The Global Food System
And Driving Forces
Per Pinstrup-Andersen, PhD
Professor, Division of Nutritional Sciences
Cornell University
August 28, 2008

The Global Food System:
A means to an end

A Global Food System
Local and national systems connected through trade, information sharing, technology transfer, and other aspects of globalization
A Food System:

Resources

Primary production

Secondary production

Policy & Research

Exchange

Consumption

Nutrition

A Food System: Food system environments:

- Human health
- Biophysical environment
- Socio-economic environment
- Demographic environment

A Food System: Food system outcomes:

- Health outcomes
- Environmental outcomes
- Socio-economic outcomes
- Demographic outcomes
A Dynamic Behavioral Food System

Change in behavior of:
- Consumers
- Producers
- Market agents
- Government
- Resource owners
- NGOs

Incentives
Regulations
Knowledge

Food System (Time period 1) ➔ Food System (Time period 2)

Key Components of the Food System

- Begins and Ends with Needs and Wants
  - Energy and nutrients
  - Food security and safety
  - Incomes and prices
  - Others
- Links to Health
- Links to Poverty

Key Components (Cont’d)

- Meeting needs and wants: Food production
  - Management of natural resources
  - Input use
  - Technology
  - Production structure
Key Components (Cont’d)

- Linking production and consumption
- Markets and infrastructure
- Transportation, processing, mktg.
- Market structure
- International trade

Driving Forces

- Increasing globalization

International trade liberalization
Integrated capital markets
Freer flow of labor, information, technology
Driving Forces  (Cont’d)

- Increasing globalization
- Sweeping technological change
- Degradation of natural resources
- Climate change
Driving Forces (Cont’d)

- Increasing globalization
- Sweeping technological change
- Degradation of natural resources
- Climate change
- Rising energy prices
- Structural change in production and marketing
- Changing consumer behavior
Driving Forces (Cont’d)

- Increasing globalization
- Sweeping technological change
- Degradation of natural resources
- Climate change
- Rising energy prices
- Structural change in production and marketing
- Changing consumer behavior
- Health crisis

HIV/AIDS
- Malaria
- Tuberculosis (TB)
- Micronutrient deficiencies
- Obesity and chronic diseases

Driving Forces (Cont’d)

- Increasing globalization
- Sweeping technological change
- Degradation of natural resources
- Climate change
- Rising energy prices
- Structural change in production and marketing
- Changing consumer behavior
- Health crisis
- Rapid urbanization
<table>
<thead>
<tr>
<th>Driving Forces (Cont’d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Increasing globalization</td>
</tr>
<tr>
<td>• Sweeping technological change</td>
</tr>
<tr>
<td>• Degradation of natural resources</td>
</tr>
<tr>
<td>• Climate change</td>
</tr>
<tr>
<td>• Rising energy prices</td>
</tr>
<tr>
<td>• Structural change in production and marketing</td>
</tr>
<tr>
<td>• Changing consumer behavior</td>
</tr>
<tr>
<td>• Health crisis</td>
</tr>
<tr>
<td>• Rapid urbanization</td>
</tr>
<tr>
<td>• Accelerated instability &amp; conflict</td>
</tr>
</tbody>
</table>