

Regenerative Agriculture

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Context : The Government of Odisha, in collaboration with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), unveiled a *Compendium of Regenerative Agriculture* to promote sustainable farming practices.

What is Regenerative Agriculture?

Regenerative agriculture is an innovative, ecosystem-focused approach to farming that aims to restore soil health, enhance biodiversity, and combat climate change while ensuring economic viability for farmers.

Key Principles of Regenerative Agriculture

1. Minimising Soil Disturbance

- Emphasis on no-till farming to protect soil structure and prevent erosion.
- Reduced dependency on heavy machinery and intensive ploughing.

2. Maximising Crop Diversity

- Encouraging crop rotation and the integration of multiple plant species to boost soil fertility and control pests naturally.

3. Maintaining Soil Cover

- Using cover crops or mulches to protect soil from erosion and maintain moisture levels.

4. Keeping Living Roots Year-Round

- Ensuring continuous plant growth to support soil microorganisms and improve nutrient

cycling.

5. Integrating Livestock

- Including livestock in farming systems to recycle nutrients through grazing and manure.

Key Practices

- **Cover Cropping:** Planting cover crops during off-seasons to enrich soil and prevent erosion.
- **Composting:** Adding organic matter to improve soil fertility and structure.
- **Agroforestry:** Growing trees and shrubs alongside crops to promote biodiversity and provide additional income streams.
- **Holistic Management:** Treating farms as interconnected ecosystems, focusing on soil, plants, animals, and humans collectively.

Benefits of Regenerative Agriculture

1. Improved Soil Health

- Enhances crop productivity and resilience to extreme weather.
- Reduces the need for chemical fertilizers and pesticides.

2. Enhanced Biodiversity

- Supports beneficial insects, pollinators, and wildlife, creating a robust and self-sustaining ecosystem.

3. Climate Mitigation

- Increases carbon sequestration in soils, reducing greenhouse gas emissions and helping combat climate change.

4. Economic Gains

- Cuts input costs for farmers and boosts profitability through sustainable methods.

Conclusion

The *Compendium of Regenerative Agriculture* serves as a roadmap for adopting sustainable agricultural practices in Odisha. By focusing on soil health, biodiversity, and carbon sequestration, it empowers farmers to increase productivity while addressing critical environmental challenges.



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