

## RICE COORDINATION

Costs (USD)    Frequency

In the last five years, technology has improved to make rice fortification effective at improving nutrition status. Yet rice fortification continues to be mostly small-scale: pilot projects, voluntary fortification with limited reach, or distribution in social safety nets. Most of the six mandatory national programs are not well implemented. This creates a low demand for quality fortified rice kernels results in high costs.

To make rice fortification financially practical, we must create more demand for fortification. When fortified rice kernel production is in high demand, the costs will drop.

In 51 countries, more than 75 grams of rice per person per day are available for human consumption, according to Food and Agriculture Organization of the United Nations (FAO). These 51 countries collectively imported 16 million tons of rice in 2011. Fortification will be practical at various points in the imported rice supply chain. The FFI immediate focus on rice fortification will be advocacy for fortified rice imports. This will help increase demand for fortified kernels which will ultimately lower the costs for all rice fortification programs.

FFI has started a rice resource sharing platform and is tracking global progress of rice fortification programs. This is done in collaboration with multiple partners such as PATH and World Food Programme. FFI has also documented a rapid, qualitative test for fortified rice, and developed a checklist for countries considering fortification of rice imports. Funds are needed to continue the work; budget estimate includes full-time rice coordinator plus travel.

100,000    Annually

## INDIA

To be Determined

## EASTERN EUROPE

Bread and pasta are commonly consumed across Europe, but very little wheat flour is fortified there. Limited funding hampers FFI's ability to respond to requests for assistance in Eastern Europe. UNICEF is a key partner in Eastern Europe, but other health interventions often are higher priorities to UNICEF staff in this region. With additional funding, FFI would provide a dedicated staff person to help selected countries in Eastern Europe make progress on planning, implementing, and monitoring wheat flour fortification programs. Country examples are Armenia, Kosovo, Moldova, and Ukraine.

140,000    Annually

## AFRICA

As of March 2016, 26 countries in Africa had legislation requiring fortification of wheat flour, and eight of these countries also mandated fortification of maize flour. This is up from only two countries (Nigeria and South Africa) with such legislation in 2002. The national requirements often include fortifying salt with iodine and cooking oil with vitamin A.

No country requires rice fortification though people in West Africa in particular consume more rice than wheat or maize flour. FFI and GAIN conducted an Africa rice supply chain assessment in 2015/2016. The next step is to execute a plan for rice fortification informed by the supply chain assessment.

500,000 Three years

Despite an increase in wheat and maize fortification programs in Africa, more resources could expedite progress in advocacy, planning, implementing, and monitoring. Countries with older standards need to review them and update them as appropriate per global recommendations. Countries for focus could be the Algeria, Democratic Republic of Congo, Egypt, Mauritius, Morocco, Nigeria, South Africa, Zambia, and Zimbabwe. This would require the work of the equivalent of two full-time employees.

200,000 Annually

## CHINA

China produced 117 million metric tons of wheat in 2011, according to FAO. With relatively minimal export volume, most of these grains are kept in China for domestic consumption. Yet fortification of wheat flour and rice has been ignored as a strategy to improve nutrition and reduce neural tube birth defects among the country's 1.3 billion people.

The first priority would be a full-time person working in China with key partners to build advocacy and support for fortification.

120,000 Annually

An analysis of the burden of disease and the industry capacity for fortification is needed for every province in China. Despite past reluctance to consider fortification, a few key leaders seem open to this option currently. A detailed landscape analysis would pinpoint the greatest opportunity for rice and wheat flour fortification to prevent nutritional anemia and neural tube birth defects. Conduct a supply chain diagnostic by province.

100,000 One-time

## PAPUA NEW GUINEA

Papua New Guinea has a national mandate for rice fortification, but the standard does not include folic acid. Also, wheat flour fortification has the potential to reach a target population here.

350,000 Three years

## **BANGLADESH**

Bangladesh has more than 300 wheat flour mills considered “industrial” meaning they have the capacity to produce at least 20 metric tons of flour a day. Yet fortification efforts in the country currently only include rice fortification – a work place benefit program and a social safety net program. Consumption of foods made with wheat flour is increasing, according to the 2010 Household Income and Expenditure Survey (HIES). Consequently a nutrition strategy for Bangladesh’s future will need to consider wheat flour fortification. FFI would hire a country coordinator to live in the country and collaborate with national leaders to build momentum for grain fortification and ensure that the elements of successful, sustainable programs are in place.

150,000 One year

## **MONGOLIA**

Mongolia has taken steps toward wheat flour fortification, and the UNICEF country office is supportive, but it is making little progress. FFI would hire a country coordinator to be based in Mongolia and collaborate with national leaders to build momentum for grain fortification and ensure that the elements of successful, sustainable programs are in place.

150,000 One year

## **LATIN AMERICA HARMONIZATION**

In 2009, the World Health Organization published recommendations for the types of iron and the concentration levels of five nutrients for wheat and maize flour fortification. Nearly every country in Latin America was fortifying grains before these recommendations were published, however. Consequently the fortification standards of many countries in this region are not using globally recognized effective forms of iron or amounts of other nutrients. This funding would allow FFI to hold two workshops (one in Spanish in South America and another in English in the Caribbean) to guide county leaders to harmonize their existing grain fortification standards with global recommendations. FFI has had such workshops in Asia, Africa, and the Middle East. The funds would also support six interns working in Latin America to review quality control measures in flour mills and with government inspectors.

230,000 Two years

## **LATIN AMERICA GRAIN SUPPLY CHAIN ANALYSIS**

In Latin America, wheat flour and maize flour fortification is common in industrial mills, but rice fortification is not commonly practiced. FFI would like to assess the opportunities for rice fortification in this region. Funds are needed to conduct rice, wheat, and maize supply chain analysis.

120,000 One-time

Annual Total 560,000  
Non-Annual Total 1,600,000

Other future staff to consider:

- Full-time training and technical support resource
- Program manager
- Development (including fund-raising) coordinator
- Cost:benefit analyst