What to Do: Frameworks for Improving Nutrition through Agriculture and Food Systems

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CONFLICT OF INTEREST DISCLOSURE

I have no conflict of interest to report in relation to this presentation.
DETERMINANTS OF MALNUTRITION

Can take into account
- All forms of malnutrition
- Across ages
- Different contexts, including transition economies
- Contribution of food and agriculture
  o Direct
  o Employment/income
  o Environment
  o Interactions
- Focus on Diet Quality/Intake

**Market Availability**

**Environmental Services**

**Health Services**

**Household Access to Food**

**Household Food Availability**

**Household Behaviors (care & feeding practices)**

**Home Production/Transfers**

**Household Income**

**Household Hygiene**

**Food/Nutrient Intake**

**Child Nutritional Status**

(Food Security)

(Nutrition Security)

(Health Security)

**Health Status**

**Prices**
Fig. 2. Children In Bangladesh Who Have Adequate Food, Environmental Health & Care are Less Stunted - Poorest and Middle Wealth Terciles
(Data from Bangladesh Food Security and Nutrition Surveillance Project (FSNSP) - 1st Round, Jan 2010 - April 2010)

Source: Newman (2013)
**LINKING THE HOUSEHOLD TO THE FOOD SYSTEM**

**DEFINITION: FOOD SYSTEM**

A *food system* gathers all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socio-economic and environmental outcomes. (HLPE, 2014).

**Diagram:**
- **Nutritional Status**
- **Food/Nutrient Intake**
- **Health Status**
- **Food availability & access**
- **Food choices and caring behaviors**
- **Hygiene and health care**
- **Water, sanitation & health services**
- **Prices & Incomes (access)**
- **Market availability**
- **Own production/ transfers**
- **Non-commercial**

**Legend:**
- Individual
- Household
- Community/National
- Nutrition Opportunity

**Flowchart:**
- Production
- Storage, at or near household
- Commercial marketing, processing
- Distribution & trade
- Retailing, marketing & promotion

**Legend:**
- = Individual
- = Household
- = Community/National
- = Nutrition Opportunity
WHAT TO DO: NUTRITION OPPORTUNITIES: Household

From concepts to interventions

Gender roles, equality, time, knowledge, women's empowerment

Legend:
- = Individual
- = Household
- = Community/National
- = Nutrition Opportunity

Nutritional Status

Health Status
- Maternal and child care
- Immunizations
- Supplementation
- Health Services

Food/Nutrient Intake
- Food composition
- Needs assessment

Food availability & affordability
- Prices & Incomes (access)
- Market availability

Food choices and caring behaviors
- Nutrient-enhancing prep & storage
- Adequate complementary foods

Hygiene and health care

Water, sanitation & health services

Non-commercial

Production
- Inputs, Research & Development
- Home gardens / small animals
- Seasonality

Storage, at or near household

Commercial marketing, processing
- BCC, nutrition education & information
- Preferences, habits, attitudes

Distribution & trade
- Consumer and producer price policies
- FBDG
- Social Protection

Retailing, marketing & promotion

Prices & Incomes (access)

Legend:
- = Individual
- = Household
- = Community/National
- = Nutrition Opportunity
WHAT TO DO: NUTRITION OPPORTUNITIES: Nutrition-sensitive Agriculture and Food Supply

- Apply a nutrition lens
- Integrate nutrition considerations
- Take environment and cross-cutting issues into account
- Enhance nutrition-promoting capacity & resilience of the system
- Take a systems-, not single-intervention, approach
- Multi-VCs...
- Implement varied investments, projects, programs
- Must make business sense
- Food has to be in the system

Gender roles, equality, time, knowledge, women’s empowerment

Enabling Environment Community & Market Level

Economic, Political, and Social Environment development priorities, policies & programs, public & private investments, institutions, processes, laws and regulations, societal actors and control of resources gender & environmental, social, economic sustainability

Inputs, Research & Development
- Research on nutrition-promoting farming systems, agronomic practices, and crops
- Micronutrient fertilizers
- Biofortified crops
- Agrobiodiversity

Production
- Crop and livestock diversification
- Integrated farming systems including fisheries and forestry
- School and home gardens

Storage (at or near household)
- Nutrient-preserving storage and other post-harvest handling, including home processing

Commercial marketing, Industrial processing
- Nutrient-preserving processing (e.g., whole grains)
- Nutrient-preserving packaging, transport and storage
- Increased technical and cost efficiency
- Fortification
- Diminished use of some processes or ingredients (e.g., trans fats)

Distribution & trade
- Nutrient-preserving packaging, transport, and storage
- Retail packaging and branding, including labeling
- Nutrition information, claims and education
- Marketing & ad practices & guidelines

Wholesale and retail marketing & promotion

Retail packaging and branding, including labeling
Nutrition information, claims and education
Marketing & ad practices & guidelines
FOOD SYSTEM
Elements and Interactions

Who and what shape agriculture and the food system?

- Demand affects production / supply
- Supply processes affect demand
- Level and size of “food system” under consideration can vary..by product, location, etc
- Match supply and variety to needs
- Optimize use of resources
- Support agricultural ecosystems and ecosystem services

Cross-Cutting Issues
- Institutional arrangements and capacities
- Women’s empowerment and gender equality
- Food loss and waste (prevention, reduction, and management)
- Food quality, safety and hygiene
- Environmental, political, economic sustainability

Figure: FAO
1. INCREASE SUPPLY OF NUTRITIOUS FOOD

- **Product & Process Upgrading**
- **Functional Upgrading**
- **Upgrading of Coordination / Business Models**

**Access to inputs:** seeds, fertilisers, TA, technology, support producer org.

**Training in processing, storage infrastructure**

**Improve road connectivity, market infrastructure**

**Contractual agreements, multi-stakeholder platforms**

2. ADD NUTRITION VALUE

- **VC Entry points:** Access to inputs: seeds, fertilisers, TA, Access to technology, Support producer org.

- **NSVC Entry points:** Bio-fortification micro-nutrient fertilisers, Diversification, Safe agricultural practices, Nutrient-preserving storage, Fortification, Refrigerated transport, Product differentiation / labelling, Public purchasing programs, Social marketing, Behaviour change, Cooking classes

3. INCREASE DEMAND FOR NUTRITIOUS FOOD

**Promotion**

**Preparation and consumption**

**Enabling Environment**

**Service provision**

**EXAMPLE WHAT TO DO: NUTRITION OPPORTUNITIES in a Nutrition-Sensitive Value Chain Project**

- Apply a nutrition lens
- Take a demand / consumer / nutrition problem focus
- Respecting project objectives (ag, food system), look for ways project itself can contribute to improving nutrition
- Be wary of creating an separate “nutrition” project

Source: De la Pena, Garrett and Gelli (forthcoming)
Agriculture is failing nutrition...
Right foods have to be there...and often they are not

Agriculture needs to shift...

Adapted from Murray (EAT 2014)
...without causing harm to the environment

Current systems already increase risk..

Source: Steffen et al. (2016)
Nutrition-sensitive agriculture and food systems must be sustainable and take into account Interactions, Interdependencies, Harms and Co-Benefits of Human Systems, Ag & Food Systems, and Ecosystems.
1. Incorporate explicit nutrition objectives and indicators into their design, and track and mitigate potential harms.

2. Assess the context at the local level, to design appropriate activities to address the types and causes of malnutrition.

3. Target the vulnerable and improve equity through participation, access to resources and decent employment.

4. Collaborate with other sectors and programmes.

5. Maintain or improve the natural resource base.


7. Facilitate production diversification, and increase production of nutrient-dense crops and small-scale livestock.

8. Improve processing, storage and preservation to retain nutritional value and food safety, to reduce seasonality and post-harvest losses, and to make healthy foods convenient to prepare.

9. Expand market access for vulnerable groups, particularly for marketing nutritious foods.

10. Incorporate nutrition promotion and education
KEY RECOMMENDATIONS FOR IMPROVING NUTRITION THROUGH AGRICULTURE AND FOOD SYSTEMS

Food and agriculture policies can have a better impact on nutrition if they:

1. Increase incentives (and decrease disincentives) for availability, access, and consumption of diverse, nutritious and safe foods through environmentally sustainable production, trade, and distribution. The focus needs to be on horticulture, legumes, and small-scale livestock and fish – foods which are relatively unavailable and expensive, but nutrient-rich – and vastly underutilized as sources of both food and income.

2. Monitor dietary consumption and access to safe, diverse, and nutritious foods. The data could include food prices of diverse foods, and dietary consumption indicators for vulnerable groups.

3. Include measures that protect and empower the poor and women. Safety nets that allow people to access nutritious food during shocks or seasonal times when income is low; land tenure rights; equitable access to productive resources; market access for vulnerable producers (including information and infrastructure). Recognizing that a majority of the poor are women, ensure equitable access to all of the above for women.

4. Develop capacity in human resources and institutions to improve nutrition through the food and agriculture sector, supported with adequate financing.

5. Support multi-sectoral strategies to improve nutrition within national, regional, and local government structures.