Update on Legislative Changes to Mandatory Wheat Flour Fortification

IAOM SE Asia Region
Scott Montgomery
Becky Tsang
Food Fortification Initiative
2 October 2018

Photo: www.my-sisters-house.org
Overview

1. Introduction
2. Global status of mandatory legislation
   a) SEA Regional status on mandatory legislation and voluntary standards
3. Changes under discussion
4. Q&A
Overview

1. Introduction
2. Global status of mandatory legislation
   a) SEA Regional status on mandatory legislation and voluntary standards
3. Changes under discussion
4. Q&A
Food Fortification Initiative:

Network of partners who:

Champion effective implementation of industrially milled fortified flour and rice globally through public, private, and civic sector partnerships.
What is Fortification?

Adding vitamins and minerals → during the milling process → to produce more nutritious foods

Photo from Mühlenchemie
Photo by David Snyder / CDC Foundation
Istockphoto
We focus on cereal grain fortification:
We focus on industrial milling

Industrial mill

Village-type chakki mill

Bühler photo

David McKee photo
We focus on mandatory legislation

• Most sustainable solution
• Equal access to fortified foods by consumers
• Equal costs across all competitors
  • Under mandatory fortification all millers must fortify
• Common global practice
Consequences of vitamin and mineral deficiencies can be severe

230,230 preventable brain and spine birth defects occur each year.

Anemia contributes to 20% of all maternal deaths.

Photos: International Federation for Spina Bifida and Hydrocephalus - Flickr Creative Commons
Consequences of vitamin and mineral deficiencies are not always obvious

- Debilitating fatigue
- Impaired cognitive development
- Economic loss

Photos: Flicker Creative Commons, Lightspring, Istock
Globally, fortifying flour with folic acid prevented about 50,270 brain and spine birth defects in 2017.

On average that is 138 healthier babies every day.
Overview

1. Introduction

2. Global status of mandatory legislation
   a) SEA Regional status on mandatory legislation and voluntary standards

3. Changes under discussion

4. Q&A
86 countries with mandatory flour or rice fortification*

*With at least iron or folic acid

Number of foods fortified:
1 - 3

Global Fortification DATA EXCHANGE
http://FortificationData.org
17 countries in Asia with mandatory flour or rice fortification*

*With at least iron or folic acid

http://FortificationData.org
# Fortification standards in Asia – voluntary & mandatory

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>FOOD</th>
<th>LEGISLATION STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Wheat flour</td>
<td>Voluntary standards</td>
</tr>
<tr>
<td>India</td>
<td>Rice</td>
<td>Voluntary standards</td>
</tr>
<tr>
<td></td>
<td>Wheat flour</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>Wheat flour</td>
<td>Mandatory</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Wheat flour</td>
<td>Voluntary standards</td>
</tr>
<tr>
<td>Nepal</td>
<td>Roller mill flour</td>
<td>Mandatory</td>
</tr>
<tr>
<td>Philippines</td>
<td>Rice</td>
<td>Mandatory</td>
</tr>
<tr>
<td></td>
<td>Wheat flour</td>
<td></td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Wheat flour</td>
<td>Mandatory</td>
</tr>
</tbody>
</table>
Overview

1. Introduction
2. Global status of mandatory legislation
   a) SEA Regional status on mandatory legislation and voluntary standards
3. Changes under discussion
4. Q&A
Country Status Legend

Legislation
✓ Mandatory legislation/standards
X No mandatory legislation/standards

Standards
✓ Standards (existing or proposed) follow WHO guidelines for at least iron and folic acid
X Existing standards could be improved for improved public health benefit

Not a mandatory fortification opportunity
Low consumption (e.g. maize) or not industrially milled (e.g. rice in many countries)
International recommendations

1. Endorsed as a public health intervention

2. Recommendations for fortification exist
Indonesia

- Mandatory legislation since 2001
- Standard (SNI) does not follow WHO recommendations* for iron, folic acid, zinc:

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>Previous (mg/kg)</th>
<th>WHO (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>50 (compound not specified; thus millers may use cheaper but less bioavailable forms)</td>
<td>60 (as ferrous sulfate, ferrous fumarate) 40 (as NaFeEDTA)</td>
</tr>
<tr>
<td>Folate</td>
<td>2 (as folic acid)</td>
<td>2.6 (as folic acid)</td>
</tr>
<tr>
<td>Zinc</td>
<td>30 (compound not specified)</td>
<td>55 (as zinc oxide)</td>
</tr>
</tbody>
</table>

- Efforts in 2016/2017 to conduct studies to justify changes

*Assumes Indonesia availability is 75-149 g/c/d; at this level electrolytic iron not recommended
• New proposed SNI posted April 2018 for public comment
• New SNI released September 2018:

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>Previous</th>
<th>New as of 2018</th>
<th>WHO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>50 (compound not specified)</td>
<td>50 (as ferrous sulfate, ferrous fumarate, NaFeEDTA)</td>
<td>60 (as ferrous sulfate, ferrous fumarate) 40 (as NaFeEDTA)</td>
</tr>
<tr>
<td>Folate</td>
<td>2 (as folic acid)</td>
<td>2 (as folic acid)</td>
<td>2.6 (as folic acid)</td>
</tr>
<tr>
<td>Zinc</td>
<td>30 (compound not specified)</td>
<td>30 (as zinc oxide)</td>
<td>55 (as zinc oxide)</td>
</tr>
</tbody>
</table>

*Standar Nasional Indonesia. Tepung terigu sebagai bahan makanan. SNI 3751:2018*
Malaysia

Legislation X
Standards ✓

• Voluntary standards for fortification gazetted July 2017:

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>2017 standard (mg/kg)</th>
<th>WHO (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>Not included</td>
<td>60 (as ferrous sulfate, ferrous fumarate)</td>
</tr>
<tr>
<td>Folate</td>
<td>Not included</td>
<td>2.6 (as folic acid)</td>
</tr>
<tr>
<td>Zinc</td>
<td>Not included</td>
<td>55 (as zinc oxide)</td>
</tr>
<tr>
<td>Thiamin</td>
<td>4.2</td>
<td>Not identified</td>
</tr>
<tr>
<td>Niacin</td>
<td>54</td>
<td>Not identified</td>
</tr>
<tr>
<td>Riboflavin</td>
<td>4.8</td>
<td>Not identified</td>
</tr>
</tbody>
</table>

*Assumes Malaysia’s availability is 75-149 g/c/d; at this level electrolytic iron not recommended. Food Act 1983, Food (Amendment) (No. 3) Regulations 2017.
Malaysia

• Draft mandatory legislation still pending with Ministry of Health
• Proposed will only apply to flour packed in 25 kg bags or less:

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>New proposed (mg/kg)</th>
<th>WHO (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>60 (as ferrous fumarate)</td>
<td>60 (as ferrous sulfate, ferrous fumarate) 40 (as NaFeEDTA)</td>
</tr>
<tr>
<td>Folate</td>
<td>2.6 (as folic acid)</td>
<td>2.6 (as folic acid)</td>
</tr>
<tr>
<td>Zinc</td>
<td>Not included</td>
<td>55 (as zinc oxide)</td>
</tr>
</tbody>
</table>

*Assumes Malaysia’s availability is 75-149 g/c/d; at this level electrolytic iron not recommended. Personal communication to FFI from the Ministry of Health
Mongolia

- Food fortification law passed May 2018
  - Does not name any specific foods, nutrients. Details to come in a resolution
  - Will come into effect December 2019
- Standards for wheat flour being drafted

Philippines

• Mandatory legislation since 2000
• Standard does not follow WHO recommendations:

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>Current (mg/kg)</th>
<th>WHO (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>70-105 (as electrolytic iron) 50-75 (as ferrous sulfate, ferrous fumarate)</td>
<td>60 (as ferrous sulfate, ferrous fumarate) 40 (as NaFeEDTA)</td>
</tr>
<tr>
<td>Folate</td>
<td>Not included</td>
<td>5 (as folic acid)</td>
</tr>
<tr>
<td>Zinc</td>
<td>Not included</td>
<td>95 (as zinc oxide)</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>3-6.5 (as retinol palmitate/acetate)</td>
<td>5.9 (as retinol palmitate)</td>
</tr>
</tbody>
</table>

• Adding folic acid is a public health opportunity

*Assumes the Philippines availability is <75 g/c/d; at this level electrolytic iron not recommended.
Department of Health, Office of the Secretary. The Implementing Rules and Regulations of Republic Act No. 8976.
Philippines

• National Nutrition Council (NNC) has has a pending resolution to add folic acid for one year

• Approval process within NNC stalled with technical questions regarding folic acid

• Meeting with Philippine millers and government stakeholders tomorrow (3 October) after IAOM to discuss further
Sri Lanka

- Cabinet brief approved mandatory fortification of wheat flour
- Standards and timeline are pending
Viet Nam

- Mandatory decree passed in 2016, implemented 2018
- Previously voluntary standards from 2011 apply

### Legislation ✓ Standards X

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>Current</th>
<th>WHO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>27.80-51.60 (as ferrous sulfate)</td>
<td>60 (as ferrous sulfate, ferrous fumarate)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40 (as NaFeEDTA)</td>
</tr>
<tr>
<td>Folate</td>
<td>2.04-8.16 (voluntary)</td>
<td>5 (as folic acid)</td>
</tr>
<tr>
<td>Zinc</td>
<td>70.90-131.70 (as zinc oxide)</td>
<td>95 (as zinc oxide)</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>1.33-4.80 (voluntary)</td>
<td>5.9 (as retinol palmitate)</td>
</tr>
<tr>
<td>Vitamin B12</td>
<td>0.02-KQD (voluntary)</td>
<td>0.04 (as cyanocobalamin)</td>
</tr>
</tbody>
</table>

*Assumes Viet Nam availability is <75 g/c/d; at this level electrolytic iron not recommended.

Socialist Republic of Viet Nam. Providing for Fortification of Food with Micronutrients. No. 09/2016/ND-CP
Viet Nam

- Food processors using wheat flour have been protesting with central government
  - Unfortunately, with many myths and untruths.
- Government has sent mixed messages about the status of the decree.

Legislation ✓ Standards ✗

Photo: A representative of Acecook speaks at the workshop on food fortification in HCMC on June 25. © Vietnam Net
What can millers do?
Fortification programs are successful if they:

✓ Use recommended nutrient compounds and concentrations
✓ Optimize coverage and consumption
✓ Are well implemented and monitored
Can you help please?

• Address myths and misconceptions from customers
  • No need to clean production lines
  • Fortified foods and fortified ingredients are not banned by importing countries
  • Exporters will always need to meet import requirements
• Be our advocates to national governments when seeking public comment to proposed legislation or standards or asking for private sector feedback
Conclusions

• Tremendous growth in wheat flour means fortifying wheat flour will reach more consumers in region

• Imported wheat → large industrial mills → excellent vehicle for cost effective, sustainable fortification

• SEA region millers can make this happen. Engage with FFI to help our efforts

• Use your influence with government to support mandatory fortification
For more information:

E-mail Scott: Sjmontgom@gmail.com
E-mail Becky: becky.tsang@ffinetwork.org
Also see:

 FFInetwork.org
 Facebook.com/FFInetwork
 Twitter.com/FFInetwork

And join our group on
LinkedIn: https://www.linkedin.com/company/food-fortification-initiative/