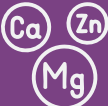




Summary

Food fortification is the deliberate addition of one or more essential micronutrients (vitamins and minerals) to foodstuffs during processing, with the aim of preventing or correcting widespread nutrient deficiencies in a population. It is a cost-effective public health intervention that complements dietary diversification, supplementation, and other nutrition strategies. Helen Keller Intl is one of the leading global organizations supporting the design, implementation, and evaluation of large-scale food fortification programs, with active operations in Africa and Asia, Nigeria, Senegal, Kenya, Mozambique, Burkina Faso, Bangladesh, Cambodia, Nepal and Philippines.

Objective and Public-Health Rationale

 Prevent and reduce micronutrient deficiencies (e.g. iron, iodine, vitamin A, folic acid, zinc) at population level.	 Improve maternal, infant, and child health by reducing anemia, neural tube defects, and other micronutrient-related morbidities.	 Reach broad sections of the population, including those with limited access to diverse diets or health services.
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Types of fortification

 Largescale (mass) fortification: addition of micronutrients to widely consumed staples or condiments (e.g., flour, oil, salt, sugar, bouillon cubes).	 Targeted fortification: for specific population groups (e.g. complementary foods, therapeutic foods).
 Point-of-use (home) fortification: small sachets or powders (micronutrient powders MNPs) added at household level.	 Biofortification: breeding crops to contain higher micronutrient levels (e.g., vitamin A-rich maize, iron-rich beans).

Commonly fortified nutrients and health rationale

Nutrient	Health Benefit	Typical Food Vehicles
Iodine	Prevents goiter, supports brain development	Salt
Iron	Reduces anemia, supports cognitive development	Flour, bouillon cubes, rice
Folic Acid	Prevents neural tube defects	Wheat/maize flour
Vitamin A	Prevents blindness, boosts immunity	Oil, sugar, bouillon cubes
Vitamin D	Supports bone health	Milk, Oil
Zinc	Promotes immunity and growth	Flour, Blended foods
Multiple Micronutrients	Addresses combined deficiencies	MNPs, fortified blends, bouillon cubes*

* Micronutrient fortification bouillon being piloted in Nigeria by Helen Keller Intl with Gates Foundation funding

Questions to guide identification of fortifiable food vehicles

Which foods are consumed regularly by most of the population, including rural and low-income households?

- 1 Are these foods centrally processed by a limited number of producers or processors?
- 2 Does the selected food vehicle have stable nutrient retention during storage and cooking?
- 3 Is the fortificant compatible with the food matrix without altering taste, color, or texture?
- 4 Can fortification be implemented cost-effectively without significant price increases for consumers?
- 5 Is the fortification technology and premix supply chain accessible locally?
- 6 Does the chosen vehicle align with national fortification policies and existing food laws?

Role of Helen Keller Intl in food fortification

Helen Keller Intl has over 40 years of technical leadership in nutrition interventions globally. We do the following: -

Provide technical assistance to governments and industries for fortification program design and quality assurance

Support advocacy and policy development for mandatory fortification of key staples and condiments.

Build capacity for millers and regulators in quality control and compliance monitoring.

Conducts social and behavior change communication (SBCC) to improve public awareness and acceptance of fortified foods.

Facilitate research and evaluation to assess coverage, compliance, and impact of fortification programs.

Work in partnership with global initiatives such as GAIN, UNICEF, and the Food Fortification Initiative to strengthen national systems

Evidence of Impact

- 1 Salt iodization has virtually eliminated iodine deficiency disorders in many countries with Helen Keller Intl's support.
- 2 Helen Keller Intl-supported vitamin A fortification of oil and ,
- 3 Fortified flour programs supported by Helen Keller Intl and partners have contributed to reductions in neural tube defects and anemia prevalence.

Key Takeaway

Food fortification remains one of the most impactful and sustainable strategies to reduce micronutrient deficiencies. Helen Keller Intl multisectoral approach combining evidence-based advocacy, industry partnerships, and community engagement ensures fortification programs are both technically sound and socially accepted.

- For additional resources, consult: World Health Organization & Food and Agriculture Organization of the United Nations — Guidelines on Food Fortification with Micronutrients (2006)
PDF: https://apps.who.int/iris/bitstream/handle/10665/43412/9241594012_eng.pdf apps.who.int+1
- Global Alliance for Improved Nutrition (GAIN) — Fortification Resource Hub / Large-Scale Food Fortification page Website: <https://www.gainhealth.org/impact/programmes/food-fortification/large-scale-food-fortification> GAIN+1
- Food Fortification Initiative (FFI) & Global Fortification Data Exchange (GFDx)
FFI website: <https://ffinetwork.org/> ffinetwork.org+1
GFDx website: <https://www.fortificationdata.org/>