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# FOOD FORTIFICATION IN KENYA

Policy Brief





## BACKGROUND

Kenya has made considerable progress towards achieving some of the World Health Assembly 2025 targets including reducing stunting and wasting, and strengthening exclusive breastfeeding (EBF).<sup>1</sup> From 2008 to 2014, the stunting prevalence decreased from 35 percent to 26 percent; wasting decreased from 7 percent to 4 percent; and EBF increased from 32 percent to 61 percent.<sup>2</sup>

Despite this progress, micronutrient deficiencies remain a public health concern, especially for Kenya's women and children. The most common deficiencies among the Kenyan population are those of iron, folate, zinc, iodine and vitamin A.<sup>3</sup> About one third of children aged 6-59 months and 42 percent of pregnant women are anaemic. Vitamin A Deficiency (VAD) and marginal VAD among preschool children is at 9.2 percent and 52.6 percent, respectively. The prevalence of zinc deficiency is also high at 83.3 percent among children

6-59 months of age and 68.3 percent for pregnant women. The prevalence of other types of nutritional anaemia, such as folate and vitamin B12 deficiency, is 31.5 percent and 47.7 percent respectively among non-pregnant adolescent girls aged 15-19 years.<sup>3,4</sup>

Micronutrient deficiencies have an adverse impact on health outcomes. Maternal anaemia is associated with mortality and morbidity of the mother and baby, including risk of miscarriage, stillbirth, prematurity and low birth weight.<sup>5</sup> In children, iron deficiency anaemia impairs development and learning.<sup>6</sup> A lack of vitamin A weakens the immune system, putting a child at greater risk of disease and premature death. For pregnant women, folate insufficiency can cause neural tube defects in fetuses. Iodine deficiency can lead to mental impairment, and zinc deficiency decreases resistance to infections and impairs childhood growth.<sup>6</sup> These micronutrient deficiencies

can greatly reduce the productive capacity of an individual and entire populations, which hampers economic growth at the community, sub-national and national levels.

The Government of Kenya has put in place four strategies to prevent, control and manage micronutrient deficiencies: dietary diversification, food fortification, micronutrient supplementation, and disease prevention measures such as parasitic infection control, water, sanitation and hygiene (WASH), health education and counselling.

Food insecurity also affects diet quality and hinders nutrient intake.<sup>7</sup> Despite the significant progress that has been made to increase food production and reduce food insecurity in the country over the last 30 years, achieving sustainable food security for all remains a challenge.<sup>5</sup> About 19 percent of the Kenyan population is severely food insecure.<sup>8</sup>

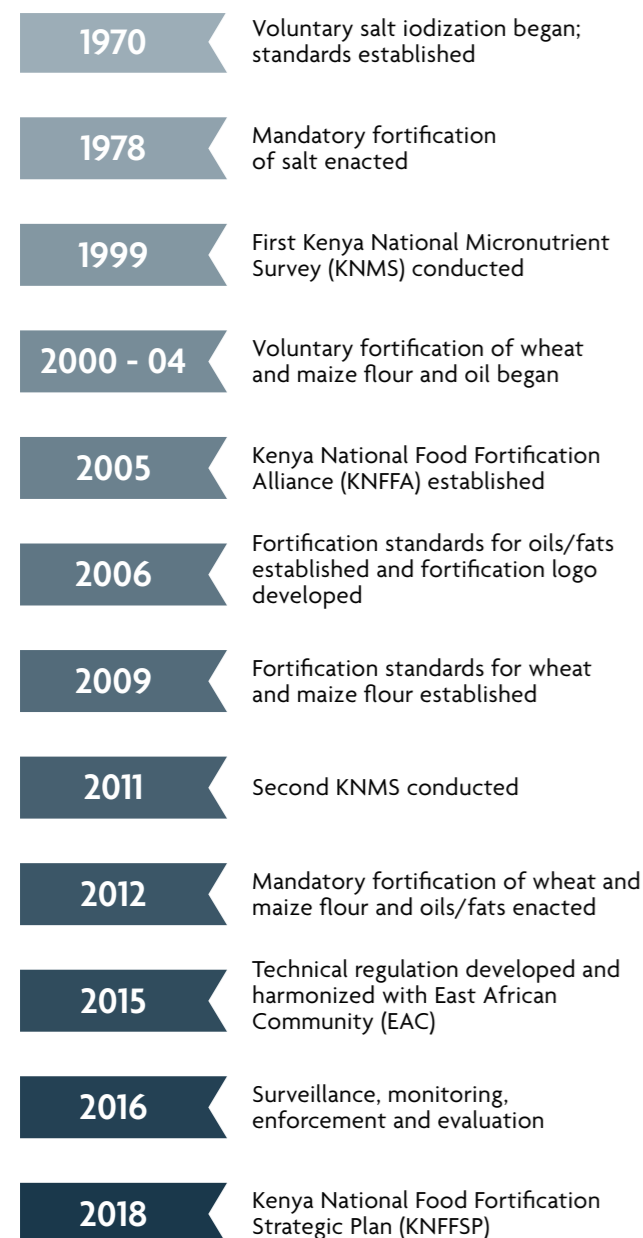
Food fortification is a valuable public health strategy to help fill nutrient gaps in diets and control micronutrient deficiencies. The Government of Kenya adopted food fortification as an efficient, long-term means of facilitating adequate micronutrient intake. Food fortification—a process of adding select micronutrients to commonly consumed staple foods—is an effective intervention to reduce micronutrient deficiencies by improving the nutritional quality of the food supply with minimal risk to health.<sup>9</sup> It is a cost-effective<sup>10</sup> food-based approach with high population coverage.

A 2019 systematic review and meta-analysis showed that large scale food fortification with iron and folic acid lead to a 34 percent reduction in anaemia and 41 percent reduction in the odds of neural tube defects in low- and middle-income countries.<sup>11</sup>



# OVERVIEW OF FOOD FORTIFICATION IN KENYA

Figure 1: Timeline of Food Fortification in Kenya



In Kenya, food fortification started with voluntary salt iodization in 1972 after a survey carried out in 1962-64 reported very high goitre rates. In 1978, salt iodization was made mandatory and subsequently, there was a significant drop in the prevalence of goitre.<sup>12</sup> Building upon this success, Kenya has continued to make progress in all implementation components of the food fortification program: **governance, production, regulatory monitoring, demand creation, and monitoring and evaluation.**<sup>12</sup>

**Governance** encompasses the creation of a conducive policy environment, sustainability of the fortification program, and coordination of actors. In 2005, the Kenya National Food Fortification Alliance (KNFFA) was formed to spearhead planning, implementation, and monitoring of fortification initiatives in the country, guide public-private sector coordination, and advocate to policymakers for greater attention to fortification. Members included Kenya Ministry of Health;<sup>i</sup> Kenya Bureau of Standards (KEBS); research institutions;<sup>ii</sup> development partners;<sup>iii</sup> UN agencies;<sup>iv</sup> umbrella bodies for cereal millers, salt and oil industries; and consumer organizations.

By 2012, fortification standards had been set and legislation passed for mandatory fortification of maize, wheat, and oil.<sup>v</sup> The timeline in Figure 1 highlights key milestones of the advancement of food fortification in Kenya.

i Ministry of Health representation included Division of Nutrition and Dietetics, Division of Food Safety, and the National Public Health Laboratory

ii Kenya Medical Research Institute and the Jomo Kenyatta University of Agriculture and Technology (JKUAT)

iii Nutrition International and the Global Alliance for Improved Nutrition (GAIN)

iv United Nations Children's Fund (UNICEF) and the World Food Programme

v In Kenya, all packaged wheat and maize flour are fortified with iron, zinc, folic acid, vitamins A, B1, B2, B3, B6 and B12. Edible oils/fats are fortified with vitamin A.



The Kenya food fortification program logo helps consumers easily identify fortified foods in the market.







**Figure 2: The 2018 launch of the Kenya National Fortification Strategic Plan**

**Production** focuses on improving technical and infrastructural capacity to enhance production and access to adequately fortified foods. With support from various partners including Nutrition International, a national fortification program has been implemented in Kenya to improve fortification capacity of small- and medium-size maize millers, and increase coverage and reach of fortified maize flour. The number of registered food industries complying with mandatory fortification has steadily increased over the last decade<sup>i</sup>, although the slow adoption of fortification by small- and medium-size maize millers remains a challenge.

**Regulatory monitoring** refers to quality assurance and control to ensure production of high quality, safe, and adequately fortified food. This is done internally by industries and externally by regulatory agencies at the factory and market levels. According to a market surveillance report conducted by KEBS and the Division of Food Safety in 2017, 80 percent of wheat, 37 percent of maize flour, 87 percent of cooking oil, and over 99 percent of salt is fortified in Kenya.<sup>12</sup> However compliance to national standards for the level of each fortificant (micronutrient) remains

poor and there is weak enforcement of the standards and regulations.<sup>12</sup> For example, the same market surveillance report revealed that only 2 percent of the 177 maize samples tested showed compliance to all regulatory requirements for three fortificants that were assessed (iron, zinc and vitamin A).

**Demand creation** increases consumer awareness and knowledge of fortified foods through Behaviour Change Communication (BCC) to promote consumption. A National Social Marketing and Communication Strategy for Food Fortification was developed in 2015 to guide the implementation of BCC activities by various actors.

**Monitoring and evaluation** tracks the provision, access, utilization, and population reach of fortified foods by individuals as well as public health impact (change in nutritional or health status within the target population that can be attributed to the fortification program). Progress monitoring activities, including National Micronutrient Surveys conducted every 10 years and Demographic and Health surveys conducted every five years—are carried out with support from various partners including Nutrition International.

**Essential to the success of food fortification in Kenya is a supportive policy and planning framework within which to implement, standardize, and regulate fortification. Key components of the policy environment in Kenya are as follows:**

- **East Africa Standards on fortified food products**

The East, Central and Southern Africa Health Community<sup>i</sup> (ECSA-HC) passed a resolution in 2002 directing the Secretariat to work with the countries to fortify commonly consumed foods after recognizing the high levels of malnutrition in the region. In Kenya, the Food, Drugs and Chemical Substances Act (254 of Laws of Kenya)<sup>13</sup> was amended in 2012 and 2015, to provide for mandatory fortification of food staples and harmonization of standards and specifications for labelling of fortified foods in accordance with East African Community standards.<sup>14</sup>

- **National Food and Nutrition Security Policy and the implementation framework**

The National Food and Nutrition Security Policy (NFNSP) under the Agricultural Sector Coordination Unit provides an overarching framework covering the multiple dimensions of food security and nutrition improvement. The NFNSP and its implementation framework (2017-22)<sup>15</sup> identifies food fortification as a major intervention for addressing micronutrient deficiency in Kenya.

- **Kenya Nutrition Action Plan**

The Kenya Nutrition Action Plan (2018-2022)<sup>16</sup> provides a framework for coordinating multisectoral collaborations to address malnutrition in Kenya. The strategic plan prioritizes promotion of

dietary diversification, supplementation, and food fortification as key result areas. The Action Plan highlights key milestones of food fortification in Kenya, including longstanding contributions by Nutrition International and other partners toward advancing the agenda, and outlines future directions in implementation of the fortification policy.

- **Kenya National Food Fortification Strategic Plan**

Through the support of Nutrition International, the KNFFA with the Ministry of Health mobilized in-country and regional technical guidance to develop Kenya National Food Fortification Strategic Plan (KNFFSP) 2018-2022.<sup>12</sup> The first of its kind, the Plan provides long-term strategic direction and coordination to the KNFFA and food fortification partners in Kenya, serving as an anchor for investment and action. The KNFFSP is aligned with government policy documents including Vision 2030<sup>17</sup> and the Kenya Health Policy 2014-2030 which aims to achieve “the highest possible health standards in a manner responsive to the population needs” through supporting provision of equitable, affordable and quality health and related services to all Kenyans.<sup>18</sup> The KNFFSP was launched in 2018 during the National Fortification Summit (Figure 2).

i See the Ministry of Public Health’s Nutrition and Dietetic Unit overview of food fortification at: <https://www.nutritionhealth.or.ke/programmes/micronutrient-deficiency-control/food-fortification/>

i ECSA-HC is an intergovernmental organization that fosters cooperation in health among countries in the East, Central and Southern African Region. More info available here: <https://ecsahc.org>





## NUTRITION INTERNATIONAL'S CONTRIBUTION TO FORTIFICATION PROGRESS

Nutrition International, along with other global partners, has made key contributions toward improving the enabling environment to help achieve the objectives of the KNFFSP and ensure the success of food fortification in Kenya.

- **Coordination:** Nutrition International facilitates regular meetings of KNFFA and its sub-committees (policy and advocacy, product delivery, social marketing and communication, and monitoring and evaluation). Now there is better stakeholder coordination and strategic direction at the national level and among partners.
- **Research:** In addition to supporting the National Micronutrient Surveys, Nutrition International conducted studies on the status of food fortification and mapping of small- and medium-size maize millers in 2016-17. These studies have highlighted the gaps in fortification and informed food fortification strategy in Kenya.
- **Production:** Nutrition International partnered with TechnoServe to establish a business model to promote adoption of fortification by small- and medium-size maize industries. This has been achieved through project SIMA<sup>i</sup> and results show improved compliance and increased production of adequately fortified maize flour among medium-size maize millers.
- **Regulatory monitoring:** As of early 2020, Nutrition International, in collaboration with the Ministry of Health Food Safety Division, has developed capacity of 280 public health officers on regulatory monitoring and market level surveillance of fortified foods. This has improved enforcement of the fortification standards and regulations at county level and border points of entry.



**“The need to solicit sustained financing from government and partners for planning, implementation and monitoring of programme activities cannot be overemphasized.”**

**– Kenya National Food Fortification Strategic Plan 2018-2022**

<sup>i</sup> The objective of Project SIMA is to strengthen capacity of medium-size maize millers to improve (or start) fortifying maize flour with micronutrients as stipulated in the Kenya fortification legislation. By promoting adoption of cost-effective fortification practices, ongoing adherence to fortification standards is possible. Project SIMA also helps finance the adoption of more advanced fortification technologies and inputs, expanding their product reach, and improving their operational capacities and efficiencies. More information here: <https://www.technoserve.org/blog/addressing-chronic-malnutrition-through-food-fortification/>



## WHAT'S NEXT FOR FOOD FORTIFICATION IN KENYA?

Through the KNFFA, Nutrition International and other stakeholders continue to seek collaboration with key fortification partners at the national and sub-national levels to sustain the gains achieved by:

- **Enhancing the policy environment** through advocacy for implementation of national food and nutrition security policy framework and passing of the Food Security Bill<sup>i</sup> into law.
- **Strengthening enforcement** of regulations at industry and market level for increased compliance to fortification standards.
- **Improving political support** for fortification and increased budget allocation for fortification interventions in national and county development plans.
- **Improving availability of adequately fortified maize flour:**
  - » Building the capacity of the umbrella medium-size miller's association (UGMA<sup>ii</sup>) to raise awareness that it can use collective bargaining to obtain fortification equipment.
  - » Strengthening regulatory frameworks at the market and mill levels to pre-approve fortification input suppliers (of premixes and fortification equipment) and ensure industry requirements are always met; disseminating the KEBS-developed standard for premix formulation.
- » Building the capacity of public health laboratories at the national and regional levels to test the adequacy of fortified flour.
- » Developing innovative technologies and services that will allow industries to enhance their fortification programs.
- » Advocating for tax exemptions for food fortificants to make them readily available and affordable to the small millers, and keep the cost of fortified food low.
- **Generating public demand for fortified foods.** There is suboptimal consumer awareness of the value of choosing fortified foods. More understanding is needed on consumer knowledge, attitudes, and practices for the purchase and consumption of fortified foods. Consumer awareness can be increased by updating and disseminating the National Social Marketing and Communication Strategy for Food Fortification.
- **Strengthening monitoring and evaluation** by conducting regular micronutrient surveys and surveillance to generate reliable evidence on provision, coverage, and consumption of fortified foods among the population.

i If passed into law by Parliament, the Food Security Bill will give effect to Article 43(1)(c) of the Constitution on the freedom from hunger and the right to adequate food of acceptable quality, and Article 53(1)(c) of the Constitution on the right of every child to basic nutrition. The draft bill can be accessed at [http://kenyalaw.org/kl/fileadmin/pdfdownloads/bills/2017/FoodSecurityBill\\_2017.pdf](http://kenyalaw.org/kl/fileadmin/pdfdownloads/bills/2017/FoodSecurityBill_2017.pdf)

ii United Grain Millers Association (UGMA)



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## ABOUT US

Since 2006, Nutrition International Kenya has worked with government (national and sub-national), to support research, policy development and implementation of low-cost, high-impact nutrition interventions in the country.

Founded in 1992, Nutrition International is a global organization dedicated to delivering proven nutrition interventions to those who need them most. Working in partnership with countries, donors and implementers, our experts conduct cutting-edge nutrition research, support critical policy formulation, and integrate nutrition into broader development programs. In more than 60 countries, primarily in Asia and Africa, Nutrition International nourishes people to nourish life. Two of our programs include Right Start<sup>i</sup> and ENRICH<sup>ii</sup>, both funded by the Government of Canada through Global Affairs Canada.

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i The Right Start Initiative reaches nine countries in Asia and Africa with the goal of improving the quality of nutrition for 100 million adolescent girls and women of reproductive age. In Kenya, Nutrition International is investing CAD\$9.1M over five years to 2020.

ii Enhancing Nutrition Services to Improve Maternal and Child Health (ENRICH) is a five-year program (2016-2020) implemented by World Vision Canada, Nutrition International, HarvestPlus, the Canadian Society for International Health, and the University of Toronto's Dalla Lana School of Public Health, covering targeted areas in Kenya, Tanzania, Bangladesh and Myanmar.