

MASS SCALE FOOD FORTIFICATION PLANS IN PAKISTAN

CURRENT NUTRITION SITUATION IN PAKISTAN

Pakistan still face triple burden of diseases i.e. communicable and non-communicable diseases along with malnutrition. Micronutrient deficiencies that are commonly known as hidden hunger can pose major and serious implication on public health, and government economy. This is the reason that Pakistan loses 2 to 3% of its GDP each year which has sadly not altered over the previous four decades. The Food and Agriculture Organisation (FAO) of the United Nations estimates that up to 37.5 million people in Pakistan lack access to a sufficient diet. Due to causes associated to hunger, around 250,000 children every year pass away before turning five. According to the most recent National Nutrition Survey of Pakistan in 2018, 41.7% of women of reproductive age are anaemic, 18.2% are iron deficient, 27.3% are vitamin A deficient, and 79.7% are vitamin D deficient. The problem is repeated in children, with 53.7% of children under the age of five suffering from anaemia, 51.5% from vitamin A insufficiency, and 62.7% from vitamin D inadequacy. Iodine deficiency disorders affect the majority of Pakistanis in the Northern regions, Khyber Pakhtunkhwa (KPK), and certain portions of Punjab. Moreover, iron deficiency anaemia is a serious nutritional issue in Pakistan, particularly among preschool children and pregnant and breastfeeding mothers. In fact, over half of Pakistan's youngsters are chronically undernourished, which harms their immune systems and cognitive development for the rest of their lives.

HUNTING FOR THE SOLUTION

People in Pakistan have micronutrient deficiency issues, including iron, iodine, vitamin A, and vitamin D insufficiency, as well as malnutrition. These all issues have been identified internationally as key avoidable risk factors that we can control and eliminate by adapting certain measures and innovations.

“FOOD FORTIFICATION IS ONE OF THE MOST EFFECTIVE INTERVENTIONS IN GLOBAL DEVELOPMENT”

Therefore, food fortification at mass or ground scale can be a sustainable, cost-effective and high-impact solution to these micronutrient deficiencies. Nutrient fortification in staple foods and condiments can help to decrease such micronutrient deficiencies, as these are ingested daily at a very consistent rate by everyone in the society. For example table salt is an appropriate vehicle for iodine fortification, while wheat for iron and zinc because 70-80% of total food intake in Pakistan is mainly in the form of chapattis made from wheat, whereas oil is a good tool for vitamin A and vitamin D fortification.

FORTIFYING PAKISTAN AGAINST HIDDEN HUNGER

With the West Pakistan Pure Food Rules of 1965 mandating obligatory vitamin A fortification of edible oil/ghee, food fortification in Pakistan started in the 1960s. Following this were initiatives to iodize salt that started in the 1980s and a National Wheat Flour Fortification Programme that started in the 2000s.

OUR HISTORY IN FORTIFICATION

1960s	National legislation mandating the fortification of oil/ghee with vitamin A and D
1980s	Salt iodization
2003	National action plan for action of control of micronutrient deficiencies

2005	National wheat fortification programme (NWFFP)
2007	Voluntary wheat fortification with iron and folic acid that discontinued in 2010
2013	National Fortification alliance (NFA) with federal ministry of NHR&C
2017	Launch of Food Fortification Strategy

Since a lot of efforts already are under progress in Pakistan to combat malnutrition. Vision 2025 targets a hunger-free Pakistan with sufficient food and nutrition for all residents. Pakistan is working on a multi-sector nutrition policy, and provincial multi-sector nutrition strategies have been developed but not yet implemented. The National Fortification Alliance has been revitalised, and Provincial Fortification Alliances have been created in all provinces. More policy measures, on the other hand, are urgently needed to achieve UN SDG No. 2 of "ending hunger."

FOOD FORTIFICATION PROGRAMME (FFP) (2016-2021)

To address this issue, the Government of Pakistan has been carrying out a large-scale food fortification programme with the assistance of various development partners, including the UK Foreign, Commonwealth and Development Office (FCDO), the Government of Canada, the Bill & Melinda Gates Foundation, and Nutrition International. The plan intends to fortify iron, folic acid, zinc and vitamin B12 in basic wheat flour, as well as vitamins A and D in edible oil or ghee. These are widely consumed foods that can reach a huge proportion of the population while also providing vital nutrients that are frequently deficient in the diet.

The FFP is a five-year initiative by the UK government, intends to provide technical support for the wheat flour and edible oil/ghee businesses as well as help federal, provincial, and district administration. A five-year grant was given to Nutrition International (NI) as the technical lead and Mott MacDonald as the management lead with the primary goal of supplying Pakistan with fortified wheat flour (with iron, folic acid, vitamin B12, and zinc) and edible oil/ghee (with vitamins A and D). With the help of fortified food staples, this one of the biggest fortification programmes in the world will likely reach 150 million people.

The initiative consists of four major components:

1. technical help and government support;
2. technical assistance to the wheat flour and edible oil or ghee businesses;
3. public advocacy, media and communications;
4. commissioning focused research to guide programme execution.

The plan also collaborates closely with the commercial sector, which plays an important role in the production and distribution of fortified foods. To assist industry in meeting fortification requirements and laws, the initiative includes training, equipment, quality assurance methods, and monitoring tools.

- During the course of the project, FFP hopes to recruit 1,087 wheat flour mills and install a total of 2,333 micro-feeders in order to make enriched wheat flour. This ensures a steady supply of high-quality wheat flour that has been fortified with iron, zinc, folic acid, and vitamin B12. The FFP forecasts that these mills will generate 1.5 million metric tonnes of enhanced wheat flour each year.
- FFP ensures a consistent supply of vitamin A and D-enriched edible oil and ghee: FFP intends to enlist 136 oil and ghee mills in the plan to manufacture fortified oil and ghee (including after the premix subsidy expires), with half of them (67) carrying out internal quality assurance processes to produce 2.5 million metric tonnes of appropriately fortified oil and ghee yearly.

- To enhance public knowledge of the nutritional benefits of fortified foods, FFP plans to undertake a national television campaign with four advertisements broadcast on eight major television networks.
- Increased government ownership and support for food fortification: All provinces will have developed guidelines and standards for wheat flour and oil/ghee fortification, and at least one province will have implemented legislation making it mandatory.
- FFP will establish a cost-transfer mechanism for fortified wheat flour that has been declared in at least two provinces, as well as a sustainable compliance mechanism within the government that clearly defines the public sector's roles and responsibilities, provides for quality assurance, allots funding specifically for fortification, includes a fortification indicator in the health MIS, and includes earmarked funding.
- This Food Fortification Programme is being carried out in 1,100 flour mills, and a Universal Salt Iodization (USI) Programme is being implemented in 110 districts.

SOME ACHIEVEMENTS:

"Zincol 2016" bio-fortified, zinc-rich wheat variety to boost zinc and iron consumption; Initiation of a wheat flour food fortification scheme using iron, folic acid, zinc, and Vitamin B12, as well as fortification of edible oil ('ghee') with Vitamins A and D.

Since its launch in 2016, the initiative has achieved remarkable accomplishments. An independent review conducted by Oxford Policy Management and the Global Alliance for Improved Nutrition (GAIN) found that the programme helped to increased production and consumption of fortified wheat flour and edible oil/ghee in Pakistan. According to the study, by 2020, about 70% of wheat flour mills and 80% of edible oil/ghee refineries would have fortified their goods, reaching an estimated 130 million people with fortified foods. According to the review, the campaign avoided over 800,000 cases of anaemia among women of reproductive age and over 300,000 incidents of night blindness among children under the age of five.

THE "GLOBAL ALLIANCE FOR IMPROVED NUTRITION (GAIN)

Responsibilities of GAIN:

- i. Provide an initial in-kind premix quantity of 2.645 tonnes at a cost of USD 21,034 immediately following the signing of a Memorandum of Understanding between GAIN and PFMA;
- ii. Provide PFMA with wheat flour fortification standards that are recommended for compliance by wheat flour exporters to Afghanistan; and
- iii. Provide technical support on appropriate premix storage if PFMA so requests.
- iv. Assist in the development of a preliminary reporting and governance framework for the National Fortification Alliance Revolving Funds.
- v. Provide technical support in predicting premix requirements if PFMA demands it.

The "GAIN-assisted National Wheat Flour Fortification Project (KPK)" is a three-year initiative run by the Ministry of Health's Nutrition Wing with technical assistance from MI. The plan is expected to help 48 million individuals (32% of Pakistan's population). The primary goal of the project is to reduce the prevalence of iron deficiency anaemia among preschool children (from 30% to 10%) and women of reproductive age (from 50% to 18%), as well as to reduce the occurrence of Neural Tube Defects (NTDs) among newborns (from 0.4% to 0.2% of live births) by fortifying wheat flour with universal iron and folic acid. In collaboration with MI, Pakistan's Ministry of Health launched the GIS to track and improve salt iodization across the country. Monitoring the quality of iodized salt produced in the country may aid in the prevention of needless brain damage caused by a lack of iodine in the diet. Such technology is projected to be extremely valuable in enhancing the quality of life for millions of individuals in a nation with a high prevalence of iodine deficiency.

MI professionals are aiding with vitamin A supplementation at the provincial, regional, and district levels around the country. MI contributes vitamin A capsules, which are distributed twice a year during national polio inoculation days. MI is focused on these children who are not receiving the immune-boosting benefits of vitamin A while continuing to support current activities. Currently, more than 95% of children under the age of five receive vitamin A supplements.

TECHNICAL ASSISTANCE FOR NUTRITION (TAN)

It is an initiative funded and supported by the UK government to increase the ability of SUN nations to establish, execute, and assess the performance of nutrition interventions, as well as to produce, absorb, and use information about what works. Nutrition International contributes to TAN by coordinating the provision of technical support to enable national SUN focal points in specific countries cover capacity shortages for the creation and execution of multi-sectoral national nutrition programmes. This is accomplished by employing its global hub to find and deploy the required knowledge. It assists the Ministry of National Health Services, Regulations, and Coordination's (MoNHSR&C) nutrition wing in the adoption of fortification policies by provinces and the implementation of an action plan (sustainability framework) to achieve Universal Salt Iodization (USI) in Pakistan by 2020.

CURRENT ISSUE IN FOOD FORTIFICATION PROGRAMME

- Consumers are still unaware of the health advantages, and there is considerable reluctance to purchase fortified foods due to perceived price or flavour.
- To address these issues, the initiative is conducting public awareness and education programmes at the district level in order to raise demand and promote fortified foods.
- When fortified foods are available on the market, provincial and national campaigns can be launched.

THE PUBLIC SECTOR'S ROLE

The government sector, including provincial government food and health departments and food standard-setting groups, will implement the following measures:

- i. mandatory fortification legislation for flour produced by large mills;
- ii. improved quality assurance mechanisms;
- iii. market price monitoring; and
- iv. strengthened agreements with flour millers.

THE PRIVATE SECTOR'S ROLE

- i. Under the terms of the agreement, the PFMA and affiliated members will participate in the programme.
- ii. Provide a monthly demand for premix at the flour mill level based on their production schedule.
- iii. Obtain supplies from vendors recommended by the Programme. Use the premix to fortify.
- iv. Print nutritional information on the bags.
- v. Provide the Programme with production information so that the use of supplied premix may be tracked.

ENGAGING SMALL FARMERS TO FORTIFY WHEAT

Fortification is the process of adding vitamins and minerals to widely consumed foods on a big scale. In Pakistan, however, the majority of people, especially the poorest and most vulnerable to malnutrition, get their wheat flour from one of the country's 70,000 small-scale mills, or chakkis, which manufacture between 0.5 and 2 metric tonnes of wheat flour per day and sell directly to local homes.

Recruiting small producers In 2018, the WFP Pakistan country office conducted a fortification feasibility study in partnership with the National Fortification Alliance, which indicated that 70% of Pakistanis purchased wholegrain wheat flour from local chakkis. Wheat is a major staple in Pakistan, with the average Pakistani ingesting 104 kilogrammes of wheat and wheat products each year, compared to 20 kilogrammes of rice.

The feasibility study gave the country office with a thorough grasp of the wheat production environment, therefore in November 2020 the country office initiated a pilot assisting 10 small-scale chakki mills to fortify their wholemeal flour with four vitamins and minerals: iron, zinc, folic acid, and vitamin B12. By the end of 2021, the 10 participating chakkis had fortified 85 percent of their flour⁵, and by August 2022, the programme had extended to include 50 chakkis and had reached 2.2 million people with fortified flour (World Food Programme, 2022).

GOALS TO ACHIEVE

The federal and provincial governments have made a commitment to using food fortification to address malnutrition. The plan hopes to achieve the following:

- i. Over 1,000 wheat flour mills and 100 mills for edible oils achieving criteria
- ii. A decrease in births with neural tube defects
- iii. An increase in vitamin D consumption
- iv. Mandatory legislation for fortification throughout Pakistan
- v. Improved standards, regulatory compliance, quality assurance, and quality control
- vi. Improved management and administration to meet legislative requirements, technics
- vii. A reduction of one third in iron deficiency and iron deficiency anaemia, and at least a one-quarter reduction in vitamin A deficiency among women and children

HIGH RANK ACHIEVEMENTS

The scheme is an example of how the government, business sector, and development partners may work together to improve nutrition results in Pakistan. The campaign is helping to reduce malnutrition and its related health and economic implications, as well as to build a stronger and brighter future for Pakistan by supplying key micronutrients through fortified meals.

- ✓ **70%** Functional mills fortifying wheat flour
- ✓ **62.6M** People consumed fortified oil
- ✓ **2.5M** People consumed fortified wheat flour
- ✓ **235M** More people reached with fortified staples in 2019
- ✓ **438M** More people reached with adequately iodized salt in 2019
- ✓ **4.8M** Metric tonnes of food staples fortified

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