Up-scaling and promotion of integrated soil fertility and water management strategies for increasing productivity in mixed dryland farming areas of Kenya using Farmer Field Schools

Project description
Despite research findings indicating that integrated soil fertility and water management can be feasible and profitable strategies in managing soil fertility and soil water in the ASALs, adoption of technologies has been low. There is therefore a need to up-scale and promote integrated soil fertility management strategies that combines a mix of organic and inorganic materials in combination with appropriate water management techniques, selection of appropriate crops and proper timing and placing of the inputs to maximise nutrient use efficiency.

The objectives of the project are i) to up-scale and promote integrated soil fertility and water management on different soil types in agroecological zone (AEZ) 4 and 5, and ii) to identify opportunities for improvement and modification of the technologies from farmers’ observations and feedback.

Farmer field schools (FFS) were initiated to equip farmers and other stakeholders with technological skills and knowledge so that they can disseminate the same to the wider user community. The first step involved selection of two field training sites, in each sub-location, where the farmer field schools (FFS) field sites are located. The sites were identified in collaboration with farmer groups, NGOs and extension staff. Established women and men farmer groups were selected with the assistance of the extension staff and NGOs personnel in the area. The schedules of activities are decided participatorily by the stakeholders. The training activities start from planting and continued throughout the growing period. Topics to be learned during the training sessions were discussed and agreed on by the participants. Field demonstrations, field days and farmer exchange visits are used to reinforce learning.

The activities were initiated in 2 Katumani mandate districts, Mwala and Yatta and implemented in close collaboration with farmers’ groups (CBOs and FFSs), local agricultural extension workers, non-governmental organisations (NGOs) and local leaders. In each district, a pilot project area (PPA), in this case a sub-location was selected in a consultative manner. The roles of the CBOs, extension staff and researchers was discussed and agreed. Participatory learning and action research (PLAR) approach was used in the implementation of the trial. A number of technological options were offered to farmers for testing and treatments and are replicated on 15-30 farms in each pilot project area. The treatments were 5 t FYM ha⁻¹ (farmers’ practice), 5 t FYM ha⁻¹ + 20 kg N, 20 kg P₂O₅ ha⁻¹ + 20 kg N and 5 t FYM + 10 kg P₂O₅ ha⁻¹ + 10 kg N.