

Viable Sweetpotato Technologies in Africa (VISTA) Mozambique Delivered Orange-fleshed Sweetpotato at Scale



Fig 1. Health professionals learning how to prepare OFSP-based products during a nutrition training (Credit: O. Chiporia)



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- During the 5-year project period, 74,000 households (55% female-headed) received quality orange-fleshed sweetpotato (OFSP) planting material; 39% of them were able to sustain production of OFSP in subsequent seasons without receiving additional vines from the project.
- 162,000 households indirectly benefitted through farmer-to-farmer diffusion of planting material and agronomic and nutritional knowledge.
- 94,500 children under 5 years of age (24% of them under 2 years of age) were reached with nutrition messaging through their mothers.
- Between 2015 and 2018, the frequency of intake of vitamin A rich foods among children and women from intervention households increased from 3.9 to 4.9 days per week for children and from 3.0 to 5.0 days per week for women.

What was the problem?

Malnutrition is a major challenge in Mozambique, especially among young children and women. Six out of the eleven provinces suffer from very high levels of stunting (>30%); especially the northern provinces of Nampula (55%), Cabo Delgado (53%), Niassa (47%) and Zambézia (45%), and the central provinces of Tete (44%) and Manica (42%). At the national level, 43% of the children under 5 years of age are stunted due to illness and poor diets. Deficiencies in key micronutrients, especially iron, iodine and vitamin A are also high. Approximately 70% of the children under 5 years suffer from vitamin A deficiency (VAD). The project aimed to contribute to improved nutrition, food security, and income of smallholder households by introducing nutritious orange-fleshed sweetpotato (OFSP) along with nutrition education and marketing interventions.

What objectives did we set to achieve?

The Viable Sweetpotato Technologies in Africa (VISTA) Project Mozambique aimed to contribute to improved nutrition, food security and incomes of smallholder farming households with children under 5 years of age through increased production, utilization and marketing of nutritious OFSP varieties (Fig. 1). The five-year project (2014-2019), funded by USAID under the Feed the Future program, aimed to reach at least 65,100 households directly and 260,000 households indirectly through farmer-to-farmer diffusion of OFSP planting material and knowledge.

Where did we work?

During the five-year period, the project worked in provinces of Nampula and Zambezia, where 39% of

Mozambique's population resides (2017 Census). Sixteen districts were covered; eleven in Nampula Province (Monapo, Meconta, Rapale, Malema, Mogovolas, Angoche, Larde, Moma, Mecuburi, Nampula City, and Murrupula) and five in Zambezia Province (Alto Molócuê, Gile, Nicoadala, Mucuba, and Gurúê), comprising 490 communities.

What did we achieve?

During the 5-year period, the project:

- Reached 74,000 households (55% female-headed) with quality OFSP planting material from among 15 improved, drought-tolerant varieties (Fig. 2). The distributed material covered an area of 4,600 hectares. 39% of recipients were able to retain OFSP production for at least one year.
- Reached 162,000 households indirectly with OFSP planting material through farmer-to-farmer diffusion.
- Benefitted 94,500 children under 5 years of age (24% of them under 2 years of age) through training their caregivers on improved agronomic and child feeding practices.
- Established and trained 153 decentralized vine multipliers (DVMs), 25 of them women, and 47 of them formally certified as OFSP seed producers. In total, they had 35 ha under multiplication.
- Established 8 groups of vine multipliers in 8 districts, representing 178 farmer members (56% female), with a combined area of 5 ha under multiplication.
- Trained 53 agricultural extension officers and supervisors and 153 DVMs in OFSP agronomy and a root-based



Fig 2. Women farmers participating in participatory evaluation and selection of OFSP varieties in Gurue district, Zambezia province (Credit: O. Chiporia)

planting material system for areas with a prolonged dry season known as Triple S (Storage in Sand and Sprouting).

- Supported the construction of 51 net tunnels with vine multipliers to support maintaining a stock of disease-free starter planting material.
- Trained 2,900 health professionals and community health workers in improved nutrition practice, including the nutritional value of OFSP and preparation of OFSP-based dishes.
- Conducted participatory evaluation and selection of 22 sweetpotato varieties (19 OFSP and 3 purple fleshed) in 14 districts; held field days for participatory varietal evaluation of varieties in 11 districts.
- Conducted four household surveys, namely a baseline survey (2015), a nutrition monitoring assessment (2017), a follow-up monitoring survey (2018) and endline survey (2019).
- Trained National Research System (IIAM) personnel in the production of sweetpotato tissue culture plantlets.

As a result, children and women from project intervention households increased the frequency with which they ate vitamin A rich foods—mainly OFSP—from 3.9 to 4.9 days per week for children and from 3.0 to 5.0 days per week for women.

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Where there any key challenges or lessons learned?

The project encountered three key challenges during implementation. First, the unpredictability of the onset, duration and intensity of the rains resulted in shortages of vines at the beginning of the rainy season and hence, delayed project vine dissemination to project beneficiaries; in some years mid-season dry spells led to complete loss of established sweetpotato plots; in others excessive rains led to access problems for some districts making monitoring of activities in those districts difficult. Second, the effectiveness of the project nutrition interventions was adversely affected by some trained government health professionals not cascading down nutrition messages to target beneficiaries or distorting some messages during the cascading process. Third, marketing of OFSP fresh roots and processed products remains low due to low and inconsistent supply volumes (a reflection of limited surplus production at farm level) and market preference for traditional white-fleshed varieties.

Several lessons were learnt during project implementation. The participatory evaluation and selection demonstrated that it is critical to first evaluate local adaptability of OFSP varieties to specific locations and then disseminate a small set of best performing varieties for that area, instead of blanket distribution of all released materials. The project also learned that market incentives are critical for sustained uptake and scaling of OFSP. Yet marketing of OFSP and processed products will remain limited until larger, consistent volumes are supplied. This might require working with larger, more commercially-oriented producers and groups. Finally, while the cascading *Training of Trainers* approach can be a good model for scaling out nutrition messages, its effectiveness can be limited by failure of trainees to cascade down the training and distortions or loss of key nutrition messages during the cascading process. Continuous provision of refresher training to trainees and monitoring of the cascading process is key for effective delivery.

What next?

The project officially ended on 30 June 2019 with a project close-out stakeholder workshop. In the coming months the project team will be compiling the final project report, synthesizing the evidence and lessons learned and producing scientific publications, research and policy briefs.

Partners • United State Agency for International Development (USAID) • The Mozambique Agrarian Research Institute (IIAM) • The District Services of Economic Activities (SDAEs)

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