

Nutritious Orange-Fleshed Sweetpotato for Niassa, Mozambique

During the third year of operation, the project continued to work in eight districts, where we implemented a new nutrition training approach, distributed small quantities of vines for multiplication and promoted fresh root and orange-fleshed sweetpotato bread commercialization. By the end of July 2016, we had reached 31,737 households directly with orange-fleshed sweetpotato, with 52% of those receiving vines being women; and 18,784 households (91% represented by women) participated in nutrition training in three districts.

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Fig.1 Mother with child appreciated prepared food during training in Mapudje, Sanga district. (credit B. Rakotoarisoa)

What is the problem?

Niassa is the most remote and sparsely populated of Mozambique's provinces with a population density of just 11-12 persons per km² of land (compared with the national average of 30 persons per km²). Niassa suffers from very high rates of child malnutrition. Forty-four percent of children under five years of age are stunted, levels of vitamin A deficiency are high, and nutritional knowledge among caregivers low. Baseline data indicated that 76% of households in target districts are growing sweetpotato, out of which 12% use orange-fleshed sweetpotato (OFSP). Sixty-three percent of children under two years of age have a very low dietary quality score.

What do we want to achieve?

The key aim of the four-year project, which began in November 2012, is to improve vitamin A and energy intake for at least 20,000 rural households with women and young children (Fig. 1) using OFSP focused food-based approaches that ensure at least 20% of households growing OFSP earn 50 USD or more per year from OFSP sales, and increase average sweetpotato yields by 50% by mid-2016. Capacity building and testing novel approaches to maximize impact from OFSP-based nutritional and agricultural programming are key to achieving these objectives.

Where are we working?

The project is working in eight districts of Niassa Province, Mozambique (Lago, Muembe, Sanga, Chimbunila, Lichinga, Mandimba, Cuamba and Mecanhelas), covering 25 Administrative Posts, 87 localities and 388 villages.

How are we making it happen?

The International Potato Center (CIP) and partners are providing access to adequate quantities of quality OFSP planting material by creating a network of decentralized multiplication sites and trained farmer multipliers to distribute quality vines to surrounding communities.

Household members consume leaves and roots, which contribute to diet improvement, and sell surplus production to the market and bakeries for income. The implementation strategy includes:

- Conducting training programs on vine management to decentralized vine multipliers (DVMs) and nutrition to community animators, field days and technical backstopping;
- Coordinating distribution of vines to rural households in collaboration with partner organizations and information about the nutritional value of OFSP through demand creation campaigns;
- Facilitating fresh root market development and OFSP processed product utilization;

To evaluate our efforts, an assessment was conducted in December 2015 and a final evaluation in May–June 2016.

Who are we working with?

For year four, the Instituto de Investigação Agrária de Mozambique (IIAM), Association Progresso (AP) and Diocese of Niassa (Anglican) are the official sub-grantees. União dos Camponeses e Associações de Lichinga (UCA) participated with limited contribution since year two began. CIP expanded collaboration with



Partners

- Instituto de Investigação Agrária de Moçambique (IIAM)
- Associação Progresso (AP)
- Secretariado Técnico de Segurança Alimentar e Nutrição (SETSAN)
- Serviço Distrital de Atividade Económicas (SDAE)
- União dos Camponeses e Associações de Lichinga (UCA)
- Diocese Anglicana de Lichinga
- Ajuda de Desenvolvimento do Povo para Povo (ADPP)
- Padaria Sanjala
- Padaria Abass
- Padaria Cuamba

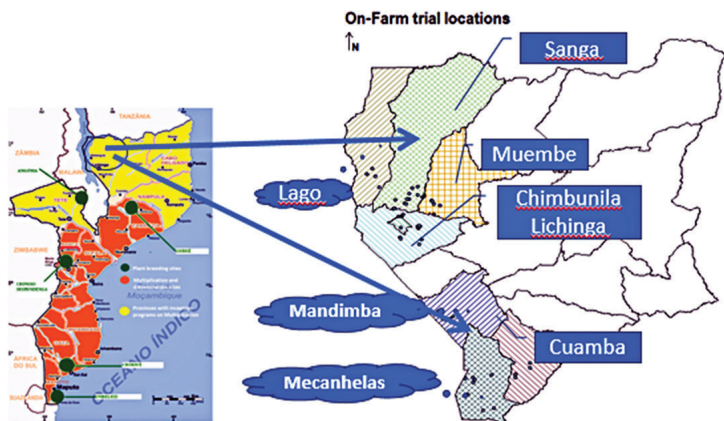


Fig. 2 Intervention districts with dots indicating where on-farm trials were located

government's *Serviço Distrital de Actividade Economicas* (SDAEs) in all of the eight districts, with their extension agents participating in mass vine dissemination and data collection. The NGO *Ajuda de Desenvolvimento do Povo para Povo* (ADPP) also collaborated. The Technical Secretariat for Food Security and Nutrition (SETSAN) distributed OFSP vines to all districts not covered by the project from April 2016. Three bakeries - Padaria Sanjala, Abass and Cuamba, produced OFSP power bread in 2016.



What have we learned so far?

- From 2013 to date, eight OFSP varieties were considered for distribution in eight districts. Delvia and Irene varieties were distributed in eight districts, while Gloria, Bela and Jane varieties were distributed in four district. In terms of importance, around 67% of households received Delvia and Gloria varieties. Delvia, Irene and Gloria varieties were mentioned by 43%, 21% and 20% of households, respectively, as their preferred varieties.
- The project distributed small quantities of vines to households to create a mindset to self-multiply vines from the outset and conserve one's own vines after each harvest. The best performing DVMs started with a small quantity of OFSP vines, received during the off-season.
- From 2013 to 2015, households conserving vines in the lowland increased from 41% to 58% and in the house garden from 14% to 26%. However, households conserving vines in upland fields dropped from 56% to 7%.
- Until the end of July 2016, about 71,307 kg of OFSP vines, mainly Delvia, Gloria, Irene, Bela, Jane and Sumaia varieties, were distributed to about 31,737 households (52% of recipients being women) at 25 administrative posts, 87 localities and 388 villages.
- About 18,784 households (91% represented by women) participated in nutrition training at three districts, seven administrative posts, 18 localities and 45 villages.

- The rapid impact of the project led the Provincial Directorate of Agriculture (DPA) to demand through SETSAN (Fig. 3) that we supply vines to all districts outside of the project intervention area. This resulted in the distribution of about 9,000 kg of vines of Delvia, Gloria, Irene and Bela. In addition, four districts in the adjacent province of Cabo Delgado multiplied about 4,500 kg of these four OFSP varieties received from Niassa Province.
- From 2013 to 2015, the percentage of children under two years of age with low dietary quality scores dropped from 63 to 23%; and for households from 25 to 14%. The percentage of children with high dietary quality scores increased from 25 to 38%; and for the household from 46 to 61%.
- 56% of households in all districts sold 38% of their total OFSP root production, generating an average income of 48 USD per household per year. This is a much higher percentage of households participating in marketing than anticipated.
- Three bakers (two in Lichinga and one in Cuamba) are making Power Bread (Fig. 4), using about 1,500kg of OFSP puree per month. More than 90% of 1,075 consumers surveyed favorably evaluated the Power Bread.
- Six technicians (1 woman, five men) and 90 producers (53 women, 37 men) were trained on Triple S, a method for storing roots throughout the dry season and re-sprouting them just ahead of the rains to get adequate and timely planting material.



What's next?

OFSP is integrated into the Niassa Province's government development plans for the 2016-2017 campaign. The project needs to support the integrated agriculture-nutrition-marketing program 2017-2021, co-designed with the government and other stakeholders for large-scale implementation in Niassa and Inhambane, with a one-year transition to consolidate the evidence-base on OFSP adoption.



Fig. 3 Arnaldo Maximiliano Maloa appreciated new OFSP variety. (credit B. Rakotoarisoa)

Fig. 4 Annual meeting participants appreciating power bread at Padaria Sanjala, Lichinga. (credit B. Rakotoarisoa)