Marginal Resistance: Decolonial Climate Imagination in the Select Postcolonial Science Fictions by Vandana Singh

Masuma Khatun

1. Introduction

Postcolonial science fiction (SF), like its more realist counterparts, has emerged as a potent mode of resistance against dominant Western ideologies of progress, science, and development. Moreover, unlike realist postcolonial narratives that often focus on "the everyday dimensions of individual affairs and politics of the nation," (Ghosh 2017) postcolonial SF expands the terrain by imagining alternative futures. Particularly, in imagining the alternative climate future distinct from Western developmental frameworks, this genre, through its dual engagement with postcolonial critique and speculative imagination emerges as one of the most effective mediums for the contemporary postcolonial writers. Contemporary writers, such as Amitav Ghosh, Narlikar, Anil Menon, Samit Basu, and Sami Ahmad Khan, and others regularly use this genre to "write back" at the empire (Ashcroft, Griffiths, and Tiffin 1989), critiquing political, economic, military, and environmental forms of imperialism. Particularly, in the discourse of climate narratives, their works challenge an anthropocentric, profit driven mode of developmental that subjugate multiple voices and epistemologies in order to assert the supremacy of their monolithic

framework. Their works attempt to recover these voices and open space for imagining alternative, non-Western futures.

Notably, the genre has also witnessed a significant contribution from women writers across South Asia. As Suparno Banerjee notes, since the 1990s there has been a visible shift not only in the thematic concerns of SF but also in its authorship (Banerjee 2020, 52). In *The Gollancz Book of South Asian Science Fiction* (2019), almost half of the contributors are women. Writers like Vandana Singh, Manjula Padmanabhan, S.B. Divya, Payal Dhar, Bina Shah, Nur Nasrin Ibrahim, Sweta Taneja, Rimi B. Chatterjee, Priya Sarukkai Chabria, and Mimi Mondal are now recognized as some of the finest voices in postcolonial SF. These writers frequently employ this genre to showcase the multifaceted oppression done on marginalized communities. Particularly, they have a keen awareness of the environmental degradation driven by the rise of so-called techno-capital modernity. For instance, Manjula Padmanabhan's "Sharing Air" imagines a dystopian world where corporate-driven development has destroyed the natural environment, forcing elite citizens to live in artificially sustained techno-bubbles, while the rest perish. Rimi Chatterjee's *Signal Red* critiques the use of science by authoritarian regimes to suppress dissent, targeting women, minorities, and ecosystems. Sukanya Datta's "Modern Neelkanth" envisions an apocalyptic revolt by trees, enraged by humanity's relentless ecological destruction.

Among these writers, Vandana Singh stands out for her sustained engagement with ecological narratives, indigenous cosmologies, and alternative futures. In stories such as "Indra's Web," and "Mina's Dream," Singh endeavors to showcase the hegemony of Western science and its developmental paradigm in rejecting other forms of knowledge and voices as outdated, primitive and inefficient. Singh, however, reclaims these voices and their knowledge as more rational, scientific in mitigating today's climate crisis. In Singh's stories, these marginalized ways of life become central to the possibility of imagining

sustainable climate futures as opposed to the Western technocratic science and development.

However, despite the genre's critical potential and increasing prominence, postcolonial science fiction—particularly by women—remains marginalized within the mainstream postcolonial literary canon. Scholars such as Tarun K. Saint, Suparno Banerjee, and Vandana Singh herself have repeatedly pointed to this neglect. Banerjee notes that "one strand of literature which has been neglected by scholars from deserved scrutiny is science fiction" (2010, 1). Saint observes that "in the context of the subcontinent, SF's potential to generate alternative visions of the future has perhaps been insufficiently acknowledged" (2019, XV). Singh (2008, 201), in her "Speculative Manifesto," laments that imaginative literature is often relegated to children's fiction and rarely taken seriously by the literary establishment, even when written for adults. A similar concern has been expressed by science fiction scholars Bodhisattva Chatterjee, Aakriti Mandhwani and Anwaisha Maity in the 'Introduction' of their book *Indian Genre Fiction: Past and Future Histories.*

Therefore, despite its growing significance, more critical attention is needed toward postcolonial SF—especially the work of women writers who offer ecological, decolonial, and ethically grounded alternatives to Western technocratic paradigms. This paper seeks to do precisely that by offering a close reading of Vandana Singh's "Indra's Web" and "Mina's Dream." The following sections will offer a detailed analysis of these two stories, focusing on their engagement with four key themes: (1) the critique of developmentalism and Western technoscience; (2) the revalorization of indigenous and marginalized epistemologies; (3) the speculative construction of interspecies and translocal solidarities; and (4) the vision of an ecologically just, pluralistic future. In doing so, the analysis will establish how Singh's works by navigating three interconnected dimensions of marginality appear as a powerful mode of decolonial resistance, legitimizing indigenous ecological

epistemologies as rigorous, rational, and scientifically relevant alternatives to the Western developmental paradigm.

2. Indigenous Wisdom in Building Sustainable Climate Future: Reading Vandana Singh's "Indra's Web"

In their influential anthology *So Long Been Dreaming: Postcolonial Science Fiction and Fantasy*, Nalo Hopkinson and Uppinder Mehan assert that the postcolonial science fiction genre opens up an enormous opportunity for the "colonizee" (2004, 9) or a "descendent of survivors – of sustained, racial colonial process" as well as members of "cultures of resistance to colonial oppression" (2004, 269) to challenge the Orientalist representations and "to think about new ways of doing things" (2004, 9). It becomes a powerful tool for those who "were the subjects of earlier versions" (Hoagland and Sarwal 2010), allowing them to critically engage with and subvert inherited imperial frameworks. Writing from a diasporic location but deeply informed by her postcolonial Indian origins, Vandana Singh, embraces this positionality and uses the speculative genre as a radical narrative space to articulate alternative epistemologies, suppressed cultural memories, and ecological worldviews marginalized by dominant Western paradigms. Her short story "Indra's Web" exemplifies this postcolonial intervention, reclaiming alternative ways of knowing and being that are rooted in relational, Indigenous, and ecologically grounded philosophies.

In her postcolonial SF "Indra's Web," Singh (2018) imagines futures shaped not by technological dominance or linear progress, but by relationality, decolonial ethics, and cosmological plurality. This cosmological plurality is symbolically encoded in the very title of her story "Indra's Web," which draws upon the ancient Vedic-Buddhist metaphor of Indra's Net—a philosophical framework premised on radical interdependence, in which every constituent element is both unique and intrinsically connected to the whole. As Rajiv Malhotra explains, Indra's Net represents "a web of connections and

interdependence among all its principles, wherein every member is both a manifestation of the whole and inseparable from the whole" (2014, 5). By invoking this metaphor, Singh not only contests the reductionist worldview that treats nature as inert and exploitable, but also recuperates indigenous ecological philosophies that were marginalized and dismissed as primitive under colonial regimes. In doing so, she calls for the epistemic decolonization of science and a revaluation of relational ontologies that have long sustained ecological harmony.

Importantly, this epistemic recovery is not abstract—it is embedded in lived and material practice. The transformation of Ashapur, a slum inhabited by climate refugees from Bangladesh, into a model of ecological urbanism exemplifies this kind of grounded visions. At the center of the narrative is Mahuya, the protagonist, and her team of young scientists, who endeavor to transform Ashapur, a former slum, into a sustainable urban settlement equipped with modern infrastructure, such as solar power. However, Mahuya's approach to this transformation diverges from the capitalist techno-science paradigm, which often overlooks the ecological health of nature and the well-being of marginalized populations. Rather than adhering to a model that seeks to dominate or appropriate nature through scientific and technological control, Mahuya draws inspiration from nature itself, describing the forest as "an eternal source of inspiration" in solving some of her most complex scientific problems. In fact, much like Shiva's feminine principle, Mahuya challenges the western concept of nature as an object of exploitation, and protects her as "Prakriti, the living force that supports all life" (Shiva 2004, xvii). This reflective observation of nature's interconnectedness get manifested in her project 'Suryanet' which she, along with her team, was developing to provide solar power energy to the thousands of villages like Ashapur. Unlike top-down technological impositions that characterize Western development models, Suryanet's design evolves through Mahuya's intimate engagement with local ecosystems, particularly her study of

fungal networks that mirror the mycelial communication of forests. This biologically inspired design exemplifies Vandana Shiva's concept of "earth democracy," which recognize that we are a part of Earth Family in ecological sense" (2019, 1), where nature and science are not seen as antagonistic forces but rather as mutually reinforcing entities, working together to foster a holistic, inclusive, and sustainable world. Such orientation of science challenges the binaries inherent in Western knowledge—which elevates reason over intuition, technology over nature, and modern over traditional. As argued by Singh, the tendency of Western science to encourage sequential, compartmentalized thinking which she terms as "paradigm blindness" (Sing 2021b) is the major barrier in achieving needed change in climate problem as it fails to see the multiple ways of being and knowing in the world. In doing so, Singh questions the supremacy claim of Western science that invalidates traditional integrative knowledge as outdated and unscientific. Against this, she champions holistic, integrative knowledge systems practiced for centuries by Indigenous communities, like climate refugees and other marginalized groups in Ashapur. Through Mahuya's careful observations, Singh reveals that the villagers' ecological practices are not only sustainable but scientifically sophisticated—grounded in empirical, community-based interactions with the land and environment.

Mahuya's observation of the Ashapur village in understanding the failure in her Suryanet project reveals how sound, sustainable, and science-based approaches had long been followed by the traditional climate refugees of Ashapur. This observation echoes what Sandra Harding refers to as "sciences from below"—a framework that valorizes "traditional environmental knowledge" and "indigenous knowledge" (2008, 138) against exclusive perception of Western science. As Mahuya observes "that these former villagers were traditionally energy-efficient, living in clusters, throwing away nothing, re-using almost everything" (Singh 2018). Further, in Ashapur, essential resources such as food, energy, and building materials are sourced locally, fostering more sustainable and health-conscious indigenous systems. Practices such as

self-built homes using traditional materials—"a hard mixture of mud, straw, rice husk, surfaced with a lime-based plaster" (Singh 2018)—made the city even more optimal for living. These environmentally sustainable houses in Ashapur "survived nearly ten years of baking heat and monsoon rains" (Singh 2018). This provincial method was used by generations of indigenous people, but later, with the arrival of colonial capitalism, it was forgotten. Similarly, traditional simmer pots, made from a mixture of mud and straw in varying proportions, were used to reduce energy consumption. These pots acted as excellent insulators, keeping food warm for hours after just two minutes of heating. Revived as part of Ashapur's transformation, these methods significantly lowered human energy consumption, contributing to the city's overall energy efficiency. According to Singh, such "Indigenous scientific literacies" (Dillon 2007) – practices born out of crisis, lived experience, and relational care—hold immense potential for addressing the climate crisis. However, with the advent of colonial modernity, particularly in the Global South, these ecologically sound and scientifically grounded knowledge systems were dismissed as backward or unscientific in order to validate Western science as inherently superior, rational, and developmental. Gayatri Chakravorty Spivak refers to this as "epistemic violence" on the natives by the settlers and describes it in the words of Foucault as "subjugated knowledge"—"a whole set of knowledges that have been disqualified as inadequate to their task or insufficiently elaborated: naive knowledges...beneath the required level of cognition or scientificity" (2005, 76).

Singh's story demonstrates this epistemic violence through the dismissive gaze of a potential foreign funder who disqualifies Mahuya's urban design, which accommodated the human and non-human environments equally in harmony with indigenous tradition, as "untidy" and "insufficient." As he scoffs: "Why this town so untidy? There is no order, no proper grid for the streets. It looks very inefficient. And the roads are too narrow for the traffic flow! Where are your cars?" (Singh 2018). His critique exposes the deep-seated blindness of colonial

modernity that equates development with rigid-technocratic grid, order and structure. Mahuya, however, firmly resists this colonial gaze. She defends her design by explaining how Ashapur's curved, narrow streets are deliberately designed to preserve social interaction, biodiversity, and communal living practices of the people of Ashapur. Unlike the colonial funder or modern technocrats who dismiss indigenous practice as inferior or inefficient, Mahuya recognizes the deep intelligence embedded in these traditions. Therefore, instead of imposing drastic changes and making it a 'smart city,' she opts for respectful enhancement. As she explains, "her designers had kept the street pattern of the original slum but had improved on it, allowing room for people to congregate … and the wandering cows and pariah dogs to rest" (Singh 2018). In doing so, Mahuya offers a radical redefinition of development — not as an exclusionary imposition of modernity, but as an inclusive and pluralistic process that embraces the intelligence, dignity, and well-being of multiple species and epistemologies. She enacts a positive future where tradition and modernity, science and nature, humans and non-humans do not collide but converge in harmony. This alternative developmental model is not altogether a new proposition, but as Mahuya's observation of the indigenous wisdom of Ashapur and her effort to embed it within her urban design exemplify —– this alternative developmental model is actually a lived practice of indigenous people throughout the world. Singh's narrative thus insists that, for meaningful climate action marginal point of view must be prioritized against the exclusionary dominant worldview. This echoes Singh's own vision of climate future, as she shares in an interview: "The kind of optimism that appeals to me is not the empty or delusional optimism of the privileged, but the defiant, creative persistence of the marginalized" (Singh 2021b),—a resistance rooted in inter species solidarity and everyday ecological practice.

Further, by foregrounding the plight of Bangladeshi climate refugees who have been compelled to abandon their original rural homes due to ecological disasters like sea rise, Singh not only critiques the violence of

this modernity at an epistemic level but also exposes its material consequences. The anthropogenic consequences of climate change affecting the Bangladesh coastline, a region regarded as the frontline of climate change, repeatedly ravaged by destructive super-cyclones, rising water salinity, land erosion, drainage congestion, rising sea levels, and flooding, underscore the destructive effects of this imposed modernity. According to the Environmental Justice Foundation, "It has been estimated that by 2050, one in every seven people in Bangladesh will be displaced by climate change. Up to 18 million people may have to move because of sea level rise alone" (Deb 2021). This also draws attention to the fact that the consequences of the climate crisis are not felt equally around the globe: those who have contributed the least to global emissions—marginalized communities and nations in the Global South — are often the most severely affected. Yet Singh does not allow despair to dominate. Her narrative reframes climate refugees not as passive victims, but as resilient agents participating in regenerative projects. Her portrayal of these refugees is a crucial intervention against the dominant narrative that views the Global South either as a zone of helpless suffering or as a testing ground for Western techno-solutions. Through Mahuya's collaboration with the Ashapur community, Singh shows that regenerative futures emerge not from technological fixes imposed from above, but from the bottom-up revalorization of intergenerational knowledge, ecological memory, and community-led adaptation.

Importantly, this bottom-up revalorization is not merely Singh's ideological manifesto but it is also grounded in reality. The story's inclusion of the Suryanet project particularly resonates with many such real-world decentralized renewable-energy initiatives across India and the Global South. As Debajit Palit notes, solar photovoltaic (PV) technology has remained at the forefront of off-grid electrification in countries such as India, Bangladesh, Nepal, and Sri Lanka (2013, 271). Projects such as Bangladesh's Solar Home Systems (SHS), implemented by IDCOL in collaboration with partner organizations

including Grameen Shakti and the Rural Services Foundation (Palit 2013, 272), have demonstrated how locally managed renewable-energy infrastructures can provide sustainable electricity access to marginalized populations while minimizing ecological damage. Similarly, in rural India, initiatives such as SELCO's solar-electrification projects in Karnataka and the community-managed solar power plant at Rampura village in Bundelkhand, developed through collaborations between Development Alternatives and Scatec Solar, illustrate how decentralized renewable technologies can be adapted to the everyday needs of economically marginalized communities through socially embedded and participatory models. Comparable experiments can also be seen in Dharnai, Bihar, where Greenpeace and local organizations established a community-based solar microgrid independent of centralized fossil-fuel infrastructure. Further, implemented renewable-energy projects in Ladakh integrating micro-hydro and solar photovoltaic (SPV) systems, along with localized solar-energy initiatives such as the Indira Nagar solar project, reflect attempts to develop sustainable energy infrastructures responsive to specific ecological and community conditions (Boyle and Krishnamurthy 2011). Much like Suryanet, these initiatives challenge centralized capitalist models of development by foregrounding localized participation, ecological sustainability, and collective resilience.

Further, the documentation of these initiatives in "Taking Charge: Case Studies of Decentralized Renewable Energy Projects in India," mentions how these initiatives emerged directly from the acute ecological and infrastructural crises of particular localities. Significantly, these projects were often sustained through the collective participation of local residents, who contributed not only to the management and operation of the programs but also to fundraising and community mobilization. The study further by quoting the remark of some of the organizing members of these projects emphasizes how the success of such initiatives depended less on formal academic expertise than on the commitment, determination, and egalitarian vision of individuals seeking to transform their communities. This is

precisely why Vandana Singh has repeatedly emphasized the importance of recognizing marginalized perspectives in constructing meaningful climate futures both in real world policy and in imaginative literature.

3. Marginalized Knowledge and Decolonal Climate Repair: Reading Vandana Singh's "Mina's Dream"

In "Mina's Dream," Vandana Singh (2023) extends her critique of Western modernity and its ecological consequences by foregrounding the potential of marginalized indigenous perspectives to envision decolonial, pluralistic, and hopeful futures. While "Indra's Web" works through pragmatic ecological urbanism rooted in indigenous scientific literacies, "Mina's Dream" explores the more intimate, psychic, and spiritual dimensions of ecological resistance and regeneration, revealing how positive climate futures are deeply entwined with everyday practices of care, relational ethics, and epistemic humility.

At the center of this narrative is Mina, an upper-caste, urban widow, whose personal act of nurturing a rooftop garden using traditional and non-toxic methods becomes a speculative microcosm of decolonial environmentalism. Her garden emerges not merely as a site of mourning and personal healing but as a reclamation of ecological knowledge systems violently suppressed by colonial and neoliberal development agendas.

The story opens with Mina's conscious effort to reclaim and revive the organic, locally rooted practices of gardening that have long been displaced by colonial and neocolonial monocultural regimes. Her decision to seek guidance from an organic nursery and to prioritize native flora —"mango, neem, lemon, desi kikar, shisham, and the red silk cotton" (Singh 2023) — over imported plants challenges the aesthetic and economic value systems that favor imported, high-yield varieties. These plants, though less commercially viable, are ecologically essential, nurturing biodiversity and attracting a vibrant multi-species

community—"mynahs and babblers, barbets and tree pies . . . squirrels" (Singh 2023). It enacts what Arturo Escobar (2018, xvi) calls "designs for the pluriverse — a world where many worlds fit". The local flora attract birds, insects, and rodents, restoring a micro-ecosystem that capitalist development would deem unproductive. This multi-species resurgence is not just a background setting; it is Singh's argument: that climate futures must include nonhuman agency and that ecological healing is inseparable from epistemic humility.

Furthermore, the story does more than simply celebrate indigenous ecological practices. It also offers a scathing critique of what Mina herself refers to as the 'vilaiti way' — a colloquial term for Western, imported modes of agriculture and environmental management. This critique is directly tied to the historical and ongoing imposition of Green Revolution technologies in the Global South. As Vandana Shiva (2004, 100) forcefully argues, with the advent of the Green Revolution, "the very meaning of agriculture was transformed." What was once a system rooted in the "careful maintenance of Nature's capital in fertile soils" and geared toward sustaining community nutrition was supplanted by an extractive, profit-driven model of industrial agriculture (Shiva 2004, 100). This transformation entailed a radical shift—from biodiverse, local systems attuned to ecological rhythms to centralized schemes dominated by synthetic fertilizers, pesticides, and high-yielding varieties (HYVs). These Western agricultural interventions, often promoted under the banner of modernization and food security, displaced local grains and practices in favor of monoculture suited to market demands rather than ecological balance.

Singh's story embodies this critique through Mina's rejection of these practices. By choosing not to use pesticides, toxic chemicals, and HYVs, Mina challenges the developmentalist ideology that sees local knowledge as backward and indigenous biodiversity as expendable. At the same time, by embracing organic, localized farming and fostering a pluriversal sanctuary, Mina offers a quiet but radical alternative to

monoculture: an ecosystem that thrives on multiplicity and mutual care rather than extraction and control.

Moreover, Singh's narrative does not limit its critique of "Green Revolution monocultures" to environmental consequences alone. The story highlights the broader socio-economic consequences of these practices. The shift to industrial agriculture not only depleted soils and reduced biodiversity but also displaced millions of farmers, severing them from their land, knowledge systems, and communities. These farmers, who once grew a variety of crops suited to their local environment and climate, are now faced with land that has become infertile and unable to produce the high yields they were promised by modern agricultural practices. As a result, they are pushed into urban areas where their skills hold little value, leading to economic hardship and marginalization. Their knowledge of traditional farming techniques —the skills they had inherited and honed over generations—does not translate easily into the urban, industrialized job market. The lack of formal education or technical skills means they may not be equipped for the kind of jobs available in cities, such as in office work, technology, or service industries. The story poignantly illustrates the plight of one such farmer:

> It turned out the man was from a village that had been relocated for a mining project, and since the stony ground of the new land yielded no crops, he had come to the city to find work. What could he do? Anything – studied up to class eight. . . (Singh 2023)

This moment underscores what environmental historian Ramachandra Guha terms as a "question of sheer survival" (1989, 5) for many farmers in India. For them, ecological degradation is not a distant or abstract concern—it is a matter of livelihood, dignity, and life itself. From a postcolonial perspective, particularly drawing on Gayatri Spivak's idea of "epistemic violence," we can understand this

displacement as more than just material. The privileging of Western agricultural science and the dismissal of traditional ecological knowledge enact a form of epistemic erasure. The farmer's way of knowing the world is not merely undervalued; it is rendered invisible by the dominant discourse of development.

Singh's story, however, does not merely mourn the plight of this farmer; rather, it materializes the potential of these subaltern voices in ecological repair. The story exemplifies this through Mina's employment of this displaced farmer in her garden. The displaced farmer, whose traditional knowledge is initially rendered obsolete by the violence of extractive development, emerges as a key agent in transforming Mina's personal garden into a site of collective regeneration. By drawing on his ancestral farming knowledge, he helps convert Mina's private effort into a community movement. Mina's neighbors, who were initially influenced by Western farming methods and critical of her organic approach, eventually join in. Together, they form the "Hariyali Bagh" movement. This grassroots mobilization sparked by the embodied, situated knowledge of the displaced farmer demonstrates how the intelligence that comes from these people has great potential in climate action, as "they seem to promise more adequate, sustained, objective, transforming accounts of the world" (Haraway 1988, 584). Singh here stages a critique of epistemic privileges showing how the same structures that generate environmental harm exclude the knowledge most equipped to address it. Singh reiterates this point in an interview, stating, "we know that the world is full of suffering. It is very important to acknowledge the power structures that cause this and that power itself is part of the problem because it stands in the way of needed change" (Singh 2021b). This injustice is further illustrated in the story's climactic moment in a public gathering organized by Mina, where subjugated voices are finally given the space to speak. An Adivasi climatologist presents alternative data that questions official carbon-emission figures; a Muslim ecologist describes the destruction of the Aravallis;

and a Dalit oceanographer critiques deep-sea mining on India's eastern coast (Singh 2023). These testimonies, sourced from historically marginalized communities, constitute a direct challenge to the elitist environmental discourse that dominates both global climate governance and the postcolonial state. By centering these voices, Singh not only contests Eurocentric scientific authority but also exposes the casteist and communalist exclusions embedded in national developmentalism. In doing so, Singh critiques any dominant elitist discourse that rejects multiple epistemic voices including human and non-human, and urges a critical reevaluation of this unequal, unjust power structure.

Again, it is important to note that, much like "Indra's Web," the testimonies incorporated by Singh in this story, particularly the bottom-up and community-led "Hariyali Bagh" movement, are not entirely imaginative constructs but are deeply informed by material realities. As Singh herself argues, "imagination inspired and aided by reality can be a powerful instrument" (2021a) for envisioning meaningful social and ecological transformation, unlike purely utopian or dystopian abstractions. Consequently, despite being an academic and a speculative writer, Singh consistently engages with different environmental activists, and listen to the insights of marginal people in weaving such stories. She herself shares many such stories in her blog posts, which closely resembles community driven movement depicted in this story. In a blog post reflecting on her interactions with communities through the NGO Association for India's Development (AID), Singh recounts the stories of individuals such as Sauhar Singh and Makhni Devi, former stone-quarry workers in Jharkhand whose lives were transformed through community-led ecological restoration. With local collaboration and support from hydrological experts, villagers revived degraded watersheds through farm ponds, check dams, and forest restoration initiatives, enabling many families to leave environmentally destructive quarry labor and return to sustainable agriculture (Singh 2022). She also refers to Parvati Devi, a woman from an impoverished

village in Jharkhand who, along with other women from her community, regenerated a degraded forest over two decades through collective protection and ecological care, thereby restoring water security in a region devastated by deforestation and extractive development (2021a). Moreover, the story of Devaki Amma strikingly resembles with Mina's personal gardening and its gradual transformation into a broader ecological movement. Following a personal accident, Devaki Amma, much like Mina, found solace in planting saplings in her backyard and, over the course of four decades, transformed nearly five acres of barren coastal land into a flourishing self-sustaining forest named "Tapovana". Similar to Mina's "Hariyali Bagh," this ecosystem is maintained entirely through organic methods, without chemical fertilizers, and has evolved into a thriving habitat supporting birds, butterflies, wetlands, and diverse species (Karelia 2019). Similar forms of grassroots ecological participation can be seen in Tulsi Gowda's extensive afforestation work in Karnataka, Jamuna Tudu's forest-protection movement in Jharkhand. Singh's vision also resonates with longer histories of women-led ecological movements in India, such as the Chipko Movement in Uttarakhand, where rural women resisted deforestation through collective action and environmental stewardship. These real-life examples closely parallel the regenerative ecological transformation envisioned in "Mina's Dream," where environmental restoration emerges not through elite technocratic intervention but through collective care, indigenous ecological knowledge, and grassroots participation.

Crucially, according to Singh unless this 'optimism of the will' embodied by marginalized and indigenous communities is incorporated into and prioritized within the dominant paradigms of Western modernity and industrial capitalism, meaningful ecological transformation is unlikely to occur. Therefore, to bring about the needed change and shift in paradigm, it is imperative to listen to the multiple voices and epistemologies from around the world and particularly to the lived experiences and ecological insights of

marginalized communities who are already developing localized responses to environmental crises within their distinct geographies and cultural contexts. Consequently, much like Mahuya, Mina, and Singh herself, global elites should come out of their elitist shell or what Singh describes as the "paradigm trap" and relinquish their narrow epistemic authority to multiple voices in order to think and deal with the climate crisis differently. This openness to learning from historically marginalized voices, this shift from top-down developmental models to bottom-up community-based approaches, and this dismantling of the dominant frameworks through which knowledge, progress, and modernity have historically been defined lie at the very heart of Singh's speculative as well as broader realist vision.

Conclusion

In examining the ecological narratives crafted by Vandana Singh, this paper has highlighted the transformative potential of three interlinked forms of marginality—postcolonial science fiction, women's speculative authorship, and marginal knowledge—to articulate a distinctly decolonial response to the climate crisis. Through the postcolonial science fiction stories "Indra's Web" (Singh 2018) and "Mina's Dream" (Singh 2023), Singh resists the universalizing, extractive logic of Western developmentalism and instead foregrounds non-Western, non-elite, and relational modes of ecological engagement. Importantly, these narratives do not romanticize or essentialize subaltern knowledge. Rather, they demonstrate its material, scientific, and political relevance in the face of environmental collapse. Through Mahuya's integration of traditional wisdom in the redesign of Ashapur, and Mina's embrace of marginalized farming practices in the creation of the "Hariyali Bagh"—Singh shows how these epistemologies—long suppressed by colonial and neoliberal regimes—offer resilient and regenerative alternatives to climate catastrophe. Moreover, the stories' close resemblance to real-world forms of grassroots ecological activism illustrates how these postcolonial narratives are not merely utopian abstractions but can serve

as viable alternatives to dominant Western models of development.

In doing so, these postcolonial narratives not only resist dominant developmental paradigms but also call for a radical epistemic reorientation: a decolonization of knowledge that recenters marginalized epistemologies as sites of authority and contestation, while dismantling the hegemonic frameworks through which modernity, knowledge, and progress have been historically defined.

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