Given steep slopes, high population density and land shortage, accompanied by intensive cropping and high rainfall intensity, decline in soil fertility is very apparent in the African highlands. Three out of the five principal problems listed by farmers are commonly related to soil fertility decline. The research team of the African Highlands Initiative (AHI) in collaboration with CIAT and the Ethiopian Institute of Agricultural Research (EIAR) employed several participatory techniques in order to:

1. Develop strategies to address complex natural resource management (NRM) issues.
2. Foster a change from a commodity orientation to a more holistic and participatory approach in the research system.

Farmers were in the forefront throughout the processes of technology development, technology dissemination and impact assessment.

Implementing integrated approaches

Prior research efforts revealed that better understanding and integration of socioeconomic organisational and cultural values of farmers at different resource endowment levels is essential, given that small-scale farmers manipulate and integrate farm components to maximise returns from a sub-optimal and unpredictable environment.

NRM agendas demand high levels of farmer participation and control in the research and development process. Involvement of a number of specialists working beyond their areas of expertise helped to improve the system through better integration. In Areka, an AHI site in southern Ethiopia, various entry points were identified for clients with various types and levels of resource endowments.

Entry points for resource poor farmers

About 70 to 75 percent of households are considered by the community to be poor. The main production constraint for these groups mentioned during participatory Rural Appraisal (PRA) was decline in land productivity. They rarely own livestock; hence they did not have access to manure to enhance crop yields.
Entry points for watershed management

a) Natural resource management at a landscape level can be successfully implemented only when accompanied by farm level technological successes. Unless community members witness the effectiveness of interventions at plot level, farmers may not make a collective decision to manage landscapes.

b) At a landscape scale, issues of importance to diverse social groups (by gender, age, wealth, landscape position & village) are being considered as important entry points to participatory watershed management. Such issues are being identified through focus group discussions and individual interviews.

c) Relative to the integration of on-farm technologies, the success of watershed management relies more heavily on policy interventions at community, district and national levels. Strengthening local policy could be a key element in managing communal resources, as illustrated by the difficulty of integrating trees on barren lands without a local by-law prohibiting free grazing.

d) Watershed agendas can be sustainably implemented only if supported by interventions that give immediate benefits to farmers.

Entry points for resource endowed farmers

Farmers in this category own animals, produce enough food to cover household demands, and are in a position to purchase external inputs. The priority intervention chosen by this group was improved inputs (primarily fertilisers and seed). These farmers have conducted varietal trials on four major food crops: wheat, teff, beans and maize.