Food Systems For Health: The Nutrition Transition
Some expériences from Sub-Sahara Africa

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Food for Thought; Did you know?

- Globally agriculture systems produce enough food to feed all citizens of the world adequately.
- Yet hunger and malnutrition remain pernicious and a threat to humanity and development.
- The most malnourished people in this world are farmers and their families, especially women and children.
- 12 people die of hunger and malnutrition every minute (UNICEF) – higher than other causes.
- Malnutrition has huge human, social and economic consequences and costs – GDPs suffer.
- Food is very political and continues to be worsening!
Agriculture production, Food Systems and Nutrition are intrinsically linked. Yet...

There are other systems to consider that include inter-alia

- Geopolitical
- Health
- Education
- Social Protection
- Gender and Youth
- Trade
- Culture and Knowledge Systems
Why Nutrition?

- Adequate nutrition is essential for health and well-being.

- Every person on this planet has a right to food that is safe, sufficient and nutritious and to be free from hunger and malnutrition in all its forms.

- Yet, **1 in 3 persons globally suffers from at least one form of malnutrition** - undernutrition, micronutrient deficiencies, overweight and obesity. Malnutrition is estimated to rise to 1 in 2 people if current trends continue (GLOPAN, 2016 – Foresight Report).

- Different forms of malnutrition now co-exist within the same country, community, household or individual.

- Combatting malnutrition in all its forms is one of the greatest challenges that countries are facing.
Why focus on nutrition even more now?

The status of hunger, malnutrition and poverty is worrisome

- Complexities of the current crises;
  - Conflicts in Africa and beyond - Ukraine
  - Climate change
  - Cost of food
  - COVID-19
  - Cost of fuel

- ***Coordination, Cooperation and Collaboration across multiple sectors.***
What are we really dealing with here?

1 in 7 people are hungry.

1/3 of food is wasted.
MALNUTRITION is a global problem

1.9 BILLION adults are overweight or obese
2 BILLION people suffer from some form of micronutrient deficiency
161 Million children under the age 5 are too short for their age
795 Million people do not get the food they need to live a healthy life

UNHEALTHY DIETS are one of the leading causes of global malnutrition
Visualizing the multiple burden of malnutrition

- **143 countries** (where there is data) experience at least one form of malnutrition at high levels.
- **124 countries** experience high levels of at least two forms of malnutrition.
- Of the 124 countries, **37 experience high levels of all three forms of malnutrition**, mainly in Africa.
30 out of 41 countries that struggle with high levels of all three forms of malnutrition are in Africa.

Coexisting burdens of malnutrition affect millions of children, increasing their risk of poor health outcomes.

globalnutritionreport.org
GLOBAL NUTRITION SITUATION
After a long decline, hunger is increasing

Source: SOFI 2017
HEALTHY DIETS ARE NOT THE DEFAULT
Food environments are shaped by food systems

Food System
Production, processing, retail, consumption, disposal

Food Environment
Availability, access, convenience, desirability for consumers

Individual Diet Quality
Diversity, adequacy, safety

Source: Meerman 2015
Low quality diets contribute to all forms of malnutrition
The food system presents a huge opportunity to act to improve diets

While the GLOBAL FOOD SYSTEM has succeeded in feeding a growing population in terms of providing enough dietary energy...

Ensuring availability and accessibility of a variety of foods and food products that contribute to healthy diets and good nutrition remains a challenge

Food systems need to be repositioned: from feeding people to nourishing people well

GLOPAN, 2016
Global Food Systems: Where we are and how we got here?
Agriculture faces growing challenges

Demographics: Global population to increase to 9 billion by 2050

• Climate change: Depending on extent of temperature rise, Africa risks being able to produce only 13% of its food needs by 2050
Extent of food losses and waste

Food losses - Fruits & Vegetables

- Europe
- North America & Oceania
- Industrialized Asia
- Subsahara Africa
- North Africa, West & Central Asia
- South & Southeast Asia
- Latin America

Categories:
- Consumption
- Distribution
- Processing
- Postharvest
- Agriculture
Ways to address nutrition across the food Systems
Links between diet quality and food systems
(source: Global Panel, 2016)

Drivers of food systems

Food supply system
- Agricultural production subsystem
- Food storage, transport and trade subsystem

Food environment
- Nutrient quality & taste of available food
- Physical access to food

Consumer
- Diet quality
  - Preferences
  - Time
  - Knowledge
- Purchasing power
- Food price
- Food promotion
- Food labelling

Food retail and provisioning subsystem
- Food transformation subsystem

Source: Compiled by the authors
Improved food systems for better diets and nutrition

**Examples of policies and programmes aimed at increasing nutrition entering the supply chain**
- Improvement in production practices, extension, biofortification, improved storage and distribution, food fortification, product reformulation, etc.

**Examples of policies and programmes aimed at improving the quality of the food environment**
- Behaviour change communication, social marketing, food labelling, pricing policies (taxes and subsidies), nutrition guidelines, zoning policies, etc.

**Food supply chain**
- Production systems (availability)
- Post-harvest practices
- Market/store access
- Nutrient content of foods
- Food quality and safety
- Income generation

**Food environment**
- Availability, physical access (proximity)
- Economic access (affordability)
- Promotion, advertising and information
- Food quality and safety

**Consumer behaviour**
- Food purchasing
- Food acceptability
- Knowledge and skills
- Feeding practices
- Hygiene and food preparation practices
- Diets

**Socio-economic status**

**Examples of policies and programmes that can lead to nutrition exiting the supply chain**
- Subsidies for production of less nutritious foods (e.g., rich in sugar, etc.), trade agreements that limit ‘policy space’ for policies aimed at improving nutrition, etc.

**Examples of policies and programmes that can lead to an unhealthy food environment**
- Nutrition guidelines incongruent with evidence, misleading labelling, unrestricted marketing of food and beverages to children, etc.
HEALTHY DIETS ARE NOT THE DEFAULT

Food environments are shaped by food systems

Corinna Hawkes,
The actors – Across various pathways

- Policy makers
- Parliamentarians
- Programme implementors
- Farmers/Farmer Associations
- Community Leaders
- Private sector (processing etc.)
- Civil Society
- Media (advocacy, communicators)
Nutrition from womb to tomb

Requirements for energy and micronutrients change throughout the life cycle: Horticulture is key!

**Nutritional Needs**
- **Childhood**
  - Iron & folic acid reduce risks & potential mother’s anemia
  - Exclusive BF until 6 months for the immune system
  - Vitamin A for growth
- **Adolescence**
  - Nutrient dense foods due to sustain rapid growth
  - Increased iron and energy needs
  - Risk of anemia for girls
  - Prevention of wasting & stunting
- **Adulthood**
  - Maintain, prevent & ensure that energy & nutritional needs are met
  - Due to work and physical activity, caloric needs vary
  - Good nutrition to prevent illness
  - They are passing on nutrition knowledge and practices to their children
- **Old Age**
  - Caloric decrease & Nutrition is curative & preventive
  - Challenges swallowing and chewing

- **Death**

**Fruits & Vegetables**

**Nutritional**

**Carbs, Fats & Proteins**

1,000 days

8,000 days

?
INCREASING AVAILABILITY AND AFFORDABILITY OF NUTRITIOUS, HIGH QUALITY FOOD
Maintaining agro-biodiversity of traditional food systems is key
Some Current ongoing Initiatives

- CAADP Maputo 2005 (6% Ag growth and 10% budget)
- CAADP Malabo Declaration
- ICN2 Rome Declaration and 17 Action Areas
- 2019 CFS Voluntary Guidelines on Food Systems and Nutrition
- 2021 UN Food Systems Summit
- 2021 Africa Common Position on Food Systems and Nutrition
- 2022 Africa Year of Nutrition
- Pan African Parliament
Programmes, Projects & Guidelines

- Home Grown School Feeding Programmes (over 40 Countries implementing)
- Food Safety, Standards and Regulation
- Fortification and Biofortification
- Maternal and Child Nutrition (1st 1000 Days and 8000 Days)
- Overweight, Obesity and Non-Communicable Diseases
- Communicable Diseases; COVID-19, HIV/AIDS, TB, Malaria, Ebola
- Policy and Advocacy
- Public Consumer Nutrition Education and Media Engagement
THE COST OF HUNGER IN AFRICA
SOCIAL AND ECONOMIC IMPACT OF CHILD UNDERNUTRITION
ECONOMIC IMPACT OF CHILD UNDERNUTRITION

CHAD
9.5% GDP
$1.1 Billion

EGYPT
1.9% GDP
$3.7 Billion

BURKINA FASO
7.7% GDP
$802 Million

ETHIOPIA
16.5% GDP
$4.7 Billion

GHANA
6.4% GDP
$2.58 Billion

UGANDA
5.6% GDP
$899 Million

RWANDA
11.5% GDP
$820 Million

MALAWI
10.3% GDP
$597 Million

SWAZILAND
3.1% GDP
$92 Million

LESOTHO
7.1% GDP
$200 Million

GDP (Gross Domestic Product)
The treatment of undernutrition and related illnesses is a critical recurrent cost to health systems. It is estimated that 24.5 million clinical episodes in the 21 Member States that have undertook the study, were associated with the higher risk present in undernourished children resulting an estimated cost of about USD 3.2 billion.

A large proportion of costs related to undernutrition are borne by families (USD 1.84 billion) while the cost to the health system amount to about USD 1.39 million bringing the total health cost to about USD3.2 billion.

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Health Cost in Millions (USD)</th>
<th>% GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burkina Faso</td>
<td>122</td>
<td>1.17</td>
</tr>
<tr>
<td>Chad</td>
<td>340</td>
<td>2.78</td>
</tr>
<tr>
<td>Democratic Republic of Congo</td>
<td>229</td>
<td>0.59</td>
</tr>
<tr>
<td>Egypt</td>
<td>213</td>
<td>0.11</td>
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<tr>
<td>Eswatini</td>
<td>7</td>
<td>0.24</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>155</td>
<td>0.55</td>
</tr>
<tr>
<td>Gambia (The)</td>
<td>6</td>
<td>0.40</td>
</tr>
<tr>
<td>Ghana</td>
<td>199</td>
<td>0.49</td>
</tr>
<tr>
<td>Guinea Bissau</td>
<td>17</td>
<td>2.30</td>
</tr>
<tr>
<td>Kenya</td>
<td>212</td>
<td>0.34</td>
</tr>
<tr>
<td>Lesotho</td>
<td>4</td>
<td>0.15</td>
</tr>
<tr>
<td>Madagascar</td>
<td>169</td>
<td>1.59</td>
</tr>
<tr>
<td>Malawi</td>
<td>46</td>
<td>0.80</td>
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<tr>
<td>Mali</td>
<td>17</td>
<td>0.15</td>
</tr>
<tr>
<td>Mauritania</td>
<td>6</td>
<td>0.11</td>
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<tr>
<td>Mozambique</td>
<td>188</td>
<td>0.63</td>
</tr>
<tr>
<td>Niger</td>
<td>60</td>
<td>0.80</td>
</tr>
<tr>
<td>Rwanda</td>
<td>106</td>
<td>1.49</td>
</tr>
<tr>
<td>Sudan</td>
<td>800</td>
<td>1.03</td>
</tr>
<tr>
<td>Uganda</td>
<td>259</td>
<td>1.62</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>72</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,227</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Model estimations based on 21 Member States that undertook the study
Total costs of undernutrition

<table>
<thead>
<tr>
<th>Country</th>
<th>Productivity</th>
<th>Education</th>
<th>Health</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burkina Faso</td>
<td>$743</td>
<td>$1.73</td>
<td>$122</td>
<td>8.3%</td>
</tr>
<tr>
<td>Chad</td>
<td>$804</td>
<td>$18</td>
<td>$340</td>
<td>9.5%</td>
</tr>
<tr>
<td>DRC</td>
<td>$1,467.51</td>
<td>$74.21</td>
<td>$228.86</td>
<td>3.9%</td>
</tr>
<tr>
<td>Egypt</td>
<td>$3,423</td>
<td>$49.22</td>
<td>$213</td>
<td>1.9%</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>$4,538</td>
<td>$7.92</td>
<td>$155</td>
<td>16.5%</td>
</tr>
<tr>
<td>Ghana</td>
<td>$2,376</td>
<td>$8.30</td>
<td>$199</td>
<td>6.3%</td>
</tr>
<tr>
<td>Lesotho</td>
<td>$184</td>
<td>$11.74</td>
<td>$4</td>
<td>6.5%</td>
</tr>
<tr>
<td>Madagascar</td>
<td>$1,353</td>
<td>$11.43</td>
<td>$169</td>
<td>12.8%</td>
</tr>
<tr>
<td>Malawi</td>
<td>$537</td>
<td>$13.86</td>
<td>$46</td>
<td>10.3%</td>
</tr>
<tr>
<td>Mali</td>
<td>$416.29</td>
<td>$17.76</td>
<td>$16.85</td>
<td>4.1%</td>
</tr>
<tr>
<td>Mauritania</td>
<td>$750.31</td>
<td>$1.47</td>
<td>$6.46</td>
<td>13.5%</td>
</tr>
<tr>
<td>Mozambique</td>
<td>$1,390.85</td>
<td>$41.62</td>
<td>$188.15</td>
<td>5.4%</td>
</tr>
<tr>
<td>Rwanda</td>
<td>$710</td>
<td>$3.87</td>
<td>$106</td>
<td>11.5%</td>
</tr>
<tr>
<td>Swaziland</td>
<td>$84</td>
<td>$0.70</td>
<td>$7</td>
<td>3.1%</td>
</tr>
<tr>
<td>Uganda</td>
<td>$647</td>
<td>$9.68</td>
<td>$259</td>
<td>5.7%</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>$1,569.89</td>
<td>$12.58</td>
<td>$72.23</td>
<td>11.5%</td>
</tr>
<tr>
<td>Niger</td>
<td>$478.46</td>
<td>$1.40</td>
<td>$59.78</td>
<td>7.1%</td>
</tr>
<tr>
<td>Gambia (The)</td>
<td>$70.20</td>
<td>$0.02</td>
<td>$5.92</td>
<td>4.6%</td>
</tr>
<tr>
<td>Kenya</td>
<td>$4,004.59</td>
<td>$36.78</td>
<td>$211.79</td>
<td>6.9%</td>
</tr>
<tr>
<td>Guinea Bissau</td>
<td>$52.30</td>
<td>$0.96</td>
<td>$17.30</td>
<td>9.4%</td>
</tr>
<tr>
<td>Sudan</td>
<td>$1,191.03</td>
<td>$24.31</td>
<td>$800.14</td>
<td>2.6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$26,791.54</strong></td>
<td><strong>$347.84</strong></td>
<td><strong>$3,227.90</strong></td>
<td><strong>$30,367.28</strong></td>
</tr>
</tbody>
</table>

The methodology is used to analyse the impact of child undernutrition in different stages of the life cycle, without generating overlaps. As a result, the individual sectoral costs can be aggregated to establish a total social and economic cost of child Undernutrition.

- In the 21 Member States, the total losses of undernutrition is estimated at approximately **USD 30.4 billion**.

The largest share of productivity loss is as a result of **reduced productivity**.

In the respective reference years, these losses varied from **1.9% of GDP (Egypt)** to **16.5% of GDP (Ethiopia)**.
The 2030 Agenda for Sustainable Development: “...We pledge to leave no one behind”

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3: Ensure healthy lives and promote well-being of all at all ages
Nutrition is central to the SDGs

Nutrition as a direct objective

Nutrition as an enabler for related goals

Nutrition as an enabler for all goals

SDG Vision for nutrition:
End all forms of malnutrition, address the nutritional needs throughout the lifecourse, give universal access to safe and nutritious food sustainably produced and ensure universal coverage of essential nutrition actions.
“Agenda 2063 is a strategic framework for the socio-economic transformation of the continent over the next 50 years. It builds on, and seeks to accelerate the implementation of past and existing continental initiatives for growth and sustainable development.”
Developing Trends in Diets in Africa

• Still a lot of Focus on **staple cereals, roots and tubers** (high carb diet)
• Not enough Livestock, Fish and Acquaculture products
• Not enough Horticulture consumption (esp. Fruits and Vegetables)
• Consumption of products from the wild e.g. crickets, carterpillars, termites, grasshoppers etc., leafy vegetables, fruits etc.

Highly processed foods;
- High in Sugar
- High in Saturated fats
- High in Salt
- High in additives and preservatives
What about the links between income and nutrition?

- Better economic monetary income DOES NOT Equal
- Better food security DOES NOT Equal
- Better and improved nutrition

***Vulnerability and risk mitigation and to hunger and food insecurity:
Reduced food intake, less number of meals, and compromised meal quality leading different forms of malnutrition, ill health and low productivity.

*A combination good food systems and social protection can be a real game changer!*
The Importance of Data and Information

- Cost of Hunger in Africa
- Cost of Nutrition
- Filling the Nutrient Gap
- Household Food Security Access Scale
- Global Dietary Quality (Gallup, Harvard University and GAIN)
- Other innovative tools
Where to next? A holistic approach is required...

- Working with the entire agriculture and food systems+
- Multi-sectoral and inter-disciplinary approach, with links to health systems, education, and social protection
- Policy coherence between agriculture, food, health, trade, education, social protection, youth, gender, environment etc.
- Increased investments for food systems and nutrition programming
- Capacity building at all levels and across sectors
- Continued advocacy by all to all
- Telling good stories for impact: good stories are usually not well covered in the news.
- Agriculture taking centre stage for optimum nutrition – beyond quantity
- Promoting good governance for food systems and nutrition
- Holding ourselves (individually and collectively) to account
We Need Functional and Effective Agro-Food Systems to Deliver

• Healthy Diets
• Healthy People
• Productive Populations
• Healthy Planet
Food Systems and Nutrition: Putting people at the heart of our work
Questions and Comments Welcome!