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Regenerative agriculture must move from pilot to policy

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Article Content:

It is compelling not just environmentally, but economically and socially too.

Regenerative agriculture — a system of farming principles that restores soil health, enhances biodiversity, and sequesters carbon — is quietly gaining ground in India's agricultural landscape. Unlike conventional farming, which often depletes soil nutrients and increases greenhouse gas emissions, regenerative practices focus on building soil organic matter, minimising tillage, diversifying crops, and integrating livestock, among others.

As recently highlighted by Agriculture Minister Shivraj Singh Chouhan, nearly 30 per cent of India's soil is degraded, affecting farm productivity and rural incomes. Soil organic carbon levels have come down to ~0.3 per cent from ~1 per cent.

The potential gains from adopting regenerative agriculture are significant. Global studies have shown that soil organic carbon could rise by up to 0.6 per cent per year, improving water retention and drought resilience. Studies show regenerative farms have 15–20 percent higher water retention.

There is also scope for CO_2 sequestration to 0.5 to 3.6 tonnes per hectare per year. This could potentially fetch farmers an incremental income of ~₹5,000 per hectare, annually. Andhra Pradesh's large-scale natural farming experiment has shown 20–30 per cent higher net incomes for farmers, driven by lower input costs and price premiums for organic produce. So, financially, it makes sense for farmers to turn to regenerative agriculture.

However, adoption varies widely. States such as Andhra Pradesh, and Sikkim — where organic and natural farming initiatives have been stronger — show faster uptake. Meanwhile, heavily irrigated, input-intensive regions like Punjab and Haryana face greater barriers due to entrenched practices and short-term economic incentives favouring conventional farming. Dryland states such as Rajasthan and Odisha are exploring regenerative practices to address water scarcity and drought, while hilly states like Himachal Pradesh and Uttarakhand focus on conserving traditional mountain agriculture. These regional differences highlight the need for locally adapted solutions.

Corporate action: Early steps and emerging models

Corporates are beginning to recognise the strategic importance of regenerative agriculture— not just for ESG goals, but for supply chain resilience and long-term profitability.

Global agribusiness giant Bayer recently announced its entry into the carbon credit ecosystem in India. Through its "Better Life Farming" initiative, Bayer is working with smallholder farmers to adopt regenerative practices and measure soil carbon improvements, aiming to generate verifiable carbon credits by 2026.

Similarly, Diageo, a major beverage company, is embedding regenerative agriculture principles across its extended grain supply chain. Their 2024 programme focuses on rice farmers in Telangana. They have previously worked with rice and wheat farmers in Punjab and Haryana. Their initiatives include cover cropping, minimal tillage, and water stewardship measures.

PepsiCo and McCain are supporting regenerative agriculture practices in the potato value chain. There are quite a few other similar examples.

These early moves are critical but fragmented. To move from pilots to real transformation, corporate India must act across multiple fronts:

Embed regenerative agriculture across supply chains, beyond isolate

Co-invest in farmer training, soil testing, and transition financing, recognising that smallholder farmers cannot shoulder upfront costs alone

Standardise metrics and outcomes, using credible frameworks such as those being developed by the Science-Based Targets Initiative (SBTi) for Forest, Land and Agriculture (FLAG)

Facilitate access to carbon markets: Help farmers monetise through certified carbon credits.

Policy pathways: The missing framework and the road ahead

As of April 2025, the Indian government has not officially defined regenerative agriculture in any major national policy document. While programs like the National Mission on Natural Farming (NMNF) and Paramparagat Krishi Vikas Yojana (PKVY) touch on related principles, a clear, science-based regenerative agriculture framework is still missing.

To truly mainstream regenerative practices, the government should consider the following actions:

- Define regenerative agriculture formally, distinguishing it from organic and natural farming, and aligning it with measurable soil health and carbon outcomes.
- Incentivise outcomes, not practices: Subsidies and support should reward farmers for outcomes like improved soil organic matter, biodiversity gains, and CO_2 sequestration — not just for adopting specific techniques.
- Promote carbon markets: Fast-track the development of credible, smallholder-friendly carbon markets, ensuring that farmers can monetise soil carbon gains.
- Invest in Measurement Infrastructure: Build national capacity for low-cost, accurate soil health and carbon measurement, leveraging satellite data and AI.
- boost to the financial needs of farmers interested in making a transition
- Invest in R&D and extension: Fund long-term studies and demonstration farms, and strengthen extension services for knowledge transfer.
- Encourage CSR funds towards regenerative agriculture: Apart from the large MNCs with a global

thrust around sustainability, there are hardly any businesses investing in regenerative agriculture practices from their suppliers and farmers. Policy guidelines encouraging all food processing and agriculture businesses – including SMEs – to direct their CSR budgets towards regenerative agriculture could be a big push towards promoting regenerative agriculture.

Conclusion

The case for regenerative agriculture in India is compelling — not just environmentally, but economically and socially. But realising its potential will require synchronised action: corporates must move from pilots to partnerships, and government must move from intention to institution. In a country where soil health is destiny, the future of agriculture —and the farmers who sustain it — may well depend on it.

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