Household Food Consumption: looking beyond the score

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Session B-6 Measuring Dietary Diversity

Presented by Kathryn Ogden, World Food Programme (WFP)

Based on abstract by Astrid Mathiassen, Sylvie Montembault, Kathryn Ogden with additional analyses by Susana Moreno.
• Food Security & Nutrition for vulnerable populations

• Recent nutrition policy: focus on nutrition throughout the life cycle
  – Treatment of moderate acute malnutrition
  – Preventive approach to acute and chronic malnutrition
  – Addressing micronutrient deficiencies
  – Nutrition sensitive activities

• Wide range of assessments – > 100 per year (emergency + baseline)
  – Focus on food security at household level
  – Nutrition anthropometry at individual level
  – Food Consumption Score is a key indicator in defining food insecurity

• Analysis informs programming
  – food and cash transfers, food vouchers, Fortified Blended Foods (FBF), Micronutrient Powders (MNP), Lipid-based Nutrient Supplement (LNS)
WFP Food Consumption Module
(developed as proxy for food access)

Household information on number of days per week that 8 food groups are consumed:

Food consumption score (FCS)
(food group x frequency x weight)

Food Consumption Groups (FCG)

- Poor
- Borderline
- Acceptable
WFP Food Security & Nutrition
Conceptual Framework

EXPOSURE TO SHOCKS AND HAZARDS

Context/ framework
- Food
  - Food AVailability/ Markets
- Basic Services
  - Political
  - Economical
  - Institutional
  - Security
  - Social
  - Cultural
  - Gender
  - Environment
- Agro-ecological
  - Conditions/ Climate

Individual Food Intake

Household Food Access

Care/ Health Practices

Health Status/ Disease

Health and Hygiene Conditions

HH Food Production,
Gifts, Exchange, Cash
Earnings, Loan, Savings,
Transfers

Natural Physical
Human Economic Social
Capital / Assets

Nutrition Status / Mortality

Individual level

HH level
- Livelihood Outcomes
- Livelihood Strategies

Community/ HH level
- Livelihood Assets
Analytical Strategy: Step 1

• National (LSMS) data: Nepal
  – to build different scores and food groups.

• Regression analyses
  – the ability of FCS and other Scores at household level to explain nutrition outcomes.
## Relation between household food consumption & Height for Age Z-score

**Factors related to the child:** age; sex; breastfed; sickness (chronic ill, ARI, fever)

**Characteristics of household:** sex of head; education level of female; sanitation; water; kitchen garden; indicators of wealth

**Geographical location**

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCS, 12 food groups, no weights</td>
<td>0.08***</td>
<td>0.06**</td>
<td>0.05**</td>
<td>0.04*</td>
<td>0.008</td>
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<tr>
<td>FCS, 8 food groups, no weights</td>
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<td>FCS, 8 food groups</td>
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<td>12 groups weekly score</td>
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<tr>
<td>8 groups weekly score</td>
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<tr>
<td>Controls</td>
<td>yes</td>
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<tr>
<td>Adj R-squared</td>
<td>0.2385</td>
<td>0.2364</td>
<td>0.2362</td>
<td>0.2361</td>
<td>0.2348</td>
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<tr>
<td># observations</td>
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* ***p<0.01, **p<0.05, *p<0.1

*Results from one country only – may not hold in other countries*
Regression not sufficient for programming

• Why not?
  – Is the problem more related to Macro and/or Micro nutrient gaps?
  – Need nutrient gap analysis for vulnerable populations.
  – What is the appropriate programming decision to reduce gaps?

✔ Look beyond the score
Analytical Strategy: Step 2

Tabulation of frequencies by food groups

- compare regions with high and low stunting rates
- compare between poor, borderline and acceptable food consumption groups
- discuss local diets & likely deficiencies.

How this can help in guiding programming decisions.
Macro and micro-nutrient rich food consumption in two localities

Higher risk of nutrient deficiencies in Mountains

- stunting rates: Mountains 56%; Kathmandu 19%.
Macro and micro-nutrient rich food consumption in Mountains

Higher risk of nutrient deficiencies in poor/borderline FC groups in Mountains

<table>
<thead>
<tr>
<th>Food Type</th>
<th>Acceptable</th>
<th>Poor</th>
<th>Acceptable</th>
<th>Poor</th>
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<th>Acceptable</th>
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<th>Acceptable</th>
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<tbody>
<tr>
<td>Staples</td>
<td>6-7 days</td>
<td>1-5</td>
<td>days</td>
<td>0</td>
<td>6-7 days</td>
<td>1-5</td>
<td>days</td>
<td>0</td>
<td>6-7 days</td>
<td>1-5</td>
<td>days</td>
<td>0</td>
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<tr>
<td>Protein-rich food</td>
<td>Acceptable</td>
<td>Poor</td>
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<tr>
<td>Vegs &amp; Fruits</td>
<td>Acceptable</td>
<td>Poor</td>
<td>Acceptable</td>
<td>Poor</td>
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<td>Oil</td>
<td>Acceptable</td>
<td>Poor</td>
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<td>Vit A-rich food</td>
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<tr>
<td>Iron-rich food</td>
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</table>

- 6-7 days
- 1-5 days
- 0 days
Food groups consumption in Mountains

Limited consumption of most food groups

- Cereals: 6-7 days
- Roots & Tubers: 6-7 days
- Milk: 1-5 days
- Pulses: 1-5 days
- Oil: 1-5 days
- Sugar: 0 days
- Green veggies: 1-5 days
- Other fruits: 1-5 days
- Other veggies: 1-5 days
- Meat: 0 days
- Eggs: 0 days
- Fish: 0 days
- A-vit. rich fruits: 0 days
### Summary of FC analysis

**Consumption pattern impacts on nutrition outcomes**
- higher stunting, poorer nutrient content in Mountains

**Big differences in nutrients between poor and acceptable FC group**
- protein, vitamin A, fruits and vegetables lower in poor FC group.

**Iron deficiency**
- widespread and irrespective of FC group and location.

**Dietary diversity is very limited in Mountains**
- but cereals are eaten daily by all

### Programme implications

#### Targeting
- geographical
- household level – focus on poor FC groups

#### Choice of transfer modalities
- Cash and vouchers not suitable
- Food - fortified cereals, nutrient-rich products (Supercereal)

#### Fortification of cereals

#### Micronutrient supplements (FBF, LNS, MNP)
- focus on pregnant & lactating women and young children (< 2 years )

#### Improving local diet diversity
- Production – agriculture, livestock, fishing
- Home gardening

#### Influence national policy for reduction of nutrient gaps
Cereal sources in Mountains

Fortification would reach those consuming purchased cereal eg rice
MNPs are more appropriate for those consuming produced cereal eg Maize

Fine Rice | Coarse Rice | Flat Rice | Maize | Maize flour | Wheat flour | Millet
---|---|---|---|---|---|---
6-7 days | 1-5 days | 0 days | 0 days | 0 days | 0 days | 0 days
Summary of results

• Household Food Consumption Scores can be improved
  – Scores based on 12 groups perform better than those with 8 groups

• Going beyond the score provides valuable information for WFP
  – Indicates nutrient gaps at household level
  – Provides inputs into nutrition-sensitive programming: activities, products and targeting

• Going beyond the score (at hh level) does not tell us everything
  – Nutrient gap in terms of quantity
  – Nutrient gap for vulnerable individuals - infants, young children, pregnant & lactating women.