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FROM POLICY TO PLANTATION: EVALUATING THE COMMUNITY-LED GOVERNANCE MODEL OF THE ARAVALLI GREEN WALL PROJECT

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The Aravalli Range, that is 3 billion-years-old Proterozoic fold mountains, signifies more than being a geological phenomenon; it is the very foundation for the environment that sustains North-Western India. Stretching over 650 kilometres, although conceptual environs have stretched its environmental impact over 1,500 kilometres from the Palanpur hills in the state of Gujarat via Rajasthan and Haryana up until the ultimate points within the national capital Delhi, it has long acted as the primary climate modulating agent within this region while being the hydrological lifeline for millions. This ancient environmental hotspot that dates back millions of years, even preceding the existence of the mighty Himalayan chain that towers over the Deccan Peninsula like the majestic Alps, has over the past four decades witnessed an existential threat.5 The Aravalli Range that once stretched over this humongous area has now reduced, with over 25% being driven towards extinction due to extensive mine concessions, ballooning urban expansion, along with deforestation, thereby making the Indo-Gangetic plains susceptible for the Thar Desert's eastward expansion.

In reaction to this point of no return in ecology, the Indian government introduced the Aravalli Green Wall Project in March 2023.7 Taking a leaf out of the book on the Great Green Wall in Africa, this project aims at creating a five-kilometre-wide green zone periphery around the length of the Aravalli range. Although the geographical spread, involving 29 districts, with a plan to reclaim 26 million hectares of this degraded land by 2030, itself is ambitious, the truly novel aspect in this plan has to do with shifting governance over forests in this country, hitherto rooted in the State, to a community-managed system. This report assesses the mechanisms in this system, the interface with employment policies in this country, the technical approach in this restoration plan, as well as the judicial complex in which this Aravalli sits.

The Ecological and Geological Imperative for Restoration

The Aravalli Range serves as a “green lung” and “pollution sink” for the National Capital Region (NCR) in India, which is one of the most highly polluted Urban Agglomerates in the world.7 The Aravalli’s’ moisture regulation services are also critical, as in the rains months, the range helps to channel rains into the NCR by directions from the Arabian Sea to the plains in N India to produce rains to promote agricultural production in Haryana and Western U P.2 It also provides a protective wall in winter to protect the plains from the harsh cold air from Central Asia in winters months along a westerly direction.

The hydrological role of the Aravalli’s is possibly the least appreciated among them. This fragmented and altered Proterozoic rock support extremely rapid groundwater infiltration, replenishing groundwater resources to meet the demand of Jaipur, Alwar, and Gurgaon type urban agglomerates. It is scientifically assessed that the functional value of one hectare of the natural system is approximately ₹6-8 lakhs every year. When this system is destroyed because of mining, it is not merely destroyed; it is destroyed as a system affecting the total environment of the water of the region. The groundwater level in several parts of Rajasthan and Haryana is declining by as much as 1 to 1.5 meters a year, of which the AGWP has proposed to reverse this trend.

Table 1: Geological and Ecological Significance of the Aravalli Range

Feature	Description and Impact
Age	Approximately 3 billion years (Proterozoic era), one of the world's oldest fold mountains.
Length	~700 km (Delhi to Gujarat), influencing 29 districts across four states.
Highest Peak	Guru Shikhar (1,722 m) on Mount Abu, Rajasthan.
River Origin	Source of Chambal, Sabarmati, Luni, Banas, and Sahibi rivers.
Climate Role	Barrier against the Thar Desert; guides monsoon clouds; reduces dust pollution.

Feature	Description and Impact
Mineral Wealth	Sandstone, limestone, marble, granite, gold, tungsten, and rare earth elements.

Policy Architecture: From Vision to Implementation

The implementation of the Aravalli Green Wall Project is managed under the aegis of MoEFCC, while its operations would be guided by a "Whole of Government" and "Whole of Society" approach. It is built to prevent fragmentation by eschewing the "silo" mentality commonly adhered to within large-scale environmental projects. The policy framework emphasizes convergence, leveraging existing financial and administrative resources from various central and state schemes.

The estimated cost of Phase 1 of the AGWP is ₹16,053 crore, and the strategic dovetailing of several key programs provides the major funding mechanism.

MGNREGA provides the unskilled labour for digging pits, managing nurseries, rejuvenation of water bodies, etc., so that the financial benefits of restoration percolate directly to the local people.

• **CAMPA:** Uses the collected money from the industries for forest diversion to support the technical aspects of afforestation and its invasive species removal.

• **Green India Mission (GIM):** This is mainly designed to enhance the quality of the existing forest cover, besides improving the carbon sequestration.

• **Baseline Green Credit Programme:** This aims at market-based mechanisms to encourage private sector and community participation in eco-restoration through crediting verifiable environmental action.

Linked together, these schemes form a self-reinforcing cycle where environmental restoration feeds rural employment. For instance, the initial phase of the project concentrates on rejuvenating 75 water bodies-five per district-starting with districts in Haryana like Gurgaon, Faridabad, and Rewari. Quite often, the restoration of these water bodies through Shramdaan

or voluntary labour enhances soil moisture for local farmers and instils a sense of communal ownership of the newly created green assets.

The Community-Led Governance Model: Evaluation and Impact

The shift in paradigm to a community-managed approach is an acknowledgment that the government's forest department might not have the same reach to manage such a long corridor of 1,400 kilometres. The framework of the AGWP is based on de-centralized centres of power such as Gram Panchayats, the Van Samitis, as well as Self-Help Groups.

Gram Panchayats & Local Nurseries

The project requires the establishment of seedling nurseries in each panchayat in the Aravalli landscape. This decentralization of nursery management by the MoEFCC enables the planting of saplings according to the microclimate in the region. This also reduces the risk posed by transporting the saplings on a large scale, which impacts the sapling mortality rate. The skills of the local community, including women and the youth, are developed in the nurseries, which are specialized skills they can utilize in the future to generate green jobs.

Van Samitis and the Legacy of Joint Forest Management

The AGWP adopts the best practices of the Joint Forest Management Projects undertaken in Rajasthan in the previous decades. It has been found in the appraisal of the JFM projects, where the Van Samitis of the area had the right to manage the forests, the survival rate of the plants was considerably higher, up to 72%, in contrast to the meager survival rates of the plants in unmanaged forests in the whole country. It is the responsibility of the Van Samiti to guard the forests from overgrazing and the cutting of timber. In return, the people of the area are given priority rights for the use of livestock, timber, and forest products.

Empowering Women through Self-Help Groups

SELF

One such highly successful example of the community-based approach is to be found in the tribal zones of the state of Gujarat. In the Bhiloda taluka of the Aravalli district in the said state, the Integrated Smart Village (ISV) approach has trained the local Self-Help Groups to develop value-added products from the forest resources. These women-based groups use solar power

to set up their units and make organic honey, turmeric, ginger, and Neem-based mosquito repellents.

Table 2: Impact of Community-Led Livelihood Projects (Gujarat ISV Model)

Enterprise Type	**Local Resource Utilized**	**Community Benefit**	**Economic/Social Impact**
Honey Production	Forest flora & *Apis florea*	Training for 50+ tribal women.	Increased household income; biodiversity boost.
Organic Spices	Ginger and Turmeric	Market linkages for 200 farmers.	Reduction in soil pollution; higher net profit.
Neem Products	Locally available Neem trees	Sustainable pesticide/repellent production.	Value-addition of underutilized forest resources.
Solar Power	Renewable Energy	Reduced electricity costs for enterprises.	Climate resilience; reduced operational overhead.

This is a "third-order" application of the theory, as it explains how the Green Wall of India is not an obstacle to development, but the catalyst for the creation of a "green economy" for rural India. Through the conversion of the Aravali ranges from a point of extraction (mining) to a point of production (agroforestry and NTFPs), the project corrects the underlying problems of poverty that cause the encroachment.

Ecological Strategies and the Invasive Species Challenge

An integral part of the “Policy to Plantation” transition is species selection. For most of the 20th century, the Aravalli’s were subjected to what was known as “greening,” where immediate-growing invasive species were preferred, especially the use of Prosopis juliflora, commonly known as Vilayati Kikar.29 While these trees grew quickly, they were harmful to the environment, as they suppressed the growth of indigenous trees, did not provide suitable habitats for indigenous fauna, and contributed enormously towards the reduction of groundwater levels due to their high tapping roots.

The AGWP promotes a scientific makeover with native keystone species. Under the Detailed Action Plan (DAP), some species are selected for mass plantations. These are Anogeissus pendula (Dhok), Prosopis cineraria (Khejri), and Acacia senegal (Kumbhaat). These plants are adapted to grow in the arid and rocky areas of the Aravallis and require less water after plantation and provide excellent quality fodder.

Moreover, the project uses modern monitoring tools to make it more transparent and effective. Each activity of the plantation is geo-tagged and can be tracked on the "Meri LiFE" website, so the government and the people are able to monitor it. This tool also ensures that the issue of "paper plantations" is avoided as it occurred in India before when money was paid for planting trees, and no trees were actually planted.

Judicial Oversight and the Definition Crisis

Legal protection for the Aravallis has been a subject of intense judicial scrutiny. A landmark Supreme Court ruling in November 2024—detailed orders were passed in 2025—had sought to end a long-standing dispute over what constitutes the Aravallis. Inconsistently, states such as Haryana and Rajasthan used varying criteria—revenue records or degree of slope—to identify Aravalli land, often excluding large ecologically sensitive areas from legal protection to accommodate mining.

The Supreme Court had adopted a new, uniform definition submitted by a multi-institutional committee and ordered that all hills above 100 meters in elevation would be considered to fall within the Aravalli range. This ruling was meant to close loopholes in regulation but instead has been facing backlash from environmentalists.

The 100-Meter Threshold: Environmentalists' Concerns

According to data from the Forest Survey of India, a 100-meter height threshold may result in more than 90% of the marked Aravalli landforms going unregulated. Only 1,048 out of 12,081 marked hills in Rajasthan, which has the largest extent of the Aravallis, satisfy this criterion. Environmental groups, such as "People for Aravallis," point out that it is primarily in respect of the lower peaks, ridges, and pediments that many of which are less than 100 meters in height, that groundwater recharge and leopard and tiger migration corridors lie.

What worries the residents is that this "Death by Definition" will make way for the intensive mining of the land itself that the Green Wall Project intends to restore. The Supreme Court has

already deferred new mining leases pending completion of scientific mapping; however, the possible exclusion of thousands of low relief hills within the "Aravalli" definition still poses a challenge to the green corridor.

.**Table 3: Summary of the Definition Controversy and Impact**

Parameter	**Supreme Court/Committee Ruling (2025)**	**Environmentalist/Activist Critique**	**Impact on Green Wall**
Height Threshold	Hills > 100 meters qualify for protection.	Excludes 90% of hills in Rajasthan; ignores ecological function.	Creates "holes" in the wall where mining can continue.
Geology	Must comprise rocks of Aravalli/Delhi Supergroup.	Too narrow; excludes pediments and shallow hillocks.	Fragmentation of the wildlife corridor.
Buffer Zone	5 km buffer targeted for AGWP.	Buffer must be legally protected, not just planted.	Risk of "urban park" development instead of rewilding.
Mining Policy	Fresh leases paused; existing legal mining continues.	Continued mining causes dust pollution and aquifer damage.	Dust from mines smothers new saplings, reducing survival.

Comparative Perspectives: Lessons from the Sahel

The P:inspiration behind the AGWP, the Great Green Wall of Africa (GGWI), has many educational experiences in terms of its durability and community participation. A program initiated in the year 2007, the initial proposal of the African GGW consisted of the creation of a physical 'wall' of vegetation over a distance of 8,000 km in the Sahel zone. However, with a decade of difficulties, the initiative has spread into a 'mosaic of productive landscapes'.

This "mosaic" approach philosophy has been aptly adopted by the AGWP since inception. By targeting not just forests but also enhancing water resources and practicing agroforestry in the region, the Indian example aims to assimilate the Green Wall initiative within the existing agricultural and social setting of the area.11 Moreover, the AGWP derives strength from India's strong legal systems and existing programs like MGNREGA, ensuring a sound financial foundation in contrast to the donor-driven model in the Sahel.

However, the African experience also underlines the risk of the absence of, or corruption with regard to, monitoring. In the case of Niger, the success of the GGW has been linked to the existence of “citizen participation units” or “climate observatories” that follow up the implementation of restoration plans, guaranteeing that the finances are extended down to the local level. The involvement of the AGWP in the “Meri LiFE” platform, as well as third-party monitoring, aims towards the creation of a “community of trust” for the restoration of land.

Critical Evaluation: Challenges and the Way Forward

In spite of the encouraging framework of policies and community efforts, there remain a number of challenges that may undermine the success of the Aravalli Green Wall Project.

1. Water Scarcity and Climatic Extrem

The Aravallis are known to be semi-arid and receive erractic rainfall. For the planting of millions of trees in an area that has such low levels of water table amounts to doing something that needs even more than planting. It needs irrigation at least for the first three years. If the regeneration of water sources does not happen at the same time as plantation activities, then the mortality rates of the saplings can be quite high, reflecting what has failed in the African Sahel.

2. The Risk of "Greenwashing":

Concerns have also been raised by environmental groups about the ‘Green Credit Programme’ facilitating the ‘urbanization’ of the Aravallis in the name of restoration. In the district of Gurugram, the ‘Matri Van’ plan was questioned when the use of heavy machinery was employed to uproot the self-sustaining but ‘invasive’ plant growth to prepare land for the development of ‘cycle tracks’ and ‘yoga centers,’ a process referred to by the activists as ‘habitat destruction’ rather than ‘rewilding.’

3. Mining and Economic Pressure

Aravalis support strategic minerals that contribute to the nation's security, such as tungsten and rare earth minerals. However, the need to extract these minerals might contradict the conservation aim. Apparently, the matter came to such a point that the Supreme Court agreed to carry out mining within the 'highly regulated' areas, indicating that the Green Wall will never stand alone without some form of mineral extraction. It might be a big challenge for the governance structure of the AGWP to ensure that this complicates the carrying capacity of Aravali further.

4. The Need for a National Aravalli Authority

Several experts have highlighted the inadequacy of the current state-by-state mechanism in the context of the scale of the proposed Green Wall mission. The intended creation of a "National Aravalli Authority," which would have overarching management but facility-level decentralization, would be effective in ensuring the Green Wall is considered one ecological zone and not four state-level initiatives.

Conclusion: The Insurance Strategy for a Secure India

Aravalli Green Wall Project is not just any other environmental project, but it is an operational imperative for the security of the region against climate change. Through this, India is safeguarding its water recharge areas, reducing the destructive effect of dust storms, and vitalizing a carbon sink, which is needed due to the constraints of carbon emissions.

The shift from "Policy to Plantation" via a community-managed form of governance is a major milestone in the evolution of India's environmental policy on this front. The advantage of this project is that it not only makes restoration an activity that happens to the people, but one that happens by the people. The success of this form of governance will lie in carving out a proper legal definition of the hill areas, ensuring the long-term survival of indigenous saplings, and fighting the temptation to focus on "greenwashing" instead of true rewilding. If this happens, the Aravalli Green Wall will easily be the most successful nature-based solution to the two major threats facing the country—both desertification and climate crisis.