

# **GAIN – Orange House Partnership (OHP) Project on Awareness Raising, Capacity Building and Assessment of Regulatory Compliance with Food Fortification and Food Safety Policies and Legislation in Kenya**

## **Final Report**

[OHP Report Number: R/RT(2013)REV2]

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Project funded and supported by:

- GAIN, Geneva, Switzerland
- Bruno de Benoist Consultancy, Versonnex, France
- De Wit Food & Agriculture Consultancy, Wageningen, The Netherlands
- Nutricom Consultancy, Rumpt, The Netherlands
- Orange House Partnership vzw, Brussels, Belgium

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## 1. ACKNOWLEDGEMENT

Special thanks are due to Gladys Mugambi, Deputy Head, Division of Nutrition and Food Fortification Project Manager of the Kenyan Ministry of Public Health and Sanitation for her guidance and support prior to and during the various workshops. Furthermore, a big thank-you is in order to the GAIN professional staff involved in this project (Greg Garrett, Adan Kabelo, Felistus Mutambi, Christine Nyaga and Sonia Perrier) who provided not only technical and practical contributions but also the administrative and organisational assistance indispensable for the success of the project.

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The expert faculty of the project comprised the following experts (in alphabetical order):

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Bruno de Benoist was born in France in 1947. He is currently an independent Consultant in International Nutrition and Public Health and expert for Orange house partnership, a non-profit partnership organization providing scientific expertise in the areas of food and chemical safety and management primarily in developing countries and emerging economies. He is a pediatrician, and obtained a MD from the University of Paris VII and a Msc in Nutrition from the School of Hygiene and Tropical Medicine, London. He first worked as a pediatrician at the University Hospital, Strasbourg. In 1981, he was appointed as a scientist and lecturer in nutrition at the University of the West Indies, Jamaica, where he conducted research on breast milk composition and protein metabolism in pregnant women. In 1986, he joined WHO as a sub-Regional Adviser in Nutrition for East Africa, based in Bujumbura and in 1989, he was appointed as Regional Adviser in Nutrition for Africa at the WHO Regional Office for Africa, Brazzaville, where he was, among other tasks, responsible for implementing IDD Control in Africa. In 1998, he became Coordinator of the Micronutrient Program in WHO Headquarters, Geneva, where he was closely involved in the setting up of a global micronutrient database, and the development of the fortification strategy for micronutrient malnutrition control. Since 2007, he worked as a consultant for various international organizations (UNICEF, WHO, EU), NGOs (Pesinet, Action Contre la Faim, OHP) and the food industry. As such, he participated to several missions in Eastern Mediterranean and Africa.

**Theo Ockhuizen, PhD, email: [ockhuizen@nutricom.nl](mailto:ockhuizen@nutricom.nl)**

Theo Ockhuizen (born in 1948 in Utrecht ) studied Biology from 1966 till 1972 at the University of Utrecht (the Netherlands). He majored in Immunology, Toxicology and Biochemistry. He continued his academic career from 1972 till 1984 at the Department of Internal Medicine (University Hospital Groningen, the Netherlands). His research dealt with biochemical and genetic aspects of antibody production. In 1979 he defended his thesis entitled: "*Genetic aspects of monoclonal gammopathy*". In 1980 and 1981 Dr. Ockhuizen spent his sabbatical year at the Medical University of South Carolina (USA). In 1984 Theo Ockhuizen joined TNO Nutrition and Food Research (Zeist, the Netherlands) to become head of the Department of Nutrition. He held responsibility for the applied nutrition research in the areas of physiology, policy studies and epidemiology. In 1993 Dr. Ockhuizen became Director Corporate Research (Barneveld, the Netherlands) for Hercules Inc, a US-based multinational producer of fine chemicals. He provided leadership to the development of functional food ingredients and medical devices. In 1995 he was appointed as Director of the "Hercules European Research Center" in Barneveld with global responsibilities. In 2000 Dr. Ockhuizen was appointed as Director of the Dutch Dairy Foundation which merged in 2003 with the Dutch Dairy Association (Zoetermeer, the Netherlands). He held responsibilities in the areas of dairy sciences and communication. During his academic career Dr. Ockhuizen published more

than 200 scientific publications. He was active in the editorial board of several national and international journals. He served on many scientific committees on a national (e.g. Health Council) and international level (e.g. ILSI Europe). He was a member on the board of trustees of several institutions and entrepreneurial companies. In April 2008 Theo Ockhuizen started as an independent consultant by establishing Nutricom Consultancy. The consultancy activities focus on "Nutrition for Health" in the areas of communication, legislation and innovation. As a consultant he served many national and international academic and industrial clients with advice.

**Willem de Wit, Ir, PhD, email: [Drwdewit@gmail.com](mailto:Drwdewit@gmail.com)**

Willem the Wit (1948) is director of deWitAgroAdvies ( Consultancy for Food and Agriculture, founded in 2007) and senior expert of the Brussels based Orange House Partnership (OHP), which is a non-profit partnership organization providing scientific expertise, assistance, advice, training and interim management in the areas of food and chemical safety and management primarily in developing countries and emerging economies. Willem de Wit (1948) was appointed director of the department for Risk Assessment of the Dutch Food Authority in January 2002, after having headed the Dutch Food Authority Project Group from January 2001 on. It is the central body for the implementation of food safety policy and for directing research, inspection and communication. Willem de Wit was a member of the Advisory Forum of the European Food Safety Authority from 2000-2005. Willem de Wit studied dairy science at the Agricultural University in Wageningen, the Netherlands, where he also obtained his doctorate in Microbiology. His civil service career began at the Ministry of Agriculture in 1980, where he filled various positions including, until 1986, that of deputy director of the National Inspection Service for Livestock and Meat. Between 1986 and 1995 he was, successively, director of the Poultry Production Research and Extension Centre, director of the State Institute for Quality Control of Agricultural Products, research director of the Dutch Agricultural Research organization, and professor in Integral Quality Management in Animal Production. In 1995, De Wit became director of the Department of Trade and Industry of the Ministry of Agriculture in which capacity he was in charge of developing policy for the agricultural and food industry. Chain management on the base of the principle from farm to fork was one of the main items besides sustainable production with the keywords, people, planet, profit. During his career he fulfilled missions for the EU, the FAO and the World Bank. He has been a member of the Scientific Veterinary Committee of the EU from 1985-1990, of the UN/ECE committee for poultry production and of the Codex Committee for Vegetable Proteins.

**Herman B.W.M.Koëter, MSc, DTox, ERT, email: [herman.koeter@orangeOhouse.eu](mailto:herman.koeter@orangeOhouse.eu)**

Herman Koëter is the founder and Managing Director of the Brussels based Orange House Partnership (OHP), which is a non-profit partnership organization providing scientific expertise, assistance, advice, training and interim management in the areas of food and chemical safety to the public and private sector primarily in developing countries and emerging economies ([www.orangeOhouse.eu](http://www.orangeOhouse.eu)). Before establishing Orange House Partnership, from 2003 through 2008 Herman Koëter was Scientific Director and Acting Executive Director of the European Food Safety Authority (EFSA) in Parma, Italy. From 2005-2006 he was also Acting Executive Director. Dr Koëter started his professional career in 1967 at the TNO Toxicology and Nutrition Institute, Zeist, the Netherlands where he held several positions before he was appointed in 1986 as Associate Head of the Department of Biological Toxicology. His main areas of research were food risk assessment, reproductive toxicology and developmental neurotoxicology. In 1979-1980 he spent a sabbatical year at the University of Rochester, New York, USA working on the neurobehavioural effects of anaesthetics in the offspring of exposed pregnant mice. From 1991-2003 Herman Koëter was Principal Administrator at the Paris based OECD Environment, Health and Safety Division. There he was responsible for the Programme on Harmonization of Classification and Labelling of Chemical Substances. He was also responsible for the OECD Test

Guidelines Programme, the OECD Special Activity on Endocrine Disrupters and OECD's Special Activity on Animal Welfare Policies. Dr Koëter was also senior adviser for OECD on human health hazard and risk assessment policies. Throughout his professional career Herman Koëter has been very active in experimental animal welfare for which he received several international awards. Currently he is President of the Alternatives Congress Trust (ACT) which is responsible for the tri-annual World Congresses on the Use of Animals and Alternatives in Life Sciences. Dr Koëter has published more than 100 scientific papers.

### **3. INTRODUCTION**

The success of any food fortification programme depends primarily on updated data of the population's nutritional status and dietary profile, and the availability of National Food and Nutrition policies and the implementation of such policies by the relevant Kenyan Authorities, but is equally strongly dependent of:

- a proper health care system;
- the effectiveness of compliance monitoring and subsequent corrective and, if necessary, punitive measures in case of non-compliance;
- the safety and quality of foods considered for fortification;
- food security, being the accessibility (in terms of availability and affordability) of the fortificant or premix for the producer and of the fortified food for the consumer; and
- an adequate consumer understanding and appreciation of food fortification as a preventive measure against nutritional deficiencies and resulting diseases.

GAIN's efforts and initiatives in Kenya are aimed at improving the nutritional status of the population by making fortified foods available to all people through the provision of subsidized high quality premixes to millers and food producers. Orange House Partnership (OHP) was requested to: i) make a (limited) analysis of the current food policies in Kenya and ii) raise awareness among all stakeholder parties about the need of food fortification to fight food deficiencies related diseases.

### **4. OBJECTIVES**

The overall objective of the cooperation between GAIN and OHP as suggested by GAIN is to: "Strengthen national food authorities capacity to undertake systematic and effective regularity monitoring of food fortification in GAIN's priority countries in order to achieve better coverage of adequately fortified foods".

The specific objective of the current project in Kenya was to analyse and evaluate relevant food fortification and food related policies and regulations adopted in Kenya and the subsequent surveillance and compliance monitoring approaches, including enforcement measures. Furthermore, the aim of the project was to raise awareness of the importance of food fortification as a disease-preventive approach and to build capacity with respect to nutrition and health, food safety, security and quality and food fortification. The project was executed with assistance of the Division of Nutrition of the Ministry of Public Health and Sanitation, the Kenya Bureau of Standards (KEBS) and the GAIN-Kenya office.

In order to address the objectives the following activities were carried out:

- a situational analysis was made of the current state of play in Kenya with respect to food safety and food fortification policies and regulations;
- a series of awareness raising and capacity building workshops were developed and given for (a) millers/food producers, (b) consumer groups, health interest NGOs and retailers, and (c) all departments and agencies, respectively;
- a meeting was held with the Division of Nutrition of the Ministry of Public Health and Sanitation and the Kenyan Bureau of Standards (KEBS).

## 5. THE SITUATION ANALYSIS REPORT

The Situation Analysis Report drafted by OHP experts comprises 7 chapters addressing the nutrition and health status in Kenya, an overview of current food and nutrition policies and regulations, food fortification premix data, intervention initiatives in Kenya in the past, today and foreseeable future, an overview of current food safety and/or food fortification surveillance and compliance monitoring approaches, and suggestions for further discussions and recommendations. The draft final report was shared with the Ministry of Public Health and Sanitation on 12 November 2013 for its review. Following this review by the Kenyan Ministry of Public Health and Sanitation (MOH), the full report will be attached as **Appendix 1** to this report. The main conclusions of the analysis are the following:

### On food and nutrition policies and regulations:

- The government of Kenya is strongly committed to reducing hunger and malnutrition. The policy objective of the government of Kenya is to increase the quantity and quality of food available and accessible in order to ensure that all Kenyans have a diversified and healthy diet.
- In 2011 the government of Kenya adopted a National Food and Nutrition Security Policy (FNSP). It provides an overarching framework covering the multiple dimensions of food security and nutrition improvement.
- The National Micronutrient Survey, carried out in 1999, showed that micronutrient deficiencies were affecting the Kenyan population and were common among children and women. Twelve years later (2012), Kenya passed the mandatory food fortification law. Although, it appears that a number of agencies (17) are involved in the Food Safety Regulation in Kenya, it seems clear, from the information gathered, that the surveillance system (monitoring and evaluation) put in place following the adoption and publication of the food fortification law is not yet effective.
- It is not clear whether the fortification process of flour and oil already meet the standards set by the law. It seems too early to evaluate whether the nutrition status of the population, particularly that of the at-risk population, has improved since the fortification program started.

### On food fortification and the GAIN Premix:

- In July 2009 GAIN established the GAIN Premix Facility with the aim of making high quality premixes available at a subsidized price to millers and food producers.
- To date the number of processors of fortified foods in Kenya seems to be relatively low and no data could be found on premix sales in the country.
- The amount of fortified maize and wheat flour is well below the target of 100% (currently less than 30%) but this target is probably not realistic in the first few years following the legislation.
- Without the GAIN financial assistance by subsidizing the premix, the Kenyan government and industry partners may face considerable challenges in procuring premixes for food fortification programs because of high premix costs and lack of a system to ensure the product's quality.
- Mixing the premixes in the target foodstuff, when it is not a liquid, is technologically more difficult. Information and training might be helpful in this respect.

### Surveillance and compliance monitoring:

- There are well-defined food laws that regulate the players in the food chain from “farm to fork” in Kenya; however, the food laws are not always properly implemented and/or reinforced. Compliance may vary considerably.
- The MOH in Kenya has an official website showing the food security programs.
- food security actors in a forum where information is exchanged and options debated.

- There are 11 guidelines in Kenya that were developed and are used by different stakeholders of the food fortification process.
- KEBS carries out monitoring to ensure that the foods are fortified to the recommended standard. However, reports of monitoring results could not be found.
- Although a good reporting system has been developed for each district with high levels of growth faltering or underweight, aiming at specific recommendations, reporting is less than optimal due to staff, time and money constraints.
- Several organizations are active in the field of food fortification and nutritional surveillance in Kenya, but, apparently, there is no substantial overlap in tasks and responsibilities. An overview of such initiatives, together with their respective mandates, could not be found.
- In 2010 USAID financed a review by AFR/EA of the efficacy of food fortification programs in Kenya. The report concluded, inter alia, (i) the assessment team could not find sufficient information to estimate intake of fortified foods in Kenya; (ii) there are no estimates of the level of demand for fortified foods in Kenya; and (iii) food fortification in Kenya has been viewed as health, manufacturing, and consumption concerns rather than a policy concern. Salt iodization presents the best case.
- Marketing and import level monitoring of fortified foods are carried out by the Division of Food Safety and Quality to ensure that foods imported or produced locally and is subsequently distributed through retail outlets, are fortified with the required micronutrients. Reports could not be found; an appropriate evaluation of food fortification programs could not be made.

## 6. THE WORKSHOPS

Under the leadership of the Kenyan Ministry of Public Health and Sanitation, KeBS and KEMRI, four subsequent workshops were developed, organised and held back to back as follows:

- Workshop 1 (held on Tuesday 19 November) was on: Food fortification capacity building, food safety and compliance monitoring for food & beverage producers. Although the workshop was targeted specifically at the producers, retailers, consumer groups and health interest NGOs as well as public authorities ( ) were also welcome. The agenda of the workshop is provided in **Annex 1** of this report.
- Workshop 2 (held on Wednesday 20 November) was on: Awareness raising and capacity building of the retail community, consumer groups, human health interest groups, food interest groups and other relevant NGOs on food fortification and health. Although the workshop was targeted specifically at consumer groups and retailers, private sector producers and public authorities ( ) were also welcome. The agenda of the workshop is provided in **Annex 2** of this report.
- Workshop 3 (held on Thursday 21 November) was on: Kenya's policies and regulations with respect to nutrition & health, food fortification and food safety. Issues addressed included capacity building, principles, approaches, responsibilities, achievements, hurdles, and future prospects. Although the workshop was targeted specifically at the public authorities ( ); consumer groups and health interest NGOs as well as producers and retailers were also welcome. The agenda of the workshop is provided in **Annex 3** of this report.
- Workshop 4 (held on Friday 22 November) was on: Using field test kits for the analyses of food with respect to the presence of specific nutrient fortificants in the morning, followed by a structured, broad discussion. All stakeholders from the public and private sectors of the food chain were invited. The agenda of the workshop is provided in **Annex 4** of this report.

All presentations, grouped in chronological order for each of the workshops, are provided as **Appendix 2** to this report. A series of background documents were consulted during the preparation of the respective workshops and discussions. These included the following:

- GAIN document: Awareness Raising, Capacity Building and Compliance Assessment of Food Fortification Policies in Kenya
- WHO/UNICEF Statement: Towards an Integrated Approach for Effective Anaemia Control.
- Academy for Educational Development: Monitoring and Evaluating Food Fortification Programmes.
- WHO: Recommendations on Wheat and Maize Flour Fortification.

These documents are attached in full for reference purposes as **Appendix 3**.

## 7. WORKSHOP OBSERVATIONS

All 4 workshops were very lively and participants contributed pro-actively without the need for any encouragement. Throughout the 4 workshops there was considerable presence of Government staff from, *inter alia*, MOH, KEBS and KEMRI; the Director of Medical Services delivered a speech through the Director of Nutrition who participated in 3 of the 4 workshops.

Workshops 1-3 all started with lectures on basic principles of nutrition and health (Appendix 2, presentation 1), micronutrient malnutrition (Appendix 2, presentation 2) and food safety and quality (Appendix 2, presentations 3/4 and 5) because a basic understanding of these aspects was considered essential for a proper comprehension of the need and relevance of food fortification. The level of detail of these introductory lectures was somewhat more advanced for workshop 3 (targeted at representatives) than it was for workshops 1 (targeted at millers and food producers) and 2 (targeted at consumer groups, health interest NGOs and the retail sector). It appeared that these introductory lectures were very much appreciated and triggered considerable discussion. About 50% of workshops 1-3 was dedicated to food fortification (Appendix 2, presentations 6 and 7) and surveillance, monitoring and evaluation (Appendix 2, presentations 8 and 9). Discussions were all structured around challenging or even provocative and intentionally misleading statements about the respective subjects (safety, quality, fortification, monitoring and evaluation). Altogether more than 70 statements were prepared. An example of such a statement is: *“Workplace conditions are adequately adapted to the need of breastfeeding mothers to feed their infants beyond the first half year”*. The list of statements is not included in this report because outside the context of the discussions they can easily be misunderstood or misinterpreted.

From workshops 1 it appeared that the industry is considerably behind in the flour fortification, which, in part, seemed the result of unawareness of the (junior) attendants with the legal requirements and being ignorant of the health impact of fortification. From the discussions it also appeared that there are no strong incentives to comply with the food fortification legislations. Only 30% of producers/millers present currently produce fortified flour. There was agreement on the notion that fortification of flour with non-subsidized premixes would result in an increase of the price of a kg of flour of no more than 1 KES.

Workshop 2 had a mixed audience with representatives of human health interest NGO's, consumer groups and retailers. There was ample discussion of food quality and food safety, less so on food fortification. Similar to the attendants of workshop 1, a substantial number of participants were not, or not well, informed about the positive health impact of food fortification. Moreover, the GAIN initiative was not very well known by the audience. A very positive statement was made by a major retailer by indicating its intention not to stock non-fortified flours when similar but fortified flours are available.

In workshop 3, targeted at the governmental authorities, the audience was generally better informed about the relevance of food fortification. However, quite some participants were not aware of the fact that the food fortification legislation was already implemented in June

2012. In this workshop there was substantial discussion about the possibility of reaching consumers in rural areas. According to the participants it is unlikely that bringing fortified food within reach (available and affordable) of more than 30% of the Kenyan population could be achieved in the next few years.

Workshop 4 brought all stakeholders together for a morning session of introduction, explanation and demonstration of a number of field test kits for the analysis of food fortificants in staple food such as iron in flour and vitamins in vegetable oil. The test kits (iChecks) were provided and demonstrated by a BioAnaLyt expert from Germany. All stakeholders were very much interested in the demonstrations and were enthusiastic about the opportunities the iChecks may provide. The relatively high costs, however, were met with substantially less enthusiasm by some participants, although it should be noted that iCheck analyses are not mandatory [note from OHP: one may question why the costs are so high, even though big millers are willing to pay the price].

Furthermore, a special session was dedicated to the devastating consequences of folic acid nutrient deficiency during pregnancy, involving the Spina Bifida & Hydrocephalus Association of Kenya (SHAK) with moral support of the Bethany Kids charitable medical organisation. During this session speeches were made by the founder/director of SHAK and by a number of children with neural tube defects, resulting from a lack of folic acid exposure during pregnancy of their respective mothers.

The afternoon session of workshop 4 was dedicated to a general discussion of all stakeholders on all aspects of food fortification as brought up earlier in the week. This started with the presentation of a brief summary of the evaluation of the completed questionnaires (Appendix 2, presentation 10). The most striking observation was the fact that the representatives scored lower knowing about the food fortification legislation than any of the other stakeholder groups. The explanation of this outcome may well be the rather junior level of several representatives or their position in laboratories rather than at policy positions. The full evaluation of the questionnaire responses is reported in Chapter 9 below. A copy of the Questionnaire Form is provided in **Annex 6** of this report. Following the Questionnaire evaluation summary a discussion was moderated by the workshop Chair which was again structured around the 3 main themes: (i) food safety and quality and (ii) nutrition and health as lead in to (iii) food fortification. Main outcome of this discussion can be summarized as:

- The GAIN food fortification initiative, now that its approach and impact is much better understood, is greatly appreciated;
- In general, knowledge of nutrients and their function is rather low, in particular at consumer and retail level (Vitamin A was considered by many as the most important nutrient);
- The biggest food concern still seems to be food safety, rather than nutrient deficiencies;
- The implementation of the food fortification law is behind because of a lack of capacity, largely at the level (for monitoring and enforcements);
- The importance of balanced diets and food fortification is not adequately communicated; .
- All stakeholders (millers, food producers, retailers, human health NGO's and the ) strongly expressed the willingness to work together towards the full implementation of the 2012 Food Fortification Law within 3 years from today (November 2013) in all regions of Kenya (available and affordable for all). It seems realistic that a roadmap and strategic support and guidance are needed to make this truly happen.

Public interest in the workshops was considerable as demonstrated by the presence of the written press and TV. At least 3 newspaper articles on food fortification, GAIN and the workshops were published in the week following the event. A video-clip was posted on YouTube (<http://youtu.be/aP8Zt5EGZL4>). The GAIN-OHP press briefing of the event is provided in **Annex 7**.

## 8. EVALUATION OF THE QUALITY OF THE WORKSHOPS BY PARTICIPANTS

At the end of each of the first 3 workshops participants were requested to complete a 'workshop quality evaluation form'. As the audience of the 4<sup>th</sup> workshop largely comprised the combined attendance of workshops 1-3 additional evaluation of workshop 4 was considered not very informative and an unnecessary burden to the attendants. The questionnaire comprised 6 questions: (i) the workshop structure, (ii) the content and level of detail, (iii) the quality of the trainers (presentation, didactical aspects, etc.), (iv) opportunities for audience participation, (v) quality of responses to questions from the audience, and (vi) overall impression (time invested/benefit ratio). The participants of workshops 1-3 were strongly suggested to provide only honest opinions to ensure that the response evaluations would be reliable and useful in terms of possible improvements of similar workshops in the future. The number of completed evaluation questionnaires was for workshop 1: twenty completed forms (25 participants), workshop 2: fourteen completed forms (21 participants) and workshop 3: nine completed forms (22 participants). Summaries of the results of each of the three workshops, together with an overall summary are provided in **Annex 5** of this report.

From the results it appeared that the overall appreciation was high: 4.6-4.8 on a scale from 1 (lowest appreciation) to 5 (highest appreciation). The lowest mean score for any question in any of the 3 workshops was 4.2., the highest 4.8. In addition to scoring the 6 questions some participants provided some additional comments. These comments are summarised in the box below and, as such, should not be considered as having either the support or disapproval of the (OHP)trainers or colleague participants.

<b>WORKSHOP 1 : Specific comments as received from 13 participants</b>
<ul style="list-style-type: none"> <li>• I appreciate the presentations as I have learned much as a producer and it is my wish to have more of these workshops.</li> <li>• Quality training such as this should be extended to other (rural) areas of the country.</li> <li>• Conduct a country-wide consumer awareness raising activity on food fortification.</li> <li>• Three quarter of a day is sufficient for this workshop.</li> <li>• We need more time than one day on the topics discussed.</li> <li>• Stakeholders should facilitate the contribution from workshop participants on information about how to improve their current initiative.</li> <li>• The seminar was incredible.</li> <li>• Good and informative workshop.</li> <li>• Such workshops should happen more frequently to sensitize producers, retailers and consumers (3 participants made this or similar comment).</li> <li>• The workshop should be repeated to cater for participants coming from far.</li> <li>• Well formulated; discussions and presentations are clearly appreciated</li> </ul>
<b>WORKSHOP 2 : Specific comments as received from 8 participants</b>
<ul style="list-style-type: none"> <li>• The seminar was quite interesting and educative; please continue with such awareness raising activities.</li> <li>• Those who gave lectures should use simple English and speak slowly because not all information could be absorbed.</li> <li>• The seminar was educative because I have learned something new. Please continue with these seminars to enlighten more people.</li> <li>• The topic was very important and the implementation of the fortification</li> </ul>

<p>program should be taken seriously by all stakeholders.</p> <ul style="list-style-type: none"> <li>• The training could be more specific in terms of products in question, especially for the industry.</li> <li>• All I can say is thank you in advance.</li> <li>• Let's work towards implementation of these wonderful policies. Let us be the voice of the voiceless by creating more awareness and publicity at all levels.</li> <li>• The workshop was alright!</li> </ul>
<p><b>WORKSHOP 3 : Specific comments as received from 5 participants</b></p>
<ul style="list-style-type: none"> <li>• The workshop is very educative.</li> <li>• Some topics were too detailed; there is a need for more time as they are important.</li> <li>• The training was very informative for the food safety &amp; nutrition laboratory of the Ministry of Health.</li> <li>• A very useful workshop.</li> <li>• The hotel venue should have better microphones and less interference from adjacent meeting rooms.</li> </ul>

## 9. EVALUATION OF THE QUESTIONNAIRE OUTCOME

### Introduction

Participants of workshops 1-3 were asked to complete a questionnaire concerning Food Quality, Safety and Security (part A), Nutrition and Health (part B) and Food Fortification (part C). The questionnaire form is provided in **Annex 6** of this report. A total of 37 participants completed the questionnaire which is slightly more than 50% of all participants.

The collected data reflect only the opinions or perception of the participants which does not necessarily mean that this reflects the real situation in Kenya. The limited value of the questionnaire outcome is further determined by the relatively small number of respondents (n=37) and the relatively large fraction of respondents (almost 50%) with limited professional experience (less than 5 years), which could well be in part the result of a bias in selecting staff attending the workshops. The latter added a dimension of education to the various workshops. Details of the distribution of level of experience across participants is provided in Table 1 below.

**Table 1: Years of experience of workshop participants**

Years of experience	0-5	6-10	10-15	>15	Total
Affiliation					
NGO	1	1	1		3
Producers	12	6	3	3	24
	4	2	3	1	10

### Part A: food quality and safety

[Q1-2] The respondents all stated that they are aware of the existence of food legislation and policies in Kenya. Most respondents were aware of legislation about food safety (31/37), food fortification (27/37) and food quality (26/37) although industry representatives

appeared to be better informed than Consumer groups and other, health related NGOs. Thirteen respondents mentioned that they were aware of food accessibility legislation. As the legislation on food fortification was adopted in June 2012 and is mandatory, the expected response would have been 100%. This means that the promotional activities to implement food fortification to a full extent must be improved and extended to all stakeholders. Legislative responsibility with respect to food safety and quality is divided over up to 17 agencies which seemed to hamper a good overview for all the participants. The Kenyan government is working on a coordinating body which will overlook the activities of the different agencies. No difference was observed on this issue between the three groups.

[Q3] The effectiveness of Kenyan food safety policies and regulations was considered rather low: on a scale from 1 (low) to 10 (high), NGOs scored on average 4 and producers scored on average 6.

[Q4] When requested to indicate main priorities with respect to food, the respondents gave the highest priority should to safety, followed by quality. Essential nutrients, availability and affordability all scored lower.

[Q5] When requested to score the operational capacity of the Kenyan authorities responsible for food related regulations the educational level of the Kenyan authorities was considered sufficient, but the number of inspectors was judged by all three groups as too low and laboratory capacity as insufficient. Table 2 below provides some more detail. representatives scored higher than both the NGOs and the producers.

**Table 2: Operational capacity of the authorities responsible for food legislation**

On a scale of 1-10	Mean values		
	Education level	No. of Inspectors	Laboratory Capacity
NGO (N=3)	6	3,3	2,6
Producers (N=24)	5,2	4,4	4,1
(N=10)	7,8	5,1	5,5

[Q6] In line with the above, the level of compliance monitoring was judged to be to low (on a scale of 1-10) in the whole production chain, i.e. in restaurants (4), retail (3) and production (5). A number of respondents indicated that in their view there is no inspection at all in rural areas and a varying level of inspection in the different sectors (producer, retail, restaurants). The important and world-wide used HACCP system is considered by the respondents as not well developed and introduced in Kenya. Again on a scale of 1-10, the score was the highest in the production sector (5) and the lowest in the retail (3). In general, the perception was that there is a lack of trained staff for a proper implementation and execution of the HACCP system.

[Q7] Only 60% of the respondents were able to mention any other Quality System, like ISO. Even in the producers group one-third of the responders could not mentioning any such system, which is worrying because quality systems are today inevitable in GMP (Good Manufacturing Practices).

[Q8] Consumers, retail, producers and all have their specific responsibilities and role to play in the system of food supply. In order to achieve a smooth and appropriate system there should be ample communication between the parties and a good mutual understanding. With the exception of 3 respondents all answered the question on cooperation and communication but the answers varied considerably, ranging from very bad to excellent

communication. Obviously 'good cooperation and communication' have different meanings depending on personality, affiliation and region.

[Q9] This holds true also for the question about consumer awareness initiatives. There was a high variety of responses ranging from television commercials, information brochures on food fortification programs, and flyers of WHO, FAO and GAIN. These responses may be an indication that a high visibility, recognizable and coordinated and focused information program for the consumer does not exist.

[Q10] Only 10 out of the 37 respondents were aware of initiatives in Kenya to collect food consumption data. Furthermore, the answers to the question to provide references to these initiatives differed and included: Kenya Bureau of Statistic (2), Kenya National Micronutrient Survey 2011 (2), National Food and Nutrition Policy, MOA (5), UNEP, Reducing Food Costs and Waste (4), Situation Analysis for Transformed Nutrition (3), WHO (3), the Kenya Demographic Health Survey Reports (1). Food consumption data are an essential element of Food Fortification programs as such data enable making the most appropriate choice in what kind of food shall be fortified and at what concentration.

[Q11] The question about the most important food threats was apparently not sufficiently specific as the responses ranged from aflatoxin poisoning to criminal acts to storage losses.

[Q12] The participants were unanimous about the question what they consider the most relevant safety issues. Microbiological contamination was seen as the most relevant followed by chemical contamination, fraudulent actions and the consumption of over-the-date products. See Table 3 below.

**Table 3: Most relevant Safety Issues (on scale from 1-10)**

Safety issue		producers	Retailers/NGOs
Microbiological contamination	7.8	8.2	6.0
Chemical contamination	6.3	7.7	5.0
Fraudulent actions	5.7	6.4	5.0
Over-the-date products	5.8	6.0	4.5

[Q13] This question was about what food categories are most trusted with respect to safety. Knowledge about trusted food is important in order to choose the right market(s) for the distribution of fortified foods. Whereas it was expected that there would be a difference in preference, this turned out to be limited. On a scale of 1-10, fresh whole foods from the street market scored highest (6,8), followed by fresh whole foods from the supermarket and fresh processed food (both 6,0); national or regional pre-packed food scored 5,5, imported pre-packed food 5,0 and the least trusted food appeared to be imported whole foods: 4,8.

## Part B. nutrition and health

[Q14] The greater threat for a healthy life-style was considered by 28 responders to be an incorrect dietary composition. Six responders considered an insufficient food intake as the bigger threat and 3 did not make a choice.

[Q15] As essential dietary components vitamins (especially vitamin A) were mentioned as the most important, followed by, respectively, carbohydrates, proteins, minerals (Fe, Zn), fat, calories, folate, water, salt and sugar as of a lesser importance. It was striking that energy sources like carbohydrates, fat and sugar were frequently mentioned, while an important component like folic acid ranked 7. These priority rankings reflect that participants did not clearly understand the role of micronutrients in relation to protein and energy. Although there

may have been bias in a number of responses, training on basic nutrition was (and is) important.

[Q16] As could be expected the urban areas were considered by the respondents to provide more possibilities for a general and substantial access to an healthy diet than do the rural areas.

[Q17] NGO representatives, producers and respondents agreed on the percentages of malnutrition in different groups of the population: the highest in children, followed closely by adult (pregnant) women, adult male, elderly women and elderly men and their estimates were in accordance with figures from as published.

[Q18] The question about malnutrition symptoms was not answered. This was probably because of time constraints presentations of malnutrition symptoms had been skipped in all three workshops.

[Q19] Vitamins and Iron were by far considered (by up to 30 respondents) as the nutrients with a high incidence of deficiency, which is in accordance with replies to similar questions. This was not surprising given the attention to vitamin A and iron fortification programs in the recent past. Next on the list were protein, zinc, folate and iodine (between 5-10 respondents).

### **Part C. food fortification**

[Q20] Two third of all the respondents indicated that they are aware of the Food Fortification legislation in Kenya. However the representatives of the Government scored relatively low (50%). There is no explanation why the representatives are less aware of its own regulation than are other stakeholders. Neither NGO nor representatives made suggestions for the development of new regulations. The producer group suggested legislation on required levels of fortification, mandatory food fortification in general and regulations on food toxicity.

[Q21-22] Respondents fully agreed on the statement that food deficiencies and related diseases are a major concern in Kenya in urban areas as well as in rural areas all over the country but especially in arid and semi-arid regions. However, the approach in rural areas should be different because of accessibility, the differences in diets and education level. People in urban areas rely on processed products, rural people do not use packaged products that much.

[Q23-24] Most respondents indicated that they are aware of food fortifying programs mostly mentioned as private initiative, public initiative and government initiative. Among the examples of fortified food, wheat and maize flour and vegetable oils are mentioned. The responses to the question which foods are most appropriate to be considered for fortification, were inconsistent and not precise, which probably means that the question was not well put.

[Q25] The representatives of NGOs were aware of the GAIN food fortification work and mentioned the most common micronutrients in premixes but they were not familiar with the premix facilities, the production and suppliers. They consider food fortification as very useful and effective because it reduces levels of malnutrition, prevent diseases, disabilities and increases the life span of people. Four of the representatives were not aware of the GAIN work but very interested to learn about it. The other 6 experts mentioned the micronutrients but none appeared to be familiar with the GAIN Premix Facility or were able to mention other suppliers of premixes. For the same reasons as the NGO's they consider food fortification as very useful and effective. Almost all producers mentioned the relevant micronutrients, some of them very complete and detailed. The GAIN Premix Facility is known

by 10 of the 24 producers, either directly or via Phillips Healthcare. Other suppliers of premixes mentioned by 16 producer representatives included Fortitech, Eurogerm, Bioorganics, Mühlenchemie, DSM, Engrain, Hexagon Nutrition, Biofood, Phillips and Biomedica Ltd. They consider food fortification important because it reduces the risk of nutrition deficiency related diseases and improve general health. It was further suggested to monitor food fortification and its effect, to make it more effective by convincing producers to use the premixes and by informing the people about its importance.

### **Additional remarks made by the questionnaire respondents**

- The workshops were very educative in terms of understanding the operations of GAIN in collaboration with MOH;
- Fortification is a cheap and efficient way of making sure Kenyans get the required micronutrients;
- The should enforce compliance by all producers with food fortification regulations;
- The premixes we are getting are either not the correct ones or are of poor quality. The Ministry of Public Health and Sanitation should appoint suppliers/manufacturers of the fortificants;
- Create more publicity on fortification and micronutrient deficiency;
- Use a practical approach in awareness creation e.g. use a condition caused by lack of a micronutrient which can be avoided by eating fortified food;
- Create more awareness in rural areas;
- We would appreciate more information about fortification and the testing of micronutrients in food;
- Thank you very much for this chance. From today I am more aware of practical fortification and of GAIN.

## **10. CONCLUSIONS AND RECOMMENDATIONS**

From the Situation Analysis Report, the results of the Questionnaire Evaluation and the outcome of the respective workshops the following conclusions are fundamental:

- a) the leading role of the Kenyan Government throughout the 4 workshops was evident, essential and appreciated by all;
- b) in Kenya food fortification with micronutrients, once well understood, is widely considered as a most significant contribution to fighting nutrient deficiencies and avoiding nutrient deficiency related serious diseases;
- c) there are well defined food laws in Kenya covering the food chain from farm to fork. These laws and regulations are managed and overseen primarily by two Ministries and a number of delegated agencies and authorities (see table 4 below);
- d) a food fortification law was adopted and published in the Kenya Gazette in June 2012, making fortification of wheat and maize flour mandatory; the law was accompanied by 11 Guidance documents on inspection, monitoring and testing;
- e) GAIN started its food fortification project in Kenya in cooperation with the Ministry of Public Health and Sanitation in 2011 by introducing in Kenya its Gain Premix Facility (GPF) which had been globally established a few years earlier (2009). The GPF is a mechanism for competitively procuring vitamin and mineral premix from suppliers with proven quality systems and processes. However, today, the Stakeholder parties of the food chain are not yet all aware of GAIN activities in the area of food fortification.
- f) food fortification work of GAIN in Kenya is still not well-known among stakeholders parties of the food chain;
- g) food fortification in Kenya is rather limited with respect to products fortified and fortified product accessibility, even though the legal framework and GAIN's practical

support instruments being in place, and despite the recognition by informed stakeholder parties of the urgency of making fortified food accessible to the people of Kenya, and

- h) the session on the consequences of folic acid nutrient deficiency during pregnancy and in particular the speeches by mothers and affected children suffering from neural tube defects made an overwhelming impression on all participants without any emotions running unwillingly high.

**Table 4: Authorities Responsible for the Food Chain in Kenya**

Ministries	Agencies & Authorities
<ul style="list-style-type: none"> <li>• Ministry of Public Health and Sanitation</li> <li>• Ministry of Agriculture, Livestock and Fisheries</li> </ul>	<ul style="list-style-type: none"> <li>• Horticultural Crops Development Authority</li> <li>• Kenya Meat Commission</li> <li>• Kenya Bureau of Standards</li> <li>• Kenya Plant Health Inspection</li> <li>• Kenya Dairy Board</li> <li>• Pest Control Products Board</li> </ul>

These conclusions and observations made during the workshops gave rise to the following suggestions for GAIN to consider:

**With respect to training, education and awareness raising:**

- 1) Initiating training courses aimed at achieving a basic understanding of food safety and nutrition & health; this is essential for a full appreciation of the urgency to fortify staple food in Kenya in order to avoid nutrient deficiencies and consequent diseases;
- 2) Investing in professional as well as basic training and education in HACCP, Good Manufacturing Procedures (GMP) and other quality management programs, throughout the country;
- 3) investing in training in food fortification, e.g. workshops for producers, retail sector, health personnel and al staff, also in more rural areas;
- 4) Considering information events involving public health NGOs and patients suffering from nutrient deficiency related diseases with severe health impact consequences.

**With respect to collection of information:**

- 5) Using the recent information on nutritional status (2011 National Survey) the fortification strategy may be re-adjusted (e.g. concentrating the effort on regions/districts where deficiency is more prevalent);
- 6) Improvement of the understanding of the market delivery system (as discussed with retailers and producers) to ensure accessibility to all households;
- 7) Contributing to the improvement of the degree of collaboration and sharing of information among all stakeholders;
- 8) Collecting detailed-information on the use, cost and distribution of pre-mixes (including the GAIN pre-mix) as a prerequisite for a proper assessment of the effectiveness of food fortification in Kenya.

**With respect to monitoring and control:**

- 9) Assisting the Government Authorities and, in particular the relevant devolved county structures, in establishing a good national monitoring and control system including specific reporting and decision-making mechanisms for prompt corrective actions and including the coordination of local and regional data;

- 10) Stimulating consumer groups and other health interest NGOs as well as retailers and producers to carry out checks of products claimed to be fortified for the presence and concentration of specific fortificants and to publish the results (both positive and negative) thus triggering good or bad publicity. Stimulation is strongest when the field test kits are subsidised.
- 11) Suggesting to the responsible Authorities to establish a committee on fortification under the Ministry of Public Health and Sanitation and/or the Ministry of Agriculture with the responsibility of supervising the proper implementation of the fortification program. Its composition could include, among others, representatives of , producer associations, health related NGOs, public health experts, health personnel especially those dealing with pregnant women and children etc.
- 12) Advising the Authorities to reinforce adequate surveillance and specific compliance monitoring capacity as this is currently lacking at Government level.
- 13) Advising the Government to start developing adequate laboratory capacity for analysis of biological samples collected during inspection.
- 14) Promoting/encouraging the use of field testing kits for producers, retailers and interested NGOs through, if necessary, incentives such as subsidies.

**With respect to communication and public education;**

- 15) For GAIN to advise and offer its assistance to Government Authorities to Initiate a major nationwide publicity campaign (radio, TV, internet, schools, posters, flyers etc.) aimed at millers, retailers and consumers with emphasis on nutrient malnutrition and the urgent need for a full compliance with the food fortification legislation with emphasis on:
  - a) The serious nature of nutrient deficiency-induced diseases (with real-life example cases);
  - b) The most vulnerable subsets of the population;
  - c) The absence of taste, flavour and texture effects of food fortificants;
  - d) The safety of fortificants (as food additives);
  - e) The leading role of GAIN.
- 16) For GAIN to consider building a database of national associations, community initiatives, parent discussion groups and similar initiatives of victims (or parents of victims) of nutrient deficiency related disabling diseases and developmental and functional disorders. Basic education of such groups in nutrition, food safety, food fortification and food supplementation, supported by GAIN or under the auspices of GAIN, is likely to contribute significantly to local and regional awareness of the importance of food fortification as a very strong means of preventing such disabling diseases and malformations.

## ANNEX 1

### WORKSHOP 1

#### A Practical Workshop on Awareness Raising and Capacity Building of the Food and Beverage Producers on the Issues of Food Fortification, and Food Safety/Health

Tuesday 19 November 2013, Laico Regency Hotel, Nairobi, Kenya

- 09:00-09:15 **Session 1: Opening and General Introductions**
- Introduction of GAIN and OHP;
  - Workshop objectives and approach;
  - Introduction of the trainers and participants;
  - General outcome of the questionnaire sent to all participants.
- 09:15-10:45 **Session 2: Nutrition and Health**
- Scientific principles of nutrition and health;
  - The health and nutrition situation in Kenya;
  - Outcome of the health and nutrition-related part of the questionnaire and structured debate and discussion (statements, responses, discussion).
- 10:45-11:00 **Coffee/tea break**
- 11:00-12:45 **Session 3: Food Safety, food quality and food security**
- Scientific principles of food safety, quality and security;
  - Food safety, quality and security in Kenya;
  - Outcome of the food safety-related part of the questionnaire and structured debate and discussion (statements, responses, discussion).
- 12:45-13:30 **Lunch break**
- 13:30-15:15 **Session 4: Food Fortification: theory and practices in Kenya**
- Technical aspects of food fortification: quality, accessibility, compliance with regulations; fortificant sources and distribution issues;
  - premix issues encountered related to blending and incorporation rates
  - Outcome of the food fortification-related part of the questionnaire; and structured debate and discussion session (statements, responses, discussion).
- 15:15-15:30 **Coffee/tea break**
- 15:30-17:00 **Session 5: Role of Food and Beverage Producers and Retailers**
- Specific discussion of the role and position of the industry vis-à-vis the and the consumers;
  - Review of food fortification policies and the OHP Report on the "Situational Analysis of Food Fortification and Compliance Approaches in Kenya"
  - QA/QC monitoring, industry compliance with regulations;
  - availability and affordability of fortified food;
  - consumer awareness raising.
- 17:00-18:00 **Session 6: Closing session**
- Questions from the audience, general discussion and conclusions.
  - Someone from the audience to summarise highlights
  - Completion of the OHP/GAIN evaluation forms.
- 18:00 **Workshop adjourns.**

## ANNEX 2

### WORKSHOP 2

**A Practical Workshop on Awareness Raising and Capacity Building of the Retail Community, Consumer Groups, Human Health Interest Groups and Food Interest Groups on the Issues of Fortified and Food Safety/Health**

**Wednesday 20 November 2013, Laico Regency Hotel, Nairobi, Kenya**

- 09:00-09:15 **Session 1: Opening and General Introductions**
- Introduction of GAIN and OHP;
  - Workshop objectives and approach;
  - Introduction of the trainers and participants;
  - General outcome of the questionnaire sent to all participants.
- 09:15-10:30 **Session 2: Nutrition and Health**
- Basic principles of nutrition and health;
  - The health and nutrition situation in Kenya;
  - Outcome of the health and nutrition part of the questionnaire and structured debate and discussion (statements, responses, discussion).
- 10:30-10:45 **Coffee/tea break**
- 10:45-12:00 **Session 3: Food Safety, food quality and food security**
- Basic principles of food safety, quality and security;
  - Food safety, quality and security in Kenya;
  - Outcome of the food safety/quality/security part of the questionnaire and structured debate and discussion (statements, responses, discussion).
- 12:00-12:45 **Lunch break**
- 12:45-14:30 **Session 4: Food Fortification in Kenya**
- Food fortification: need and impact in Kenya;
  - A review of food fortification policies, legislation and regulatory compliance (monitoring): The OHP report on the "Situational Analysis of Food Fortification and Compliance Approaches in Kenya";
  - Outcome of the food fortification part of the questionnaire and structured debate and discussion session (statements, responses, discussion).
- 14:30-17:00 **Session 5: Possible Role of Retailers and Consumer-, Health-, Food- and other NGOs**
- Options for retailers to act responsibly and ensure the availability, visibility and affordability of fortified products
  - Discussion of the informative role and watchdog position (surveillance, testing) of NGOs vis-à-vis the and the (food and beverage) industry.
- [15 minutes coffee/tea break]**
- 17:00-18:00 **Session 6: Closing session**
- Questions from the audience, general discussion and conclusions;
  - Someone from the audience to summarise highlights
  - Completion of the OHP/GAIN evaluation forms.
- 18:00 **Workshop adjourns.**

## ANNEX 3

### WORKSHOP 3

#### **A Practical Awareness Raising and Capacity Building Workshop on Policies, Regulations, Safety and Quality Assessment and Compliance with respect to Food and Beverages: the role of the Kenyan Authorities**

**Thursday 21 November 2013, Laico Regency Hotel, Nairobi, Kenya**

- 09:00-09:30 **Session 1: Opening and General Introductions**
- Introduction of GAIN and OHP;
  - Workshop objectives and approach; questionnaire
  - Introduction of the trainers and participants;
  - General outcome of the questionnaire sent to all participants and initial feedback from the previous workshops for: retailers, the consumer and other relevant NGOs, and the food production industry
- 09:30-10:45 **Session 2: Nutrition and Health**
- Scientific principles and essential aspects of nutrition and health;
  - The health and nutrition situation in Kenya;
  - Outcome of the health and nutrition-related part of the questionnaire;
  - Structured debate and discussion (statements, responses, discussion).
- 10:45-11:00 **Coffee/tea break**
- 11:00-12:45 **Session 3: Food Safety, food quality and food security**
- Scientific principles and essential aspects of food safety;
  - Food safety, quality and security in Kenya;
  - Outcome of the food safety-related part of the questionnaire;
  - Structured debate and discussion (statements, responses, discussion).
- 12:45-13:30 **Lunch break**
- 13:30-15:15 **Session 4: Food Fortification in Kenya**
- Technical aspects of food fortification: which micronutrients, which foods, fortificant sources, availability of premixes and distribution issues;
  - A review of food fortification policies, legislation and regulatory compliance (monitoring);
  - Initial discussion on the need for food fortification in Kenya and the role of GAIN.
  - Discussion of the OHP Report on the “Situational Analysis of Food Fortification, Food Safety and Nutrition Policies, and Compliance Approaches in Kenya”;
  - Outcome of the food fortification-related part of the questionnaire;
  - Structured debate and discussion session (statements, responses, discussion).
- 15:15-15:30 **Coffee/tea break**
- 15:30-17:00 **Session 5: Crucial Role of the Kenyan Authorities in the Effectiveness of Food Fortification**
- Specific discussion of the role and position of the Kenyan vis-à-vis the industry and the consumers; discussion items include:
    - perception of the authorities about the roles and responsibilities of the food and beverage industry and the NGO's (consumer, health, food);
    - consequences (health, economic) of nutrient deficiencies;

- hazards and risks of unsafe food for specific subsets of the Kenyan population (pregnant women, infants, frail people);
- QA/QC monitoring and regulatory compliance;
- Situation in neighbouring countries.

17:00-18:00

**Session 6: Closing session**

- Questions from the audience, general discussion about the usefulness of the workshop;
- Someone from the audience to summarise highlights
- Workshop conclusions.
- Completion of the OHP/GAIN evaluation forms.

18:00

**Workshop adjourns**

## ANNEX 4

### WORKSHOP 4

**Using test kits to measure the presence in food of specific food fortificants and an open discussion on food fortification in Kenya: working together**

**Friday 22 November 2013, Laico Regency Hotel, Nairobi, Kenya**

- 09:00-09:15     **Opening, Welcome and Introductions**
- Introduction of the MOU, GAIN and OHP;
- 09:15-12:30    **Practical session: using test kits to measure the presence of specific fortificants**  
Introduction, demonstration, availability, practical use and limitations of test kits to measure the presence and concentration of particular fortificants in food products:
- Test kit to measure vitamin A in cooking oil – iCheck™ CHROMA (validated for palm, rapeseed, sunflower, coconut and peanut oils)
  - Test kit to measure iron in food – iCheck™ IRON (ferrous sulfate, ferrous fumarate, ferrous bisglycinate, FeEDTA, ferric pyrophosphate in flour, vitamin premix, beverages, sauces, solid foods like corn soy blend).
  - Test kit to measure vitamin A in food – iCheck™ FLUORO (milk, flour, vitamin premix, breast milk, other solid foods).
- 12:30-14:00    **Lunch break**
- 14:00-14:30    **Summary of the Questionnaire responses**
- Presentation of the results
  - Discussion
- 14:30-16:00    **Structured discussion session of all parties on food fortification in Kenya:**
- A series of challenging statements were presented and debated covering such issues as:**
- availability and affordability of fortified food;
  - consumer awareness raising task of the authorities;
  - how can the , the food producing industry, the retailers and the consumers work together;
  - communication of educative information to the public and professional sector;
  - understanding the role of GAIN and what if GAIN would no longer assist and support food fortification?
- 16:30-17:00    **Summary and Conclusions**
- Summary and conclusions by a representative of the food producing industry, the retail sector, the consumer/health group, and the al authorities.
- 17:30           **Closure of the workshop**
- Completion of the OHP/GAIN evaluation forms and distribution of the attendance certificates.

**ANNEX 5**

**STANDARD WORKSHOP EVALUATION QUESTIONNAIRE**

**SUMMARY OF THREE WORKSHOPS**

**Practical Workshops on Awareness Raising and Capacity Building of the Food and Beverage Producers, Food Retailers, consumer Groups, Human Health Interest Groups and the al Authorities on Food Fortification, Food Safety and Food Health**

**19 - 22 November 2013, Laico Regency Hotel, Nairobi, Kenya**

Question number	Question	Score on a scale from 1 (lowest)-5 (highest) -Mean workshop score-		
		WS 1	WS 2	WS 3
	Number of registered attendants:	25	21	22
	Number of responses received:	20	14	9
1	Overall workshop <u>structure</u> (lectures, discussions, timing, breaks, etc.)	4.5	4.7	4.2
2	Quality of the training <u>content</u> , appropriate level of detail, coverage of subjects:	4.4	4.6	4.2
3	Clarity and quality of the <u>presentations</u> (didactical aspects, clearness, responsiveness to feedback from participants:	4.2	4.6	4.2
4	Opportunities for <u>audience participation</u> :	4.7	4.7	4.7
5	Quality of <u>responses</u> to specific audience's questions:	4.4	4.4	4.6
6	Quality of <u>break-out sessions</u> and/or individual assignments (too difficult, too easy, properly introduced, adequate info provided, etc.)	Not applicable		
7	Quality of <u>interpretation/translations</u>	Not applicable		
8	Any other comment or suggestion:	provided in the table below		
9	<b>Overall impression (time invested/benefits)</b>	<b>4.6</b>	<b>4.8</b>	<b>4.6</b>

## STANDARD WORKSHOP EVALUATION QUESTIONNAIRE

### WORKSHOP 1

**A Practical Workshop on Awareness Raising and Capacity Building of the Food and Beverage Producers on the Issues of Food Fortification, and Food Safety/Health**

**Tuesday 19 November 2013, Laico Regency Hotel, Nairobi, Kenya**

Question number	Question	Score on a scale from 1 (lowest)-5 (highest) mark one					Mean score
		1	2	3	4	5	
	<b>Number of registered attendants: 25</b> <b>Number of responses received: 20</b>	<b>Number of participants giving the score</b>					<b>Mean score</b>
1	Overall workshop <u>structure</u> (lectures, discussions, timing, breaks, etc.)				10	10	<b>4.5</b>
2	Quality of the training <u>content</u> , appropriate level of detail, coverage of subjects:			3	7	10	<b>4.4</b>
3	Clarity and quality of the <u>presentations</u> (didactical aspects, clearness, responsiveness to feedback from participants:		1	2	9	8	<b>4.2</b>
4	Opportunities for <u>audience participation</u> :			1	4	15	<b>4.7</b>
5	Quality of <u>responses</u> to specific audience's questions:			2	8	10	<b>4.4</b>
6	Quality of <u>break-out sessions</u> and/or individual assignments (too difficult, too easy, properly introduced, adequate info provided, etc.)	Not applicable					
7	Quality of <u>interpretation/translations</u> :	Not applicable					
8	Any other comment or suggestion:	See separate sheet for summary					
9	Overall impression (time invested/benefits)			1	7	12	<b>4.6</b>

## STANDARD WORKSHOP EVALUATION QUESTIONNAIRE

### WORKSHOP 2

**A Practical Workshop on Awareness Raising and Capacity Building of the Food Retail Community, Consumer Groups, Human Health Interest Groups and Food Interest Groups on the Issues of Food Fortification, and Food Safety/Health**

**Wednesday 20 November 2013, Laico Regency Hotel, Nairobi, Kenya**

Question number	Question	Score on a scale from 1 (lowest)-5 (highest) mark one					Mean score
		1	2	3	4	5	
	<b>Number of registered attendants: 22</b> <b>Number of responses received: 14</b>	<b>Number of participants giving the score</b>					<b>Mean score</b>
1	Overall workshop <u>structure</u> (lectures, discussions, timing, breaks, etc.):				4	10	<b>4.7</b>
2	Quality of the training <u>content</u> , appropriate level of detail, coverage of subjects:				5	9	<b>4.6</b>
3	Clarity and quality of the <u>presentations</u> (didactical aspects, clearness, responsiveness to feedback from participants:				6	8	<b>4.6</b>
4	Opportunities for <u>audience participation</u> :				4	10	<b>4.7</b>
5	Quality of <u>responses</u> to specific audience's questions:			2	4	8	<b>4.4</b>
6	Quality of <u>break-out sessions</u> and/or individual assignments (too difficult, too easy, properly introduced, adequate info provided, etc.)	Not applicable					
7	Quality of <u>interpretation/translations</u>	Not applicable					
8	Any other comment or suggestion:	See separate sheet for summary					
9	Overall impression (time invested/benefits)				3	11	<b>4.8</b>

## STANDARD WORKSHOP EVALUATION QUESTIONNAIRE

### WORKSHOP 3

**A Practical Awareness Raising and Capacity Building Workshop on Policies, Regulations Safety and Quality Assessment and Compliance with respect to food and beverages: the role of the Kenyan Authorities.**

**Thursday 21 November 2013, Laico Regency Hotel, Nairobi, Kenya**

Question number	Question	Score on a scale from 1 (lowest)-5 (highest) mark one					Mean score
		1	2	3	4	5	
	<b>Number of registered attendants: 22 Number of responses received: 9</b>	<b>Number of participants giving the score</b>					<b>Mean score</b>
1	Overall workshop <u>structure</u> (presentations, demonstrations, discussions, timing, breaks, etc.):				7	2	<b>4.2</b>
2	Quality of the training <u>content</u> , appropriate level of detail of explanations and other subjects:			1	3	5	<b>4.2</b>
3	Clarity and quality of the <u>presentations</u> (didactical aspects, clearness, responsiveness to feedback from participants:				7	2	<b>4.2</b>
4	Opportunities for <u>audience participation</u> :				3	6	<b>4.7</b>
5	Quality of <u>responses</u> to specific audience's questions:				4	5	<b>4.6</b>
6	Quality of break-out sessions and/or individual assignments (too difficult, too easy, properly introduced, adequate info provided, etc.)	Not applicable					
7	Quality of <u>interpretation/translations</u>	Not applicable					
8	Any other comment or suggestion:	See separate sheet for summary					
9	Overall impression (time invested/benefits)				4	5	<b>4.6</b>

**ANNEX 6**

**QUESTIONNAIRE**

**In preparation of 3 workshops for: (i) consumer organizations, health organizations and food organizations (NGOs), (ii) food and beverage producers and retailers and (iii) al food safety and fortification authorities, respectively.**

**Please bring your completed version of the questionnaire with you to the workshop.**

I will attend Workshop (see title):		(i)	(ii)	(iii)	none
I work for:	An NGO	Food producer		Food retailer	The
Number of years of professional experience		0-5 years	6-10 years	10-15 years	>15 years
Your name and affiliation (not mandatory, only voluntarily):	Name:		Affiliation:		

**A. FOOD QUALITY, SAFETY AND SECURITY**

► 1. Are you aware of the existence of food legislation and/or food policies in Kenya?

yes	no
-----	----

► 2. If so, do you think that these legislations and policies are aimed at (mark the relevant box(es)) :

food quality	
food safety	
food accessibility (availability + affordability)	
food fortification(food enriched with essential nutrients to avoid diseases related to deficiencies)	

► 3. In your opinion, how effective is the Kenyan food safety policy and regulation responsible for it?

not effective	2	3	4	5	6	7	8	9	most effective
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► 4. What do you consider to be the main priorities concerning food (e.g. quality, availability, affordability, safety, source of essential nutrients, etcetera)?

1.	highest
----	---------

2.	
3.	
4.	
5.	lowest

► 5. Please indicate in the boxes below what is your perception of the Kenyan authorities responsible for food related regulations.

general level of education, expertise and experience									
low	2	3	4	5	6	7	8	9	high
number of inspectors									
low	2	3	4	5	6	7	8	9	sufficient
laboratory capacity and equipment									
low	2	3	4	5	6	7	8	9	sufficient

► 6. Hazard analysis and critical control points (HACCP) is a world-wide effective microbiological quality system and is in many countries a obligation for producers, retailers and restaurants. To what level do you consider HACCP to be operational in Kenya ?

	low	2	3	4	5	6	7	8	9	high
operational level of HACCP in the various sectors										
producers										
retailers										
restaurants										
level of surveillance and compliance monitoring										
producers										
retailers										
restaurants										

Please provide your remarks, if any, below.


► 7. Are you familiar with other national and/or international food quality systems? To your knowledge are such systems applied in Kenya by the production sector and in the retail, and if so are they effective?

quality system	sector	level of sufficiency									
		low	2	3	4	5	6	7	8	9	high

Please provide your remarks, if any, below.


► 8. Consumer- and health organizations (NGO's), food producers and food retail, as well as the are all stakeholders in the field of food quality, safety and security. In your opinion, do these parties cooperate and communicate with one another? Is the cooperation effective?

Please mark each box below with a number from 1 (poor) to 10 (excellent) cooperation

	producers	retail	consumer NGOs	health NGOs	food/ nutrition NGOs	authorities
producers						
retail						
consumer NGOs						
health NGOs						
food & nutrition NGOs						
authorities						

► 9. Are you aware of any initiatives , education, and/or campaigns for making consumers aware of the importance of food quality, food safety and food accessibility and the effectiveness of such initiatives?

consumer awareness raising initiatives in Kenya:
1
2
3
4
5

► 10. Are you aware of any food consumption data collected for Kenya or bordering countries Can you give some references?

food consumption data initiatives in Kenya and neighboring countries
1
2
3
4
5

► 11. What are in your opinion the most important threats concerning food? Are you aware of any recent food-related problems, and if so, what was the cause and how was it handled.

most important food threats		
1		
2		
3		
4		
5		
recent food-related problems in Kenya		
problem	cause	handled
1		

2		
3		
4		
5		

► 12. Food safety challenges are many. Please indicate which safety issues you consider most relevant

food safety issues	level of relevance									
	low	2	3	4	5	6	7	8	9	high
microbiological contamination										
chemical contamination										
fraudulent actions										
over-the-date products										
other										

► 13. what is your level of trust with respect to the following food categories

food category	level of trust									
	low	2	3	4	5	6	7	8	9	high
fresh whole food from the market										
fresh whole food from the supermarket										
imported whole food										
Fresh processed food (e.g. cheese, pastry)										
National or regional pre-packed processed food										
Imported pre-packed processed food										
other										

## B. NUTRITION AND HEALTH

► 14. What is the greater threat for a healthy life style in Kenya?

insufficient food intake		wrong dietary composition	
--------------------------	--	---------------------------	--

► 15. What components are absolutely essential for a healthy diet? Would you know the Guideline Daily Amounts (GDA) for these nutrients?

essential diet components	suggested GDA
1	
2	
3	

4	
5	

► 16. Is general access to a healthy diet a realistic option on urban areas? Would it be achievable in rural areas of Kenya?

urban areas	yes/no	rural areas	yes/no
general access		general access	
substantial access		substantial access	
limited access		limited access	
almost no access		almost no access	
don't know		don't know	

► 17. What is your estimation of the percentage of malnutrition in Kenya?

population group	percentage malnutrition								
	5%	15%	25%	35%	40%	45%	50%	55%	60%
children									
adult female									
adult male									
elderly woman									
elderly men									

► 18. How would you recognize malnutrition in children and what types of malnutrition can you distinguish?

symptoms of malnutrition in children	types of malnutrition
1	1
2	2
3	3
4 don't know	4 don't know

► 19. In your opinion, which nutrients have a relatively high incidence of being deficient among the general population in Kenya? For each of these what would be the best approach to correct or prevent malnutrition?

nutrients with a high incidence of being deficient (list from high to lower)	preferred approach to prevent or correct the deficiency
1	1
2	2
3	3

4	4
5 don't know	5 don't know

### C. FOOD FORTIFICATION

► 20. Are you aware of any legislation on food fortification in Kenya?

yes	example(s):
no	What legislation should be developed:

► 21. in your opinion, are food deficiencies and related diseases a (major) concern in Kenya? If yes, does it concern certain regions and/or subsets of the population?

yes	which regions or the whole country?			
	which subset of the population:			
	infants/children	juveniles	pregnant women	older people
no				

► 22. Should the approach in rural areas be different from that urban areas?

yes	no	why?:

► 23. Are you aware of food fortification programs in Kenya?

type of initiative	yes/no	fortified food	fortificant
private initiative (national)			
public initiative (national)			
private initiative (international)			
public initiative (international)			
initiative			

► 24. What kind of foods are, or could be considered for fortification and which fortificants (largely micronutrients) do you consider relevant for Kenya to prevent and fight existing food deficiencies?

foods suitable for fortification:	relevant micronutrient(s)
1	1
2	2
3	3
4	4
5	5

► 25. Are you aware of the GAIN food fortification work in Kenya?

<b>yes</b>	<b>could you mention any micronutrients that are present in the premixes being supplied in Kenya?</b>
	<b>do you know how to obtain any of the available premixes, in particular the GAIN Premix Facility (GPF)? Please explain.</b>
<b>no</b>	<b>which suppliers of premixes do you know?</b>
<b>no</b>	<b>do you consider food fortification efforts as useful and effective? Please explain</b>
<b>no</b>	<b>are you interested to know?</b>

► 26. Other remarks? If you need more space, please use the attached blank page .


► In case you have questions to ask us, please direct your questions to the following experts by email:

- Bruno de Benoist at: [bruno.de.benoist@gmail.com](mailto:bruno.de.benoist@gmail.com) (for food fortification and nutrition & health issues)
- Felistus Mutambi at: [fmutambi@gainhealth.org](mailto:fmutambi@gainhealth.org) (for questions about GAIN)
- Herman Koeter at: [herman.koeter@orangeOhouse.eu](mailto:herman.koeter@orangeOhouse.eu) (for general questions and toxicology)
- Theo Ockhuizen at: [Ockhuizen@nutricom.nl](mailto:Ockhuizen@nutricom.nl) (for nutrition & health issues)
- Wim de Wit at: [drwdwit@gmail.com](mailto:drwdwit@gmail.com) (for agriculture, food safety and microbiological issues)

**THANK YOU VERY MUCH FOR YOUR TIME AND EFFORT !!**

## ANNEX 7

-- Press Briefing --

### **KENYA'S HEALTH AUTHORITIES ARE MAKING ANOTHER EFFORT TO BOOST ACCESSIBILITY TO HIGH QUALITY FORTIFIED FOODS FOR ALL**

Non-profit organizations the Global Alliance for Improved Nutrition (GAIN) and Orange House Partnership (OHP) jointly assist the Kenyan authorities in their efforts to boost the accessibility of high quality fortified food for the people of Kenya by organizing a full week of awareness raising and capacity building training workshops.

From 19-21 November 2013 in 3 subsequent 1-day workshop modules OHP and GAIN will raise further awareness among the respective target groups (consumer groups and other human health interest NGOs, food producers, food retailers and food regulatory authorities) of the high significance of fortified foods as a means to contribute to the prevention of minerals and vitamins deficiencies, and subsequent illnesses (such as eye lesions, reduced resistance to infections and developmental disorders), particularly in young children and pregnant women. Presentations, practical exercises, case stories and discussions will be tailored to the interest and responsibilities of the respective target groups and audiences.

At a special meeting on Friday 22 November, which is open to all stakeholders, a number of currently available test kits for the analysis of the presence of specific minerals and vitamins will be demonstrated and their availability and use instructions will be explained. In the afternoon there will be a broad but structured discussion of all stakeholders on issues such as:

- availability and affordability of fortified food;
- consumer awareness raising task of the authorities;
- how can the , the food producing industry, the retailers and the consumers work together;
- compliance monitoring and surveillance strategies with respect to safe and fortified food;
- communication of educative information to the public and professional sector;
- the relevance of organisations such as GAIN and Orange House Partnership in assisting the Kenyan authorities in building quality fortified food capacity for the whole country.

#### **Background note on GAIN and OHP**

The Global Alliance for Improved Nutrition (GAIN) is a Swiss Foundation with a Kenya registered office driven by the vision of a world without malnutrition. GAIN's mission is to reduce malnutrition through sustainable strategies aimed at improving the health and nutrition of populations at risk. GAIN supports public-private partnerships to increase access to the missing nutrients in diets necessary for people, communities and economies to be stronger and healthier. For further details, visit: [www.gainhealth.org](http://www.gainhealth.org)

The mission of Orange House Partnership is to contribute to globally sustainable human and environmental safety by providing scientific expertise, assistance, advice and training in the areas of good agriculture practices, nutrition, food and chemical risk assessment and risk management to al authorities and the public and private sector, in particular in developing countries and emerging economies. For further details, visit: [www.orangeOhouse.eu](http://www.orangeOhouse.eu)