

PROPOSED HARMONIZATION WORKSHOP FOR WHEAT AND MAIZE FLOUR  
FORTIFICATION  
Concept Note

## Background

Wheat and maize flour fortification is a preventative food-based approach to improve micronutrient status of populations over time that can be integrated with other interventions in the efforts to reduce vitamin and mineral deficiencies. Fortification of industrially processed wheat and maize flour, when appropriately implemented, is an effective, simple, and inexpensive strategy for supplying vitamins and minerals to the diets of large segments of the world's population. In an analysis undertaken in preparation for a meeting on flour fortification standards, however, only 9 out of 78 existing wheat flour fortification programmes with iron were judged likely to have significant positive effects on iron status at the national level.

Therefore the Flour Fortification Initiative (FFI) and United States Centers for Disease Control & Prevention (US CDC) organized a meeting of nearly 100 leading nutrition, pharmaceutical and cereal scientists and milling experts from the public and private sectors around the world in April 2008. The purpose of that workshop was to develop practical recommendations for national application on average levels of micronutrients to consider adding to fortified wheat flour, milled in industrial roller mills (i.e.>20 metric tons/day milling capacity), with iron, zinc, folic acid, vitamin B<sub>12</sub> and vitamin A. The working group papers were published in a supplement of the Food and Nutrition Bulletin,<sup>1</sup> and the meeting recommendations were endorsed by WHO and released as an Interim Consensus Statement of the WHO, FAO, UNICEF, Global Alliance for Improved Nutrition (GAIN), Micronutrient Initiative (MI) and FFI.<sup>2</sup>

Flour fortification as a cost-effective intervention to prevent and control vitamin and mineral deficiencies is widely accepted throughout Africa. A number of countries already fortify wheat, and in some cases maize flour, while others are currently preparing for the launch of national programmes. Since the release of the WHO Interim Consensus statement, the West African Monetary Union (UEMOA) has harmonized with the WHO Guidelines as expressed in the Consensus Statement. Countries of UEMOA and a number of the Economic Community Of West African States (ECOWAS) countries are reviewing and revising their flour fortification standards to reflect the new science endorsed by WHO and its partners.

In West Africa, HKI, MI and UNICEF have achieved great success in the area of fortification of edible oil in countries of the UEMOA. Several francophone countries have now also embarked on wheat flour fortification. GAIN has provided support to several of these and has also supported effective programmes in Nigeria and Ghana. Currently five West African countries are fortifying wheat flour, while three others are on the verge of doing so.

In Eastern, Central and Southern Africa, the East Central and Southern African Health Community (ECSA-HC), an intergovernmental organization that fosters cooperation on health among 14 countries in East, Central and Southern Africa, has supported countries to put in place national food fortification programmes for many years. ECSA has developed regional guidelines on the fortification of edible oil, maize and wheat flour, and sugar. ECSA has played a critical role in advocating for food fortification during ECSA Ministers of Health Conference, mapping of the milling sector, developing regional guidelines on standards, providing training materials on quality assurance and undertaking training among

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<sup>1</sup> Flour Fortification with Iron, Folic Acid, Vitamin B<sub>12</sub>, Vitamin A, and Zinc: Proceedings of the Second Technical Workshop on Wheat Flour Fortification. *Food and Nutrition Bulletin* supplement March 2010, 31.

<sup>2</sup> WHO. Recommendations on Wheat and Maize Flour Fortification Meeting Report: Interim Consensus Statement 2009, ([http://www.who.int/nutrition/publications/micronutrients/wheat\\_maize\\_fort.pdf](http://www.who.int/nutrition/publications/micronutrients/wheat_maize_fort.pdf)).

priority countries over the last 5-6 years. This has been supported by USAID/A2Z, MI and UNICEF. Most of the ECSA countries have voluntary flour fortification status, and none have made maize or wheat flour fortification mandatory.

In partnership with GAIN, MI and UNICEF, South Africa launched its national food fortification programme in 2003; requiring manufacturers of bread and wheat flour or maize meal to fortify these staples with eight micronutrients including vitamin A, folic acid, iron and zinc. A 2007 study found a significant decline in birth defects resulting from the fortification programme, with reduction in spina bifida and anencephaly by 41.6% and 10.9%, respectively. A separate study found a 66% reduction in perinatal deaths related to neural tube defects, and 39% reduction in NTD-related infant mortality (MI, 2009).

Representatives of government organizations from nine countries in the region, food processors, premix suppliers, research organizations and development partners attended an ECSA Food Fortification meeting in Nairobi, Kenya in September 2009. The workshop was organized by ECSA in collaboration with A2Z, and funded by USAID-EA, World Bank and UNICEF. Participants “appreciated the work of the ECSA Regional Technical Working Group on Regulations and Standards in developing the ECSA regional guidelines on fortification levels which have been adopted”<sup>3</sup> in Uganda, Kenya and Malawi. They also “recognized that WHO has issued general guidelines on flour fortification levels which each country and region should study and adjust to their own realities and conditions.”<sup>3</sup> They therefore recommended that ECSA harmonize the ECSA guidelines for fortification levels with the WHO guidelines, and finalize the model standards on fortified foods that will be recommended for adoption by ECSA countries.

#### **Proposal for a Standards Harmonization Workshop for Eastern & Southern Africa**

In view of the above situation analysis, FFI proposes to jointly organize a technical meeting with WHO, UNICEF, Smarter Futures, ECSA, the A2Z Project (the USAID Micronutrient and Child blindness project), HKI, MI, GAIN, FFI and other partners to:

1. Disseminate the WHO endorsed recommendations on flour fortification among key stakeholders;
2. Clarify issues of implementation within the context of planned and ongoing flour fortification programmes
3. Harmonize models of standards for fortified flour and their premixes.

Location: Best option for partners would be in Nairobi, Kenya, due to its central location, easy accessibility and close proximity to regional offices of a number of important partner organizations based there.

Date: April 19-22, 2010. These dates will continue the momentum from the September ECSA Food Fortification Workshop and the GAIN Africa Regional Forum in March 2010.

#### **Justification for a Standards Harmonization Workshop**

Participants in the ECSA workshop requested the Policy, Regulations and Standards Technical Working Group reconvene to finalize a model of standards based on the ECSA guidelines and the WHO Guidelines and Recommendations on food fortification<sup>3</sup> per the recently published Consensus Statement.

One of the major goals in the 2010 FFI work plan is to provide technical support to national authorities to enable them to develop standards and regulations for fortified flour based on current scientific evidence and practices. Specifically, FFI plans to support countries in the development of standards and

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<sup>3</sup> Summary of Recommendations and Next Steps for the East Central and Southern African Region. 4th Regional Workshop on Food Fortification. Nairobi, Kenya from 28 – 30 September 2009.

regulations by conducting a workshop to harmonize with WHO guidelines similar to the one held in East Asia in November 2009.<sup>4</sup>

FFI is the umbrella partner of Smarter Futures, a co-financing partnership consisting of FFI, the International Federation of Spina Bfidia and Hydrocephalus (IFSBH), AkzoNobel, BOSK and the Dutch Ministry of Foreign Affairs. Smarter Futures work is focused on wheat and maize flour fortification in Africa.

In addition, the FFI Executive Management Team (EMT) is looking for several ways to strengthen FFI support and resources for East Africa, The EMT would be invited to participate in the workshop to learn more about flour fortification in Africa from country participants and presentations. The proposed Harmonization Workshop provides an ideal opportunity for the FFI EMT to hold their bi-annual meeting in the same city for two days (22-23 April).

### **Objectives of the Harmonization Workshop**

- (1) To review the existing regional guidelines developed by ECSA and consider strategies for harmonization with the WHO recommendations
- (2) To inform government policy-makers and millers about the new recommendations on wheat flour fortification and of the implications of these recommendations on premix cost, flour product properties and trade
- (3) To outline steps for national adaptation/adjustment of the recommendations, in developing or revising national flour fortification programmes
- (4) To identify national and regional approaches to improve the effectiveness of national fortification programmes

### **Preparation**

- Identification of 2-3 government representatives (i.e. National Bureau of Standards, Public Health/Drug Authority, Nutrition Department or related units) and the private sector from each ECSA country and some representatives from other non-ECSA countries, as appropriate.
- Country delegations will obtain current import/export and production data as well as food consumption estimates for their country, if available.
- Food intakes will be estimated by SES and demographic characteristics for each country.
- Baking and sensory trials with premixes containing different forms of iron will be conducted based on the WHO consensus statement on appearance, taste, texture, quality and nutritional content of common African flour products. Flour mills in cooperation with academic/government institutions in different countries to prepare a number of products using flour fortified at levels of WHO recommendations (based on per capita wheat/maize flour consumption).
- Pre-workshop technical committee to review issues to be addressed and prepare detailed agenda.
- Pre-workshop facilitators meeting – plan to have one day for facilitators and partners (April 18<sup>th</sup>) to walk through the agenda, share presentations, give feedback and agree on how to navigate contentious issues.

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<sup>4</sup> WHO Regional Workshop on Flour Fortification Standards, 10-12 November 2009, Manila, Philippines.  
<http://www.sph.emory.edu/wheatflour/EastAsia.php>.

During the Harmonization Workshop, participants will use the available data from the baking trials, consumption estimates, and other technological information to revise the existing guidelines on fortification levels.

The Harmonization Workshop will also review draft standards for fortified flour and premixes that each country may use to prepare country-specific legislative instruments for flour fortification.

**Participants per country**

1. Nutrition/health policy maker
2. Bureau of Standards (food standards) decision maker or Public Health/Drug Authority/Food safety decision maker
3. Millers Association representative
4. Representative from largest mill(s)
5. WHO and UNICEF country office representatives
6. MI & HKI country office representatives

**Country teams to invite (proposed)**

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|---------------|------------------|----------------|
| 1. Kenya      | 9. Zambia        | 17. Angola     |
| 2. Lesotho    | 10. Zimbabwe     | 18. Madagascar |
| 3. Malawi     | 11. Rwanda       | 19. Mozambique |
| 4. Mauritius  | 12. Ethiopia     | 20. Sudan      |
| 5. Seychelles | 13. South Africa | 21. Somalia    |
| 6. Swaziland  | 14. Ghana        | 22. Eritrea    |
| 7. Tanzania   | 15. Morocco      | 23. Namibia    |
| 8. Uganda     | 16. Nigeria      |                |