



CONCEPT NOTE

TRAINING WORKSHOP ON QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) FOR FLOUR FORTIFICATION

Kampala, Uganda, May 2016





INTRODUCTION

Vitamin and mineral deficiencies, in particular deficiencies of iron, iodine, vitamin A and folic acid, cause significant economic losses through excess morbidity and mortality of women and children, reduced cognitive development in children and work productivity of adults and increased disabilities.

Flour (maize and wheat) **fortification** involves adding essential vitamins and mineral to flour as it is milled, which in turn makes foods prepared with fortified maize and wheat flour more nutritious. Iron, zinc, folic acid, and other B vitamins are commonly added to wheat and maize flours. This has proven to be a cost-effective means of reducing the prevalence of iron deficiency anemia and neural tube birth defects and improving overall health. Vitamin A can also be added to flour but is more commonly added to edible oil. Iodine is added to salt.

Many countries in Africa are implementing (mandatory) maize and wheat flour fortification or are considering the adoption of this intervention at their national level. A key component of **successful food fortification programmes** is the internal and external regulatory **monitoring** by which the private and public sectors collaborate to produce quality-fortified food. Available information on regulatory monitoring systems for fortified wheat flour indicates problems and weaknesses such as a lack of clarity on roles and responsibilities between industry and different government agencies in quality assurance and quality control of flour fortification. Regulatory monitoring systems for fortified foods should be based on national **legislation, regulations and standards** that establish requirements for foods and the expected roles and responsibilities of various stakeholders.

Since 2009, **Smarter Futures**, a Partnership for Africa of the Food Fortification Initiative (FFI), The International Federation for Spina Bifida and Hydrocephalus (IF), AkzoNobel, Helen Keller International (HKI) with co-financing from the Dutch Government has offered technical training in quality assurance and quality control of fortification programmes for millers, food control personnel, regulatory personnel and public health laboratory personnel from countries in Africa. Such **training workshops on Quality Assurance and Quality Control (QA/QC)** have been held in Dakar, Senegal, Dar es Salaam, Tanzania, Casablanca, Morocco and Harare, Zimbabwe for various sub-regional groups of countries. A further QAQC training is now planned for countries in Eastern and Central Africa in Kampala, Uganda, May 2016. Participant feedback from these workshops has shown that this workshop type and format has been very effective at informing both the milling industry and government officials, responsible for food control of their respective roles and responsibilities.

The **Food Fortification Initiative (FFI)** has developed an online training course on Flour Fortification Monitoring is a concise but well-detailed course developed for individuals who are involved with the monitoring aspects of flour fortification programs around the world. The course guides participants through many phases of monitoring such as planning for a monitoring system; engaging in internal, external, import and commercial monitoring activities; and dealing with monitoring data. Participants to the QAQC training will be asked to go through the online training and do the quizzes before coming to the hands-on training. Also, a training of trainers in food fortification will be held later this year in West Africa.



In recent years, it also became evident that it is necessary to foster a new generation of food fortification experts in countries of the Region, as more and more countries fortify their food. In addition to above mentioned initiatives, **Smarter Futures, jointly with Ghent University and VLIR-UOS in Belgium and Makerere University** in Uganda will invite a number of Master or Ph.D level students from schools of nutrition and food-technology in 7 countries in Eastern Africa to join the QA/QC training in Kampala. The students invited will be expected to carry out pre-course work online and will also participate in a number of additional days training just before and after the QA/QC training itself.

GOAL of the TRAINING

The Quality Assurance and Quality Control (QA/QC) training workshop methodology is designed and conducted to ensure that maize and wheat flour fortification programmes are implemented correctly to achieve an effective public health impact. The expected effective public health impact is a systematic reduction in vitamin and mineral deficiencies, notably of iron and folic acid in the national population.

OBJECTIVE OF THE WORKSHOP

The overall objective of the Training of Millers and Regulatory Staff on Quality Assurance and Quality Control is to provide training to those that have been identified by the national stakeholders in countries in Eastern and Central Africa (government food control officials, regulatory inspectors and milling industry personnel) as responsible for the key components in the national maize and wheat flour fortification programme. In addition, the country teams will interact with selected students from the countries they come from and act as mentors to a new generation of food fortification experts.

EXPECTED OUTPUTS

The following outputs from the workshop are expected to be achieved by the end of the training sessions:

1. Maize and wheat flour millers will have increased capacity and commitment to implement adequate quality control and quality assurance systems in order to consistently produce a safe and quality product that meets national standards and specifications.
2. Regulatory authorities will have increased capacity and commitment to monitor fortified food production in an effective, efficient and sustainable way. For most countries this is expected to include a greater emphasis on monitoring the quality and safety of premix/fortificant, auditing production/fortification and internal quality assurance systems and the fortified food at production level as opposed to market and retail level surveys.
3. An improved dialogue between maize and wheat flour millers and government authorities and an improved understanding of requirements, roles and responsibilities of the national stakeholders.



4. Documentation of existing national regulatory monitoring systems and practices and proposals for improvement from selected countries
5. Those trained in the workshop will provide training on the components of national flour fortification programme for other personnel and employees in their respective countries and stakeholder organizations.
6. The teams from the invited countries will also interact with selected MSc students who will be expected to do course work on monitoring of flour fortification before and after the QAQC training and to participate in the training itself.

WORKSHOP FORMAT

The format of the meeting will follow the WHO/FAO schematic for regulatory monitoring as published in the WHO and FAO *Guidelines on Food Fortification with Micronutrients, 2006*. In preparation for the workshop, participants and MSc students will be required to work through the FFI On-line Monitoring modules and Quizzes. The workshop will build onto the information already provided in the modules and be separated into sessions giving extensive information on the rationale for fortification, its benefit for costs, the tools available for advocacy, monitoring and surveillance followed by sessions on (i) food fortification legislation, regulations and standards, (ii) internal monitoring, and (iii) external and commercial monitoring. There will be presentations by international experts, and national experts (participating countries). One day of the workshop will consist of practical exposure to laboratory practices and training on fortification of maize flour. During the workshop participants will work in groups to develop recommendations and next steps.

EFFECTIVENESS ASSESSMENT OF WORKSHOP

A key feature of the workshop methodology used by Smarter Futures is a pre- and post-questionnaire survey for the participants. This is designed to give an indication of the effectiveness of the training methodology and the content of the materials used in the programme. The participants will be asked to rate their knowledge before and after the workshop on QA/QC topics for flour fortification on a scale of 1 to 5 with 5 being the highest level of knowledge. Six months after the training a follow-up questionnaire will be sent to the participants.

PROPOSED PARTICIPANTS FROM INDUSTRY and GOVERNMENT:

The following countries will be invited to participate:

- Burundi,
- Ethiopia,
- Rwanda,
- Uganda,
- Kenya,
- Tanzania,
- Zambia
- South Sudan



Each country will be invited to nominate participants for the QA/QC training course representing the following organizations involved in flour fortification programmes:

- Public Sector: 2 participants per country (1 from Food Control Department and 1 from Ministry of Health, M & E or Nutrition departments)
- Private Sector: 1 or 2 participants from different milling industries per country

PROPOSED MSC STUDENTS TO BE INVITED

Institutes of Higher Learning from **Burundi, Ethiopia, Rwanda, Uganda, Kenya, Tanzania and Zambia** will be invited to select 2- 3 MSc level students from schools of Nutrition and/or Food Technology for a weeklong training that includes also participation in the QA/QC Training.

VENUE:

- Makerere University, Kampala, Uganda
- Training Dates:
 - Industry/government participants: 23-26 May
 - Academic participants (M.Sc. or Ph.D students): 22-28 May

The workshop will be hosted by Makerere University, Kampala, Uganda and organized together with Smarter Futures, Ghent University and VLIR-UOS (Belgium).

COST:

Expenses related to workshop participation (travel costs, hotel and lunch) are covered by the organizing committee: Smarter Futures (Industry/Government) or Ghent University/VLIR-UOS (Students).

PARTICIPATING INTERNATIONAL PARTNERS

- Muhlenchemie
- BioAnalyt
- Others TBD