

## Ultra Rice® Technology

### Health need

Billions of people suffer from micronutrient malnutrition, a factor that substantially contributes to the global burden of disease, affects the development of young children, and dramatically reduces the productivity of entire populations.

### Technology solution

PATH's Ultra Rice technology is a culturally appropriate and cost-effective micronutrient delivery system that packs vitamins and minerals, including iron, zinc, thiamin, vitamin A, folic acid, and other B vitamins, into extruded grains made from a rice flour base. Grains fortified using the Ultra Rice technology resemble traditional rice in size, shape, and color. When blended with milled rice, typically at a 1:100 ratio, the resulting fortified rice is nearly identical to unfortified rice in aroma, taste, and texture. Since the micronutrients are inside the grains, they are less vulnerable to nutrient loss during transport, storage, preparation, and cooking.

### Current status and results

PATH's Rice Fortification project is focused on expanding its evidence base, developing new markets, and broadening adoption of fortified rice on a global scale.

In India, PATH has licensed the technology to a local manufacturer that is producing high-quality, low-cost fortified grains. This blend is currently being introduced into local school meal programs through collaborative efforts with the World Food Programme (WFP).

In Brazil, PATH is working with rice millers to provide access to affordable, quality fortified rice through retail stores throughout the country. PATH has also helped establish a fortification center of excellence at the Federal University of Viçosa (UFV). UFV will provide technical support to rice millers in Brazil and other countries and ensure the quality of fortified rice production throughout the supply chain.

In Burundi and Cambodia, PATH is working with WFP and other partners to document the operational feasibility and developmental impact of incorporating fortified rice into school meal programs through food aid channels. The results of these field studies will provide the basis for inclusion of fortified rice on the approved United States food aid commodity list and will support expanded use of rice fortification within WFP's global programs.

In Mali, PATH is collaborating with Malô Traders, a start-up social enterprise that is finding widespread market acceptance of fortified rice.

PATH has also designed a small-scale blender that will enable community mills to cost-effectively fortify their rice directly after milling. Thirty-two of these will be sent to Vietnam for field testing.

PATH will soon begin market introduction efforts for fortified rice in Myanmar, while generating new growth opportunities for players in the rice value chain.

*Ultra Rice is a registered US trademark of Bon Dente International, Inc.*



PATH/Heng Chitwan

**Ultra Rice is an innovative technology to address micronutrient deficiency.**

### Research highlights

- Fortified rice was more effective than iron drop supplements at improving the iron status of children aged 6 to 24 months in the southwest region of Brazil.
- School children in India between the ages of 5 and 12 years who consumed fortified rice showed a significant increase in iron stores and a reduction in the incidence of morbidities compared to a control group.
- Anemia prevalence dropped by 80 percent in Mexican women who consumed fortified rice compared to women in a control group who experienced no decrease.

### Availability

For more information regarding this project, contact Corwyn Ellison at [cellison@path.org](mailto:cellison@path.org).

### Donor support

Funding for this project has been provided by the Abbott Fund, the Bill & Melinda Gates Foundation, DSM Nutritional Products, Global Alliance for Improved Nutrition, United States Department of Agriculture Foreign Agricultural Service, United States Department of Agriculture National Institute of Food and Agriculture.