

Scaling-Up Orange-fleshed Sweetpotato through Agriculture and Nutrition (SUSTAIN) in Mozambique

A working smallholder-based seed system supports the out scaling of OFSP in three provinces in Mozambique. After four years, the project has exceeded all targets except for those related to value chain development.

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Fig. 1 OFSP at the annual trade fair in Chimoio, Manica Province (credit R. Brouwer)

What is the problem?

In Mozambique 69% of the children under 5 years suffer from vitamin A deficiency and 43% suffer from chronic malnutrition. Commercialized fortified products are unavailable or too expensive in particular in rural areas. Biofortified crops such as orange-fleshed sweetpotato (OFSP) are a practical approach for fighting vitamin A deficiency as the farming of white-fleshed varieties is common. However, building of a commodity chain is requisite to reach urban populations (Fig 1).

What do we want to achieve?

SUSTAIN wants to ensure increased OFSP production throughout the year to improve nutrition at the producers' level and to supply the urban markets. The project targets are to disseminate planting material to 35,000 households with children under five years old, provide nutrition information to 35,000 individuals, engage 300 smallholders in a value chain with a total annual turnover of US\$60,000

and to see at least 125,000 indirect beneficiaries, who get the planting material from other farmers. We expect at least 70% of households who receive vines from the project should continue growing OFSP the following year.

Where and with whom are we working?

In Mozambique, SUSTAIN works in 15 districts in 3 provinces. The intervention area includes cities such as Beira, Chimoio and Maputo with high potential demand for OFSP. In Manica and Sofala provinces, SUSTAIN has partnered with the Agência de Desenvolvimento Económico da Província de Manica (ADEM) to ensure the distribution of planting material and nutrition information and cooking demonstrations since 2014. In the Maputo area, the same tasks have been undertaken by the União de Cooperativas Agrícolas de Marracuene (UCAM) since 2015. SUSTAIN has invested in ZebraFarm to develop the production of OFSP juice, OFSP purée and OFSP-soy biscuits (Fig. 2). Provincial Directorates of Health, Agriculture, Industry and Trade and Education in Manica and Sofala provinces work with SUSTAIN to upscale production and consumption of OFSP. Relevant district government agencies and the municipal authorities of Maputo and Beira support the implementation of the project. SETSAN – the Technical Secretariat for Food and Nutritional Security – provides a platform for cross-sector coordination at the national and provincial levels.

How are we making it happen?

SUSTAIN operates according to the agriculture-nutrition-marketing model. It:

- Supports a network of 96 decentralized vine



SUSTAIN is a 5-year program (2013-2018), coordinated by the International Potato Center (CIP), with support from UKAid, to scale up the nutrition benefits of biofortified orange-fleshed sweetpotato (OFSP) to 1.2 million households with children under five years of age in children in Kenya, Malawi, Mozambique, Rwanda, and Bangladesh. SUSTAIN supports an integrated set of interventions in agriculture, nutrition, and marketing to increase production and consumption of OFSP. SUSTAIN emphasizes rigorous monitoring, operational research, and independent evaluation to assess the scalability of these interventions and contribute to global evidence on achieving large scale nutrition outcomes through biofortified crops.



Fig. 2 His Excellency the Governor of Manica Province appreciates ZebraFarm OFSP products (credit R. Brouwer)

- multipliers (DVMs) (Fig. 3), with 28 of them being female;
- Operates two multiplication sites in Manica and Maputo provinces respectively to ensure disease-free planting material for DVMs and to fill gaps in supply from DVMs;
 - Works with a network of 78 facilitators managed by ADEM and UCAM who mobilize beneficiary households, ensure vine distribution and carry out information sessions and cooking demonstrations (Fig. 4);
 - Invests in equipment and training of the main processing partner (ZebraFarm);
 - Has trained two bakeries in Manica and Maputo on using OFSP purée as an ingredient in baked products and shared recipes with five other interested bakeries;
 - Promotes the image and the use of OFSP during field days, visits by members of the government, trade fairs including the national trade fair, and through events at public hospitals and radio messages in Portuguese and relevant local languages;
 - Uses standard monitoring tools and targeted surveys and case studies to measure progress and better understand the opportunities, constraints and achievements of SUSTAIN's interventions.



Fig. 3 DVM Mr. João Jose Nteia showing his expanded field with the variety Delvia (credit R. Brouwer)



Fig. 4 Extensionist at the end of an OFSP recipe training exercise in Manhica, Maputo Province (credit R. Brouwer)

What have we achieved so far?

The project has exceeded all targets except for those related with value chain development:

- A total of 44,963 households have received sweetpotato planting material (128% of target).
- In Manica, between December 2014 and December 2016, the number of households farming OFSP increased by 102,000 from 40,000 to 142,000. Together with the interventions in Sofala and Maputo the estimated total number of indirect beneficiaries is 162,000 (129% of target).
- In Manica, 83% of those who farmed OFSP in 2015 still farmed in 2016. To enhance retention after the end of vine dissemination by the project in 2016, facilitators were trained in root-based Triple S for assuring planting material for the next season.
- By mid-2017, 35,174 persons (20,042 women) participated in almost 1,100 training events and cooking demonstrations.
- Since August 2016, several businesses have started producing processed OFSP. Zebrafarm and five bakeries in Manica and Maputo are the main processors. By April 2017, total cumulative sales amounted about US\$30,000. Two bakeries in Sofala started selling OFSP purée-based bread but stopped after a few months.
- An estimated 135 farmers supply roots for processing (45% of target).

What's next?

The project overshot all its targets except for those related with value chain development. Depending on the availability of funds SUSTAIN will continue to support ZebraFarm to help it to consolidate its juice and puree production activities. In addition, research reports will be finalized to contribute to the wider learning about scaling up OFSP in Sub-Saharan Africa.