HarvestPlus

Addressing Hidden Hunger with Biofortified Crops

Sakile Kudita
Country Manager
HarvestPlus Zimbabwe

HarvestPlus.org

HarvestPlus
Better Crops · Better Nutrition

CGIAR RESEARCH PROGRAM ON Agriculture for Nutrition and Health
Led by IFPRI

About HarvestPlus

HarvestPlus is:

- Global program
- Based at IFPRI
- Hosted in Zimbabwe by CIAT

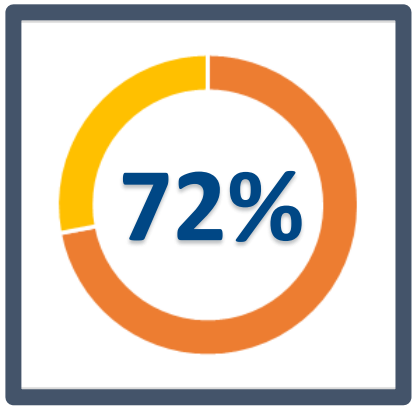
Vision: A world free of hidden hunger

Mission: Improving nutrition and public health through biofortified crops.

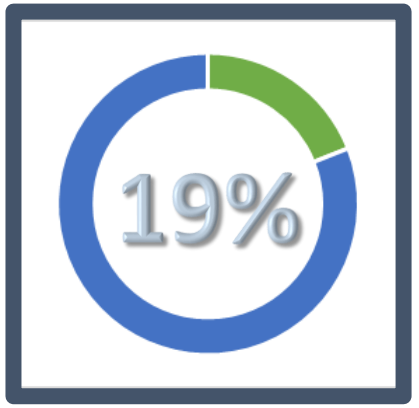
Hidden Hunger

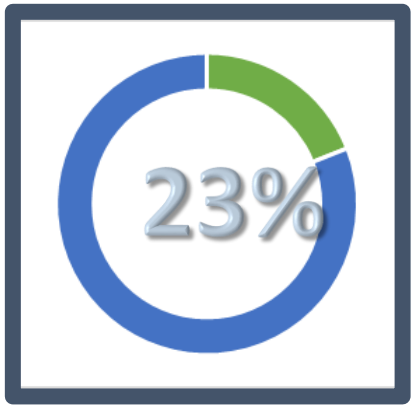
HarvestPlus

Micronutrient malnutrition in Zimbabwe



Iron deficiency





Vitamin A deficiency

Stunting

HarvestPlus

Vitamin A deficiency

- Poor immunity
- Impaired vision
- Blindness
- Death

Iron deficiency

- Impaired brain Development
- Unfavorable pregnancy outcomes
- Anemia

HarvestPlus

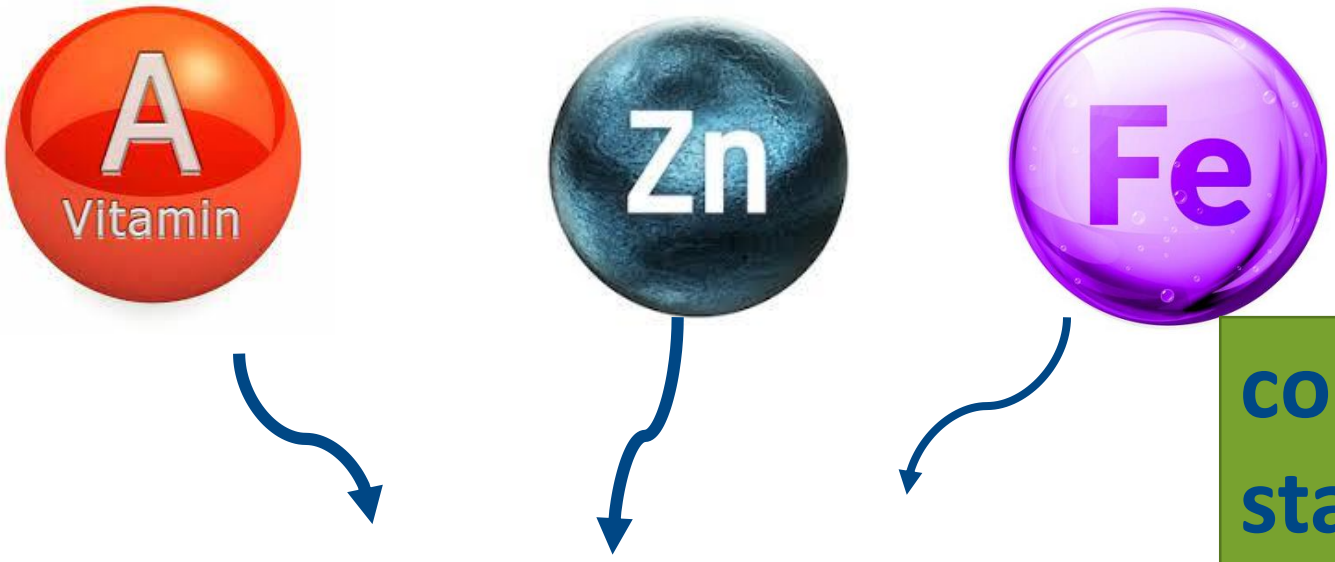
Tackling hidden hunger

Industrial Fortification

Supplementation

Dietary Diversity

Biofortification



conventional breeding of **staples** to increase the density of key micronutrients such as **iron**, **zinc**, and **vitamin A** without compromising on yield and other farmer desired traits.

HarvestPlus

One piece of the puzzle

HarvestPlus

A Rigorous Evidence Base proves the efficacy of Biofortification

The Journal of Nutrition
Community and International Nutrition

Cognitive Performance in Indian School-Going Adolescents Is Positively Affected by Consumption of Iron-Biofortified Pearl Millet: A 6-Month Randomized Controlled Efficacy Trial

Samuel P Scott,[1] Laura E Murray-Kolb,[1] Michael J Wenger,[2,3] Shobha A Udipi,[4] Padmini S Ghugre,[4] Erick Boy,[5] and Jere D Haas[3]

[1]Department of Nutritional Sciences, The Pennsylvania State University, University Park, PA; [2]Department of Psychology and Cellular and Behavioral Neurobiology, The University of Oklahoma, Norman, OK; [3]Division of Nutritional Sciences, Cornell University, Ithaca, NY; [4]Department of Food Science and Nutrition, Shreemati Nathibai Damodar Thackersey Women's University Women's University, Mumbai, India; and Harvest Plus, International Food Policy Research Institute, Washington, DC

Volume 147, Issue 11
September 2017

Article Contents

Consumption of Iron-Biofortified Beans Positively Affects Cognitive Performance in 18- to 27-Year-Old Rwandan Female College Students in an 18-Week Randomized Controlled Efficacy Trial

Laura E Murray-Kolb ✉, Michael J Wenger, Samuel P Scott, Stephanie E Rhoten, Mercy G Lung'aho, Jere D Haas

The Journal of Nutrition, Volume 147, Issue 11, 1 November 2017, Pages 2109–2117,
https://doi.org/10.3945/jn.117.255356
Published: 27 September 2017 **Article history**

Contents lists available at ScienceDirect

Global Food Security

journal homepage: www.elsevier.com/locate/gfs

Improving nutrition through biofortification: A review of evidence from HarvestPlus, 2003 through 2016

Howarth E. Bouis*, Amy Saltzman

International Food Policy Research Institute, Washington, DC, United States

Sazawal *et al. Nutrition Journal* (2018) 17:86
https://doi.org/10.1186/s12937-018-0391-5

Nutrition Journal

RESEARCH Open Access

Efficacy of high zinc biofortified wheat in improvement of micronutrient status, and prevention of morbidity among preschool children and women - a double masked, randomized, controlled trial

Sunil Sazawal[1,2,3*], Usha Dhingra[1], Pratibha Dhingra[1], Arup Dutta[1], Saikat Deb[1], Jitendra Kumar[1], Prabhabati Devi[1] and Ashish Prakash[3]

HarvestPlus

Biofortification in Zimbabwe




- The Biofortified varieties of interest in Zimbabwe are high iron beans, orange maize (Vitamin A rich), orange fleshed sweet potato (Vitamin A rich) and iron rich pearl millet.

HarvestPlus.org

HarvestPlus
Better Crops · Better Nutrition

CGIAR RESEARCH PROGRAM ON Agriculture for Nutrition and Health
Led by IFPRI

HarvestPlus

Vitamin A maize

- Bred by CIMMYT and DR&SS
- 5 varieties released
  - ZS242A, ZS244A, ZS246A, ZS248A and ZS500A
- Licensed to 7 seed companies

Nutritional benefits:

Vitamin A maize Provides up to 50% of daily vitamin A needs; as effective as supplements.

Farmer benefits:

High yielding, disease resistant, heat and drought tolerant.

HarvestPlus

Iron beans

- Bred CIAT and DR&SS
- 2 released varieties
  - NUA45
  - **Jasmine**
- Licensed by DR&SS to 11 private seed companies

Nutritional Benefits:
Provide up to 80% of daily iron needs.
Farmer Benefits:
High yielding, early maturing, heat and drought tolerant, widely adapted, fast cooking.

HarvestPlus

Orange Fleshed Sweet Potatoes (OFSP)

- Bred by CIP and DR&SS
- Recent trials identified ALISHA for wide dissemination
  - Agronomic performance
  - Taste

Nutritional Benefits:

Provide up to 100% of daily Vitamin A ne

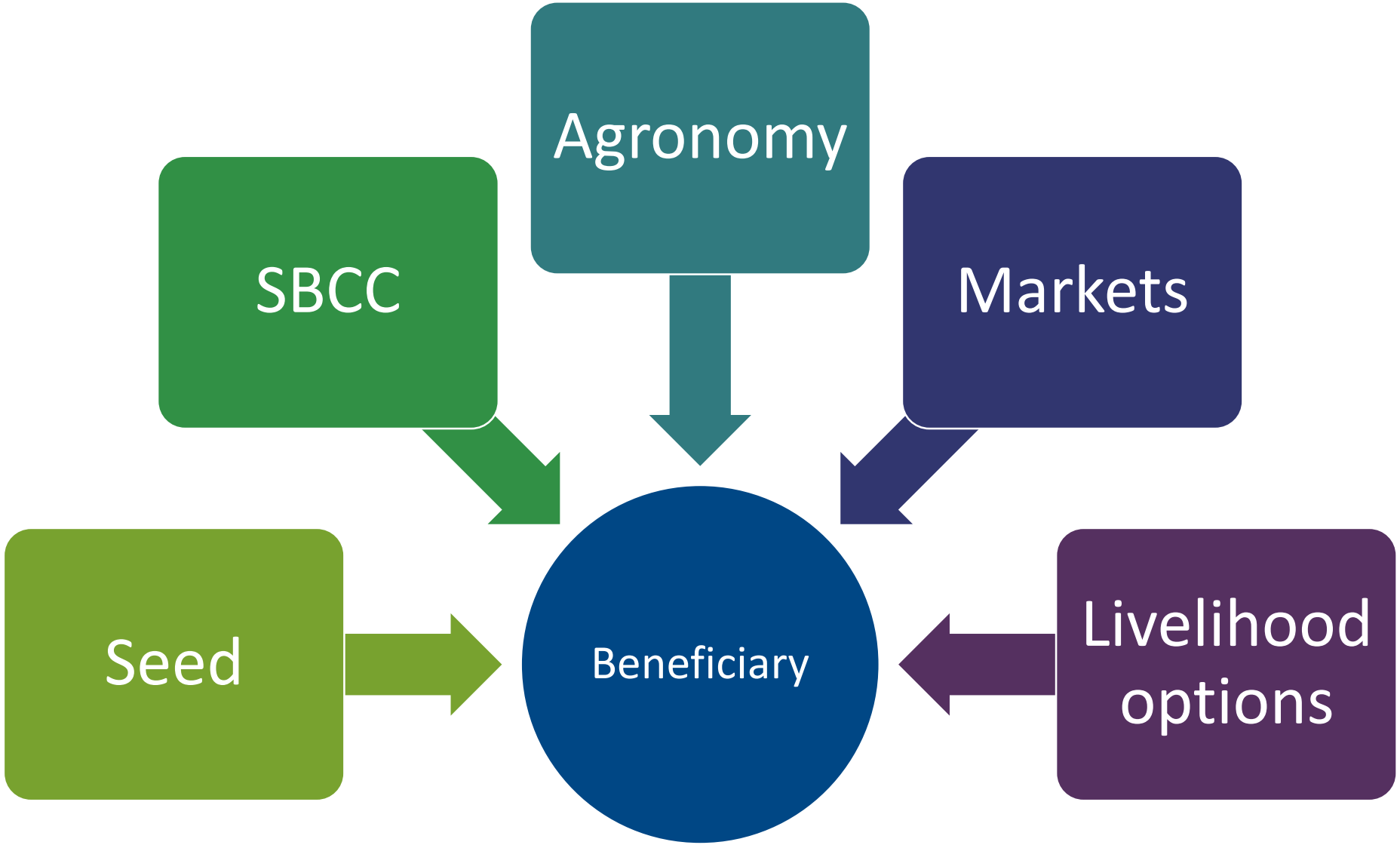
Farmer Benefits:

High yielding, early maturing, drought tolerant .

Call for partnership

HarvestPlus

Livelihood Programs



HarvestPlus

Social protection


THANK
YOU