From the Patron

REGENERATIVE AGRICULTURE-A KEY TO SUSTAINABLE SOIL HEALTH

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Regenerative agriculture through its core technologies viz., minimum soil disturbance, minimum chemical inputs, maximum crop diversity through intercropping and crop rotation, keeping soil covered throughout the year, and livestock integration offers a low cost, nature friendly agriculture model that gradually convert conventional agroecosystems to resilient agroecosystems adaptable to the local environment. These no-till systems that maintain year round living root systems potentially improve the soil biodiversity. Consequently, natural decomposition in soil increases that leads to escalation of soil organic matter and soil nutrients. Moreover, soils with more organic matter and more living roots possess high water infiltration capacity and so less incidences of runoff, erosion and soil loss. This improves water quality of both on-farm and off-farm water resources in regenerative agroecosystems.

Environmental benefits of regenerative agriculture mainly in the form of promoting soil organic carbon restoration by converting atmospheric CO_2 to soil carbon through its diverse plants cover. This process not only helps in reducing the climate change effects due to greenhouse gas emissions but also facilitate in reverting land degradation, enhancing carbon storage, and maximizing crop productivity; that eventually ensure sustainable soil health and ecosystem services.

Irrespective of the benefits of regenerative agriculture practices on soil health and environment, concerns on yield benefits from the system pose a major challenge in popularising this futuristic agriculture model among the smallholder farmers. Besides, regenerative agriculture model does not guarantee an immediate high profit to its adopters as that of intensive monoculture systems. Hence, in countries like India where small holder farmers are the backbone of the agriculture sector promoters need to invest a lot in educating farmers about the stability of this multi cropped agriculture model that promises gradual development of a stable agroecosystem that can effectively sustain agriculture based local economies by reducing the cost of production and tackling various biotic and abiotic stresses. In fact, if we fail to preserve our soils as healthy as possible today it would also fail to feed our future generations.

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