Country Programs
Asia’s two most populous countries, India and China, each have their own research programs to breed nutrient-rich crops to reduce malnutrition in the region.

HarvestPlus China
HarvestPlus China was formed in 2004 to foster an independent biofortification effort funded from Chinese sources, but that works collaboratively with HarvestPlus. Officers of the HarvestPlus China working group are based at the Chinese Academy of Agricultural Sciences, and a HarvestPlus China Advisory Committee has been established.

India Biofortification Program
The Indian Biofortification program has harnessed the HarvestPlus strategy with the goal of reducing micronutrient malnutrition in India. In 2007, HarvestPlus signed a memorandum of understanding (MOU) with the Government of India to collaborate on developing and disseminating more nutritious crop varieties in India.

Why Breed for Nutrition?
More than 2 billion people in developing countries suffer from the devastating health consequences of micronutrient malnutrition. Most of them live on simple diets consisting largely of micronutrient-poor staple foods. HarvestPlus seeks to improve human nutrition by breeding new varieties of staple food crops that are rich in micronutrients such as iron, zinc and vitamin A. The HarvestPlus strategy has three main advantages:

- It targets poor people who live mostly in rural or remote regions of the world, where it complements urban-based strategies such as supplementation and/or fortification.
- It is a cost-effective approach. Once biofortified crops are developed, they can be distributed and grown by farmers, year after year, and adapted to other regions at low cost.
- It is sustainable. By improving the nutritional content of the staple foods that poor people already grow and eat, biofortification delivers micronutrients using familiar foods.

HarvestPlus is a global alliance of research institutions and implementing agencies that are working together to breed and disseminate crops for better nutrition. It is coordinated by the International Center for Tropical Agriculture (CIAT) and the International Food Policy Research Institute (IFPRI). HarvestPlus is an initiative of the Consultative Group on International Agricultural Research (CGIAR).
Increasing Micronutrients in Staple Foods

According to the World Food Programme, most of the world’s hungry people live in Asia where micronutrient deficiencies are especially serious. Millions of people are at risk of disease from zinc deficiency; children succumb to illness, and can even go blind, from lack of vitamin A; and huge numbers of women, children, and men are weakened by iron deficiency anemia.

- More than 315 million South and Southeast Asians are estimated to suffer from anemia, often due to iron deficiency.

- More than 30% of South and Southeast Asian children under 5 years of age are vitamin A-deficient.

- In South Asia, the prevalence of zinc deficiency in children under 5 years of age is almost 80%.

HarvestPlus envisions that in 15 years, millions of people in poor countries suffering from micronutrient malnutrition will be eating biofortified micronutrient-rich crops.

Products

More than 90% of the world’s rice is grown and consumed in Asia. Wheat is the second largest consumed crop in Asia, after rice, and is the mainstay of diets in West Asia. These two staple crops are the focus of HarvestPlus research in the region. Unlike rice and wheat, pearl millet is not a mega-staple in Asia. However, it is an important staple food in drier regions of India where it is grown and consumed by millions of people. HarvestPlus crops will be released by national agricultural research systems, in selected countries, through pilot programs that support seeds systems in making these new varieties available to farmers and that will increase consumer demand for micronutrient-rich crops and foods.

Lessons learned from first-release countries will be applied to deliver biofortified crops in spillover countries with similar agroecologies and where the biofortified crops can also improve nutrition.

Pearl Millet with Iron (Zinc)
First planned release: India.
Spillover countries: Mali, Niger.

Rice with Zinc (Iron)
First planned release: Bangladesh, India.
Spillover countries: Indonesia, Philippines, Vietnam, Cambodia.

Wheat with Zinc (Iron)
First planned release: India, Pakistan.
Spillover countries: Bangladesh, Nepal, Afghanistan, Egypt, northwestern Mexico.

These generous donors support HarvestPlus

- Asian Development Bank
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- Swedish International Development Agency
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- The World Bank