, the central Aravalli lost thirty two percent of its forest cover.³

¹ Leopard incidents: Times of India (April 2022); Hindustan Times (October 2022).

² Geological age and geographic extent: Forest Survey of India (FSI), State of India's Forests Report (2021); Drishti IAS, Protection of Aravalli Hills (Dec. 2025).

³ FSI satellite data (2021), cited in Tarun IAS, Aravalli Range: Geography, Ecology, Threats, Conservation and Significance (July 2025).

B. THE DEFINITIONAL PARADOX

In the vocabulary of environmental law, a definition is not merely an administrative convenience it is a boundary that separates what receives legal protection from what does not. On the night of 20 November 2025, the Apex court accepted the MoEFCC committee's recommendation that redefined its ancient, continuous system using a single geometric threshold: 100 meters of local elevation relief. Any landform below that height ceased, in legal terms, to be an Aravalli Hill.⁴ The Forest Survey of India's own data reveals, what this means in practice: of 12,081 hills mapped across the Aravalli districts, only 1,048 exceed 100-metres. With one judgment, 11,033 hills 91.3% of the mapped range lost their legal protection.⁵

C. THE PARADOX OF JUDICIAL SELF-REVERSAL

Since *T.N. Godavarman Thirumulpad v. Union of India*⁶ the Apex court has been the primary guardian of India's Forests, interpreting the Forest (Conservation) Act, 1980⁷ in the widest possible terms. From the Godavarman (1997) framework to the M.C. Mehta orders closing illegal mines,⁸ the court has repeatedly intervened to protect what state governments and the executive were content to sacrifice. Three elements make this present dilemma urgent. Ecologically, the Aravalli sustains more than 10,000 species, and serves as a main buffer against the spread of the Thar desert, and supplies aquifer recharge of 2 million litres per hectare annually.⁹ Legally, the conflict between prior orders and the November 2025 judgment undermines legal certainty. Precedentially, if the Aravalli definitional dilemma is not handled, it will act as a model for undermining the safeguarding of ecologically vulnerable regions throughout India.

D. THESIS STATEMENT

The elevation-based definition of the Aravalli hills by the Apex Court's 2025 judgement

⁴ In re T.N. Godavarman Thirumulpad v. Union of India, 2025 INSC 1338 (India) (Nov. 20, 2025) [hereinafter Godavarman (2025)].

⁵ FSI hill mapping data cited in Down to Earth, Institutional Expertise Meets Judicial Confusion in the Aravalli Hills Definition Case (Dec. 30, 2025).

⁶ T.N. Godavarman Thirumulpad v. Union of India, (1997) 2 SCC 267 (India) [hereinafter Godavarman (1997)].

⁷ Forest (Conservation) Act, No. 69 of 1980, India Code (2016).

⁸ M.C. Mehta v. Union of India, AIR 2004 SC 4016 (India) (WP Civil 4677/1985 the Aravalli mining case, distinct from AIR 1987 SC 965, the Oleum Gas absolute liability case); (2008) 16 SCC 337 (India) (the 2002 total mining ban order).

⁹ People for Aravalli, State of the Haryana Aravallis Citizens' Report Part 1 (May 2025).

reveals a failure of the system to include ecological science into legal governance, and its immediate reversal exposes the institutional contradiction of the judiciary, as it simultaneously serves as an administrative authority and an environmental regulator. A durable solution requires redefining the Aravalli not by physical geometry but by ecological function.

To understand why a court armed with contradicting scientific data adopted an ecologically indefensible definition, it is vital to comprehend what the definition destroys first- and why height is the wrong measure for the world's oldest mountain system.

II. WHY ARE LOW HILLS NOT LOW-VALUE HILLS?

Before examining the legal history or the committee's process, one foundational scientific question must be answered: Is there any ecological basis for using elevation as a proxy for protection? For the Aravalli, the answer is categorically no and knowing why makes everything that follows in this paper comprehensible.

The Aravalli are not young, sharp mountains whose height and ecological function are correlated. These fold mountains date back 670 million years, and their current low relief is the consequence of extensive geological erosion. As the NASA Earth Observatory observed, they are similar to the Appalachian Mountains of the eastern United States: in such ancient ranges, ecological function is carried out by *continuity* rather than by height.¹⁰

Consider a 30-metre rocky knoll located between two 150-metre hills. Under the 100-metre threshold, that knoll does not legally exist. Yet ecologically, it performs three vital functions: it acts as a stepping stone for leopards, an infiltration surface for recharging the aquifer below, and a windbreak to stop dust storms from bringing Thar sand into Delhi. Remove the knoll, make it legally invisible, and the wildlife corridor is severed, the aquifer stops recharging, and the dust flows through. The law has not protected the landscape. It has rendered the most important parts of it non-existent.

This is not a marginal concern. The 12 documented "desert gaps" already created by mining

¹⁰ NASA Earth Observatory geological comparison, cited in Down to Earth (Dec. 30, 2025): "By privileging elevation over function, the law substitutes a visible metric for an invisible reality."

each correspond precisely to a zone where low-elevation hills were quarried away.¹¹ The 100metre definition does not merely risk creating new gaps -it legally sanctions their creation. With this scientific reality established, forty years of judicial history read very differently.

III. LEGAL HISTORY: FORTY YEARS OF JUDICIAL OVERSIGHT [1985-2025]

Given the established ecological stakes, the legal history of the Aravalli reveals a governance framework that was protecting the right thing for the wrong reasons-and was therefore always susceptible to a definitional collapse. The abbreviated timeline below records the key orders.

What it cannot record is their defining common feature: not one of them is a statute.

YEAR	EVENT/ORDER
1985	M.C. Mehta PIL filed Haryana Aravalli mining, WP (Civil) 4677/1985
1995	T.N. Godavarman case Forest (Conservation) Act applied to Aravalli; (1997) 2 SCC 267
2002	SC total mining ban "entire Aravalli hills"; (2008) 16 SCC 337
2006	Rajasthan unilaterally adopts 100m administrative definition 31 hills ranges lost over next decade
2009	SC modifies 2002 ban for Rajasthan mining with EIA/FC Act approval permitted; (May 8, 2009)
20 November, 2025	2025 INSC 1338: SC accepts 100m threshold 91.3% of 12,081 documented hills lose formal protection

The table ends here- not because the story ends, but because what comes next is not a further order. It is a self-correction. On December 29, 2025, the Apex court stayed its own November 20 judgement¹²- an event without precedent in the history of Indian environmental jurisprudence. Every protection the Aravalli has ever had is an interlocutory order, which is temporary, modifiable, and reversible by the same court that issued it, without parliamentary

¹¹ The Energy and Resources Institute (TERI), cited in Down to Earth (Dec. 30, 2025); People for Aravallis (May 2025)

¹² In re T.N. Godavarman Thirumulpad v. Union of India, WP (Civil) 202 of 1995, order dated Dec. 29, 2025 (staying 2025 INSC 1338) (India).

deliberation or democratic accountability. The crisis of November 2025 is not an anomaly. It is the obvious conclusion of a governance architecture that was never designed to produce permanent protection. Understanding how this endpoint was reached requires examining the committee that generated it.

IV. THE 100-METRE DEFINITION: ANATOMY OF A LEGAL DECISION

A. The MoEFCC Committee: Composition and structural conflict

The Apex court, by order dated May 9, 2024¹³, mandated the MoEFCC to constitute a definitional committee to resolve what it dubbed 'definitional chaos' generated by the November 20, 2025, verdict conflicting identification of the Aravalli hills across four states.

The MoEFCC Secretary (chair), state forest department secretaries from Delhi, Haryana, Rajasthan, and Gujarat, as well as representatives from the FSI, CEC, and GSI, made up the committee. There is a structural conflict of interest in this composition. With roughly 90% and 9% of all Aravalli mining activity, respectively, Rajasthan and Gujarat get substantial state revenue from this industry.¹⁴ Critically, no independent ecologists from any research institution-WII, ATREE, or equivalent – were included¹⁵. Hence, their representatives have a financial stake in the definitional committee in enlarging that area, which was deemed to be outside legal protection earlier.

B. What the Court held on November 20, 2025

HOLDING	CONTENT
Definitional Holding	The landforms that satisfy the criteria of rising $\geq 100\text{m}$ above local relief will only qualify as 'Aravalli Hills'; clusters of ≥ 2 such hills within 500m constitute an 'Aravalli Range'
Immediate Protection	All new mining leases are suspended until the MPSM is prepared by ICFRE
Critical minerals	Mining of certain minerals was exempted from the moratorium

¹³ SC order dated May 9, 2024, in re Godavarman, WP (Civil) 202 of 1995.

¹⁴ The Prayas India, Aravalli Hills Mining Controversy (December 2025).

¹⁵ Down to Earth (ATREE), Institutional Expertise Meets Judicial Confusion (Dec. 30, 2025); The Leaflet (Dec. 8, 2025)

Mapping Direction	Scientific mapping of the entire Aravali range is introduced and directed to follow
Court declined	Did not impose a total ban on mining; Did not accept the landscape connectivity approach; Did not address corridor protection

C. Five Institutional Factors Behind the 100-Metre Rule

1. **Administrative preference for numerical simplicity:** Any surveyor can measure elevation, but an interdisciplinary evaluation is necessary to assess ecological function. The committee selected what could be measured rather than what was ecologically sufficient.
2. **An organized conflict of interest in the makeup of the committee:** A group tasked with determining the protected boundaries of the resource they extract included representatives from states with active mining revenue interests.
3. **No independent ecologists were there with veto power:** The presence of administrators, geologists, and foresters on the committee, but there was an absence of hydrologists, wildlife ecologists, or experts in landscape connectedness with decisionmaking power.
4. **Framing of an issue as "definitional disarray " instead of "ecological degradation."** Instead of the other way around, this framing made ecological integrity a limitation and administrative consistency the aim.
5. **Institutional limitations of the court:** By relying on the MoEFCC committee instead of creating a separate scientific panel, the court's ruling could only be as environmentally sound as the committee's suggestion.

D. December 29 Stay: Correction, Not Resolution

The suo moto stay of December 29, 2025 had caused by the widespread protest and the court's own recognition of unresolved questions, is a commendable act of self-correction. However, it is not a resolution. The stay suspends the definition while maintaining status quo. The expert committee constituted in January 2026 faces identical structural challenges: if constituted without ecologists holding decision making authority, without an explicit

mandate to adopt a function-based framework, and without insulation from state revenue interests, it will produce better numbers, not a satisfactory result. Whether the 100-metre definition was even constitutionally permissible is the question this paper turns to.

V. LEGAL ANALYSIS: A CRITICAL EXAMINATION

A. Article 21

The right to a clean and healthy environment has been encompassed in the right to life and personal liberty under Article 21.¹⁶ In *Subhash Kumar v. the State of Bihar*,¹⁷ it was held by the Apex Court that the right to life includes the right to enjoy pollution-free air and water. Further in *M.C. Mehta v. Union of India (2004)*,¹⁸ the court applied this principle to industrial pollution, mining and forest destruction. In the November 2025, proceedings Advocate Hitendra Gandhi argued that ridge forests and connected scrub landscapes act as natural barriers against dust movement and particulate resuspension. There will be aggravation in air pollution across the Delhi NCR, prompted by the exclusion of ridge-connected tracts from protection, which will result in violation of Article 21 right to breathe clean air.

B. Article 48 and 51A(g)

Article 48A¹⁹ directs the State to protect and improve the environment and safeguard forests and wildlife. Article 51A(g)²⁰ imposes a corresponding citizen duty. A definitional framework that by the government's own FSI data removes legal protection from the vast majority of a classified mountain system raises direct questions under both provisions, particularly when framed as a protective measure.

C. Public Trust Doctrine: is the State a faithful trustee?

In *M.C. Mehta V. Kamal Nath*,²¹ the court recognized that the state is trustee of natural resources for the public and cannot alienate them for private commercial gain. A trustee's primary obligation is conservation in the beneficiary's interest an obligation that prohibits

¹⁶ India Const. art. 21.

¹⁷ *Subhash Kumar v. State of Bihar*, (1991) 1 SCC 598, 605 (India).

¹⁸ *M.C. Mehta v. Union of India*, AIR 2004 SC 4016 (India).

¹⁹ India Const. art. 48A (inserted by the Constitution (Forty-Second Amendment) Act, 1976).

²⁰ India Const. art. 51A, cl. (g).

²¹ *M.C. Mehta v. Kamal Nath*, (1997) 1 SCC 388 (India).

alienation of trust property for private commercial gain. The 2025 redefinition, combined with the atomic minerals' exemption, arguably constitutes precisely such an alienation-removing public ecological resources from legal protection to facilitate the private extractive interests.

D. The Precautionary Principle

Recognized since *Vellore Citizens Welfare Forum v. Union of India*²² and reaffirmed in *A.P. Pollution Control Board v. Prof. M.V. Nayudu*,²³ the precautionary principle places the burden of proof on those who seek to permit action-not on those who oppose it. The 100-metre definition is genuinely contested: different framework was proposed by Forest Survey of India [FSI]; the amicus curiae warned of ecological fragmentation and independent researchers at TERI and JNU publicly opposed the threshold.²⁴Faced with the documented uncertainty, the precautionary principle required more protective definition-not the one maximising the area available for extraction. The Court's decision inverted the precautionary burden.²⁵

E. Compatibility with prior orders

PRIOR ORDER	PROTECTION STANDARD	COMPATIBILITY WITH 100-METRE RULE
Godavarman (1997) 2 SCC 267	Precautionary principle: protect forests regardless of ownership	Incompatible 100m rule removes precautionary protection from 91.3% of hills
M.C. Mehta (2008) 16 SCC 337	Close illegal mines; restore ecological damage	Incompatible 100m rule creates new legal mining space in previously protected zones
PLPA S.4 Orders	Village-level geographic	Potentially overridden by

²² *Vellore Citizens Welfare Forum v. Union of India*, (1996) 5 SCC 647 (India).

²³ *A.P. Pollution Control Board v. Prof. M.V. Nayudu*, (1999) 2 SCC 718 (India).

²⁴ Down to Earth (ATREE) (Dec. 30, 2025); The Leaflet (Dec. 8, 2025).

²⁵ CaseMine Commentary on 2025 INSC 1338 (Nov. 21, 2025); Down to Earth (ATREE) (Dec. 30, 2025).

(Haryana) ²⁶	protection of Aravalli land	elevation exclusion
MoEFCC Notification 1992 S.O. 319(E) ²⁷	Protected Aravalli areas through forest/revenue classification	Partially incompatible was geographically specific, not elevation-filtered
SC Order May 9, 2024	No fresh mining leases; CEC mapping directed	Consistent in intent; 100m definition undermined by redefining what is subject to the ban

The 100-metre definition is constitutionally suspect on four independent grounds: Article 21, Article 48 and 51A[g], the public trust doctrine and the precautionary principle. But the constitutional validity alone cannot rebuild what the definition destroys. The next question is concrete: what, specifically, is lost below 100-metres – and can any engineering intervention restore it?

VI. ECOLOGICAL SIGNIFICANCE: WHAT THE DEFINITION DESTROYS?

Having established that the 100-metre definition is institutionally created and constitutionally suspect, this part documents what it destroys. Each ecological function below is performed by the sub-100-metre terrain. The ecological functions of the Aravalli are distributed across the entire range, not concentrated in its tallest peaks.

A. Desert Barrier Function

The Aravalli's rocky ridges and scrub-covered slopes create wind drag that prevents the eastward advance of the Thar Desert into the plain of Haryana, western Uttar Pradesh and Delhi. This function operates through the collectively by many small features and not by isolated tall ridges as they reduce wind velocity and cause suspended sand to settle. When a gap is created in this system whether by natural geological processes or by human mining the drag effect is eliminated at that point, and sand-laden wind passes through freely. Mining

²⁶ Punjab Land Preservation Act, 1900 (PLPA), § 4; applied to Aravalli districts in Haryana through state government notifications, cited in *People for Aravallis*, State of the Haryana Aravallis (May 2025).

²⁷ Ministry of Environment & Forests Notification S.O. 319(E), May 7, 1992, issued under Environment (Protection) Act, 1986, § 3(2)(v) (restricting mining in Aravalli areas of Haryana and Rajasthan).

has already created 12 documented “desert gaps” where sand now flows towards DelhiNCR.²⁸ The 100-metre definition legally sanctions the creation of further gaps. As the National Herald India warned: “if the law recognises only taller outcrops, the majority of ecosystem becomes legally invisible-potentially paving the way for desertification of Haryana and Western Uttar Pradesh.”²⁹

B. Hydrological function: Groundwater recharge

Low-elevation rocky terrain provides the maximum groundwater infiltration surface, as monsoon rainfall that falls on open rocky surface infiltrates along fracture planes into deep aquifers, and this infiltration is accelerated on lower-elevation rocky terrain where the water table gradient draws filtering water downward most efficiently. Mining destroys this infiltration capacity permanently. Sites formerly drilled at a groundwater depth of 10 metres now require drilling to 150 metres or more.³⁰ By 2019, mining-caused degradation covered 360,000 hectares of Haryana with quantifiable effects on water discharge. No engineering intervention can restore a destroyed aquifer recharge zone on the timescale relevant to human water security.

C. Wildlife Corridor

Indian Leopards, striped hyena, four-horned antelopes and other species travel the roughly 200 km Sariska Asola wildlife corridor³¹ which acts as an ecological lifeline between Sariska Tiger Reserve in Rajasthan, in Asola Bhatti wildlife sanctuary in south Delhi. The corridor's functionality depends entirely on the continuous low elevation, rocky and scrub forest terrain that the hundred metre definition leaves legally unprotected. Remaining Aravalli woods in Gurugram, Faridabad, and Delhi have “astonishingly rich wildlife diversity with relatively high densities of mammals in non-protected areas,” according to a 2019 WWF-funded survey.³² The most important single node in the northern portion of the corridor is Mangar Bani Sacred Grove, which is low in elevation and legally invisible under the 100-meter limit. The passageway would be functionally cut off if it were destroyed.

²⁸ TERI, cited in Down to Earth (Dec. 30, 2025); People for Aravallis (May 2025).

²⁹ National Herald India (December 9, 2025).

³⁰ People for Aravallis (May 2025); Central Ground Water Board, Rajasthan aquifer data

³¹ Wildlife Institute of India corridor mapping data.

³² WWF-India, Rapid Biodiversity Survey of Aravalli Scrub Forests (2019)

D. Flora and Fauna displacement and Carbon storage

The Aravalli hosts over 300 native plant species, 252 bird species, 25–30 mammals, and 28 reptilian and amphibian species.³³ In Haryana, the density of Dhok (*Anogeissus pendula*), the dominating canopy species of Aravalli, has already dropped by 45% over four decades.³⁴ Only low elevation rocky places are a shelter to endemic species: *Euphorbia aravallica* (Endangered) and *Ceropegia aravallica* (Critically Endangered), which are found only in small ridges of the Aravalli. Full restoration could sequester approximately 15 to 20 million tonnes of CO₂ per year.³⁵

PATHWAY	MECHANISM	EVIDENCE	HUMAN CONSEQUENCE
Leopard urban incursion	Habitat fragmentation and the depletion of prey drive them into residential areas	30+sightings in Delhi since 2019 and 5 rescues in Gurugram in 2025	Public safety costs; psychological distress and property damage
Depredation of Livestock	Displaced predator raid in the pastoral communities of Aravalli	Livestock losses in Alwar, Mewar, and Bharatpur- severely uncompensated	Economic loss for marginal farmers; retaliatory killing of wildlife
Snakebite Increase	Mining destroys rocky outcrops housing vipers and snakes	In districts correlated with mining intensity, an increase in incidents	India: 58,000 snakebite deaths per year ³⁶
Zoonotic disease increase	Mining destroys bats' roots; colonies relocate to human settlements	AIIMS researchers flagged displaced bat colonies in mining zones as a spillover concern ³⁷	Risk of Nipah, coronavirus transmission at the human-bat interface

³³ FSI, State of India's Forests Report (2021).

³⁴ People for Aravallis (May 2025)

³⁵ Mongabay India (January 2026).

³⁶ WHO, Snakebite Envenoming A Strategy for Prevention and Control (Geneva, 2019)

³⁷ AIIMS research note cited in People for Aravallis (May 2025).

E. Socio-Ecological Dimensions

The principal Adivasi communities - the Bhil, Meena and Garasia communities has subsisted on Aravalli Forest produce for centuries, their access to minor forest produce, medicinal plants and grazing commons is legally protected under the Scheduled Tribes and other traditional forest dweller's (Recognition of forest rights act) 2006.³⁸ Mining expansion into sub-100 metre hills, which form the most accessible terrain from Adivasi habitations, would directly displace the subsistence economy without the compensation obligation applicable to notify driven area. The interaction between the 2025 definitional narrowing and forest rights under 2006 act remains legally unaddressed; this gap constitutes additional ground for constitutional challenge beyond article 21 alone.

These losses are not hypothetical. They are already in progress. The question this paper now turns to is whether any jurisdiction has faced and solved this governance problem- and whether its solution is transferable to India.

VII. TOWARDS AN ECOLOGICALLY GROUNDED DEFINITION

A. The Definition

This paper proposes that an Aravalli Landform is defined by what it does, not by how tall it is:

CORE PRINCIPLE: An Aravalli Landform is defined by what it does not by how tall it is. A 20-metre rocky knoll that recharges an aquifer or enables a leopard to move between forest fragments is an Aravalli Landform. The definition follows the ecosystem, not the geometry.

➤ **AQUIFER RECHARGE FUNCTION:** Irrespective of elevation any rocky landform, ridge, or rocky surface topography in the designated Aravalli districts that contributes to groundwater recharge—as determined by hydrogeological survey utilizing fractured rock aquifer mapping methodology—must be classified as an Aravalli Landform.

➤ **DESERT BARRIER FUNCTION:** Regardless of elevation, any landform or

³⁸ Forest Rights Act, No. 2 of 2007, India Code (2016), vol. 20.

parallel terrain which contributes to wind drag, sand arrest or particulate interception as part of the Aravalli's desert barrier system determined by aeolian (wind transport) modelling shall constitute an Aravalli Landform

➤ **ECOLOGICAL CORRIDOR FUNCTION:** Regardless of elevation, any terrain found to be a functional part of the Sariska–Asola wildlife movement corridor or any other documented wildlife corridor within the Aravalli districts through wildlife movement data, camera trap surveys, or landscape connectivity modelling will be considered an Aravalli landform.

➤ **HABITAT TYPE FUNCTION:** the landform which hosts endemic flora population or listed fauna species as primary habitat or hosting rocky outcrops, dry forest patches, or sacred groves of documented ecological significance, shall constitute an Aravalli Landform regardless of elevation.

B. Legislative Pathway

This paper suggests a two-pronged strategy: First is a parliamentary change to the Environment (Protection) Act, 1986,³⁹ adopting the EFF as the operative definition providing immediate protection throughout the legislative process. Second, a Parliamentary amendment to the Environment (Protection) Act enshrining the EFF as a permanent statutory standard, removing Aravalli protection from dependence on continuing mandamus and placing it on a durable legislative footing that cannot be reversed by a subsequent judicial or executive order.

VIII. CONCLUSION

The night of 20 November 2025 revealed what four decades of continuing mandamus had concealed: that the Aravalli's legal protection rested not on a statutory foundation but on a succession of interlocutory orders, any one of which could in a single sitting redefine the range out of existence. The December 2025 stay revealed something further: that the institution capable of recognizing this problem is not capable of solving it alone. This paper has answered four research questions. First question: the 100-metre threshold was produced by a committee structurally incapable of ecological objectivity composed of revenue-dependent state representatives, excluding independent ecologists, and framing the problem

³⁹ Environment (Protection) Act, No. 29 of 1986, India Code (2016), § 3(1)

as administrative rather than ecological. The Second question: the definition is incompatible with prior Apex Court orders and constitutionally vulnerable under Articles 21,¹⁶ 48A,¹⁹ and 51A(g),²⁰ and the public trust doctrine recognized in *M.C. Mehta v. Kamal Nath*.²¹ Third question : every critical ecological function of the Aravalli aquifer recharge, desert barrier, wildlife corridor, endemic species habitat is performed by sub-100-metre terrain and is therefore removed from protection by the November 2025 definition.⁴ Fourth question: the Ecological Function Framework, operationalizable under Section 3(1) of the Environment (Protection) Act, 1986,³⁶ provides a legally durable, ecologically grounded alternative.

The Aravalli, 670 million years old, ecologically irreplaceable, and legally invisible in 91.3 percent of its extent deserves a statutory identity that does not depend on the Apex Court's continued attention to survive. The solution must come from Parliament.