

**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 Bangladesh**

**7 October 2020**

**SPECIAL THANKS TO GAIN  
BANGLADESH FOR ORGANIZING THE  
CONSULTATION 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.



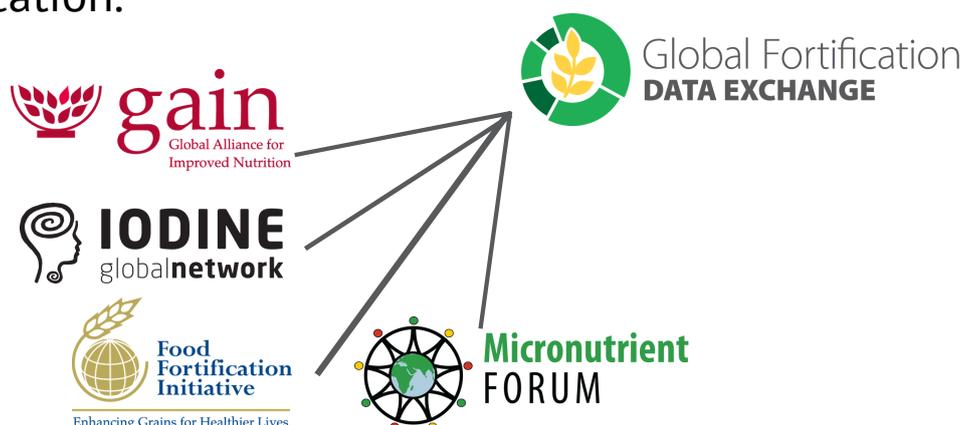
# GOAL OF STAKEHOLDER MEETINGS

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 Bangladesh office team, the GFDx leveraged fortification stakeholder groups to better understand the data needs and their feedback on the GFDx platform.**

Attendees included representatives from:

- Bangladesh Standards and Testing Institution (BSTI)
- Bangladesh Food Safety Authority (BFSA)
- Ministry of Industries
- National Nutrition Services (NNS), IPHN
- Bangladesh National Nutrition Council
- Bangladesh Small and Cottage Industries Corporation (BSCIC)
- Ministry of Food
- Directorate General of Food (DG Food)
- Bangladesh Council of Scientific and Industrial Research (BCSIR)
- Dhaka University
- Bangladesh Agricultural University
- Nutrition International
- United Nations Children's Fund (UNICEF)
- World Food Programme
- Helen Keller International
- National
- Information Platforms for Nutrition (NiPN)
- Food and Agricultural Organisation (FAO)
- ICDDR,B
- CIP
- HarvestPlus
- BMGF

# KEY RECOMMENDATIONS

The following recommendations were considered important to the Bangladesh Stakeholders group for improving the usage of GFDx database for programme discussions, reviews and decisions:

- **The GFDx needs to be utilized across sectors:** Fortification in Bangladesh is a multi-sector program. The platform should be promoted more for use across the various ministries and development partners. There should be a collaborative approach among the various stakeholders in Bangladesh to validate and provide the data needed to the GFDx.
- **Improving compliance and quality in Bangladesh:** Stakeholders suggested the platform could be expanded to provide a list of producers who do not comply with fortification of products to standards, i.e. "Use of the platform for naming and shaming"
- **Success stories and challenges for cross-country learning:** It would be great if a compendium of all the examples of Bangladesh could be consolidated to the global community could see success stories from Bangladesh.
- **Cost-benefit data of fortification:** Cost and affordability of fortification as a nutrition intervention is very important, especially for those promoting fortification and the health impact.
- **Quality/compliance data in fortification:** In Bangladesh, quality and compliance data is changing rapidly. There is a need to visualize the changes and how we can improve upon the data, and how changes in quality are impacting micronutrient burden.

# KEY RECOMMENDATIONS



"Utilization [of the GFDx] is low. When I was looking at this presentation of the platform I was so amazed, because of the quality of the platform, the concept and the quantity of data. Fortification issues are important. My first reaction on utilization is that if your mind doesn't know, your eyes won't see. So if we don't know it exists, we won't use it. We need to understand how to operationalize it, and how to make it more useful to the users: policy makers, private sector, implementers...unless you use it, you lose it. The more we use it, the more we will find gaps to help improve the platform. We should all be using it."

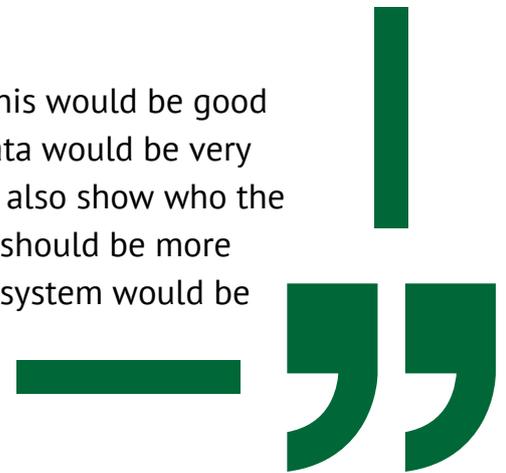
*-Representative from government*

"This is a very good initiative, everything in one place that can be accessed and it's standardized information that can be utilized. I think what would be useful is that we advocate this information among the different ministries. When it comes to fortified foods, we should orient all of them so they know where to look to find this kind of data. It would be good to have a meeting later on where we can discuss issues and how to utilize the data in GFDx."

*-Representative from development partner*

"This is helpful to see the global picture of fortification. This would be good for the universities – they are less involved in this. The data would be very useful for universities for their research. The GFDx should also show who the users of fortification are. The students who are the future should be more utilized too...their input into the regular changes into the system would be great."

*-Representative from University*



# CATEGORIZING RECOMMENDATIONS

## MEDIUM PRIORITY

## HIGH PRIORITY

WITHIN SCOPE

- Include a resource of industry players who do not comply with fortifying foods to national standards ("naming and shaming" or "naming and faming")

- Include resources on standards, health impact and cost/affordability of fortification as a nutrition intervention
- Add more information on changes in compliance/quality over time
- Include a list of who the users of the GFDx could be (theory of change)
- Include compendium of success stories from Bangladesh so that other countries can learn from their experiences.

OUT OF SCOPE

- Ensure that BMS/codex are on the website so industry does not promote fortified products to children under 2 years of age

- Capture Double Fortified Salt (DFS) on the GFDx
- Include data on how fortification quality has impacted micronutrient status
- Include compendium of success stories from Bangladesh so that other countries can learn from their experiences.

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 Bangladesh stakeholder group found value in the GFDx, but recognized the need to improve utilization of the platform among the many different stakeholders that work on fortification in Bangladesh.

## Next steps include:

- Work with the Ministry of Industry, the Ministry of Health, Ministry of Commerce and the Scaling Up Nutrition (SUN) group to present the GFDx platform and establish a mechanism collaborate and vet Bangladesh fortification data to incorporate into the GFDx on a regular basis.
- Engage with universities to get students actively involved with GFDx to utilize the platform's rich database for their research.
- Include other ministries such as the Ministry of Women and Child Affairs into the dialogue on fortification; as well as other development partners such as Alive and Thrive.
- The Bangladesh Ministry of Industry are working with oil in vitamin A to improve the programs. Hopefully through the GFDx platform, they will be able to identify the most urgent issues to address.
- Other food vehicles for fortification are being explored and may benefit from use of data in the GFDx. They are also starting to look at vitamin A in wheat and maize flour (if it's low cost). The Bangladesh iodized salt program has been placed in front of the cabinet. The Bangladesh stakeholders, including BSTI, will work to use the GFDx and help provide nationally representative data from Bangladesh into the GFDx, and provide standards they have already developed for a number of vehicles.

**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 Bangladesh.**

# COUNTRY DASHBOARD

Last updated: 04-Feb-2021

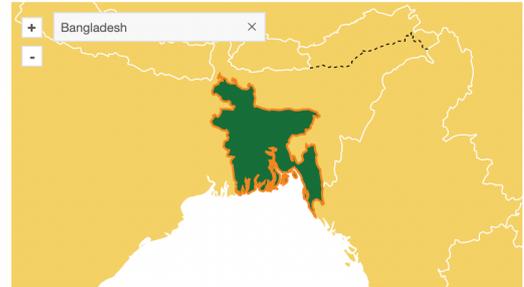


## Global Fortification DATA EXCHANGE



### Bangladesh 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 Bangladesh	
No fortification standards	

0 Countries in Asia have maize flour fortification standards

**Fortification opportunity for maize flour in Bangladesh**

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 Bangladesh.

[Proportion of maize flour industrially processed](#)

0.00 %

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

Source for industrially processed: Becky Tsang, Food Fortification Initiative. Personal communication. United States of America, 2017.

#### Oil

**Mandatory Fortification since 2013** ✓

Source: No Author, The Fortification of Edible Oil with Vitamin 'A' Act, 2013, Act No. 65 2013. Bangladesh, 2013.

7 Countries in Asia have legislation for mandatory fortification of oil

Legislation scope for oil in Bangladesh	
Type of oil that must be fortified	Only subsets
Origins or destinations of oil that must be fortified	<ul style="list-style-type: none"> <li>✓ Domestically produced</li> <li>✓ Imported</li> <li>✗ Exports</li> </ul>
Intended use of oil that must be fortified	<ul style="list-style-type: none"> <li>✓ Household</li> <li>✓ Processed food</li> <li>✗ Animal feed</li> <li>✗ Donated food</li> </ul>

Source: No Author, The Fortification of Edible Oil with Vitamin 'A' Act, 2013, Act No. 65 2013. Bangladesh, 2013.

Nutrients in oil fortification standard in Bangladesh		
Vitamin A	Retinyl palmitate	22.50 mg/kg

Source: Bangladesh Standards and Testing Institution. Bangladesh Standard, Specification for Fortified Soyabean Oil, BDS 1769:2014. Bangladesh, 2014.

11 Countries in Asia have oil fortification standards

**Fortification opportunity for oil in Bangladesh**

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 Bangladesh.

[Proportion of oil industrially processed](#)

52.00 %

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

Source for industrially processed: USDA Foreign Agricultural Service. Global Agricultural Information Network, GAIN Report Number: BG1802, Bangladesh, Oilseeds and Products Annual, 2018. Bangladesh, 19/March/2018. & Shafigul Alam, CIDD, Personal communication. Bangladesh, 2018.

Presence of monitoring protocols for oil fortification in Bangladesh	
External monitoring of domestic production	Yes
Import monitoring of imported food	Yes

Source for external monitoring protocols: Bangladesh Standard and Testing Institute (BSTI). External Quality Control Monitoring Protocol Fortification of Edible Oil in Bangladesh. Bangladesh, People's Republic of. August/2011.

Source for import monitoring protocols: Bangladesh Standard and Testing Institute (BSTI). External Quality Control Monitoring Protocol Fortification of Edible Oil in Bangladesh. Bangladesh, People's Republic of. August/2011.

3 Countries in Asia with mandatory fortification of oil have external monitoring protocols

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

Oil fortification quality/compliance in Bangladesh	
Oil in Bangladesh that is fortified	61.00%

Source: Global Alliance for Improved Nutrition (GAIN) and International Centre for Diarrheal Diseases and Research, Bangladesh (icddr,b). Assessment of presence of edible oil brands in Bangladesh and their content of fortification, 2017. Switzerland, 2017.

4 Countries in Asia have fortification quality/compliance data for oil

### Rice

#### Voluntary fortification

Source: Bangladesh Standards and Testing Institution. Bangladesh standard specification for fortified rice, BDS 1897:2015, ICS 67.060. Bangladesh, 2015

Nutrients in rice fortification standard in Bangladesh		
Vitamin B12	Cyanocobalamin	0.01 mg/kg
Folate (B9)	Folic acid	1.70 mg/kg
Iron	Ferric	60.00 mg/kg
Thiamin (B1)	Thiamin mononitrate	5.25 mg/kg
Vitamin A	Retinyl palmitate	2.00 mg/kg
Zinc	Zinc oxide	40.00 mg/kg

Source: Bangladesh Standards and Testing Institution. Bangladesh standard specification for fortified rice, BDS 1897:2015, ICS 67.060. Bangladesh, 2015

5 Countries in Asia have rice fortification standards

#### Fortification opportunity for rice in Bangladesh

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 Bangladesh.

Proportion of rice industrially processed: 60.00 %

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

Source for industrially processed: Laura Rowe, Food Fortification Initiative. Personal communication. United States of America, 2019.

#### Rice fortification quality/compliance in Bangladesh

Rice in Bangladesh that is fortified	2.00%
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Source: Mohammad Mahbobor Rahman, United Nations World Food Programme Bangladesh. Personal communication. Bangladesh, 2019.

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

### Salt

#### Mandatory Fortification since 1989 ✓

Source: Bangladesh National Assembly, Act 10 of 1989 IDD Prevention Act. People's Republic of Bangladesh. 28/February/1989. [http://bit.ly/2v7V3O3]

Regulations under the 1989 Act were issued in 1994, coming into force 31 January 1995 - Iodine Deficiency Disorders Prevention Act 1994. 11/December/1994

35 Countries in Asia have legislation for mandatory fortification of salt

#### Legislation scope for salt in Bangladesh

Type of salt that must be fortified	All types (no exceptions)
Origins or destinations of salt that must be fortified	<ul style="list-style-type: none"> <li>✓ Domestically produced</li> <li>✓ Imported</li> <li>✗ Exports</li> </ul>
Intended use of salt that must be fortified	<ul style="list-style-type: none"> <li>✓ Household</li> <li>✓ Processed food</li> <li>✓ Animal feed</li> <li>✗ Donated food</li> </ul>

Source: Bangladesh National Assembly, Act 10 of 1989 IDD Prevention Act. People's Republic of Bangladesh. 28/February/1989. [http://bit.ly/2v7V3O3]

#### Nutrients in salt fortification standard in Bangladesh

Iodine	Calcium iodate, potassium iodate, potassium iodide	35.00 mg/kg
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Source: Bangladesh Standards and Testing Institution. Bangladesh Standard: Specification for Iodized Salt (1st Revision) (BDS 1236:2001). Amendment -1, 2007. (BDS 1236:2007). Bangladesh. 5/August/2007

38 Countries in Asia have salt fortification standards

#### Fortification opportunity for salt in Bangladesh

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 Bangladesh.

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

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

Source: From UNICEF database: UNICEF\_Expanded\_Global\_Databases\_Salt\_HH\_with\_Salt\_Jan\_2018

#### Presence of monitoring protocols for salt fortification in Bangladesh

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/2U9R9bg], IndexMundi. Salt Production by Country (Thousand metric tons). Extracted 20/August/2020. [https://bit.ly/2MIWkwP], 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 quality/compliance in Bangladesh

Salt in Bangladesh that is fortified	97.00%
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Source: Nutrition International. Bangladesh Salt Iodization Information System (BSIIS). Iodine Content Analysis. Accessed 4/January/2019, [http://http://sis.micronutrient.org/bsiis/iodineContent.aspx]. Bangladesh. 2018.

13 Countries in Asia have fortification quality/compliance data for salt

#### Salt fortification coverage in Bangladesh

Coverage of fortified salt/Total population: 69

31 Countries in Asia have fortification coverage data for salt

**Wheat flour**

**Voluntary fortification**

Source: Bangladesh Standards and Testing Institution. Bangladesh Standard Specification for Fortified Wheat Atta, BDS 1793:2008. Bangladesh. 2008. Bangladesh Standards and Testing Institution. Bangladesh Standard Specification for Fortified Maida, BDS 1794:2008. Bangladesh. 2008.

**Nutrients in wheat flour fortification standard in Bangladesh**

Vitamin B6	Pyridoxine	5.00 mg/kg
Vitamin B12	Unspecified	0.01 mg/kg
Calcium	Unspecified	53.00 mg/kg
Folate (B9)	Folic acid	2.00 mg/kg
Iron	Unspecified	55.00 mg/kg
Niacin (B3)	Niacin	15.00 mg/kg
Riboflavin (B2)	Riboflavin	4.00 mg/kg
Thiamin (B1)	Thiamin hydrochloride	6.00 mg/kg
Vitamin A	Unspecified	3.00 mg/kg
Zinc	Unspecified	27.00 mg/kg

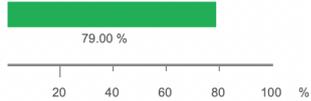
Source: Bangladesh Standards and Testing Institution. Bangladesh Standard Specification for Fortified Wheat Atta, BDS 1793:2008. Bangladesh. 2008. Bangladesh Standards and Testing Institution. Bangladesh Standard Specification for Fortified Maida, BDS 1794:2008. Bangladesh. 2008.

**23 Countries in Asia have wheat flour fortification standards**

**Fortification opportunity for wheat flour in Bangladesh**

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 Bangladesh.

**Proportion of wheat flour industrially processed**



Source for industrially processed: Laura Rowe, Food Fortification Initiative. Personal communication. United States of America. 2019.



**Wheat flour fortification quality/compliance in Bangladesh**

Wheat flour in Bangladesh that is fortified	1.00%
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Source: Venkat Subramanian, Food Fortification Initiative. Personal communication. United States of America. 2019.

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

**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](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](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.