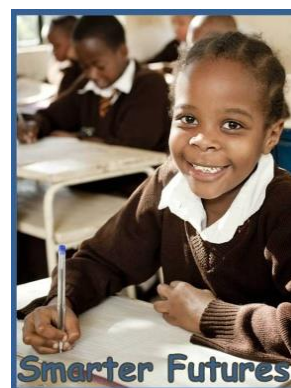


AFRICA NETWORK MEETING

**CELEBRATING AND EQUIPPING
PROGRESS THROUGH PARTNERSHIPS**

2-3 December 2014

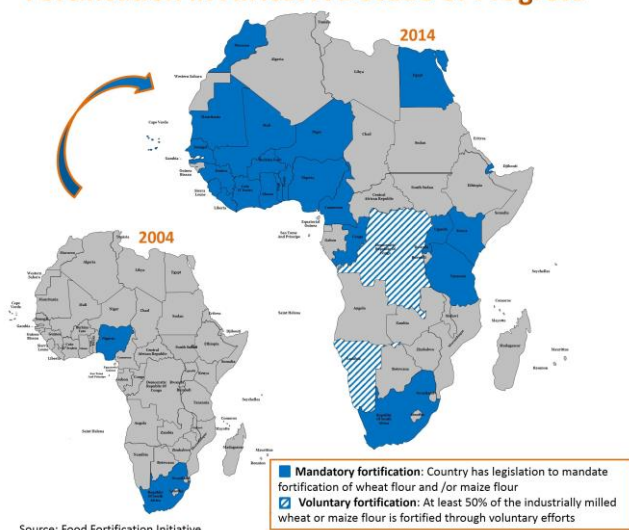
Radison Blue Waterfront Hotel * Cape Town, South Africa



Meeting Report

For the past decade, countries in Africa have led the global momentum to fortify wheat and maize flour with essential nutrients to improve their population’s health. In 2004, only two African countries (Nigeria and South Africa) had legislation to require wheat flour fortification as a public health strategy.¹ By December

Fortification in Africa: A Decade of Progress



As countries with legislation were in blue on the map used during the Africa Network Meeting, participants began referring to their future challenge as “turning Africa blue.”

2014, 24 African countries had such legislation, and six of those countries included maize flour in the requirements.¹ Three more African countries (Democratic Republic of Congo, Gambia, and Namibia) fortify more than half their wheat flour through voluntary efforts.¹

About 100 people celebrated this decade of progress during an Africa Network Meeting held in Cape Town, South Africa, 2-3 December 2014. Participants included government representatives from 22 countries, 12 milling executives from eight countries, and 35 representatives from partners, including United Nations organizations, industries, non-governmental organizations, and others. The meeting was sponsored by Smarter Futures, a partnership for Africa that includes the International Federation for Spina Bifida and

Hydrocephalus (IF), AkzoNobel, Helen Keller International (HKI), the Government of the Netherlands, and the Food Fortification Initiative (FFI). Other fortification partners, including the Global Alliance for Improved Nutrition (GAIN) and the Micronutrient Initiative (MI) sponsored participants to attend the meeting.

The Africa Network Meeting began with a reception which included FFI leadership award presentations to Abubakar Said Salim Bakhresa of Tanzania and Magdy Shehata of Egypt.

¹ Food Fortification Initiative database





Mr Bakhresa is Managing Director of Bakhresa Grain Milling in Malawi, Burundi, Uganda, and Mozambique, and he is also Executive Director of Said Salim Bakhresa & Co Ltd based in Tanzania. He has been in favor of mandatory flour fortification since the first FFI network event in Africa in Arusha, Tanzania, in 2008. He has extended his advocacy for mandatory flour fortification to other countries where his family-owned company operates mills.

As Mr Bakhresa could not attend the network meeting, Peter Muni of the Bakhresa staff accepted the award on his behalf. Mr Muni noted that it takes time for fortification to be implemented as some mills may need



Magdy Shehata, left, of Egypt, and Peter Muni of Tanzania received FFI leadership awards at the Africa Network Meeting opening reception. Mr Muni received the award on behalf of Abubakar Said Salim Bakhresa of Tanzania.

new equipment, and they must learn how to protect vitamin and mineral premix from the high heat and humidity commonly found in most African countries.

Fortified products, however, have been well-received by customers, and working through the challenges are worth the patience required. "This is our future in terms of the country; this is the future in terms of our employees," Mr Muni said.

Dr Shehata is Programme Officer (Nutrition and Food Technology) for the World Food Programme in Egypt. He was involved in every step of the program to fortify *baladi* bread distributed in Egypt's food subsidy program. He has been an advocate with senior government officials in the Ministry of Supply and Internal Trade, Ministry of Health, National Nutrition Institute, and with flour millers and UN agencies.

Dr Shehata stressed the importance of monitoring and evaluating fortification programs. "Without a strong and efficient monitoring and evaluation system, we will not be able to run our programs successfully," he noted.

The monitoring system in Egypt has shown that currently, flour fortification has stalled due to key personnel changes as well as political and social unrest. "We believe with Dr Shehata there, and his commitment to improving the nutritional status of the people of Egypt, the government will follow through on its commitment to restart the program," said Scott Montgomery, FFI Director.

The Africa Network Meeting was held in Cape Town to coincide with the 25th International Association of Operative Millers 25th Mideast Africa (IAOM-MEA) Conference and Expo held in Cape Town later in the week. Peter Cook, Chairman of the National Chamber of Milling in South Africa and host of the IAOM event in Cape Town, was a guest speaker at the opening reception of the Africa Network Meeting. He noted that some millers in South Africa were fortifying flour even before it became mandatory. Over time, the National Chamber of Milling has established a collaborative partnership with the South Africa Ministry of Health. He noted that it is only through such joint efforts that the magnitude of the progress in Africa be accomplished.

Mr. Cook and Boikanyo Mokgatle of the National Chamber of Milling both attended the entire Africa Network Meeting. In opening remarks to the IAOM-MEA conference later in the week, Mr. Cook said, "Without the milling industry, we cannot achieve the fundamental need of fortifying food to address vitamin



and mineral shortage that may be typical in a country. I think this is our role, to actually be the means to this end."

During the Africa Network Meeting opening reception, Rozanna Bihl, coordinator of the Association for Spina Bifida and Hydrocephalus South Africa chapter, spoke about the challenges faced by children with spina bifida. While their mental capacity is rarely compromised, children with spina bifida very often have some form of paralysis and/or incontinence. She said very few schools in South Africa are equipped for children with such special needs. Spina bifida's impact on families' lives fuels her passion, said Ms. Bihl who is also a registered nurse.

Spina bifida is one of a group of birth defects called neural tube defects (NTDs). Most of these devastating birth defects can be avoided if women have at least 400 micrograms of folic acid every day before conception and in the first few weeks of pregnancy. Encouraging women to take folic acid supplements has had only limited success for several reasons. Many pregnancies are not planned and consequently women are not following the advice to take folic acid. Or women may not have access to or the funds to purchase folic acid supplements. In contrast, folic acid can be easily and effectively added to flour without requiring consumers to change behavior. It is a practical means of increasing folic acid intake on a daily basis.

In the past few years, a focus in the nutrition community has been improving health of mothers and children in the first 1000 days, which is the time between a baby's conception and the child's second birthday. Better nutrition during this time can have a lifelong impact on the child's future, but Lieven Bauwens, IF Secretary General, said the emphasis is misleading related to prevention of NTDs. Women need folic acid daily at least eight weeks prior to conception – 56 days before the 1000 days begins – for their folic acid levels to be high enough to protect against NTDs. Improving the nutritional intake of non-pregnant women of child-bearing age would help prepare them for their child's first 1000 days.

During a keynote address of the Africa Network Meeting, Graham Fieggen, pediatric neurosurgeon at Red Cross War Memorial Children's Hospital and Professor and Head of Division of Neurosurgery at University of Cape Town, discussed the [early management and long-term care](#) needed for children with NTDs. One NTD is anencephaly in which the child's brain is not formed correctly. Dr Fieggen said this is probably the most common NTD but is not easily documented because pregnancies affected by anencephaly are often miscarried or terminated. If an infant is born with anencephaly, it is always fatal.

The most common recorded NTD is spina bifida in which the spine is not formed correctly. In the photo below, Dr Fieggen shows a slide with examples of the spina bifida defect. Surgery can correct the child's appearance, Dr Fieggen said, but it cannot correct the underlying problem with the spine. Children with spina bifida frequently suffer from hydrocephalus because the birth defect in the spine prevents fluid in the central nervous system from draining as it should. People with spina bifida often face a lifetime of incontinence, and Dr Fieggen said the social stigma this creates is especially difficult to manage during adolescence.





Treating children with spina bifida quickly after they are born can help them lead a productive life. In Africa, however, medical care is not always available. Consequently Dr Fieggen told the meeting participants, “What you are preventing in your daily work is profoundly important.” He said that fortifying commonly consumed food is an excellent prevention strategy because people do not always remember to take a folic acid tablet. Also, many pregnancies are not planned, and fortification provides this critical nutrient when it is needed.

During a discussion session after Dr Fieggen’s presentation, a participant asked about the extent of NTDs in Africa. Birth defect surveillance programs are being planned in some African countries, but currently very limited data is available to answer this question. In some countries on other continents, the number of children born with a NTD is misleading because pregnancies affected by an NTD are often terminated and not counted in the birth prevalence. Dr Fieggen said abortion is not common in Africa, so it will be much more likely that surveillance programs identify children living with spina bifida who need specialized care.

One country in Africa that has tracked NTD prevalence before and after fortification is South Africa. There the NTD prevalence declined by one-third after wheat and maize flour were fortified with folic acid.² “Somebody is living a better life today because of our contribution,” said Lynn Moeng, Cluster Manager for Health Promotion, Nutrition and Oral Health, as she made the meeting’s official opening remarks on behalf of the Department of Health of South Africa. Pictured at left, she said the road to fortification has not always been smooth. Fortification’s success, she said, is due to strong political will, commitment from the industry, and support from partners.



As an [example of partnerships](#), Fred Grant, Regional Nutrition Advisor for HKI who is pictured at left, described the fortification progress in West Africa. Of the 15 countries in West Africa, only Nigeria had legislation for food fortification in 2002, Grant said. Now 14 of the 15 countries have mandates for wheat flour fortification, and 13 of the 15 countries have mandates for fortification of vegetable oil. Currently 70% of the population in West Africa is covered by fortified foods.

A coalition of public, private, and civic partners worked together in the region and identified the following key elements of fortification:

- Population-based identification of food vehicles (usually with the Fortification Rapid Assessment Tool or FRAT)
- Industry assessments
- Legal framework
- Production
- Quality assurance
- Public awareness raising on fortification
- Private marketing of fortified foods
- Monitoring and evaluation

² Sayed, A., et.al., Decline in the Prevalence of Neural Tube Defects Following Folic Acid Fortification and Its Cost-Benefit in South Africa. [Birth Defects Research](#) 82 2008:211-216.



This process led the regional partners to prioritize wheat flour and vegetable oil as food vehicles. They also worked together to provide the advocacy and training necessary for successful fortification programs. Regional bodies passed resolutions to help make fortification a priority in countries, and they created common fortification standards and a shared logo. The work of regional groups, Grant cautioned, does not substitute for country-level action.

During a group discussion following Mr Grant's presentation, Margaret Efiang Eshiett, Deputy Director of the Standards Organization of Nigeria, agreed with the call for effective country-level partnerships and action. Pictured at right, she said diversity of cultures and languages in African countries means it can take years to reach consensus. She urged participants to strengthen the partnerships in their country's National Fortification Alliances as they are the key to successful fortification implementation.



Several participants stressed the need for quality control measures to be in place and enforced to ensure compliance with the national fortification standard. They noted that flour imports also needed to be monitored for compliance for fortification to have the desired health impact. Imports must also be fortified to keep imported flour from having an unfair price advantage if it is priced less than domestically produced, fortified flour. Anna Verster, Smarter Futures Senior Advisor, said that milling is a highly sophisticated operation, often working under international quality standard systems such as ISO 9000 series and Hazard Analysis and Critical Control Points HACCP ISO 22,000. Food inspectors therefore can audit this process to ensure that the system is under control. Inspectors can look at the mill's quality control and quality assurance system and paper records as well as the records of flour production and premix use and not simply test samples of fortified flour. She noted that flour millers want to produce a good product and avoid a recall or fine. Consequently food inspectors and millers should be seen as partners in fortification.

Several resources were shared during the meeting to equip leaders as they work toward mandatory fortification. The lunch break included tabletop displays of a range of materials, such as a new device for measuring nutrients in flour, sample communications material from countries, and information about sodium iron EDTA which is considered the most bioavailable form of iron used in flour fortification.

Presentations during the afternoon session featured the following four tools:

1. [FORTIMAS \(Fortification Monitoring and Surveillance\)](#) This is an on-going data collection system to track trends in population coverage and impact of quality fortified flour (or other foods). Coverage is based on the quantity of fortified flour produced and imported, as well as household data collection on purchases, or presence of, fortified flour in selected communities. Once the coverage is documented as sustained at close to 80% or more of the population, FORTIMAS proposes the use of sentinel site data to track trends in the effectiveness of flour fortification over time among the covered population.

FORTIMAS offers guidance for purposive selection of communities (e.g. districts within provinces or large urban centers) as sentinel sites, and identification of data collection points (e.g. primary health clinics, schools, houses of worship, large worksites, etc.) within the sites where data on flour consumption patterns and nutritional status of average consumers can be collected in a timely manner. FORTIMAS emphasizes the use of countries' existing data systems (e.g. formal flour



production/importation reports, HMIS, vital statistics, etc.) for on-going tracking of a minimal number of flour fortification coverage and impact indicators.

Finally, FORTIMAS includes helpful tools to ascertain the state of the program with a focus on ensuring that satisfactory population coverage of fortified flour is achieved so as to lead to public health impact. A health impact can be expected when a number of minimum conditions are met:

- A high percent of industrially milled flour is fortified
- A bioavailable iron compound is used, at levels recommended by the [World Health Organization](#)
- Quality assurance is practiced at mills, including quality control testing practiced by quality assurance staff
- Close to 80% of the population has access to quality, fortified flour and food made with fortified flour
- Consumers are aware of the benefits of fortified flour and the flour fortification legislation

Using FORTIMAS will help country leaders determine if the fortification program is performing as expected, and if not, where it might need adjustments. It can also prevent a country from conducting expensive impact evaluations before the fortification program is successfully reaching the target population.

FORTIMAS can be downloaded in its entirety or one chapter at a time from the [Smarter Futures website](#). Users are free to print copies if they prefer.

2. [Communications Toolkit](#). The key principle in this toolkit is that only educating audiences about the value of improving nutrition through fortification is generally not an adequate communications strategy. Communications must also motivate people to take action to support fortification. Communications programs devote most of their creativity and funding to consumer awareness, even though consumers are rarely the roadblock to fortification. The toolkit helps fortification teams develop a communication strategy for every primary audience, including policy makers, millers, nutritionists, bakers, and food inspectors. The communications toolkit and an accompanying workbook can be downloaded from the [FFI website](#).
3. [Estimating Fortification's Costs and Economic Benefits](#). Several countries have compared the cost of fortification with healthcare expenses averted when NTDs are prevented. Because children with spina bifida face a lifetime of surgeries and treatments, the healthcare savings can be tremendous. For example, South Africa found that it saved 30 rand for every one rand spent on fortification when it calculated the cost of treating a child with spina bifida during the first three years of life.² The overall cost benefit ratio in averting NTDs by fortifying flour with folic acid was 46 to 1.²

Several additional factors should be considered when analyzing the country's costs and benefits of fortification. The economic consequences of iron deficiency, for example, can be far-reaching. The mental capacity that is under developed when children are iron deficient is never recovered. This affects their academic performance and future earnings potential. Lost productivity due to lower physical capacity in countries where iron deficiency is problematic also takes a toll on the country's gross domestic product, particularly in countries where the majority of the workforce is in the agriculture and natural resource sectors.



A tool is available to help countries compare the costs of health problems caused by nutritional deficiencies with the costs of fortification. The tool requires multisectoral partners such as representatives from the Ministry of Health, Ministry of Industry, nutritionists, economists, and food industry to work as a team to input data from their countries. Regional workshops in Africa are planned in 2015 and 2016 to guide country leaders through this process. See the tool and information from a cost and economic benefit training workshop in 2013 on the [FFI website](#).

4. **Premix Procurement.** The GAIN Premix Facility (GPF) is a procurement platform operated within the Global Alliance for Improved Nutrition (GAIN) to support fortification programs and partners (e.g. governments, UN agencies, implementing agencies and private sector) in the implementation of effective micronutrient premix procurement supply chain models. The GPF provides solutions for procurement, quality assurance and control of premix and financial access through extended credit. The GPF relies on a certification approach for the sources of micronutrients and premixes to ensure quality and tender based to have the best pricing. Through ongoing monitoring of performance of its certified suppliers, it has now established a solid supplier base composed of 21 blenders, 40 micronutrient suppliers and five micronutrient powder producers.

The GPF is also working with national stakeholders to implement better national premix systems. Several models have been developed based on country specificities. Good examples include:

- Ghana uses the revolving fund for large orders, then a local company repackages the premix and reliably delivers small packs of affordable, good quality micronutrients to producers within 24 hours. The same model has been developed in Kyrgyzstan.
- Ethiopia's cost recovery system uses donated premix from the Micronutrient Initiative, UNICEF and GAIN. Eight months later, using recovering costs, the new national supply system has launched a tender for 14 metric tons of micronutrient premix or enough for 55 million consumers nationwide.
- In Tanzania the initial supply model for the national fortification program was developed in partnership with HKI and industries. Both oil and flour industries purchase their premix or micronutrients from a local hub based in Dar Es Salaam. They do this with an effective lead-time of 48 hours and at the best price obtained by pulling together the demand from industries and using the GPF tender based process.

Moving forward, GAIN will use the GPF and its Fortification Quality Support program (FoQuS) to work with national stakeholders to improve quality and compliance of fortification programs in Africa.

In closing remarks, Ronald Afidra, FFI Africa Network Coordinator, identified challenges for the next decade. Among them were:

1. Moving beyond mandatory legislation to ensure quality and compliance with appropriate standards
2. Strengthening collaboration with regional bodies, such as the West Africa example, to enhance the success of flour fortification across Africa, in particular northern, southern and eastern regions
3. Engaging leaders from the public, private, and civic sector to be involved in their country's National Fortification Alliance and African Union at large
4. Emphasizing the need for folic acid prior to conception to prevent NTDs, and fortifying flour as a means of improving folic acid intake and preparing for the 1000 days



5. Sustained ownership by millers so this becomes a self-regulated milling practice

The African Union representative attending the meeting invited the Smarter Futures team to hold the next Africa Network Meeting at the African Union in Addis Ababa, Ethiopia.

