Most Important Health Problems

- Energy and protein deficiencies
- Micronutrient deficiencies
- Obesity and chronic diseases
- HIV/AIDS
- TB
- Malaria

Causes of Poor Health

- Poverty
- Adverse environment
  - Unclean water
  - Poor sanitation
  - Poor habitat
- Poor health care services
  - Inappropriate care and behavior
The Triple Burden of Malnutrition:

1. Energy and protein deficiencies: *Hunger*
2. Specific nutrient deficiencies: *Hidden Hunger*
3. Excessive net energy intake: *Overweight & Obesity*

Approximate Global Prevalence of Malnutrition

<table>
<thead>
<tr>
<th>Malnutrition</th>
<th>Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hunger</td>
<td>800</td>
</tr>
<tr>
<td>Child stunting</td>
<td>182</td>
</tr>
<tr>
<td>Child underweight</td>
<td>150</td>
</tr>
<tr>
<td>Hidden Hunger</td>
<td></td>
</tr>
<tr>
<td>Iron deficiency</td>
<td>2,000</td>
</tr>
<tr>
<td>Vit-A deficiency</td>
<td>500</td>
</tr>
<tr>
<td>Zinc deficiency</td>
<td>2,000</td>
</tr>
<tr>
<td>Overweight or obese</td>
<td>1,000</td>
</tr>
<tr>
<td>Overweight (pre-obese)</td>
<td>700</td>
</tr>
<tr>
<td>Obese</td>
<td>300</td>
</tr>
</tbody>
</table>

Source: Data from FAO, UNICEF, UN Population Fund, and the International Obesity Task Force

Where Are the Hungry?

<table>
<thead>
<tr>
<th>Region</th>
<th>Million</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>142</td>
</tr>
<tr>
<td>Other Asia &amp; Pacific</td>
<td>156</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>204</td>
</tr>
<tr>
<td>LAC</td>
<td>53</td>
</tr>
<tr>
<td>NENA</td>
<td>39</td>
</tr>
</tbody>
</table>

Source: FAO 2004
Where Are the Underweight Children?

- Total 146 Million
- India 57
- Pakistan
- China
- Bangladesh
- Rest 48

Source: UNICEF 2006

Where Are the Low-Birth Weight Babies Born?

- Total 20.3 Million
- South Asia 11.4
- Asia 2.0
- LAC 1.1
- WANA 1.4
- SSA 4.0

Source: UNICEF 2006

The shape of things to come
**Prevalence of Overweight (BMI ≥ 25) in Women in Selected Developing Countries (%)**

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>74</td>
</tr>
<tr>
<td>Mexico</td>
<td>60</td>
</tr>
<tr>
<td>Peru</td>
<td>58</td>
</tr>
<tr>
<td>South Africa</td>
<td>56</td>
</tr>
<tr>
<td>Tunisia</td>
<td>51</td>
</tr>
<tr>
<td>Lesotho</td>
<td>50</td>
</tr>
<tr>
<td>Fiji</td>
<td>50</td>
</tr>
<tr>
<td>Uruguay</td>
<td>49</td>
</tr>
<tr>
<td>Morocco</td>
<td>45</td>
</tr>
<tr>
<td>Iran</td>
<td>39</td>
</tr>
<tr>
<td>Brazil</td>
<td>38</td>
</tr>
</tbody>
</table>

Source: SCN News No. 29

**Prevalence of Obesity (BMI ≥ 30) in Women in Selected Developing Countries (%)**

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>33</td>
</tr>
<tr>
<td>South Africa</td>
<td>30</td>
</tr>
<tr>
<td>Mexico</td>
<td>24</td>
</tr>
<tr>
<td>Lesotho</td>
<td>23</td>
</tr>
<tr>
<td>Tunisia</td>
<td>23</td>
</tr>
<tr>
<td>Fiji</td>
<td>21</td>
</tr>
<tr>
<td>Peru</td>
<td>20</td>
</tr>
<tr>
<td>Uruguay</td>
<td>19</td>
</tr>
<tr>
<td>Morocco</td>
<td>16</td>
</tr>
<tr>
<td>Iran</td>
<td>14</td>
</tr>
<tr>
<td>Brazil</td>
<td>12</td>
</tr>
</tbody>
</table>

Source: SCN News No. 29

**Undernutrition and Obesity by the Level of GDP Per Capita**

Source: WHO, 2006
Energy deficiencies
Nutrient deficiencies
Infectious diseases
Overweight & obesity
Chronic diseases

Incomes

Labor productivity

Global food system

**Relationship of Food Policies to Food Security**

- Food availability & food prices* (level and fluctuations)
- Household income* (level & fluctuations)
- Food availability & food prices
- Household income
- Food security
- Household food acquisition behavior
- Household food allocation behavior
- Health status
- Ability of household to acquire food
- Intake of deficient nutrients & calories by individual

* Sometimes used as indicators of nutritional impact

**Relationship of Food Policies & Programs to Nutritional Status (Continued)**

- Household food acquisition behavior
- Household food allocation behavior
- Perceived food & nutritional needs
- Income level
- Income composition
- Intra-household income & budget control
- Women’s time allocation & constraints
- Preferences by individuals
- Cultural factors
- Breastfeeding practices
The Millennium Development Goals

1. Eradicate extreme poverty & hunger
2. Achieve universal primary education
3. Promote gender equality & empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria, and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

Halving Hunger

Target: Halve between 1990 and 2015, the proportion of people who suffer from hunger

Indicators:
1. Prevalence of underweight children under 5 years of age
2. Proportion of population below minimum level of dietary energy consumption

Global Progress Towards Meeting the MDG

2.6% points
Global Progress Towards Meeting the MDG (Excluding China)

The World Food Summit Goal

To reduce by half the number of people below minimum level of dietary consumption

Global Progress Towards Meeting the WFS Goal

382 Million
Global Progress Towards Meeting the WFS Goal (Excluding China)

- Actual
- WFS Goal
- Extrapolated

Projected Number of Undernourished People in 2015 and WFS Targets (million)

- SSA
- WANA
- LAC
- Asia

Billions of People Below the Poverty Line of $1.25/day in 2005 PPP

Source: Chen and Ravallion (2008).
Where are the Poor?

Total 1399.9 Million

- China: 207.7
- SSA: 384.2
- LAC: 45.1
- MENA: 14
- Rest of S. Asia: 140
- India: 455.8
- Rest of E. Asia: 129.2
- Central Asia: 23.9

Source: Chen and Ravallion (2008).

Millions of People Below the Poverty Line of $1.25/day in 2005 PPP by Region

- China: 207.7 Million
- Rest of E. Asia: 129.2 Million
- EE and Central Asia: 23.9 Million
- LAC: 45.1 Million
- MENA: 14 Million
- Rest of S. Asia: 140 Million
- SSA: 384.2 Million

Source: Chen and Ravallion (2008).

Poverty Prevalence by Region 1990 and 2005 (% living below $1.25/day)

- East Asia
- EE & Central Asia
- LAC
- MENA
- Rest of S. Asia
- SSA

Source: Chen and Ravallion (2008).
Policy Options: Two decisions

- Prevention or cure?
- Direct or indirect interventions?

Direct Policy Interventions
(Examples)

- Health care services
- Educational programs
- Targeted food supplementation
  - Child feeding
  - Food for education
  - Food stamps
  - Targeted transfers

Indirect Policy Interventions
(Examples)

- Income generation programs
- Income transfers
- Price policies, subsidies, taxes
- Technological change
- Improved sanitary conditions
- Provision of clean water
- Agricultural policies
- Food fortification
Six Options to Reduce Micronutrient Deficiencies

1. Industrial fortification
2. Supplements
3. Educational campaign
4. Biofortification
5. Relative price changes
   - Unit cost changes
   - Price policy
6. Income increases

Food and Nutrition Needs

HH incomes ——— Advertising
Price ——— Promotion
HH behavior ——— Nutr. Education

Economic Demand

Should policies focus on needs or demand?