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AGRI FINANCE Path to Agriculture Regeneration



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REGENERATIVE AGRICULTURE

WIN-WIN APPROACH TO TRANSFORM AGRI-FOOD SYSTEMS

Regenerative Agriculture (RA) has increasingly been advocated by the civil society, agribusinesses, farmers, NGOs, researchers, and policy planners as alternative to conventional input intensive and exploitative farming. Also, UN Food Systems Summit held in 2021 has emphasised the importance of Regenerative Agriculture for our future sustainability globally. For this, every actor seemed to have own context and there are schools of thoughts defining RA differently.

The key concepts around RA include, Natural Farming (NF), Conservation Agriculture (CA), Permaculture, Zero-Budget Natural Farming (ZBNF), Conservation Agriculture for Sustainable Intensification (CASI), Organic Farming (OF), Carbon Farming (CF) etc., which often limits the uptake of elements of sustainable farming practices. Regenerative Agriculture, therefore, is a set of farming principles which leads to farm and food systems that work in harmony with nature to improve quality of life for everyone involved.

Post-harvest value addition in millets is vital. We need startups to tap into this opportunity and promote a localized but diversified consumption of millets across India

cropping systems and resources is entry points for targeting deployment of RA systems. Significant advancements have been made in geo-spatial technologies which can help in spatial and temporal mapping of crop types, cropping systems and resource endowments. This will also

Multi-Pronged Approach Needed

- **One Size Doesn't Fit All:** There is no silver bullet for any problem to be addressed. A common set of farming principles for RA can be identified, but the large diversity of farms, farming systems, farmer circumstances and take-off points across the diversity needs a tailored approach for development and implementation of RA practices.

- **Prioritizing and targeting farming systems to deploy RA:** Mapping crop types,



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help in defining RA input-value chains, market linkages and knowledge hubs for scaling RA.

- **Targeted bundled system solutions:** RA is a holistic concept integrating genetic, ecological and socio-economic aspects. It is therefore essential to develop science evidence-based, context and cropping/farming systems-specific (including agroforestry, horticulture and livestock) adapted bundled RA practices with well-defined recommendation domains, rather than component and commodity centric practices.

- **Regenerative Agriculture needs phased build-on approach:** RA is a relatively new focus and long-way to go. Neither we have full packages of RA ready, nor those can be developed over-night. But that doesn't mean we should wait for long. A phased build-on approach would therefore help to immediately integrate the well tested elements/practices of RA to build the confidence of stakeholders specially farmers.

- **Power RA with digital tools and techniques:** RA is a relatively knowledge intensive concept. There has been significant advancement and a greater focus on digital tools and techniques in agriculture. Therefore, application of digital tools and techniques for RA can help in bridging the knowledge gaps and boost its uptake.

- **Strengthen research and policy on ecosystem services:** The potential for farmers to directly benefit from soil C sequestration may be limited but life-cycle analysis and valuation of ecosystem services can provide larger carbon offsets to incentivise farmers through carbon credits and ecosystem services. There is a larger potential to generate carbon credits and ecosystem services through RA. But this needs development and use of new approaches, tools, protocols, verification systems and enabling policies for mainstreaming RA in the R&D plans to create pull-factors for accelerated adoption.

- **Strengthening capacity on RA:** Since RA is knowledge intensive concept and there is lack of capacity, a new



Harness the power of soil bio-diversity

Soil-crop microbiome interactions governs the performance of management practices in terms of yield potential and sustainability of RA systems. Comprehensive basic and strategic research would, therefore, need to be initiated on ecological plant protection, rhizosphere microbiome effects of nutrient cycling, capture and release, plant uptake and produce quality. There is a large microbial diversity which will play significant role for the success of RA. Establishing 'Bio-Banks' would, therefore, be central to success of RA.

cadre of RA-Community of Practitioners (RA-CoP) need to be developed though inclusion of RA in course curriculum, development of inclusive training modules, hands-on training on bundled RA practices and certification courses on RA as structured and regular activity.

- **Define business models and market opportunities:** Comprehensive assessment of consumer perceptions & preferences, market size and entrepreneurship opportunities can help in identifying and defining the potential niche for RA and can boost adoption of RA. Well defined business models on output and input markets as well as carbon markets can potentially help in accelerated uptake of RA.

- **Policy support and Investments:**

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Dr Jat loves to talk to plants, work in farms and listen to old Hindi songs

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Dr Paroda likes to read, listen to music and go for walks

A comprehensive assessment on potential for RA is essential for targeting investment priorities. Enabling policy not only for RA production systems but also markets and value chains is a must.

Regenerative Agriculture can help in addressing the second-generation problems of Green Revolution in irrigated intensive systems as well as in drylands where natural resources are severely stressed. RA is a 'win-win' approach that helps in transforming agri-food systems while addressing the existing challenges in agriculture. We must move forward to achieve RA so critical for SDGs. This essentially needs a holistic approach towards discovery to delivery with much greater investments in agricultural research and innovation for development (ARI4D).