



HarvestPlus improves nutrition and public health in Uganda by promoting **orange sweet potato** that provides more **vitamin A** and **beans** that provide more **iron** in the diet. We work with more than 15 partners drawn from government, business, and civil society.

Better Crops for Better Nutrition

We use a process called biofortification to conventionally breed staple food crops that are richer in essential vitamins and minerals and can be grown by rural communities that are often missed by other interventions, such as supplementation and food fortification. Our food-based approach relies on familiar staple foods that people already eat regularly and that can be part of other efforts to improve nutrition, such as dietary diversification.

The Costs of Vitamin A & Iron Deficiencies

- Vitamin A deficiency lowers immunity, impairs vision, and may lead to blindness and even death.
- 32% of Ugandan children under 5 are estimated to be vitamin A deficient (*DHS*).
- Iron deficiency impairs mental development and learning capacity, increases weakness and fatigue, and may increase the risk of women dying during childbirth.
- 49% of Ugandan children under 5 are estimated to be iron deficient (*DHS*).
- Annually, Uganda loses \$145 million to vitamin and mineral deficiencies (*World Bank*).

Crops for Uganda

Sweet potatoes rank third among the common food staples in Uganda, and are often eaten with beans in many parts of the country.



Iron Bean

Uganda ranks number 8 out of 81 countries suitable for investing in iron beans.

Nutritional Benefits: Provides up to 50% of daily iron needs

Farmer Benefits: High yielding, virus resistant, heat and drought tolerant

Biofortified Varieties: Roba 1 (bush); 5 additional varieties planned for release in 2015



Vitamin A Orange Sweet Potato

Uganda ranks number 3 out of 75 countries suitable for investing in vitamin A sweet potato.

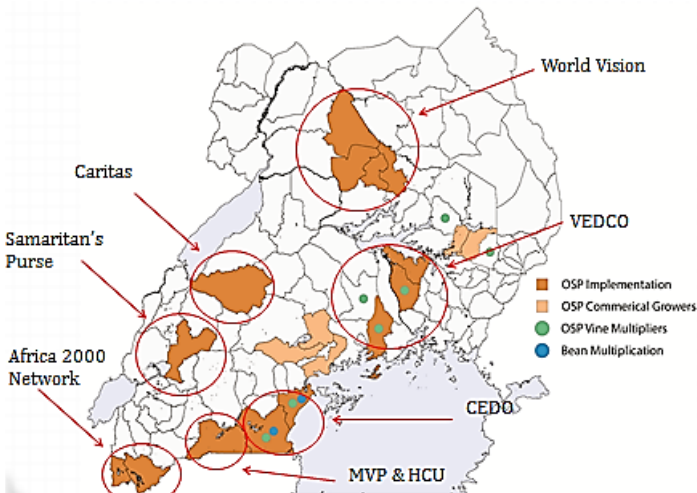
Nutritional Benefits: Provides up to 100% of daily vitamin A needs

Farmer Benefits: High yielding, early maturing, drought tolerant

Biofortified Varieties: Ejumula, Kakamega, Vita, Kabode, Naspot 12 O, Naspot 13 O

On the Ground

HarvestPlus and its partners work in South-Western, Northern, Central, and Eastern Uganda to promote orange sweet potato (OSP) and iron beans. The goal is that more than 400,000 farming households will be growing these biofortified crops by 2018.



How We Work

HarvestPlus supports the National Agricultural Research Organisation (NARO) to breed, test, and release varieties of OSP developed in partnership with the International Potato Center (CIP) and iron beans developed through the

International Center for Tropical Agriculture (CIAT). We establish and train local multipliers to produce vines and seeds, and we engage local labs to micro-propagate clean vines. Poor farmers receive vines or seeds that they “pay forward” by sharing with other farmers upon harvest. Our NGO partners train farm households in seed production and processing, nutrition, post-harvest handling, and marketing. Through our outreach and public awareness campaigns, we leverage extension services and mass media to disseminate information on micronutrient deficiencies and the benefits of OSP and iron beans. We also train “lead mothers” to further share this information along with recommended feeding, hygiene and sanitation practices within their communities. We raise demand for OSP and iron beans through activities with a range of stakeholders, including schools and local governments. To increase the volume of marketed vines, roots, and seed, we target commercial farmers and markets in rural and urban areas. We are researching the cost effectiveness of four different approaches to disseminating OSP and iron beans: through farmer groups with a pay forward mechanism, through an opinion leader, and giving vines to 25% and 50% of the households in different communities. Organizations such as World Vision, Save the Children, and the Finnish Refugee Council have already adopted these biofortified crops. We seek to strengthen national ownership of biofortification through integration into national nutrition and agricultural policies. The Government has included biofortification in the Uganda Nutrition Action Plan 2011-2016.

“My grandchildren now look healthy and eat to their satisfaction because I have enough. I do not regret having planted the orange sweet potatoes.”

~ Kedress Barugahare
60-year-old farmer from Kamwenge District

Partners

CGIAR: International Food Policy Research Institute (IFPRI) • International Potato Center (CIP) • **Local:** BioCrops • Caritas - Hoima Diocese • Caritas - Jinja Diocese • Community Enterprise Development Organization (CEDO) • Kigarama Cooperative and Marketing Society • Makerere University, Department of Food Science and Technology • Mbarara University - Healthy Child Uganda Project • National Crops Resources Research Institute/National Agricultural Research Organization (NaCRRI) - Sweet Potato and Bean Program • Volunteer Efforts for Development Concerns (VEDCO) • **Other:** Africa 2000 Network • Center for Advanced Hindsight, Duke University • Farm Radio International • Samaritan's Purse • World Vision

Contact

Sylvia Magezi, HarvestPlus Country Manager-Uganda • c/o IFPRI 15 East Naguru Road, Upper Naguru • P.O. Box 28565 • Kampala • +256 (0) 414287107
s.magezi@cgiar.org • www.HarvestPlus.org

HarvestPlus improves nutrition and public health by developing and promoting biofortified food crops that are rich in vitamins and minerals, and providing global leadership on biofortification evidence and technology. HarvestPlus is part of the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH). CGIAR is a global agriculture research partnership for a food secure future. Its science is carried out by its 15 research centers in collaboration with hundreds of partner organizations. The HarvestPlus program is coordinated by two of these centers, the International Center for Tropical Agriculture (CIAT) and the International Food Policy Research Institute (IFPRI).



RESEARCH
PROGRAM ON
Agriculture for
Nutrition
and Health

LED BY IFPRI

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