Farmer Research Networks (FRNs)
Democratizing the innovation process

Smallholder systems are highly heterogeneous. Agroecological intensification (AEI) data needs are enormous. A “business as usual” approach cannot provide the AEI evidence base. Alternative: Observational and experimental datasets from farms.

Rural organizations that support farmers form a collective rural infrastructure that could contribute to a grassroots research capacity.

Participatory methods have been effective at a small scale in producing relevant research at a small scale. Need to connect social, technological, methodological, and political capital to achieve widespread change.

**PRINCIPLES AND ELEMENTS**
linking social and technical innovation

**TECHNICAL CAPITAL**
Scoping studies to allow us to identify partners and introduce the concept of FRNs. Value propositions, including:
- Germplasm – crop and varietal options (linking breeding programs to communities)
- Pest and disease management options

**METHODOLOGICAL CAPITAL**
- Both observational and experimental datasets
- Large-N trials, design to explore key hypotheses about exEinD
- Ways of working across disciplines and sectors

**SOCIAL CAPITAL**
- Scoping for partners with strong linkages in communities
- Linking social and technical innovation processes

**IMPLEMENTATION**
pathways to change

1. **CAPTURING DATA FROM SMALLHOLDER FARMERS (SHF)**
   - Careful targeting of options
   - Option negotiations by stakeholders
   - Data capture software and hardware
   - Sensors for the invisible

2. **GETTING LOCAL DATA & INFO TO GLOBAL DATABASE**
   - Designed to allow small disparate efforts to use common platform
   - Cloud access
   - Address Interpretational issues

3. **GETTING IDEAS, RESULTS & INSIGHTS TO FARMERS**
   - Technology options
   - Analytics
   - Data visualization

4. **INTEGRATING GLOBAL & LOCAL DATA**
   - Global data on weathers, soils, genes etc.
   - Lowering the entry barrier

5. **TECHNICAL HUB**
   - Ag Technologies: Principles and practices
   - Information/Tools: Methods and workspace
   - Sensors and gadgets

**CONTEXTUALIZED SCALING**
creating change at scale

- Stronger, vibrant, and more autonomous rural organization; other actors inspired by FRN spread and methods
- Support by the “Big Data for SHF” CoP
- Strengthened research and development sector (more relevant, sustainable and accountable)
- More and better AEI evidence