

137 Modernise the Micronutrient Value Chain by Improving Data Access and Use to Accelerate Effective Coverage of Large-Scale Staple Food Fortification Programmes

The Solution: The solution proposes to tackle head-on the lack of essential vitamins and minerals in the daily diet of vulnerable populations through modernising data generation and use for the development of evidence-based fortification standards, building the capacity of government and the private sector to monitor and enforce these standards, developing new tools and approaches to accelerate progress, empowering global advocacy, and equipping civil society to hold government and industry accountable.

Source(s) of the Solution: The institutions that have contributed to shaping this gamechanger are: Bill & Melinda Gates Foundation (BMGF), Food Fortification Initiative, GAIN, Helen Keller International, International Zinc Nutrition Consultative Group, Iodine Global Network, Micronutrient Forum, Nutrition International, PATH, UNICEF, USAID, and World Food Programme. The solution draws on a series of discussions convened through the Global Fortification Technical Advisory Group (GF TAG), as well as from the BMGF nutrition strategy refresh and the new USAID Large-Scale Food Fortification Results Framework (both currently in-process). This solution is also aligned with other proposed solutions in FSS AT1 focusing on biofortification, anaemia and data: The data initiative described here would assist countries in coordinating LSFF and biofortification as part of a comprehensive national strategy to combat micronutrient malnutrition; LSFF would contribute to the proposed Anaemia Alliance, as LSFF can combat iron deficiency at scale through fortification of rice and flours; and the data collected under this solution could feed into the micronutrient data gap workstream of the 'Digital Data Cornucopia' solution.

Problem addressed within food systems: Micronutrient deficiencies and malnutrition are an enormous global challenge, undermining health, survival, and child development, and costing the global economy billions in lost productivity and health care expenses each year. Anaemia is estimated to contribute to 20% of maternal deaths and a large proportion can be attributed to iron deficiency, 250-500 million children are blind because of vitamin A deficiency, and more than 500 million individuals in Southeast Asia are estimated to have inadequate iodine status that is associated with risk of impaired mental function. One of the most cost-effective, scientifically proven interventions to address this global challenge through the food system is large-scale food fortification (LSFF).

LSFF enriches the micronutrient content of commonly consumed staple foods by adding essential vitamins and minerals during processing. Commonly fortified staple foods include salt, flours, rice, cooking oil, and dairy products. LSFF works across large populations to prevent and reduce micronutrient deficiencies by making everyday foods more nutritious, complementing efforts to diversify diets and increase production and consumption of fruits, vegetables, and animal-source foods. Given its potential for impact and the number of countries that have not adopted fortification programs and policies, LSFF is hugely underutilised globally. Even where sufficient conditions exist to fortify at scale and at low cost, coverage of adequately fortified food is uneven.

In LMICs, a lack of national and subnational, disaggregated data regarding the prevalence and impact of micronutrient deficiencies as well as a lack of transparent data regarding the quality and impact of LSFF hinder government decision-making. This prevents bottlenecks from being identified and addressed in a timely manner, stifles innovation, denies businesses a level playing field, undermines government and industry accountability, and makes it impossible to track and build on success. Systematically addressing data gaps and prioritising investment in the focus areas identified below will support the ability of government, industry, civil society, donors, and development partners to work together to maximise the impact and effectiveness of LSFF.

How this solution will address that problem: This solution proposes to catalyse progress and accelerate the impact of LSFF in LMICs by revitalising the collection, analysis, and dissemination of data relevant to LSFF and by prioritising and increasing investment in LSFF to utilise this data across four key focus areas:

Standards and Regulations: With increased access to timely data on micronutrient status and consumption, governments can review national dietary guidelines, decide how to incorporate fortified foods into national strategies, and assess the appropriate level and type of fortification by food vehicle. Improved data will enable regional cooperation to harmonise standards and regulations across borders, facilitating trade and creating market efficiencies.

Monitoring and Enforcement: Public regulatory agencies often lack capacity, resources, and data to adequately enforce LSFF mandates. Increased investment to develop better, more cost-effective monitoring tools for industry is needed as is additional investment to build the capacity of government and industry to ensure regulation is efficient and effective. Commitment by these same stakeholders is needed to pilot new monitoring tools, use the data to diagnose and address problems and bottlenecks, and document and share learning so that successful approaches can be adopted and scaled up elsewhere.

Innovation, Research, and Development: Better data on LSFF bottlenecks from government and industry will help to inform the next generation of LSFF solutions, including new food vehicles and improved processing, packaging, data platforms, financing, and marketing. Improved data can be leveraged to inspire and inform new investment in R&D and innovation by a range of stakeholders, including donors, NGOs, governments, researchers, food producers, and other businesses. These efforts will be catalysed by donor and development partner investments, business interests, and civil society pressure.

Advocacy and Accountability: Timely and accessible data on fortification quality equip civil society to drive compliance and accountability of national fortification programmes through strategic use of media and coordinated action at national level. This aspect of the solution is about using compliance data to hold government and industry accountable through coalition-building with national non-government stakeholders (consumer associations, public health advocates, and others) and investment to elevate their voices and build their power through enhanced coordination, communications support, and capacity building.

Under this solution, improved access to timely micronutrient data will be facilitated by:

- Enhanced collection of market and household data to assess availability of adequately fortified foods and contributions of fortification to addressing dietary inadequacies
- Improved record keeping, surveillance at production facilities and border entry points, and more effective regulation and data collection at the factory level
- Increased use of modelling to provide actionable and timely information for government officials, donors, and other stakeholders
- Piloting and scaling up the use of low-cost, digitally connected analytical devices to capture fortification quality data and trusted platforms to share data more efficiently and securely.

Solution's alignment to the 'game changing and systemic solution' criteria:

Impact potential at scale: LSFF is one of the most cost-effective food system interventions to combat micronutrient malnutrition. For example, 88% of the global population (around 6 billion people) consume iodised salt. As a result, the number of countries with high levels of iodine deficiency has declined from over 110 in 1990 to 20 today. This success could be replicated with other nutrients and other widely consumed food vehicles.

Actionability: Over 140 countries currently mandate fortification of one or more food vehicles, indicating strong, widespread political support for the inclusion of LSFF in national nutrition strategies.

Sustainability: The success of salt iodisation to dramatically reduce iodine deficiency in LMICs over the past 30 years speaks to the potential impact and sustainability of LSFF as an approach.

Existing evidence: A recent systematic review of 50 studies indicates the impact of LSFF in LMICs: food fortification programs with iodine, folic acid, vitamin A and iron have led to dramatic reductions in serious disease. An estimated 2 billion people are affected by micronutrient deficiencies. Increasing access to adequately fortified foods would address preventable death and disability that is linked to micronutrient deficiency.

Current/likely political support: LSFF has emerged as a priority area in several national food systems dialogues. Independent dialogues on fortification have been held or are being planned in Bangladesh, Cambodia, Ethiopia, Kenya, Mozambique, Nigeria, and Pakistan, with high-level government participation. A solution proposal on rice fortification is anticipated from India. LSFF solution proposals are also under consideration in Indonesia and Pakistan.

Contexts where this is well/not well suited: LSFF is well-suited for contexts in which one or more staple foods are centrally processed by a modest number of large or medium-sized producers or for contexts where the overall trend is towards market consolidation.