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

At the time of the project phase out of field activities in June 2017, we had reached 103,529 direct household beneficiaries. At the same time our collaborating partners reached 20,236 indirect household (HHs) beneficiaries. During the three-year project, we set up 39 Decentralized Vine Multipliers (DVMs) (46% male, 54% female) who sold vines worth US$ 361,801. Average yields have increased from 3-5 t/ha to 1215 t/ha. Farmers made roots sales worth US$ 154,040; two processing cooperatives made sales worth US$ 6,898.

What is the problem?
Agriculture contributes to 33% of Rwanda GDP and is still the backbone of Rwanda’s economy, employing about 70% of the population. The government of Rwanda recognizes the value of agriculture and there is committed to investing in priority crops. In Rwanda, sweetpotato remains the number one food crop in terms of production per year, accounting for 16.6% of all crop production on only 7.3% of area cultivated (Table 1). With 12.2 million people in Rwanda, per capita sweetpotato production is 88 kg. It’s production has kept pace with population growth, unlike the case for banana. With so much being produced, the major complaint of farmers is lack of market.

Table 1. Product of key roots, tubers and bananas in Rwanda in 2017 for Seasons A, B, and C.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Total Metric Tons</th>
<th>% of All Crop Production</th>
<th>% of All Cultivated Area</th>
<th>% change since 2014 in production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweetpotato</td>
<td>1,082,364</td>
<td>16.6</td>
<td>7.3</td>
<td>15.0</td>
</tr>
<tr>
<td>Cassava</td>
<td>1,041,843</td>
<td>15.9</td>
<td>15.5</td>
<td>15.7</td>
</tr>
<tr>
<td>Irish Potato</td>
<td>847,302</td>
<td>13.1</td>
<td>3.7</td>
<td>17.8</td>
</tr>
<tr>
<td>Cooking Banana</td>
<td>731,349</td>
<td>11.2</td>
<td>7.7</td>
<td>-15.5</td>
</tr>
<tr>
<td>Banana for Beer</td>
<td>783,314</td>
<td>12.0</td>
<td>8.3</td>
<td>-8.4</td>
</tr>
</tbody>
</table>


In addition, the level of stunting remains high (38% in 2014-15 DHS). Combating malnutrition is a high government priority. Biofortified orange-fleshed sweetpotato (OFSP) can provide a year-round source of vitamin A in the diet while continuing to be central to ensuring food security of rural Rwandese households.

What do we wanted 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 an effective public-private partnership with Urwibutso (SINA) Enterprises, it is possible to build a sweetpotato value chain that is pro-poor and pro-women. The SUSTAIN project built on this experience, with a goal of strengthening the nutrition component.

To build the evidence base on how to scale integrated agriculture-nutrition interventions, Rwanda was selected among the four SUSTAIN countries for a full-scale impact assessment using a robust randomized control trial (RCT) design, led by Michigan State University.

Where were we working?
SUSTAIN worked in 8 districts (Gicumbi, Ruhango, Kayonza, Rwamagana, Gakenke, Rulindo, Kamonyi, and Muhanga). The project was part of a wider CIP Rwanda sweetpotato program that covered 18 districts out of 27 rural districts in Rwanda.
level infant and young child feeding (IYCF) events, 125 agricultural events and 107 cooking and processing events were undertaken (Fig. 3). To date, 103,000 brochures, 103,000 OFSP variety labels, and 103,000 cooking flyers have been distributed to farmers. We also helped 14 DVMs set up signage on roadsides to help them link up with farmers looking for quality planting material. To reach both rural and urban consumers, 20 TV and 26 radio programs have been aired; 2,800 flyers distributed to donors and policy makers; and 22 stories have appeared in print media and 30 on-line.

A focused study found that exposure to nutrition SBCC was significantly and positively associated with improved diet diversity and vitamin A intakes among women and young children. Compared to no exposure, exposure to nutrition SBCC was positively and significantly associated with greater maternal dietary diversity. After controlling for caregiver age, educational status and employment status, caregivers who were exposed to nutrition SBCC were three times more likely to meet the recommended dietary vitamin A intake of at least 6 days per week compared to those who were not exposed to nutrition SBCC. Similarly, their children were also twice more likely to meet the recommended dietary vitamin A intake of at least 6 days within a week.

With this data, it is evident that project model of linking agriculture, and nutrition through SBCC with a value chain approach achieved the intended effects of increasing the dietary diversity and the likelihood on increasing the intake of vitamin A rich foods among women and young children.

**Way forward**

Data for the impact assessment were collected in early 2018 and are still being processed. The project will continue backstopping DVMs and marketing activities, including demand creation campaigns in support of processors, while the final project report is prepared.