



2019 GiveWell Grants for Global Health and Development in Southeast Asia and Bangladesh

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Dear GiveWell,

Thank you for the opportunity to offer a submission to GiveWell's current open call for Grants for Global Health and Development in Southeast Asia and Bangladesh. We are excited to submit this application related to expanding PATH's fortified rice program in Myanmar. Below, please find PATH's responses to the application questions.

What does the charity do?

PATH is a global organization that works to accelerate health equity by bringing together public institutions, businesses, social enterprises, and investors to solve the world's most pressing health challenges. Our team of innovators comprises more than 1,500 employees in offices in 20 countries. With expertise in science, health, economics, technology, advocacy, and dozens of other specialties, PATH develops and scales solutions—including vaccines, drugs, devices, diagnostics, and innovative approaches to strengthening health systems worldwide. We work in more than 70 countries to transform bold ideas into sustainable solutions that improve health and well-being for all, reaching more than 150 million people, on average, each year.

For more than 20 years, PATH has pioneered and led rice fortification development and introduction as a vehicle to deliver micronutrients to vulnerable populations in Asia, Latin America, and Africa. PATH's Ultra Rice® fortification technology packs vitamins and minerals into extruded rice grains made from rice flour. When these grains are blended with traditional rice, the result is fortified rice that is nearly identical to regular rice in aroma, taste, and texture. Our efforts in rice fortification have spanned research and product development, building local capacity and value chains; adapting formulations to local priorities, regulations, and preferences; leveraging public- and private-sector distribution channels; and developing category branding, quality management, social marketing, and governance frameworks for fortified rice. Today, PATH's Ultra Rice program is continuing its focus on expanding its evidence base, developing markets, and broadening market introduction. Ultra Rice has successfully penetrated the US Department of Agriculture's food aid market and is now programmed in multiple countries across Asia and Africa, reaching millions of people through these channels.

In Myanmar, malnutrition is a pressing concern, particularly among women and children. According to the [2015-16 Myanmar Demographic and Health Survey](#), more than half (57 percent) of children 6 to 59 months of age suffer from anemia and almost one-third (29 percent) are too short for their age. Iron-deficiency anemia, iodine-deficiency disorders, and vitamin A deficiency are also major nutritional problems in Myanmar, affecting the physical and cognitive development of young children. Rice is a staple food in Myanmar, with domestic consumption [estimated at 10.2 MMT](#), but it lacks many necessary vitamins and minerals found in a balanced diet. Fortifying rice is an effective way to improve nutrition without requiring people to change their daily eating habits and without introducing a genetically modified substance.

Since 2013, PATH's current rice fortification program in Myanmar has been supporting the Ministry of Health and Sports (MOHS) and National Nutrition Centre in the introduction of fortified rice in Myanmar, with funding from the Livelihoods and Food Security Fund (LIFT). This existing rice fortification project has worked toward three specific outputs: (1) a supportive policy environment for rice fortification; (2) local production and distribution of fortified rice through the private sector; and (3) demand generation for fortified rice among consumers and national/subnational agencies involved in food distribution. We also aim to create income-generating opportunities for supply chain and distribution actors by transferring the fortification technology to selected food manufacturers in Myanmar. Further, our work has helped to inform the global body of information related to rice fortification, expand this highly cost-effective intervention to additional geographies, and make fortification one of the key "proven interventions" for scale to improve nutrition.¹

What is the evidence that the program works?

More than 30 studies to date show that regular consumption of rice that is fortified using the Ultra Rice technology can help to address micronutrient deficiencies and prevent malnutrition in rice-consuming populations. Over the past decade, we have improved the formulation to enhance iron bioavailability thereby reducing the unit price to more cost effectively combat iron deficiency²⁻⁵ and anemia,^{3,6} and improve child cognition,⁷ micronutrient status,^{4,8-10} physical endurance,⁸ and school attendance rates. The impacts of PATH's work in the rice fortification sphere contributed to the development of the World Health Organization's 2018 guideline on the fortification of rice with vitamins and minerals as a public health strategy,¹¹ the implementation of [rice fortification standards in India](#), and the regional scale-up of Indian state-funded midday meal programs providing fortified rice. Our breadth of work has also led the World Food Programme (WFP) to commit to providing fortified rice (versus unfortified rice) to all WFP-sponsored school feeding programs in Southeast Asia.

What is the program's budget?

LIFT began supporting PATH's introduction of fortified rice into Myanmar in October 2013 (US\$4.6 million). Starting in March 2016, the project began reaching consumers via the commercial market and since then has reached approximately 350,000 individuals through both commercialization efforts and social safety net programs.

How would the charity use an additional \$250,000?

An additional \$250,000 would provide much needed support to PATH's fortified rice program in Southeast Asia. To both further our national-level impact and contribute to global understanding of rice fortification programs, we could undertake the following activities with funding from GiveWell:

- **Conduct demand generation activities to boost requests for fortified rice through national social safety nets in Myanmar, as well as the public sector.** Despite strong support from the Myanmar MOHS for the introduction of fortified rice in public-sector meal programs, uptake has been limited due to scattered distribution points and transportation challenges. Under this activity, PATH would provide technical assistance to support the public sector's uptake of fortified rice.
- **Introduce a new school nutrition program in Ingapu township in Ayeyarwady Region, targeting primary school children.** This region suffers from a significant burden of malnutrition—despite being the rice production hub of Myanmar. This school nutrition program would provide daily nutritious meals to school children consisting of fortified rice, pulses, and vegetables. The program also would contribute localized data to the evidence base for the nutritional benefits of fortified rice, which PATH has established through extensive peer-reviewed research.
- **Produce a systematic review of the rice fortification evidence to date.** In Myanmar, research on the impact of fortified rice is often requested by the government. This work would substantially strengthen the evidence base for fortified rice as a public health intervention and bolster the enabling environment for fortified rice in Myanmar, Southeast Asia, and beyond.

In support of this application, we have enclosed supporting documentation in a Box folder here: [REDACTED] This folder includes the following sub-folders:

- **Evidence folder:** contains supporting documentation demonstrating the evidence of the impact of fortified rice as a public health intervention.
- **Programmatic documents folder:** contains supporting documentation specific to Myanmar and PATH's fortified rice project.

Thank you in advance for your consideration of PATH's application. Please let us know if you have any questions or if we can provide further information. We look forward to hearing from you.

Sincerely,

Theresa Tamura

Director, Philanthropy

PATH

References (full publications are included in the "Evidence" folder with supporting documentation)

1. **Black et al., 2013.**
2. Radhika et al., 2011.
3. Nogueira Arcanjo et al., 2012.
4. Perignon et al., 2016.
5. Hotz et al., 2008.
6. Nogueira Arcanjo et al., 2013.
7. Fiorentino et al., 2017.
8. Thankachan et al., 2012.
9. Pinkaew et al., 2013.
10. Pinkaew et al., 2014.
11. World Health Organization, 2018.

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

