



HarvestPlus
Better Crops • Better Nutrition

Scaling Sustainably

2021 Annual Report



“

Our main objective is to improve food security at the household level and create a sustainable source of income for smallholder farmers —especially women and youth.”

— Miriam Chipulu, founder and CEO, Shais Foods, Zambia

Chipulu is an SME entrepreneur and HarvestPlus partner who is improving the livelihoods of thousands of farming households supplying [Shais Foods](#) with vitamin A-biofortified maize, and extending the reach of nutritious foods to Zambian consumers. It's an example of how HarvestPlus works with partners to sustainably embed biofortification in food systems.



Dear Friends,

The war in Ukraine has provided another example of the vulnerability of our food systems to shocks. Beyond the human suffering and privation in Ukraine itself, the war added momentum to price

upswings in food commodities globally, threatening millions more around the world with hunger and malnutrition. Higher fertilizer and energy prices also cast doubt on farmers' ability to produce sufficient food in future growing seasons.

The crisis underscores the urgency of crafting food systems that make nutritious food options affordable and accessible to all, including the hundreds of millions of smallholder farming households in low- and middle-income countries who mostly eat what they grow. The CGIAR's HarvestPlus program and its partners contribute to this effort by scaling crop biofortification, which increases the vitamin and mineral (micronutrient) content of staples that rural households and low-income urban consumers rely on to fill their plates—especially during crisis periods.

Despite a challenging global environment, we can share encouraging news in this Annual Report: production and consumption of nutrient-enriched staple crops continue to expand briskly, particularly in South Asia and sub-Saharan Africa where the need for them is greatest.

By the end of 2021, nearly 13 million farming households were growing biofortified crops and 64 million people were benefiting directly from them; both figures were up 32 percent from 2020. In human terms, this is likely to mean far fewer people suffering from anemia, stunting, and other health and developmental issues linked to micronutrient deficiency. This is especially significant for women and young children, who are most susceptible to the effects of these deficiencies.

A prime example of biofortification's growth is zinc wheat in Pakistan (see p. 6). Introduced there in 2016, in part to help address high childhood stunting rates, zinc wheat now has a significant share of the wheat seed market. Driving this progress is a proven HarvestPlus scaling model, focused on empowering national partners to build and grow sustainable value chains for biofortified seed and foods, and strong engagement and involvement of national policy decisionmakers.

Elsewhere, with the backdrop in 2021 of the UN Food Systems Summit and the Tokyo Nutrition for Growth Summit, we saw more high-level commitments to scale biofortification by Bangladesh, Indonesia, Nigeria, Uganda, and other countries. HarvestPlus is also providing technical assistance and capacity strengthening to the Governments of the Democratic Republic of the Congo and Indonesia on major new scaling projects (see p. 5). And in early 2022, at an African Union summit, member state leaders adopted a declaration promoting scaling of biofortification as well as fortification.

Nutrient-enriched staple crops are not a silver bullet for growing malnutrition risks, but they are a proven, practical strategy for strengthening the nutrition resilience of the most vulnerable households. These crops are also a powerful channel for empowering women, who account for the majority of farmers and value chain actors trained by HarvestPlus. We thank our funders and partners for supporting our scaling effort, and we encourage others to join us in sustainably improving health and lives.

Yours Sincerely,

Arun Baral

HarvestPlus Leadership

Arun Baral
Chief Executive Officer

Lynn Brown
Director, Alliances & Policy

Donald Mavindidze
Regional Director, Africa

Erick Boy
Head, Nutrition

Wolfgang Pfeiffer
Senior Advisor

HarvestPlus improves nutrition, health, and livelihoods by working with partners worldwide to develop and promote biofortified crops that are rich in vitamins and minerals, and are climate-smart. HarvestPlus also provides leadership on biofortification evidence and technology.

HarvestPlus is part of the CGIAR and is based at the International Food Policy Research Institute (IFPRI), a CGIAR research center.



Key Metrics in 2021:

12.8m

Smallholder farming households growing biofortified crops, up 32% from 2020

64m

Total beneficiaries in farming households, up from 48.5m in 2020

21

HarvestPlus/CGIAR biofortified crop varieties released in 2021 by governments in eight countries

283

HarvestPlus/CGIAR varieties released to date in 30 countries; hundreds more are in testing

250,000

Farmers and value chain actors trained in biofortified crop nutrition, agronomy, production, processing, and marketing

54%

Percentage of trainees who are women (133,763)

ADVANCING NUTRIENT-ENRICHED CROPS

Country releases of biofortified crop varieties in 2021*†

(Numbers indicate multiple varieties released)

IRON CROPS:

Rwanda: Bean (8)

Zimbabwe: Cowpea**

ZINC CROPS:

Bangladesh: Rice

Colombia: Rice

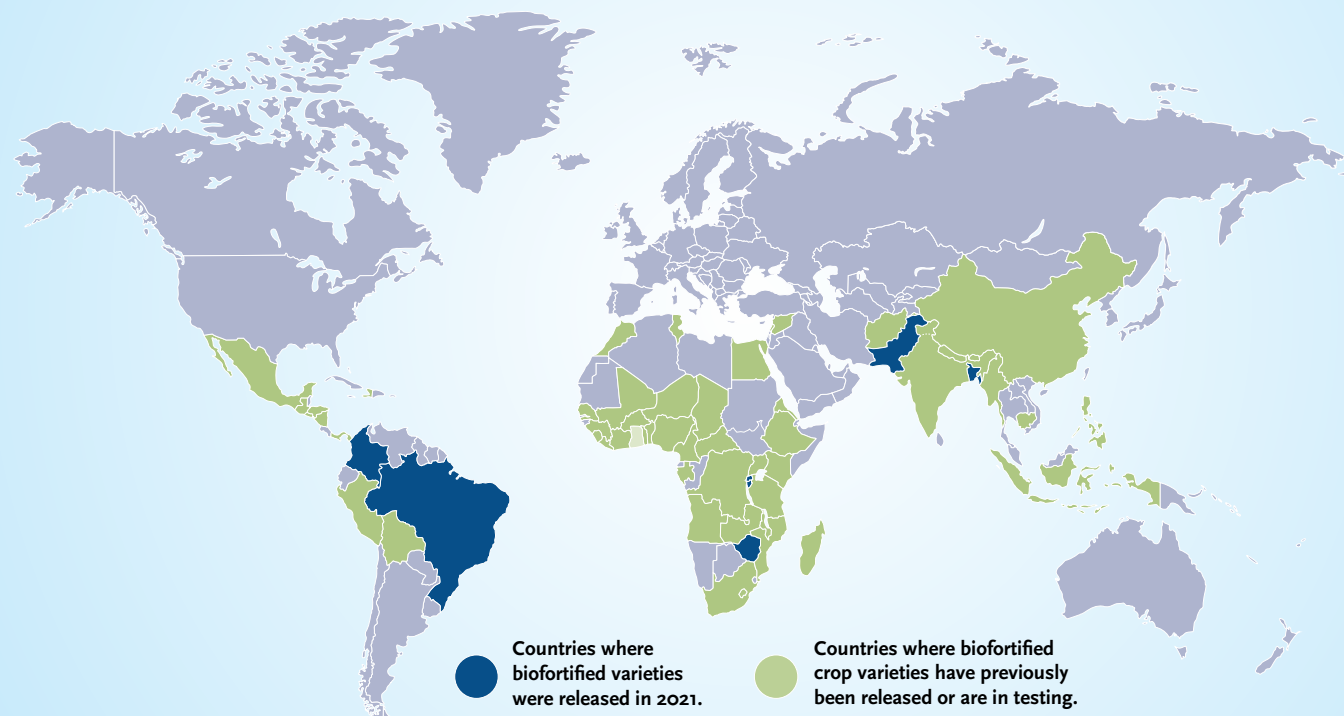
Pakistan: Wheat

VITAMIN A CROPS:

Brazil: Sweet Potato

Burundi: Banana/Plantain (5)

Ghana: Maize (3)



New varieties highlight: zinc rice

Bangladesh Makes it 100. [BRR1 Dhan 100](#) was released by the Bangladesh Rice Research Institute (BRR1), during the centennial birth year of Sheikh Mujibur Rahman, the country's Founding Father. This variety is intended for the drier boro season from December-June; it is attractive to farmers because it is high-yielding, while consumers like the fact that its grain is slender and non-sticky.

Colombia's First Zinc Rice Variety. A 100 gram daily portion of the new [Fedearroz BioZn035](#) variety provides more than 20 percent of the estimated average requirement for zinc in Colombia. According to Colombia's National Survey on Nutrition, 43 percent of children between the ages of 1 to 4 suffer from zinc deficiency, a leading cause of childhood stunting. This variety also yields over 5 tons per hectare in both of Colombia's planting seasons.

* Released varieties included here meet HarvestPlus criteria for biofortified varieties.

†The CGIAR breeding center partners of HarvestPlus are: The Alliance of Bioversity International and CIAT; International Crops Research Institute for the Semi-Arid Tropics (ICRISAT); International Institute for Tropical Agriculture (IITA); International Maize and Wheat Improvement Center (CIMMYT); International Potato Center (CIP); International Rice Research Institute (IRRI). **Includes zinc as a secondary target nutrient

Forging Paths to Scale

The UN Food Systems Summit and Tokyo Nutrition for Growth Summit made 2021 a landmark year for highlighting the urgent need to address growing food and nutrition insecurity, particularly amid the ongoing impacts of COVID-19 and other crises on food systems. Several national governments made bold commitments to scale up biofortification. Here are a few notable examples:

Democratic Republic of the Congo

As part of the World Bank-funded [Multisectoral Nutrition and Health Project](#) (PMNS), the Government launched a major three-year initiative to sustainably scale production and consumption of biofortified staples, to help address persistently high rates of malnutrition in this country of 93 million people. HarvestPlus is the Government's biofortification technical assistance and capacity strengthening partner under PMNS, which focuses on three priority provinces: South Kivu, Kwilu, and Kasai.

Indonesia

Three out of every 10 children in [Indonesia](#) are stunted; zinc deficiency is a leading cause. The Government has committed to rapidly scale up production of zinc-biofortified rice—it covered 46,000 hectares of farmland in 2021, with a target of 100,000 hectares in 2022. HarvestPlus is providing technical assistance to the Indonesian planning ministry (BAPPENAS) on the project.

Nigeria

The [National Council on Agriculture and Rural Development](#) (NCARD) approved mainstreaming biofortification in all agricultural interventions. A key practical outcome: biofortified crop cultivation becomes a priority for the country's agricultural extension agents as they support farming households to promote nutrition-smart practices.

“We need to have courage to have a diversified diet that includes biofortified food crops like cassava, sweet potatoes, and orange maize.”

– Dr. Lazarus Chakwera, President of the Republic of Malawi, at the September 2021 Malawi launch of the [Scaling Up Nutrition 3.0](#) movement.



Paths to Scale: Towards a Tipping Point in Pakistan

The first zinc wheat variety was released in Pakistan in 2016. By 2021, an estimated 1.4 million farming households were producing a total of 3.5 million metric tons of zinc wheat, consumed by 7 million Pakistanis. Zinc wheat seed (three varieties are now available) had reached an impressive 20 percent share of the certified wheat seed market, and this share continues to grow.

Zinc wheat varieties were developed with CGIAR breeding partner CIMMYT and Pakistan's national agricultural research system. Their rapid uptake is significant in a country where average daily per-capita wheat consumption, at 240 grams, is among the highest in the world; an estimated 21 percent of the population is zinc-deficient; and 37 percent of children under five are stunted—a condition that is linked to zinc deficiency. Zinc-enriched wheat is thus a powerful, accessible response to a major malnutrition problem in this South Asian country.

Beyond their nutritional value, the three currently available zinc wheat varieties in Pakistan have other traits farming households demand. “They are disease-resistant, have high yield potential, high grain zinc, and are well-adapted compared to other varieties,” explained M. Yaqub Mujahid, Pakistan country manager for HarvestPlus.

Driving the journey toward scale with zinc wheat in Pakistan is a HarvestPlus-led effort to engage and empower a wide range of public, private, and NGO stakeholders to foster a sustainable supply of quality seed, high awareness and demand among farming households—especially in the breadbasket Punjab region—and robust post-harvest markets for farming households' wheat grain. The value chain extends to urban consumers, such as through a partnership with [Family Farm Foods](#), which sells biofortified wheat flour to customers in and around the Punjab capital city of Lahore.



Policy engagement has been central to scaling efforts, leading to biofortification's inclusion in key policies such as the 12th Five-Year Plan, Pakistan Vision 2025, the Pakistan Multi-sectoral Nutrition Strategy, and Provincial Multi-sectoral Nutrition Strategies. In addition, zinc wheat is included in official agricultural seed and grain production plans, and extension services.

“

The reason for growing these [biofortified] varieties is better yield, more profitability, and better zinc nutrition for our families. Since my family has started using zinc wheat, we have felt that our health is improving. I am also asking my neighbors to consume bread prepared from zinc wheat.”

– Hafiz Muhammed Tariq, Farmer, Punjab province, Pakistan

HarvestPlus produced a [brief](#) to describe our scaling model and how it is being applied in Pakistan to expand production and consumption of zinc wheat.



Paths to Scale: “A-maizing” Story in Nigeria

Maize is grown across Nigeria and is a core staple in the drier north. The number of Nigerian farming households growing HarvestPlus-promoted [vitamin A maize](#) (VAM) more than doubled in 2021, to 1.57 million, after fairly modest growth over the previous three years.

Yusuf Dollah, acting Nigeria country manager for HarvestPlus, said addressing bottlenecks in the seed value chain helped. HarvestPlus has worked with public research institutes to bulk up supplies of early-generation seed used by seed companies to multiply “certified” seed they sell to farmers. To make the seed more accessible to farmers, Dollah’s team also worked out a deal with seed companies to provide discounts to agro dealers, boosting sales volumes.

“The key is to ensure that everyone along the value chain is making money, that everybody is winning,” said Dollah. With demand picking up, HarvestPlus has been engaging commodities brokers who deal in larger volumes. About 250 brokers are now involved, promising to supercharge the sector—especially with recently-released VAM varieties with better yield and increased vitamin A content to spur demand.

This is good news for Nigerian families eager to improve the prospects of their children. About 30 percent of children in the country suffer from vitamin A deficiency, which can impair vision, increase the risk of serious infections such as diarrhea, and even lead to death.





Paths to Scale: Building Value Chains in Bihar & Odisha

In the two Indian states with the country's highest rates of childhood stunting, HarvestPlus has been working with multisectoral partners to foster sustainable value chains for zinc wheat seed and grain—anchored in production by smallholder farming households.

Under the [Bihar Odisha Nutrition Initiative](#) (BONI), funded by the **Bill & Melinda Gates Foundation**, more than 60 market actors have been engaged, including seed producers and distributors, digital platforms, buyers, research institutions, and public sector institutions across zinc wheat and zinc rice value chains.

Amid strong high-level political endorsement, the Bihar State Seed Corp. (BSSC) and about a dozen private seed companies are actively producing and marketing zinc wheat seed, with 2,153 metric tons (MT) produced in 2021—enough for as many as 50,000 farming households to plant. BSSC is expected to increase its production in 2022 to 6,000 MT from 1,600 MT last year; adding private sector output, there should be enough seed for up to 200,000 households to plant and thereby get access to vital nutrients.

Bri Bihar Choudhury, owner of Sone Ganga Seeds, which has been producing zinc wheat seed since 2018, said: “By working with HarvestPlus, we are working towards eliminating malnutrition and bringing prosperity to families.” A government program also offered significant discounts to farmers on zinc wheat seed for the rabi (October-March) season, to help kickstart rapid adoption and scale.

Through a partnership with [JEEVIKA](#), a nonprofit focused on improving the well-being of India's tribal communities, women's self-help groups are engaged to promote their access to zinc wheat. The BONI project is also helping farmers access markets for their biofortified grain by engaging private sector food players to promote procurement of grains for value-added products. For example, Punjab-based Aarti Mills is procuring biofortified wheat grain from farmers to market zinc wheat flour to urban consumers, under the brand name of City King Chakki Atta.

Catalyzing Markets

To scale up biofortification, it needs to be well-anchored in seed, crop, and food value chains to be truly self-sustaining. Biofortified products have to make economic sense to farmers, seed suppliers, food producers, and consumers.

HarvestPlus Honored in Nigeria

HarvestPlus Nigeria was recognized as the Development Partner of the Year at the 2021 [Nigeria Agriculture Awards](#), for our commitment to tackle hidden hunger and malnutrition by developing sustainable business models for biofortified crops and foods. The award, presented at the high-profile Feed Nigeria Summit, is for organizations that help enhance agricultural productivity and food security through collaboration with multisectoral partners. So far, six vitamin A-biofortified varieties of cassava, ten varieties of maize, and three varieties of orange sweet potato have been released in Nigeria. Development of iron-zinc sorghum and iron pearl millet are under way.

Standards for Biofortified Grains

Through the [Commercialisation of Biofortified Crops Programme](#), co-led with GAIN, HarvestPlus worked with the British Standards Institute (BSI) and multidisciplinary expert groups to develop “Publicly Available Specifications” (PAS) for [zinc-enriched](#) and [iron-enriched](#) grains (a vitamin A-enriched grain PAS was expected in 2022). As they become widely used by private, public, and humanitarian grain buyers, these PAS will provide common standards for verifying the quality of the biofortified products they purchase, helping to grow these relatively young markets. The CBC Programme is funded by the **German Federal Ministry for Economic Cooperation and Development**, and the **Government of the Netherlands**.



Having these specifications globally validated paves the way for further policy, regulations, and standards, such as setting minimum levels for breeding biofortified crops. View our Biofortification Minute [video](#) about standards to learn more.



Improving Livelihoods

Biofortification is more than a response to nutrition and health challenges. Biofortified seed, crops, and foods also create entrepreneurial and employment opportunities for farming households and SME seed and food businesses.

The ENRICH project

Under the Enhancing Nutrition Services To Improve Maternal and Child Health in Africa (ENRICH) project, funded by the **Government of Canada**, HarvestPlus worked with World Vision Canada and other consortium partners to reach more than 70,000 farming households in Bangladesh, Kenya, and Tanzania with nutrition knowledge, biofortified crops, agronomic know-how, and linkages to seed and crop markets.

In Kenya's Land of Champions

The lush [Elgeyo Marakwet County](#), in western Kenya's Rift Valley, is called the Land of Champions because it is home to many of the country's elite distance runners. It is now also home to two nutrition champions: vitamin A orange sweet potato (OSP) and iron bean, helping to address malnutrition in the area, particularly among young children and women of reproductive age.

The crops are also creating new livelihood opportunities for farming households, like that of [OSP farmer Margaret Kurgat](#) (pictured, left). She used to work as a casual laborer to scrape together a living to support her and her children. But since being introduced to OSP cultivation through ENRICH, times have changed—she now earns income as an OSP vine multiplier, in addition to feeding her family more-nutritious meals.

“I'm doing well, my family has been able to tackle the problem of hunger and my children eat well.... I used the money that I earned to pay school fees for my children and to make bricks to build myself a bigger house.”

— Margaret Kurgat, Kenya



Improving Livelihoods: Trading Seed in Bangladesh

Mohammad Bulbul Hussain (pictured, left) is a farmer in Madhobpur village, in northern Bangladesh, who was introduced to [zinc rice cultivation](#) by ENRICH a few years ago. Since then, his farm has become a zinc rice hub for local farming households. He also started selling zinc rice seed, which farmers like because it is not only nutritious but is also fast-growing and resistant to diseases. Mohammad also helps train other farmers in zinc rice cultivation, and now the majority of families in his village grow and eat it.

“

I feed my family zinc rice throughout the year. Before that, most of my family suffered from low appetite and weakness, especially my youngest son. Within six months of eating the rice, we are all much healthier, but [my son's] progress is the most noteworthy. He is eating much more and is stronger and more attentive in school.”

— Mohammad Bulbul Hussain, Bangladesh

Improving Livelihoods: From Homeless to Successful Entrepreneur

A single mother of five and a guardian of 10 orphans, [Dinavance Kyomuhendo](#) (pictured, right) of Uganda found herself and her brood homeless in 2013 due to domestic strife. Seeking shelter and work, she turned to Hoima Caritas Development Organization (HOCADEO), a partner with HarvestPlus that was working on promotion of vitamin A orange sweet potato (OSP) as part of the **USAID Meals for Nutrition Biofortified Solutions in Uganda (MENU)** project. Fast forward a few years, and Dinavance had leveraged HarvestPlus training to first become an OSP farmer and then a successful OSP vine supplier, and she has diversified into raising small livestock.

Over the years, Dinavance has become a strong champion of biofortified OSP. She strongly believes in the nutritional benefits of biofortified food and has encouraged many of her neighbors to expand and plant their gardens with vines. Witnessing how passionately Dina works for their cause, HOCADEO issued her a tender to produce vines for latter rounds of farmer beneficiaries.

She has continued to buy more land to expand her OSP gardens, with 8 acres in total so far. With ongoing training and support from HarvestPlus and HOCADEO, Dina also started making value-added OSP products such as cakes that are sold in the local town.



“

Earlier, I had to ask the priests to help me feed my children and provide shelter. Now, I can provide my kids with good food, a roof over their heads, and quality education from my income. One of my children is pursuing a diploma in fashion. Another one is pursuing his bachelor's in medicine, and the rest are still in secondary school.”

— Dinavance Kyomuhendo, Uganda



Reaching the Most Vulnerable

HarvestPlus works with NGOs and other partners to reach populations faced with particularly challenging conditions.

Refugees in Zambia

An innovative project is empowering refugee families and women-run households to grow and sell vitamin A orange sweet potato (OSP). In partnership with the UN Refugee Agency (UNHCR), families in UN refugee settlement areas are trained on nutrition and all aspects of OSP production. With the World Food Programme (WFP), the project is also leveraging existing WFP training programs for farmers in business and financial skills, and facilitating their access to financial services.

The project improves livelihoods of the participants by linking them with buyers of OSP—such as woman-led Sylva Foods Solutions Ltd.—to facilitate sales of their surplus harvest.

Engaging refugees in Zambia is part of a [multi-country COVID-19 rapid response project](#) implemented by HarvestPlus and funded by the **Government of Canada**: the Integrated Food Systems Approach to Build Nutrition Security project, which also covers Bangladesh, DRC, Malawi, Pakistan, and Zimbabwe.



Reaching the Most Vulnerable: Women and Children in Zimbabwe

Under the same Government of Canada-funded project, in response to COVID-19 disruptions, [HarvestPlus donated](#) biofortified planting material and arranged for relevant training so that an orphanage, a shelter for survivors of gender-based violence (GBV), and a school located in an impoverished area could make nutritious food available to those under their care.

For example, the [Vimbainesu Children's Home](#) in Zvimba suffered a sharp drop in donations amid the COVID-19 pandemic. HarvestPlus donated biofortified planting material and facilitated agricultural training through the Zimbabwe Agricultural Technical and Extension Services (AGRITEX) for the home's garden space, with the resulting produce sufficient to feed the children for over six months. The project provided similar support to the [Mazowe Dambatsoko Shelter](#) for victims of GBV in Mashonaland Central province, and a school run by ZIMwana Worldwide Trust in an informal settlement on Harare's outskirts.

Making Seed Affordable in Bangladesh

To ensure reach to vulnerable households, HarvestPlus negotiated with the Bangladesh Agricultural Development Corp. (BADC) to include zinc rice in their subsidized seed sales program. Through November 2021, over 500 metric tons (MT) of subsidized zinc rice seed had been distributed, including 237 MT distributed free of charge by the Ministry of Agriculture to 47,400 high-need farming households.

Improving Nutrition for School Children

Good nutrition is critical for proper brain and body development, cognitive performance, and energy levels in children, so that they are able to reach their full potential in school and beyond. For hundreds of millions of food-insecure families in low- and middle-income countries, school feeding programs ensure that their children receive at least one full meal each day.

HarvestPlus is working with government, education, and NGO partners to make these meals more nutritious by adding biofortified foods to their lunch menus—part of a broader effort to integrate biofortified foods in various types of public support programs.

India

The [Akshaya Patra Foundation](#) is an NGO in India reaching 2 million schoolchildren each day with meals under the Government's Mid-Day Meal Scheme, which feeds 120 million children in total. With HarvestPlus, Akshaya Patra is piloting inclusion of iron pearl millet and zinc wheat in its meals menu.

“Adding biofortified foods to our meals program promises to improve the nutritional value for the students we reach, which means they will be better prepared to succeed in school,” said Anant Arora, Chief Sustainability and Communication Officer of Akshaya Patra.



HarvestPlus produced an award-winning [video](#) for Indian policy decisionmakers to explain how integrating biofortified crops in the country's public support programs can improve nutrition and health for mothers and children.

School Meals: Malawi

Under a new project funded by the **Waterloo Foundation**, HarvestPlus and local partners will supply biofortified crops to [feed 6,000 schoolchildren in 20 schools](#) in the Lilongwe and Kasungu districts. The project follows the home grown school feeding (HGSF) model—the crops are grown by the schools on garden plots or by nearby farming households, providing a welcome boost to local livelihoods. This builds on previous work by HarvestPlus to supply biofortified grains to the Malawi School Feeding program to improve students' nutritional status and health.

Tanzania

Through the [Commercialisation of Biofortified Crops Programme](#) which HarvestPlus co-leads with GAIN, vitamin A maize and iron beans are being promoted for inclusion in school meals in nine regions of the country. Promotional efforts included cooking demonstrations at schools, with nearly 2,000 students tasting vitamin A maize *ugali* (porridge) and other dishes.

“

We need to shift to more nutritious foods to ensure proper growth and good health for our students.”

– Yusuph Mwangala, headmaster, Ifunda technical secondary school, which is participating in the Tanzania school feeding project





Building Resilience to Climate Change

The changing global climate poses serious and intensifying challenges to food production, including more-frequent flooding, droughts, and heat waves, and increased risk of disease and pest damage. Farming households in the Global South are most vulnerable to these effects.

Science has also shown that increased carbon dioxide (CO₂) concentrations in the atmosphere will deplete protein and nutrient content in most plants, aggravating malnutrition—for example, an estimated 175 million more people are expected to be zinc deficient as a result.

Many biofortified crop varieties are [climate-smart](#). They can not only help offset climate-related losses in crops' nutrient content; many are also bred for early maturity, drought and heat tolerance, and pest and disease resistance—traits which will be critical for building climate resilience among smallholder farming households.



Iron Pearl Millet

Ideal for arid regions, with low water needs and high heat tolerance. One of the few food crops whose protein and micronutrient levels are not affected by elevated CO₂. Besides providing up to 80 percent of daily iron needs, the Dhanashakti iron pearl millet variety is bred for early maturity, reducing its vulnerability to a range of climate-related risks.



Vitamin A Maize

Drought tolerant, heat tolerant up to 45 degrees celsius, and early maturing. More than 60 varieties of vitamin A maize are available in 11 countries, and they provide up to 50 percent of daily vitamin A needs.



Marshalling Evidence

The year brought more peer-reviewed, published evidence of the nutrition, health, and livelihoods benefits of biofortified crops:

Active Adolescents

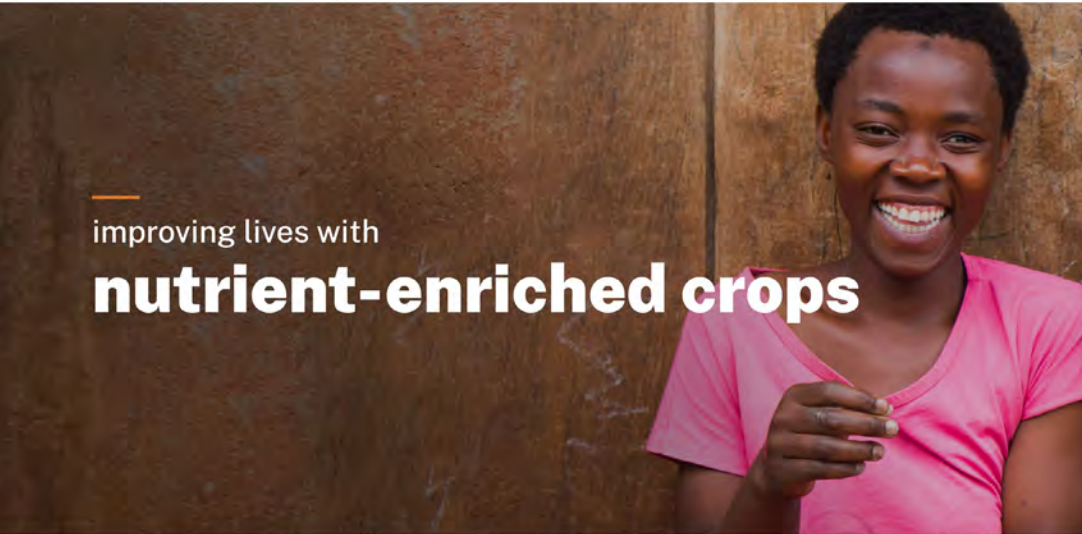
In a study in India, adolescents who ate iron pearl millet for six months and showed improved nutrition status, also spent more time being [physically active](#) (i.e. walking, doing chores, or playing games) than adolescents who ate non-biofortified pearl millet. Increased physical activity is linked to better measures for blood pressure, insulin resistance, and cholesterol levels, and may also have positive impacts on motor skills and academic potential.

Enriched Mother's Milk

When Zambian mothers with poor nutritional status ate foods made with vitamin A maize for three months, their [breast milk](#) showed increased vitamin A levels, thus supporting the intake of this vital nutrient by their infants. From birth to two years, children are vulnerable to gastrointestinal, respiratory and other infections. Vitamin A is crucial in this high-risk life period for the development of a healthy immune system.

View the HarvestPlus biofortification evidence [brief](#) for concise summaries of relevant research findings for each biofortified crop.

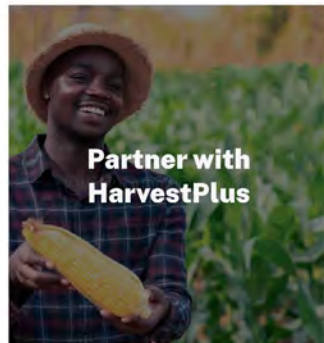




improving lives with
nutrient-enriched crops

HarvestPlus and its partners fight hidden hunger worldwide by scaling up staple food crops that are bred to be rich in essential vitamins and minerals.

These [biofortified, climate-smart crops](#) sustainably improve the health, resilience, and livelihoods of smallholder farming households and low-income consumers, helping to make food systems more nutritious and inclusive.



A new digital home for HarvestPlus

The new HarvestPlus [website](#) is a go-to destination for biofortification stakeholders to learn, share, and engage.

Features include: detailed crop info pages; an interactive world map showing which biofortified crops are available where; and a rich [Biofortification Hub](#) with a range of digital tools, research summaries, multimedia resources, and more.

HarvestPlus also launched the [Database of Biofortified Crops Released](#), providing technical specs on every HarvestPlus-promoted biofortified crop variety released worldwide so far.

Vitamin A Maize

Explore the Crop Page

VARIETIES RELEASED:

Brazil	Zambia
Togo	Tanzania
Rwanda	Mali
Ghana	Democratic Republic of Congo
Cameroon	Zimbabwe
Malawi	Nigeria

VARIETIES IN TESTING:

Panama	Mexico
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2021 Financials

Receipts and Disbursements

(in million USD)

Receipts

Grants and Contracts	25.047
Interest Income	.071

Total Receipts 25.118

Total Disbursements 22.243

2021 Donors to HarvestPlus

HarvestPlus thanks our funding partners for supporting our mission to rapidly scale biofortification and help to sustainably address hidden hunger.

UK Foreign, Commonwealth and Development Office (FCDO)

The Bill & Melinda Gates Foundation

The Government of Canada

The Government of the Democratic Republic of the Congo

CGIAR Research Program on Agriculture for Nutrition and Health (A4NH)

United States Agency for International Development/US Feed the Future Initiative

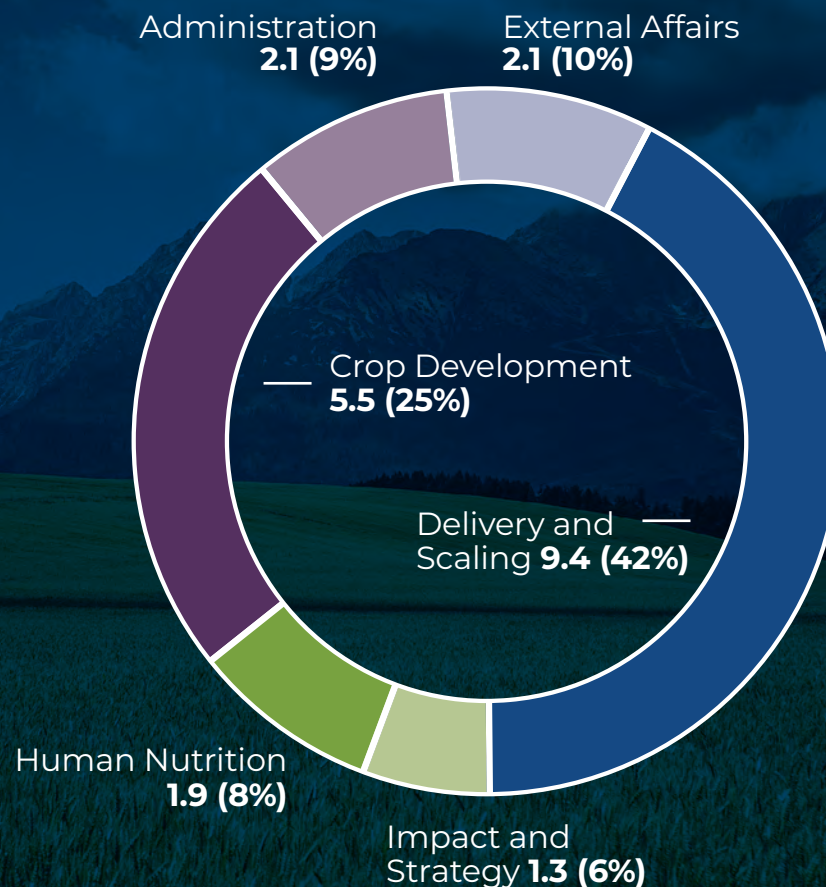
The John D. and Catherine T. MacArthur Foundation

Children's Investment Fund Foundation (CIFF)

The Netherlands Ministry of Foreign Affairs and the German Federal Ministry for Economic Cooperation and Development provide funding to HarvestPlus through a partnership with the Global Alliance for Improved Nutrition

Disbursements by Category

(in million USD and percentage of total; figures rounded)



Governance

HarvestPlus Program Advisory Committee (PAC)

HarvestPlus is based at the International Food Policy Research Institute (IFPRI), one of the CGIAR research centers. The Board of Trustees of IFPRI have delegated responsibility for oversight of HarvestPlus to the PAC.*

PAC Chair

Andrew Natsios

Director of the Scowcroft Institute of International Affairs and Executive Professor, Bush School of Government and Public Service, Texas A&M University

PAC Members

Djimé Adoum

Executive Secretary, Permanent Inter-States Committee of Drought Control in the Sahel (CLISS)

Esi Foriwa Amoafu

Director of Nutrition, Ghana Health Service

Ken Noah Davies

Director (Retired), Purchase for Progress, World Food Programme

David Governey

Corporate Governance and Risk Management Consultant

Namanga Ngongi

Chairman, African Fertilizer and Agribusiness Partnership

Andrew M. Prentice

Head, MRC International Nutrition Group, London School of Hygiene & Tropical Medicine, UK; Head, MRC Keneba, The Gambia; Theme Leader for Nutrition, The Gambia

Amitava (Amit) Roy

Board Vice Chair, Sasakawa Africa Association

Johan Swinnen

Director General, International Food Policy Research Institute (IFPRI), Global Director for Systems Transformation, CGIAR

Margret Thalwitz**

Board Chair, International Center for Agricultural Research in the Dry Areas (ICARDA)

Joe Tohme

Research Director, CIAT Agrobiodiversity Programs

Paulus Verschuren

Chair, Access to Nutrition Foundation

Designated Representative to the PAC

Lawrence Kent

Senior Program Officer, Agricultural Development, The Bill & Melinda Gates Foundation

*PAC membership as of the October 2021 PAC general meeting **Rotated off the PAC at the end of 2021



Thanks Wolfgang Pfeiffer

Dr. Wolfgang “Wolf” Pfeiffer (center in photo) retired in early 2022 as HarvestPlus Director of Research and Development and Regional Director for Asia. Wolf joined HarvestPlus in 2004 at the outset of the program, following a successful career at CGIAR partner CIMMYT. Wolf helped establish the original breeding objectives for biofortified crops and subsequently coordinated all crop research and development work globally with CGIAR and national partners; hundreds of biofortified varieties were released worldwide under his watch, and many more are currently in testing. He later shepherded HarvestPlus into the crop delivery phase, developing models for working with national partners to ensure that biofortified planting material was available to farmers, and that it was attractive and profitable to grow biofortified crops.

“I can’t emphasize enough what Wolf’s contributions have been,” said Howdy Bouis, Founding Director of HarvestPlus. “We simply wouldn’t be where we are today without him.” Fortunately for HarvestPlus, Wolf is staying on as a senior advisor.

2021 HarvestPlus Partners

We are proud to work with hundreds of partners around the world to achieve our shared goal of improving nutrition, health, and livelihoods.

To partner with HarvestPlus, email us at: harvestplus@cgiar.org

CGIAR CENTERS

Alliance of Bioversity International and CIAT
International Center for Agricultural
Research in the Dry Areas (ICARDA)
International Crops Research Institute for the
Semi-Arid Tropics (ICRISAT)
International Food Policy Research Institute (IFPRI)
International Maize and Wheat Improvement Center (CIMMYT)
International Potato Center (CIP)
International Institute of Tropical Agriculture (IITA)
International Rice Research Institute (IRRI)

UNIVERSITIES & OTHER RESEARCH ORGANIZATIONS

Centers for Disease Control (CDC)
Children's Hospital Oakland Research
Institute-CHORI/UCSF
Chinese Academy of Agricultural Sciences (CAAS)
Clemson University
Cornell University
CSI Arogyavaram Medical Center (AMC)
Federal Institute of Technology (ETH-Zurich)
Flinders University
Instituto de Nutrición de Centro América y Panamá (INCAP)
Johns Hopkins University
Johns Hopkins University Bloomberg School of Public Health
Newcastle University
Purdue University
Sabanci University
Sir Vithaldas Thackersey College of Home Science (Autonomous)
S.N.D.T Women's University
University of California, Davis
University of California, San Francisco
University of Colorado, Denver
University of Ibadan
University of Melbourne
University of Oklahoma
Wageningen University
Western Human Nutrition Research Center (Davis), USDA ARS

GLOBAL PARTNERS

AGRF
British Standards Institution (BSI)
Clinton Development Initiative
Cropin
Ethiopian Institute of Agricultural Research (EIAR)
Euromonitor International

Food and Agriculture Organization of the UN
Global Alliance for Improved Nutrition (GAIN)
Leatherhead Food Research
Precision Agriculture for Development
The New Fork
US Dry Bean Council

IN-COUNTRY PARTNERS

Bangladesh

Agrani Trading
Agricultural Advisory Society (AAS)
Agromars Limited
Ali Seed Farm
Amra Kaj Kori (AKK)
AVA Development Society
Bangabandhu Sheikh Mujibur
Rahman Agricultural University (BSMRAU)
Bangladesh Institute of Nuclear Agriculture (BINA)
Bangladesh Rice Research Institute (BRRI)
Bhai Bhai Traders
Christian Commission for Development in Bangladesh (CCDB)
Department of Agricultural Extension (DAE)
Friends in Village Development Bangladesh (FIVDB)
Green Century Limited
Kobadak Enterprise
Mother Seeds & Agro Industries Ltd.
National Agricare Import & Export Ltd.
Natun Zibon Rochi (NAZIR)
Prokash Gano Unnayan Kendra (PGUK)
RDRS Bangladesh
Shariatpur Development Society (SDS)
Shawdes Unnay Kendra (SUK)
Society Development Committee (SDC)
South Bengal Seed Association (SBSA)
Thengamara Mohila Sabuj Sangha (TMSS)
Ushi Seeds
Uzirpur Organic Multipurpose Co-operative Society Ltd
Voluntary Rural Development Society (VRDS)
World Vision Bangladesh

DR Congo

AGRIFORCE
AFPDE (Association Féminine Pour le Développement Endogène)
Association pour le Développement
de l'Élevage et de l'Agriculture (ADEA)
ATB (Africa Top Business)

Bukavu Youth Agripreneurs (BYA)
Centre d'Adaptation et de Production de Semences
Améliorées (CAPSA) – Lohutu
Centre pour la Promotion Rurale (CPR)- IDJWI
Communauté locale de développement de Nkolo (CLD-Nkolo)
ELIORE
ETHN-Agrobusiness
FABIS
Ferme Kaloboka (FERKAL)
Ferme Espoir (Hongo)
FODDR
Food for the Hungry
Groupe Agro-Pastoral de Kivu (GAP)
JEUNIR (Jeunesse et Avenir)
Institut Facultaire d'Agronomie (IFA) de Yangambi-WAVE
Institut National pour l'Etude et la Recherche Agronomiques
(INERA)
Institut Technique Agricole de Katanga (ITAK)
Initiatives pour la Promotion des Démunis (IPD)-Buzi Bulenga
Laboratoire de Recherche en Biofortification,
Défense et Valorisation des Cultures (BIODEV)
Layuka Sprl
Mercy Corps – FSP
Plantation Bakulikira
Plantation Bertin Mubalama
Plantation Monanda
Programme National de Nutrition (PRONANUT)
Radio Télévision Nationale Congolaise (RTNC)
SAFARI INTERNATIONAL – SOD
Service National de Semences (SENASEM)
Service National de Vulgarisation (SNV)
UFEDI (Union des Femmes pour le Développement Intégré)
Union pour l'Emancipation des Familles Autochtones (UEFA)
Université de Lubumbashi (UNILU)
Université Evangélique en Afrique (UEA)

India

Aarti Flour Mill
Aggarwal Enterprises
Ahar Foundation
Akshansh Farmer Producer Company
Alliance Agri-Tech
Amreshagiri Farmer Producer Company
Andhan Farmer Producer Company Ltd
Anmol Farmer Producer Company
Antyodaya Farmer Producer Company

Aradhya Trading
 Atyulya Farmre Producer Company
 Bajika Farmer Producer Company Ltd
 Banaras Hindu University (BHU)
 Basant Agrotech (I) Limited
 Bettiah Diocesan Social Service Society (BDSSS)
 Bhardwaj Foundation
 Bhartiya Lok Vikash Evam Shodh Sansthan (BLVESH)
 Bihar Agricultural University (BAU)
 Bihar Rashtriya Beej Nigam (BRBN)
 BIOECO Farmer Producer Company
 Bombay Super Hybrid Seeds
 Borlaug Institute for South Asia – BISA
 Buxar FPC Limited
 CCS Haryana Agricultural University
 Daftari Agro Biotech Pvt Ltd
 Delta Agri Genetics
 Dhule College of Agriculture
 Emadhuban FPC
 Gandhar Agro Tech Farmer Producer Company,
 Gramin Development Services (GDS)
 Gramin Uthan Evam Vaikalpik Vikas Samiti (GUEVVs)
 Green Agrevolution Private Limited
 GS Agro Pvt Ltd
 Hariyali Group
 ICAR - All India Coordinated Research Project on
 Pearl Millet (AICRP)
 ICAR - Indian Agricultural Research Institute (IARI)
 ICAR - Indian Institute of Wheat and Barely Research (IIWBR)
 ICAR - RCER-Patna & KVKS,
 Indian Agricultural Research Institute (ICAR)
 Indian Institute of Rice Research (IIRR),
 Indira Gandhi Krishi Vishwavidyalaya (IGKV)
 International Center for Agricultural Research in the
 Dry Areas (ICARDA)
 International Crops Research Institute for the
 Semi-Arid Tropics (ICRISAT)
 International Maize and Wheat Improvement Center (CIMMYT)
 International Rice Research Institute (IRRI)
 JEEVIKA
 JK Agri Genetics Limited
 Junagadh Agricultural University (JAU)
 Karnataka State Seeds Corporation Limited (KSSC)
 Khistiz Agro Tech Private Limited
 Maa Annapurna Farmer Producer Company
 Maharashtra State Seeds Corporation Ltd (MSSC)
 Mahatma Phule Krishi Vidyapeeth (MPKV)
 Marthwada Agricultural University (MAU)
 Metahelix Lifesciences Pvt Ltd
 Moti Seeds
 Nauabatpur Farmer Producer Company Ltd
 Navshreejan Farmer Producer Company

NIDAN
 Nirmal Seeds Pvt Ltd
 Nuziveedu Seeds Pvt Ltd
 Orissa University of Agriculture and Technology (OUAT)
 Piprakothi Farmer Producer Company
 PRADAN
 PRAN
 Prof. Jayashankar Telangana State Agricultural University (PJTSAU)
 Protein Food and Nutrition Development
 Association of India (PFNDAI)
 Punjab Agricultural Research Board (PARB)
 Punjab Agricultural University (PAU)
 Quality Hybrid Seeds Co Pvt Ltd
 Rajendra Prasad Central Agricultural University – (RPCAU)
 Ratnagiri Seeds & Farm
 Reliance Foundation
 Rural Development Council (RDC)
 Saharsa Woman Jeevika Producer Company
 Sahyogi Agro Producer Company
 Samagra Shikshan Ewam Vikas Sansthan (SSEVS)
 Sewa Bharat
 Shambhavi Farmer Producer Company
 Sone Ganga Seeds
 Sood Seeds
 Sri Karan Narendranath Agricultural University (SKNAU)
 Sustainable Human Development Association (SHDA)
 Swami Keshwanand Rajasthan Agricultural University (SKRAU)
 Syngenta Foundation
 Taal Farmer Producer Company
 Tamil Nadu Agricultural University (TNAU)
 Tetariya Agro-ecology Farmer Producer Company
 Tilouthu Farmer Producer Company
 Tirkut Krishak Producer Company Limited
 Trust Community Livelihood
 Umangshree Concept Pvt Ltd
 Unnati Farmer Producer Company
 Vasantnao Naik Marathwada Krishi Vidyapeeth Parbhani (VNMKV)
 Wheat Berry Agro Tech (WBAT)

Indonesia

Government of Indonesia (BAPPENAS)
 Indonesian Center for Rice Research (ICRR)

Kenya

Agriscope (Africa) Ltd – Formerly East Africa Seed Company
 Bubayi Products
 Global Alliance for Improved Nutrition (GAIN)
 Jomo Kenyatta University of Agriculture and Technology
 Kenya Agricultural & Livestock Research Organization (KALRO)
 Ministry of Agriculture- Agri-Nutrition Department
 Ministry of Health- Nutrition Department
 Nutrition International

One Acre Fund
 Pan-Africa Bean Research Alliance (PABRA)
 Seed Co Kenya
 World Food Program (WFP)
 World Vision Kenya

Malawi

Africa Fertilizers and Agribusiness Partnership (AFAP)
 Alliance for a Green Revolution in Africa (AGRA)
 Clinton Development Initiative
 COMSIP Union
 Department of Agricultural Extension Services (DAES)
 Department of Agricultural Research Services (DARS)
 Department of Nutrition, HIV & Aids (DHNA)
 Ekwendeni Hospital Aid Support Unit
 Farmers Union of Malawi
 Focus
 Global Seeds
 Malawi Prison Farms
 Ministry of Education School Feeding Program
 Mphalabungo CBO
 Multi Seeds Company
 Nascent Solutions Inc.
 Perisha Agro Packaging
 QualiBasic Seeds (Zambia)
 Seed Co Malawi Ltd
 Seed Tech
 Smallscale Livestock and Livelihood Program
 Total Land Care
 U.S. Agency for International Development (USAID)
 Virelishama Seed Company
 World Bank

Nigeria

ACE Foods
 Accelerating Nutrition Results in Nigeria (ANRiN)
 Agricultural Society of Nigeria
 Agriculture Graduates Association of Nigeria (AGAN)
 AgroShop
 Ahalson Nigeria Ltd
 Akwa Ibom State Agribusiness Directorate
 Akwa Ibom State Agric Dev Programme (AKADEP)
 Akwa Ibom State University (AKSU)
 All Farmers Ass. Of Nigeria (AFAN)
 Association of Vitamin A Cassava Entrepreneurs (AVACE)
 August Secrets
 Benue State Agric Dev Programme (BNARDP)
 Cassava Growers Association of Nigeria (CGAN)
 Cassava Processors Association of Nigeria (CAPAN)
 Cato Foods
 Central Bank of Nigeria - Abeokuta Branch
 Cross River State Agric Dev Programme (CRADP)

Crowther Foods
 Cultivating New Frontiers in Agriculture
 Dangote Fertiliser
 Development Dynamics
 Federal Ministry of Agriculture and Rural Development (FMARD)
 Federal Ministry of Budget and National Planning
 Federal Ministry of Health (FMoH)
 Forward Africa
 Fresh FM 105.9 Ibadan
 FrieslandCampina Wampco
 GAINCODE
 Global Alliance for Improved Nutrition (GAIN)
 Gold Agric
 GraceCo
 Green Sahel Agriculture and Rural
 Development Initiative (GSARDI)
 Greenspore Seeds
 Home Grown School Feeding Programme (HGSFP)
 Human Empowerment and Development Project (HEMADEP)
 Institute for Agricultural Research (IAR), Zaria
 Institute of Agricultural Research & Training (IAR&T),
 Moor Plantation
 International Center for Research in Semi-Arid Tropics (ICRISAT)
 International Fertilizer Development Center (IFDC)
 International Institute of Tropical Agriculture (IITA)
 International Potato Center (CIP)
 Ise-Oluwa Foods
 Jessy Ojoma Drive for Environmental
 Development Foundation (JODED-F)
 Jigawa Agriculture & Rural Development Authority (JARDA)
 Jirkur Seeds
 Justice Development and Peace Commission (JDPC) – Oyo, Uyo
 Kaduna State, Ministry of Agriculture
 Kagara Local Government Council, Agriculture Department
 Kellogg's
 Magnitude Plus Media
 Maina Seeds
 Maize Association of Nigeria (MAN)
 Maize Growers, Processors and Marketers Association
 of Nigeria (MAGPAMAN)
 Mamora Seeds
 Maslaha Seeds
 Micmakin Nigeria Limited (Oyato Foods)
 NAMALCHO
 Nasarawa State Agric Dev Programme (NARDP)
 National Agricultural Extension & Research Liaison Services
 (NAERLS)
 National Agricultural Seed Council
 National Orientation Agency, HQ Abuja
 National Root Crops Research Institute (NRCRI), Umudike
 Nestle
 News Agency of Nigeria (NAN)

Niger State Agricultural and Mechanisation
 Development Agency (NAMDA)
 Niger State, Ministry of Agriculture
 Niji Lukas Nigeria Limited (Niji Foods)
 North Central Agro Input Dealers Association (NOCAIDA)
 Obafemi Awolowo University (OAU)
 Ogun State, Ministry of Agriculture
 Oyo State Agric Dev Programme (OYSADEP)
 Pacific Ring West Africa
 Premier Seed
 Promasidor
 Prothrive (Grandios)
 Redeemed Aids Programme Action Committee
 (RAPAC) – Benue State
 Rotary
 Saleh Soba and Sons Ltd
 Sassakawa Global 2000
 Savannah seeds
 Scaling Up Nutrition (SUN) Business Network
 Seed Peers
 SeedCo
 Sen. Adeyemo Women Empowerment Coop (SAWEC)
 Techniseed
 TechnoServe
 The Guardian Newspaper
 The Nations Newspaper
 ThisDay Newspaper
 Top Aim Printing Press
 University of Ibadan – Oyo State
 Value Seed
 WACOT Seeds
 WUL Nigeria Ltd

Pakistan

Abad Seed Company, Jhang
 Al Shamas Seed Corporation Rahim Yar Khan
 AlHaider Seed Company, Rajanpur
 Alzaraun Seed Corporation, Bahawalpur
 Ayub Agricultural Research Institute, Faisalabad
 Baba Fareed Seed Company, Vehari
 Bihar Seed Company, Rahim Yar Khan
 Chatha Seeds, Vehari
 CKD Seeds, Gujranwala
 Family's Farm Foods, Lahore
 Fatima Fertilizer Company Limited
 Fauji Fertilizer Company Limited
 Federal Seed Certification & Registration Department (FSC&RD)
 Ghani Seeds, Bahawalnagar
 Hudaibia Seed Company, DGKhan
 Indus Seed Company, Rajanpur
 Jullundur Seed Corporation, Rahim Yar Khan
 Manpasand Seed Company, Rahim Yar Khan

Ministry of National Food Security & Research
 Ministry of National Health Services, Regulation and Coordination
 Ministry of Planning, Development and Reform
 MNS Agriculture University, Multan
 National Agricultural Research Center (NARC)
 National Agricultural Research System (NARS)
 Neelam Seed Corporation, Multan
 Pakistan Agricultural Research Council, Islamabad
 PMAS Arid Agriculture University, Rawalpindi
 Punjab Seed Corporation, Lahore
 Reach Seed Company, Sukkur
 Resham Seed Corporation, Rahim Yar Khan
 Scaling Up Nutrition (SUN)
 Senova Seeds Company, Bahawalpur
 Shoaib Seed Corporation, Sukkur
 Sun Crop, Multan
 Tara Group of Companies/ Seed, Lahore
 Trigon Int. Multan
 Zamad Seed Company, Rahim Yar Khan
 4-Brothers, Lahore

Rwanda

African Evangelistic Enterprise Rwanda (AEE)
 Association François-Xavier Bagnoud Rwanda (FXB)
 Caritas-Rwanda – Gimbuka Project
 Clinton Development Initiative (CDI)
 FarmFresh
 Food for the Hungry (FH)
 Garden for Health International (GHI)
 Global Communities
 Howard G. Buffett Foundation Project/MINAGRI
 Ministry of Agriculture and Animal Resources (MINAGRI)
 National Early Childhood Development Program
 One Acre Fund
 Rwanda Agriculture Board (RAB)
 World Food Programme (WFP) (FtMA Project)

Tanzania

Advanta Seeds Africa
 Clinton Development Initiative
 Crop Bioscience Solution Ltd
 Global Alliance for Improved Nutrition (GAIN)
 Meru Agro-Tours and Consultant Co. Ltd
 Ministry of Agriculture
 Ministry of Education
 Nutrition International
 Office of the Prime Minister
 Provincial Governments (Central, Lake Zone,
 Southern Highlands, Kagera)
 Syova/Agriscope (Africa) Ltd
 Tanzania Agricultural Research Institute (TARI)
 World Vision Tanzania

Uganda

Africa 2000 Network (A2N)
 BioCrops (U) Limited
 Nutreal
 Namugongo Millers Ltd.
 SESACO
 Caritas – Hoima, Fort Portal and Luwero Diocese,
 Catholic Relief Services (CRS)
 Central Broadcasting Station (CBS)
 Community Enterprise Development Organization (CEDO) Seeds
 Divine Organic Foods
 Farm Radio International
 Capital FM Radio
 Isimba Prison Farm
 Central Uganda Sweet Potato and Seed Multiplier
 Association (CUSSEMA)
 Northern Uganda Seed Multipliers Association (NUSEMA)
 Eastern Uganda Seed Multipliers Association (EUSEMA)
 Western Uganda Seed Multipliers Association (WUSEMA)
 Kigarama Cooperative and Marketing Society
 Kyazanga Farmers' Cooperative Society
 Korean Friend of Africa
 Makerere University, College of Agricultural
 and Environmental Sciences
 Mbarara University - Healthy Child Uganda Project
 Mercy Corps
 Ministry of Agriculture, Animal Industry and Fisheries
 Ministry of Health
 NASECO Seeds
 National Agricultural Research Organization (NARO)
 National Crops Resources Research Institute (NaCRRI)
 Office of the Prime Minister
 Olilim Cooperative Society
 Peace Corps
 Pearl Seeds
 Registered Trust of Kasana Luweero
 Samaritan's Purse
 SASAKAWA Africa Association
 Self Help Africa
 Senai Biosciences
 Send a Cow
 Volunteer Efforts for Development Concerns (VEDCO)
 World Vision Uganda

Zambia

260 Brands (Seba Foods)
 Advanta Seed
 AfriSeed
 AgResults
 Arume Quiver
 Bean Networks
 Butemwe Milling

Care International
 Caritas
 Chalasha Multi-Purpose Cooperatives
 Chimusoro Milling
 Choma Milling
 Civil Society Organisation on Scaling Up Nutrition (CSO-SUN)
 Concern WorldWide
 Centre for International Forestry Research (CIFOR)
 Community Technology Development Trust (CTDT)
 Development Aid from People to People (DAPP)
 Fanyate Milling
 Future Seeds
 FVG Milling
 Good Nature Agro
 Indaba Agricultural Policy Research Institute (IAPRI) Kamano Seed
 International Fund for Agriculture Development (IFAD)
 International Institute of Tropical Agriculture (IITA)
 International Maize and Wheat Improvement Center (CIMMYT)
 International Potato Centre (CIP)
 Iowa State University
 Jacaf Youth Enterprises
 Johns Hopkins Bloomberg School of Public Health
 Kamano Seed Co.
 Lwazim Limited
 Libala Market Store
 Michigan State University, Micronutrient Malnutrition Taskforce
 Ministry of Agriculture
 Ministry of Education
 Ministry of Health
 Ministry SME
 Misamfu SGA
 Mumurite
 Musanza Milling
 Musika
 Mushe Milling
 Nushili Beans
 National Food and Nutrition Commission (NFNC)
 National Institute for Scientific and Industrial Research (NISIR)
 Novatek
 NutriAID
 Peace Corps
 Purdue University, SEED Solutions
 Programme Against Malnutrition (PAM)
 ProfitPlus
 Scaling Up Nutrition (SUN) Business Network
 Seba Foods
 SeedCo
 Self-Help Africa (SHA)
 SHAIS Foods
 Share Africa
 Star Milling
 Sylva Group of Companies

Tilland Milling
 Total Land Care
 Tropical Disease Research Center (TDRC)
 Tundwe Milling
 Twala Farms
 United Nations High Commission for Refugees (UNHCR)
 University of Wisconsin-Madison
 University of Zambia
 University of California
 Van Burdet
 WorldFish (WF)
 World Food Programme (WFP)
 World Vision
 Yoyo Foods
 Zambia Agriculture Research Institute (ZARI)
 Zambian Fertilizer/FTG,
 Zambia Commodity Exchange (ZAMACE)
 Zambia Seed Traders Association (ZASTA)
 ZamSeed

Zimbabwe

Abide Nursery
 African Granary
 ARDA Seeds
 Bucabella Nursery
 Cairns Foods
 Champion Seeds
 Chinhoyi University of Technology
 Community Capacity Building Initiative Centre for Africa (CCBICA)
 Community Technology Development Trust
 Family Table Food
 Food & Nutrition Council (FNC)
 Food and Agriculture Organization (FAO)
 Indaba Agricultural Policy Research Institute (IAPRI)
 IQ Farmer
 Lead Trust
 Ministry of Health & Child Care
 Ministry of Lands, Agriculture, Water, Climate,
 and Rural Resettlement
 Mukushi Seeds
 National Tested Seeds
 Pan-Africa Bean Research Alliance (PABRA)
 Prime SeedCo
 SkyBrands
 Smallholder Irrigation Revitalization Program (SIRP)
 Tosek
 UNICEF
 University of Zimbabwe
 Zimbabwe Super Seeds

Biofortified Crops



IRON BEAN

For Nutrition: Provides up to 80% of daily iron needs
For Farmers: High yielding, virus resistant, heat and drought tolerant • *CGIAR Partner:* The Alliance of Bioversity International and CIAT



IRON PEARL MILLET

For Nutrition: Provides up to 80% of daily iron needs
For Farmers: High yielding, mildew resistant, drought tolerant • *CGIAR Partner:* ICRISAT



VITAMIN A ORANGE SWEET POTATO

For Nutrition: Provides up to 100% of daily vitamin A needs • *For Farmers:* High yielding, virus resistant, drought tolerant • *CGIAR Partner:* CIP



VITAMIN A CASSAVA

For Nutrition: Provides up to 100% of daily vitamin A needs • *For Farmers:* High yielding, virus resistant • *CGIAR Partner:* IITA and Bioversity/CIAT



VITAMIN A MAIZE

For Nutrition: Provides up to 50% of daily vitamin A needs • *For Farmers:* High yielding, disease and virus resistant, drought tolerant
CGIAR Partner: CIMMYT and IITA



ZINC WHEAT

For Nutrition: Provides up to 50% of daily zinc needs • *For Farmers:* High yielding, disease resistant • *CGIAR Partner:* CIMMYT



ZINC RICE

For Nutrition: Provides up to 40% of daily zinc needs
For Farmers: High yielding, disease and pest resistant
CGIAR Partner: IRRI and Bioversity/CIAT



ZINC MAIZE

For Nutrition: Provides up to 70% of daily zinc needs
For Farmers: High yielding, virus resistant
CGIAR Partner: CIMMYT and IITA



HARVESTPLUS.ORG

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