NURTURING EARTH: SOIL REGENERATION AND CLIMATE ADAPTATION IN ECOFEMINIST THOUGHT

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Abstract

The future of humanity is inextricably linked with the future of Earth. Soil plays a very critical role in sustenance of life on our planet Earth. It acts a vibrant and lively ecosystem that supports the life, both, above and below it. Healthy soil helps in promoting and maintaining resilience in the face of Climate Change. This paper seeks to expand the understanding on how soil regeneration and adaptation to climate change can help in evolution of ecofeminist connections of women and nature.

Keywords: Soil regeneration, climate adaptation, ecofeminism, India, women's traditional knowledge, environmental governance.

Introduction

Soil is far more than a substrate for crops; it is a living ecosystem essential to sustaining life on Earth (Lal, 2015). In India, where agriculture employs over 50% of the workforce and contributes around 17% to GDP (Government of India, 2021), soil health directly influences food security, livelihoods, and national resilience. Yet, the country faces severe soil degradation: nearly 30% of India's total land area is degraded due to erosion, salinity, and loss of organic matter (Indian Council of Agricultural Research [ICAR], 2020). As climate change intensifies extreme weather events—floods, droughts, and heatwaves—these threats deepen, affecting vulnerable rural communities most acutely.

In this context, soil regeneration emerges not merely as an environmental practice but as a crucial adaptation strategy to climate change (Altieri et al., 2015). Regenerative agriculture, organic farming, composting, and agroforestry can rebuild soil fertility, improve water retention, and increase resilience against climatic shocks (Montgomery, 2017). Beyond the ecological benefits, these practices often rely on traditional ecological knowledge passed through generations, particularly by women farmers.

Ecofeminism provides a unique analytical lens to explore this relationship. Coined in the 1970s, ecofeminism links environmental degradation with gendered social structures, highlighting how both women and nature are marginalized under patriarchal systems (Shiva, 1989; Gaard, 2011). In India, women have long been custodians of seeds, soil health, and biodiversity, evident in historical movements like Chipko and contemporary networks such as Navdanya (Agarwal, 1992; Shiva, 2005). This paper examines soil regeneration and climate adaptation in India through an ecofeminist perspective, focusing on three central questions:

Q1. How do women's traditional ecological practices contribute to soil regeneration and climate resilience?

Q2. What are the challenges in integrating these practices into formal environmental governance?

Q3. How can ecofeminist frameworks inform more inclusive and effective climate adaptation policies in India?

By centering women's knowledge and agency, this study argues that soil regeneration can serve not only ecological goals but also social justice, advancing gender equity alongside climate adaptation. Through case studies, policy analysis, and theoretical reflection, it shows how India's path to climate resilience is deeply tied to empowering women as stewards of the land.

In doing so, the paper contributes to broader discussions on sustainable development, climate policy, and gender studies, situating India within both global ecofeminist debates and localized adaptation practices. Ultimately, it suggests that the way forward lies in recognizing soil regeneration as part of an interconnected social, ecological, and gendered process—critical for building a resilient and equitable future.

Theoretical Framework

Ecofeminism: Linking Gender, Ecology, and Power

Ecofeminism emerged in the late 20th century as an interdisciplinary framework linking ecological degradation with gender-based oppression (Gaard, 2011). Rooted in critiques of patriarchal structures, ecofeminists argue that systems exploiting nature often marginalize women, particularly those in rural and indigenous communities who depend closely on natural resources (Merchant, 1990).

In the Indian context, ecofeminism gained global attention through thinkers and activists like Vandana Shiva, who critiqued industrial agriculture and monocultures for undermining biodiversity and women's traditional ecological knowledge (Shiva, 1989; Shiva, 2005). Bina Agarwal (1992) further enriched this discourse by emphasizing the diversity of women's experiences shaped by caste, class, and land access, cautioning against universalizing narratives. Together, these scholars position Indian ecofeminism as both a critique of development models and an affirmation of women's agency in sustaining ecosystems.

Soil as a Living Ecosystem

Soil is increasingly recognized by scientists not as inert dirt, but as a dynamic ecosystem teeming with microorganisms, fungi, and invertebrates critical to nutrient cycling and carbon sequestration (Lal, 2015). Healthy soil regulates hydrological cycles, mitigates erosion, and acts as a carbon sink—making it central to climate adaptation (FAO, 2017).

In India, traditional farming practices historically viewed soil as sacred and living (Ramakrishnan, 2001). Rituals and cultural metaphors reinforced stewardship responsibilities, aligning with modern concepts of regenerative agriculture that prioritize soil health through composting, crop rotation, and minimal tillage (Montgomery, 2017). This convergence of scientific insight and cultural tradition underscores the relevance of soil regeneration to both sustainability science and ecofeminist analysis.

Climate Adaptation and Resilience Theory

Climate adaptation refers to adjustments in practices, processes, and systems to reduce vulnerability to climate impacts (IPCC, 2022). In agriculture, adaptation includes diversifying crops, restoring degraded lands, and adopting water conservation methods—all dependent on soil health (Altieri et al., 2015).

India's vulnerability to climate change—manifested in erratic monsoons, droughts, and soil salinization—makes adaptation strategies critical (Government of India, 2021). The National Action Plan on Climate Change (NAPCC) and sub-missions like the National Mission for Sustainable Agriculture (NMSA) acknowledge soil management as key to adaptation. However, critics argue these policies often overlook local knowledge systems and gendered roles in land management (Kumar & Gautam, 2020).

Integrating Ecofeminism with Climate Adaptation in India

An ecofeminist lens situates soil regeneration within broader questions of power, justice, and knowledge. Women farmers in India, estimated to contribute 60–80% of food production in some regions (UN Women, 2018), often possess intimate knowledge of soil fertility, seed saving, and agroecological cycles (Agarwal, 1992). This knowledge is shaped by daily interactions with land, reinforced by cultural and community practices.

Yet, systemic barriers persist: women own only about 13% of agricultural land (Government of India, 2020), limiting decision-making power and access to credit and technology (Kelkar, 2014). Ecofeminism foregrounds these inequalities, urging policymakers to see women not as passive beneficiaries but as active agents of climate adaptation (Dankelman, 2010).

Bridging Theory and Practice

The convergence of ecofeminism, soil science, and adaptation theory offers a holistic framework for understanding sustainability. It highlights three key insights relevant to India:

Knowledge Systems: Women's ecological knowledge is both experiential and community-based, often overlooked by formal science and policy (Agarwal, 1992).

Power and Access: Land rights, market participation, and institutional recognition remain gendered, shaping whose knowledge informs adaptation strategies (Kelkar, 2014).

Resilience through Regeneration: Practices like Zero Budget Natural Farming, organic composting, and agroforestry build ecological resilience while challenging extractive models of agriculture (Khadse et al., 2018).

Together, these perspectives argue that effective soil regeneration and climate adaptation in India require integrating women's voices, traditional knowledge, and regenerative science within participatory governance models.

By grounding soil regeneration within ecofeminism and adaptation theory, this paper positions women's agency as central—not peripheral—to India's sustainable future. It sets the stage to explore real-world practices and policy implications in the following sections.

Soil Regeneration Practices in India

Soil regeneration refers to restoring and enhancing soil health through sustainable, often traditional, methods that improve fertility, biodiversity, and resilience against climate shocks (Gattinger et al., 2012). In India, where 30% of land is degraded (ICAR, 2020), these practices are critical not only for environmental sustainability but also for rural livelihoods and food security.

Zero Budget Natural Farming (ZBNF)

Among the most notable recent movements in India is Zero Budget Natural Farming (ZBNF), pioneered by Subhash Palekar. ZBNF seeks to reduce dependence on chemical fertilizers and pesticides by relying on natural inputs like jeevamrutha (a microbial culture made from cow dung and urine), mulching, and crop diversity (Khadse et al., 2018).

In Andhra Pradesh, the Community Managed Natural Farming (APCNF) program scaled ZBNF to over 600,000 farmers by 2020, aiming to cover 6 million by 2024 (Government of Andhra Pradesh, 2021). Preliminary studies report improved soil organic carbon, reduced cultivation costs, and enhanced drought resilience (Bharucha et al., 2020). Notably, women farmers played leadership roles in training and farmer field schools, demonstrating how regenerative agriculture can amplify women's agency.

Organic Farming and Composting

Organic farming, though diverse in methods, typically avoids synthetic chemicals, focusing instead on composting, green manures, crop rotation, and natural pest control (IFOAM, 2018). India ranks among the top countries in organic producers, with over 2.3 million certified organic farmers as of 2020 (APEDA, 2021).

Vermicomposting, using earthworms to decompose organic waste, is widely practiced among smallholder women farmers, who manage compost pits near homesteads. This method not only recycles farm waste but also improves soil structure and water retention (Edwards et al., 2010). NGOs like Navdanya, founded by Vandana Shiva, have supported thousands of women in Uttarakhand to set up compost systems and organic seed banks (Shiva, 2005).

Agroforestry and Mixed Cropping

Agroforestry integrates trees with crops and/or livestock, enhancing biodiversity, reducing erosion, and providing income diversification (Nair, 2011). In arid Rajasthan, traditional systems like Khadin and Orans combine farming with pastureland and sacred groves, conserving soil moisture and biodiversity (Jodha, 1995).

Mixed cropping—growing multiple crops simultaneously—also supports soil health by enhancing nutrient cycling and reducing pest outbreaks (Altieri et al., 2015). Women often decide crop mixes based on soil type, rainfall, and household food needs, drawing on intergenerational knowledge (Agarwal, 1992).

Scientific Evidence on Benefits

Studies show regenerative practices significantly enhance soil organic carbon, reduce erosion, and buffer climate impacts. For instance, Gattinger et al. (2012) found organic systems stored 3.5 more tons of carbon per hectare than conventional systems. In India, Singh et al. (2017) documented higher water retention and crop yields under conservation agriculture in Madhya Pradesh.

ZBNF plots in Andhra Pradesh reportedly used 90% less synthetic fertilizer and showed yield stability during drought years (Bharucha et al., 2020). By increasing organic matter, these methods help soils absorb more water, reduce runoff, and sustain crops during irregular monsoons—a critical adaptation benefit.

Women's Role in Regenerative Practices

Women play central roles in soil regeneration, often performing labour-intensive tasks like composting, mulching, and water conservation (Agarwal, 1992). In Odisha, women's self-help groups manage over 1,500 jhola irrigation tanks, preventing soil erosion and securing water for crops (Kelkar, 2014).

In Uttarakhand, Navdanya's women farmers have collectively saved and shared over 700 traditional seed varieties, many suited to degraded soils and erratic rainfall (Shiva, 2005). These seeds maintain agrobiodiversity, reduce reliance on external inputs, and preserve cultural heritage.

Barriers to Scaling Up

Despite these benefits, several challenges limit broader adoption:

Land Rights: Only ~13% of Indian women own land, affecting access to credit, subsidies, and decision-making power (Government of India, 2020).

Policy Bias: Subsidies favor chemical inputs over organic alternatives (Kumar & Gautam, 2020).

Market Access: Certified organic products face logistical and price barriers, often excluding small women farmers (IFOAM, 2018).

Recognizing these barriers is crucial to designing inclusive adaptation strategies that value women's contributions.

Linking Regeneration to Climate Adaptation

Soil regeneration practices build climate resilience by improving fertility, reducing vulnerability to droughts and floods, and stabilizing livelihoods (Altieri et al., 2015). For women, these practices offer not only environmental benefits but also social empowerment through leadership in farmer groups, training, and decision-making.

By centering women's knowledge and agency, soil regeneration becomes more than an agronomic technique—it becomes a pathway to inclusive climate adaptation rooted in local contexts.

Women, Traditional Knowledge, and Environmental Movements

Across India, women have long served as custodians of ecological knowledge, weaving together daily labor, cultural practice, and environmental stewardship. Ecofeminist scholars argue that this role is neither incidental nor merely symbolic, but rooted in material realities shaped by gendered labor and land relationships (Agarwal, 1992; Shiva, 1989). This section explores historical and contemporary movements that illustrate women's agency in soil conservation, biodiversity, and climate resilience.

Chipko Movement: Embodying Ecofeminism

Perhaps the most iconic example is the Chipko Movement of the 1970s in Uttarakhand. Faced with deforestation threatening landslides, soil erosion, and water scarcity, local women led by Gaura Devi and others literally hugged trees to prevent logging (Shiva, 1989). Beyond its

symbolic power, Chipko foregrounded ecological knowledge: women recognized trees' role in stabilizing soil, retaining water, and sustaining agriculture.
Scholars view Chipko not simply as a protest but as an ecofeminist praxis: women resisting policies that externalized ecological costs onto marginalized communities (Guha, 2000). It reshaped India's forest policies by highlighting local communities' rights over resource management.

Navdanya and the Politics of Seed Sovereignty

Founded in 1987 by Vandana Shiva, Navdanya promotes biodiversity conservation and organic farming. Women farmers form the backbone of its 120+ community seed banks across 17 states (Shiva, 2005). By saving indigenous seeds adapted to local soils and climates, these women directly contribute to soil regeneration and climate adaptation.
Navdanya challenges the industrial agriculture model, which often relies on monocultures and synthetic inputs degrading soil fertility. Instead, it emphasizes mixed cropping, composting, and the cultural value of soil health—linking ecological sustainability with food sovereignty (Shiva, 2005).

Traditional Knowledge Systems: Local, Diverse, and Adaptive

Women's ecological knowledge is deeply place-specific. In dryland regions like Rajasthan, women practice tankas and johads (small water-harvesting structures) to combat soil erosion and store rainwater (Agarwal & Narain, 1997). In Kerala, home gardens (kudumbashree) integrate diverse species that enrich soil organic matter while providing food and income (Nair, 2011). These systems reflect what Ramakrishnan (2001) calls "traditional ecological knowledge" — adaptive strategies honed over generations to balance human needs with ecological limits. Women, as primary seed selectors and caretakers of household plots, are key carriers of this knowledge (Agarwal, 1992).

Gendered Barriers to Recognition

Despite their contributions, women's ecological roles are often undervalued by formal institutions. Only about 13% of Indian women own agricultural land (Government of India, 2020). Without land titles, women face obstacles in accessing government programs, credit, and training (Kelkar, 2014).
Moreover, agricultural extension services have historically targeted male "head of household" farmers, overlooking women's expertise in composting, seed saving, and soil care (Agarwal, 1992). Scholars argue that this reflects broader patriarchal biases in policy and science (Gaard, 2011).

Environmental Movements and Social Transformation

Grassroots ecofeminist movements have extended beyond forests and seeds to address mining, large dams, and urbanization. For instance, the Narmada Bachao Andolan, though led by diverse actors, saw significant women's participation resisting displacement and loss of fertile riverine soils (Baviskar, 1995). In Odisha, women's collectives have revived traditional sacred groves and jhola irrigation systems, improving soil moisture and biodiversity (Kelkar, 2014). Such movements frame soil not just as a resource but as part of community identity and cultural continuity.

Linking Knowledge and Climate Adaptation

As climate change intensifies floods, droughts, and soil degradation, women's knowledge of soil conservation, crop diversity, and water management becomes even more critical (Dankelman, 2010). Traditional practices—such as mulching, cover cropping, and agroforestry—improve soil structure and resilience (Altieri et al., 2015).
Yet, adaptation policies often prioritize top-down technical solutions over community-driven strategies (Kumar & Gautam, 2020). Integrating women's knowledge into planning requires participatory governance, recognizing local voices as legitimate sources of expertise (Agarwal, 2010).

Ecofeminism as Praxis

Ecofeminism emphasizes that environmental sustainability and gender justice are mutually reinforcing. By challenging extractive development and advocating collective stewardship, Indian women's movements illustrate ecofeminism in practice—not merely theory (Shiva, 1989; Gaard, 2011). These examples reveal a politics rooted in everyday practices: composting, seed saving, water harvesting. Together, they demonstrate how soil regeneration is deeply entwined with cultural identity, gendered labor, and visions of equitable development.
In sum, women's traditional ecological knowledge and activism have shaped India's environmental landscape. Recognizing and amplifying this agency is essential not only for justice but for building resilient soils and communities amid climate change.

Policy, Governance, and Climate Adaptation

India's vulnerability to climate change is profound: rising temperatures, unpredictable monsoons, floods, droughts, and soil degradation threaten food security and rural livelihoods (Government of India, 2021). Recognizing soil health as central to resilience, national policies and missions have increasingly emphasized conservation and sustainable agriculture. Yet, as ecofeminist scholars argue, these frameworks often neglect the gendered dimensions of adaptation and the centrality of women's traditional ecological knowledge (Agarwal, 2010; Shiva, 2005).

National Climate and Agricultural Policies

India's National Action Plan on Climate Change (NAPCC), launched in 2008, includes the National Mission for Sustainable Agriculture (NMSA), which explicitly addresses soil health, drought-proofing, and climate-resilient crops (Government of India, 2015). Programs like the Soil Health Card Scheme, launched in 2015, aim to provide farmers with soil testing data to guide fertilizer use (Ministry of Agriculture, 2020).

Similarly, the Pradhan Mantri Krishi Sinchai Yojana (PMKSY) promotes micro-irrigation and watershed management, essential for maintaining soil moisture (Government of India, 2021). These initiatives reflect a policy recognition that healthy soils underpin agricultural adaptation to climate change.

Gaps in Gender Mainstreaming

Despite progressive language, critics highlight persistent gaps. Women constitute nearly 43% of India's agricultural workforce (Census of India, 2011), yet hold only ~13% of land titles (Government of India, 2020). Without land ownership, women often cannot directly benefit from soil health cards, credit, or subsidies (Kelkar, 2014). Further, agricultural extension services and trainings predominantly target male farmers, sidelining women's experiential knowledge of composting, crop diversity, and soil conservation (Agarwal, 1992). Policy design frequently assumes "household heads" are men, marginalizing female farmers' voices in decision-making (Kumar & Gautam, 2020).

Participatory Governance and Local Institutions

Ecofeminist scholars argue that empowering women within local governance structures is essential for sustainable soil management and adaptation (Shiva, 2005). The 73rd Constitutional Amendment (1992), which mandates one-third representation for women in Panchayati Raj Institutions (PRIs), has opened pathways for women's leadership in local natural resource governance (Agarwal, 2010).

Studies show villages with active women sarpanches have invested more in water conservation, soil bunding, and composting initiatives (Jha et al., 2019). For example, in Rajasthan's Alwar district, women-led watershed committees revived traditional johads (small earthen check dams), enhancing groundwater recharge and soil fertility (Agarwal & Narain, 1997).

Integrating Traditional Knowledge into Policy

Formal climate adaptation policies often prioritize top-down technical interventions—like drought-tolerant seed varieties or precision irrigation—over local, knowledge-based practices (Altieri et al., 2015). Yet, women's seed selection, composting, and water harvesting methods have proven adaptive and sustainable (Shiva, 2005).

Projects like Andhra Pradesh Community Managed Natural Farming (APCNF) illustrate how scaling up local practices can align with policy goals. By organizing self-help groups, mostly led by women, APCNF integrates training, peer learning, and microcredit, covering over 600,000 farmers (Bharucha et al., 2020). Such models bridge scientific research and traditional ecological knowledge.

International Commitments and SDGs

India's commitment to Sustainable Development Goals (SDGs) reinforces the need for gender-responsive climate action. SDG 13 ("Climate Action") and SDG 5 ("Gender Equality") intersect in adaptation policies that recognize women's roles in soil and land management (UN Women, 2020).

However, mainstreaming gender into climate finance, technology transfer, and monitoring frameworks remains limited (Dankelman, 2010). Greater coherence between India's climate action plans and gender policies could amplify women's agency in adaptation.

Challenges to Policy Implementation

Several barriers persist:

Patriarchal norms: Women's mobility and participation in village meetings can be constrained by social expectations (Kelkar, 2014).

Resource access: Limited land ownership and collateral reduce women's eligibility for subsidies and loans.

Market dynamics: Organic and regenerative produce often lack stable markets, discouraging farmers despite ecological benefits (IFOAM, 2018).

Recognizing these socio-economic dimensions is crucial to effective policy design.

Recommendations for Inclusive Adaptation

Building on ecofeminist insights and India's policy context, this paper proposes:
Secure land rights: Prioritize joint titles, inheritance reform, and land allocation to women farmers.
Gender-sensitive extension: Develop training and materials tailored to women's schedules, literacy levels, and expertise.
Support women's cooperatives: Strengthen access to credit, storage, and markets for women-led soil regeneration initiatives.
Institutionalize local knowledge: Involve women farmers in policy design, monitoring, and evaluation.
Link soil health to social programs: Integrate composting and organic farming into employment schemes like MGNREGA. By re-centering policy frameworks on women's knowledge and agency, soil regeneration becomes more than technical soil management: it becomes part of a holistic, justice-centred adaptation strategy.

Challenges and Way Forward

Despite widespread recognition of soil health's importance and India's rich tradition of community-based conservation, multiple structural challenges hinder transformative progress. Understanding these barriers through an ecofeminist lens clarifies why soil regeneration and climate adaptation remain incomplete without confronting gendered inequalities.

Persisting Patriarchal Structures

Patriarchal norms shape land inheritance, household decision-making, and public participation. Although women form nearly 43% of India's agricultural workforce (Census of India, 2011), only about 13% hold land titles (Government of India, 2020). This restricts their eligibility for institutional credit, subsidies, and formal participation in policy processes (Kelkar, 2014). Moreover, women's time poverty—stemming from unpaid care work—limits engagement in farmer groups, training sessions, and panchayat meetings (Agarwal, 2010). Social expectations often constrain women's leadership roles, despite constitutional mandates for political reservation (Jha et al., 2019).

Resource and Market Barriers

Market structures favour high-yield monocultures and chemically intensive farming, marginalizing organic and regenerative produce that often comes from smallholders, especially women (IFOAM, 2018). Certification costs and complex standards further exclude women farmers with limited literacy or digital access.

Infrastructure gaps—like storage, processing, and transport—make it difficult to translate ecological stewardship into stable incomes, reducing incentives for soil regeneration (Kumar & Gautam, 2020).

Policy and Institutional Gaps

Although national policies mention women and local knowledge, operational frameworks often remain gender-blind. Extension services traditionally focus on male farmers, while women's expertise in composting, seed selection, and soil care remains undervalued (Agarwal, 1992). Top-down planning sometimes introduces technologies misaligned with local contexts or ignores nuanced caste and class dynamics among rural women (Gaard, 2011).

Ecofeminist Vision for the Way Forward

An ecofeminist perspective argues that genuine adaptation requires structural shifts, not only technical fixes. This includes:
Securing land rights: Joint titles and inheritance reforms to empower women as decision-makers and innovators in soil conservation (Government of India, 2020).
Valuing knowledge diversity: Formal institutions must recognize women's experiential knowledge alongside scientific expertise (Shiva, 2005).
Strengthening women's collectives: Self-help groups and cooperatives can pool labour, share resources, and increase market power (Bharucha et al., 2020).
Integrating soil health into rural employment: Linking composting, bunding, and agroforestry projects to schemes like MGNREGA can provide income while regenerating land (Agarwal & Narain, 1997).
Participatory governance: Policy design and monitoring must involve women farmers, ensuring interventions reflect real needs and knowledge (Agarwal, 2010).

Toward Inclusive Resilience

Soil regeneration is not merely a technical task but part of reimagining development models that prioritize ecological balance and social justice. By centering women's agency, adaptation strategies become more equitable and effective—building resilience not just of land, but of entire communities. The path forward lies in merging India's deep reservoir of traditional ecological wisdom with inclusive, rights-based governance—fulfilling the promise of ecofeminism as both critique and transformative praxis.

Conclusion

This paper has argued that the future of soil health, climate adaptation, and gender equity in India are deeply intertwined. In a country where over half the population depends on agriculture, regenerating degraded soils is not

just an environmental priority but a cornerstone of food security and resilience against climate change.

Drawing on ecofeminist theory, we have seen how women's traditional ecological knowledge—spanning composting, seed saving, mixed cropping, and water conservation—has historically sustained soil fertility and biodiversity. Movements like Chipko and networks like Navdanya illustrate women's agency not merely as caretakers of nature, but as leaders challenging extractive development models and advancing alternatives rooted in regeneration and justice.

Yet significant challenges persist. Patriarchal land tenure systems, resource constraints, and market dynamics marginalize women farmers, while top-down policy frameworks often fail to recognize local knowledge. Land ownership remains heavily skewed, and institutional support for women-led initiatives is limited.

The way forward must integrate soil regeneration into broader strategies of inclusive climate adaptation. This includes securing women's land rights, mainstreaming gender in extension services, and investing in women's cooperatives that bridge ecological stewardship with economic empowerment. Policy design should move beyond viewing women as passive beneficiaries, instead positioning them as co-creators of solutions. Ultimately, an ecofeminist perspective reframes soil regeneration not as a niche practice but as part of a holistic, justice-oriented approach to sustainability. By centering women's knowledge and leadership, India can build a more resilient, equitable, and ecologically balanced future—where soil health and human well-being thrive together.

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