

Integrating folk and formal soil ecology

For Kenya's small farmers, soil fertility management is not just a matter of maintaining a chemical balance in the topsoil but rather brings into play their knowledge of soil ecology. With support from Canada's International Development Research Centre (IDRC), researchers in CIAT's Tropical Soil Biology and Fertility (TSBF) Institute are testing an interactive learning strategy with four communities in western Kenya to promote dialog between farmers' "folk" ecology and formal scientific knowledge.

This approach contrasts with conventional agronomic research methods, which often ignore local knowledge systems. While not a panacea, farmers' knowledge about factors such as soil types, nutrient content, composting, and crop response to organic and inorganic amendments is vital, since it guides their decisions about farming.

Through dialog, experiment design and implementation, evaluation, and knowledge sharing between farmers, researchers, and extensionists, CIAT researchers are creating a more dynamic approach to solve soil fertility problems.

"Our project results dispel the idea that integrated soil fertility management is somehow too complicated a topic for participatory research with farmers," says CIAT anthropologist Joshua Ramisch. "Yes, it's complex, but farmers deal with complexity all the time—with weather, pests, diseases, soils, and multiple crops. You can use soil management as an entry point for participatory research on natural resource issues." The challenge now, he says, is to scale up the use of community-based learning strategies so that knowledge sharing can take place among larger numbers of farmers and development partners. This is a key aim of the second 3-year phase of the project, which has continuing support from IDRC.

Strong community interest is driving the push to scale up the process. Since 2001 participating farmer groups have grown from four to twelve. Today, the groups conduct eight collective experiments and over 200 individual ones. And they're applying soil fertility management concepts, not just to maize and beans (the region's main staples), but also to women's high-value vegetable crops and to other staples like millet and cassava.

Documenting the process and its results is crucial. The project team has produced a manual outlining the use of interactive learning techniques. The farmer groups have also been busy documenting their work and creating communications products, such as local language data sheets giving soil experiment results, calendars with photos and descriptions of successful practices, and short dramas, poems, and songs for building community awareness.