



Editorial

RETHINKING AGRICULTURAL LAND MANAGEMENT FOR A SUSTAINABLE FUTURE

Healthy soils are important for sustainable and profitable agriculture. Rising food demand and increasing climate uncertainties have brought sustainable land management to the forefront of global agricultural priorities. Once perceived as an infinite resource, our soils are now under immense pressure from increasing salinity, nutrient depletion, pollution, and the unscientific use of chemical inputs. Yet, within this challenge lies a profound opportunity: to reimagine how we manage our agricultural landscapes through innovation, integration, and inclusivity.

Agricultural land management must have a holistic approach that should not only look at the productivity but also the ecosystem services provided by soil. It should encompass long-term soil health management, maintenance of soil biodiversity, and climate resilience. State-of-the-art technologies such as site-specific nutrient management, regenerative agriculture and bio-amendments to mitigate acidity, salinity, restore nutrient cycling, and improve soil aggregation. It must also incorporate precision agriculture technologies, viz., variable rate applicators, digital soil fertility mapping, remote sensing and others.

Organic inputs and Microbial treatments also play an important role in improving soil health. To effectively

address future environmental challenges, adaptive land management should rely on strong data analysis and climate forecasting. Building partnerships among farmers, researchers, and policymakers is essential for scaling up and maintaining these innovations. This holistic strategy has the potential to restore degraded land, boost agricultural productivity, and safeguard natural resources for long-term food security.

Managing agricultural lands wisely through balanced nutrient use, smart technology, and community-led innovation not only improves crop yields but also builds resilient ecosystems. It is time to treat our soil as a living resource and invest in it as our future depends on it—because it truly does.

The articles in this edition of HARIT DHARA highlight the breadth of innovation and interdisciplinary research shaping the future of farming. As we move towards climate-smart and sustainable agriculture, we hope this edition sparks new ideas, fosters collaboration, and inspires meaningful action across the agricultural community.

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