Nutrition-sensitive Agriculture: Maximizing nutritional outcomes from food systems

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Reductions in Poverty and Undernutrition

- Extreme poverty rates have been cut by more than half
- 17,000 fewer children will die today than on any given day in 1990
- In 2015, 91% of the global population is using an improved drinking water source, compared to 76% in 1990.

And, yet…

- A projected 702 million people still live in extreme poverty
- Nearly 800 million people around the world are chronically undernourished
- At least 159 million children under five are stunted
- About 1 billion people still chronically hungry; even more overweight and obese
- Two billion people suffer from micronutrient deficiencies

So, why should we care about nutrition?

45% of child deaths - that's nearly half - are due to undernutrition!

Not to mention...
Malnutrition has many short term and long term consequences.
They are five

Improved nutrition drives economic growth

Investment = $1

Better nutrition

Return = $16

Economic development

Sources:
Malnutrition has two faces

Patrick Webb, and Steven Block PNAS 2012;109:12309-12314
Forms of malnutrition

Source: Global Nutrition Report, 2016
Conceptual framework for nutrition

Optimal Nutrition

Diet
- Food
- Care

Disease
- WASH
- Health

Macro level social, economic, political contexts and policies

Nutrition-sensitive programming

• Scaling up of ten core nutrition interventions to 90% coverage may result in only a 20% reduction in stunting in the 34 countries where 90% of world’s undernutrition is concentrated (Lancet 2013).

• Underlying contributors to undernutrition must also be addressed → Need multi sectoral efforts and approaches

How can the agriculture sector contribute?
# How does agriculture affect nutrition?

<table>
<thead>
<tr>
<th>Food consumed</th>
<th>Farm income invested in...</th>
<th>Gender in agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Calories</td>
<td>• Diverse diet and nutrient-rich foods</td>
<td>• Maximizing women’s control of income</td>
</tr>
<tr>
<td>• Protein</td>
<td>• Health and WASH services and products</td>
<td>• Managing demand of women’s time and energy</td>
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<tr>
<td>• Micronutrients</td>
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Agriculture-to-Nutrition Pathways

Key components of the enabling environment:
- Food market environment
- Natural resources environment
- Health, water, and sanitation
- Nutrition/health knowledge and norms

High agricultural production and malnutrition can be counter-intuitive

Food production in Tanzania

Prevalence of malnutrition in Tanzania

http://www.unsystem.org/SCN/archives/tanzania/ch09.htm
Agriculture as a source of food: Homestead food production

• Producer households more likely to consume a diversity of foods than non-producing households

• Home production associated with better household and women’s dietary diversity; however market access may play a more important role in dietary quality

• Production decisions influenced by market prices, relative costs and risks, productive assets, preferences, and cultural norms

• Processing and storage impact food access and nutrient content
Agriculture as a source of income

- Improved year-round income to meet household needs, including diverse, nutritious foods, and health care
- Assumes nutritious foods and health services are accessible and affordable – reflects the importance of generating demand for nutritious foods to stimulate timely supply
Cost of good nutrition

Only individuals in high-income countries consume the recommended 5 servings of fruits and vegetables

(Miller et al. 2016)
Cost of good nutrition

Households in low-income countries pay more for fruits and vegetables than those in HICs.

Cost of 5 servings of F&V, % of HH income

Country Income Level

Low | Lower-Middle | Upper-Middle | High
-20 | 0 | 20 | 40
0 | 20 | 40 | 60
20 | 40 | 60 | 80
40 | 60 | 80 | 100
60 | 80 | 100 |
Agriculture affects gender

Control over assets and use of income
• Women’s control lead to better diets for women and children

Time use & childcare
• Tension between earning income and childcare

Female energy expenditure
• Physical work compromises pregnancy and lactation nutrition
Food Systems

- Food composition
- Food availability
- Food supplementation and food assistance
- Agriculture
- Agriculture and food systems
- Technological change
- Nutrition & Health
- Education and behavior change
Food system challenges

- Unsustainable use of resources – fossil fuels, water, soil, agro-chemicals
- Huge contribution to greenhouse gas emissions through agri-food system
- Degradation of biodiversity – both wild and agro-biodiversity
- Enormous food wastage
- Poor nutritional quality of food
- Food distribution: skewed & unequal
Changes that can be made in food systems to achieve dietary goals: Examples...
<table>
<thead>
<tr>
<th>Dietary Goal</th>
<th>Food System Elements</th>
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<tbody>
<tr>
<td></td>
<td><strong>Food Production</strong></td>
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<tr>
<td>Increase fruit and vegetable consumption</td>
<td>Invest in mixed and integrated cropping systems, especially where markets are poorly developed</td>
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<tr>
<td>Increase legumes/pulses consumption</td>
<td>Improve varieties to boost yields</td>
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<tr>
<td>Increase consumption of higher protein grains, micronutrients and fiber</td>
<td>Incentivize production of underutilized grains; promote biofortification using conventional breeds</td>
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<tr>
<td>Encourage balanced consumption of safe milk and dairy products</td>
<td>Improve availability of animal health services; ensure women can have title to or, at least, some say in decisions about the animals they milk and care for</td>
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<td>Replace saturated and trans fats with unsaturated fats</td>
<td>Switch investments in palm oil to oils with healthier fatty acid profiles</td>
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<td>Reduce consumption of high calorie, nutrient poor sugary drinks and salty snacks</td>
<td>Use competition laws to combat excessive concentration in the agribusiness sector</td>
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In summary

To maximize nutrition outcomes from food systems:

• Increase and diversify food and income sources

• Promote the use of income for nutrition-related food and non-food needs

• Support gender-equitable roles and responsibilities in use of HH income

• Strengthen institutional frameworks and government policies to make key nutritious foods more affordable

• Target nutrition-sensitive interventions – know the context
Thank you!

For more information, visit: www.spring-nutrition.org