

# Theory of Change for Soil Health

## The Diagnosis

- Widespread and continuing degradation of soils on smallholder farms.
- Traditional soil management systems based on shifting agriculture no longer viable due to land pressure.
- Synthetic fertilizers are often not accessible to smallholder farmers and can have negative environmental externalities.
- Public R+D systems focus on inappropriate broad-scale recommendations for fertilizer use, or on narrow components of soil fertility management. Limited attention to social constraints and environmental externalities.
- Many principles of integrated soil fertility management are well understood but knowledge gaps exist on merging them with local knowledge and generating practical interventions in diverse social, economic, and ecological contexts.

## Principles

Agroecological approach to soil health that builds sustainable fertility and minimizes harmful impacts.

Collaboration and coordination with other research initiatives; communication with variety of actors.

Multi-disciplinary approach that recognizes heterogeneity with nested scales including plots (nutrient balances), farms (nutrient flows, gender), landscapes & communities (ag systems, socioeconomic factors), and national-regional policies.

Address socioeconomic and agroecological trade-offs that limit use of known soil management options.

## CCRP Response/ Pathways to Change

Contextualize and refine crop and landscape management options including inputs, rotations, terracing, trees etc.

Generate farm typologies to better understand various agroecological and socioeconomic contexts.

Emphasis on quick and simple indicators of soil quality that combine local and global knowledge.

Games and models to enhance farmer, researcher, and policy-makers decision making.

Farmer and technician training on basics of soil health principles, diagnostics, and related crop management.

## Contextualized Outcomes that provide evidence for potential at scale

Farmers adapt options to their contexts for better soil health and generate further monitoring data to inform future adaptations.

Institutions promote long-term incentives for achieving and maintaining soil health.

Increase or maintain soil organic carbon as part of a larger commitment to regenerative agriculture.