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 Nigeria

25 January 2020

SPECIAL THANKS TO GAIN NIGERIA FOR ORGANIZING THE CONSULTATION AND CONSOLIDATING FEEDBACK IN THIS REPORT

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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 Nigeria Country Office, the GFDx leveraged fortification stakeholder groups to better understand the data needs and their feedback on the GFDx platform.

Attendees included representatives from:

- Federal Ministry of Health, Nigeria
KEY RECOMMENDATIONS

“The platform is really very good—from the way it looks, it seems to be user friendly. For the first time globally, we’re having such a website...to see so many countries and their fortification programs and policies”
-Representative from the Federal Ministry of Health

“From what we have seen on the platform, you can see the consumption of rice is high in Nigeria, which makes it a great vehicle to reach large populations and those in different villages. As we explore the platform more, I believe it will be useful to us. For now, we haven’t been able to grasp all it has to offer. We will study it more and then follow up.”
-Representative from the Federal Ministry of Health

“We would like to have examples of legislation and standards from other countries who have already been through the process [of mandatory rice fortification]. How can we add it to our policy and national guidelines on micronutrient burden? We need all the information we can get and be able to discuss with others on how it came about in their country.”
-Representative from the Federal Ministry of Health
KEY RECOMMENDATIONS

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

- **Inclusion of others from the National Fortification Alliance for a presentation of the GFDx:** Decisions on fortification in Nigeria are always made as a team (NAFDAC, MOH, SON and private sector). Only FMOH could join this meeting, so GFDx needs to be presented to others within the group for proper alignment on data and decision-making.

- **Resources for technical advisory group and government:** Technical advisory groups in Nigeria are in charge of reviewing the data on fortification (rice fortification as a new vehicle is now being reviewed) before approving legislation or guidelines into the national nutrition policies. They need evidence and data to share with the review committee. Thus, documents and materials would be helpful to have.

- **Guidance on setting standards and choosing vehicles:** Stakeholders recommended that more guidance be available for decision makers on how to set standards, specifically for rice fortification within their country context.

- **Experiences in other countries:** Information from other countries on how they chose standards and implemented legislation (specifically rice fortification).
## CATEGORIZING RECOMMENDATIONS

<table>
<thead>
<tr>
<th>MEDIUM PRIORITY</th>
<th>HIGH PRIORITY</th>
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<tbody>
<tr>
<td><strong>WITHIN SCOPE</strong></td>
<td><strong>OUT OF SCOPE</strong></td>
</tr>
<tr>
<td>• Guidance on setting standards and choosing vehicles and examples from the experience of other countries (e.g., rice fortification)</td>
<td>• Inclusion of others from the National Fortification Alliance in Nigeria for a presentation of the GFDx</td>
</tr>
<tr>
<td></td>
<td>• Resources and documents made available on the website for technical advisory group and government</td>
</tr>
</tbody>
</table>

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

The Nigeria stakeholders felt that the GFDx is going to be a useful tool. Since they were seeing the platform for the first time, they appreciated the introduction but felt that they needed more time to look at the site. Once they have a chance to review thoroughly, they will be able to get more feedback.

The stakeholders thought GFDx would be an especially useful tool in Nigeria as they are currently considering rice fortification as a strategy to reduce micronutrient burden in the county.

From what they could ascertain from the presentation of the platform, consumption data for rice in Nigeria makes it a convincing vehicle to reach large populations with important micronutrients. It will be especially important for them to have any and all documentation and data related to rice fortification evidence. This is needed for presentation to the technical review committee that is in charge of including rice fortification in the national nutrition policy and national guidelines. In the meantime, they also would like more information on how other countries enacted legislation and developed standards for rice, so they can be ready with the appropriate national standards.

The stakeholders also noted that in any decision-making, review of issues regarding fortification, and even when attending events, "Nigeria comes as a team". The National Fortification Alliance in Nigeria (MOH, SON, NAFDAC as well as the private sector manufacturers) meet regularly to discuss factors. It will be useful for the to all use the GFDx platform for their source on data.
NEXT STEPS

The Nigeria stakeholder consultation participants outlined several key next steps.

- Invite representatives from NAFDAC, SON, and private sector for a presentation on the GFDx, and discuss how the platform can be useful for the technical discussions on rice fortification legislation and standards.

- Participants will reach out to GFDx for help in connecting to the right resources and data, TA needed.

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.
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 Nigeria.
COUNTRY DASHBOARD

Global Fortification DATA EXCHANGE

Nigeria Fortification Dashboard

(Mandatory fortification since 2010)


Countries in Africa have legislation for mandatory fortification of maize flour

Legislation source for maize flour in Nigeria

Type of maize flour that must be fortified
- Only unfortified

Origins or destinations of maize flour that must be fortified
- Domestic
- Imported
- Exported

Intended use of maize flour that must be fortified
- Household
- Processed food
- Animal feed
- Donated food


Nutrient levels and compounds in maize flour fortification standard in Nigeria

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>Substance</th>
<th>Requirement (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin B6</td>
<td>Pyridoxine hydrochloride</td>
<td>6.00 mg/kg</td>
</tr>
<tr>
<td>Vitamin B12</td>
<td>Cyanocobalamin</td>
<td>0.02 mg/kg</td>
</tr>
<tr>
<td>Folate (B9)</td>
<td>Folic acid</td>
<td>2.60 mg/kg</td>
</tr>
<tr>
<td>Iron</td>
<td>NaFeEDTA</td>
<td>40.00 mg/kg</td>
</tr>
<tr>
<td>Niacin (B3)</td>
<td>Nicotinamide</td>
<td>45.00 mg/kg</td>
</tr>
<tr>
<td>Riboflavin (B2)</td>
<td>Riboflavin</td>
<td>5.00 mg/kg</td>
</tr>
<tr>
<td>Thiamin (B1)</td>
<td>Thiamin mononitrate</td>
<td>0.00 mg/kg</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>Retinol palmitate</td>
<td>2.00 mg/kg</td>
</tr>
<tr>
<td>Zinc</td>
<td>Zinc oxide</td>
<td>60.00 mg/kg</td>
</tr>
</tbody>
</table>


Countries in Africa have maize flour fortification standards

Fortification opportunity for maize flour in Nigeria

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 Nigeria.

Proportion of maize flour industrially processed

95.1% (grams/capita/day)

Daily food availability

Salt

Mandatory fortification since 1992


ECOWAS Resolution ARES/99/4 on the Mandatory Inclusion of Salt in ECOWAS Member States "suggests that...all Member States should enact by the end of 1994, laws making it mandatory to index salt produced and imported for human or animal consumption..." [https://bit.ly/3B4rF8]

44 Countries in Africa have legislation for mandatory fortification of salt

Legislation source for salt in Nigeria

Type of salt that must be fortified
- All types (no exceptions)
- Domestically produced
- Imported
- Exports
- Household
- Processed food
- Animal feed
- Donated food

Nutrient levels and compounds in salt: fortification standard in Nigeria

Iodine
Potassium iodate
50.00 mg/kg


44 Countries in Africa have salt fortification standards

Fortification opportunity for salt in Nigeria

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

Wheat flour

Mandatory fortification since 2010


48 Countries in Africa have legislation for mandatory fortification of wheat flour

Legislation source for wheat flour in Nigeria

Type of wheat flour that must be fortified
- All types (no exceptions)
- Domestically produced
- Imported
- Exports
- Household
- Processed food
- Animal feed
- Donated food

Nutrient levels and compounds in wheat flour: fortification standard in Nigeria

Vitamin B6
Pyridoxine hydrochloride
6.00 mg/kg

Vitamin B12
Cyanocobalamin
0.02 mg/kg

Folate (B9)
Folic acid
2.80 mg/kg

Iron
NaFeEDTA
40.00 mg/kg

Niacin (B3)
Niacinamide
45.00 mg/kg

Riboflavin (B2)
Riboflavin
5.00 mg/kg

Thiamin (B1)
Thiamin mononitrate
6.00 mg/kg

Vitamin A
Retinyl palmitate
2.00 mg/kg


48 Countries in Africa have wheat flour fortification standards

Fortification opportunity for wheat flour in Nigeria

Presence of monitoring protocols for wheat flour fortification in Nigeria

External monitoring of domestic production
Yes

Import monitoring of imported food
Yes


11 Countries in Africa have mandatory fortification of wheat flour have external monitoring protocols

Wheat flour fortification quality/compliance in Nigeria

Wheat flour: in Nigeria that is fortified
100.00%

Source: Tebi Ethen, Standards Organisation of Nigeria. Personal communication. Nigeria. 2017

48 Countries in Africa have wheat flour quality/compliance data for wheat flour
Mandatory fortification since 2000


Mandatory fortification denoted in standards published by SON. NAFDAC Regulations also exist from 2005 and are being revised in 2018.

Countries in Africa have legislation for mandatory fortification of oil

Legislation scope for oil in Nigeria

- Type of oil that must be fortified
  - Only subsides
  - Only domestically produced
  - Only imported
  - Only exported
  - Domestic
  - Household
  - Processed food
  - Animal feed
  - Donated food

Countries in Africa have legislation for mandatory fortification of oil

Nutrient levels and compounds in oil fortification standard in Nigeria

- Vitamin A: Unspecified
- 8.00 mg/kg


Rice

Fortification legislation status unknown

Countries in Africa have rice fortification standards

Fortification opportunity for rice in Nigeria

- Population coverage of a food (whether fortified or not) represents the expected population that may benefit from fortification if it is implemented. However, there are no data available on population coverage of oil in Nigeria.
- Industrial processing of a food represents the industry’s feasibility to fortify; however, there are no data available on industrial processing of oil in Nigeria.

Countries in Africa have rice fortification standards

Fortification opportunity for rice in Nigeria

- Population coverage of a food (whether fortified or not) represents the expected population that may benefit from fortification if it is implemented. However, there are no data available on population coverage of rice in Nigeria.
- Proportion of rice industrially processed: 10.08%


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/nca/world/wba/CI_methodology]

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 estimate.
- 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://data.worldbank.org/indicator/](https://data.worldbank.org/indicator/)
- Industrial production of foods in manufacturing facilities is defined as: OK — 5 MT/day rated capacity; S — 500 MT/year raw east rated capacity; R — 5 MT/hour ready processing rated capacity; Wheat and Millet Flour — 20 MT/day grain processing rated capacity.