

HarvestPlus contributes to Zambia's nutrition and public health improvement through crop research, development and promoting vitamin A orange maize, Vitamin A orange sweet potatoes and high iron and zinc beans through conventional breeding to provide more vitamin A and iron in the diet. We work with more than 60 partners drawn from government, seed companies, processors and civil society organizations dealing with agriculture and nutrition interventions.



Together with the host government (Ministry of Agriculture), CGIAR Centres and other partners, use biofortification (a conventionally bred process) of staple food crops that are high in essential vitamins and minerals, are developed and used as additional interventions to supplementation and food fortification. As an agriculture crop-based intervention, released varieties are introduced and promoted for rural households to integrate in their farming systems for dietary diversification with better crops, improves and increases household food and nutrition security.

## Biofortified Crops in Zambia – Certified and Released by Government

### VITAMIN A ORANGE MAIZE

- *Nutritional benefits:* Provides up to 50% of daily vitamin A needs; as effective as supplements.
- *Farmer benefits:* High yielding, disease resistant, heat and drought tolerant.

- *Farmer benefits:* large seeded (55g/100 seeds), matures in 80-85 days (early), grain yield potential: 3 t/ha, sweet taste, thick soup and fast cooking, good canning qualities, widely adapted, drought and disease.

### IRON BEAN

- *Nutritional benefits:* In addition to having a higher iron content than traditional varieties, preliminary evidence shows that biofortified beans can improve iron status.

### ORANGE SWEET POTATO

- *Nutritional benefits:* Provides up to 100% of daily vitamin A needs.
- *Farmer benefits:* High yielding, from 15 to 25 metric tons per hectare, disease resistant and drought tolerant

“ This is the chance for Zambia to start moving out of white maize and adopt a more nutritious and tastier orange maize. ”

— Mr. Chance Kabaghe, Former Deputy Minister of Agriculture & CEO of Food Reserve Agency



# Building Strong Seed and Crop Value Chains

In addition to reaching and empowering farmers, HarvestPlus provides technical, logistical, training, and marketing support to a wide array of partners in seed and food value chains to build strong biofortified food systems.



**Development:** The development and dissemination is consistently supported through partnerships with the Ministry of Agriculture (MoA), the International Maize and Wheat Improvement Centre (CIMMYT), the International Centre for Tropical Agriculture (CIAT), and International Potato Centre (CIP).



**Seed Multiplication:** Released varieties by the Seed Control and Certification Institute are supported commercially by the seed companies, Zambian Government ministries with MoA being the lead, and more than 30 processors.



**Seed and Grain Distribution:** HarvestPlus also supports commercial seed and grain sales, and connects buyers and processors to farmers.



**Consumer Engagement:** HarvestPlus increases awareness of vitamin A maize and iron bean of biofortified crops through extension services to farmers, consumers and consistently in demonstration, promotion programs, advertising, documentaries, expos using various media outreach.



**Market Development:** The Zambian government has included biofortified crops in yearly Farmer Input Support Program (FISP), an input subsidized system, free of cost for vulnerable but viable farming households, enlisting vitamin A maize for Food Reserve Agency (FRA) and all SUN II Programs and ZNFNC promoting biofortified crops in their program areas.



**Policy Engagement:** Through advocacy conducted with national partners, we strengthen national ownership of biofortification through effective integration into national nutrition and agricultural policies.

“ There is more life in orange maize than in white maize. We shall continue growing it because orange maize contributes to our wellbeing, strong health, and maintains good eye sight. ” — Mr. Banji, Tara Camp, in Southern Zambia

**PARTNERS –CGIAR:** Centre for International Forestry Research (CIFOR), International Institute of Tropical Agriculture (IITA), International Maize and Wheat Improvement Center (CIMMYT), International Potato Centre (CIP), WorldFish (WFC).

**Government Ministries:** Agriculture, Community Development, Education, Health. **Local:** Civil Society Organisation on Scaling Up Nutrition (CSO-SUN), Development Aid From People to People (DAPP), Indaba Agricultural Policy Research Institute (IAPRI), Land O' Lakes, National Food and Nutrition Commission (ZNFNC), National Institute for Scientific and Industrial Research, Peace Corps, ProfitPlus, Programme Against Malnutrition (PAM), Star Milling, Tropical Disease Research Centre, University of Zambia, World Vision, Zambia Agriculture Research Institute (ZARI), Zambia Seed Traders Association (ZASTA), Iowa State University, Johns Hopkins Bloomberg School of Public Health, Michigan State University, Micronutrient Malnutrition Taskforce, Purdue University, SEED Solutions, SEED Infotech Ltd, University of California, University of Wisconsin-Madison, World Food Programme (WFP), International Fund for Agriculture Development (IFAD), United Nations High Commission for Refugees (UNHCR), AfriSeed, Advanta Seed, Kamano Seed, SeedCo, ZamSeed, 260 Brands, Shais, Fanyate Milling, Sylva Food Solutions, Zambian Fertilizer/FTG, Aurum Quiver, Novatek, Rwazim Limited, Twala Farms, Van Burdet, Musika, Tiland, 260 Brands, Tundwe Milling, Yoyo, Share Africa

**Partner with us to make food systems more nutritious, inclusive, and sustainable.**

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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) and is based at the International Food Policy Research Institute (IFPRI).

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