



FARMER AUTONOMY CONTRIBUTES TO HEALTHY DIETS: Supporting seed sovereignty in five districts in Tanzania

“Availability of farm saved seed fulfills people’s right to life and right to food, and allows farmers to freely save, use, exchange and sell seeds. Farmers’ seed are stable and allow farmers to grow food in a way that responds and adapts to change, making communities stronger and food systems more resilient.”
Abdallah Ramadhani, TABIO.

The success story

Agriculture is one of the key drivers of the economy in Tanzania since independence and it is no doubt that seed is one of the most critical inputs in agricultural production. Seed supply in Tanzania and in Karatu, Momba, Mbozi, Ifakara and Ileje districts in particular, is derived from both formal and farmer managed seed systems (FMSS). These districts are found in the bread baskets of Tanzania, namely Njombe, Morogoro and Manyara. Here, and in the country at large, maize is the preferred staple food and as well as cash crop. Other crops including rice, sweet potatoes, sorghum and cassava are also grown.

Promotion of ‘improved’ varieties¹ (primarily maize) in these areas has contributed to the neglect of the use of local seeds hence are on the verge of extinction. Improved varieties are also available for purchase at agro dealers, but farmers often find that the seeds are sometimes not available at the right time, are unaffordable and unreliable. In addition, improved varieties

(hybrids) are not suitable for saving and recycling and require expensive chemical inputs for peak performance. Their promotion has impacted on the autonomy and sovereignty of family farmers. Doing away with local seed has also compromised agro-biodiversity, which is vital for nutrition security. Further, agro-biodiversity creates resilient farming systems that help to diversify livelihood options and manage threats from pests and environmental calamity. Limited crop diversification has therefore been a major contributing factor to high levels of malnutrition in the bread basket regions, despite high maize production in the area.



¹ Improved varieties are bred for industrial agricultural systems. They have reduced genetic base compared with the high variability present in the genetic materials farmed traditionally.

In response to these problems, between 2015 and 2022, TABIO, Zyatwaga Group, PELUM Tanzania, Islands of Peace and other stakeholders worked with smallholder farmers to collect information on the role that farmer managed seed plays in healthy diets and food self-sufficiency.

The collaboration with smallholder farmers in Karatu, Ifakara, Momba, Ileje and Mbozi districts, has enabled them to attend to seed availability, seed accessibility, varietal suitability, seed stability/resilience and nutrition. As a result of this work, smallholder farmers in these districts have greater access to seed that is affordable and reliable for increased food production and nutrition security. Seed ownership by farmers has contributed to greater autonomy over their food production.

- Smallholder farmers in Karatu, Ifakara, Momba, Ileje and Mbozi have access to their traditional seeds, which are diverse.
- Seed diversity, accessibility and availability has enabled farmers to choose preferred varieties for the next cropping season.
- Farmers have widely shared their quality seed.
- Farm saved seed has contributed to food self-sufficiency and nutritional diversity.

How it was implemented

TABIO, Zyatwaga Group, Islands of Peace and PELUM Tanzania collaborated to work with farmers across five districts. The aim was to strengthen interactions among farmer groups to enable the exchange of seed for multiplication.

Participating farmers were engaged in seed multiplication on their land and were advised by agricultural experts on best practices in farm saved seed production. Financial support was made available to farmers' groups engaged in seed production. Implementation of activities and highlighted research findings are described below.



Abdallah_Farmer autonomy contributes to healthy diets_OK

Seed availability: Seed availability refers to the quantity of seed available from all sources

Adequate availability of seed exists when there is sufficient seed from own saved seed, social networks and in local markets to meet the seed needs of local households. Msia Farmers Group and others in Ileje district were cultivating maize seeds obtained from agro-dealers. Over the years, the use of their farm saved seed, namely **Bandawe, Sokosela and Mofati**, had fallen to the wayside.

The group assessed that improved varieties were not always available when needed and that their quality was unreliable. They were alarmed to realize that their traditional varieties were undergoing extinct. They approached old women in their villages to find these seeds, multiplied them and shared with other farmers in the district. These important varieties are now available for exchange in local markets at planting time as well as being saved at household level and available before, at the start, mid or late season.



Exhibition of farm save seed at the agricultural show in Mbeya and Lindi regions in 2022



Seed accessibility:

This is the ability and willingness to acquire seed through cash purchase, exchange, loan, barter or use of power in social networks. While seed may be available within a community, resource poor farmers may not have the finances to access it when needed. To address accessibility challenges, the Usoche AMCOS in Momba district began multiplying local paddy seeds, namely Kyanda Igonda, Mwendambio and Kyela for sharing with their members. Usoche members can access seed through a variety of means, such as bartering labour, committing to returning an equal or greater quantity of seed at a later date, or receiving a loan.

Group members can also acquire seed in exchange for cash in the group or in local markets.

Varietal suitability:

Households need to have access to the crop varieties that have the characteristics they prefer in order to have confidence in their farming activities. Farmer managed seeds have a range of desirable characteristics, including amongst others, appearance, taste, aroma, cooking quality, storability, ability to produce fodder,

high production/income potential, and disease and pest resistance in the field. Project findings indicated that in Ifakara-Kilombero district, family farmers prefer the wonderfully aromatic local rice varieties - Mbawambili, Kisegesa, Kaling'anula and Kisigala. In Ileje and Mbozi districts family farmers prefer the local maize varieties, Sokosela and Ibandawe, because their produce when milled is aromatic, heavy and molds well when cooked. In Karatu district, smallholder farmers have over 50 varieties of beans. The most preferred variety is the tasty Black bean (Boo) because of high yielding capacity, resistance to pests and diseases and its medicinal properties used to treat ulcers. Boo also reportedly does not cause gas when consumed.



Exhibitions of Local food and farm saved seed during the World Food day and agriculture show in Moshi and Mbeya respectively

Seed Stability/ Resilience:

Smallholder and Indigenous farmers maintain high seed diversity for both crop species and their varieties, which suits agroecological food production. In Karatu district, it was found that farmers' groups have conserved over 50 types of bean seeds. This diversity creates resilience - it has helped them to reduce risks from crop loss since if one crop or variety fails, others can be used to help meet household seed and food needs. Therefore, keeping bean seeds in farmers' hands and maintaining agro-biodiversity are critical to food system resilience in the face of climate change.

Healthy diet (nutrition):

It's a fact: farmer managed seeds are nutritious. In 2021 four maize grain samples were analysed by PELUM Tanzania. Three were local - Bondei Yellow, Mehhe and Brown and one was an improved variety. The analysis assessed iron and zinc levels as well as beta carotene content. Iron is crucial for

vitality and to combat anaemia, zinc supports the immune system, wound healing and the sense of taste and smell, while beta carotene plays a part in the production vitamin A, essential to eye health, strong immune systems and healthy skin. Local varieties were found to contain vastly greater levels of these minerals and vitamins.

	Local variety	Improved variety
Iron	56.12 - 109.122ppm	13.17ppm
Zinc	35.981 – 91.117ppm	9.291ppm
Beta carotene	0.019 – 83.910?g	0.000µg

* ppm = parts per million µg = one millionth of a gram (microgram)

Food self-sufficiency:

This is the ability to meet consumption needs (especially for staple food crops) from own production rather than by buying or importing. The documented experience of Mr. Amasha Mwashiuya of Zyatwaga Group in Ibembwa village showed the contribution of local maize varieties in

self-sufficiency. On his 15 acres of land, 10 acres are planted to Ibandawe and 5 acres to Nchancha varieties. His total maize production for ibandawe ranged from 25,000 - 30,000kg, while Nchancha ranged from 10,000kg – 12,500kg. This production enabled him to have sufficient maize for food throughout the year as well as surplus for sale.



Mr. Amasha explaining about his Ibandawe seed during the World Food Day in Moshi





Key lesson

A number of studies have shown that farmer managed seeds contributes over 80% of the seed required by farmers. This is because they are readily available, accessible, affordable and are preferred by smallholder farmers. These seeds perform a variety of functions that contribute to resilient and nutritious food systems. This project has showed that the promotion of farmer managed seed is of paramount important in enabling smallholder farmers have access to quality seeds that are reliable and affordable and for local agro-biodiversity conservation.

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.

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AFSA

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