

FOOD FORTIFICATION: WHICH DIETARY APPROACH TO REDUCE MICRONUTRI- ENT DEFICIENCIES IN AFRICA ?

REPORT ON THE HIGH-LEVEL CONSUL-
TATION ON FOOD FORTIFICATION IN
AFRICA

SEPTEMBER 2-3, 2021

CERFAM
CENTRE D'EXCELLENCE REGIONAL
CONTRE LA FAIM ET LA MALNUTRITION



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EXECUTIVE SUMMARY

Micronutrient deficiencies, or hidden hunger, are widespread. However, they have taken a particular toll on Africa, where around 52% of women of reproductive age and 70% of children in Western Africa are anaemic¹, and not a single country in the Western Africa subregion is on course to meet its anaemia targets.² Other micronutrient deficiencies such as iodine, zinc and vitamin A, although less documented, are equally concerning.

Food fortification – adding vitamins and minerals to foods – is a time-tested strategy to address hidden hunger, with many benefits. It is cost effective, can piggyback on existing programmes and distribution channels, does not require drastic behaviour change and is complementary to other strategies such as supplementation and dietary diversity. Many African countries are already fortifying foods, but actions have not been well harmonized across the region, and progress is slow.

CONTEXT

Recognizing the need to accelerate action, the Government of Côte d'Ivoire and the United Nations World Food Programme (WFP) through the Regional Centre of Excellence against Hunger and Malnutrition (CERFAM) and in collaboration with the African Union (AU) and the West African Health Organization (WAHO) hosted the High-level Consultation on Food Fortification in Africa on September 2-3, 2021.

The event provided an opportunity for African nations and experts in the fields of nutrition and fortification to share experiences, good practices and lessons learned, and re-emerge with the beginnings of a roadmap for coordinated action on the continent.

THE CONFERENCE'S OBJECTIVES



The two-day online conference hosted over 30 panellists from organizations including African Union (AU), Hellen Keller International (HKI), United States Agency for International Development (USAID), United Nations Children's Fund (UNICEF), Micronutrient Forum, World Health Organization (WHO), West African Health Organization (WAHO), Southern African Development Community (SADC), Gates Foundation, Global Alliance for Improved Nutrition (GAIN), DSM, as well as government representatives from many African countries. Some 650 participants from across the globe registered to attend the event.


The two-day sessions were grouped around four main themes: the state of micronutrient deficiencies and fortification in Africa, sharing country experiences and good practices, a deep dive on rice fortification and rice value chain initiatives, and technical and financial partners' commitments.

¹WHO Global Health Observatory, accessed September 2021.

²Global Nutrition Report Country Profiles, accessed September 2021

REFLECTIONS AND TAKEAWAYS

The presentations and discussions covered a wide range of themes with some important points emerging:

While progress on fortification has been made in Africa, better regional coordination is needed to accelerate efforts in a harmonized way.	
Micronutrient deficiencies tend not to exist in isolation, but together with other deficiencies in the context of poor diets. Food fortification, therefore, needs to be part of a broader food systems approach and integrated with other sectors.	
Lack of data, both on micronutrient deficiency prevalence and on fortification programmes, is a continuing challenge.	
Legislation alone is not enough: accountability and enforcement are necessary.	
Local solutions and initiatives exist but need to be scaled up and invested in.	
Small-scale producers may need additional support with appropriate standards, guidelines and deadlines.	
With high and rising rice consumption on the continent, rice fortification offers great potential to fight micronutrient deficiencies on a great scale.	

© WFP/Rein Skullerud, a child eating fortified porridge, cooked with Super Cereal Plus, at the Mugombwa Refugee Camp, DRC

RECOMMENDATIONS

- 1** | **Entrust the African Union** to formally spearhead and oversee fortification efforts in Africa
- 2** | **Create a supportive facility** hosted by CERFAM, to facilitate regional knowledge sharing, coordination and harmonization of policies frameworks.
- 3** | **Prioritize actions and investments** to where fortification has the greatest potential to impact nutrition through the lifecycle: in school feeding and during the first 1,000 days of life.
- 4** | **Create an enabling policy, legal and financial environment** for fortification efforts to thrive, including stimulating the front runners of good practices in the private sector.
- 5** | **5. Develop a clear action plan**, coordinated by CERFAM, with roles, responsibilities, accountability, timelines and a funding strategy, in order to facilitate systemic, coherent and sustainable action on fortification.
- 6** | **6. Scale up advocacy, partnership and knowledge-sharing** to accelerate fortification.



01 | BACKGROUND

Access by all to adequate, safe, diverse and nutritious food throughout the year is essential to ensuring quality human capital and socio-economic development. Yet today, nearly one in three people worldwide suffers from at least one form of malnutrition – wasting, stunting, micronutrient (vitamin and mineral) deficiencies, or overweight, obesity and diet-related non-communicable diseases.³

This situation is particularly alarming in sub-Saharan Africa. Progress to date remains insufficient and no country is on track to meet the global nutrition targets by 2025. According to the latest estimates, in 2019, of the world's 144 million stunted children under 5, more than 52.7 million lived in Africa.⁴

Micronutrient deficiencies, or «hidden hunger», especially vitamin A, iodine, iron and zinc deficiencies, affect 2 billion people across the world in all age and socio-economic groups. However, women and children are disproportionately affected. Around 52% of women of reproductive age and 70% of children in Western Africa are anaemic.⁵

Micronutrient deficiencies constitute a serious public health problem and a major impediment to the socio-economic development of the individual, the community, and the society. Furthermore, micronutrient deficiencies have considerable negative effects on the development of cognitive faculties, learning capacity and work capacity of individuals. This situation is likely to further deteriorate due to the health and socio-economic consequences of the COVID-19 pandemic.

Fortunately, micronutrient deficiencies and their devastating consequences can be prevented. Food fortification is widely recognized as a preventive, effective, proven and cost-effective public health strategy for ensuring optimal nutrition while reducing health costs in the long term.

Food fortification has been identified by the World Health Organization (WHO), the Copenhagen Consensus, the Food and Agriculture Organization of the United Nations (FAO) as well as the World Food Programme (WFP) as one of the main strategies for reducing hidden hunger. Widely practiced in many parts of the world to combat micronutrient deficiencies, food fortification has a long history.

In a world affected by COVID-19, investing in food fortification programmes is key to supporting countries to «build back better», strengthen human capital and promote sustainable and inclusive socio-economic development.

It is in this context that the Government of Côte d'Ivoire and the United Nations World Food Programme (WFP) through the Regional Centre of Excellence against Hunger and Malnutrition (CER-FAM) in collaboration with the African Union (AU) and the West African Health Organization (WAHO) organized a high-level consultation under the theme, «Food fortification: which dietary approach to reduce micronutrient deficiencies in Africa?».



Image : Three approaches to addressing micronutrient deficiencies, as presented by Dr Joshita Lamba from the Food Fortification Resource Centre, Food Safety and Standards Authority of India (FSSAI).

³UN Decade of Action on Nutrition 2016-2025
⁴UNICEF-WHO-The World Bank: Joint child malnutrition estimates — levels and trends - 2020 edition, UNICEF-WHO-The World Bank: Joint child malnutrition estimates — levels and trends - 2020 edition - UNICEF DATA
⁵WHO Global Health Observatory, accessed September 2021.

02 | RATIONALE

Universal fortification of staple foods is a strategic choice to combat malnutrition in Africa, as it has the potential to reach large numbers of people at risk of micronutrient deficiencies at low cost, and without requiring significant changes in dietary habits.⁶ Every dollar invested generates an average of \$27 in economic returns from prevented disease, improved income and increased labour productivity.⁷ At the same time, the integration and large-scale deployment of nutritional support in health systems save lives and reduce the colossal cost of health care.⁸

With over a century of experience, food fortification techniques are widely available and well mastered. Iodisation of salt for consumption is a good illustration of national fortification programmes that have achieved near universal coverage. Remarkable success has also been obtained in the case of the fortification of flour with various B vitamins and of margarine with vitamin A. Côte d'Ivoire has been one of the pioneer countries of fortification in West Africa with the fortification of salt, oil and wheat flour.⁹

The existence of an enabling environment for scaling up food fortification interventions is a key factor for success. In fact, food fortification is at the heart of the African Union's Agenda 2063 and sectoral programmes, policies, and strategies to improve the nutritional status of populations. These include the Comprehensive Africa Agriculture Development Programme (CAADP) which includes micronutrient supplementation and fortification of food products among the immediate options intended to improve food security, quality, safety and nutritional diversity.

The African Regional Nutrition Strategy (ARNS 2015-2025) prioritises fortification and supplementation as an integral part of a holistic and multisectoral approach to support the acceleration of nutritional outcomes. This orientation is reflected in the Business Plan to implement the Malabo 2017-2021 under the third pillar: eliminate hunger in Africa by 2025.¹⁰ In the same vein, most African countries are members of the SUN movement which is a multisectoral and multi-stakeholder platform that supports country-level efforts to eliminate malnutrition in all its forms.

The commitment of African countries to nutrition has also resulted in the adoption of mandatory or voluntary regulatory frameworks at regional and national levels. For example, harmonized fortification standards, led by the Technical Management Committee of the ECOWAS Standards Harmonization Mechanism (ECOSHAM), are in force within the ECOWAS region.

These efforts are supported at the country level by the implementation of relevant frameworks and action plans such as national multisectoral nutrition action plans and nutrition platforms.



A community health worker measures Pascal's arm to track growth and prevent stunting in Gisizi, Rwanda. ©WFP/Aretek Fredrik Lerneryd

⁶PATH-GAIN, *Rice fortification toolkit, technical manual, August 2015, Rice fortification toolkit: technical manual (gainhealth.org)*

⁷Food Fortification Initiative (FFI) and Global Alliance for Improved Nutrition (GAIN). *Feasibility and potential coverage of fortified rice in the Africa rice supply chain. FFI/GAIN; 2016, (sightandlife.org)*

⁸Global Nutrition Report 2020: *Action on Equity to End Malnutrition, 2020 Global Nutrition Report - Global Nutrition Report*

⁹A landscape analysis of rice fortification in Côte d'Ivoire, *L'étude de faisabilité de l'enrichissement du riz en Côte d'Ivoire | Les Nations Unies en Côte d'Ivoire*

¹⁰African Union, *Business Plan to Implement the CAADP-Malabo Declaration (2017-2021)*.

03 | OBJECTIVES

The high-level consultation, designed in alignment with the United Nations Decade of Action on Nutrition (2016 - 2025), the Tokyo 2021 Nutrition for Growth Summit (N4G) and the 2021 Food Systems Summit, was an opportunity to exchange and share experiences and good practices in food fortification at the global, regional, and national levels with a view to supporting the efforts of African countries to eliminate malnutrition in all its forms.

The objective of the consultation was to promote discussions and the sharing of experiences and good practices among the different countries and stakeholders at the global, regional, and national levels.



Georgeline and Valimbavake Finaritse, beneficiaries of WFP food and nutrition assistance, Madagascar. © WFP/Alice Rahmoun

SPECIFIC OBJECTIVES OF THE CONSULTATION



Present and discuss the different models of food fortification at global, regional and national levels by identifying the success factors, challenges and opportunities, particularly through the analysis of strategies, policies, regulatory frameworks, existing institutional structures and resources.



Propose recommendations on the next steps in food fortification in Africa by identifying the main steps, key players enabling factors and main challenges.



Formulate concrete actions to technical partners as well as highly strategic key actions to political and financial decision-makers in order to trigger a robust multi-stakeholder engagement and strengthen synergy of relevant actors and efforts for effective action.



Promote knowledge, good practices and lessons learned on food fortification.

04 | SUMMARY OF THE CONFERENCE

The conference, spread over a two-day period, hosted a small number of speakers and government representatives at the CERFAM headquarters in Abidjan, Côte d'Ivoire. Originally planned as a hybrid online/in-person event, organizers finally opted for a completely online format given the ongoing risk posed by the COVID-19 pandemic.

Attendants heard from over 30 panellists from organizations including the African Union (AU), Hellen Keller International (HKI), United States Agency for International Development (USAID), United Nations Children's Fund (UNICEF), Micro-nutrient Forum, World Health Organization (WHO), West African Health Organization (WAHO), Southern African Development Community (SADC), Gates Foundation, Global Alliance for Improved Nutrition (GAIN), DSM, as well as government representatives from many African countries. Over 650 people registered to participate in the event, and around 300 people attended each session. Dr Simplicie Nouala, Head of Agriculture and Food Security, African Union Commission, moderated the event, which was hosted online.

The ten sessions covered four broad areas: The state of micronutrient deficiencies and fortification in Africa, sharing country experiences and good practices, rice fortification and value chain initiatives, and technical and financial partners' commitments.

The following section provides a summary of the presentations, discussions, takeaways and recommendations that emerged from each session.



The two-day conference welcomed a line-up of experts and government representatives

WELCOME AND OVERVIEW OF THE CONSULTATION

Patrick Teixeira, Acting Director of CERFAM, opened the conference asking why – although fortification was already happening across Africa – were we not progressing faster in reducing micronutrient deficiencies. With CERFAM's role as a facilitator and convener, Mr Teixeira expressed how pleased CERFAM was to co-organize this consultation and shared his hopes that the event would be a moment to “sit down together and compare notes”, and act as a catalyst for the next phase of fortification in Africa.



Viola Nancy is a beneficiary of the Juba Urban Project in South Sudan, an initiative aims to meet immediate food needs whilst addressing the underlying causes of food insecurity. © WFP/Gabriela Vivacqua

SESSION 1: OPENING REMARKS

The opening session of the two-day consultation, moderated by Dr Simplice Nouala, Head of Agriculture and Food Security, African Union Commission, welcomed participations, set the scene for the conference and laid out expectations.

H.E. Ambassador Josefa Sacko, Commissioner, Agriculture, Rural Development, Blue Economy and Sustainable Environment at the African Union Commission, began the session, highlighting the alarming situation of malnutrition in Africa and the world. Ambassador Sacko was quick to point out that regional statistics can mask local vulnerabilities, indicating the alarming malnutrition situation in eight African countries (Burundi, Central African Republic, Chad, Comoros, the Democratic Republic of the Congo, Madagascar, Somalia and South Sudan), which calls for concrete and concerted actions.

Biofortification has been identified by the AU and its member states at the United Nations Food Systems Summit as one of the strategies to meet the challenges of micronutrient malnutrition, especially for rural populations who tend to depend on low-micronutrient staple foods.



H.E. Ambassador Josefa Sacko

Mr. Chris Nikoi, Regional Director for Western Africa for the United Nations World Food Programme, continued the opening session by sharing several successful initiatives and programs in the region. He described the stark reality that food systems are currently not meeting the needs of many people, especially in West Africa which continues to suffer from protracted armed conflicts, climatic shocks and massive population displacements, leading to increased food insecurity and malnutrition. Today more than half of the households in the region are unable to afford nutritious, safe and diverse diets, he said. Therefore, making food more nutritious, safe, available and affordable for all through fortification programs is an important factor for the socio-economic development of the region, in which partnerships play a fundamental role.

"FORTIFICATION IS NOT A SILVER BULLET OR A STANDALONE STRATEGY, BUT IT IS ONE STRATEGY IN THE TOOLKIT WITH MANY ADVANTAGES."

Chris Nikoi
Regional Director for Western Africa, United Nations World Food Programme



H.E. Abdourahmane Cissé, Minister, Secretary General of the Presidency of the Republic of Côte d'Ivoire, gave the final speech during the opening session and emphasised on the importance of coordinated multisectoral actions, policies, frameworks and mechanisms to advance the fight against malnutrition in all its forms. He recognized many promising initiatives and good practices but concluded by saying that these must be backed up by a strong plan, an agenda and funding for implementation.

"IT IS ESSENTIAL TO TRANSFORM FOOD SYSTEMS, ESPECIALLY FOOD SUPPLY CHAINS, TO PROVIDE SAFE, NUTRITIOUS AND AFFORDABLE DIETS FOR ALL, IN WHICH FOOD FORTIFICATION AND BIOFORTIFICATION PLAY A CRITICAL ROLE"

H.E. Abdourahmane Cissé,
Minister, Secretary General of the Presidency of the Republic of Côte d'Ivoire



SESSION TAKEAWAYS

- ▶ Food systems are not delivering healthy affordable diet to all, particularly in fragile and conflict-affected contexts.
- ▶ Fortification is one time-tested and cost-effective solution to micronutrient deficiencies. Fortification is already taking place in Africa, but actions are not well harmonized, and progress is slow.
- ▶ There are already many promising initiatives and good practices on the African continent, which can act as a foundation to build on or replicate.
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RECOMMENDATIONS SESSION 1



Fortification must be integrated into broader strategies of food system transformation.



Innovative projects and businesses that invest in the production, processing, packaging and distribution of nutrient-rich foods should be supported and promoted.



Innovative projects and businesses that invest in the production, processing, packaging and distribution of nutrient-rich foods should be supported and promoted.



Public procurement from farmers producing biofortified and fortified foods should be encouraged in order to incentivize them.



Agricultural input support programs should integrate biofortified seeds and training activities in order to have a greater impact.



Biofortification and fortification should be included in relevant health programs, such as antenatal and postnatal counselling and infant and young child feeding programs.



Intersectoral collaboration between institutions and non-state actors (farmers' organizations, civil society, universities and the private sector) should be strengthened.

WATCH THE
RECORDING
OF SESSION 1





Speakers and participants joined from around the world, with a strong representation from West Africa.

SESSION 2: OVERVIEW OF THE STATE OF MICRONUTRIENT DEFICIENCIES IN AFRICA WITH A FOCUS ON ANAEMIA

This session, moderated by Dr Simeon Nanama, Nutrition Advisor, UNICEF Regional Office for West and Central Africa, aimed to facilitate a shared understanding of the situation of micronutrient deficiencies in Africa and set the context for following sessions.

Dr Adelheid Onyango, Nutrition Advisor, Regional Office for Africa, WHO, began by zooming in on the state of micronutrient deficiencies in sub-Saharan Africa, which lags in comparison to the rest of the world in its progress to reduce anaemia. She highlighted the underlying drivers, showing how micronutrient deficiencies were more severe in lower income countries (including many African countries), how deficiencies are more prevalent where dietary diversity is low (also characteristic of many African nations), and how the increasing cost of nutritious foods is likely to increase hidden hunger. Dr Onyango described how the issue of data availability limited the inclusion of micronutrient deficiencies into World Health Assembly targets, resulting in only anaemia being included despite important public health problems with other nutrient deficiencies.

Dr Namoudou Keita, Head of Nutrition, WAHO, continued with a presentation focused on the progress of addressing anaemia in West Africa. He too stressed the slow progress in anaemia reduction on the continent and drew links with rural/urban residency, age and education. He discussed WAHO's priorities for the next 2-3 years which include developing a regional food fortification alliance and establishing a West African Nutrition

Observatory to tackle the lack of data. The session continued with Dr Namukolo Covic, Senior Research Coordinator CGIAR Programme on Agriculture for Nutrition and Health (A4NH), IFPRI; President, African Nutrition Society, who took the floor with the presentation, why has anaemia been so difficult to address? Can the perspective of food systems contribute, and if so how? She reminded the audience that anaemia normally exists alongside other micronutrient deficiencies due to lack of dietary diversity, and therefore a food systems approach should be taken, with a place for traditional foods. Likewise, malnutrition must be addressed within a package of multisectoral interventions, including water, sanitation and hygiene (WASH), deworming and food safety, in order to tackle underlying issues.

Dr Saskia Osendarp, Executive Director, the Micronutrient Forum, concluded the session with the presentation, 'Why are we struggling so much to reduce anaemia? What has been missing?'. She emphasised how anaemia was also an equity issue, with women and children bearing the greatest burden. She reiterated the need for an integrated approach which considers the complexity of anaemia (which can also be due to infectious disease). Packages of interventions should be context-specific across the food system and include fortification, biofortification and health system interventions.

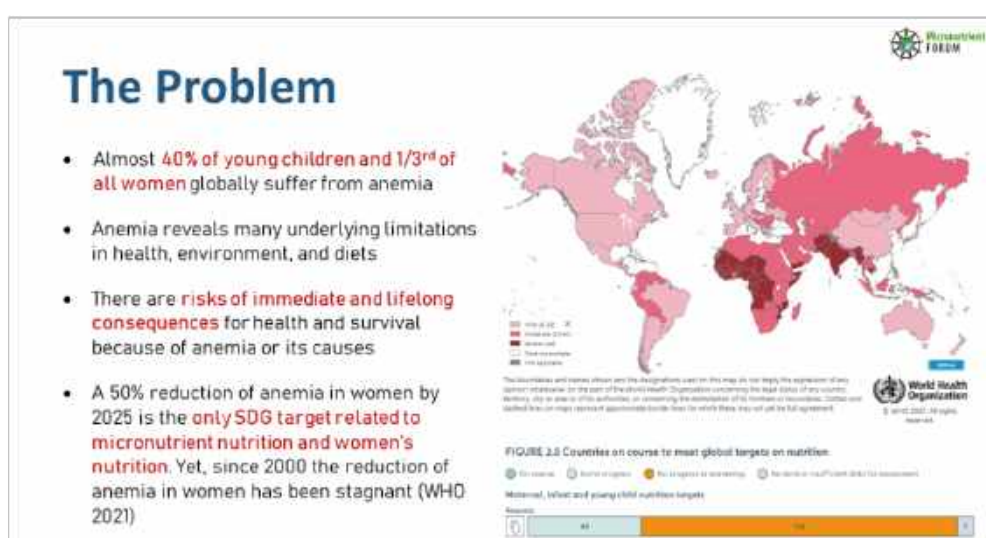


Image: Dr Saskia Osendarp, Executive Director of the Micronutrient Forum, discussed the challenges of addressing anaemia globally.

QUESTION

Lack of data - both a lack of reliable population-based data on micronutrient deficiencies and data on the progress and compliance of micronutrient programmes including fortification – was brought up by all speakers. What actions can be taken to address this?

ANSWER

There are several ongoing initiatives to address this, including combining sources of data, using AI and other smart technologies, modelling tools and proxies. It may also be possible to increase data collection of micronutrient status through nutrition surveys such as SMART surveys.

KEYS TAKEAWAYS

- ▶ Africa is carrying a heavy burden of micronutrient deficiencies, which are an equity as well as a health and nutrition issue
- ▶ Micronutrient deficiencies do not exist as a standalone problem but in the context of poor diets.
- ▶ Lack of reliable population-based data on micronutrient deficiencies as well as data on the progress and compliance of micronutrient programmes including fortification, is a continuing challenge that compromises progress in programmes and policies.

RECOMMENDATIONS SESSION 2

01 Organizations and governments should approach hidden hunger within a food system approach and as part of a multisectoral package of interventions. Addressing anaemia should be an entry point to tackling other micronutrient deficiencies within a broader food systems approach.

02 There is a need for stronger political will that puts women and girls at the centre of the development agenda and increased domestic funding to reduce dependence on international aid.



Naomi cradling her youngest daughter Sele in the Mantapala refugee settlement, DRC. © WFP/Andy Higgins

**WATCH THE
RECORDING
OF SESSION 2**



SESSION 3A: STATE OF FOOD FORTIFICATION IN AFRICA: FORTIFICATION MAPPING, TRENDS, CHALLENGES AND OPPORTUNITIES AT CONTINENTAL LEVEL

This session, moderated by Dr Adelheid Onyango, Nutrition Advisor, Regional Office for Africa, WHO, aimed to describe the current state of food fortification in Africa. Dr Mandana Arabi, Vice President of the Global Technical Services, Nutrition International, presented the current state of food fortification in Africa.

She showed that legislation, both mandatory or voluntary, exists for maize flour, wheat flour, salt and oil flour in Africa, with majority of African countries having some form of legislation, particularly for iodized salt. Legislations on rice are yet to be applied. She explained how the strong commitment and leadership of regional institutions were helping to define policies. Additionally, according to available data, countries are strongly compliant to fortification legislation, however this data is unfortunately rarely available.

Dr Amadou Lamine Gueye, Regional Food Fortification Manager at Hellen Keller International, discussed the process of food fortification in Africa. He presented the USAID-funded FORTIFY West Africa project which was implemented between 2011 and 2016 in the fifteen ECOWAS countries. The project aimed to ratify harmonized standards for fortification and strengthen quality systems. Dr Gueye also described a Bill and Melinda Gates Foundation-funded bouillon initiative in three countries (Burkina Faso, Nigeria and Senegal) aimed at promoting the use of fortified cooking bouillons. International partners are contributing to develop evidence on the efficacy of this fortification vehicle.

Ms Pontsho Sepoloane, Senior Technical Advisor for Nutrition in the Southern African Development Community, presented SADC's initiatives and experiences in terms of food fortification. Regarding mandatory fortification, 6 of the 16 SADC member states have legislation for maize and 5 for fats/oils. Ten countries have no mandatory fortification for staple foods. Finally, salt is the most frequently fortified food, taking place in 13 countries.

SADC has initiated some activities to improve food fortification in the region. These include regional workshops, identification of support needs, and a platform for partners. Several types of supports have already been provided to different countries and a programme for harmonization of minimum standards for fortification was approved by all countries.

Q&A HIGHLIGHTS

QUESTION

Are bouillons cubes associated with several cardiovascular diseases ?

ANSWER

Evidence is lacking which associate the bouillon consumption to these diseases. A large-scale study, based on secondary data, showed that the bouillon was not the main food providing sodium according to daily consumption. HKI is encouraging countries to implement such research, based on primary prospective data.



Jean, severely malnourished, is getting checked for malnutrition at a health clinic in Kananga, DRC. © WFP/@Castofas

SESSION TAKEAWAYS

African governments and partners are developing strong initiatives to promote food fortification.

The number of fortification vehicles is still low, and initiatives need to be taken to increase it.



Production of porridge, millet, sorghum and others following the Good Food Logo standards, Zambia. © WFP/Andy Higgins

RECOMMENDATIONS SESSION 3A

01

Organizations and governments should develop strategies to promote better access to information on the benefits of food fortification as well as information on nutrition policies, practices and population nutritional status in order to better monitor the actions undertaken in the field.

02

It is important to have regional support and harmonization for policymaking, legislation and standard creation for the implementation of food fortification activities. This will reinforce national actions and guarantee coherence across countries.

**WATCH THE
RECORDING
OF SESSION 3A**



Rice fortification. ©WFP/ Isheeta Sumralndia

SESSION 3B: STATE OF FOOD FORTIFICATION IN AFRICA: SHARING OF COUNTRY EXPERIENCES AND GOOD PRACTICES (MINISTERIAL PANEL)

This session, moderated by Mr Shawn Baker, Chief Nutritionist, USAID, aimed to share experiences, strategies used, challenges encountered, opportunities seized, and lessons learnt in Burundi, Nigeria, Cote d'Ivoire and Chad.

Dr Fidèle Nkezabahizi, Director of the National Integrated Programme of Food and Nutrition, Burundi, began the session by sharing the demographic and socioeconomic characteristics of his country, with a population of 12 million and where over 80% of its people work in the agricultural sector. He also highlighted that half of the children under 5 are stunted and more than 60% of these children are anaemic.

The government has prioritized food fortification and biofortification to tackle the high levels of malnutrition and micronutrient deficiencies; undertaking the following strategic actions:

- 1) including food fortification in national strategies and plans as well as passing various supportive rules and legislations;
- 2) establishing financial and technical partnerships with UN agencies (WFP, FAO, etc.) and donors (Swiss government) to locally produce and fortify nutritious foods;
- 3) creating cooperatives of community mills to strengthen their capacity to engage in local fortification activities (supported by WFP, FAO, Swiss government);
- 4) providing in-kind donations of premix and biofortified seeds (rich in zinc and vitamin A) to cooperatives to encourage households to enhance the nutrient content of their foods; and
- 5) providing in-kind donations of micronutrient powders to households to be mixed with food for children under 2.

These strategic actions have resulted in a decrease in the prevalence of anaemia, with hopes of reducing child stunting in the long-term through food fortification and nutrition interventions.

However, nutrition-sensitive interventions should reduce nutrient inadequacies, without committing to reductions in stunting, wasting, anaemia and other medical conditions that have complex etymologies and may not respond to improved nutrient intake alone. The key challenges faced were insufficient raw materials due to seasonality of food production, climate change and post-harvest losses; limited financial resources that do not permit wide coverage of fortification programmes; slow/delayed supply of premix and equipment due to COVID restrictions, and expiry of the national fortification strategy.

Some opportunities seized were the use of social marketing campaigns, leveraging the technical and logistical expertise of WFP to provide fortified foods through nutrition programming, establishment of a private sector nutrition network that invests in food fortification, creation of a national food security agency and a working group for the development of a national policy against aflatoxins, and partnering with CERFAM to develop a new evidence-based national fortification strategy.



Nana holds a packet of Plumpy Cup, a nutritional ready-to-use supplement with high vitamin and mineral content, Niger.
©WFP/Simon Pierre Diouf

HE Pierre N'gou Dimba, Minister of Health, Public Hygiene and Universal Medical Coverage, Côte d'Ivoire, continued by sharing that malnutrition, including micronutrient deficiencies and obesity, are a major concern for the country. He mentioned that creating an enabling environment and demand through national nutrition strategies, plans, rules and legislations and social marketing, as well as establishing quality control mechanisms and capacity strengthening of food production/processing companies, were key in improving the nutrition situation in Côte d'Ivoire. Dr Dimba emphasized the need to link national fortification work with regional frameworks (ECOWAS and WAHO), along with national WASH and agricultural sectors.

Dr. Mahamat BECHIR, Director of Nutrition, Ministry of Public Health and National Solidarity, Chad, shared that undernutrition and micronutrient deficiencies were endemic in his country and have remained above critical levels (>30%) for the past five years. The government has sought to address these concerns through food fortification – creating an enabling environment through supportive policies, strategies, regulations and projects for the fortification of flour and oil; strengthening local production of fortified nutritious foods, such as instant cereals; ensuring use of fortified foods in school canteen programmes and micronutrient powders in households; and encouraging the use of biofortified seeds and plants with a high nutritional value (spirulina, moringa, orange-fleshed sweet potato).



Cooked super cereal being served to beneficiary pregnant and lactating women in Frenkamaya receiving assistance through the RESIGUI project, Guinea.
© WFP/Studio 2k

Senator Dr. Olorunnibe Mamora, State Minister of Health, Nigeria, concluded the session by highlighting the country's experience with universal salt iodization, which was achieved through strong partnerships with the private sector, mass communication campaigns, high-level advocacy, national fortification alliances and technical interventions. Dr. Mamora highlighted that the country was able to fortify other staple foods such as wheat flour, maize flour, sugar and vegetable oils, building on its experience with salt, and led to the establishment of the National Fortification Alliance, chaired by industry, in 2007. Currently adding rice as a staple for national fortification.

Some persistent challenges experienced are poor compliance by manufacturers to the norms and standards and food smuggling across borders. To confront these challenges, an annual CEO Forum is convened to consider industry compliance and the government has put in place a platform that facilitates strong engagement with the highest levels of government, private sector and civil society groups to ensure compliance to quality and standards. The government is also working towards institutionalization of monitoring and enforcement of national food standards and expanding advocacy activities to improve consumer awareness and appreciation of fortified foods.

Q&A HIGHLIGHTS

The Q&A session built upon the challenges experienced and lessons learnt with private sector engagement in each country. These include the supply chain of premix, supporting tax policies for duty-free status of premix (hence lowering the cost of nutritious foods), strengthening cooperatives of community mills to meet demand for fortified foods, social marketing strategies, and encouraging private sector ownership of food fortification, with the government playing more of a regulatory role.



What were the strategies of countries that have been successful in engaging private sector players, especially the business community?

(Mr. Shawn Baker, USAID):

“Engaging the private sector is essential to success, because the private sector is the actor that actually fortifies the food. Some specific lessons:

1. Engage them early;
 2. Expose them to the evidence of the impacts of food fortification;
 3. Position food fortification as a global best practice;
 4. Where possible work with existing industry organizations;
 5. Listen to the industries' needs in terms of support and strive to be responsive (these needs may often not be limited to the strict 'technical needs' of fortification);
 6. Elevate the issue to the CEO level of industries, since they usually have the budgetary authority;
 7. Provide platforms to celebrate their contributions.
- Some specific examples include the strong voice of the cooking oil industry association (AIFO-UEMOA) in West Africa formally adopting vitamin A fortification as a mandate for their members and the annual review of the CEOs of the major food industries involved in large-scale food fortification in Nigeria on progress.”



4-yr old Rahma Hassan is recovering from severe malnutrition with the help of supplements, Kenya. © WFP/Martin Karimi



What one commitment vis-à-vis private sector engagement in fortification could your country bring to the Nutrition for Growth Summit?

Countries have indicated priorities to present during the Nutrition for Growth Summit. Dr. Bechir from Chad confirmed the government engagement to continue efforts to scale up fortification and strengthen private sector engagement to achieve SDGs targets. Dr. Fidele, from Burundi, highlighted that national dialogues on food systems took place and a roadmap was prepared in which private sector engagement to support scale up of food fortification was included. Dr. Dimba, from Côte d'Ivoire, emphasized the need for resource mobilization through innovative mechanisms in which he envisions an important role for the private sector. For conclusion, Dr. Mamora reaffirmed the importance of engagement with private sector for advancing nutrition and support scale up of fortification.

SESSION TAKEAWAYS

Political leadership is 'make or break' for food fortification to occur in Africa.

Strong coordination by governments and the full engagement and ownership of large-scale food fortification by food industry is the only way to meet the mandate for fortification.

RECOMMENDATIONS SESSION 3B

01

There is a need for strong, consistent high-level private sector engagement to improve safety and quality of food fortification in accordance with national, regional and global standards and guidelines.

02

There is a need for multisectoral investment plans for food fortification (especially related to agriculture, water use, education and WASH) as it is one of a complementary mix of multi-sectoral nutrition sensitive interventions which are necessary to ensure dietary adequacy of populations.

03

Strong coordination structures from the national level all the way to province and district level should be created to ensure effective governance, which is key for compliance with food fortification norms and standards.

WATCH THE
RECORDING
OF SESSION 3B



SESSION 3C: : STATE OF FOOD FORTIFICATION IN AFRICA - SHARING OF COUNTRY EXPERIENCES AND GOOD PRACTICES

During this session, participants heard from three government representatives on their countries' experiences of regulations, strategies, certifications and market surveillance on the sale and quality of fortified foods. The session was moderated by Dr Ronald Afidra, Africa Network Coordinator of the Food Fortification Initiative (FFI).

Mr Abdoulaye Ka, National Executive Secretary of the National Council of Nutrition Development, Senegal, began with an intervention on regulatory frameworks, policies and directives. He described how policies and directives create a favourable environment for implementation and pointed to the success factors of having nutrition well represented in national strategy documents; the creation of a multisectoral approach, regional alliances, and financial and technical partnerships; and a framework for public-private partnerships. He also spoke of the ongoing challenges of quality control enforcement and sustainable financing of programmes.

Ms Maria Aba Lovelace-Johnson, Chief Regulatory Officer, Head, Food Enforcement Department, Food and Drugs Authority, Ghana, followed with a presentation on certifications, standards and quality assurance. She described Ghana's experience with setting and enforcing standards, including inspection of facilities, product registration, and market surveillance through random sampling of products.

She described some challenges with the country's fortification initiatives in general, including cross border trade - where neighbouring countries have different fortification levels in their standards, and the challenge of consumer mistrust of fortified foods.

Dr Jean Jacques Mbungani Mbanda, Minister of Public Health, Hygiene and Prevention, and Dr. Bruno Bindamba Senge, Director of PRONANUT, the Ministry of Public Health, Hygiene and Prevention, and the Executive Secretary of SUN Movement in DRC, discussed the challenges and opportunities of fortification in the Democratic Republic of Congo (DRC). Efforts are being put in place including the development of a national food fortification strategy; however, fortification is not being prioritized due to the ongoing armed conflict, insecurity and humanitarian crisis.



Gershom (4) eat beans at home, in Zambia, where 35 percent of children aged under 5 suffer stunting and 12 percent are underweight. ©WFP/Andy Higgins

**WATCH THE
RECORDING
OF SESSION 3C**



KEY TAKEAWAYS



African countries continue to struggle with micronutrient deficiencies, especially of iron, zinc, and vitamin A.

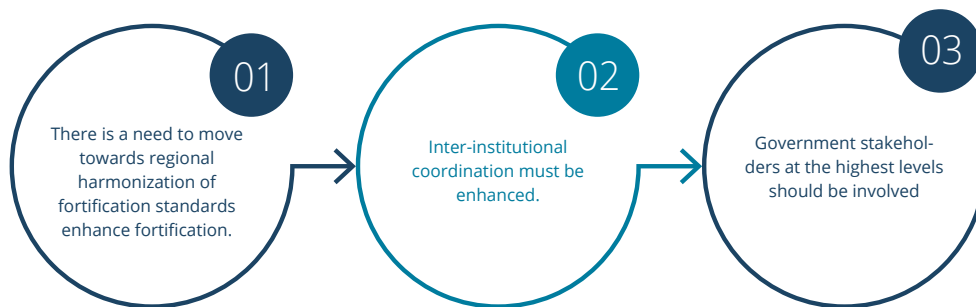


In all countries in the session, micronutrient deficiencies are well reflected in governments' economic planning and strategies.



All countries in the session have invested in capacity building, community engagement and inter-ministerial collaboration to enhance fortification.

RECOMMENDATIONS SESSION 3C



A team of cooks sorting rice while cooking school meals, Madagascar. © WFP/Alice Rahmoun

SESSION 4 : PROMISING INITIATIVES TO BE PROMOTED ON FOOD FORTIFICATION: LESSONS LEARNED, RESULTS AND IMPACTS

This session served as a forum for local actors to share their experience on food fortification initiatives in Africa and was moderated by Mrs Katrien Ghoos, WFP Regional Nutrition Advisor in West Africa.

Mr Andreas Bluethner, Director of Nutrition, Bill & Melinda Gates Foundation, presented the activities of the foundation to promote nutrition, including Large Scale Food Fortification (LSFF) systems, which have been estimated to have the potential to reduce disability-adjusted life years by 400,000 DALY in India, Ethiopia and Nigeria. Mr Bluethner listed the key nutrition challenges where the foundation is focusing its attention: data gaps, research and development advancement needs, low technological capacity, weak or low large-scale food fortification (LSFF) standards, and low compliance to legislation.

Mr Raoul Boletto, Deputy Country Director of WFP in Chad, shared the PRO-FORT experience in Chad. PRO-FORT is a pilot food fortification project run by WFP in collaboration with the Government of Chad which aims to promote local production of fortified complementary foods in Chad. The PRO-FORT project focused on capacity strengthening for local production, social marketing to encourage consumption of fortified food and improving legal frameworks for food fortification. He highlighted the good complementarity among the different actors for this project and the measures undertaken to ensure its sustainability.

Ms Simone Zoundi, Executive Officer of SODEPAL in Burkina Faso, shared the experience of a private food production enterprise producing fortified foods. She discussed achievements such as international certification and the creation of national, sub-regional and continental associations for advocacy. Ms Zoundi also listed the difficulties and challenges they are still facing including problems of access to credit, fraud and corruption, access to raw materials and the need for technological reinforcement.

Mr Dellings Phiri, Malawi country manager at HarvestPlus, presented the Food System Biofortification experience in Africa. HarvestPlus implements biofortification with a conventional non-GMO approach, using eight different staple foods fortified with iron, vitamin A or zinc. Mr Phiri described the effect of the strong engagement from the governments. He affirmed that biofortification is cheaper and brings more long-term benefits compared with industrial fortification and invited the private partners to invest in it.

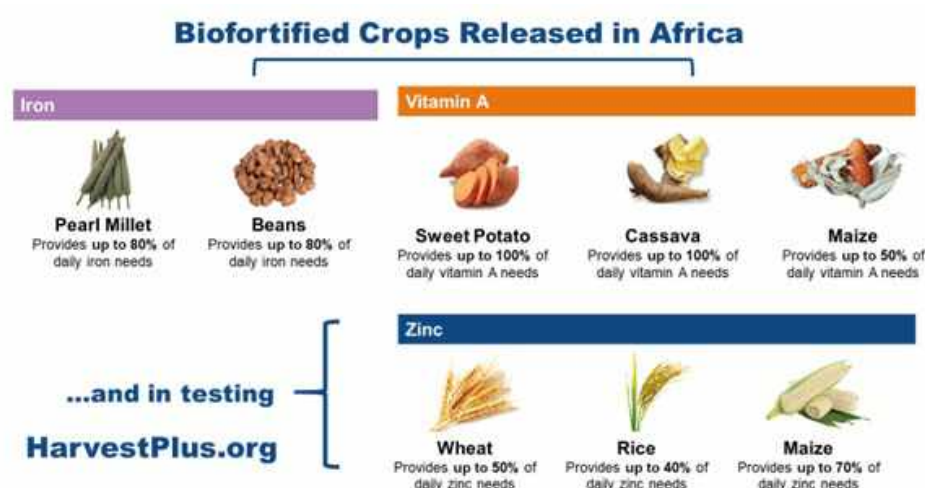


Image: Slide from the presentation of Mr Dellings Phiri, Malawi country manager at HarvestPlus

Prof. Hanta Marie Danielle Vololontiana, National Coordinator for the National Office of Nutrition, Madagascar, was the final contributor to the panel. She explained how the Malagasy government centralized all public interventions on nutrition with the National Office of Nutrition. She stressed that food fortification was a key strategy to improving the population's health and presented the important improvements been made in regulation. Madagascar is now using a targeted fortification strategy which involves both private enterprises and communities. The next steps are to create a national strategy, to conduct a national micronutrient deficiencies survey, and to scale up community strategies.

SESSION TAKEAWAYS

Many challenges still exist including lack of data, knowledge (research and development) and technology.

The private sector is a key partner for food fortification programmes.

Biofortification is a sustainable approach for the improvement of nutrition.



A woman beneficiary receiving nutrition assistance through the RESIGUI project eating cooked super cereal, Guinea. ©WFP/Studio 2k

RECOMMENDATIONS SESSION 4



Organizations and governments should partner with private enterprises and local communities for fortified food production. Regulations should facilitate fortification.

Private enterprises should invest on biofortification to contribute to the general effort of promoting better nutrition.



**WATCH THE
RECORDING
OF SESSION 4**



SESSION 5 : RICE FORTIFICATION INITIATIVES

This session aimed to facilitate a shared understanding of rice fortification initiatives in West Africa. It was moderated by Dr Yan Jia, Specialist in South-South Cooperation, WFP Centre of Excellence for Rural Transformation, China.

Mr Penjani Mkambula, Global Food Fortification Programme Manager, GAIN, began the session by providing an overview of the status of rice fortification globally, why rice fortification is needed, and what actions are needed to scale up in Africa. He highlighted that 3 billion people worldwide are unable to afford a healthy diet – defined as being safe, nutritious and diverse – which would require a large proportion of household incomes. Since this is not a possibility, households are forced to rely on micronutrient-poor staple foods.

Three billion people eat rice as their primary staple food across the world, especially in Africa, meaning that rice is a strategic vehicle to improve dietary intakes. WHO published rice fortification guidelines in 2018 which can be used to inform national standards.

Globally, seven countries have mandated rice fortifications (in Latin America and Asia), while 86 countries have mandated wheat, maize and/or rice fortification. Globally, only 20% of industrially milled grains were fortified in 2020, of which rice represented 1%. Most rice fortification initiatives are in Latin America, Asia and now some work has begun in West Africa – Senegal, Cote d'Ivoire, Nigeria, and Mali. Mr Mkambula shared that creating an enabling environment, ensuring industry uptake and developing holistic delivery modes are essential to scaling up rice fortification in Africa.

Dr. Corinne Ringholz, Food Fortification Advisor, WFP, continued with the presentation, Technologies, Standards and Quality Assurance: WFP Initiatives in Rice Fortification. She highlighted that WFP's key initiatives in rice fortification include assessment, policy and advocacy, production, quality and safety, demand and delivery. She also shared that current technologies available for rice fortification are dusting, coating and extrusion (though WFP only distributes and endorses coated and extruded fortified rice, given the rinsing and cooking practices in much of the world), and that WFP is technology agnostic between coated and extruded kernels, recognizing the myriad of factors that must be taken into consideration for any given context. Dr. Ringholz emphasized that WFP provides countries with step-by-step technical support to set norms and standards; identify local blenders and build their capacity to produce safe, high-quality fortified rice; assist local blenders/processing companies to set up their food safety, quality assurance and management systems; and set up regional and national reference laboratories for the assessment of the fortified foods.

Mr. Abdelmajid Touzani, Managing Director for West Africa, and Mr Tom Gao, Team Leader, One Belt One Road Team, Bühler, concluded the session by sharing the role of Bühler in improving rice fortification. The company advocates for the use of extrusion and admixing of fortified kernels (0.5-2% ratio) as the right way to fortify rice. Overall, Bühler (in China) supplies 10-20 MT per year of fortified rice to WFP for use in its nutrition and food security interventions. The company is working with the African Union to develop local production capacities and food fortification initiatives.



Q&A HIGHLIGHTS

The Q&A session covered the importance of West African countries ensuring that both domestic and imported rice are fortified, by emphasizing compliance to national norms and standards. With rapid advancements in technology and continued capacity building on fortification in the region, West African countries are in the right place to initiate local rice fortification, although accessing sufficient quantities of broken rice may be a potential challenge.

The session also provided the following clarifications:

- 1) brown rice and parboiled rice are not as nutritious as fortified rice;
- 2) the shelf-life of fortified rice is dependent on the moisture content, packaging type and exposure to high temperatures, UV rays and oxygen and
- 3) the shelf-life of fortified rice is generally 6-12 months.

Q - HOW MUCH OF CHINA'S RICE DOES BUHLER FORTIFY I.E., THEIR MARKET SHARE ?

Right now, across the whole world, the main fortified rice market is in two areas: USA (South America) and Asia (island countries, like East Timor and Papua New Guinea). Buhler mainly supplies the Asian market. Regarding how to promote fortified rice, in my opinion, Papua New Guinea has good experience, they created a law that rice in the market must be fortified. Fortified rice is a reasonable way to support nutrition locally, especially for the regions that have few nutritious foods available and local citizens cannot get enough nutrients from meat, for example. Governments need to take responsibility for pushing this policy.

SESSION TAKEAWAYS

Rice fortification is a missed opportunity in Africa. With the growing momentum and advancements in technology (e.g., extruded kernels or coated kernels), there is potential to scale up rice fortification.

Enabling policy environment, high-level advocacy, comprehensive SBCC activities, formative research and demand generation activities are equally important to scale up fortified rice programmes in any given country or region.



Different types of rice in Madagascar. © WFP/Christine Trudel

RECOMMENDATIONS SESSION 5

1

Rice fortification is a missed opportunity in Africa. With the growing momentum and advancements in technology (e.g., extruded kernels or coated kernels), there is potential to scale up rice fortification.

2

There is a need to ensure industry uptake through forging partnerships, maintaining supply chains of premix and broken rice to enable production and access to affordable fortified rice kernels

3

There is a need to build a holistic delivery model, where access to fortified rice is ensured in local markets. This model should also ensure access to fortified rice through social protection programmes and safety nets for the most vulnerable households.



School meals preparation using rice in Madagascar. © WFP/Alice Rahmoun

WATCH THE
RECORDING
OF SESSION 5



SESSION 6 : SHARING COUNTRY EXPERIENCES AT GLOBAL, REGIONAL AND NATIONAL LEVELS

The session, moderated by Prof. Joao Bosco Monte, President, Institute Brazil Africa, looked within and beyond Africa for country experiences and examples of good practices.

Dr Eduardo Nilson, Food and Nutrition Coordination, Ministry of Health and Sineide Neres, expert from Brazil's Ministry of Education shared the experience and lessons learned from Brazil's long history of large-scale fortification policy. He discussed the importance of selecting the right food vehicle, such as the case of corn flour in Brazil which is widely consumed by the poor, and the importance of using food composition tables and disaggregated national data to guide fortification policy. In the example of school feeding, which now assists 20% of the Brazilian population, participants heard how, although the priority is for children to receive nutrients through food, many children, particularly among the poorest communities, cannot meet nutrient requirements through diet without fortified foods.

Next, Dr. Joshita Lamba from the Food Fortification Resource Centre, Food Safety and Standards Authority of India (FASSI), shared India's experiences, challenges and lessons learned with compulsory fortification. She described some successful practices including creating a logo for companies to use on fortified foods, training food safety officers, social marketing strategies to manage misinformation about fortification, and studies in collaboration with education institutions to respond to expert concerns about possibly toxicity.

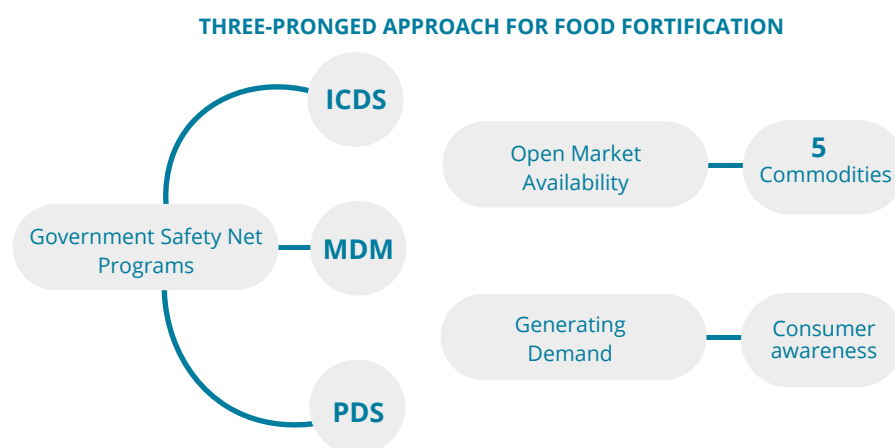


Image: Approaches to food fortification of the Food Fortification Resource Centre, Food Safety and Standards Authority of India (FASSI)

Dr. Patricia N'goran, Senior Advisor of CERFAM, the Presidency of the Republic of Côte d'Ivoire, and Prof. Labaran Gbogouri, National consultant for food fortification WFP Côte d'Ivoire, covered the potential of fortified rice in Côte d'Ivoire and presented a series of options of how this could be scaled up.

They also described the various preparatory studies that will form the basis of this journey.



WFP is supporting nutrition recovery for more than 3000 malnourished children in the country, Zimbabwe. © WFP/Tatenda Macheka

Q&A HIGHLIGHTS

How is monitoring handled in the context of food consumption in Brazil?

Brazil monitors levels of fortification both at milling and salt facilities, and also fortified products in markets. Information is gathered into a large national report that monitors fortification.

How is India dealing with fortification in school meal programmes?

India is providing midday meals with fortified wheat, oil, rice and salt.

KEY TAKEAWAYS



Small-scale producers may need additional support with guidelines and appropriate deadlines

Fortification, supplementation and dietary diversification are complementary strategies and not mutually exclusive. Supplementation is the fastest route but does not cover the entire population, while improving dietary diversity takes the longest to see change.



Collaboration and networking of stakeholders is key.

RECOMMENDATIONS SESSION 6



Vulnerable communities should be considered first in fortification policy, in as some may be still micronutrient deficient after fortification and need additional interventions



Food vehicles should be chosen with the consumption habits of vulnerable communities in mind.



Fortification policy must be harmonized with other policies e.g., salt iodization and salt reduction for noncommunicable disease risk.

**WATCH THE
RECORDING
OF SESSION 6**



SESSION 7 :RICE VALUE CHAINS: WHICH IMPROVEMENTS IN FORTIFICATION TO STRENGTHEN FOOD AND NUTRITIONAL SECURITY ?

This session focused on the potential of rice fortification to improve food security and nutrition, the challenges and opportunities, and what improvements are needed to scale up. It was moderated by Dr Robert Gueï, Sub-Regional Coordinator for West Africa, FAO. Dr Sékou Sangaré, Commissioner for Agriculture, Environment and Water Resources, ECOWAS, gave a regional overview of challenges around importation and production of rice. He said that the regional agricultural policy constitutes an opportunity for the massive transformation of agricultural products by 2025 in West Africa.

Dr Harold Roy-Macauley, Director General, AfricaRice Centre, discussed opportunities and perspectives of rice improvement in food and nutrition security. He urged that an integrated approach should be taken to improve rice fortification for food and nutrition security. With the rate of rice consumption projected to increase in Africa, he said, measures should be taken along the value chain such as dietary diversification, fortification and biofortification to create healthier diets.

Mr. Joseph Assouhan, from Agence pour le Développement De la filière Riz (ADERIZ), Côte d'Ivoire, discussed investment in rice value chain in Côte d'Ivoire, presenting ongoing promising initiatives such as capacity building of small-scale rice mills for local fortification, and areas of continued improvement such as introducing fortified rice into public procurement channels.

Prof. Huo Junsheng, Chinese Centre for Disease Control and Prevention, China, discussed investment in rice value chains. He pointed to success factors of conducting in depth research on formulation/process testing, consumer acceptance, marketing, and highlighted the need for public-private partnerships for sensitization and marketing

SESSION TAKEAWAYS

Rice is a key staple food in West Africa and there has been a substantial rise in consumption, imports and production of rice in recent years, however there is a deficit in local production and much rice is imported to meet demand.

Efforts and investments in the region are disparate.

Fortification must be done with traditional diets and the needs of consumers in mind



Elvie Noukounwi, 7 years old, benefits from WFP school meals, Benin. ©WFP/Rein Skullerud

RECOMMENDATIONS SESSION 7



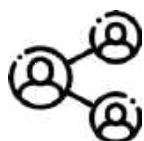
There is an urgent need to have and maintain a political environment favourable to fortification through regulatory frameworks and government actions in each country.

There is a need for regulations for rice exporting countries such as India, China, Thailand and Vietnam, so that they only export fortified rice to Africa.



There is a need to invest massively in infrastructure and modern rice processing and fortification facilities.

Mechanisms to improve the marketing process (labelling, packaging, traceability, digitalization, infrastructure, promotion) should be prioritized.



There is a need to establish a permanent and active national, regional platform for the sharing of experiences, good practices and monitoring on fortification programs.

South-South technical cooperation in rice production, processing and enrichment should be strengthened.



**WATCH THE
RECORDING
OF SESSION 7**



SESSION 8 : TECHNICAL AND FINANCIAL PARTNERS' COMMITMENT TO FOOD FORTIFICATION

Moderated by Dr. Rolf Klemm, Vice President of Nutrition, Hellen Keller International, this session brought together a variety of technical and financial stakeholder perspectives to discuss gaps, challenges, opportunities and potential support.

Mr. Martin Fregene, Director, Department of Agriculture and Agro-Industry, African Development Bank, discussed innovative financing for food fortification initiatives and how the bank is encouraging regional member countries to prioritize nutrition-smart lending.

He spoke about the potential of agriculture approaches, such as biofortification, to address nutrition challenges, and the need to assess their impact.



He also brought up the importance of having champions for the cause, describing how the Africa Leaders for Nutrition initiative has put in place high-level champions to promote dialogue and increase investments in nutrition.

Mr Shawn Baker, Chief Nutritionist at USAID shared USAID's initiatives and approaches, including working on improving diets through investing in large-scale or industrial food fortification and investing in partnerships and advocacy to realize the benefits of fortification, which provides a "safety net" for the intake of essential vitamins and minerals. He presented the six key elements when discussing large scale food fortification as showed below

KEY ELEMENTS TO ACHIEVE LARGE-SCALE FOOD FORTIFICATION

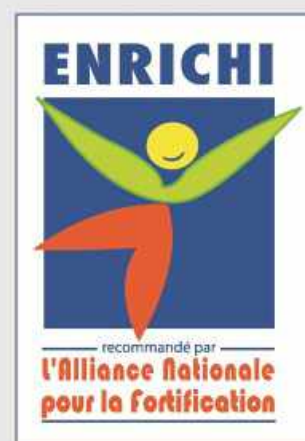


Nyota cradles a can of fortified cooking oil, DRC. © WFP/Arlette

These key elements are important aspects to take into consideration for advancing food fortification in a context. M. Baker explained these aspects and provided some lessons learned on this area as such

Lessons Learned

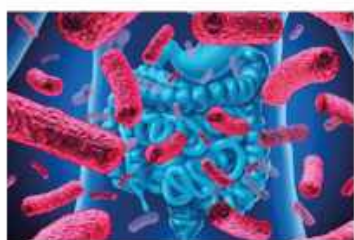
- More relevant than ever to build micronutrient security into the food system
- On-the-ground presence essential to catalyze action
- Industry fortifies – rest of us facilitate
- Understand and respect points-of-view of diverse partners and acknowledge their contributions
- Maintain open, transparent, frequent communications
- Regional-led supportive environment for scale-up - does not replace country-level action
- Industries are key champions – want “level playing field”
- Iterative process, must build in flexibility



Mr. Ashish Pande, Managing Director & Senior Vice President, OLAM Nigeria, discussed needs, challenges and opportunities in the role of the private sector in food fortification in Africa. Mr. Pande described how the private sector can contribute by putting in place state-of-the-art premix facilities, ensuring 100% compliance with fortification standards, investing in consumer education, leveraging global best practices, and developing new products.

Scaling up Innovation to Accelerate Food Fortification's Impact

New areas of innovation for food fortification



1 MICRONUTRIENTS TARGETING NEEDS FOR

- Intestinal inflammation & microbiota
- Systemic inflammation (immune nutrients)
- Growth (limiting amino acids, arachidonic acid, macro-minerals)
- Cognition (ie DHA, choline)



2 LEVERAGING TECHNOLOGY

- In Silico : QA/QC; Data, consumer demand...
- Sustainable packaging
- Diagnostic tools



3 NUTRIENTS & VEHICLES

- Extruded fortified rice and lentils kernels
- Enzymes increasing mineral bioavailability (ie phytase)
- Stability & bioavailability of key nutrients
- Focusing on consumers needs and wants with affordable & aspirational products



Image: Innovative strategies for fortification, presented by Yannick Foing, Global Director, DSM

Q&A HIGHLIGHTS

Q:

Neither manifestations of hidden hunger nor the effect of eating fortified foods are immediately clear. How do we address the role of the consumer with this in mind ?

A:

It is a combination of getting good data, social behaviour change and communication, and ensuring that consumers are kept informed about benefits of fortification and to avoid misperceptions. However, the answer may not be asking consumers to choose between fortified and non-fortified foods, but smart mandatory fortification designed so that it addresses deficiencies without requiring significant behaviour change on the part of consumers. Consumer associations will have a key advocacy and accountability role in supporting fortification with government and the private sector.

Q:

The topic of this session was technical and financial partners commitments – what needs to change in what those commitments have been and how they have been channelled ?

A:

Mr. Baker described ‘three gaps’ in food fortification -- the performance gap (for which the sharing of best practices can help to close), the design gap (the need to ensure that foods being regularly consumed are the ones that are fortified and using updated data to inform this design), and the food technology gap (ensuring investments are made to improve technology) – which the panel expressed can be overcome with catalytic investments, improved policies, and advocacy that can be extended by the private sector.

TAKEAWAYS



There is need to understand and respect points of view of all stakeholders on the ground and acknowledge their contributions

Regional-level action cannot replace country-led efforts and actions.

Industries can be important champions of fortification, but they are looking for a level competitive playing field where monitoring and regulatory control assures compliance with standards uniformly across food industry.



“INDUSTRY FORTIFIES AND THE OTHERS FACILITATE”
Shawn Baker, Chief Nutritionist, USAID

RECOMMENDATIONS SESSION 8



Collaboration through private-public partnerships is imperative to reach as many people as possible.

There is a need to invest in clear and strong communication, education and awareness around fortification

Political leadership is essential in implementing key policies for large-scale food fortification.

Fortification needs to be framed as an essential part of food systems transformation, centered in the private sector, but requiring political leadership and catalytic investments. The cost of inaction will be paid by the most marginalized. There will be substantial and measurable benefits to food fortification

**WATCH THE
RECORDING
OF SESSION 8**



Ussama Osman, Representative and Country Director, WFP Côte d'Ivoire, is interviewed by local media

The two-day consultation was officially closed by the SEM Pierre N'gou Dimba, Minister of Health, Public Hygiene and Universal Medical Coverage, Côte d'Ivoire, who applauded organizers, speakers and participant. He reflected that the two days of rich discussions had facilitated an understanding of the micronutrient malnutrition situation in Africa, and the sharing of experiences and good practices from Africa and beyond will allow the continent to better prepare for an effective fight against malnutrition. He ended by reaffirming the commitment of Côte d'Ivoire, and the region overall, to ending malnutrition.



05 | RECOMMENDATIONS

The consultation concluded with the formulation and presentation of six areas of high-level recommendations, which were presented in the final session by Dr. Hameed Nuru, Director of WFP Africa Union Global Office. During the two days of the conference, Dr Nuru had led a small team of rapporteurs in extracting and distilling themes, priorities and action points from each session. Dr. Nuru presented these recommendations in the final session along with a draft joint communiqué.

The recommendations represent the consensus of participants on the potential of fortification as a game changer with significant returns on investments and social and economic and health benefits, and the general agreement that the time for action on fortification is now in order for the continent to progress in an unprecedented collective way.

These recommendations aim to provide a starting point for a clear roadmap to accelerate the fortification agenda.



“IT IS CLEAR THAT WE ARE SINGING FROM THE SAME HYMNBOOK. WHAT WE NEED NOW IS TO HARMONISE THIS IN AN ORCHESTRA.”

DR. Hameed Nuru, WFP Director Africa Office

01 **Entrust the African Union to formally spearhead and oversee fortification efforts in Africa.**

While fortification is already taking place in Africa oversight has been by various actors, either indirectly through the African Union or by regional economic communities, member states, or private sector actors. There is therefore a need to harmonize efforts and designate a clear leading body with accountability.

The African Union should therefore formally take a leadership role in efforts to scale up food fortification in Africa, in collaboration with Member States, and in line with already existing continental policies, strategies and initiatives. Simultaneously Member State governments, institutions, development partners and private sector must step forward as champions of food fortification efforts in Africa. It is important for evidence be generated and made available for champions and governments to make the case for fortification.

02 **Create a supportive facility, hosted by CERFAM, to enhance, and facilitate regional knowledge sharing, coordination and harmonization of policies and frameworks.**

To complement the African Union’s policy and oversight role, knowledge and operational support will be needed to boost fortification efforts. The proposal by the government of Republic of Côte d’Ivoire to the AU to elevate the Regional Centre of Excellence against Hunger and Malnutrition (CERFAM) to an AU specialized agency on food and nutrition security for the African continent, of which fortification is a priority area, is therefore welcomed.

As a supportive facility, CERFAM will facilitate i) regional harmonization of policies, legal frameworks and mechanisms on food fortification; and ii) promote knowledge sharing and exchange platforms and networks to foster the dissemination and replication of good practices and lessons learned within the continent. This should involve producing roadmaps and strategic plans, collecting and making available data and information such as fortification activities and lists of partners and their activities.

The African Union is encouraged to fast-track this process.



Paulin Kedji, enjoying his school meal at Métohoué Primary School, Benin. © WFP/Rein Skullerud

03

Prioritize actions and investments where fortification has the greatest potential to impact nutrition through the lifecycle approach: in school feeding and during the first 1,000 days of a child's life.

Nutrition in pregnancy, early life and adolescence has the potential to lay the foundations for future health and wellbeing, including that of the next generation.

All African Union Member States and all partners in their various capacities and mandates must prioritize actions and investments to impact these critical windows of opportunity, so that fortification has the greatest potential to impact health through the lifecycle and provide their greatest return on investment.

It is therefore recommended that governments and partners prioritize introducing fortified foods into school feeding programmes, and in support to mothers and young children in order to intervene in the critical first 1,000 days of life.

04 **Create an enabling policy, legal and financial environment for fortification efforts to thrive, including stimulating the front runners of good practices in the private sector.**

Member States must create an enabling policy, legal and financial environment for fortification efforts to thrive. This includes facilitating the creation of appropriate standards and regulations, investing in capacity building of local producers so that fortification efforts foster rural transformation, and stimulating the front runners of good practices in the private sector. Existing institutions should be capitalized on.

05 **Develop a clear action plan, coordinated by CERFAM, with roles, responsibilities, accountability, timelines and a funding strategy**

Fortification on the continent should be guided by a clear action plan in order to facilitate systemic, coherent and sustainable action on fortification. It is recommended that CERFAM, in collaboration with partners, leads the development of this action plan, building on the outcomes of this consultation with roles, responsibilities, accountability, timelines and a funding strategy, by the end of 2021. This action plan should ensure that all partners drive the fortification agenda forward in a synergistic and sustainable way.

06 **Scale up advocacy, partnership and knowledge-sharing to accelerate fortification.**

Advocacy, partnership and knowledge sharing should be intensified at global, continental, regional and national level to accelerate food fortification and sensitize stakeholders to its benefits. This should be underpinned by improved data collection and analysis and should take advantage of upcoming platforms and events such as the African Union's Heads of State summit and year of nutrition in 2022.

06 | JOINT COMMUNIQUÉ

Recommendations and preamble were brought together in a joint communiqué which was drafted during the two day of the conference and read out by Dr Hameed Nuru in the final session. Participants were asked to comment using an online questionnaire, which was also sent via email following the conference. The following is the final communiqué after integrating comments.

DRAFT COMMUNIQUÉ OF THE REGIONAL HIGH-LEVEL CONSULTATION ON FOOD FORTIFICATION

3 September 2021, Abidjan

We, the participants of the high-level consultation on food fortification, representatives from African countries, the African Union Commission, African regional organizations, UN organizations, development partners, civil society organizations, international financial institutions, the private sector, academia, as well as distinguished invitees, having deliberated during the last two days,

IN ALIGNMENT with the agreement of all nations to achieve the Sustainable Development Goals, including to end all forms of malnutrition, by 2030; the World Health Assembly target of a 50% reduction of anaemia in women of reproductive age by 2025; Aspiration 1 of the African Union (AU) Agenda 2063; and in the spirit of AU's upcoming year of nutrition in 2022.

REAFFIRMING our commitment towards advancing fortification in Africa.

DEEPLY CONCERNED about the persisting malnutrition nutrition situation in Africa, where 51% of women of reproductive age (aged 15-49) and 69.9% of children aged 6-59 months in Western Africa are anaemic, as well as the slow progress of many countries in the African subregion in meeting the targets for anaemia in women of reproductive age;

RECOGNIZING the game changing benefits of food fortification as a time-tested and cost-effective strategy to address micronutrient deficiencies, with ability to piggyback on existing distribution channels and initiatives and the potential to reach large numbers of people and improve nutrition without requiring significant behaviour change;

COMMENDING the progress made so far on the continent, including efforts to scale up biofortification, the 27 countries that have mandates to fortify wheat flour and the many countries that fortify cooking oil and salt as part of their comprehensive nutrition strategy, as well as the slow decline in anaemia;

COGNIZANT that food fortification, including biofortification, is one approach to addressing micronutrient deficiencies, complementary to supplementation and promotion of dietary diversity;

ACKNOWLEDGING the capacity of food fortification efforts to strengthen broader food systems, and the importance of functioning food systems to support fortification implementation;

REALISING the need for greater partnerships and synergies to augment political commitment such that African Union Member States take urgent and concrete actions;

OPTIMISTIC about the rich human and natural resources on the African continent which can support the scale up of food fortification;

1

Call upon the African Union to formally spearhead and oversee efforts to scale up food fortification in Africa, in collaboration with Member States, and in line with already existing continental policies, strategies and initiatives, and for Member State governments, institutions, development partners and private sector to step forward as champions of food fortification efforts in Africa;

2

Welcome the proposal to elevate the Regional Centre of Excellence against Hunger and Malnutrition (CERFAM) to an AU specialized agency on food and nutrition security, as per the request of the Republic of Côte d'Ivoire to the AU in order to facilitate :

- Regional harmonization of policies, legal frameworks and mechanisms on food fortification;
- Promote knowledge exchange
- Call on the African Union Member States and all partners in their various capacities and mandates, to prioritize actions and investments to where food fortification has the greatest potential to impact nutrition through the lifecycle: in school feeding and in the critical window of the first 1,000 days of life

3

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4

Request Member States to create an enabling policy, legal and financial environment for fortification efforts to thrive, including investing in capacity building of local producers so that fortification efforts foster rural transformation, and stimulating the front runners of good practices in the private sector

5

Call on CERFAM, in collaboration with partners, to lead the development of a clear action plan with roles, responsibilities, accountability, timelines and a funding strategy by the end of 2021. This action plan should ensure that all partners drive the fortification agenda forward in a synergistic and sustainable way;

6

Urge for the intensification of advocacy, partnership and knowledge sharing at global, continental, regional and national level to accelerate food fortification, improve data collection and analysis, and sensitize stakeholders to benefits of food fortification. This should take advantage of upcoming platforms and events such as the African Union's Heads of State summit and year of nutrition in 2022.



ANNEX 1: CONCEPT NOTE

Food fortification: which dietary approach to reduce micronutrient deficiencies in Africa?

Abidjan, 2-3 September 2021

Concept Note

1. BACKGROUND

Access by all to adequate, safe, diversified, and nutritious food throughout the year is essential to ensuring quality human capital and socio-economic development. Yet, today, nearly one in three people worldwide suffers from at least one form of malnutrition: wasting, stunting, vitamin, and mineral deficiency, overweight or obesity and diet-related non-communicable diseases.¹¹

This situation is particularly alarming in sub-Saharan Africa. Progress to date remains insufficient and no country is on track to meet the global nutrition targets by 2025. According to the latest estimates, in 2019, of the 144 million children under five years of age affected by chronic malnutrition or stunting worldwide, more than 52.7 million lived in Africa.¹² An estimated 12.7 million children under the age of five suffered from acute malnutrition in Africa over the same period.¹³ Micronutrient deficiencies or "hidden hunger", in particular vitamin A, iodine, iron and zinc deficiencies, are widespread and affect all age and socio-economic groups. However, women of reproductive age, pregnant and lactating women and young children are the most affected groups. Anaemia affects 46.3 percent of women of reproductive age (15-49 years) and over 62.3 percent of children aged 6 to 59 months.¹⁴

Micronutrient deficiencies constitute a serious public health problem and a major impediment to the socio-economic development of the individual, the community, and the society. Furthermore, micronutrient deficiencies have considerable negative effects on the development of cognitive faculties, learning capacity and work capacity of individuals. This situation is likely to further deteriorate as a result of the health and socio-economic consequences of the COVID-19 pandemic.

Fortunately, the devastating consequences of micronutrient deficiencies can be prevented. Food fortification is widely recognized as a preventive, effective, proven and cost-effective public health strategy for ensuring optimal nutrition while reducing health costs in the long term. Food fortification has been identified by the World Health Organization (WHO), the Copenhagen Consensus, the Food and Agriculture Organization of the United Nations (FAO) as well as the World Food Programme (WFP) as one of the main strategies for reducing hidden hunger. Widely practiced in many parts of the world to combat micronutrient deficiencies, food fortification has a long history. In a world affected by COVID-19, investing in food fortification programmes is key to supporting countries to "build back better", strengthen human capital and promote sustainable and inclusive socio-economic development. It is in this context that the Government of Côte d'Ivoire and the United Nations World Food Programme in partnership through the Regional Centre of Excellence against Hunger and Malnutrition (CERFAM) in collaboration with the African Union (AU) and the West African Health Organization (WAHO) propose to organize a virtual high-level consultation under the theme "Food fortification: which dietary approach to reduce micronutrient deficiencies in Africa?".

This virtual consultation is an opportunity to exchange and share experiences and good practices in food fortification at the global, regional, and national levels with a view to accompanying and supporting the efforts of African countries to eliminate malnutrition in all its forms. This event is fully in line with the Agenda 2063 of the African Union, United Nations Decade of Action on Nutrition (2016 - 2025), the Tokyo 2020 Nutrition for Growth Summit (N4G) and the 2021 Food Systems Summit.

¹¹UN Decade of Action on Nutrition 2016-2025

¹²UNICEF-WHO-The World Bank: Joint child malnutrition estimates — levels and trends – 2020 edition, UNICEF-WHO-The World Bank: Joint child malnutrition estimates — levels and trends – 2020 edition - UNICEF DATA

¹³Ibid

¹⁴WHO, The global prevalence of anaemia in 2011, Geneva: World Health Organization, 2015,

2. RATIONALE

Universal fortification of staple foods is a strategic choice to combat malnutrition in Africa leveraging several enabling factors. First of all, these are foods widely consumed by the general population. In this regard, these foods are of crucial importance in terms of their production, consumption, marketing, and economic importance at national and regional levels.

They are the fastest growing food products as a result of population growth, rapid urbanisation, and evolution and changes in dietary habits in the long-term.

Second, universal fortification of staple foods offers the potential to reach large numbers of people at risk of micronutrient deficiencies at low cost, without requiring changes in dietary habits.¹⁵ Every dollar invested generates an average of \$27 in economic returns from prevented disease, improved income and increased labour productivity.¹⁶ At the same time, the integration and large-scale deployment of nutritional support in health systems save lives and reduce the colossal cost of health care.¹⁷

It should also be noted that food fortification techniques are available and mastered. Iodisation of salt for consumption is a good illustration of national fortification programmes that have achieved near universal coverage. Remarkable success has also been obtained in the case of the fortification of flour with various B vitamins and of margarine with vitamin A. Côte d'Ivoire has been one of the pioneer countries of fortification in West Africa with the fortification of salt, oil and wheat flour.¹⁸

In addition, the existence of an enabling environment for scaling up food fortification interventions is also another factor for success.

In fact, food fortification is at the heart of the African Union's Agenda 2063 and sectoral programmes, policies, and strategies to improve the nutritional status of populations.

These include, in particular, the Comprehensive Africa Agriculture Development Programme (CAADP) which includes micronutrient supplementation and fortification of food products among the immediate options intended to improve food security, quality, safety and nutritional diversity.

The African Regional Nutrition Strategy (ARNS 2015-2025) prioritises fortification and supplementation as an integral part of a holistic and multisectoral approach to support the acceleration of nutritional outcomes.

This orientation is reflected in the Business Plan to implement the Malabo 2017-2021 under the third pillar: eliminate hunger in Africa by 2025.¹⁹

In the same vein, most African countries are members of the SUN movement which is a multisectoral and multi-stakeholder platform that supports country-level efforts to eliminate malnutrition in all its forms.

The commitment of African countries to nutrition has also resulted in the adoption of mandatory or voluntary regulatory frameworks at regional and national levels. For example, harmonized fortification standards, led, in particular, by the Technical Management Committee of the ECOWAS Standards Harmonization Mechanism (ECOSHAM), are in force within the ECOWAS region. These efforts are supported at the country level by the implementation of relevant frameworks and action plans such as national multisectoral nutrition action plans and nutrition platforms.



Emeldah, a farmer from Monze District, Zambia. WFP/ Andy Higgins

¹⁵ PATH-GAIN, *Rice fortification toolkit, technical manual*, August 2015, *Rice fortification toolkit: technical manual* (gainhealth.org)

¹⁶ Food Fortification Initiative (FFI) and Global Alliance for Improved Nutrition (GAIN). *Feasibility and potential coverage of fortified rice in the Africa rice supply chain*. FFI/GAIN; 2016, (sightandlife.org)

¹⁷ *Global Nutrition Report 2020: Action on Equity to End Malnutrition*, 2020 *Global Nutrition Report - Global Nutrition Report*

¹⁸ *A landscape analysis of rice fortification in Côte d'Ivoire, L'étude de faisabilité de l'enrichissement du riz en Côte d'Ivoire* | *Les Nations Unies en Côte d'Ivoire*

¹⁹ *African Union, Business Plan to Implement the CAADP-Malabo Declaration (2017-2021)*.

3. OBJECTIVES

Malnutrition is a complex, multifactorial and multisectoral problem that requires a systemic change of both food and health systems as well as water, sanitation, and hygiene (WASH), supply and protection systems.

The objective of the consultation is to promote aims discussions and the sharing of experiences and good practices among the different countries and stakeholders involved in food fortification at the global, regional, and national levels to accelerate the fight against malnutrition under all its forms in Africa.

Specific objectives are:

01

Present and discuss the different models of food fortification at global, regional, and national levels by identifying the success factors, challenges, and opportunities, particularly through the analysis of strategies, policies, regulatory frameworks, existing institutional structures, and resources.

02

Promote knowledge, good practices and lessons learned on food fortification.

03

Formulate concrete actions to technical partners as well as highly strategic key actions to political and financial decision-makers in order to trigger a robust multi-stakeholder engagement and strengthen synergy of relevant actors and efforts for effective action.

04

Propose recommendations on the next steps in food fortification (micronutrient deficiencies) in Africa by identifying the main steps, key players, and enabling factors as well as the main challenges.

4. METHODOLOGY

The virtual consultation is designed as a multi-actor and multidisciplinary forum which will provide a space for discussions and reflections to take stock of the challenges and opportunities and to propose priority actionable solutions to combat malnutrition in Africa. The approach adopted will be centred on a series of participatory tools (plenary presentations and round tables, panel discussions, semi-structured sessions with questions and answers, brainstorming and working groups etc.) in order to ensure effective interaction between the different participants. The results of the work will be presented, discussed, and harmonized during the plenary sessions and will be integrated into the recommendations to inform the next steps in food fortification.



Denise and her baby Blaise wait for Community health workers to note down his weight and height using the child scorecard, a tool to help track each child's growth and prevent stunting, Rwanda. ©WFP/ Arete Frederik Lerneryd

5. EXPECTED OUTCOMES

01 Increased knowledge of major food fortification strategies and initiatives.



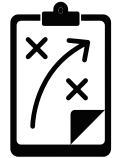
02 Knowledge, good practices, and lessons learned are promoted.



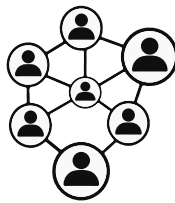
03 Recommendations and actions are made to governments, regional institutions, development partners, the private sector, and other stakeholders.



04 An action plan on the next steps in food fortification (micronutrient deficiencies) is proposed



05 The establishment of a network of "fortification experts" in Africa is initiated.



6. PARTICIPANTS

The virtual dialogue will bring together food systems' experts and key players working in the field of nutrition in Africa. These include representatives of governments, regional and sub-regional organizations, the African Parliamentarians' Network, development partners, control and regulatory agencies, the private sector, academia, and civil society organizations.



Mothers bring in their children for nutritional support at a health centre in village, Niger. © WFP/Simon Pierre Diouf

ANNEX 2: AGENDA

Thursday 2 September 2021		
Hours	Activity	Responsible
08:30 - 09:00	Connection, Welcome to participants and technical arrangements	Organizers
09:00 - 09:10	Overview of the consultation	Mr. Patrick Teixeira, Director a.i., CERFAM
09:10 - 09:45	Session 1: Opening remarks <ul style="list-style-type: none"> - H.E. Ambassador Josefa Sacko, Commissioner, Agriculture, Rural Development, Blue Economy and Sustainable Environment, African Union Commission (5 mins) - Mr. Chris Nikoi; Regional Director for West & Central Africa, United Nations World Food Programme (10 mins) - H.E. Abdourahmane Cissé, Minister, Secretary General of the Presidency of the Republic of Côte d'Ivoire (10mn) 	Dr. Simplicite Nouala, Head of Agriculture and Food Security, African Union Commission
09:45 - 10:00	Photo taking and institutional video	
10:00 - 11:00	Session 2: Overview of the state of micronutrient deficiencies in Africa with a focus on anaemia <ul style="list-style-type: none"> - Overview of the state of micronutrient deficiencies in Africa, Dr. Adelheid Onyango, Nutrition Advisor, Regional Office for Africa, WHO - Why has anaemia been so difficult to address? Can the perspective of food system contribute and if so how?, Dr. Namukolo Covic, Senior Research Coordinator CGIAR Programme on Agriculture for Nutrition and Health (A4NH), IFPRI, President, African Nutrition Society - Prevalence of Anaemia deficiency in West Africa: What is the current state?, Dr. Namoudou Keita, Head of Nutrition, WAHO - Why are we struggling so much to reduce anaemia? What has been missing?, Dr Saskia Osendarp, Executive Director, the Micronutrient Forum <p><i>Plenary discussions (30 mins)</i></p>	Moderator Dr. Simeon Nanama Nutrition Advisor, UNICEF Regional Office for West and Central Africa

<p>11:10 - 12:20</p>	<p>Session 3a: State of food fortification in Africa: Food fortification mapping, trends, challenges, and opportunities at continental level</p> <ul style="list-style-type: none"> - Food fortification in Africa, what is the current state? Dr. Mandan Arabi, Vice-President, Global Technical Services, Nutrition International - Food fortification in Africa, results and impact Dr. Amadou Lamine Gueye, Regional Food fortification manager HKI West Africa - Initiatives and experiences in food fortification in Southern Africa, Ms. Pontsho Sepoloane, Senior Technical Advisor for Nutrition, Southern African Development Community <p><i>Plenary discussions (30 mins)</i></p>	<p>Moderator</p> <p>Dr. Adelheid Onyango, Nutrition Advisor, Regional Office for Africa, WHO</p>
<p>12:20 -13:30</p>	<p>Session 3b: State of food fortification in Africa: Sharing of country experiences and good practices</p> <p>Ministerial Panel</p> <ul style="list-style-type: none"> - Senator Dr. Olorunnibe Mamora, State Minister of Health, Nigeria - SEM Pierre N'gou Dimba, Minister of Health, Public Hygiene and Universal Medical Coverage, Côte d'Ivoire - Dr. Fidèle Nkezabahizi, Director of Integrated National of food and nutrition, Burundi - Dr. Mahamat BECHIR, PhD in Epidemiology/Nutrition; Director of Nutrition, Ministry of Public Health and National Solidarity, Chad 	<p>Moderator</p> <p>Mr. Shawn Baker Chief Nutritionist, USAID</p>
<p>13:30 -14:30</p>	<p>Lunch Break</p>	
<p>14:30 -15:40</p>	<p>Session 3c: State of food fortification in Africa: Sharing of country experiences and good practices</p> <ul style="list-style-type: none"> - Regulatory frameworks, policies and directives, Mr. Abdoulaye Ka, National Executive Secretary of National Council of Nutrition Development, Senegal - Certifications, standards and quality assurance, Ms. Maria Aba Lovelace-Johnson, Chief Regulatory Office, Head, Food Enforcement Department, Food and Drugs Authority, Ghana. -Challenges and opportunities of fortification in DRC, Dr. Bruno Bindamba Senge, Director of PRONANUT, Minister of Public Health, Hygiene and Prevention, Executive Secretary of SUN Movement in DRC 	<p>Moderator</p> <p>Dr. Ronald Afidra Africa Network Coordinator, Food Fortification Initiative (FFI)</p>

15:40 – 15:50	Video featuring	Organizers
15:50 – 17:00	<p>Session 4: Promising initiatives to be promoted on food fortification: lessons learned, results and impacts</p> <ul style="list-style-type: none"> - Food fortification in Africa, constraints, opportunities and prospects Mr. Andreas Bluethner, Director of Nutrition, Bill & Melinda Gates Foundation - Bio-Fortification, what is there for Africa?“, Mr. Dellings Phiri, Malawi Country Manager, HarvestPlus - PROFORT initiative: Local production of fortified supplement foods, Mr. Raoul Boletto, Deputy Country Director, WFP Chad - Experience of women entrepreneur on producing complementary food, Ms Simone Zoundi, Executive Officer, SODEPAL, Burkina Faso - Community production strategy and distribution of infant flour, Prof. Hanta Marie Danielle Vololontiana, National Coordinator for the National Office of Nutrition, Madagascar <p><i>Plenary discussions (30 mins)</i></p>	<p>Moderator</p> <p>Mrs. Katrien Ghoos, WFP Regional Nutrition Advisor in West Africa</p>
17:00 – 17:15	End of day observations	<p>Dr. Simplicie Nouala, Head of Agriculture and Food Security, African Union Commission</p>
Friday 3 September		
09:00 – 09:15	- Recap of Day 1	<p>Mr. Ussama Osman, Representative and Country Director, WFP Côte d'Ivoire</p>
09:15 – 10:25	<p>Session 5: Rice fortification initiatives</p> <ul style="list-style-type: none"> - Overview of rice fortification initiatives: challenges and perspectives, Mr. Penjani Mkambula, Global Food Fortification Programme Manager, GAIN - Technologies, standards and quality assurance: WFP initiatives in rice fortification, Dr. Corinne Ringholz, Food Fortification Advisor, WFP - Role of private sector for improving rice fortification, Buhler Representative, Mr. Tom Gao, Team Leader, One Belt One Road Team, and Mr. Abdelmajid Touzani, Managing Director for West Africa, Bühler, with a video from Bulher about Rice fortification process. <p>Plenary discussions</p>	<p>Moderator</p> <p>Dr. Yan Jia, Specialist in South-South Cooperation, WFP Centre of Excellence for Rural Transformation, China</p>

<p>10:25 – 11:35</p>	<p>Session 6: Sharing of country experiences at global, regional and national levels</p> <ul style="list-style-type: none"> - Compulsory fortification: overview, challenges and lessons learned, Ms. Jositha Lamba, Director, Food Fortification Resource Centre, Food Safety and Standards Authority of India (FASSI) - Guidelines and large-scale fortification policy: the example of Brazil, Dr. Eduardo Nilson, Food and Nutrition Coordination, Ministry of Health and Ms. Sineide Neres, School Feeding National Expert, National Fund for Educational Development, Ministry of Education, Brazil -Partnerships and networks for Food fortification, Dr. Patricia N'goran, Senior Advisor of CERFAM, the Presidency of the Republic of Côte d'Ivoire and Mr. Albarin Gbogouri, Rice expert, WFP Office in Côte d'Ivoire <p><i>Plenary discussions (30 mins)</i></p>	<p>Moderator</p> <p>Prof. Joao Bosco Monte, President, Institute Brazil Africa</p>
<p>11:35 – 12:45</p>	<p>Session 7: Rice value chain: which improvements on fortification for strengthening food security and nutrition?</p> <ul style="list-style-type: none"> - Regional overview of challenges from importation and production of rice, Dr. Sékou Sangaré, Commissioner for Agriculture, Environment and Water Resources, ECOWAS - Opportunities and Perspectives of rice improvement in food and nutrition security Dr. Harold Roy-Macauley, Director General, AfricaRice Center - Investment in rice value chain in Côte d'Ivoire, Mr. Joseph Youssan, Director, Agence pour le Développement De la filière Riz (ADERIZ), Côte d'Ivoire - Investment in rice value chain: rice fortification in micronutrient, Prof. Huo Junsheng, Chinese Center for Disease Control and Prevention, China <p><i>Plenary discussions</i></p>	<p>Moderator</p> <p>Dr. Robert Gueï, Sub-Regional Coordinator for West Africa, FAO</p>
<p>Lunch Break</p>		

<p>13:30-14:45</p>	<p>Session 8: Technical and financial partners' commitment to food fortification</p> <ul style="list-style-type: none"> - Innovative financing for food fortification initiatives, Martin Fregene, Director, Department of Agriculture and Agro-Industry, African Development Bank - USAID initiatives and approaches, Mr. Shawn Baker, Chief Nutritionist, USAID - Needs, challenges and opportunities: the role of the private sector in food fortification in Africa, Mr. Ashish Pande, Managing Director & Senior Vice President, OLAM Nigeria - Lessons learned and innovations on food fortification, Yannick Foing, Global Director, DSM <p><i>Plenary discussions (30 mins)</i></p>	<p>Moderator</p> <p>Dr. Rolf Klemm, Nutrition Vice-President, Helen Keller International – HKI</p>
<p>14:45 - 15:00</p>	<p>Presentation of conclusions and recommendations</p>	<p>Dr. Hameed Nuru, WFP Director for the Africa Office</p>
<p>15:00 -15:15</p>	<p>Closing remarks</p> <p>SEM Pierre N'gou Dimba, Minister of Health, Public Hygiene and Universal Medical Coverage, Côte d'Ivoire</p>	<p>Dr. Simplicie Nouala, Head of Agriculture and Food Security, African Union Commission</p>



Young schoolchildren supported by WFP with fortified school meals, using micronutrient powders, Niger. © WFP/Mariama Ali Souley

ANNEX 3: SPEAKERS



SEM Abdourahmane Cissé,
Ministre, Secrétaire Général
Présidence de la République
de Côte d'Ivoire

Before his appointment as Minister, Secretary General of the Presidency of the Republic on March 29, 2021, Mr. Cissé was respectively Minister of Oil, Energy and Renewable Energies from 2018 to 2021, Minister Special Advisor to the President of the Republic from 2017 to 2018, and Minister of Budget and State Portfolio from 2013 to 2017. He began his professional career within the investment bank Goldman Sachs in London as Executive Director in charge of trading on euro zone indices before joining the Ivorian Public Administration. Mr. Cissé is a graduate of the École Polytechnique (2001, France) and holds a master's degree in petroleum economics and management from the Institut Français du Pétrole (IFP School). He comes from the Ivorian public school where he did all his studies, until he obtained his baccalaureate in 1999. Mr. Cissé is one of the "100 Young Global Leaders" for the year 2017; distinction awarded by the World Economic Forum to leaders under 40 around the world. 40 years old, Mr. Cissé is married and has three children.



H.E. Ambassador Josefa Leonel Correia SACKO
Commissioner for Agriculture,
Rural Development, Blue Economy
and Sustainable Environment,
African Union Commission (AUC),
Ethiopia

H.E. Ambassador Josefa Leonel Correia Sacko, an Angolan national, is a leading African Agronomist and Commissioner for Rural Economy and Agriculture of the African Union Commission. Prior to her election in January 2017, she was Special Adviser to two Ministers in Angola: The Angolan Minister of Environment where she also served as Ambassador responsible for Climate Change and advisor to the Minister of Agriculture in charge of Food Security and Poverty Reduction. Ambassador Sacko was also the former Secretary General of the Inter-African Coffee Organization (IACO), Abidjan Cote D'Ivoire for 13 years. At IACO, she oversaw the coffee economy of 25 African Coffee producing countries and successfully championed the empowerment of small-scale coffee farmers across the continent by setting up Regional Centres of Excellence for capacity building of Member States, and Genetic Material Conservation among others. Ambassador Sacko is multilingual.



Mr. Chris Nikoi
Regional Director for West Africa
WFP, Senegal

Originally from Ghana, Chris NIKOI has been appointed Regional Director of the World Food Program for West Africa based in Dakar, since April 2019. He has extensive experience in managing operations as well as developing strategic partnerships with governments, regional organizations, and technical and financial partners. Chris Nikoi has 24 years of experience with PAM. His career began in Uganda and Angola where he led a wide range of logistics activities until his last post as New York-based Special Adviser on United Nations Reform, a post he held from August 2017 to March 2019. Chris Nikoi previously held other senior positions within the organization. Prior to joining WFP, Mr. Nikoi worked for several years in various US companies operating in the commercial shipping and shipping sectors.



Dr. Namoudou Keita

Head of Nutrition Department
WAHO, Burkina Faso

Dr KEITA is a specialist in public health and social medicine with 32 years of experience in the field of health and development in sub-Saharan Africa. He is responsible for nutrition, within the West African Health Organization (WAHO), a specialized agency for the Economic Community of West African States (ECOWAS). Since 2008, he has been responsible for coordinating primary health care, health systems strengthening and non-communicable diseases (NCD). He coordinates the implementation of the Regional Strategic Nutrition Plan for West Africa 2018-2025, in collaboration with all stakeholders. Dr. KEITA Namoudou is a qualified doctor Specialist in Public Health and Social Medicine and also holder of a Diploma of Advanced Studies (DEA) in Public Health and Developing Countries as well as a Masters in biological and medical science obtained at the University of Rennes 1 in France.



Dr. Adelheid Onyango

Nutrition Advisor, Regional
Office for Africa
WHO, Republic of Congo

Dr Adelheid Onyango was appointed Director of the Universal Health Coverage / Healthier Populations group in April 2021. Dr Onyango joined WHO at its headquarters in Geneva in 1998. For over 16 years, she has contributed to normative work WHO on Growth and Nutrition. She joined WHO regional office in 2014 to lead the nutrition and food safety program. In this role, she has helped build strong inter-agency partnerships for nutrition across Africa. She has devoted more than 20 years of service in the field of public health and international nutrition. Dr Adelheid Onyango holds a BA in Education from Kenyatta University in Nairobi and an MA and PhD in Nutrition from McGill University in Canada.



Dr. Namukolo Covic,

Senior Research Coordinator
CGIAR ,A4NH/IFPRI
President, African Nutrition Society,
USA

Dr. Namukolo Covic is currently working in the Country Coordination and Engagement Unit of the CGIAR Program on Agriculture for Nutrition and Health (A4NH), led by the International Food Policy Research Institute. Her research focuses on improving the links between agriculture and improved nutrition and health outcomes. She connects research data to national and African continental processes promoting the use of evidence to inform policy decisions at the national, sub-national and continental levels in Africa, working closely with national governments and the African Union. In addition to her continental commitment, she is the national coordinator for A4NH in Ethiopia



Dr Simplicie Nouala

Head of Agriculture and Food
Security Division, African
Union Commission, Ethiopia

Dr Simplicie Nouala is the Head of the Agriculture and Food Security Division at AUC. He has been at the AUC since 2006 and prior to this current position was responsible for animal production at the interafrican animal resources office of the African Union.



Mr. Patrick Teixeira
Directeur a.i. du CERFAM
Côte d'Ivoire

Patrick TEIXEIRA has been acting director of the Regional Centre of Excellence against Hunger and Malnutrition (CERFAM) since February 2021. He joined CERFAM in 2019 as head of strategic planning, program design and partnerships. Patrick has over 25 years of experience as a humanitarian and development actor, including 24 years with the World Food Programme. He has held various leadership and management positions, including in Cape Verde, Liberia, Eritrea, Côte d'Ivoire, Gambia and Italy. Most recently, as Deputy Country Director and Program Director at WFP-Timor-Leste. Patrick has expertise and experience in the areas of food security, nutrition and food systems. Patrick obtained a Diploma of Advanced Studies in Economics and a Diploma in International Development and Cooperation from the University of Social Sciences of Toulouse, France. Patrick is also an ILO certified gender expert



Mr. Martin Chungong
Secretary General
Inter-Parliamentary Union,
Switzerland

Martin Chungong is the eighth Secretary General of the Inter Parliamentary Union (IPU). He joined the IPU in 1993. He was appointed Director of the Democracy Promotion Division (2005-2011), then Director of the Programs Division (2011-2014). Of Cameroonian nationality, he is both the first African and the first non-European elected to the post of IPU Secretary General, which he has held since July 1, 2014. He is one of the 29 world leaders appointed by the IPU former Secretary of the United Nations (Ban Ki-moon) to guide the Scaling Up Nutrition Movement (SUN) efforts to end malnutrition in all its forms. Martin Chungong obtained a bachelor's degree from the University of Yaoundé, then continued his studies at the University of Ottawa, where he obtained a doctorate in applied linguistics in 1982. He also holds a postgraduate degree from the London Polytechnic (now University of Westminster).



Dr. Saskia Osendarp
Executive Director,
The Micronutrient Forum, USA

Saskia Osendarp, Ph.D., is a world renowned nutrition researcher with over 25 years of nutrition experience. She brings her expertise in child development, micronutrients, and enrichment. She has a proven track record in the public and private sectors of successful international research collaborations, program design, impact evaluations and innovation project launches. Currently, she is the Executive Director of the Micronutrient Forum, leading projects on the lack of data on micronutrients, women's nutrition and co-organized the Standing Together for Nutrition Consortium analyzing the impacts of the COVID-19 pandemic on nutrition. Originally from the Netherlands, Saskia holds an MA and PhD in Nutrition from Wageningen University and Research, where she is also Associate Professor of Micronutrients and International Health books.



Mr. Abdelmajid Touzani
Director of Bühler West Africa
United Arab Emirates

Abdelmajid Touzani is Managing Moroccan of 34 years is the Director of Bühler West Africa. He is a mechanical engineer with a long expertise in food processing. He has held key positions within Bühler Group where he had to lead stakeholders and partners to develop innovative food processing plants in the African continent. He is in based in Abidjan since 3 years and he is leading the operations of Bühler group which aim to support the continent to develop its agro food industry and overcome its dependency to feed its population.



Dr. Simeon Nanama

Nutrition Advisor
UNICEF Regional Office for West
and Central Africa, Senegal

Simeon Nanama works to provide strategic leadership for UNICEF's nutrition programs in Nigeria. Prior to joining UNICEF Nigeria, Dr. Nanama was Head of Nutrition in Madagascar (2013-2017), Head of Nutrition for UNICEF Congo (2008-2013) and Nutrition Specialist for UNICEF Chad (2006-2008). Prior to join UNICEF in 2006, Dr. Nanama was the West Africa Regional Coordinator for the Micronutrient Initiative (MI now known as Nutrition International), a non-profit organization lucrative based in Canada. Dr. Nanama's research interests and experience focus primarily on food insecurity and its nutritional and non-nutritional consequences.



Dr. Mandana Arabi

Vice-President
Global Technical Services
Nutrition International,
Canada

As Vice President, Global Technical Services and Chief Technical Advisor at Nutrition International, Mandana Arabi oversees the technical quality of Nutrition International's programming in 10 countries and leads a global team of experts to address the most challenging gaps in evidence and practice to improve nutrition. Mandana is a trained medical doctor with a PhD in Nutrition Sciences from Cornell University. She has more than 15 years of experience in public health nutrition, designing, implementing, and evaluating nutrition interventions in countries with a high burden of malnutrition



Dr. Amadou Lamine Gueye

Regional Manager of
Food Fortification
HKI West Africa, Senegal

Dr Amadou Lamine Gueye holds a doctorate in nutrition and over 12 years of professional experience in international nutrition and health programs in developing countries. His areas of expertise include the implementation of evidence-based interventions to address micronutrient deficiencies. From 2007 to 2011, Dr Guèye was the Food Fortification Program Coordinator of Helen Keller International for Senegal and provided technical assistance to the Alliance for Food Fortification of Senegal (COSFAM) for the implementation of interventions for the enrichment of wheat flour and edible oils. Dr Gueye played an active role in the implementation of the project «Faire Tache d 'Oil», a multi-partner initiative aimed at enriching cooking oil with vitamin A in 8 West African countries. Since 2019, Dr Gueye has been in charge of the regional food fortification program of Helen Keller International.



Ms. Inoshi Sharma

Director Food Fortification
Resource Center
Food Safety and Standards
Authority, India

Inoshi Sharma is a civil servant, an officer of the Indian Revenue Service. She has held various missions relating to the publication of tax provisions, international taxation, vigilance and the appeal tribunal. She has led teams responsible for tax law enforcement and tax compliance. She worked as the director of the national health mission in Haryana taking care of purchasing medicines and equipment and adolescent health regarding menstrual hygiene and weekly folic acid iron supplements. Her current mission as Director, FSSAI, involves Social Behavior Change and Communication, the Eat Right India initiative and extending support for intensification of fortification across the country. She is interested in the field of public policies, administration and the social sector.



Ms. Pontsho Sepoloane

Senior Technical Advisor in Nutrition
Social and Human Development Unit
South African Development Community
SADC, Botswana

Pontsho Sepoloane has been a Health and Nutrition Specialist at UNICEF-SADC in Botswana since 2018, facilitating regional harmonization of policies in the SADC region, coordinating high impact actions through engagement with 16 states SADC members. Prior to joining SADC, Pontsho Sepoloane was Regional Nutrition Manager for the World Food Program in Johannesburg from 2016 to 2018, providing technical nutrition support to 11 countries in the SADC region. From 2005 to 2016, she worked in South Africa at the Ministry of Health, first as Deputy Director and Deputy Director. Pontsho Sepoloane holds an MA in Public Health Policy and Management from the University of Pretoria (2006 - 2010) and a Certificate in Monitoring and Evaluation from the University of Stellenbosch (2011).



HE Dr. Osagie Emmanuel Ehanire

Minister of Health Nigeria

Dr. Ehanire studied medicine at Ludwig Maximilian University in Munich, Germany, graduating as a surgeon. In 1976, he attended the Royal College of Surgeons in Ireland where he obtained a postgraduate degree in Anesthesia. He obtained his certification from the Board of General Surgery and Orthopedic Trauma Surgery at the Medical Council of North Rhine-Westphalia in Düsseldorf, Germany. Dr. Ehanire was appointed Congressional Delegate for Progressive Change (CPC) to the political fusion conference that spawned the All-Progressive Congress (APC). After being examined and authorized by the National Assembly, he was appointed Minister of State for Health in November 2015. After the start of a new administration in May 2019 and the submission of ministerial candidates to the Senate by the Presidency in July 2019 and their subsequent selection, Dr. Ehanire was appointed Minister of Health in August 2019.



SE Dr. Jean Jacques Mbungani Mbanda

Minister of Public Health
Hygiene and Prevention, DRC

Married and father of 5 children, Dr Jean-Jacques Mbungani has a professional career of around thirty years in the medical world. He excels in this field which crowns his academic training at the University of Notre Dame de la Paix in Namur and at the ULB in Brussels. With his skills and his experience His Excellency the President of the Republic, Félix Antoine TSHISEKEDI TSHILOMBO, chose his person to lead mainly the “Universal Health Coverage” project within the government at the Ministry of Public Health and Hygiene and Prevention. At the MLC, he became, in 2003, the representative of the BENELUX zone, then deputy national secretary of the MLC Exterior, before becoming the incumbent in 2013. From December 2018 to June 2019, he was coordinator of external relations of the LAMUKA coalition.



Mr. Eduardo Nelson

Food and Nutrition
Coordinator
Ministry of Health,
Brazil

Eduardo Nilson works at the General-Coordination for Food and Nutrition for more than 20 years with management, monitoring and evaluation of health, food and nutrition policies, including food and nutrition surveillance, food fortification policies and policies prevention and control of diseases associated with dietary factors. During this period, he participated as national representative and expert in several technical groups on food and nutrition issues of the Pan American Health Organization (PAHO) and the World Health Organization (WHO). Eduardo is a Biologist and has a PhD in Global Health and Sustainability from the University of São Paulo, where he is also a researcher at the Center for Epidemiological Research in Nutrition and Health (Nupens/USP).



HE Dr. Thaddée NDIKUMANA

Minister of Public Health and the Fight against AIDS (MSPLS) Burundi

Dr Thaddée NDIKUMANA was appointed Minister of Public Health and the Fight against AIDS on June 28, 2020. He holds a Doctorate in Medicine obtained from the Faculty of Medicine of the University of Burundi in 2007 and a University Certificate in Health Systems Strengthening Research obtained at the Université Libre de Bruxelles (ULB), Belgium in 2008. Successively Consultant Doctor, Deputy Director, then Director of the National Leprosy Tuberculosis Program. Dr Thaddée NDIKUMANA was a member of several decision-making bodies and strategic orientation committees in the public health sector. With more than 10 years of professional experience. Dr. Thaddée NDIKUMANA has developed skills in health program management, health project coordination, planning, monitoring / evaluation, development of strategic documents, training and / or capacity building, communication, research, mobilization of partnerships in the fight against tuberculosis, STIs / HIV / AIDS, and health problems in Burundi.



HE Mr. Pierre N'Gou DIMBA

Minister of Health Public Hygiene and Universal Medical Coverage, Côte d'Ivoire

Director General of the Road Management Agency (AGEROUTE) since April 1, 2017, Pierre Dimba is now the head of the Ministry of Health and Public Hygiene. Dimba N'Gou Pierre is also the President of the Regional Council of Agneby-Tiassa since October 13, 2018. Holder of a Baccalaureate series C, he graduated from his promotion at the National School of Public Works (ENESTP) of Yamoussoukro with the title of civil engineer. He began his professional career at the National Bureau of Technical Studies and Development (BNETP). The Minister of Health, Public Hygiene and Universal Health Coverage, participated in many projects and supported the State in the organization of the States General of decentralization in 2007. He also worked in the " support for the establishment of Performance Contracts in 07 local authorities in Côte d'Ivoire since 2016.



Dr Mahamat Béchir

PhD in Epidemiology / Nutrition, Director of Nutrition Ministry of Public Health and National Solidarity, Chad

Dr Mahamat Béchir obtained his PhD in epidemiology and defended a thesis on nutrition in nomadic environments at the University of Basel in Switzerland. He has worked in the field of nutrition as Head of the National Center for Nutrition and Food Technology, as Nutrition Specialist at UNICEF Chad and REACH Facilitator in Guinea. He is currently SUN Chad Focal Point, Director of Nutrition and Food Technology and Nutrition Cycle Coordinator at the Faculty of Human Health Sciences of the University of N'Djamena Chad. He has contributed to the development of several national and international strategic and programmatic documents and has published some thirty scientific articles in the field of nutrition and food.



Dr. Corinne Ringholz
Food fortification advisor
WFP, Italy

Corinne Ringholz is an International Development Specialist and is the lead for the Food Fortification & Specialized Nutritious Foods Team for WFP's Nutrition Division in Rome, Italy. Prior to joining WFP, Corinne worked across several US government organizations, including: The United States Agency for International Development (USAID), the Joint Science and Technology Office, and the National Institutes of Health. Corinne earned her PhD in epidemiology from the University of Rochester and has a background in both infectious disease and nutritional epidemiology.



Mr. Shawn Baker
Chief Nutrition
USAID, USA

Shawn K. Baker, chief nutritionist for the United States Agency for International Development (USAID). He guides USAID's investments and engagement with partners to address malnutrition in developing countries. Prior to joining USAID, Mr. Baker was the first Director of Nutrition at the Bill and Melinda Gates Foundation with over 30 years of global public health nutrition experience, including 25 years in sub-Saharan Africa and South Asia. He also worked for Helen Keller International for 19 years, including 16 years as Vice President and Regional Director for Africa. He served as Chairman of the Scaling Up Nutrition Movement executive committee and now serves as a special advisor. He also served on the board of the Global Alliance for Improved Nutrition from 2013 to 2016. Mr. Baker holds a master's degree in public health from Tulane University, with concentrations in international health and nutritional epidemiology. He received his bachelor's degree in biology from the University of Miami.



Mr. Abdoulaye Ka
National Executive Secretary of
National Council of Nutrition
Development, Sénégal

Specialist in Public Health and Human Development, Abdoulaye Ka has a rich background in the field of nutrition and social development. In 2011, he became the national coordinator of the Cellule de Lutte contre la Malnutrition (CLM), a body in charge of developing and monitoring the implementation of the country's nutrition policy. The CLM became CNDN in 2020, thus marking a positive development in the institutionalization of nutrition in Senegal. Abdoulaye Ka started his experience in nutrition in 1999 as area manager of the PNC Community Nutrition Program (PNC). Abdoulaye Ka holds a Specialized Higher Studies Diploma (DESS) in Economic Policy and Project Analysis obtained from Cheikh Anta Diop University in 2001; a Master of Science (M.Sc.) in Community Health obtained from Laval University in Canada in 1997; a Bachelor of Business Administration (B.A.A) obtained from Laval University in Canada in 1994.



Ms. Maria Aba Lovelace-Johnson
Chief Regulatory Office, Head, Food
Enforcement Department
Food and Drugs Authority, Ghana

In the area of Food Regulation, Ms. Lovelace-Johnson had a Certificate in Assurance of Food Safety and Quality Control from Hyogo International Centre, Japan in 2002, a Certificate in Applied Intermediate HACCP from the Royal Institute of Public Health, UK in 2003, a Certificate in Food Safety Risk Analysis from the University of Greenwich, UK in 2003, a Certificate in International Food Laws and Regulations from the University of Michigan, USA in 2004 and was certified as a Lead Auditor of Food Safety Management Systems by the International Register of Certificated Auditors (IRCA), UK in 2005. She has, since 2013, been the Head of the Ghana Delegation to the Codex Committee on Nutrition and Foods for Special Dietary Uses.



Dr. Yan JIA
Specialist in South-South Cooperation
Center of Excellence for Rural
Transformation, WFP, China

Ph. D of Agricultural Ecology, Head of South-South Cooperation in United Nations World Food Program China Office, is responsible for coordination of South-South and Triangular Programs including partnership development and implementation in full consultation with stakeholders concerned, and leading case study on, identification and documentation of successful experiences of Centre of Excellence for sharing through WFP's broader corporate knowledge network. Before joining WFP, she was Director in Foreign Economic Cooperation Center, Ministry of Agriculture, People's Republic of China, and has aligned herself with South-South Cooperation for many years. She also had years' experience as consultant for FAO and other organizations with efforts to enhance food security and agricultural sustainability under South-South Cooperation.



Mr. Andreas Bluethner

Director of Nutrition of the Bill & Melinda Gates Foundation
USA

Andreas Bluethner is the Director of Nutrition for the Bill & Melinda Gates Foundation. He is currently leading an update of the foundation's nutritional strategy. Andreas is also leading the inter-foundation collaboration on nutrition. Prior to the founding, Andreas was Director of Food Fortification and Partnerships for BASF SE, a leading chemical company, micronutrient manufacturer and active partner of global fortification programs and players for decades. Prior to BASF, Andreas worked with the UN, the German government, and the Global Alliance for Improved Nutrition (GAIN). Andreas holds a doctorate in international economics and human rights law from the University of Mannheim and a degree in business administration from Robert Bosch, Stuttgart. He has also served as a mentor to social entrepreneurs around the world as Ashoka Globalizer, as a founding board member of WFP Innovation Accelerator and as a member of the Listo board. He has worked as a permanent lecturer on food and nutrition security, trade and human rights for the University of Mannheim and the European Business School in Wiesbaden



Mr. Ronald Afidra

Africa Network Coordinator
Food Fortification Initiative (FFI),
Uganda

Ronald Afidra has been the Africa Network Coordinator for the Flour Fortification Initiative (FFI) since March 2012. Before joining this position, he was Assistant Expert in Health and Nutrition at GTZ in 2006, Advisor in Food Fortification in 2007 and 2011 at USAID in Uganda, supporting the Ministry of Health in establishing a program integrated monitoring and evaluation for nutrition interventions in Uganda in accordance with the national plant and health sector development strategic plan. He has also worked with the public and private sectors, organizations and governments to undertake capacity building in nutrition and health programs. He has extensive experience in managing / coordinating food / nutrition security programs, micronutrient programs, auditing industries / training, developing proposals, monitoring and evaluation, and advocacy. He has a Bsc in FST and MSc in Human Nutrition from Makerere University.



Mr. Claude Jibidar

Representative and Country
Director of WFP, Chad

Mr. Jibidar of Togolese nationality graduated from the University Institute of Technology and the Business School of Lyon Eculluyest. Representative and Country Director of WFP Chad since September 19, 2020 Mr. JIBIDAR was WFP Representative and Director in the Democratic Republic of Congo (DRC) from July 2016 to September 2020 and was in post in Afghanistan from June 2013 to July 2016. Mr. Jibidar has over 25 years of leadership experience in non-profit organizations and businesses, with a particular focus on food and nutrition security as well as emergency response strategies. Mr. Jibidar was Deputy Regional Director for West and Central Africa. From 2006 to 2008, he was Deputy Director in the Democratic Republic of Congo. And from 2002 to 2006, deputy director of the Geneva liaison office.



**Prof. Hanta Marie Danielle
VOLOLONTIANA**

National Coordinator of the National
Office of Nutrition (ONN), Madagascar

Professor VOLOLONTIANA Hanta Marie Danielle Currently National Coordinator of the National Office of Nutrition in Madagascar. A specialist trained in Internal Medicine, she is also a Teacher-Researcher at the University of Antananarivo. She was elected as the first woman to hold the post of Dean of the Faculty of Medicine at the University of Antananarivo in 2019. Among her areas of research during her initial training is stunting. She was spokesperson for the COVID 19 Operational Command Center in Madagascar in 2020, before becoming the National Coordinator of the National Office of Nutrition



Mr. Dellings Phiri

Country Manager HarvestPlus Malawi

Dellings Phiri has been Malawi Country Manager for HarvestPlus since 2017. Before joining HarvestPlus, he worked for several years with Seed Co Mw Ltd as Managing Director, and also for Monsanto Malawi (now Bayer Malawi) as Marketing Manager. Phiri has also worked with the National Smallholder Farmers Association of Malawi (NASFAM) as Marketing Manager responsible for creating market linkages for farmers' produce. Phiri holds a master's degree in Business Administration (MBA) from Heriot Watt University (Scotland) and a Bachelor of Commerce (Business Administration) degree from the University of Malawi. He has worked in the agriculture sector (Crop Seeds) for twenty years and is one of the most experienced seeds experts in Malawi.



Ms. Simone Zoundi

Executive Officer, SODEPAL Burkina Faso

Simone ZOUNDI is the promoter of the company for the exploitation of food products (SOPEPAL) in Burkina Faso, at the same time, she chairs the National Federation of Agri-food and Transformation Industries of Burkina (FIAB). She holds a degree in Finance-Accounting and Business Administration from ESCAE-Toulouse. At the end of the internships in France, Senegal, the US in order to contribute to the development of local agro sylvo-pastoral, fishery and wildlife resources in order to contribute to the socio-economic promotion of women. Ms. ZOUNDI is specialized in the organization and management of agro-food processing companies. SOPEPAL's products, nutritional supplement foods, are marketed to Pharmacy.



Ms. Katrien Ghoois

Senior Regional Nutrition Advisor West and Central Africa Regional Office, WFP, Senegal

Katrien Ghoois is WFP's Senior Regional Nutrition Advisor for West and Central Africa since September 2019. She worked with WFP and UNICEF in Africa and Asia mainly on nutrition but was also involved in several large-scale emergencies. As Senior Regional Nutrition Advisor in Asia (2012- 2017), she played a decisive role in scaling up of rice-fortification. In Pakistan, as Deputy Country Director (2017 – 2019), she strategically positioned WFP as a technical partner to the government for nutrition and social protection. Currently, she provides guidance to 19 WFP Country Offices and leads WFP's work in the region on local food systems strengthening to improve affordability of nutritious diets, particularly for women and children in fragile settings. Katrien is Belgian and holds a master's degree in Agricultural and Chemical Engineering from the University of Leuven, Belgium (KUL) and a master's degree in Nutrition in Developing Countries from the University of Montpellier 2.



Mr. Penjani Mkambula

Global Programme Lead, Food Fortification Program Manager, GAIN, England

Penjani Mkambula is Global Cluster Lead for Food Fortification at the Global Alliance for Improved Nutrition (GAIN). He leads a portfolio of programs on large scale food fortification and biofortification as well as supporting other partners globally on programs related to food fortification, biofortification, food processing and food safety, and supply chains for vitamin and minerals premixes. Prior to switching to the international development sector, Penjani also worked in food industry where he was involved in supply chains for fortified foods and specialized nutrition products. Penjani serves on the Executive Management Team of the Food Fortification Initiative (FFI), Board of Iodine Global Network (IGN), and the Steering Committee of the African Union's Partnership for Aflatoxin Control in Africa (PACA).



Ms. Karine Santos

School Feeding National coordinator
National Fund for Educational
Development Ministry of Education
Brazil

Karine Silva dos Santos is a federal public servant, more than 10 years, specialist in Management of Educational Programs and Projects of the National Fund for the Development of Education - FNDE, she has performed several functions in the body with prominence in the Presidency of the FNDE in the Directorate of Educational Actions. She has been coordinator of the national school meals program for more than 4 years, at FNDE, a federal autarchy linked to the Ministry of Education, responsible for the execution of programs and projects of the Education area across the country. She also served as Director of the Directorate of Articulation and Support for Basic Education Networks (responsible for textbook programs, direct money at school, National Education Plan, Early Childhood Education, Cost of Student Quality, Plan of Goals - PAR) of the Secretary of Education Basic Education of the Ministry of Education.



Dr Patricia N'Goran

Advisor for Nutrition, Food and
Early Childhood Development at the
Presidency of the Republic of Côte
d'Ivoire, SUN Focal Point
Government Counselor at CERFAM,
Côte d'Ivoire

Dr Patricia Yoboue N'goran-Theckly is an advisor in nutrition, food and early childhood development at the presidency of the Republic of Côte d'Ivoire. As such, she is SUN-CONNAPE Focal Point and Government Advisor to the Regional Centre of Excellence against Hunger and Malnutrition (CERFAM). She holds a doctorate in medicine, specializing in nutritional policies, health systems management and public health. In addition to her years of clinical practice experience in general medicine and pediatrics, she has accumulated 14 years in the field of nutrition. Before her appointment to the Presidency of the Republic, she was Coordinator of the Permanent Technical Secretariat of the National Nutrition Council from 2016 to 2019, housed in the Prime Minister's office.



Prof. Joao Bosco Monte

President, Institute Brazil Africa
IBRAF, Brazil

Founder and current president of the Brazil Africa Institute, he holds a doctorate in education from the Federal University of Ceará and postdoctoral studies from the University of Brasilia (UNB), with a specialization in research on integration of the African continent. He is visiting professor at leading Brazilian and African universities and is a senior international associate at the Center for African, Latin American and Caribbean Studies - CALAC at Jindal Global University (India). Professor João Bosco Monte is also the author of books and publications on the relations between different international actors, focusing on South-South and triangular cooperation. In 2018, he was admitted as Comendador da Ordem de Rio Branco, a prestigious award from the Brazilian government, in recognition of his merits achieved in promoting relations between Brazil and Africa. In 2020, Professor Monte was invited to join the United Nations Network of Food Systems Champions.



Mr. Ussama Osman

Representative and Director of the World Food Programme, Côte d'Ivoire

Mr. Ussama Osman was appointed Representative and Director of the World Food Programme in Côte d'Ivoire in November 2020. He is originally from Sudan. Experienced Director with a demonstrated history of working in the international affairs industry. Skilled in Research, International Relations, Intercultural Communication, Policy Analysis, and Human Rights. Strong professional with a PhD focused on Social Sciences from Sorbonne University Paris. He holds a master's from Université Lumières at Layon and a License and a Masters from the University of Khartoum.



Dr Harold Roy-Macauley
General Director
Africa Rice Center, Côte d'Ivoire

Harold Roy-Macauley is Regional Director, East and Southern Africa, One CGIAR, and Director General of the Africa Rice Center (AfricaRice). He is a Sierra Leonean national and has nearly 30 years of experience in agricultural research for development with extensive leadership and management expertise. Before joining AfricaRice, he was the Executive Director of the West and Central African Council for Agricultural Research and Development (CORAF). He served previously as the Regional Director for World Agroforestry (ICRAF) in West and Central Africa. He was the Managing Director for the Regional Center for Improving Adaptation to Drought (CERAAS) in Senegal. He is fluently bilingual in English and French. He obtained his PhD degree in tropical plant biology in 1993 from the Université Denis Diderot in France, his MSc degree in tropical plant biology in 1988 from the Université de Pierre et Marie Curie in France, and his BSc with honors in botany in 1982 from the University of Sierra Leone.



Mr. Yacouba Dembélé
Director
Agency for the Development of the Rice Sector (ADERIZ), Côte d'Ivoire

Mr. Dembélé Yacouba of Ivorian nationality is an engineer in Agro-economics graduated from the Center for Financial, Economic and Banking Studies in Paris and a diploma in general agronomy from the National School of Agronomy in Abidjan. He is currently Director General of the Agency for the Development of the Rice Sector (ADERIZ) since February 2019. He was respectively Regional Director West in Man (Ivory Coast) and Central Director of Logistics Support at SATMACI of 1980 to 1994. From 1999 to 2008, at PALMCI as Director of the development of village plantations and Director of agricultural production. From May 2008 to April 2010, Executive Director of the National Federation of Oil Palm Producers Cooperatives of Côte d'Ivoire then called to other functions from May 2011 to February 2019 at the National Rice Development Office in as Managing Director.



Prof. Junsheng Huo
Director of central laboratory
National Institute for Nutrition and Health, Chinese Center for Disease Control and Prevention, China

Junsheng Huo, professor, director of central laboratory, National Institute for Nutrition and Health, Chinese Center for Disease Control and Prevention. He has engaged in research of key technology for food fortification, micro-nutrients supplements and other health promotion food for years. He has participated researches project funded by Ministry of Science and Technology, Ministry of Health and international organizations such as GAIN, ILSI, UNICEF and WHO. He has published 260 scientific papers and 22 nutrition books, organizing drafts of 10 national or hygiene standard and proved 5 invention patents. He is also the responsible person in trace elements subcommittee, Chinese nutrition society in food fortificant and special food subcommittee, Chinese food additive and ingredient association etc.

Dr Guei, of Ivorian nationality, began his career in 1988 as a Corn Research Assistant in the Department of Agriculture at Kansas State University in the USA. After serving for 14 years at WARDA / AfricaRice as a rice geneticist, he joined FAO in Rome, Italy in 2005 as an Expert Seed Officer in the Plant Production and Protection Division plants and in 2011, he was appointed Senior Technical Officer / Secretary of the Agriculture Committee, and Senior Technical Advisor to the Assistant Director General responsible for the Department of Agriculture. Since January 2019, he has been appointed Head of the Sub-Regional Office for West Africa and FAO Resident Representative in Senegal. Dr Guei holds a Diploma of Agricultural Engineer from the National School of Agronomy (ENSA), Abidjan, Côte d'Ivoire; Master of Science and PhD in Plant Genetics and Breeding from Kansas State University, USA.



Dr Robert Gouantoueu Guei
Sub-regional Coordinator for West Africa and FAO Representative, Senegal



Mr. Yannick Foing

Global Director
Nutrition Improvement, DSM,
Netherlands

Yannick holds higher degrees in Molecular Biology, Public Health and Social Impact Strategy. Prior to joining DSM, Yannick was previously the Director of Partnerships and Fundraising for BIOVISION- the World Life Sciences Forum (France), a think tank organised by a non-profit group to foster collaboration between developed and emerging economies and improve access to essential medicines. Yannick joined DSM in Singapore in 2012 and was initially responsible for the Asia Pacific region, driving the development of food fortification and supplementation programmes such as rice fortification. Yannick has since held a global partner engagement role from 2018 to 2020 and has recently been appointed Global Director of DSM's Nutrition Improvement unit, whose mission is to positively impact public health by developing and implementing effective and affordable nutrition solutions, leveraging their expertise and cross sectors partnerships to reach low-income consumers and beneficiaries.



Mr. Rolf Klemm

Vice-President of Nutrition
Helen Keller International
USA

Rolf Klemm, Vice President of Nutrition, has over 25 years of professional experience in international public health nutrition with expertise that spans nutrition effectiveness research and design, management and evaluation of programs. He has served as Peace Corps Volunteer (Philippines, 1979- 81), Indochinese Refugee Program Supervisor (1982-84), Program Manager and Country Director for Helen Keller International (Philippines, 1986-98), Senior Technical Advisor and USAID Technical Director of A2Z Micronutrient Flagship Program (2009-11), and Hopkins Faculty Member and Principal Investigator and / or Co-Investigator (1998-present) for Studies in Asia (Nepal, Pakistan, Bangladesh, Philippines) and in sub-Saharan Africa (DRC, Kenya, Tanzania, Malawi, Mozambique and Zambia). He is currently Vice President of Nutrition at Helen Keller International and holds a faculty position at the Johns Hopkins Bloomberg School of Public Health.



Mr. Ashish Pande

Managing Director and
Senior Vice President
Crown & Dangote Mills, OLAM, Nigeria

Ashish Pande is the Managing Director and Senior Vice President of Crown Flour Mills Nigeria. He is an engineer with over 22 years of professional experience, having worked with PepsiCo & Reckitt Benckiser in India, Australia and France as well as in Nigeria, Ghana and Egypt with Olam. Pande joined Olam International in 2017 and was instrumental in the creation of Olam's animal feed business in Nigeria, as well as the successful integration and takeover of Dangote Farine Mill.



Mr. Tom Gao

Leader of One Belt One Road
Team Buhler
United Arab
Emirates

Tom Gao is the leader of One Belt One Road Team of Bühler Group and based in Dubai, United Arab Emirates. OBOR business aims to provide Total Solution to customer by Bühler with Partners (EPC contractors, Financing organizations, Government agencies etc.), which is under the guideline of Chinese policy, to achieve OBOR vision of Reduce Waste, Safety Food, Food for All and Sustainable Development. Tom is experienced Head with a demonstrated history of working in the mechanical or industrial engineering industry of Grain & Food. Skilled in Strategic Establishment, Sales, Business Development, International Business, Technology & Engineering. Strong professional with a Food Science and Engineering bachelor focused on Grain Science and Engineering from Henan University of Technology.



Dr Hameed Nuru

Director of WFP Africa
Union Global
Office and Representative
to the African
Union Commission &
United Nations Economic
Commission
for Africa (AU & ECA)
Ethiopia

Dr. Hameed Nuru is the Director of WFP Africa Union Global Office and Representative to the AU and UNECA. He assumed his duty in Addis Ababa as from 27 April 2021. Prior to his current appointment, Dr. Nuru was Representative and Country Director of the World Food Programme Sudan from 2019 to 2020 and Representative and Country Director of India from 2015 to 2019. Preceding with Global Alliance Livestock Veterinary Medicines (GALVmed) from 2009 - 2014. As the Senior Director Policy & External Affairs, he has vast experience in the areas of policy, advocacy, partnerships and communications. Overseeing a global portfolio as the spokesperson of GALVmed, he also managed the Africa and India offices. Dr. Nuru was responsible for driving the overall GALVmed strategy and positioning the organization globally. From 2006 – 2008, he worked with the African Union - Interafrican Bureau for Animal Resources (IBAR) based out of Nairobi, Kenya. As the Senior Policy Officer Livestock & Fisheries, he was responsible for policy and strategy formulation, and follow up for livestock and fisheries at the continental level with contributions towards the Comprehensive Africa Agriculture Development Program (CAADP). A veterinarian by training, he has also worked as the Principal Veterinary Officer for the Government of Botswana, Department of Veterinary Services, on livestock disease control. He however started his work life as a university academic in Africa and the U.K. Dr. Nuru is a citizen of Botswana, and has a passion for advocacy towards poverty alleviation and livelihood enhancement linked to food and nutritional security.



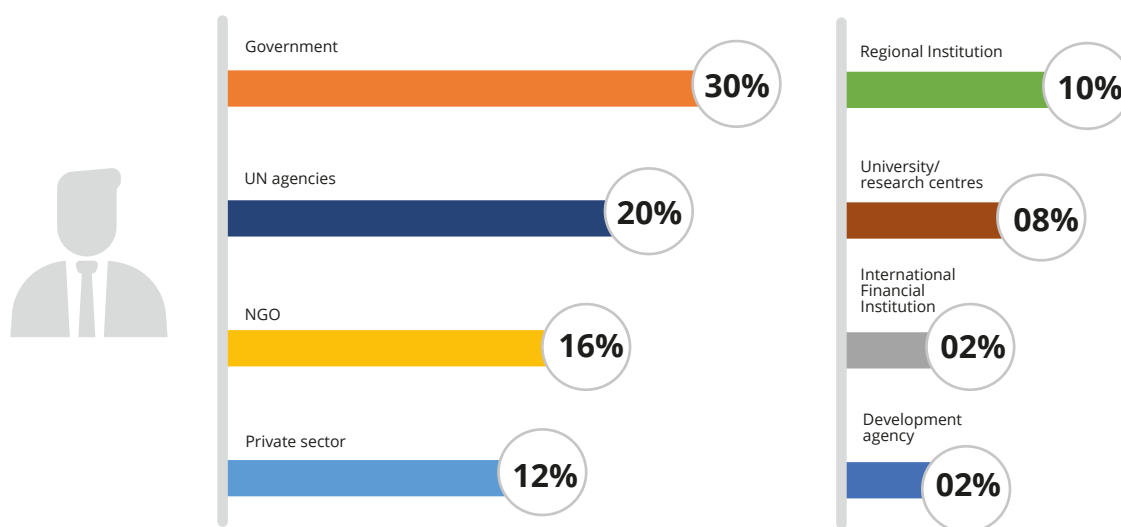
Group picture on the second-day of the high-level consultation, Côte d'Ivoire. © CERFAM

ANNEX 4: EVENT STATISTICS

Panellists

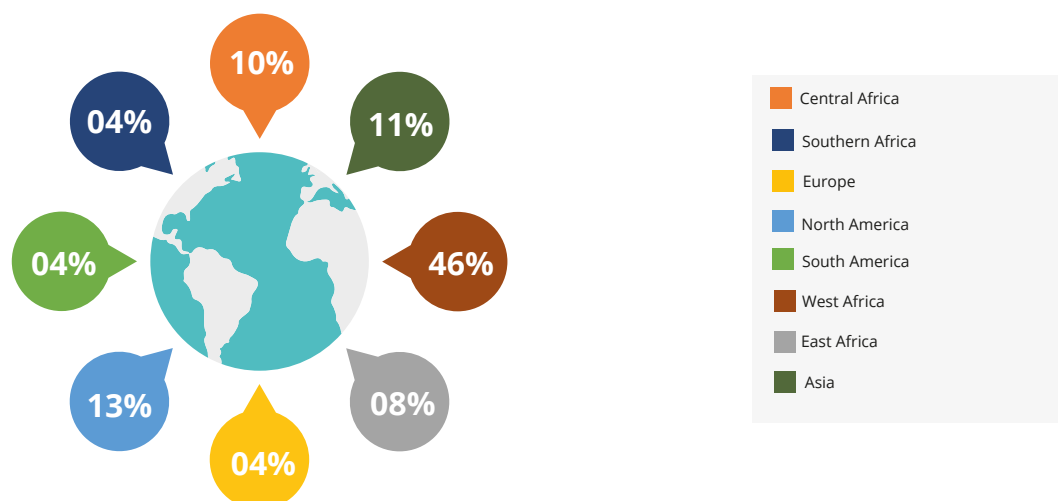
Fifty panellists and moderators from different sectors were been invited to participate in the high-level consultation. The consultation was marked by a high percentage of participation by national governments, which accounted for 30% of the panellists and moderators. UN agencies and NGOs were also well represented among the panellists and moderators, comprising 20% and 16% of them respectively. They were joined by speakers from the private sector (12%), regional institutions (10%) and university/research centres (8%).

Percentage of panellists and moderators by type of organisation



In terms of origin, nearly half of the panellists and moderators were based in West Africa. North America accounted for 13% of the total panellists, followed by Asia and Central Africa. It is worth noting that other panellists come from different regions, such as East Africa (8%), South America (4%) and Southern Africa (4%). The largest proportion of the panellists and speakers (8%) came from Côte d'Ivoire, as one of the organisers of the virtual consultation, followed by Senegal (7%).

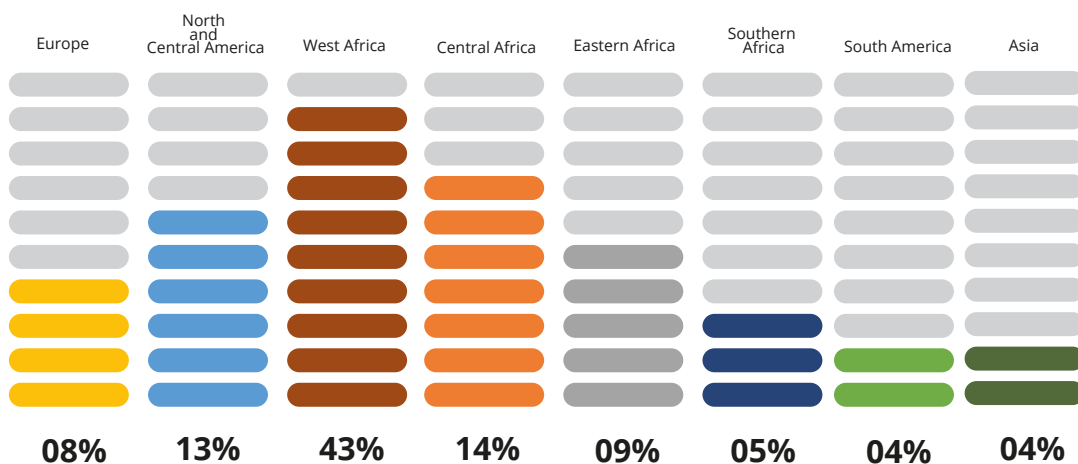
Percentage of panellists and moderators by region



Participants

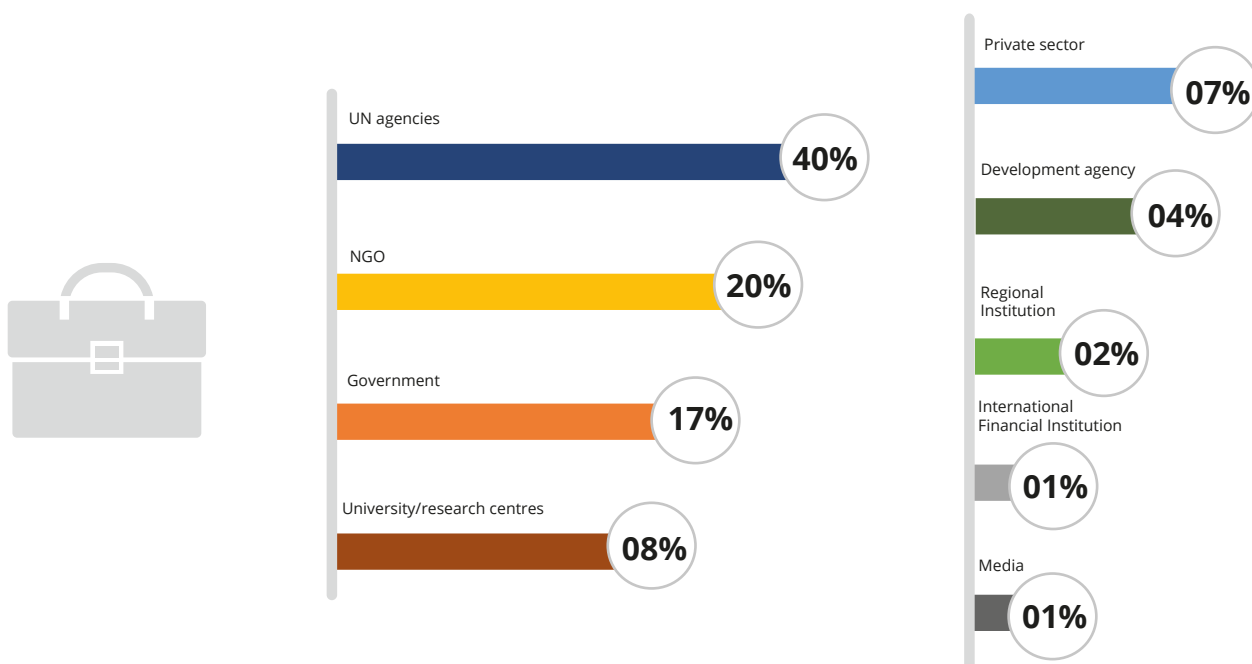
More than 650 participants over the world registered to attend the consultation. The large number of participants can be explained by the high interest in fortification as a means to improve nutrition. Among the participants, 40% came from West Africa, followed by Central Africa (14%) and North and Central America (13%).

Registered Participants by resident region



It is worth noting that participants from a large variety of organisations registered to join the consultation. In terms of the type of organization, United Nations agencies accounted for 40% of participants. NGOs represented the second largest type of organization with 20% of participants. On the other hand, the consultation managed to attract officials and technicians from Governments, which made up slightly less one fifth of the source of participants (17%).

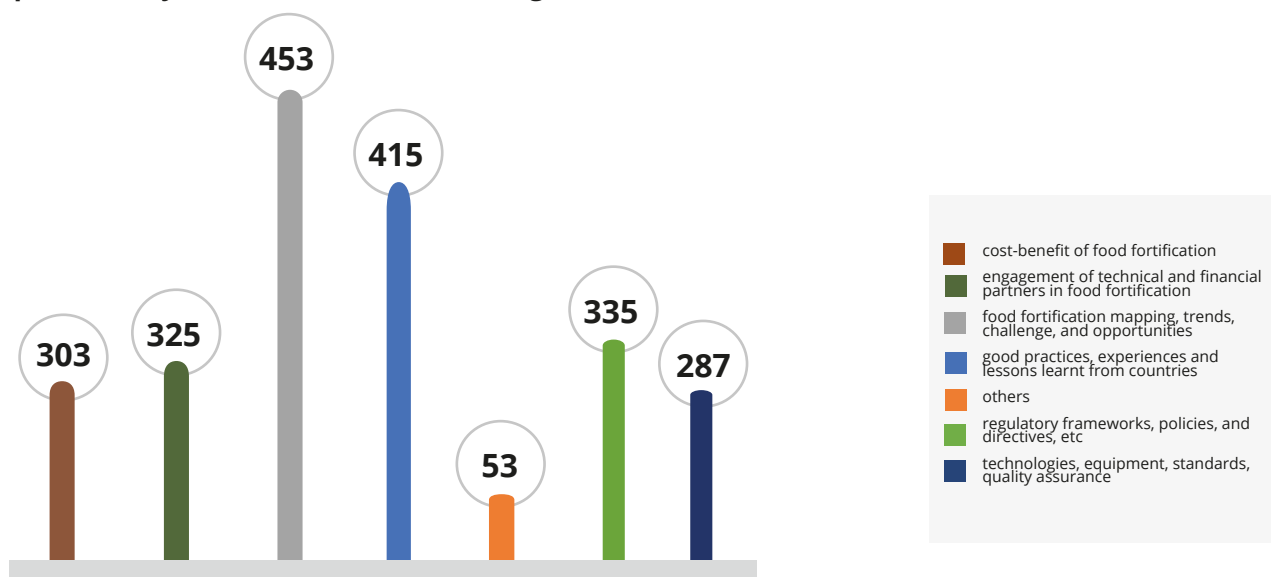
Participants by type of organisation



A pre-event survey filled by participants revealed that 70% of the participants wished to obtain a better understanding of food fortification programmes and strategies, 66% to learn solutions for effective management of food fortification, and 63% to gain better knowledge of countries' interventions and good practices. More than half of the participants said they would like to formulate recommendations for governments and stakeholders.

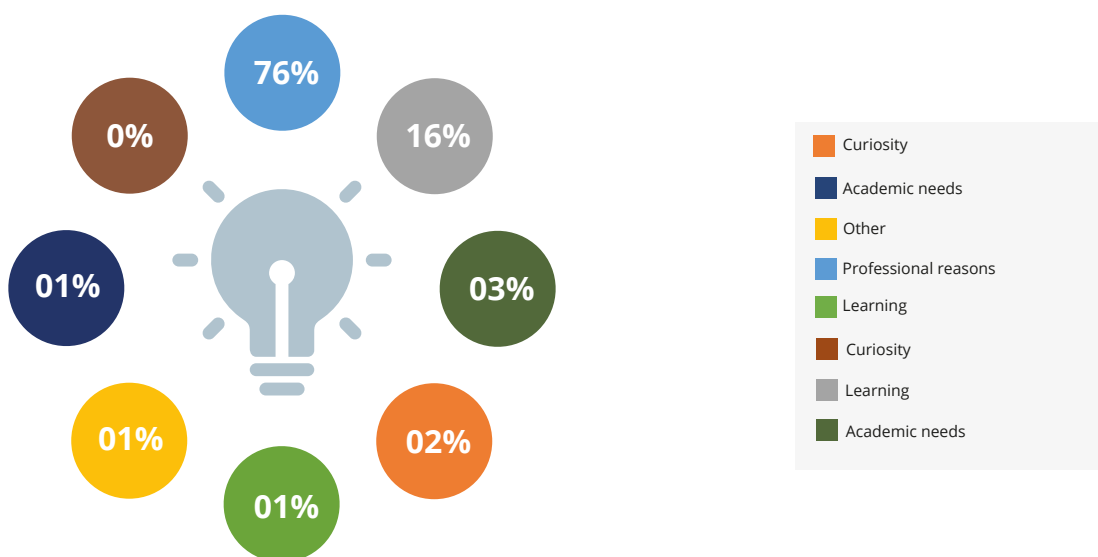
In terms of topic of interest, "food fortification mapping, trends, challenges and opportunities" was a preferred topic for 70% of participants, followed by "good practices, experiences and lessons learned from countries" with around 64%. Approximately 50% of participants also expressed interest in the following topics: "Regulatory frameworks, policies and directives, etc." and "Engagement of technical and financial partners in food fortification".

what topics would you like us to address during this consultation ?



The most common motivation for the participation was "professional reasons", accounting for 76% of the participants. As can be seen in the pie chart below, 16% of the participants came with learning aspirations.

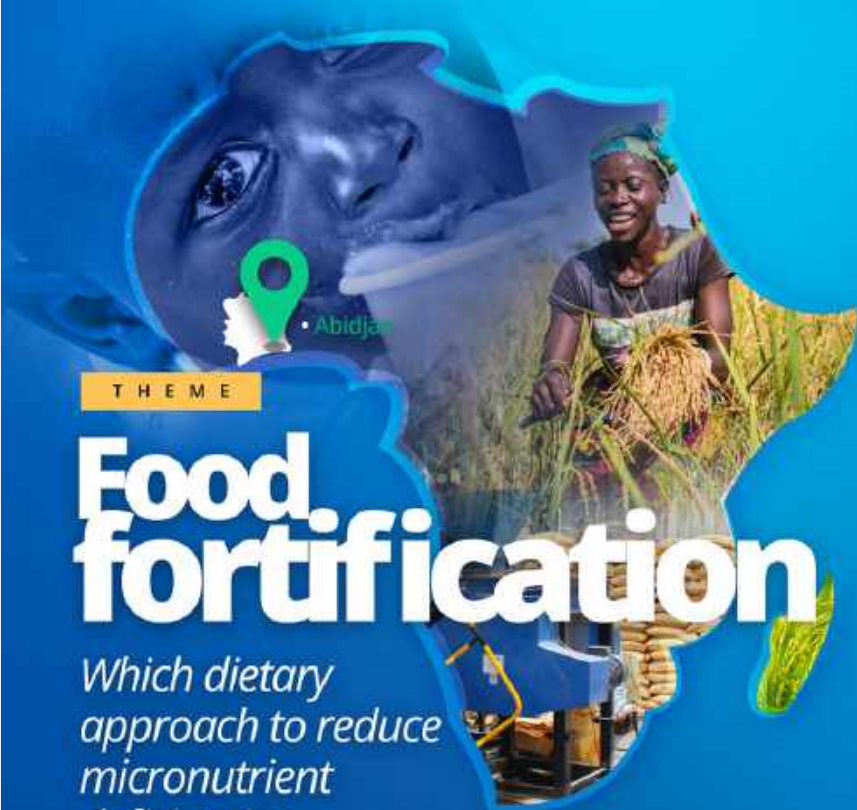
why have you decided to attend this consultation ?





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HIGH LEVEL
Consultation



T H E M E

Food fortification

Which dietary approach to reduce micronutrient deficiencies in Africa ?



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