

Organic and soil fertility practices bring food and livelihood security to farmers in central Kenya



Above: Figure 1: An organic garden with vegetables



Figure 2: Elizabeth and Monica at an organic farm



Figure 3: Farmers training farmers approach



Figure 4: Mr Waweru, and organic farmers

Introduction

In Kenya, communities in the Central Province and neighbouring counties suffer the impacts of land degradation due to increased population growth rates. The average land size is one acre while the average family size is about eight people. This exerts substantial pressure on available land for food production. Demographic, economic and environmental changes have upset the balance necessary for appropriate land use. Farm sizes are decreasing and conventional chemical fertilizers as well as soil restoration methods are becoming less affordable; this situation leads to land degradation.

Soils in the mentioned counties have become very acidic and some have a pH as low as 4.0 and below; these kinds of soils cannot produce sufficient food. Some of the communities here have been beneficiaries of food aid, not because they have no land for cultivation, but because their soils are too poor for producing food. For this reason, there is a great need to build the capacity of the farming communities from these regions in agricultural practices that will restore soil fertility, improve the soil pH, and enhance livelihoods.



Figure 5: A farmer's organic farm

The Project

A project to increase soil fertility and promote chemical-free agriculture was started by Grow Biointensive Agriculture Center of Kenya (G-BLACK) in 2010 and is still ongoing. Over 8,000 farmers in Kiambu, Muranga and Machakos counties (the project areas) are involved in organic farming, focusing predominantly on soil fertility management, seed security, small livestock production and income generation.



Figure 6: A proud organic farmer

The long-term objectives of this project are:

- To improve the food security, preservation and storage, and nutrition levels of households through diversification of food production and sustainable agriculture techniques
- To improve farmers' access to markets and diversify their sources of livelihoods through alternative income-generating activities
- To build the institutional and organizational capacity of farmers' groups in the targeted communities
- To establish a participatory monitoring and evaluation framework

Interventions & Resources

Interventions

The rate of land and environmental degradation is extremely high in the project areas. Poor agricultural practices such as excessive use of chemicals, burning of crop residue during land preparation and improper soil conservation practices have contributed greatly to nutrient depletion, and hence declining soil productivity. Low soil fertility is regarded as a major cause of low crop yields in smallholder farms resulting in food scarcity within households.

Moreover, deforestation has also occurred in the communities' search for new land for cultivation or settlement. This is likely to have contributed in part to reduced rainfall which in turn affects food production. Furthermore, the prices of farm inputs like inorganic fertilizers have been increasing and their acquisition has become burdensome to farmers, given their financial limitations.

This project attempts to improve this situation through five forms of intervention:

1. Training workshops
2. Follow-up with farmers including farm visits
3. Demonstration gardens
4. Experiments
5. Monitoring and evaluation



Figure 6: Samuel Nderitu at the research plots

“Our farm was very poor. We used to gather the crop residues and burn them but now, we make compost with them which we are now using as a fertilizer. For 3 years now, we have never used any chemical fertilizer or chemical sprays. Secondly, we used to buy vegetables for our family but today we sell vegetables, fruits and other crops for income.... and yet we have the same land.”

– Mr. and Mrs Celestino Ndungu Kibechu



Figure 7: The youths are involved in organic farming

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These interventions are implemented through the following measures:

1. Baseline surveys
2. Awareness-raising through the chiefs' camps, barazas, churches, advertisements and road shows
3. Training workshops
4. Follow-up with farmers including farm visits
5. Refresher courses through small groups
6. Evaluation exercises

The good practices applied and promoted through the project include:

1. Use of organic fertilizers including compost and farmyard manure
2. Use of soil and water conservation structures
3. Timely and early planting
4. Crop residue management
5. Use of open pollinated and indigenous seeds

Resources

The cost of the project is over KSH 4 million (USD 45,600) per year. In order to implement it, six technical staff members were hired. The available funding has also enabled training sessions and follow-up meetings to take place.

Outcomes

At least 30% of the farmer collaborators have reported an increase in food production due to improved soil fertility. Farmers are now using compost and/or farmyard manure as a means of soil fertility management. Farmers have also noticed improvements in food quality.

The key successes of the project so far are as follows:

- At least 30% of the farmers trained have adopted organic farming systems
- The use of compost and farmyard manure is high
- Local indigenous seeds are in high demand
- The use of chemical pesticides and fertilizers is fast declining

Several farmers are now able to rely completely on their farms as a source of livelihood.

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Challenges & Opportunities

The project has faced a number of challenges such as having to process the information collected by G-BLACK which conflicted with that from the Ministry of Agriculture and corporate suppliers of agrochemicals, the lack of indigenous seeds, and insufficient funding to scale up this initiative. Nevertheless, the successful outcomes of the project are grounds to justify its upscaling as smallholder farmers are constantly looking for cheaper and yet more sustainable ways of farming for better food and livelihood security.

Reflections On Food Sovereignty

The essence of this initiative has been to contribute to the ability of the selected vulnerable communities to regain self-reliance and assert their food sovereignty through community empowerment. The communities exercise their right to choose what to grow and how to grow it. This has led to food security, livelihood improvement, better nutrition and a better standard of living for them.

Africa has the potential to feed itself because it has all the resources required in order to produce sufficient food. These include fertile soils, a climate that favours agriculture all year round and a wide range of indigenous seeds. Governments should embrace local and indigenous agriculture and promote indigenous agricultural knowledge. Civil society organizations that work in the areas of agriculture and environment should advocate for organic farming to be recognized and taught at all levels in the education system. This should be made legally mandatory.



Figure 9: The youth being trained in how to make compost



Figure 10: Samuel teaching farmers how to make compost