

Scaling Up Sweetpotato through Agriculture and Nutrition (SUSTAIN) in Rwanda

During the past year, project beneficiaries marketed 81,558 kilograms of OFSP fresh roots valued at US \$13,273 a 75% increase in value of sales over the same period last year. The vines sold by multipliers (individuals and groups) in Rwanda were valued at US \$40,477.

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Fig 1. Nutrition training at Kayonza (credit A. Ndaylsenga)

What is the problem?

Rwanda's investment in agriculture targets five crops, mainly maize, rice, beans, banana and potato. However, in terms of metric tons produced, sweetpotato is the number one crop in the country, accounting for 13.4% of all crop production in 2014, yet only 5.2% of cultivated land (Table 1). Rwandans consume over 88 kg per capita of sweetpotato per annum, with the dominant varieties being white-fleshed. The major complaint of farmers is lack of market.

Levels of stunting (chronic malnutrition) among children under five years of age still remains high

(38% in 2014-15 DHS). Therefore, the government of Rwanda is promoting several interventions including the utilization of biofortified crops such as pro-vitamin A rich, orange-fleshed sweetpotato (OFSP).

What do we want to achieve?

Biofortified, pro-vitamin A rich OFSP varieties are a proven tool for reducing vitamin A deficiency (VAD) among children under five years of age, the group most at risk of VAD. Under the SASHA project (2010-2014), we demonstrated that through effective public-private partnerships, it is possible to build a sweetpotato value chain that is pro-poor and pro-women. Through the SUSTAIN project, we are scaling up this model and strengthening the nutrition component.

We intend to reach at least 60,000 direct smallholder beneficiaries and 250,000 indirect beneficiaries by 2018 with improved varieties and appropriate nutrition information and counseling for caregivers of infants and young children (Fig 1). We aim to contribute to improving dietary diversity through increasing the consumption of OFSP and other vitamin A rich foods at the household level.

Table 1. Production of Key Roots and Tubers in Rwanda in 2014 Season A, B, and C

CROP	TOTAL METRIC TONS	%OF ALL CROP PRODUCTION	% OF ALL AREA CULTIVATED
SWEETPOTATO	940,787	13.4	5.2
CASSAVA	900,227	12.8	22.8
BANANA FOR BEER	854,710	12.2	11.7
COOKING BANANA	865,629	12.3	8.3
IRISH POTATO	719,006	10.3	4.1

Source: National Institute of Statistics of Rwanda: Seasonal Agricultural Survey 2014



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 under-5 year old 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.

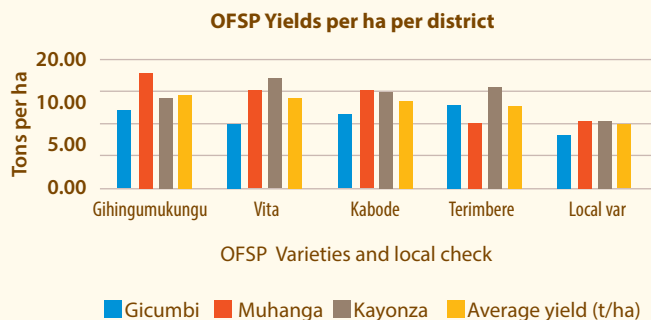


Fig 2. Comparison of Yields by district and overall: 4 OFSP varieties and the local check.

Where are we working?

SUSTAIN is working in 8 districts (Gicumbi, Ruhango, Kayonza, and Rwamagana Gakenke, Rulindo, Kamonyi, and Muhanga). The initiative is part of a wider CIP led Rwanda sweetpotato program that is currently directly covering 18 districts.

What have we achieved so far?

From the field and demo plots trials OFSP yields continue to show significant gains compared to local checks (Fig 2). The average yields for various varieties are Gihingamukungu (14.8 t/ha), Vita (14.0 t/ha), Kabode (13.8 t/ha), Terimbere (13.1 t/ha), and local check (10.1 t/ha). A total of 11 demo plots were established (Fig. 2).

In collaboration with Michigan State University, the project is implementing a Randomized Control Trial (RCT) in 1,560 households in 252 villages, 42 sectors in 8 districts. There are six arms to the RCT trial. This is with the exception of the marketing arm that requires availability of marketable roots to be well implemented. The baseline was conducted earlier and an endline will be implemented in the coming year.

Between December 2015 and June 2016, the project produced and distributed over 4.7 million OFSP cuttings to 31,191 eligible households in 8 districts. Each recipient also received an integrated nutrition-agriculture brochure which provides information on nutrition, agronomy and use of OFSP. There are now 38 decentralized vine multipliers (DVMs) spread over the eight districts. Over the past 12 months, these DVMs produced and sold cuttings valued at about US \$40,477. Project beneficiaries marketed 81,558 Kg of OFSP roots valued at US \$13,273 an increase of 75% compared to the last reporting period.

From July 2015 to June 2016, Urwibutso Enterprises produced OFSP-based bakery products worth US \$380,000 and the two farmer cooperatives have produced and sold products worth over US \$6,000 in only three months. We have partnered with an online fruits and vegetable marketing firm to ease access of roots to households in the capital Kigali, we are also partnering with another firm that is developing a fruits and vegetables selling point along Kamonyi-Kigali road.

We distributed over 200 nutrition counseling cards to



Fig 3. Farmers harvesting demo plot at Kayonza (credit A. Ndayisenga)



Fig 4. Beneficiaries at Base Gakenke receiving vines (credit A. Ndayisenga)

Community Health Workers (CHWs) and Agriculture promoters in the field and are being used. In the same period 101 community-level IYFC events were undertaken, 125 agricultural events and 107 cooking and processing events were undertaken.

In the same period the project has had lots of activities on communication and advocacy. That is with 40,000 brochures, 60,000 OFSP variety labels, and 40,000 cooking flyers were distributed to farmers. A total of 2,800 A4 brochures distributed to donors, and policy makers, 14 DVM signboards erected, 17 TV and 23 radio programs aired. We had 14 print media stories written and 26 online stories filed.

What's next?

The project is looking into expanding monitoring activities in the non-RCT areas to track important indicators. This will assist the project in the planning process to achieve its goals. The first survey will be undertaken in October 2016. We plan to establish 32 demo plots and expand the DVMs to meet the demand of vines in the country.

We will continue intervention in all aspects of the project in terms of trainings using four modules from the series "Everything You Ever Wanted To Know About Sweetpotato" that have been translated into Kinyarwanda. We will expand the intervention to an additional 20,000 households over the next year.

Our Partners

- Rwanda Agriculture Board (RAB)
- Young Women Christian Association (YWCA)
- IMBARAGA Farmers Syndicate
- United Nations Children's Fund (UNICEF)
- World Vision
- One Acre Fund
- Gardens for Health
- Caritas
- Catholic Relief Services (CRS)

- Local Governments
- Rwanda Cooperative Agency

Processors

- Urwibutso Enterprises (SINA Gerard)
- Millennium bakery
- DUHANGE KUBIYACU
- Farmer cooperatives
- CARL group