INFOPOINT:

FOOD FORTIFICATION FOR IMPROVED NUTRITION

2FAS
Food Fortification Advisory Services
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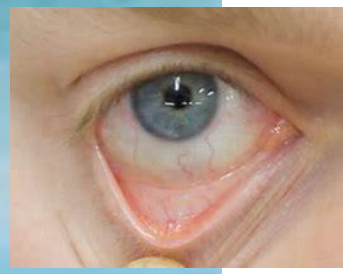
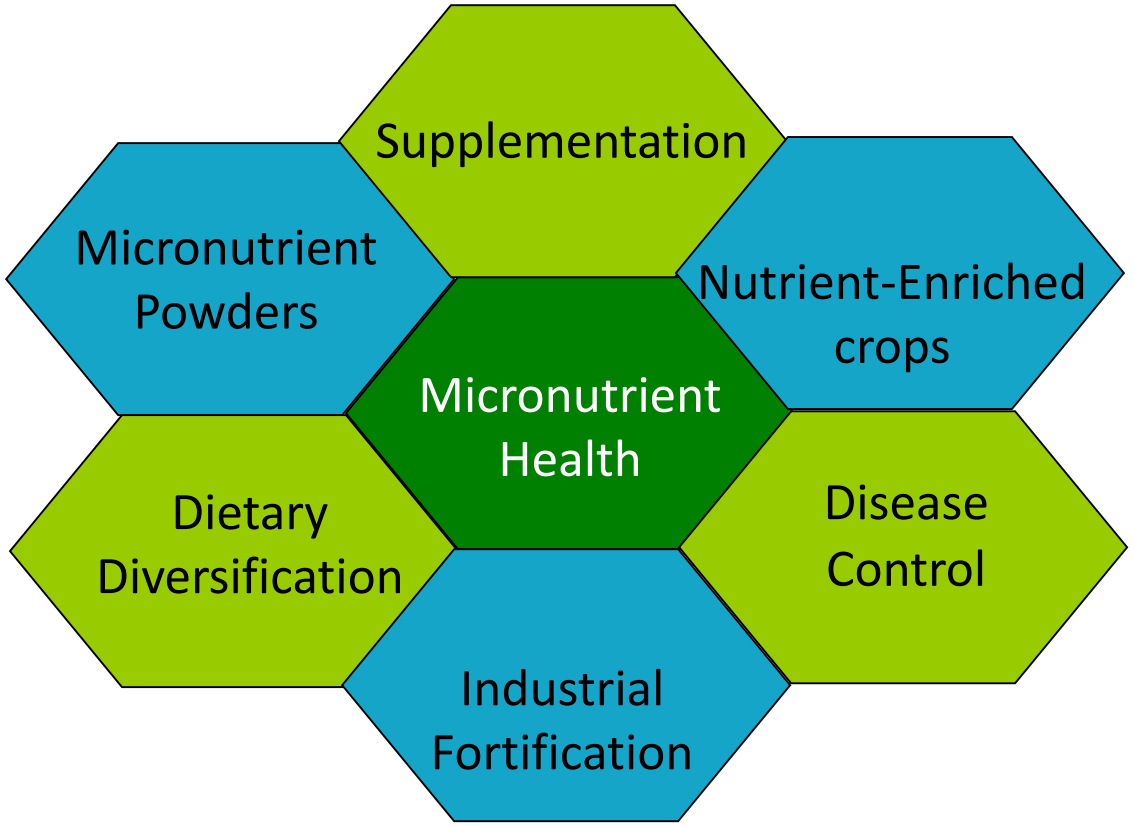
Global Alliance for Improved Nutrition

CONSEQUENCES OF MICRONUTRIENT DEFICIENCIES



- Impaired immune response
- Maternal and fetal morbidity and mortality
- Decreased physical activity and capacity to work
- Economic losses

STRATEGIES FOR ADDRESSING MICRONUTRIENT DEFICIENCIES



Adapted from : P Milani. Introduction to Rice Fortification. Presentation at the Scaling Up Rice Fortification in Asia Conference. Bangkok, Sept. 2014

TYPES OF FOOD FORTIFICATION

Point-of-Use

The addition of micronutrients (in the form of powders or pastes) to food just before it's eaten.

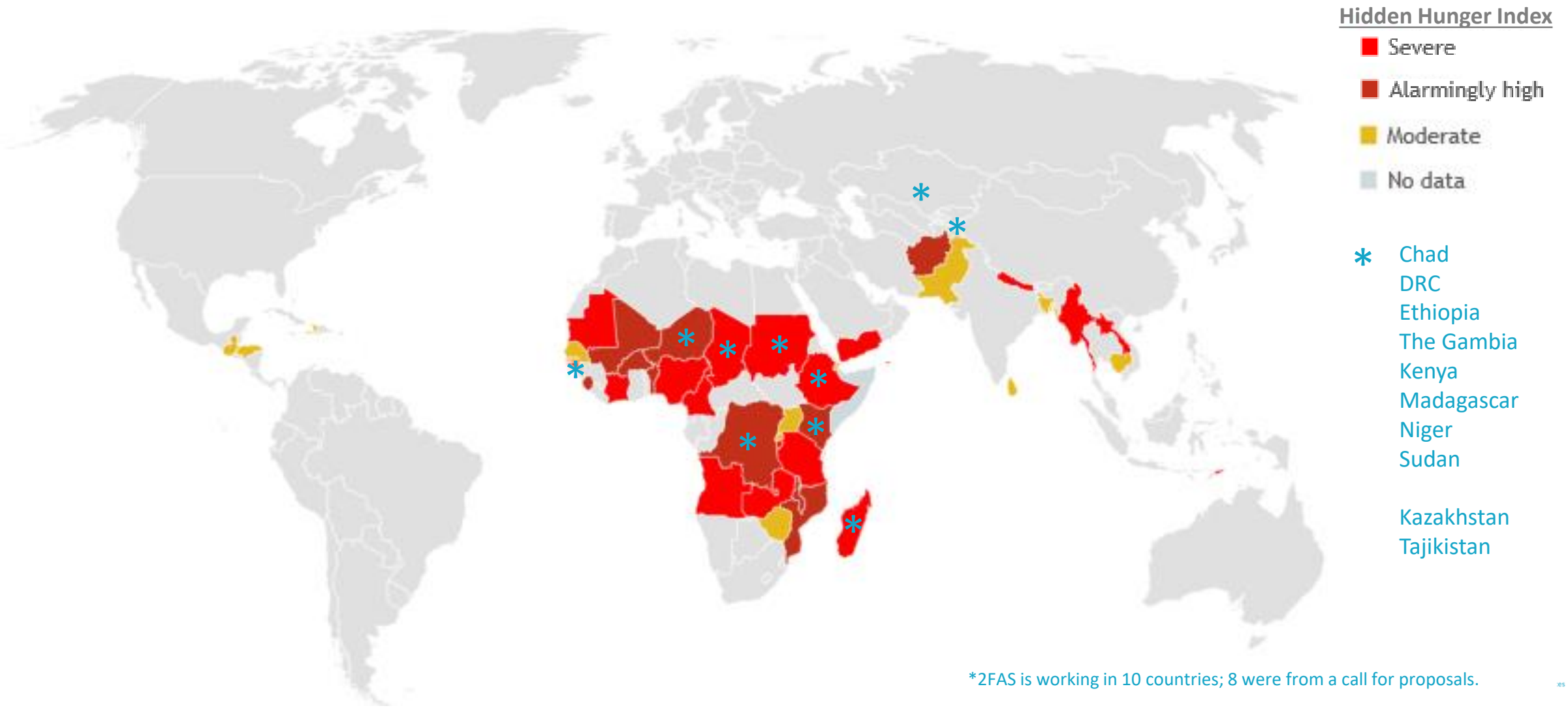
Industrial Fortification

The addition of vitamins and minerals to commonly eaten foods and condiments during processing.

Nutrient-Enriched Crops

The process by which the nutritional quality of food crops is improved through agricultural practices and conventional plant breeding.

IN 2015, EC FUNDED 10 FOOD FORTIFICATION PILOT PROJECTS



*2FAS is working in 10 countries; 8 were from a call for proposals.

2FAS (FOOD FORTIFICATION ADVISORY SERVICE): MISSION AND KEY OBJECTIVES

2FAS

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- Supporting countries to implement and strengthen food fortification programmes
- Sharing knowledge, lessons learned and best practices on the role of food fortification in reducing micronutrient deficiencies
- Increasing action and political commitment to food fortification at global and national levels

COUNTRY PROJECTS SUPPORTED BY 2FAS

Chad

Support 12 women's economic interest groups who produce artisanal flour for complementary feeding

Ethiopia

Improve food security and nutrition outcomes by supporting the production and consumption of a climate- and nutrition-smart orange fleshed sweet potato, enhanced with vitamin A.

Sudan

Improve nutritional status of vulnerable and deprived communities in Sudan through large-scale fortification, point of use and the introduction of nutrient enriched crops in rural communities

Madagascar

Strengthen local production, distribution and promotion of fortified foods; and develop fortified products for children aged 2 to 5 years, and children and adolescents aged 6 to 14 years

2FAS SELECTED RESULTS

SELECTED RESULTS

Over **300,000** farmers trained in improved agricultural techniques in DRC

51 million servings of fortified infant cereal distributed to children

27,575 orange-fleshed sweet potato vines distributed in The Gambia

Over 280,000 children aged 6-23 months reached with fortified infant porridge in Chad

61,000 urban consumers in Ethiopia with access to foods made from vitamin A-rich orange-fleshed sweet potato

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DESPITE THE ENORMOUS POSSIBILITIES FOR IMPACT, MICRONUTRIENT INTERVENTIONS REMAIN UNDER- USED

Micronutrient interventions are among the most efficient investments in global development

16x return on investment
For scaling nutrition interventions in target geographies

The most cost-effective investments in all global health
Are micronutrient interventions according to the 2008 and 2012 Copenhagen Consensus

But investment remains low, and help for vulnerable populations is limited.

12%
0.5% of ODA Funding in 2015 was directed to nutrition-specific investments, a12% decrease from 2014

10%
10% increase in Anemia rates among women of reproductive age between 2011 and 2016

Source: Micronutrient Forum, presentation to the EC, Dec 2019

CALL TO ACTION:
INTEGRATING FOOD FORTIFICATION INTO SECTORAL SUPPORT

Nutrient-enriched crops

Industrial fortification

Point-of-use fortification

- Increasing access to fortified foods in countries with a high burden of malnutrition will contribute to achieving several of the Sustainable Development Goals
- Food fortification programmes contribute to improved dietary diversity and diet quality
- Supporting local producers of fortified food not only improves nutritional status, but also creates jobs and boosts local economies
- Empowering women producers of local fortified foods supports the gender equity agenda
- Food fortification offers opportunities to engage with the private sector on development objectives
- There is huge potential to scale up current investments made by the EU in food fortification projects globally

NUTRIENT ENRICHED CROPS

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WHAT ARE NUTRIENT-ENRICHED CROPS?

Nutrient-enriched crops (NEC) are **staple crops**,
which contain a **significant increase** in a specific micro-nutrient
lacking in local diets compared to standard varieties.

When consumed regularly NEC improve **micronutrient status** and health outcomes.

EXAMPLES OF NUTRIENT ENRICHED CROPS GROWN

Iron

Pearl Millet
Provides **up to 80%** of daily iron needs

Beans
Provides **up to 80%** of daily iron needs

Zinc

Wheat
Provides **up to 50%** of daily zinc needs

Rice
Provides **up to 40%** of daily zinc needs

Maize
Provides **up to 70%** of daily zinc needs

Vitamin A

Sweet Potato
Provides **up to 100%** of daily vitamin A needs

Cassava
Provides **up to 100%** of daily vitamin A needs

Maize
Provides **up to 50%** of daily vitamin A needs

Source HarvestPlus

>400 VARIETIES NEC RELEASED OR IN TESTING IN > 60 COUNTRIES

2FAS SUPPORTED NEC PROJECTS

- The Gambia :

  Orange Flesh Sweet Potato distributed to 21 communities and testing of vitamin A enriched maize and cassava varieties.

- DRC:

  Vitamin A enriched cassava and yellow maize and iron-rich lima beans to 2000 households.

- Sudan:

  Testing of iron an zinc-enriched sorghum and millet

- Ethiopia:

  Orange Flesh Sweet Potato and (OFSP) (details next slide)

ETHIOPIA
KEY IMPACT

- 15,000 households received OFSP vines, agriculture and nutrition training in project area,
- Significant improvement in food security, child and mother dietary diversity, children with a minimum acceptable diet and the intake of vitamin A rich food in comparison with non-beneficiaries. Cost Euro 46.3 per primary beneficiary
- 23,000 households received OFSP vines in project area from neighbours
- 7,255 households in 37 woredas received OFSP vines by extension personnel NOT backstopped by project.
- 61,000 urban consumers (15% population) ate OFSP through fresh markets, bread and injera:
- OFSP as emergency crop and food

2 FAS LESSONS LEARNED ON NEC

Challenges

- Right conditions to grow NEC, and match with local diet and micronutrient deficiency
- Time needed to go to scale: Testing of varieties, Multiplication, production, marketing, consumption
- Quality control systems

Opportunities

- Under right conditions easy to make local food systems more healthy with NEC
- Linking agriculture and nutrition: government structures, community and households
- Sustainability

RESEARCH PORTFOLIO

UNIVERSITY of GREENWICH

NRI | Natural Resources Institute

30 years agrinatura

WAGENINGEN UNIVERSITY & RESEARCH

IRD Institut de Recherche pour le Développement FRANCE

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3 SELECTED RESEARCH THEMES

1.How to mix different strategies to maximize coverage and impact

1.Identify cost-effective business for public sector commitment to FF

1.Identify suitable indicators and tools to monitor impact, reach and coverage of FF

INTEGRATED STRATEGIES FOR MICRONUTRIENT REDUCTION

Key findings

- MND affect >50% of U5 children and WRA
- Traditional diets in WA are not sufficient in vitamins and minerals
- Combination of strategies can cover most of micronutrient needs and no evidence for risk of overconsumption
- Little consensus among stakeholders which interventions should be prioritized

INTEGRATED STRATEGIES FOR MICRONUTRIENT REDUCTION

Recommended areas for future research

- Anemia – Look at multi-factor etiology
- Pre-post evaluation programs
- Innovative methods for QC of fortified products (field-based machines, i.e. iCheck)
- How to reach out to the poorest, rural, children

BUSINESS MODELS FOR FOOD FORTIFICATION

Key findings

- Bias towards success stories and scale esp. for NEC
- Easier to work with small # of larger businesses than a large # of small businesses: “start-at-scale approach”
- Mature businesses are more likely to implement Business Model due to experience

BUSINESS MODELS FOR FOOD FORTIFICATION

Recommended areas for future research

- Political economy questions: Are benefits equally shared? Are the gains from intervention in one socio-economic sector worth the costs in others?
- Assessment and scaling of innovations focussed on addressing viability
- Standardised/packaged support to address policy issues

INDICATORS FOR MONITORING AND IMPACT OF FOOD FORTIFICATION PROGRAMMES

Key findings

- Combining program reviews, theories of change, impact pathways and expert advice, 9 high-level indicators (HLI) for LSFF and 17 indicators for Nutrient-enriched foods (BF) were selected for program monitoring and evaluation
- LSFF: HLI Output (2), Outcome (4) and Impact (3)
- NEC: HLI Output (2), Outcome (13), Impact (2)

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INDICATORS FOR MONITORING AND IMPACT OF FOOD FORTIFICATION PROGRAMMES

Recommended areas for future research

- Formative research is warranted to assess barriers and enablers for adopting the proposing HLI in ongoing BF and LSFF programs in different countries
- Testing the proposed HLI in cross-sectional surveys is recommended to provide robust evidence on their utility to generate actionable information for program management and improving program outcomes

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