AFSA
2022-2023

Christina Ng'ola one of the seed committee members inspecting seeds conserved in community seed banks in Chemchem village

FARMERS MANAGED SEED SYSTEM IN KARATU DISTRICT, TANZANIA, IS A TREASURE TROVE OF AGRO-BIODIVERSITY AND CLIMATE RESILIENCE

"Local varieties are an important source of locally adapted genes for crop improvement where scientists exploit our resources."
Angela Malle, farmer, Kambi ya Simba village in Karatu.

The success story

The Famer managed seed system (FMSS) is the dominant system for food crops and agrobiodiversity conservation for family farmers, accounting for more than 80% of total area planted with their crops in Tanzania. FMSS includes the many ways that farmers produce, distribute, and obtain seeds, such as direct from their own harvest, barter among friends, neighbors, and relatives, and local grain markets or traders. In Karatu district in particular, this is a very resilient system that functions even when no public or private institutions are present.

In Karatu, a large proportion of farmers continue to use mixed seeds from farmer exchanges, harvest, and gifts. For this reason, you can find a diverse range of local seed varieties of Iraq tribe origin for food crops, fruits, and trees. Here, you can find over 50 local seed varieties of beans and over 15 local seed varieties of maize[1]. For the most part, people continue to prefer their local varieties for their food, while improved seeds are cultivated as cash crops.

Climate change in Karatu is experienced in various ways, including variations in annual rainfall, average temperature, heat waves, changes in weeds, pests and diseases, or microbes, as well as crop failure due to climate variability. Farmers indicate that local varieties are more hardy and adaptable in harsh environments. This is supported by findings of a study under the Kilimo Endelevu Program (Sustainable Agriculture Program), which indicated that 97% of the maize landraces were more resistant against insect, pests and diseases with emphasis to storage pests, and 85% of the maize landraces were reported to be drought resistant.

However, government strategies for development in agriculture focus primarily on the promotion of industrial agriculture, including championing improved seed varieties cultivated in monocultures with chemical inputs. This is contributing to the loss of agro-biodiversity through the erosion of farmers' varieties, which are vital for increased biodiversity in general and for climate resilience. This developmental approach is done within a

[1] *Bean varieties include: Sonqarimo, Kunguru, Tsaam, Boo', Daqway, Marmo, Kaki, Hhapey, Wayumbo, Daketi, Losil awaki, Titiwi, Quanqar. Maize varieties include Mehh, Katumani, Katumbiri, Hhapey, Irquito, Mamay, Yanga, Combas, Quaremi Danten, Afe Danten.*

Local jackbeans (Cannavaria) found in Karatu

context where there is very little research available on the multi-functional benefits of FMSS and their contribution to agro-biodiversity, dietary diversity, sustainable food production and resilience in the face of climate change. There is also negligible research aimed at a detailed comparative cost benefit analysis between hybrids and farmer managed seeds.

In December 2017, Iles de Paix initiated the Kilimo Endelevu programme in Karatu to address the erosion of agro-biodiversity and to build on the seed sovereignty and already existing FMSS by establishing community seed centres. PELUM Tanzania member organizations participated in the initiative. The program used a Participatory Action Research approach, which put the Kilimo Endelevu family farmers and facilitators right at the centre of the action. The National Plant Genetic Resource Centre (NPGRC) Tanzania and Karatu District (LGA) were important participants in the initiative. The NPGRC provided technical guidance and tools for seed collection, characterization and cataloguing, participated in the in situ survey and supported farmer training in seed selection, multiplication and storage. Karatu District was responsible for coordination of government extension workers, services and advisory and establishing linkages between farmers and program staff.

Highlighted achievements

- **8** Community seed banks established
- **33** Seed committee members trained on seed conservation and multiplication
- **144** seed accessions and 1 vegetative material collected and conserved in the community seed bank and National Plant Gene Bank
- **72** on-farm trials/demonstration plots were established for seed characterisation
- **856** farmers trained on seed collection, production, sorting and saving
- **40** local seed varieties of maize and beans multiplied and characterised
- **2.3** tonnes of seeds were exchanged amongst farmers and
- **5** seed and food fairs at national and zonal levels
- **1** policy brief on farmer managed seed systems was prepared

Mehh' local maize variety (mixed colours)

Yanga (yellow and white motored colour) local maize varieties

How Kilimo Endelevu was implemented

The program consisted of several steps and activities, which are detailed below.

1. Promote the multiplication and use of indigenous seeds by and for farmers

A collaborative effort between all stakeholders led to the identification, collection and characterization of local seed varieties. Farmers were trained on seed production and multiplication to enable them to produce consistently high-quality seed. The program then promoted the use of farmer managed seed varieties that are affordable and accessible within their locality. The result is that the quality of farmer-saved seed has improved and farmers have access to a wide variety of good quality local and Indigenous seeds.

Community Seed Bank in Slahhmo village

2. Support advocacy and sensitization activities for the recognition of FMSS

Tanzania has not yet completed the domestication of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), which amongst other things, recognises the contribution of family farmers to the development and maintenance of agro-biodiversity and enshrines farmers' rights with regard to their seed. The Seed Act (2003) and its revision of 2014, does not recognize uncertified[2] seed, which comprises over 70% of seed used by family farmers.

Mr. Elibaraka (with a red cap) showcasing the local seeds during farmers exhibition in Dodoma

Farm-saved seed is not included in the district agricultural development plans. In essence, the multi-functional value of FMSS and the treasure trove of agro-biodiversity that these systems have created over generations, are not recognised or supported in policy and law.

For this reason, the program trained journalists on seed law and on FMSS and activated members of networks and platforms advocating for FMSS. These actions built on the advocacy capacity of self-help groups of farmers and of communities.

3. Sensitize farmers and consumers on Farmer Managed Seed System and local food system

The best way to understand the multi-functional value of FMSS, and to encourage people to advocate for it, is for them to experience it. Food and seed fairs give farmers the opportunity to deepen their economy, knowledge and practices around seed, and gives consumers the opportunity to experience the taste, health benefits and diversity of FMSS. Local restaurants are also encouraged and supported to prepare and sell local foods. Sensitization campaigns through television, radio, brochures and spreading slogans on FMSS are also a part of this objective.

[2] *A central standard for the certification of seed is that it be Distinct, Uniform and Stable (DUS). This standard is developed for industrial seed used in industrial agricultural systems and is not applicable to FMSS. Indeed, the beauty of farmer-managed seed is its genetic diversity that confers adaptability and perennial vigour.*

Key Lesson

Kilimo Endelevu has acknowledged the knowledge, skills and agro-biodiversity that is available in Karatu District and farmers now know that what they have is vitally important. Through collaborative efforts between civil society, farmers and the state, local seed varieties have been identified and documented. Well trained members of seed committees now oversee seed selection, collection, conservation, production and multiplication, while Community Seed Banks have become hubs for seed exchange and multiplication of local seeds. Farmer managed seed varieties from Karatu Districts are regenerated and conserved in the National Plant Genetic Resource Center.

It is now time for Tanzanian policy and law to acknowledge, protect and nurture farmer managed seed systems and related skills for increased food and nutrition security and agro-diversity conservation. This must go hand in hand with deeper research of the above mentioned seed systems for a meaningful and informed decision-making on suitable framework to guide its operation.

CROPS4HD

This document is an output of the CROPS4HD project (www.crops4hd.org): a consortium of SWISSAID, FiBL, and AFSA supported by the SDC and LED. CROPS4HD has three major components: production, market and policy advocacy.

AFSA, which is responsible for advocacy, is a broad alliance of civil society actors involved in the fight for food sovereignty and agroecology in Africa. Its members represent small-scale farmers, pastoralists, hunters/gatherers, indigenous peoples, faith-based organisations and environmentalists from across Africa. It is a network of networks, currently with 37 members operating in 50 African countries.

ACKNOWLEDGEMENTS

This case study was submitted by Abiud Gamba, abbygamba48@gmail.com, Agronomist Technical Advisor, Islands of Peace/Iles de Paix.

AFSA
ALLIANCE FOR FOOD SOVEREIGNTY IN AFRICA

WHO IS AFSA?

AFSA brings small-scale farmers, pastoralists, fisherfolk, indigenous peoples, faith groups, consumers, youth and activists from across the continent of Africa to create a united and louder voice for food sovereignty.

For more information and more African case studies see our website **www.afsafrica.org**

IMPLEMENTING PARTNERS

tabio
tanzania alliance for biodiversity

SUPPORTERS

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development and Cooperation SDC

LIECHTENSTEINISCHER ENTWICKLUNGS-DIENST

CONSORTIUM PARTNERS

FiBL SWISSAID