

SUSTAINABLE LAND MANAGEMENT:

Restoring community farmland in Uganda

KAFSCUL (Karamoja Agro-Farm Systems Consults), a private organization in Uganda, has been working with small-scale farmers in Jie County to improve soil fertility and make farmland more resilient to adverse weather conditions.

Water and food security of agro-pastoral communities in the area are under threat. Flash floods, erratic rainfall, and an ongoing battle with crop pests have made steady and healthy crop growth difficult. As a result, food shortages are causing acute malnutrition, and conflicts regularly arise amongst neighbouring communities fighting for arable land resources.

As a last resort, many turn to the forests for charcoal and wood to sell as an alternative but unreliable source of income that is grossly detrimental to the local eco-system. Consequently, many in the farming community rely entirely on food aid and subsistence agriculture



Agroecology as a solution

Land degradation is a severe problem in Uganda, especially since 90% of the population rely on agricultural livelihoods. Poor farming practices such as monocultures, overgrazing, and deforestation are compounding the problem. Inadequate or non-existent systems for harvesting limited resources like rainwater mean they are in short supply. Areas like Karamoja report heavy rain causing floods and run-offs that erode the soil and damage crops – an issue that agroecologists know they can resolve through sustainable land management.



Director of KAFSCUL (Centre and on mask) with selected dairy farmers from Kotido Municipal Council pose for a photo at KAFSCUL demonstration farm during training of dairy farmers on preservation of silage from napier grass to support dry season feeding of livestock.

The demonstration garden becomes a beacon of hope

Seeing crucial and life-saving opportunities go to waste, KAFSCUL wanted to establish a knowledge hub and farmer innovation learning centre. It is a resource for the local farmers and provides vital training for government extension workers, implementing sustainable land management teaching at all levels.

Karamoja became the spearhead community of the initiative. KAFSCUL saw an opportunity to collaborate with vulnerable families to enhance their resilience to the adverse effects of climate

change and improve food nutrition and security. The key focus was on the promotion of sustainable land and water management.

In KAFSCUL's demonstration field garden, the focus is on improving the soil's physical and chemical properties to counter the past damage. Minimal tillage is key, as well as the use of green manures and crop diversification. The results: a boost in soil fertility that has allowed a second crop every year –something that has never been seen before in Kotido District.



Maize crops planted using conservation agriculture techniques (principles) following adoption of conservation agriculture as one strategy devised by KAFSCUL in addressing negative effects of climate change on food security in Karamoja.

Rainwater collection and crop rotation revitalizes farmland

Crop rotation is another essential element since the monoculture approach to farming has led to severe soil infertility in the district. 95% of households grow sorghum along with maize and millet, and they dominate the production system. Cultivating the same crop on the same land season after season makes it susceptible to pests and disease and diminishes crop production and productivity. The use of crop residues, crop rotation, and green manure has significantly increased the maize yields from year to year.

Once crop production was on the rise, it was important to control the damaging effects of excessive rainfall. Water harvesting is, therefore,

at the heart of the project. Farmers learn how to dig contours and retention ditches at strategic points across their land. During rainy seasons these prevent run-off which causes soil erosion. Instead, the water is captured, then some of it allowed to filter slowly into the soil while the rest is collected for later use. The installation of standby tap water systems then provides a tool for distributing collected water during dry periods.

Napier and vetiver grass species are planted at weak points to slow the flow along the edges of the contours. The grasses serve a second purpose of providing high-quality feed for cattle and livestock.



Investing in a sustainable future through conservation

Conservation strategies are integral to the training. Groups of members meet to identify local tree species that could benefit the community and create critical strategies for promoting sustainable use of natural resources. By protecting and cultivating local tree stumps and newly sprouting shoots, farmers saw them grow to maturity in the space of two years, significantly improving the local biodiversity.

Local farmers realized the numerous benefits of caring for naturally existing vegetation. Branches from mature trees are harvested for farming activities such as support fencing; the grasses are used for nursery bed construction and mulching perennial trees. Some wood is then left for harvesting for use in the home, saving local women from walking long distances for firewood.

Agroecology is the way forward

The project has highlighted the relevance of conservation and sustainable management to enhance crop and livestock productivity and limit the effects of climate change.

Faced with rising temperatures and increasingly unpredictable rainfall, construction of water harvesting structures and irrigation systems remain fundamental for sustained crop and livestock production. KAFSCUL hopes to couple these with scaling up sustainable soil and water management practices and technologies feasible in the area.

KAFSCUL believes that it is time to make agroecological techniques the norm by spreading the knowledge far and wide. By raising awareness of climate change and providing information on agroecology through radio, talk shows, and agrometeorological bulletins, it is possible to increase farmers' capacity to adapt and to thrive. To overcome food insecurity and create brighter, greener, sustainable futures for Ugandan farmers, their families, and their communities.

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