

Intervention:	Christian Community Services of Mt. Kenya East Development Programme – The Nine Seeded Hole
Country:	Kenya
Date:	Since 1993
Challenge:	Crop yields are low in Runyenje’s Division and other parts of the region because of low soil fertility and unreliable rainfall. Farmers cannot afford expensive artificial fertilizers, and they often sell their manure to nearby farmers who grow coffee and tea. They do not realize how valuable it is for their own land.
Objective	To promote food production through improved crops and livestock production techniques and storage
Approach of the Intervention:	The Christian Community Services of Mount Kenya East (CCSMKE), conducted a participatory appraisal in Ena and held meetings with the villagers to discuss development issues. A new agricultural development group was formed in the village with CCSMKE advice and training in farming techniques was offered: how to make compost, liquid manure and natural pesticides from plants; how to prevent erosion, conserve water and manage soil fertility; how to grow vegetables, and how to select seed of various crops. One of the subjects in the course was the “nine-seeded hole”. This is a way to improve the soil’s fertility and its ability to hold water, so increasing yields of crops such as maize, sunflower and sorghum.
Benefits and Impacts:	<ul style="list-style-type: none"> □ Improved soil nutrient levels. The compost adds organic matter to the soil, which raises the soil fertility. The nutrients are concentrated where the crops can use it – close to the crop roots. □ Water harvesting and retention. The holes collect water and give it time to sip into the soil. The spongy compost holds the water in the soil so it can support the crops while they are growing, even during a drought. □ Improved soil structure. Many soils have a hardpan below the surface, caused either naturally or by repeated ploughing to the same depth. This hardpan prevents water from percolating downwards in the soil (so it runs off instead, causing erosion, and the soil dries out quickly during a dry spell). The hardpan also prevents the crop roots from reaching down to the nutrients deeper in the soil. The holes are deep enough to break through the hardpan, allow both water and roots to penetrate deeper. □ Improved soil protection. Cover crops such as sweet potatoes and beans protect the soil from the sun and heavy rain, and prevent it from being washed or blown away. The soil surface is moister and temperatures are more even, making it easier for earthworms and other soil life to grow, make food for plants, and aerate the soil. Residue from the cover crops can be used as mulch and add nutrients to the soil, and legumes such as beans fix nitrogen that cereals can use. □ Better control of pests and diseases. In a monocropped field of maize, it is easy for pests and diseases to multiply and attack the crop. A monocrop also encourages certain types of weeds. Growing a mix of crops in the field, as in the nine-seeded hole technique, controls weeds and pests, encourages spiders and other predators

	<p>that feed on pests. Crops sown in the fertile holes grow stronger and healthier, so are better able to resist pest and disease attacks.</p>
<p>Lessons learned:</p>	<ul style="list-style-type: none"> □ Build on local knowledge. Farmers have a rich store of information and knowledge. Development organizations should recognize and build on this knowledge, and adapt it (or encourage local people to adapt it) where appropriate. The nine-seeded hole technique, for example, is an adaptation of a local farmer's innovation, and was refined by CCSMKE. □ Farmers are the best extension workers. They have a wealth of experience and other farmers know and trust them. CCSMKE has capitalized on this by providing them with training on farming techniques and on training methods. These farmers are now a source of information and ideas for their own communities. □ Maintain good relations with other organizations. Much of CCSMKE's success has been because it is able to draw on the skills, resources and goodwill of other organizations. For example, CCSMKE collaborates with other NGOs, the government and faith-based organizations in training, village planning, district-level coordination and so on. □ Farmers want to see results. Small-scale farmers cannot bear a large amount of risk. They want to see that something works before they are prepared to adopt it. CCSMKE arranges demonstrations and field days to show them new techniques, and encourages them to try them out on a small scale before adopting them on a larger scale. □ Take advantage of unused resources. Before, farmers could not sell their mangoes because prices during the peak harvest time were so low. By introducing driers, CCSMKE has enabled them to make and store a semi-processed product for sale at a later date when prices are higher.
<p>Wider application:</p>	<ul style="list-style-type: none"> □ Continuous training, introduction of farmers field school, documentation of success stories, inclusion of all ages and gender in nine seeded hole technology will enhance scaling up. □ Use of media to reach more audience will accelerate spread of information □ Nearly 1500 farmers in Embu District, and many others in 9 other districts in the area served by CCSMKE, have now adopted the nine-seeded hole method. □ CCSMKE opened additional extension centres and hired extension personnel in order to fill a need: a gap in the official extension services. It has six professional staff and two support staff in Embu district, and a total of 132 staff in the whole region. □ It has adapted its approach from the original programme focusing on food production to an integrated approach covering health, education and various other aspects of development. That is because CCSMKE felt that a more holistic approach was necessary not only to fight poverty in Mt Kenya East Region but also to respect the whole human being. □ CCSMKE works with schools to teach sustainable agriculture practices to children, and through them, to educate their parents.

	<p>Pupils in agricultural clubs meet once a week in the school garden and receive training on environmental conservation, setting up tree nurseries, and the nine-seeded hole technique. They also learn cooking and home economics. The children run demonstrations of farming practices on the school farms, and are proud to show off their achievements during parents' days. Many families decide to adopt techniques which the children bring home from school.</p>
Implementing agency & partners	<p>Christian Community Services of Mount Kenya East (CCSMKE), Bread for the World (Brot für die Welt, www.brot-fuer-die-welt.org) Anglican Church of Canada, Tear Fund, Church Development Service (Evangelischer Entwicklungsdienst – EED, www.eed.de), and the Government of Kenya</p>
Contact:	<p>Rev. Ben Kanina Executive Director ccsmke@yahoo.com SUSTAINET (www.sustainet.org)</p>