



FLAGSHIP  
Biofortification

2

## About A4NH

The CGIAR Research Program on Agriculture for Nutrition and Health (A4NH), led by the International Food Policy Research Institute (IFPRI), is built on the notion that agriculture has the potential to do much more than reduce hunger and poverty. Our high-quality research and evidence from Phase I (2012–2016) confirmed that agricultural development has enormous potential to make significant contributions to improving the nutrition and health of people. In Phase II (2017–2022), our focus is expanding to address challenges related to food system transformation, the rising burden of foodborne disease, and emerging health risks, like antimicrobial resistance. Our work continues to recognize that addressing inequality related to gender or other social categories is a development objective in its own right and an important condition for achieving other development objectives, particularly improved nutrition and health.

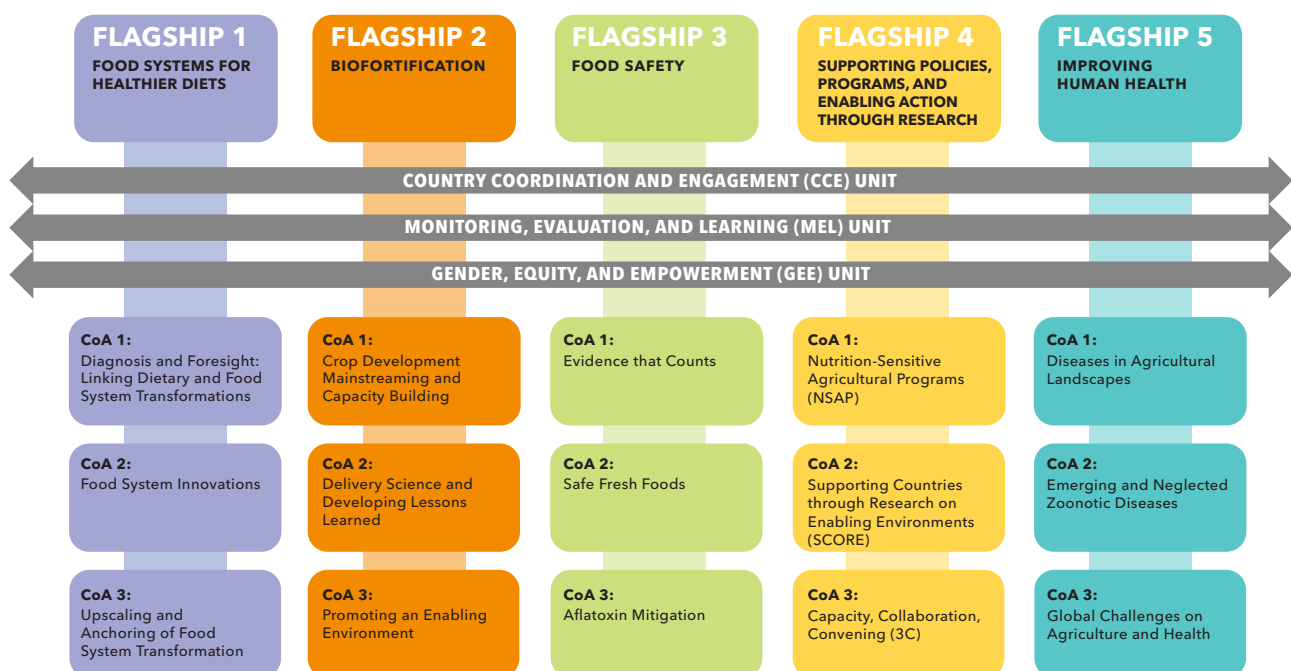
As CGIAR’s only research program on nutrition and health, A4NH makes a unique contribution to three specific CGIAR targets related to reduced poverty and improved food and nutrition security for health.

Recognizing this is a major task, A4NH brings together 5 CGIAR Centers and 2 academic institutions plus the talents and resources of a wide range of partners. Together, we carry out research activities through five unique, yet complementary, flagship programs and three cross-cutting units in at least 30 countries.

## Flagship 2 Rationale and Objectives

Micronutrient deficiency affects approximately 2 billion people globally and is caused by poor-quality diets resulting in low intakes of key micronutrients. Children who are micronutrient deficient in early childhood are at a much higher risk of infections, and less able to recover than healthy children. Biofortification uses plant breeding to improve the nutritional content of food crops, especially staple foods that poor

FIGURE 1 A4NH Program Structure





Neil Palmer/CIAT

people already consume, in order to reduce inadequate intakes and micronutrient deficiency in the most at-risk populations.

## Clusters of Activities

Flagship 2 builds on the strong track record of the HarvestPlus program to develop and deliver new, more nutritious varieties of staple food crops that provide higher amounts of vitamin A, iron, or zinc. HarvestPlus works directly in eight countries – Bangladesh, Democratic Republic of Congo, India, Nigeria, Pakistan, Rwanda, Uganda, and Zambia – plus Latin America and the Caribbean and through collaborators in a growing number of partnership countries. Starting from HarvestPlus' highly successful phases of discovery (2003-2007) and development (2008-2013), and into its delivery phase, which started in 2014, research in Flagship 2 helps introduce new questions on how biofortification can work at scale for specific crops and crop-country combinations. As part of building an enabling environment for biofortification in the future, Flagship 2 engages in policy analysis, shares evidence (both nationally and internationally), and builds partner

capacity to mainstream biofortification into their research and programming. By 2020, HarvestPlus expects to reach 20 million farming households—100 million people— with biofortified nutritious foods. Our research activities are aligned to ensure the goal is reached. Flagship 2 is led by HarvestPlus, a joint venture between the International Center for Tropical Agriculture (CIAT) and the International Food Policy Research Institute (IFPRI), and combines resources and expertise from several CGIAR Centers and other strategic partners. Flagship 2 research is organized into three main clusters of activities:

- 1. Crop development mainstreaming and capacity building** focuses on making sure high-yielding micronutrient enhanced varieties are developed and released in priority countries and that biofortification is mainstreamed into CGIAR and NARS breeding efforts.
- 2. Delivery science and developing lessons learned** works with partners to deliver high-yielding micronutrient enhanced varieties at scale in priority countries and ensures that evidence on nutritional efficacy and impact informs value chain actors, as well as national and international investors.
- 3. Promoting an enabling environment** includes activities designed to develop and strengthen new delivery partnerships for biofortification and policy analysis and engagement activities. Combined, these efforts contribute to seeing biofortification supported by global institutions and incorporated into plans and policies by stakeholders.

### CONNECT WITH FLAGSHIP 2

To engage with A4NH directly on biofortification, please contact the Flagship 2 leader:

**Ekin Birol**  
Senior Research Fellow  
Director, Impact and Strategy  
HarvestPlus - IFPRI  
Washington, DC Office  
Email: [e.birol@cgiar.org](mailto:e.birol@cgiar.org)



## INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

A world free of hunger and malnutrition

1201 Eye Street NW, 12th floor, Washington, DC 20005 USA | T. +1-202-862-5600 | F. +1-202-467-4439 | Email: [ifpri@cgiar.org](mailto:ifpri@cgiar.org) | [www.ifpri.org](http://www.ifpri.org)

Copyright © 2017 International Food Policy Research Institute. All rights reserved. Contact [ifpri-copyright@cgiar.org](mailto:ifpri-copyright@cgiar.org) for permission to republish.

This publication has been prepared as an A4NH output. It has not been peer reviewed. Any opinions stated herein are those of the author(s) and are not necessarily representative of or endorsed by the International Food Policy Research Institute.

For more information, please contact:

John McDermott, A4NH director | [j.mcdermott@cgiar.org](mailto:j.mcdermott@cgiar.org)

[www.a4nh.cgiar.org](http://www.a4nh.cgiar.org)