

Scaling Up Sweetpotato Through Agriculture and Nutrition in Malawi (SUSTAIN)

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Fig. 1 A group of farmers plant OFSP vine cuttings in the field as part of the Mother and Baby Trial approach (credit S. Quinn)

What is the problem?

In Malawi, the current and potential role of sweetpotato in building farm family resilience and contributing to sustainable food security is underestimated. Although sweetpotato research and development is supported by the Department of Agriculture Research Services (DARS), the Department of Agriculture Extension Services (DAES), donors and NGOs, their efforts tend to be short term, somewhat fragmented and on a small-scale. Five high yielding, high-vitamin A OFSP varieties were released in 2011, but four years later very few farmers have access to them. This has resulted in missed opportunities for scaling up the production and consumption of OFSP.

What do we want to achieve?

SUSTAIN aims to increase production, sale, processing and consumption of OFSP by accelerating farmer access to quality planting material of five OFSP varieties: Chipika, Kadyaubwerere, Kaphulira, Mathuthu, and Anaakwanire; and strengthening farmer winter wetland cultivation of both roots and planting material for the main summer rain-fed season. This will in turn contribute to increased food availability, dietary diversity, improved vitamin A status of women and children and improved household incomes. We are targeting 75,000 households with children under 5 years of age with planting material and nutrition messaging and counselling. In addition, we will support Universal Industries, a commercial food processing company, to establish

several commercially traded products that use OFSP as a major ingredient. The target is for Universal Industries to purchase OFSP from 5,000 smallholder producers.

Where are we working?

In the first year, we worked in the Southern and Central regions, in districts which have high sweetpotato production or where there is potential for increased production (Chikwawa, Nsanje, Blantyre, Phalombe, Mulanje, Thyolo Dedza, Ntcheu, Balaka, Machinga, Lilongwe). With new funding from USAID and renewed funding from Irish Aid, SUSTAIN handed over most of the year one districts to these projects, shifting into the underserved districts to the north of the capital Lilongwe (Karonga, Rumphu, Mzimba, Nhotakhotu, and Salima). Figure 2 shows where the 3 different CIP-led sweetpotato projects are operating.



Fig. 2 Districts targeted for three CIP-led OFSP dissemination efforts (August 2015 looking forward)



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 Malawi embraces an integrated set of interventions in agriculture, nutrition and marketing to increase production and consumption of OFSP. SUSTAIN emphasizes rigorous monitoring 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. 3 A labelled bundle for distribution (credit S. Quinn)



Fig. 4 Six mothers with the six cooked OFSP varieties under evaluation (credit S. Quinn)

How are we making it happen?

Our four-pronged partnership approach is adapted from CIP's Integrated Agriculture-Nutrition-Marketing Approach. It aims to increase OFSP adoption, utilization and consumption by: (1) supporting three established commercial planting material multipliers with a range of services, (2) supporting DAES and NGOs to implement OFSP 'mother and baby' trials testing six new varieties across districts, (3) supporting Concern Worldwide to carry out nutrition education and counselling using brochures, and (4) supporting a commercial food processor to establish puree (steamed and mashed sweetpotato) production.

The marketing component aims at two value chains: the fresh roots markets in Blantyre and towns in the SUSTAIN intervention districts, and establishment of a market for OFSP-based processed products through Universal Industries Ltd. In both cases, we expect that expanding and diversifying the OFSP market will result in increased consumption and create more incentives for intensification of OFSP production and adoption. We are taking a 'Utilization Focused Evaluation' approach involving practitioners in monitoring, learning and evaluation, as a way of supporting scaling-up through continuous learning and innovation.

What have we achieved so far?

SUSTAIN implemented a set of 'quick start activities' in 2015 with the five new varieties to accelerate the multiplication of planting material and the establishment of farmer managed mother and baby variety trials in the Southern and Central Regions. We planted over 100 mother and baby trials in the 2014/15 rainy season with each six variety mother site associated with the distribution of 50 baby bundles (over 5,000). This activity is being repeated during the 2015 winter wetland season with new farmers.

Variety performance data has been collected and will be presented and discussed with the OFSP community of practice later this year. Follow-up studies on farmer variety adoption are on-going. Indications from the harvest of the 2015 rainy season mother sites are that the five OFSP varieties are as productive as or better than farmers' own varieties. Farmers appreciate their taste and high vitamin A content. Therefore, we anticipate high rates of adoption and subsequent farmer-to-farmer diffusion of planting material, reaching an additional 300,000 to 450,000 farmers. This diffusion rate of 4 to 6 will be verified in the OFSP

adoption and diffusion survey that will be completed before the end of 2015.

A commercial multiplier, Nankhwali Farm, who benefited from the construction of a gravity irrigation system in the first year, is now ensuring quick supply of planting material. For the summer and winter seasons of 2015, the multiplier sold over 20,000 bundles (100 cuttings, each 30 cm long) to SUSTAIN and partner NGOs (Fig. 3).

To expand the market for OFSP roots, we initiated a pilot with Universal Industries in collaboration with EIL to test new commercial products based on OFSP puree.

We worked with Concern Worldwide and Civil Society Organization for Nutrition Alliance (CSONA) to implement nutrition education and counselling interventions through 100 community-level care groups (Fig. 4). These interventions started with the onset of the main planting season in December 2014 and continued through harvest in May 2015.

In response to the humanitarian crisis caused by severe flooding in January 2015, we implemented rapid recovery activities with several NGO partners through which 20,000 affected families received planting material.

What's next?

Over the next year, we will work with new partners to scale up our activities in the Northern Region. In anticipation of an increase in OFSP root availability, we will intensify nutrition promotion activities. We will also collaborate with RTI International to provide OFSP literacy materials and planting material to Community Reading Centers in 3-4 districts, as part of the Early Grade Reading Activity. We plan to support the commercial multiplier (Nankhwali Farm) to improve their vine marketing, including the design of a website. We plan to strengthen our use of GIS to map the location of mother sites, distribution of bundles of the new varieties and farmer-to-farmer diffusion of planting material.

Key Partners

DARS Bvumbwe is the key research partner. In addition to new variety development, DARS undertakes screen house multiplication of primary planting material, supports commercial multipliers through training, inspection and co-designs, implements and analyzes on-farm trials. DAES is the key development partner and leads in districts without an NGO presence. Key NGO partners include Concern Worldwide (for OFSP nutrition work and field activities in districts where they have a presence), Concern Universal, Feed the Children, Self Help Africa, Welthungerhilfe and the Diocese of Karonga. Key private sector partners include Nankhwali Farm, Bvumbwe Vines (commercial multipliers) and Universal Industries (food processor).