

# Scaling Up Sweetpotato Through Agriculture and Nutrition in Kenya

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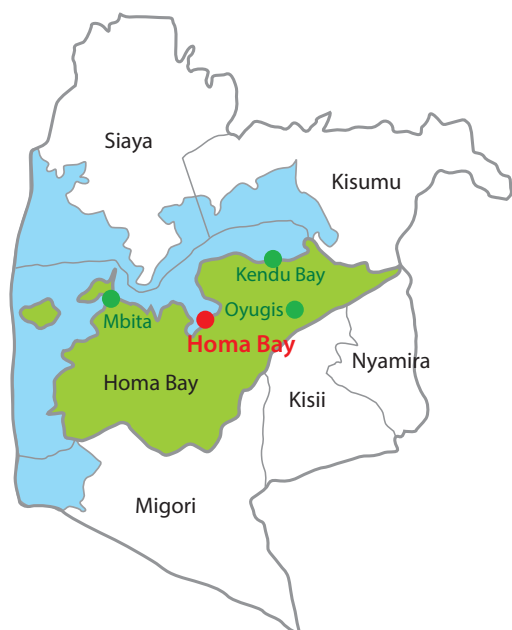


Fig.1 Counties in Nyanza Province Kenya

## What is the problem?

Vitamin A deficiency (VAD) is a significant public health problem in Kenya, affecting approximately 20% of children in Nyanza province. In Kenya, the SUSTAIN project is working in Nyanza province, where over 50% of women do not receive vitamin A supplementation post-partum and over 60% of children under 6 months are likely not to receive vitamin A supplements. Given the prohibitive cost of animal source foods, plant source foods such as biofortified orange-fleshed sweetpotato (OFSP) can serve as a major source of vitamin A as well as enhancing food security as the OFSP varieties mature quickly (3-4 months).

## What do we want to achieve?

SUSTAIN Kenya sets out to reach 35,000 households with children under 5 years of age with OFSP vines and nutrition education by 2018. We expect that these households will produce OFSP at least twice a year and consume OFSP at least twice per week when it is in season. We will also work with a commercial partner to establish at least one commercially traded processed product in the market that uses OFSP as a major ingredient. The target is to reach at least 100,000 consumers with this product. Our expected impacts are: 1) Significant increases in the

frequency of OFSP consumption and 2) enhanced infant and young child feeding practices.

## Where are we working?

We are working in Homa Bay, Migori, Nyamira, Kisumu and Siaya counties in Nyanza province (Fig. 1). Each project site had to meet the following criteria: (1) Supported by APhiPlus Western Kenya Project and implemented by PATH (a key project health partner); (2) Potential for production of OFSP with some currently being cultivated; (3) Access to moist lowlands in dry season to aid in conservation of OFSP vines; (4) Ability and willingness to use land for cultivation of OFSP vines; and (5) Proximity to roads that facilitate linking producers to market opportunities.

## How are we making it happen?

Through the now completed Mama SASHA project in Bungoma County the International Potato Center (CIP) and partners used an integrated model to link nutrition counselling with ante-natal and infant health services, OFSP dissemination and agricultural extension. This model was very effective in increasing OFSP adoption and utilization of health services. SUSTAIN Kenya is building on this experience and working partnerships through two approaches. First, we are testing a less intensive integrated agriculture-nutrition approach to get OFSP into the farms and diets of households with children under 5 years of age in Nyanza Province. Secondly, we are working with commercial food processors to determine whether existence of commercial markets for OFSP-based products can provide incentives for accelerated OFSP adoption by smallholders; and whether a more diversified market will lead to an overall increase in investment in the entire OFSP value chain. We emphasize and promote the first 1,000 days approach, which targets pregnant women and children up to 2 years of age for key nutrition interventions. We deliberately focus on reaching women and children during ante-natal and post-natal healthcare attendance at selected health facilities. We have established a coupon system, whereby a mother is issued with a coupon at the health facility, which she presents to receive vines from a trained, decentralized vine multiplier



SUSTAIN is a 5-year partnership (2013-2018), coordinated by CIP and financed by the UK Department for International Development (DFID), 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 DVMs are trained by SUSTAIN staff on vine multiplication (credit P. Muoki)**

(DVM) located near the facility (Fig. 2). In total, 28 health facilities are linked to 66 DVMs. Parallel to this intervention, we have phased in the development of a commercial OFSP value chain that links smallholder producers to commercial processors. We expect that this partnership will create incentives for wider adoption of OFSP varieties in Nyanza Province and lead to increased investments in various stages of the overall OFSP value chain.

### What have we achieved so far?

SUSTAIN expanded from three counties (2014) to five counties (2015) in Nyanza province and Busia County in the Western Province of Kenya. The number of DVMs increased from 18 in 2014 to 66 in 2015. Fifty per cent of these DVMs are women.

We trained 126 health workers on delivering agriculture-nutrition messages with a focus on OFSP (Fig. 3). Their buy-in has been instrumental in mobilizing farmers at the community level. Through an integrated agriculture-nutrition approach, we have reached 9,707 households, most with children under 5 years and/or pregnant women, with OFSP vines and nutrition education. Lessons focus on how to use OFSP for infant and young child feeding. Seventy-five mother-support clubs have been set up at the community level to enhance infant and young child feeding practices. These monthly trainings are attended by pregnant and/or lactating mothers and provide a forum for demonstrations on complementary feeding and child health.



**Fig. 3 Training community health workers on monitoring tools (credit S. Kariuki)**

SUSTAIN solicited proposals from agro-processors interested in investing in starting an OFSP purée factory in Nyanza Province that would supply purée to the bakery division of Tusky's supermarket, the second largest supermarket chain in Kenya. Organi Limited won the bid, and opened a processing facility in 2015 with technical support from CIP and Euro Ingredients Limited (Fig. 4). In June 2015, Organi began supplying 200-250 kgs of OFSP purée to Tusky's on a daily basis. The OFSP bread and buns being sold in 4 pilot stores in Nairobi are being sold out on a daily basis (Fig. 5).

As a result of intense community mobilization in 2014, the acreage under OFSP is starting to increase. The fact that farmers have started delivering OFSP to the processing facility less than 4 months after the onset of the rains is an indication that they will adopt OFSP production if a ready market is available. We also observed an increased use of OFSP roots for home consumption in July, when hardly any other crop was mature.

### What's next?

In the coming year, we expect to reach at least 12,000 households with the ag-nutrition-health service intervention. On the marketing side, we are working with partners to organize farmers to produce sufficient OFSP to supply the Organi Ltd purée factory. We expect at least 100 acres to be planted by November 2015. Technically, we will continue to assist Organi to be able to scale-up to at least 2000 kgs of purée daily by mid-2016.

### Who do we work with?

SUSTAIN is a partnership between agricultural and health institutions. The Ministry of Health and PATH (a leading international health NGO) collaborate with CIP and the Ministry of Agriculture to ensure nutrition and agricultural interventions are linked effectively and can share skills and experiences. SUSTAIN is also working with Tusky's chain of supermarkets on the production of commercial OFSP products and marketing strategies, with additional technical inputs from a private sector food technology firm Euro Ingredients Limited (EIL). Organi Limited is a private company that processes puree and delivers to Tusky's for development of bakery products.



**Fig. 4 Processing OFSP into purée at Organi Ltd (credit J. Low)**



**Fig. 5 OFSP bread on sale in Tusky's supermarket (credit T. Muzhingiri)**