Refinement and Scaling of Inclusive Agroecological Innovations for Livestock Management, Crop Rotations, and Soil Conservation in Semi-arid South Mediterranean Regions

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Challenge – Small Scale Cereal-Sheep Systems

- Low soil health performances and management in the cereal-based systems;
- Poor management of crop residues and livestock grazing;
- Low availability of biomass for feed, especially during the gap seasons;
- Escalated soil degradation and poor soil health;
- Tradeoffs between farmers short term preferences, and long-term soil restoration needs (requirements & practices);

Research question: How to scale agroecological practices given the tradeoffs related to resources use (and their impact on soil health) within the small mixed crop-livestock systems.

Vision

Promoting agroecological practices can be constrained by actor’s limited acceptance and interest. To avoid such a constraint, researchers and development agents promoting agroecological practices need to change their entry point and embrace a system change approach rather than a solely technology advocacy attitude.

Approach for Refinement and Scaling

Co-design & Prioritize: Consider entry points for social system and for ecological system separately

Define the Entry Points

Feasibility

Roadmap for scaling agricultural innovations for system transformation

Scalable Scan: Scanning readiness and/or related tools of diagrams

Partnership

Sequencing

Package the innovations

Resulting Package – Bundle of Innovations for System Transformation

(co-designed with farmers, researchers, and development agents)

Production System

Semi-Arid North & Central West Tunisia

- Cereal – Livestock belt (Wheat, Barley, Fallow, Sheep);
- Mixed small to medium-scale holders;
- Rainfall 200 - 450 mm, very irregular;
- Poor soils, extremely low soil organic matter;
- Very high erosion risks;
- Extended practice of fallow;
- Low integration of forages;
- Supplementary irrigation (in some cases).

Resulting Transformation

- Development of contract farming between farmers and their associations;
- Increase of collective investments (due to farmers organisation into associations);
- Increased trend towards commercial activities (sheep and beef fattening), due to the increase of forage availability;
- Increased awareness about environmental and soil health through confirmed adoption of (forage) legume rotations (Self production and storage of forage seeds increased);
- Increased exchange of information across communities and with locally empowered extension actors led to increased demand on agricultural innovation;
- Raised interest for restoration of collective grazing areas (with Cactus, Sulla, Atriplex, Carob trees, etc.);
- Increase of women engagement and leadership into the farmers associations (transformation of traditional norms).

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