



Orange-fleshed sweetpotato ensures quick restoration of food security and livelihoods of households impacted by drought in the Oromia region of Ethiopia

Over the past few years, natural and manmade disasters such as drought, flood and conflicts have significantly impacted agricultural production in Ethiopia. Farmers have repeatedly lost their staple crops such as maize and sorghum due to drought, which have been occurring for consecutive seasons in the recent past. Farmers have struggled to feed their families under these difficult conditions. In response to these crises, CIP-led emergency projects were designed and implemented in four regions of Ethiopia to improve the food security of affected households. CIP sought to improve access to high-quality seeds of resilient and nutritious sweetpotato varieties and associated crop management technologies. Farmers were trained in good agricultural practices, which is a major factor in improving the root yield and the quality of improved orange-fleshed sweetpotato (OFSP) varieties. A total of 10,400 households who had been affected by crises in Oromia region were reached with the resilient sweetpotato technologies during the main season of 2023.

Food production

Farmers supported by the project attested that they were able to harvest a remarkable root yield from the improved and nutritious sweetpotato varieties by applying good agronomic practices acquired from the skill enhancing training sessions.



Figure 1. OFSP root harvested by CIP-BHA project beneficiary farmers.
Credit: Wakene T. Hambisa

Mussa Mohammed (Figure 1, a) from Doba district of West Hararghe zone is one of the beneficiaries of the project. Mussa explains that the planting materials of the new orange-fleshed sweetpotato varieties came at the right time, when the sorghum crop he planted at the onset of the belg (short) season was completely wilted due to the severe drought.

“Using the planting material we received from the project, we established sweetpotato replacing the failed sorghum crop. Sweetpotato is such a drought-tolerant crop that it can survive extended drought periods and quickly recover as soon as it rains again. Soon after the establishment of the crop in the field, it did not rain for nearly forty days. With the commencement of rain after such a long period, sweetpotato plants began to recover and immediately started bulking. If other crops such as maize and sorghum were exposed to that intensity and duration of drought, they wouldn’t have survived at all.”

Abdi Adem (Figure 1, b) is another farmer from Tofik Kebele of Babile district in East Harerge zone. He was able to harvest “... about 23 kilograms of root from a seven-meter-long ridge with about 23 plants. It did not rain for twenty days after I planted the vines delivered to me by the project. I found the crop to be incredibly robust that it survived the long stress period and started regrowth, only few days after the rains began.”

In addition, the farmers confirmed that the tests of the new OFSP varieties were excellent. According to farmers, mixing (blending) OFSP with other traditional food enhances palatability and increases the quantity of food consumed by the different age groups within a family. Children, in particular, do not want to eat other types of sweetpotato once they have tasted the roots of the new OFSP varieties. In contrast to local varieties, the OFSP boiled root retains its fresh taste for an extended period—up to three days—and does not cause heartburn, making it a comfortable and enjoyable option even when consumed over several days, according to Mussa and Abdi.

OFSP for jobs and income generation

In addition to home consumption, farmers have begun selling OFSP roots in the local markets to generate modest income. Several women retailers in Babile district of East Hararghe zone have started selling OFSP roots to rural and urban consumers. Sa’ada Ibrahim (Figure 2, a) is among the women retailers selling roots of the new OFSP varieties alongside the white-fleshed local varieties. Each pile of sweetpotato root is sold at ETB 200. Sa’ada collected the roots from farmers at the farm for a price of 800 to 1200 ETB per 60-kilogram sack. Sa’ada says that there is a growing demand among buyers and consumers for OFSP roots even though it is relatively new to the area. OFSP roots, along with other horticultural products, have created employment opportunities for her and other women in the town.

Nasir Abdi (Figure 2, a) bought two piles of OFSP roots from another woman retailer in the market, Aliya Hassen (Figure 2, c). Nasir says “I used to buy the white-fleshed sweetpotato in the past. One day, when I saw the orange-fleshed roots in the market, I decided to buy few roots to test it at home with my family. After testing the boiled roots, the whole family liked it very much. Since then, I have become a regular customer of OFSP roots.” In addition to combating the widespread vitamin A deficiency in the area, OFSP has helped with job creation and income generation for farmers and women in the area.

Vine conservation and multiplication

Most of the communities that are affected by drought, conflict, or other types of crises often live in areas where they have limited access to planting materials from commercial multipliers or community-based sources. To address this problem, small water retention ponds and accompanying small-scale irrigation technologies have been established for the conservation and production of vines by decentralized vine multipliers (DVMs). For example, a DVM using water harvesting technology was established in Shalla district of West Arsi Zone at Fande Ejersa Farmers' Training Centre (FTC) (Figure 3). The FTC was able to conserve and multiply OFSP vines on 250 m² of land during the dry season. The FTC distributed cuttings of the biofortified sweetpotato varieties to 60 farmers, most of them women, at the beginning of the 2023 rainy season.



Figure 2. OFSP root at the market in Babile town, East Harerge zone.
Credit: Wakene T. Hambisa



Figure 3. Water retaining pond and drip irrigation for dry season vine multiplication at the Farmers' Training Center, Fande Ejersa, Shalla district, Oromia region. **Credit:** Mirgo Tumile

After learning from this demonstration, some farmers have begun to build their own structures in their backyards. Shagitu Eda'o, a woman farmer who lives in Fande Ejersa kebele of Shalla district and beneficiary of the previous CIP-BHA emergency project, is among those who adopted the technology. "As a mother of eight children, I found the drought-tolerant and productive OFSP varieties so crucial for feeding my family," says Shagitu. Shagitu preserved and multiplied the OFSP planting material provided through the BHA emergency project in 2021. Using the vines conserved in her backyard, she managed to plant a field four times bigger than the previous ones during the *belg* (short) season of 2024. Now, Shagitu plans to sell surplus vines in the local market, transitioning from a seed aid recipient to a local vine supplier within just three years.



Figure 4: A water retention pond built by Shagitu Eda'o in Shalla district (a); high-quality OFSP roots harvested from her backyard (b); and the OFSP root and vine multiplication field in 2024 (c).

Credit: Simbiro Hamda

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