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For additional presentations and related event materials, visit: http://spring-nutrition.org/nglee-africa
An update of the Implementation of Large-Scale Food Fortification in East and Central Africa

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**Mandate**

ECSA-HC is a regional inter-governmental health organization that fosters and promotes regional cooperation in health among member states.

**ECSA-HC Food Fortification Network**

- Kenya
- Lesotho
- Malawi
- Mauritius
- Mozambique
- Seychelles
- Swaziland
- South Africa
- Tanzania
- Uganda
- Zambia
- Zimbabwe
2002: ECSA-HC Health Ministers Conference passed Food Fortification resolution. Urged ECSA-HC to support member states.

2004: USAID/EA responded to ECSA-HC for support.

Food fortification network initiated.

Countries identified staple foods suitable for fortification: oil, sugar, maize flour and wheat flour.

ECSA-HC developed harmonized guidelines and tools.
THE ECSA REGIONAL FOOD FORTIFICATION INITIATIVE - GOALS AND OBJECTIVES

GOAL: INCREASED PRODUCTION, DISTRIBUTION AND CONSUMPTION OF ADEQUATELY FORTIFIED FOODS

MAIN OBJECTIVE: Fast-track the implementation of food fortification in the ECSA Region through adequate policy and legislation, technology and research, promotion monitoring and surveillance

Specific Objectives

1. Fortify sugar and edible oil with vitamin A
2. Fortify wheat and maize flours with iron, zinc, vitamin A, folic acid, vitamins B-1, B-2, B-6 and B-12
3. Ensure all countries achieve Universal salt iodation
- ECSA guidelines for food fortification levels
- Harmonized Food Fortification Standards: Adopted by EAC countries, assisting to remove NTBs
- Manuals for:
  - internal and external QC/QA; both small and large scale industries for sugar, oil, maize flour, wheal flour and salt
  - technical auditing & commercial inspection
  - laboratory testing methods for fortified foods
  - inspection of fortified foods at import & retail points
Advantages of accelerating national efforts thru regional initiatives

– Ability to set regional standards and certification
– Ability to work with regional institutions to accelerate progress (RCQHC, EAC, ECSA, COMESA, SADC etc)
– Ability to learn and apply lessons across countries
– Use of a common logo (next step for ECSA-HC)
– Speeds up adoption in countries where bureaucracies move with glacial speed
Kenya: Salt, Maize, Wheat & Oil
Uganda: Salt, Maize, Wheat & Oil
Tanzania: Salt, Maize, Wheat & Oil
Zambia: Sugar, salt
South Africa: maize, wheat, salt

Lesotho
Mauritius
Mozambique
Malawi
Seychelles
Swaziland
Zimbabwe
Legislation passed in 2011. It requires mandatory fortification of:
- Vegetable oil (Vitamin A)
- Wheat flour and maize flour (Fe, folic acid, zinc, vitamin A, niacin and other vitamin Bs)

Legislation requires fortification for:
- Vegetable oil plants with a capacity of > 10MT in 24 hours
- Maize millers with a capacity >20 MT in 24 hours
- All wheat flour

Progress..
- 4 oil processors in the country with about 85% market share of oil are complying
- 11 wheat flour millers complying
Some of the key success factors are:

- Willingness by Industry: e.g. In Kenya 25 flour millers and 6 oil industries have signed MoU with Gov’t to comply with Standards

- Political commitment: advocacy and buy-in for mandatory FF

- Strong partnerships, including PPP: Gov’t, Industry and donors (UNICEF, GAIN, MI, WFP, HKI)

- Fortificant/premix classification as essential medicines, exempted from taxes (Tanz, Ugd)
Factors underlying success of PPPs

- Mandatory compliance with laws
- Voluntary collaboration for moral or social reasons
- Voluntary collaboration for financial reasons, e.g. fortifying foods to gain market advantage
- Incentivized collaboration, e.g. National Food Fortification Alliances
• Advocacy: support from senior gov’t officials
• Cost sharing of fortification premixes (subsidies), eg. securing tax exemptions for premixes
• Poor monitoring and enforcement by Gov’t agencies
Implementation challenges

• Lack of appreciation of fortification benefits
• Delivery and distribution systems: missing out the poorest quintiles
• Fortification capacity:
  – Technical capacity at factory level
  – Training industries on internal QC
  – Mobilization of small scale millers
Key Messages

• Progress has been achieved; some countries have mandatory, others voluntary FF
• National gov’ts cannot solve problem: PPPs key
• Efforts assisting to eliminate NTBs: harmonized standards
• More needs to be done to sustain gains;
  – Strengthening monitoring to enforce compliance
  – Advocacy for a move towards mandatory FF
  – Increase consumer awareness: market driven FF for sustainability
  – Improving distribution systems to reach the poorest quintiles
• FF alone will not solve all problems: needs to be part of an integrated strategy to reduce MNM
• Success of FF programs in ECSA will not only assist to improve health, but also sustain economic growth
• Small scale food producers, esp. when mkt share is large, need to be incentivized
• Increasing consumer awareness in ECSA will assist towards a market oriented model with private industry at heart of sustainability
Mainstreaming Proven Interventions

1. Why is fortification not required for all FtF projects?
2. Why is the introduction of biofortified crops not required for all FtF projects using a value chain for which a biofortified variety exists?
3. Should this change?
4. What is needed to bring about these changes?
Fortify West Africa
Experiences in Implementing Large-Scale Food Fortification

Agriculture and Nutrition Global Learning and Evidence Exchange (N-GLEE)
December 10-12, 2012
Kampala, Uganda

Shawn K. Baker
Vice-President, Regional Director for Africa
Helen Keller International
www.hki.org
A Growing Regional Partnership for Sustainable Control of Vitamin and Mineral Deficiencies
Food Fortification:

• Practiced in North America, Central America and Europe for decades

• Add vitamins and minerals to what people already eat – no change in taste, color

• Potential vehicles in West Africa:
  • Cooking oil
  • Wheat flour
  • Sugar
  • Bouillon cubes
Unique Features of Fortification

• Requires strong private sector/public sector alliance
• A public health intervention – but health sector is not key player
• An intervention that “starts at scale”
• A food intervention that does not require behavior change – but does require communication
• Is not targeted – general population
Vitamin & Mineral Deficiencies: Control Strategies

Optimal breastfeeding

Biofortification:
- Conventional (orange-fleshed sweetpotato)
- Transgenic (Golden Rice)

Supplementation

Diversifying diets (enhanced homestead food production)

Food fortification
Fortification: Pathways to Impact

• Enhanced intake of vitamins and minerals by general population

• Enhanced vitamin A in breastmilk:
  – Vitamin A content of breastmilk dependant on mother’s status
  – Breastmilk major source of vitamin A for infants

• Direct consumption by older infants and children
Fortification: Where does it “Sit”?

- CAADP – Pillar 3: Prioritizes food fortification
- Feed the Future programs can include food fortification
- Because of multi-partner nature requires alliances:
  - Industries
  - Consumers
  - Ministries of Industry, Commerce, Health
  - Technical and Financial partners
KEY ELEMENTS in FORTIFICATION (1):

• Population-based identification of food vehicles (usually with FRAT)
• Industry assessments
• Legal framework
• Production
• Quality assurance
• Public awareness raising on fortification
• Private marketing of fortified foods
• Monitoring and evaluation
KEY ELEMENTS in FORTIFICATION (2):

• Population-based identification of food vehicles (usually with FRAT)

• Industry assessments

• Legal framework

• Production

• Quality assurance

• Public awareness raising on fortification

• Private marketing of fortified foods

• Monitoring and evaluation
KEY ELEMENTS in FORTIFICATION (3):

• Population-based identification of food vehicles (usually with FRAT)
• Industry assessments
• Legal framework
• Production
• Quality assurance
• Public awareness raising on fortification
• Private marketing of fortified foods
• Monitoring and evaluation
West Africa Regional Context (1):

Economic Community of West African States (ECOWAS) – emerging common market
• West African Health Organization (WAHO) - official health agency of ECOWAS
• ECOWAS Nutrition Forum networks nutrition actors in region – coordinated by WAHO
• Nutrition one of WAHO program priorities
• 2006 Health Ministers Resolution for Food Fortification
Union Economique et Monétaire Ouest Africaine (UEMOA) – subset of ECOWAS

- Already use common currency (CFA Franc)
- “Leader” in ECOWAS-wide integration standards
- Existing professional association of cooking oil producers (AIFO-UEMOA)
- Professional association of millers (AIM-UEMOA) - 2008
## West Africa Regional Context (3):

**Summary of Vitamin and Mineral Deficiencies in ECOWAS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Estimated Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated prevalence of iron deficiency anemia in children &lt; 5 years</td>
<td>61%-83%</td>
</tr>
<tr>
<td>Estimated number of maternal deaths from severe anemia per year</td>
<td>15,680</td>
</tr>
<tr>
<td>Estimated number of children born mentally impaired per year</td>
<td>1,115,500</td>
</tr>
<tr>
<td>Estimated number of child deaths attributable to vitamin A deficiency per year</td>
<td>214,750</td>
</tr>
<tr>
<td>Estimated number of neural tube defects per year</td>
<td>19,360</td>
</tr>
<tr>
<td>Number of countries at risk of zinc deficiency</td>
<td>13 out of 15</td>
</tr>
</tbody>
</table>

Source: *Micronutrient Initiative/UNICEF - VMD Damage Assessment Report - 2004*

Total Population (2010): 277 million
Fortification Rapid Assessment Tool (1):

• Developed by PATH Canada (commissioned by the Micronutrient Initiative)

• Estimates food intakes of children and women of reproductive age through 24 h recall and weekly frequency

• Identify major potential food vehicles for vitamin A and iron (and B complex, zinc)

• Provides qualitative information on availability and use of potential vehicles

• Strata chosen to reflect major differences in consumption of processed foods (urban, rural, etc.)
FRAT (2): POTENTIAL VEHICLES:

Summary of work in Burkina Faso, Cameroon, Côte d’Ivoire, Guinea, Mali, Mauritania, Niger, Senegal:

- Cooking oil
  - Cotton-seed
  - Peanut
  - Refined palm oil
- Wheat flour
- Sugar
- Bouillon cubes
FRAT (3) SENEGAL:

• Rural North
• Greater Dakar
• Rural South
• Secondary Cities
### FRAT (4) SENEGAL:

% Children 6-59 months having consumed in last 24 hours

<table>
<thead>
<tr>
<th></th>
<th>Dakar</th>
<th>2° Cities</th>
<th>Rural South</th>
<th>Rural North</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>87.6%</td>
<td>88.1%</td>
<td>55.2%</td>
<td>80.0%</td>
</tr>
<tr>
<td>Sugar</td>
<td>94.8%</td>
<td>95.7%</td>
<td>85.2%</td>
<td>91.4%</td>
</tr>
<tr>
<td>Wheat Flour</td>
<td>87.6%</td>
<td>86.7%</td>
<td>51.9%</td>
<td>80.7%</td>
</tr>
<tr>
<td>Cube</td>
<td>90.0%</td>
<td>95.7%</td>
<td>93.8%</td>
<td>98.5%</td>
</tr>
<tr>
<td>Tomato paste</td>
<td>58.6%</td>
<td>66.2%</td>
<td>40.0%</td>
<td>49.7%</td>
</tr>
</tbody>
</table>
INDUSTRY ASSESSMENTS:

Summary of work in Benin, Burkina Faso, Cameroon, Côte d’Ivoire, Guinea, Mali and Senegal:

• Fortification is technically and economically feasible
• Fortified foods cannot be expected to reach all deficient populations
• Fortifying 2 or 3 vehicles with the same micronutrient may provide an effective approach: increase intake of this nutrient and cost is shared among several industries
• Industry is receptive to the idea of fortification – wants “level playing field”
• Some food-specific issues to resolve
Reasons for Prioritization:
• High levels of penetration
• Production highly centralized
• Costs the lowest of all potential food vehicles
• Technically easiest of vehicles to fortify
• No negative perceptions related to consumption of these products
• Industry commitment
West Africa Milestones (1):

- ECOWAS resolution on salt iodization (1994)
- Commitment of AI FO-UEMOA to vitamin A fortification of cooking oil (2004)
- UEMOA Commission standardization of salt iodization norms (2005)
- Assembly of Health Ministers (AHM) resolution on mandatory fortification of cooking oil and cereal flour (2006)
- Second private sector/public sector dialogue on food fortification (2007)
- Launch of “Faire tache d’huile” and “Fortify West Africa” (2007)
- UEMOA consultation to adopt regional norms for vitamin A fortification of cooking oil and fortification logo (2007)
West Africa Milestones (2):

- AHM recommendation to ECOWAS Commission to accelerate mandatory fortification (2008)
- Flour Millers’ Meeting & creation of AIM-UEMOA (2008)
- African Development Bank/WAHO study on UEMOA/non-UEMOA ECOWAS harmonization (2009)
- UEMOA consultation to adopt regional norms for fortification of wheat flour with iron and folic acid (2009)
- World Bank Institute case study on “Faire tache d’huile” (2009)
- Expansion to Cameroon (MSDF & UNICEF) & Mauritania (USAID/OFDA) (2009)
- Copenhagen Consensus Center presentations (Nairobi, New York) (November 2009)
- UEMOA-wide communication campaign on the “ENRICH” fortification logo - http://www.youtube.com/user/afrohki
West Africa Milestones (3): In the 8 UEMOA Countries

• Mandatory in 7 of 8 countries
• **50.23 million** people are consuming vitamin A-fortified cooking oil:
  • **8.25 million** children under five
  • **6.19 million** pregnant or lactating women
• **45 million** people consuming fortified wheat flour
West Africa Milestones (4):

- Development of a UEMOA Commission-led 5-year plan, $800,000 engaged by Commission
- New Memorandum of Understanding (2012)
- 2012 Consensus statement on UEMOA/ECOWAS harmonization
- Mandatory in 11 of 15 ECOWAS countries
- Memorandum of Understanding underway with ECOWAS Commission
Lessons Learned in Program Implementation
CHAMPIONING:
• Developing evidence base
• Sensitizing and advocating
• Facilitating exchange of lessons-learned
• Brokering and sustaining partnerships
• Supporting legal framework
• Catalyzing regional approaches
• Facilitating public sector communication
• Mobilizing resources
• Documenting and disseminating
LESSONS LEARNED (1):

• On-the-ground presence essential to catalyze action – right people in right places

• Stay on message and be tenacious

• Seize opportunities

• Understand and respect points-of-view of diverse partners and acknowledge their contributions

• Maintain open, transparent, frequent communications

• Public sector and donors respond more slowly than private sector

• Industry fortifies – rest of us facilitate
LESSONS LEARNED (2):

• Regional bodies have catalyzed supportive environment for scale-up
• Regional approach does not substitute for country-level action
• Industries are eager to participate in food fortification – want “level playing field”
• Global food price crisis is making populations even more vulnerable to vitamin and mineral deficiencies
• Rapid urbanization and long-term trends in food processing increase reach
• Fortification is an iterative process and necessary to build in flexibility
Immediate Next Steps:

- Adoption of UEMOA-wide norms (cooking oil, wheat flour) and logo by Council of Ministers to render obligatory
- Ensure stewardship of “ENRICH!” logo and its use by all industries that are fortifying
- Update national and regional flour fortification recommendations to be in line with WHO interim guidance
- Support coordination of partners for UEMOA-led initiative
- Continue mobilization of co-funding
Next Steps – ECOWAS-Wide:

• Catalyze development of ECOWAS-wide industry associations (oil producers, millers)

• Accelerate adoption of UEMOA norms (oil, flour) and logo by ECOWAS Commission (based on AHM Resolution 2006)

• Support countries in implementing new norms, logo and import controls

• Continue mobilization of co-funding
Next Challenges:

• **Rigorous Impact Evaluation:**
  – ‘Model’ impact evaluation planned in Cameroon – additional resources

• **Map out coverage of current food vehicles:**
  – Assess value-added and feasibility of other potential vehicles
  – Make more explicit links with salt iodization
  – Potential for bouillon cube to complement salt iodization

• **Assess value-added of other regional initiatives and role in other countries**
Further Resources

• Helen Keller International fortification documents:  
  http://www.hki.org/reducing-malnutrition/food-fortification/large-scale-food-fortification/

• Videos from UEMOA-wide information campaign:  
  http://www.youtube.com/user/afrohki

• World Bank Institute Case Study:  

• Copenhagen Consensus Center:  

• World Health Organization interim guidance on wheat and maize flour fortification:  
  http://www.who.int/nutrition/publications/micronutrients/wheat_maize_fort.pdf

• Helen Keller International & University of California, Davis – Nutrition News for Africa:  
  http://www.hki.org/research-publications/nutrition-news-for-africa/
“Alone we can do so little; together we can do so much.”

- Helen Keller