Food and Nutrition Security Indicators: A Review

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Based on FoodSecure WP5 by

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Outline

• Background
• The Conceptual Framework
• Existing indicators and the data
• FNS Indicators for Foodsecure
• Conclusion
“There is no best indicator, best measure of an indicator, or best analysis of an indicator in a generic sense. The definition of “best” depends ultimately on what is most appropriate for the decision that must be made.” (Habicht and Pelletier 1990: 1519).

- Current status and evolution of FNS
- The causes of change in FNS
- Possible actions and possible impacts of those actions
- Monitoring and evaluating the actions
- Set priorities for future actions
• Adequate foods; available, accessible and utilized (Weingartner 2010)
• UNICEF undernutrition:
  But with some limitations
  − 1000 days
  − Obesity and drivers
  − Food security aim in itself
• FNS Production Function (Strauss and Thomas 2007)
## Existing FNS Indicators

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Food security:</strong></td>
<td>1940s The Atlantic Charter (secure, adequate, and suitable food supply).</td>
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<td><strong>Nutrition security:</strong></td>
<td>The Lancet: pointed out that nutrition was regarded as one of the most</td>
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<td>important parts in development priorities but underemphasized by both</td>
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<td>donor and developing countries.</td>
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<td><strong>Food Security and Nutrition:</strong></td>
<td>“Food security and nutrition” is used in the Committee on World Food</td>
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<td></td>
<td>Security (CFS) Reform Document, commonly used by many UN institutions,</td>
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<td>typically to represent actions.</td>
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<td><strong>Food and Nutrition Security:</strong></td>
<td>combine the aspects of food security and of nutrition security, as well as</td>
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<td>to point to the idea that they are related, commonly used by IFPRI, UNICEF</td>
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<td>and FAO.</td>
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Existing Indicators

Type of FNS Indicators (FIVIMS 2002, Maire and Delpeuch 2005):
- Indicators to measure FNS outcomes
- Indicators to measure FNS drivers and risks
- Indicators to measure FNS interventions

Available data:
DHS, LSMS-ISA, UNICEF multiple indicator cluster surveys (MICS), RAND Surveys, other national longitudinal data
Existing Indicators

Availability

- Government expenditure on agriculture as % of total expenditure (HRCI)
- Public expenditures on agriculture research and development (GFSI)
- Existence of adequate storage facilities, Road & port infrastructure, Dipendency on chronic food aid, Volatility of agricultural production, Political stability risk
- Calorines available for human consumption (FAOUI) and Average food supply in kcal/capita/day (GFSI)
- Inequality in access to calories, Mean minimum amount of calories required
- Diet diversity score (DDS) or Diet diversification (GFSI)
- Dietary availability of vitamin A, animal iron, and vegetable iron, Protein quality, National dietary guidelines, National nutrition plan or strategy, Nutrition monitoring and surveillance
- Iron deficiency (children, women of reproductive age), Vitamin A deficiency (children), Iodine deficiency (children)
- Agency to ensure the safety and health of food, % of population with access to potable water, Presence of formal grocery

Utilization

- Children underweight
- Stunting, Wasting, MUAC, LBW, BMI
- Child mortality

Accessability

- Coverage of civil registration system - live births, Constitutional right to social security, Public Expenditure on Education as % of GDP
- Level of Constitutional protection of the right to food (HRCI)
- % of population living on <1$/day (PHI) or below global poverty line (GFSI)
- Poverty gap, Share of poorest quintile in national income or consumption

Stability

- GDP per capita at PPP, Food consumption as a % of total household expenditure, Access to financing for farmers, Agricultural import tariffs
- % of population with insufficient calorie intake (GHI) or undernourished (PHI)
- Women's access to agricultural land
- Public expenditure on health as % of GDP
- % of population access to agricultural land

Foodsecure
FOR POLICIES THAT MATTER
FNS Indicators for Foodsecure

- 4 FNS dimensions: availability, accessibility, utilization and sustainability
- Targeted measure
  - FNS outcomes
  - FNS drivers and risks
  - FNS interventions: existence, extent and reach of FNS-linked infrastructures
- Time

Caveat to bundling single indicators in the analysis
### FNS Indicators for Foodsecure

<table>
<thead>
<tr>
<th>Availability</th>
<th>Accessibility</th>
<th>Utilization</th>
<th>Stability</th>
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</thead>
<tbody>
<tr>
<td>• Per capita total amount of net calories available</td>
<td>• Average share of food expenditures in total household expenditures</td>
<td>• Stunting for children under five</td>
<td>• Per capita food supply variability</td>
</tr>
<tr>
<td>• Net Share of energy supply (calories) derived from cereals, roots and tubers</td>
<td>• Prevalence rate of undernourished people</td>
<td>• Underweight for children under five</td>
<td>• Domestic Food Price Volatility</td>
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<td>• Average supply of protein derived from animal sources</td>
<td>• Depth of food deficit</td>
<td>• Diet diversity</td>
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<td>• Overweight and obese adults</td>
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<td>• Anemia among women of reproductive age and children under five</td>
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Conclusion

- Keep single indicators separate
- Accessibility
  - budget shares distant proxy, more direct outcomes problematic
  - Need price volatility indicators
- Gender dimension in food utilization
- Stunting as the best predictor of long term consequences on human capital.
  - children underweight responds stronger to short term variations
- Data for 44 countries available (or “constructable”)
- Challenging set to use in modelling analysis
Thank you