



Biofortification of Food Staples: A Cost-Effective Approach (Already Being Implemented) that Links Agriculture and Nutrition

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Biofortification-breeding food crops that are more nutritious







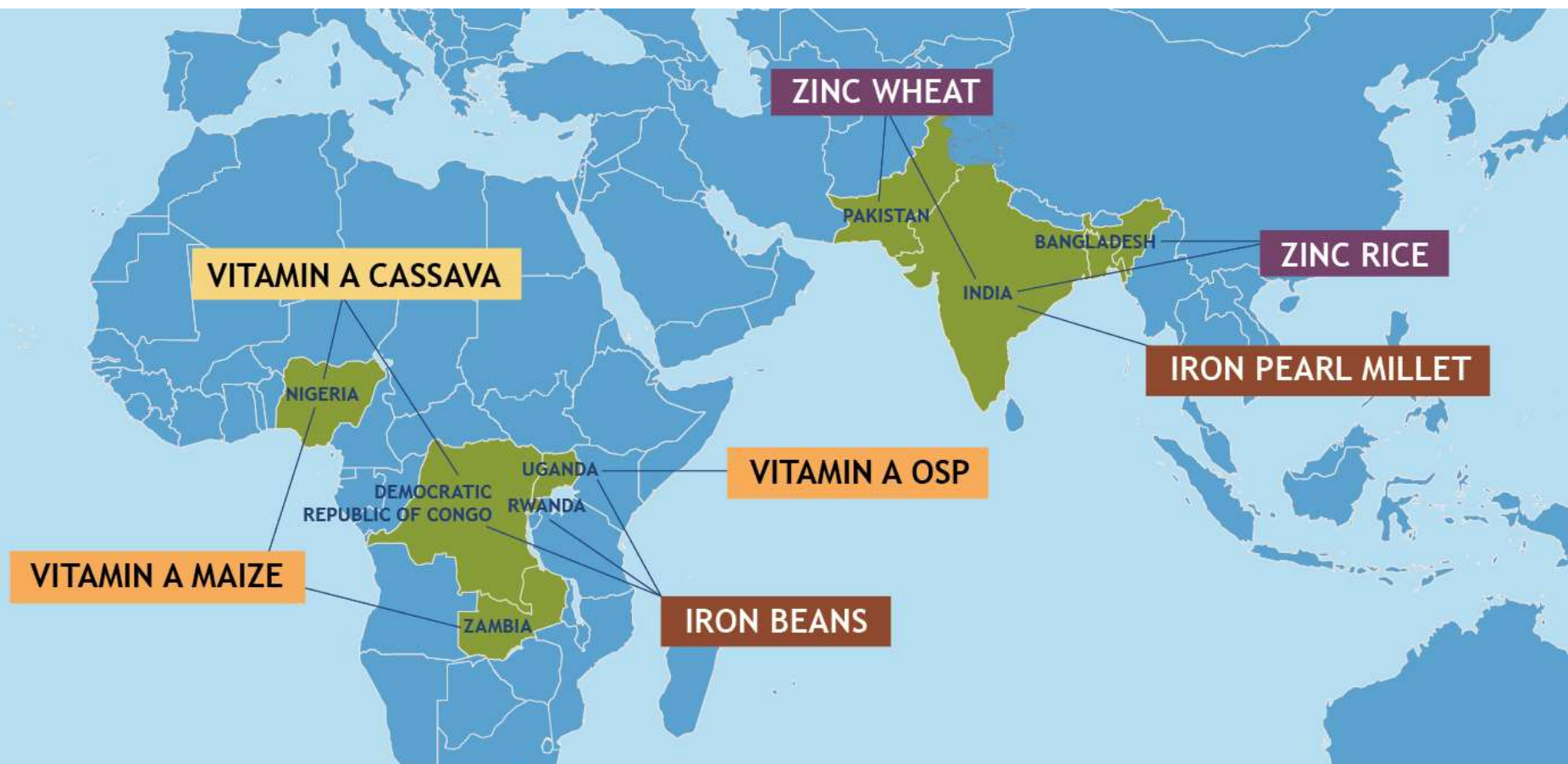
HarvestPlus: USAID's Role

- USAID involvement from very beginning
 - 1994 Annapolis, Maryland, USA
 - 1999 IRRI, Los Banos, Philippines
 - Co-contributor to core funding 2003-2014
- USAID missions fund HarvestPlus' vitamin A orange sweet potato program in Uganda and vitamin A maize program in Zambia as part of the Feed the Future initiative
- Biofortified crops also prominent in USAID's current list of scalable agricultural innovations and in its recent report to Congress on health-related research





Target Countries and Crops



More than 2 million farming households reached by HarvestPlus.

Crops released are high-yielding with climate smart traits.



RELEASED
AND/OR AVAILABLE TO FARMERS
(VARIOUS FORMS OR IMPROVED CHARACTERS)

TESTING
BEING EVALUATED OR TESTED
IN A TARGET OR EXPANDED COUNTRY

BARBAPLANTAIN (VT A)
BEANS (ORO)
CASABA (VT A)
COWPEA (ORO, ZNC)
HIGH POTATO (ORO)
LENTIL (ORO, ZNC)
MAIZE (VT A)
MAIZE (ZNC)
PEARL MILLET (ORO)
PUMPKIN (VT A)
RICE (ZNC)
RICE (ORO)
SORGHUM (ZNC, IRO)
SWEET POTATO (VT A)
WHEAT (ZNC)

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Source: HarvestPlus. Copyright © 2010 HarvestPlus. Further information: www.harvestplus.org.
HarvestPlus leads a global effort to improve nutrition and public health by developing and disseminating single food crops that are rich in vitamins and minerals. This work is part of the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH), which helps realize the potential of agricultural development to deliver greater economic benefit, and nutritional benefits to the poor. The HarvestPlus program is coordinated by two CGIAR centers, the International Center for Tropical Agriculture (CIAT) and the International Food Policy Research Institute (IFPRI).



Mainstreaming Through Key Stakeholders










- National governments & regional frameworks (e.g. Brazil, Nigeria, Rwanda)
- Seed companies (e.g. Nirmal in India)
- Wholesaling, retailing
- International NGOs (e.g. World Vision)
- Multi-lateral agencies (e.g. World Food Program, Codex)
- International financial institutions

Crop Testing for Variety Release

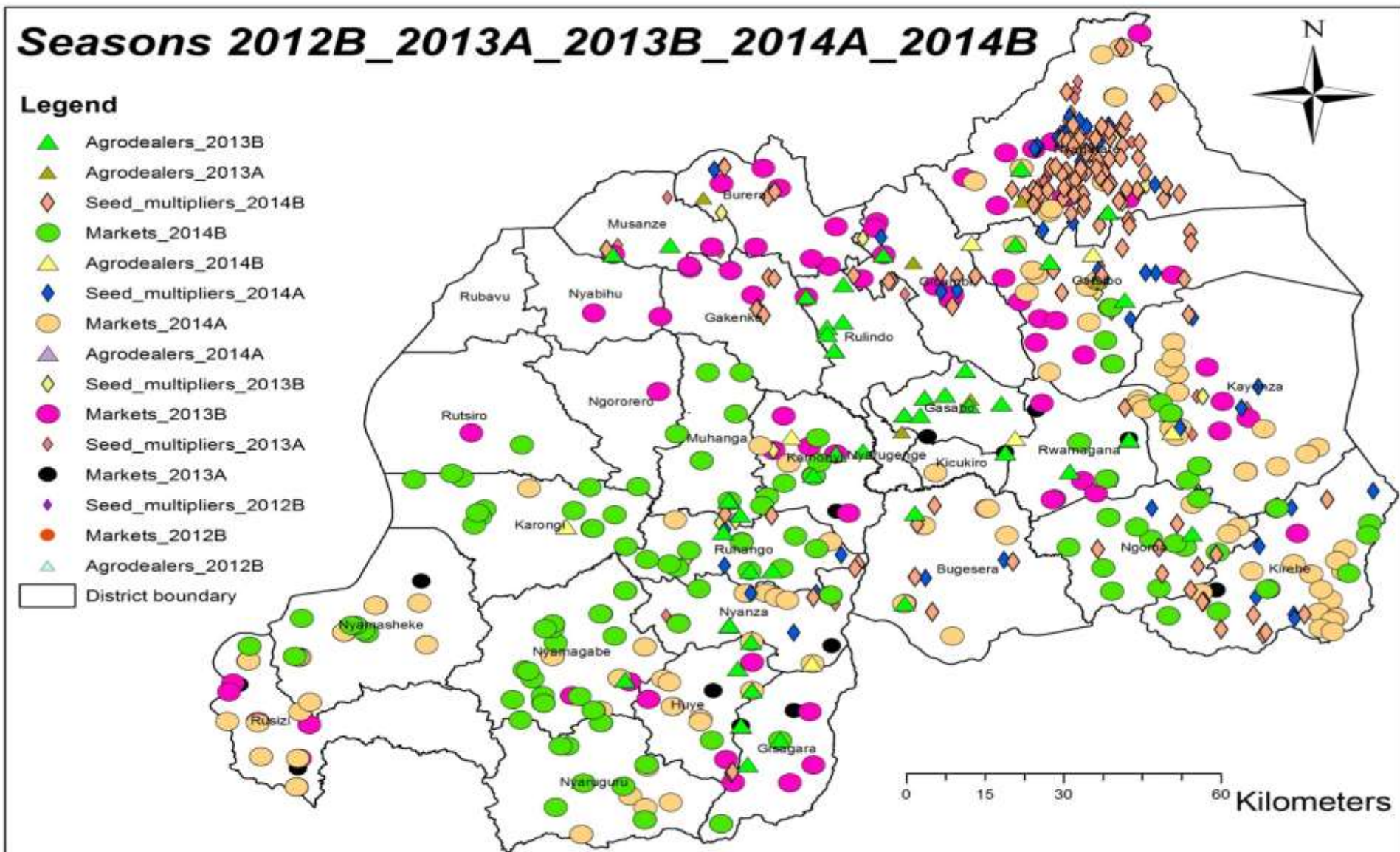
	Ethiopia	Kenya	Malawi	Mozam- bique	Tan- zania
Beans (Iron)		T	T		T
Cassava (Vit A)	T	T	T	T	T
Maize (Vit A)	T		T	T	T



Ten Bean Varieties Released in Rwanda

<div>  AGRONOMIC PROPERTIES OF IRON BEAN  </div>						
Names	Pictures	Type	Yield potential	Adaptation	Iron content	Maturity
RWV 3316		Climber	4 t/ha	High altitude	91,6ppm	110 Days
RWV 3006		Climber	3.8 t/ha	High altitude	91,7ppm	110 Days
MAC 44		Climber	3.5 t/ha	Mid to low altitude	78 ppm	87 Days
RWR 2245		Bush	2.5 t/ha	Mid to low altitude	75 ppm	87 Days
RWR 2154		Bush	2.5 t/ha	Mid to low altitude	75 ppm	87 Days
RWV 1129		Climber	3.5 t/ha	Mid to high altitude	81 ppm	110 Days
Cab2		Climber	3 t/ha	High altitude	94,8 ppm	115 Days
RWV 3317		Climber	4 t/ha	High altitude	74 ppm	110 Days
RWV 2887		Climber	3.5 t/ha	Mid to high altitude	93,7 ppm	106 Days
MAC 42		Climber	3.5 t/ha	Mid to high altitude	91 ppm	81 Days

Rwanda: Location of combined activities in 2014





Human Nutrition Efficacy Trials

Fourteen Efficacy Trials either completed or in process

—High iron crops ✓ +

- Meta-analysis completed for beans and pearl millet

—High pro-vitamin A crops ✓

- Multiple efficacy trials completed for sweetpotato, maize, and cassava

—High zinc crops

- Bioavailability studies positive, efficacy trials in the field



Empowering women farmers

75% of the poor



25%





**Cost-effective: central one
time investment**



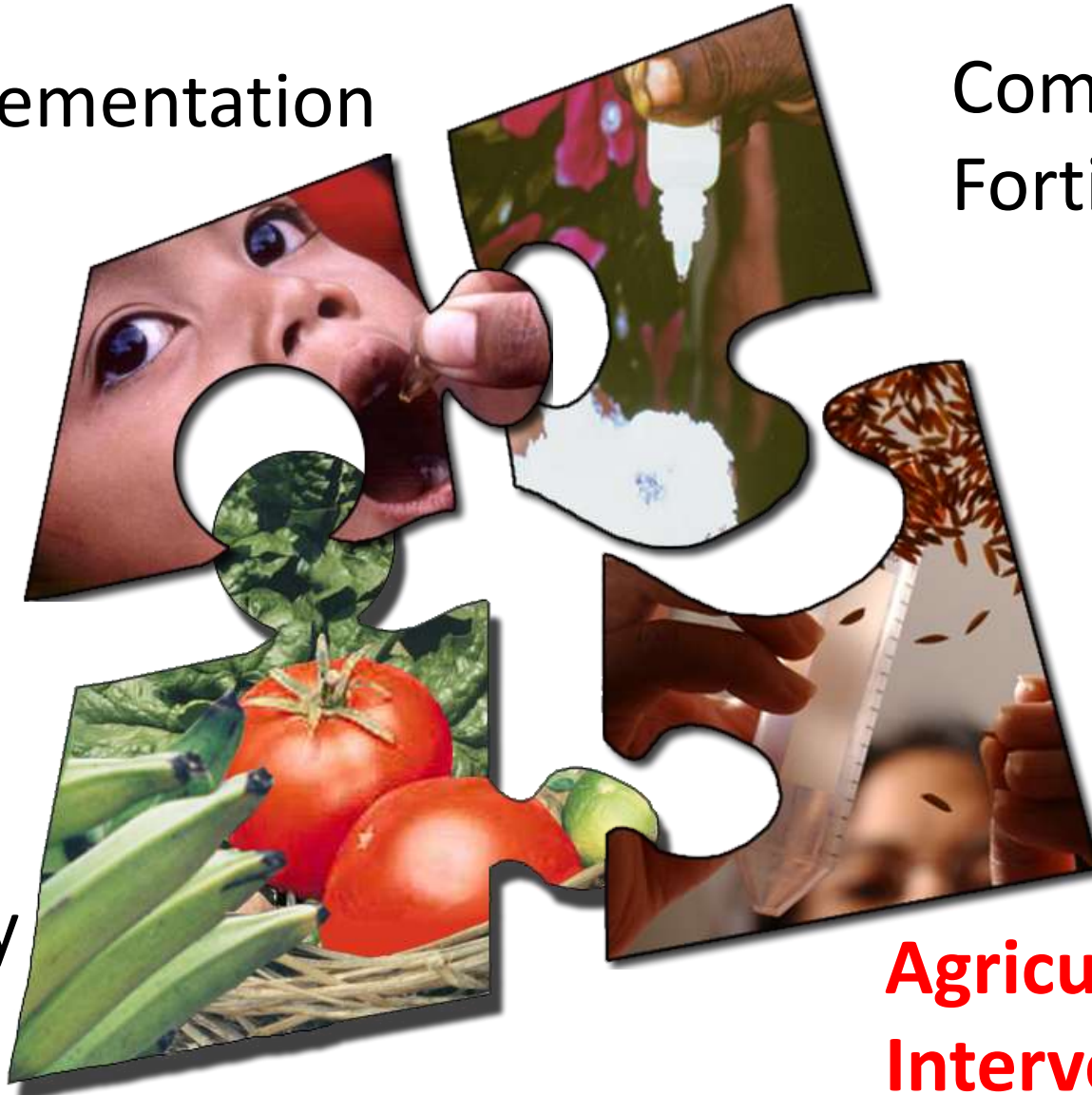
Biofortification - One Piece of the Puzzle

Supplementation

Commercial
Fortification

Dietary
Diversity

**Agricultural
Interventions**





Will Biofortification Work?

- Can breeding be successful, can nutrient levels be increased to high enough levels in high-yielding backgrounds?
- Will the extra nutrients be absorbed at sufficient levels that micronutrient status will be improved?
- Will farmers adopt and will consumers buy/eat in sufficient quantities?
- **Can biofortification be mainstreamed?**



Second Global Conference on Biofortification

- Kigali, Rwanda: March 30 - April 2, 2014
- 300+ leaders from more than 40 countries
- Purpose:
 - How to Bring Biofortification to Scale: Translating evidence into wide-scale adoption and reach
 - Discussion of gaps and challenges, opportunities and solutions, and developing a plan of action





Questions?



For additional information,
please reach us by contacting:

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p.willingham@cgiar.org

202-627-4122





Polycymakers share their views



[Video](#)

Rwanda High Iron Bean Music Video



11th



ABUJA INTERNATIONAL FILM FESTIVAL

presents



SMILE AFRICA NETWORK LTD. &
HARVEST PLUS NIGERIA



Supported by:



Federal Ministry of Health



Federal Ministry Of
Agriculture And Rural
Development

ACTORS GUILD
OF NIGERIA

ASSOCIATION OF MOVIE
PRODUCERS NIGERIA

ABUJA INTERNATIONAL
FILM FESTIVAL

World Premier & Launch of Four Nollywood Movies on Biofortification

- The Yellow Cassava - A Zeb Ejiro Film
- Dada Oni Paki - A Fidelis Duker Film
- Ebiyebi - A Chico Ejiro Film
- Sakani - An Obi Osotule Film

Date: Wednesday 24th Sept., 2014

Venue: Silverbird Cinemas, Abuja.

Time: 11am

Special Guest:

Dr. Akinwunmi Adesina

(Hon. Minister of Agriculture & Rural Development)

Prof. Onyebuchi Chukwu

(Hon Minister of Health)

Dr. Howart Boius

(Director, Harvestplus)

Keynote Speaker:

Dr. Wolfgang Pfeiffer

(Dep. Director Operations, Harvest Plus HQ)

STRICTLY BY INVITATION

VITAMIN A CASSAVA MOVIES BY NOLLYWOOD TO PROMOTE BETTER NUTRITION IN NIGERIA



Endorsements for the Kigali Declaration

BILL & MELINDA
GATES foundation



COMMUNITY
FOR
ZERO
HUNGER



NEPAD
TRANSFORMING AFRICA

