



Food Fortification Initiative (FFI)

Vision: Smarter, stronger, healthier people worldwide by improving vitamin and mineral nutrition.

Mission: Support fortification of industrially milled cereal grains by collaborating with multi-sector partners.

Progress: Measured against a five-year strategic plan and annual work plans.

Staff: 13 people worldwide.

Global Secretariat: At Emory University with support from the US Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, USA.

Oversight: 10-member [Executive Management Team](#) representing global leaders in public health and grain industries plus observers from the CDC and World Health Organization.

Opportunity at a Glance

Reach: Improve nutrition for 146 million people in 12 African countries with fortified rice

Cost: US\$ 3,054,000

Time: Three years



Rice Fortification For Nutrition Gaps

Outside of Asia, the highest per capita consumption of rice occurs in West Africa. An FFI analysis shows that fortification of imported rice, plus the limited volume of domestically and industrially milled rice in this region, has the potential to reach 146 million people in 12 countries.¹

Eleven of the countries already have mandates to fortify salt, cooking oil, wheat flour and/or maize flour.² The nutrients used in grain fortification are different from those used in salt and oil, however, and wheat flour consumption across the region is minimal compared to rice. Fortifying rice would fill a nutrition gap not addressed by existing programs.

Two Health Burdens in West Africa

In these 12 countries, the prevalence of anemia in children ranges from 43 to 79%; among non-pregnant women the range is 27 to 57%.³ Anemia prevalence over 40% is considered a severe public health concern³ as it causes debilitating fatigue, lowers productivity, limits cognitive development and contributes to maternal deaths.

Anemia can be caused by many things, including deficiencies of iron, zinc and vitamins B9 and B12. Rice can be fortified with each of these nutrients.

In these 12 countries, the estimated prevalence of birth defects of the brain and spine, such as spina bifida and anencephaly, ranges from 13 to 28 per 10,000 births.⁴ Adequate intake of folic acid (a form of vitamin B9) could lower the prevalence to 6 per 10,000 live births.⁵ Of infants born with a birth defect of the brain or spine, 75% die before their fifth birthday.⁶

¹ Food Fortification Initiative [2016](#). The 12 countries are **Benin, Cape Verde, Comoros, Code d'Ivoire, Djibouti, Gabon, Gambia, Ghana, Guinea-Bissau, Liberia, Nigeria, and Senegal**. ² Global Fortification Data Exchange [July 2018](#)

³ World Health Organization [2015](#) ⁴ March of Dimes [2006](#) ⁵ Marchetta [2015](#)

⁶ Blencowe [2018](#) Photo by Bernd Flink @ Flickr Creative Commons

Proposal to Maximize This Opportunity

Leaders in these 12 countries have awareness and policy understanding of fortification based on experiences with salt, oil, and wheat flour. Other than Nigeria, it would not be feasible for the countries to mandate rice fortification independently due to small volumes. Instead, countries in the region need to work together to mandate fortification of rice imports and the industrially milled domestically produced rice.

FFI proposes tapping into existing networks throughout West Africa and coordinating efforts to integrate mandatory rice fortification into existing food fortification programs. Activities and milestones would occur in phases over three years.

Baseline, months 1 – 6

Activities

- Develop advocacy and knowledge toolkits for exporting and importing countries
- Assess export supply chains in India, Thailand, Viet Nam, and Pakistan to understand where the raw materials and logistics would make fortification most cost effective
- Develop and promote minimum nutrient standards for importing countries
- Deepen linkages with regional and national bodies
- Engage governments to add rice fortification into policies and legislation

Milestones

- Export supply chain analyses in selected rice origin countries
- Advocacy and knowledge toolkit developed and finalized

Engagement, months 7 - 18

Activities

- Plan, coordinate and hold meetings for policy makers in importing countries; map legislative process
- Raise awareness with public/private/civic sector partners and provide technical assistance as necessary
- Assess national import control systems
- Develop and activate communications strategy
- Add rice fortification to regional and national nutrition agendas by increasing awareness at targeted nutrition-related events

Milestone

- Commitment from country governments for national and regional legislative action plans for mandatory rice fortification

Strategy implementation, months 19-36

Activities

- Support local partners and policy makers to introduce mandatory fortification
- Conduct training to support a robust regulatory monitoring system
- Provide technical assistance to rice importers and national rice millers developing industrial capacity
- Identify gaps and opportunities for improved import control

Milestones

- Mandatory legislation
- Effective national / regional standards
- Regulatory monitoring systems
- Implementation of fortified rice

Learn More

The Food Fortification Initiative (FFI) helps countries promote, plan, implement, and monitor sustainable grain fortification programs. To learn more, e-mail info@ffinetwork.org or visit www.FFInetwork.org.

Donations can be made via [GiveWell](https://www.givewell.com), which ranks FFI as one of seven “standout charities ” or the [CDC Foundation](https://www.cdc.gov/fundations/), a US based 501(c)(3) public charity which serves as FFI’s grant administrator.