GLOBAL FORTIFICATION
DATA EXCHANGE

STAKEHOLDER CONSULTATION

Understanding the needs of partners and national implementers to make informed decisions about their fortification policies and programs

An in-country case study with India

01 July 2020

SPECIAL THANKS TO GAIN INDIA FOR ORGANIZING THE CONSULATION AND CONSOLIDATING FEEDBACK IN THIS REPORT

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INTRODUCTION

Food fortification is one of the most scalable, sustainable and cost-effective interventions to combat micronutrient malnutrition.

Vitamin and mineral deficiencies affect people globally – impacting their health and limiting their ability to contribute to the economic well-being of their communities and countries.

The Global Alliance for Improved Nutrition (GAIN) and the Iodine Global Network (IGN) organized virtual orientation meetings in seven countries, to introduce the Global Fortification Data Exchange (GFDx) as a "one-stop shop" for harmonized data on fortification globally. The consultations were attended by representatives from government, development partners, donors, research and academic institutions, food regulators, and premix suppliers.

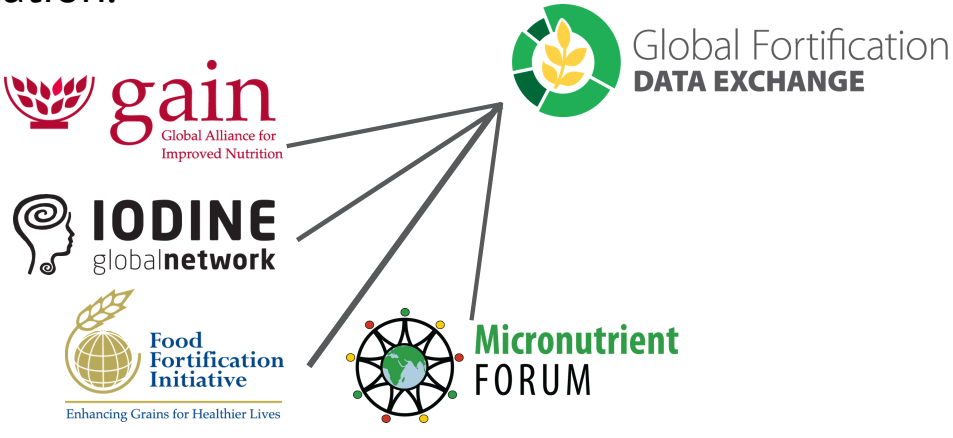
GOAL OF STAKEHOLDER MEETINGS

The goal during these virtual meetings was to get feedback on the GFDx platform from stakeholders, to understand their data needs and processes for decision making, and to find out how the GFDx website might be enhanced or refined to better support their decision-making processes.

RESPONDING TO A FORTIFICATION DATA CHALLENGE

During the first Global Summit on Food Fortification in Arusha, Tanzania, it was highlighted that there were many different stakeholders that collect and house data on fortification in different ways. There was no “one-stop shop” for harmonized data on fortification globally. As more countries began to adopt food fortification programs, stakeholders raised a call for better data accessibility to inform policy and identify populations in need, formalized in the 2015 Arusha Statement on Food Fortification.

As a response to this call for action, the Global Fortification Data Exchange (GFDx) was created, through a collaboration between various organizations: the Food Fortification Initiative (FFI), Global Alliance for Improved Nutrition (GAIN); Iodine Global Network (IGN), and the Micronutrient Forum (MNF), and supported by the Bill and Melinda Gates Foundation. Designed by the fortification community, the GFDx relies on the cooperation of both providers and users of data to help reach our aspiration for an improved data landscape in food fortification.



WHAT IS THE GFDx?

The GFDx is an online analysis and visualization tool for data on food fortification; it provides all the data necessary to track global progress on food fortification and to enable decision makers to use data to improve the quality of national fortification programs. The GFDx aggregates and visualizes data on five commonly fortified foods: **maize flour, oil, rice, salt, and wheat flour.**

The GFDx includes indicators on food fortification legislation from 1940 to present, fortification standards, food availability and intake, legislation scope, proportion of foods industrially processed, availability of regulatory monitoring protocols, fortification quality, health impact, comparison with WHO recommendations, and population coverage for 196 countries, among others. Within the GFDx site, users can generate custom maps, charts, tables, and plots or download data for offline analysis. The GFDx is continuously updated as new data and information become available.

WHERE DOES THE DATA COME FROM?

All data in the GFDx come from countries and national programs. Some had already been compiled globally, but independently managed, with separate databases for each food vehicle. Other important food fortification data only exist in national databases. Consolidating available data for the most commonly fortified foods allows national decision-makers to more holistically view their fortification programs, identify gaps, and make comparisons across foods and between countries. Importantly, compiling national and global data and consolidating data sets across standardized indicators reflects the need for a collaborative and crosscutting partnership in fortification in order to improve diets globally.

The GFDx represents a significant step forward in the effort to improve the availability, stewardship and presentation of fortification data. From non-profit organizations to government to private industry, a broad range of actors must come together for fortification programs to be successful.

In thinking about this and the data value chain, the goal of the GFDx is to provide actionable information on fortification policies and programs that meets the diverse needs of stakeholders along the decision-making pathway

CONSULTATIVE DIALOGUES WITH IN-COUNTRY FORTIFICATION STAKEHOLDERS TO IMPROVE UPTAKE OF GFDx DATA

The GFDx was designed to empower governments, donors, implementing agencies, and other members of the global health and development community to reach populations affected by vitamin and mineral deficiencies with data-driven policy and programs. Despite global usage of the Global Fortification Data Exchange (GFDx) among various stakeholders (such as technical staff, academics, non-governmental organizations, donors and others) website analytics for the period between 2017-2019 demonstrate that usage is low among most low- and middle-income countries (LMIC).

To further increase usage and reinforce the value and use of the GFDx data for key stakeholders in-country for decision making, including governments, implementing agencies, and private sector partners to improve fortification programs, the GFDx held consultative dialogues with fortification stakeholders to better understand:

1. their processes for decision making regarding changes to fortification programs;

2. their data needs in order to facilitate discussions and decision making for fortification programs;

3. whether the GFDx meets those needs already, *or* whether a set of small tweaks/improvements to the site (in presentation of data, added visualizations or existing data as noted above) can be made to the GFDx to meet those decision-making needs; and

4. what emerges across country consultations and how do we integrate these elements into cross-country learnings.

TARGET STAKEHOLDERS

- Country stakeholders/key decision makers in government
- Regional fortification association stakeholders
- Development agencies or other implementing partners with broad presence and specific mandates in fortification
- Researchers/academic institutions
- National Fortification Alliance representatives
- Industry Associations/grain, salt, oil producers
- Civic associations that advocate for fortification such as consumer groups, parent associations and human rights groups
- Other fortification stakeholders and decision makers along the decision-making pathway

ATTENDEES

With the support of the GAIN India office team and the POSHTIK network, the GFDx leveraged fortification stakeholder groups to better understand the data needs and their feedback on the GFDx platform.

Attendees included representatives from:

- ASSOCHAM
- BMGF
- CII
- DSM
- Ecociate
- Food Fortification Initiative (FFI)
- Food Fortification Resource Centre (FFRC)
- Global Alliance for Improved Nutrition (GAIN)
- Hexagon Nutrition
- Institute of Home Economics (IHE)
- International Council for Control of Iodine Deficiency Disorders (ICCIDD)
- Karnataka Health Promotion Trust (KHPT)
- Nutrition International (NI)
- PATH
- Pristine
- Tata Trusts
- The World Bank
- World Food Programme (WFP)
- World Health Organisation (WHO)

KEY RECOMMENDATIONS

The following recommendations were considered important to the India stakeholders group for improving the usage of GFDx database for program discussions, reviews and decisions:

- **Scientific evidence for fortification readily available and accessible for stakeholders:** GFDx has immense capability and relevance in terms of documenting and presenting fortification data at a global level.
  - The importance of having scientific evidence by stating examples of how the relevant scientific evidence aided salt iodization in India.
    - The salt iodization program can be a useful case study to refer to in order to scale up fortification of other commodities in India.

- **Success stories and challenges for cross-country learning:** It would be great if a compendium of all the relevant research studies and evidence related to India can be produced and documented
  - Embedding the compendium of research studies on GFDx that can be accessed not only in India but globally as well to refer to applicable experiences in case of any challenge.

- **Premix supply during COVID:** Documenting, perhaps in the form of a brief paper, the voices of premix suppliers/industry on how they maintained stocks and managed supply during COVID times without raising prices and deploying dedicated vehicles for supply.

KEY RECOMMENDATIONS

"GFDx will be helpful to premix industry to account what we can factor-in for the years to come and how can we plan better. We have a good insight of what is going be the demand in the near future and I think the premix industry would be better capable to absorb the requirements of specific country, so it can also help us in planning to work around with our clients."
-Representative from a global science-based company

"It would be great if an interesting compendium of all the relevant research studies and evidences related to India can be produced and appropriately be documented."
-Representative from GAIN

"Also documenting, perhaps in the form of a brief paper, the voices of premix suppliers/industry on how they maintained stocks and managed supply during COVID times without raising prices and deploying dedicated vehicles for supply."
-Representative from GAIN

CATEGORIZING RECOMMENDATIONS

	MEDIUM PRIORITY	HIGH PRIORITY
WITHIN SCOPE	• Provide analysis on the economic impact and benefits of staple food fortification at various levels of scale-up	• Post/feature on the website case studies/experiences, showcasing how the GFDx platform has been used for policy advocacy; helpful for industry participation and scaling-up of staple food fortification • Share and regularly update studies on safety, efficacy, and effectiveness of fortified staples in reducing micronutrient malnutrition
OUT OF SCOPE		• Develop a compendium of relevant research studies and evidence related to India and posting on GFDx • Document and post the premix suppliers and staple food industry on effective management of stock maintenance and supply management during COVID times, without raising prices and deploying dedicated supply vehicles. • Expand the scope of the dashboard to add other fortified commodities such as processed foods and biofortified foods • Include 'Milk' as one of the staples and provide global and country-wise data on milk fortification on the dashboard

1. High Priority and Within Scope: The GFDx has the ability and resources to incorporate this recommendation now or in the near future.
2. High Priority and Out of Scope: The GFDx may fulfill this recommendation at a later time but the recommendation may require additional partners.
3. Medium Priority and Within Scope: The GFDx has the ability to complete this recommendation but may fulfill the recommendation at a later time with more resources.
4. Medium Priority and Out of Scope: The GFDx does not have the ability or resources to do this, but will consider this for future expansion of the GFDx.

CONCLUDING REMARKS AND NEXT STEPS

- The stakeholders in India felt that the GFDx has immense capability and relevance in terms of documenting and presenting fortification data at a global and India level. It is important to have scientific evidence to show how staple food fortification leads to reduction of micronutrient malnutrition.
- It was their view that the GFDx will serve as an extremely useful tool to respond to the "doubts and queries of states with respect to standards and legislation around food fortification".
- Further, compiling all this information on one platform like GFDx, is a great resource to showcase and share the story of India's food fortification efforts and place India in a leading position showing way to many countries to emulate.
- The stakeholders felt that subnational data would be most useful for decision-making in India
- There are also important food vehicles, such as milk and biofortified foods that are prominent in India, but are currently not included in the GFDx

THE GFDX WILL CONSOLIDATE THE KEY RECOMMENDATIONS FROM EACH OF THE 7 STAKEHOLDER CONSULTATIONS HELD GLOBALLY TO IMPROVE THE GFDX PLATFORM TO BETTER SUPPORT DECISION MAKERS ON FORTIFICATION.

ACKNOWLEDGMENTS

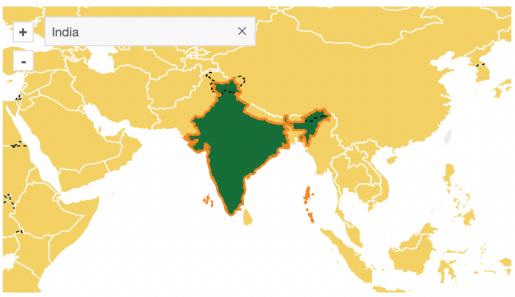
The GFDx team would like to thank the fortification community in coming together for this important meeting to discuss and identify how the GFDx can become beneficial and accessible to stakeholders involved with food fortification in India.

COUNTRY DASHBOARD

Last updated: 04-Feb-2021

Global Fortification DATA EXCHANGE

India Fortification Dashboard



(Click on Section Headings, Numbers, and Nutrients where you see the hand icon to view more information)

Maize flour

Fortification legislation status unknown

Nutrients in maize flour fortification standard in India
No fortification standards

0 Countries in Asia have maize flour fortification standards

Fortification opportunity for maize flour in India

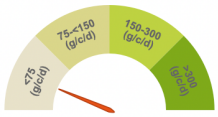
Population coverage of a food (whether fortified or not) represents the expected population that may benefit from fortification if it is implemented well. however, there are no data available on population coverage of maize flour in India.

Proportion of maize flour industrially processed

0.00 %

20 40 60 80 100 %

Source for industrially processed: Venkat Subramanian, Subrata Dutta, Food Fortification Initiative. Personal communication. India. 2017.



22.25
(grams/capita/day)
Daily food availability
[1, 3]

Oil

Voluntary fortification

Source: Ministry of Health and Family Welfare, Food Safety and Standards Authority of India. The Gazette of India, Extraordinary, Part III - Section 4, Food Safety and Standards (Fortification of Foods) Regulations, 2018, No 290, REGD. No. D. L. - 33004/99. India. 3/August/2018.

Nutrients in oil fortification standard in India		
Vitamin A	Retinyl acetate, retinyl palmitate	7.95 mg/kg
Vitamin D	D2 (ergocalciferol), D3 (cholecalciferol)	0.14 mg/kg

Source: Ministry of Health and Family Welfare, Food Safety and Standards Authority of India. The Gazette of India, Extraordinary, Part III - Section 4, Food Safety and Standards (Fortification of Foods) Regulations, 2018, No 290, REGD. No. D. L. - 33004/99. India. 3/August/2018.

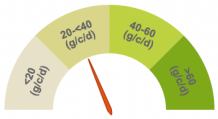
11 Countries in Asia have oil fortification standards

Fortification opportunity for oil in India

Population coverage of a food (whether fortified or not) represents the expected population that may benefit from fortification if it is implemented well. however, there are no data available on population coverage of oil in India.

Industrial processing of a food represents the industry's feasibility to fortify. however, there are no data available on industrial processing of oil in India.

20 40 60 80 100 %



21.4
(grams/capita/day)
Daily food availability
[1]

Rice

Voluntary fortification

Source: Ministry of Health and Family Welfare, Food Safety and Standards Authority of India. The Gazette of India, Extraordinary, Part III - Section 4, Food Safety and Standards (Fortification of Foods) Regulations, 2018, No 290, REGD. No. D. L. - 33004/99. India. 3/August/2018.

Nutrients in rice fortification standard in India

Vitamin B6	Pyridoxine, pyridoxine hydrochloride	2.00 mg/kg
Vitamin B12	Cyanocobalamin, hydroxycobalamin	0.00 mg/kg
Folate (B9)	Folic acid	0.10 mg/kg
Iron	Elemental iron, ferric	35.25 mg/kg
Iron	Elemental iron, ferric	17.63 mg/kg
Niacin (B3)	Niacin, niacinamide	16.25 mg/kg
Riboflavin (B2)	Riboavin 5' phosphate sodium, riboflavin	1.50 mg/kg
Thiamin (B1)	Thiamin hydrochloride, thiamin mononitrate	1.25 mg/kg
Vitamin A	Retinyl palmitate	0.63 mg/kg
Zinc	Zinc oxide	12.50 mg/kg

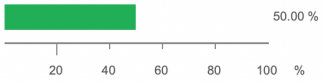
Source: Ministry of Health and Family Welfare, Food Safety and Standards Authority of India. The Gazette of India, Extraordinary, Part III - Section 4, Food Safety and Standards (Fortification of Foods) Regulations, 2018, No 290, REGD. No. D. L. - 33004/99. India. 3/August/2018.

5 Countries in Asia have rice fortification standards

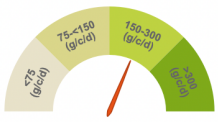
Fortification opportunity for rice in India

Population coverage of a food (whether fortified or not) represents the expected population that may benefit from fortification if it is implemented well. however, there are no data available on population coverage of rice in India.

Proportion of rice industrially processed



Source for industrially processed: Venkat Subramanian, Subrata Dutta, Food Fortification Initiative. Personal communication. India. 2017.



282.77
(grams/capita/day)
Daily food availability
[1]

Rice fortification quality/compliance in India

Rice in India that is fortified	0.00%

Source: Venkat Subramanian, Subrata Dutta, Food Fortification Initiative. Personal communication. India. 2017.

5 Countries in Asia have fortification quality/compliance data for rice

Salt

Mandatory Fortification since 1998 ✓

Source: 1. Ministry of Health and Family Welfare, Food Safety and Standards Authority of India. Food Safety and Standards (Prohibition and Restrictions on Sales) Regulations, 2011. 2.3.12 Restriction on sale of common salt. India. 01/August/2011 2. Ministry of Health and Family... more

Prohibition and Restriction on Sales (2011, with 2019 update) prohibits the sale of "common salt for direct human consumption or for use as an ingredient in a food product unless the same is iodized"; replaces original law of Govt of India. Rule 44-H Restriction on Sale of Common... more

35 Countries in Asia have legislation for mandatory fortification of salt

Legislation scope for salt in India

Type of salt that must be fortified	All types (no exceptions)
Origins or destinations of salt that must be fortified	✓ Domestically produced ✓ Imported ✗ Exports
Intended use of salt that must be fortified	✓ Household ✓ Processed food ✗ Animal feed ✗ Donated food

Source: Ministry of Health and Family Welfare, Food Safety and Standards Authority of India. Food Safety and Standards (Prohibition and Restrictions on Sales) Regulations, Second Amendment Regulations 2019. 25 June 2019 [https://bit.ly/2MJI3Xv]

Nutrients in salt fortification standard in India

Iodine	Potassium iodate	25.00 mg/kg
Iron	Ferrous fumarate, ferrous sulfate	975.00 mg/kg

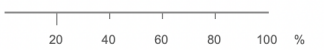
Source: Ministry of Health and Family Welfare, Food Safety and Standards Authority of India. The Gazette of India, Extrodinary, Part III - Section 4, Food Safety and Standards (Fortification of Foods) Regulation 2018, NO 290, REGD. No. D.L. - 33004/99. India. 3/August/2018. [https://bit.ly/2nXVmF2]

38 Countries in Asia have salt fortification standards

Fortification opportunity for salt in India

Population coverage of a food (whether fortified or not) represents the expected population that may benefit from fortification if it is implemented well. however, there are no data available on population coverage of salt in India.

Industrial processing of a food represents the industry's feasibility to fortify. however, there are no data available on industrial processing of salt in India.



Source: From UNICEF database: UNICEF_Expanded_Global_Databases_Salt_HH_with_Salt_Jan_2018

9.5
(grams/capita/day)
Daily food intake
[2, 3]

Presence of monitoring protocols for salt fortification in India

External monitoring of domestic production	Unknown
Import monitoring of imported food	Unknown

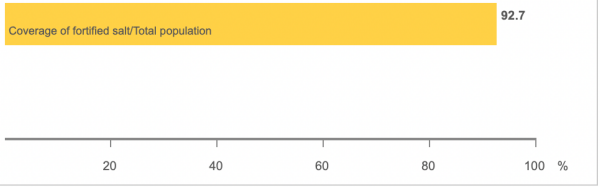
Source for external monitoring protocols: Worldatlas. The World's Top Salt Producing Countries. Extracted 20/August/2020. [https://bit.ly/2U9Rgbg], IndexMundi. Salt Production by Country (Thousand metric tons). Extracted 20/August/2020. [https://bit.ly/2MlWKwP], British Geologica... more

Source for import monitoring protocols: IndexMundi. Salt (incl. table salt & denatured salt) & pure sodium chloride, whether or ... Imports by Country in US Dollars. Extracted 20 August 2020. [https://bit.ly/3heCICU], Tridge. Top Importing Countries of Salt. Extracted 20 August 2... more

4 Countries in Asia with mandatory fortification of salt have external monitoring protocols

3 Countries in Asia with mandatory fortification of salt have import monitoring protocols

Salt fortification coverage in India



31 Countries in Asia have fortification coverage data for salt

Wheat flour

Voluntary fortification

Source: Ministry of Health and Family Welfare, Food Safety and Standards Authority of India. The Gazette of India, Extraordinary, Part III - Section 4, Food Safety and Standards (Fortification of Foods) Regulations, 2018, No 290, REGD. No. D. L. - 33004/99. India. 3/August/2018.

Nutrients in wheat flour fortification standard in India		
Vitamin B6	Pyridoxine, pyridoxine hydrochloride	2.00 mg/kg
Vitamin B12	Cyanocobalamin, hydroxycobalamin	0.00 mg/kg
Folate (B9)	Folic acid	0.10 mg/kg
Iron	Electrolytic iron, ferric, ferrous bisglycinate, ferrous citrate, ferrous fumarate, ferrous lactate, ferrous sulfate, NaFeEDTA	35.25 mg/kg
Iron	Electrolytic iron, ferric, ferrous bisglycinate, ferrous citrate, ferrous fumarate, ferrous lactate, ferrous sulfate, NaFeEDTA	17.63 mg/kg
Niacin (B3)	Niacin, niacinamide	16.25 mg/kg
Riboflavin (B2)	Riboavin 5' phosphate sodium, riboflavin	1.50 mg/kg
Thiamin (B1)	Thiamin hydrochloride, thiamin mononitrate	1.25 mg/kg
Vitamin A	Retinyl acetate, retinyl palmitate	0.63 mg/kg
Zinc	Zinc sulfate	12.50 mg/kg

Source: Ministry of Health and Family Welfare, Food Safety and Standards Authority of India. The Gazette of India, Extraordinary, Part III - Section 4, Food Safety and Standards (Fortification of Foods) Regulations, 2018, No 290, REGD. No. D. L. - 33004/99. India. 3/August/2018.

23 Countries in Asia have wheat flour fortification standards

Wheat flour fortification quality/compliance in India	
Wheat flour in India that is fortified	2.00%

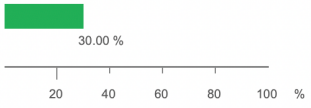
Source: Venkat Subramanian, Subrata Dutta, Food Fortification Initiative. Personal communication. India. 2017.

26 Countries in Asia have fortification quality/compliance data for wheat flour

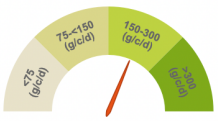
Fortification opportunity for wheat flour in India

Population coverage of a food (whether fortified or not) represents the expected population that may benefit from fortification if it is implemented well. however, there are no data available on population coverage of wheat flour in India.

Proportion of wheat flour industrially processed



Source for industrially processed: Venkat Subramanian, Subrata Dutta, Food Fortification Initiative. Personal communication. India. 2017.



169.62
(grams/capita/day)
Daily food availability
[1, 3]

References

1. ***Food Availability (Total and Daily)*** *figures are from the most recent year available in the FAO Food Balance Sheets: http://www.fao.org/faostat/en/#data/CL/metadata.*
2. ***Daily Food Intake*** *for salt is from Powles J et al. BMJ Open 2013;3:e003733. doi:10.1136/bmjopen-2013-003733.*
3. ***Daily Food Availability/Intake*** *categories reflect WHO guidelines for the fortification of wheat and maize flour (http://www.who.int/nutrition/publications/micronutrients/wheat_maize_fortification/en) and for salt (http://www.who.int/nutrition/publications/guidelines/fortification_foodgrade_saltwithiodine/en).*

Notes

- ***Total Food Availability*** *refers to the total amount of the commodity available for human consumption during the year, whereas* ***Daily Food Availability*** *converts this volume into per capita per day estimates.*
- ***Daily Food Availability*** *can be considered a proxy for* ***Daily Food Intake****;* ***Daily Food Intake*** *is a measured estimate of human consumption, usually obtained through dietary surveys.*
- ***Year*** *noted refers to the year mandatory fortification legislation was originally passed.*
- ***Regions*** *reflect regional definitions by the World Bank: https://unstats.un.org/unsd/methodology/m49/.*
- *Industrial production of foods in manufacturing facilities is defined as: Oil – 5 MT/day rated capacity; Salt – 5,000 MT/year raw salt rated capacity; Rice – 5 MT/hour paddy processing rated capacity; Wheat and Maize Flours - 20 MT/day grain processing rated capacity.*