

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

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Fig.1 Artur Madal, Ezequiel Foi and António Mate upload 300 kg of vines of Irene for a commercial farmer in Xinavane. (credit: R. Brouwer)

What is the problem?

OFSP varieties began being introduced in Mozambique in the late 1990s, but more adapted varieties bred in country became available in 2011. Sweetpotato is grown mainly for home consumption on small plots (average of 300 m² per household). National surveys suggest that the area under sweetpotato is stable and OFSP is 22% of total sweetpotato production. However, supply to urban markets is small as efforts have focused on improving nutrition in rural areas. SUSTAIN verified that in Mozambique's largest city, the capital Maputo, about 85% of the 1.2 million inhabitants consume sweetpotato and about 64% eat orange-fleshed varieties. OFSP appears in less than one-third of the meals, largely because it is not available on the market. Total annual sweetpotato consumption in Maputo is estimated at between 15,000 and 30,000 tonnes with OFSP reaching up to 7,000 tonnes. The challenge SUSTAIN faces is to increase production and open up the market so that more people can enjoy the health and economic benefits from OFSP. Opening up urban markets will drive farmers to increase the area under OFSP.

What do we want to achieve?

SUSTAIN in Mozambique intends to address the issues mentioned above by setting the following targets:

- In each of the target districts at least eight farmers multiply healthy, virus-free vines of top OFSP varieties on a sustainable basis;
- At least 35,000 target households with pregnant women and/or children under five years of age receive quality planting material and grow OFSP varieties for home consumption and for the market; in addition 175,000 receive vines through other organizations, or buying or sharing locally;
- At least 35,000 households diversify their diet and improve infant and young child nutrition practices;
- Urban residents access OFSP through a diversified market with at least one OFSP-derived product achieving a USD 100,000 annual turnover;
- CIP and others extract valuable lessons from the Mozambique experience for the general upscaling effort.



SUSTAIN is a 5-year partnership (2013-2018), coordinated by CIP and financed by the UK Department for International Development, to scale up the nutrition benefits of biofortified orange-fleshed sweetpotato (OFSP). The goal is to reach 1.2 million households with under-5 year old children in Kenya, Malawi, Mozambique, and Rwanda. SUSTAIN supports integrated interventions in agriculture, nutrition, utilization, and marketing to strengthen production and consumption of OFSP. SUSTAIN emphasizes rigorous measurement and evaluation in order to assess the scalability of these interventions and contribute to global evidence on achieving large scale nutrition outcomes through biofortified crops.



Fig. 2 Woman from Marracuene district, Maputo Province, carrying her bundle of OFSP vines. (credit R. Brouwer)



Fig. 3 Hands on nutrition training in Manica district, Manica Province. (credit R. Brouwer)



Fig. 4 Filling in distribution forms in Manhica district. (credit R. Brouwer)

Where are we working?

In Mozambique SUSTAIN works along two important economic corridors connecting landlocked Zimbabwe and South Africa with the Indian Ocean: the Beira corridor and the Maputo corridor. These corridors cross very disparate regions: Maputo is dry and moderately warm. The Beira corridor has a tropical climate in Sofala in the east and an altitude modified climate with higher rainfalls and lower temperature in Manica in the west. In Maputo and Manica, sweetpotato is typically planted during the rainy season when maize is established. In the Sofala section of the corridor, the farming system is dominated by rice irrigation and many farmers plant sweetpotato after the rains, when the rice has been harvested and floodwaters subsided. Working in both corridors poses a logistical challenge to the CIP team as the corridors are over 900 km apart.

In 2014/15 SUSTAIN worked in seven districts in Manica and four districts in Maputo (not including Maputo City). For the 2015/16 agricultural season SUSTAIN will add three districts in Sofala and one in Maputo. In total, these districts have about 2.8 million inhabitants of which 470,000 are under five years of age. There are important urban agglomerations such as Beira, Chimoio and Matola. With 1.2 million inhabitants, the capital Maputo dominates all economic activities in the Maputo corridor and is the key potential market for OFSP.

How are we making it happen?

At the core of SUSTAIN stand the farmer, the consumer and the researcher. OFSP research and development relies on three pillars: (1) appropriate technologies (adapted varieties, farming, processing and marketing); (2) a profound understanding of the economic and sociocultural context in which this technology will be developed, and (3) strategic partnerships for dissemination, production and evaluation with government, NGOs, private businesses and universities. Higher productivity, more value creation along the commodity chain and improved health through a higher Vitamin A intake at the level of consumers are the drivers of change.

What have we achieved so far?

In Manica and Sofala, CIP's partnership with the local NGO ADEM guarantees the dissemination of planting material and promotion of improved dietary practices. Here, by 31 March 2015, 42 local facilitators ensured that over 10,200 households (Fig. 2) received 44.1 tonnes of vines of 12 varieties from 55 multipliers. They organized 307 training sessions (Fig. 3) at the community level, which were attended by 1,750 men and 8,380 women. The young local company ZebraFarm is poised to produce OFSP juice and OFSP/soy biscuits for the local and national markets. Production will start as soon as the equipment arrives in Mozambique and is installed. In the Maputo area, CIP has worked directly with local government, farmers and farmers associations to reach over 1,300 households, of which 740 have children under the age of five and/or pregnant women. On-farm, market, consumer and baseline studies by CIP alone and in partnership with the Ministry of Agriculture, Montana State University and the Natural Resources Institute NRI provide the basis for understanding the appropriateness of the varieties, nutrient retention, consumer acceptance and market opportunities and obstacles and allow for documenting the upscaling process. Dissemination activities are closely monitored (Fig. 4).

What will we do next year?

In the coming year, we will consolidate actions in the existing intervention areas and add Guro district along the road to Tete. By the end of the 2016/17 season we will have reached the 35,000 households targeted and to have OFSP roots and products readily available in the markets of Beira, Chimoio, Maputo and Tete.

Key Partners

- In Manica, Agência de Desenvolvimento Económico da Província de Manica (ADEM) is the Tier 1 partner implementing nutrition training paired with vine distribution;
- In Maputo, the national farmers' union UNAC, ActionAid and local government are the avenues to reach farmers;
- Provincial Directorates of Health, Agriculture, Industry and Trade and Education in Manica and Sofala work with SUSTAIN to upscale production and consumption of OFSP;
- District governments of 12 districts 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;
- ZebraFarm has built a facility that is waiting for equipment to be installed to start the production of OFSP juice and biscuits.