About the FAO Policy Learning Programme

This programme aims at equipping high level officials from developing countries with cutting-edge knowledge and strengthening their capacity to base their decisions on sound consideration and analysis of policies and strategies both at home and in the context of strategic international developments.

Related resources

- See all material prepared for the FAO Policy Learning Programme
- See the FAO Policy Learning Website: http://www.fao.org/tc/policy-learning/en/
Trends in Agrifood Systems
Drivers, Changes, Impacts and Overall Assessment

By

Doyle Baker, Chief, and Carlos da Silva, Agribusiness Economist
Agricultural Management, Marketing and Finance Service, Rural Infrastructure and Agro-Industries Division, FAO, Rome, Italy

of the

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

About EASYPol
The EASYPol home page is available at: www.fao.org/easypol

This presentation belongs to a set of modules which are part of the EASYPol Resource package: FAO Policy Learning Programme : Specific Policy Issues: Agrifood

EASYPol is a multilingual repository of freely downloadable resources for policy making in agriculture, rural development and food security. The resources are the results of research and field work by policy experts at FAO. The site is maintained by FAO’s Policy Assistance Support Service, Policy and Programme Development Support Division, FAO.
Objectives

Users will:

- know which are the main drivers of recent changes in agrifood systems worldwide
- understand the nature of such changes
- be informed about their impacts on agrifood systems organization and performance
Introduction

- The changing agrifood system
  - Drivers
  - Most important changes
- What have been the impacts?
- Constraints still faced
- Overall assessment
The changing agrifood system

- Dramatic changes
  - Modernization of agriculture
    - Coordination, concentration, globalization
  - The new consumer
    - Quality, safety, ready to eat
      - What are the drivers of such changes?
      - What are the most important changes?
      - What are the impacts of the changes?
What are the drivers?

- Income growth
- Population growth and urbanisation
- Trade liberalization and capital flows
- Changes in transport and logistics
- Technology
  - Information and communication
  - Packaging and processing
Income growth

GDP – Annual Percentage Change
Income growth [cont’d]

World Bank forecasts growth in income per capita in all regions of the world

<table>
<thead>
<tr>
<th>Region</th>
<th>2005</th>
<th>2006</th>
<th>2006-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Asia and Pacific</td>
<td>6.2</td>
<td>5.7</td>
<td>5.3</td>
</tr>
<tr>
<td>Europe and Central Asia</td>
<td>5.6</td>
<td>5</td>
<td>3.5</td>
</tr>
<tr>
<td>Latin America and Caribbean</td>
<td>2.3</td>
<td>2.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>2.8</td>
<td>2.5</td>
<td>2.6</td>
</tr>
<tr>
<td>South Asia</td>
<td>4.7</td>
<td>4.4</td>
<td>4.1</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>1.6</td>
<td>1.7</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Urbanization trends

![Graph showing urban population trends by region and year]

Legend:
- 1970
- 1980
- 1990
- 2000

Regions:
- Asia
- Africa
- Latin America & Caribbean
- Near East
- Eastern Europe

Urban Population (millions)

- 1,400
- 1,200
- 1,000
- 800
- 600
- 400
- 200
- 0
Urbanization trends [cont’d]

Urbanisation in developing countries will accelerate over the next 30 years

- Projected rural population
- Projected urban population

Billion people

Years:
- 1960
- 1965
- 1970
- 1975
- 1980
- 1985
- 1990
- 1995
- 2000
- 2005
- 2010
- 2015
- 2020
- 2025
- 2030
Trade liberalization and capital flows

- **Globalization**
  - Freer flow of goods, services, capital & technology
  - Integration of global agrifood markets via trade
  - Enlarged markets = more competition

- **Capital flows**
  - FDI major driver of globalization in agrifood
  - Transnationality index increased from 59 to 79% between 1990 and 1999

- Business models reproduced via FDI - changed market organization
Changes in transportation and logistics

- Technological advances
  - Containerization and reefers
  - Inter-modalism
  - Vessel sizes and speeds
  - Better fuel efficiency
  - Satellite navigation
Progress in information technology

- More power, more speed, lower costs
  - 1965: 1 transistor cost one dollar; 1st processor had 2200 transistors
  - Today: more than 1 billion transistors with a cost of less than 1/10000th of a cent per unit!

- Enabler of data collection, storage, retrieval and inter-organizational exchange
  - Information and fund transfers
  - Tracking and tracing
  - Automated
  - Mobile phones
Advances in production and processing technologies

- Technology has driven progress in agricultural production and processing
  - Green revolution
  - Post-harvest packaging, drying

- Biotechnology is seen as a new step forward
  - Estimated area with GM crops in 2004 was 81 million hectares
  - Grown by 8.25 million farmers in 17 countries, most of which in the developing world
What are the most important changes?

- Consumer and market trends and requirements
- Organizational and institutional changes
- Changing nature of international trade
Consumer and market trends

- Diets include more fish, meat and dairy products, as well as fruits and vegetables
- Rise in importance of ready to eat, frozen and convenience foods
- Growing demand in high income countries for exotics, organic products, off-season fruits and vegetables
- Increased concern with health and food safety; rising demand for high quality and safe foods
Consumer and market trends [cont’d]

Declining commodity prices

Farm-gate prices of many commodities are now lower than they were 20 years ago

Widening spreads around prices

Increasing distinctions (price and rules of game) between bulk and speciality markets

Price squeeze on producers of bulk or anonymous quality commodities
Prospects for food manufacturing greater than for primary commodities

- Tremendous regional disparity in formal sector agro-industry value addition

Widespread interest in diversification of non-traditional fruits and vegetables
Consumer and market requirements

**Rapid rise of private sector standards**

- Supermarket chains and food processors increasingly are setting standards for the food they buy and such standards are not uniform.
- Beginning to be growth of process based standards; not clear how far this will go.
- Compliance, monitoring and certification costs are high and have economies of scale; constitute significant entry barriers.
Organizational and institutional changes

- Profound changes in the structure of production and wholesale marketing in developing countries
- Growing concentration at all levels, particularly in retail and processing
- Enterprises are getting larger as firms seek economies of scale
Organizational and institutional changes [cont’d]

- Increasingly, exchange is arranged through contracts
- More specialized procurement channels and dedicated wholesalers
- Changes in the retail sectors of developing regions have been particularly notable
Changing nature of international trade

**Change in composition**

- Share of processed products in agricultural trade grew from 25% in relation to commodities in 1970 to over 58% by the end of the 1990’s.
- Relative share of traditional export commodities - such as cocoa, coffee and sugar – fell.
- Trade in fruits, vegetables and dairy products – increased.
Changing nature of international trade [cont’d]

- Global sourcing programmes
- Trend towards sourcing from few reliable supply markets
- Product differentiation and branding have become key competitiveness factors
- Phasing out of special programmes and non-tariff measures designed to protect trade
- Food miles are growing
  - In USA: 1500 to 2500 miles between farm and plate: 25% more than 1980
  - In Europe: 3000 km on average
What have been the impacts?

- Efficiency and growth benefits
- Risks for small farmers, traders, processors, retailers
- Constraints still faced by farmers and agribusiness
Efficiency and growth benefits

- Agro-processing enterprises are increasing demand for farmers’ products
- Exporters and agro-processing enterprises are furnishing crucial inputs and services
- Agro-industries are stimulating market induced innovation
- Domestic and export systems are becoming more mutually supportive
Efficiency and growth benefits [cont’d]

- Specialty markets for coffee, cocoa, tea, and cotton (organic, gourmet, fair trade) offer an alternative higher priced market.
- Diversification into horticulture, livestock, and other high value crops offers considerable potential for employment generation and productivity growth.
Efficiency and growth benefits [cont’d]

- Strengthening farm-to-market linkages has improved the livelihoods, incomes and food securities of rural and urban households.

- Recent studies of contract farmers show that they have higher incomes than other farmers.
Risks for small farmers, traders, processors, retailers

Following structural adjustment, the private sector emerged only slowly and partially mainly serving commercial farmers but leaving many smallholders exposed to extensive market failures, high transaction costs, and service gaps.

About half the agricultural area in remote regions has good agricultural potential but lacks institutions and infrastructure to integrate into the wider economy.

Small farmers have difficulties meeting agro-industry standards and contractual requirements.
Risks for small farmers, traders, processors, retailers [cont’d]

Some studies find that smaller processing firms are left out of the supply chain, with medium-sized and large processors preferred for long-term contracts.

Traders and marketers in local markets are being squeezed by specialized procurement practices and certified products.
Constraints still faced by farmers

- Inadequate access to technology
- Limited information on prices and buyers
- Limited negotiating and bargaining skills
- Delayed receipt of payments
- Lack of access to financial services
- Insufficient farm business support services
- Limited availability of inputs; high cost of inputs
Constraints still faced by agribusiness

- High cost and unreliability of raw material supply
- Farmers’ inability to supply the volumes required
- Insufficient market information; high cost market research
- Lack of public institutions and infrastructure for monitoring compliance with standards
Constraints still faced by agribusiness [cont’d]

- High cost of utilities and other overhead costs
- Lack of access to finance; high cost of finance
- Lack of transportation and communication infrastructure
- Inconsistent and not transparent business regulations
Overall Assessment
Potential of new agrifood systems

- With globalization, institutional innovations, new biological and information technologies, and changing agro-ecological conditions, opportunities present themselves for a new agriculture, with new challenges.

- Agriculture can be the engine of growth and poverty reduction in agriculture-based countries.

- Elsewhere, agriculture has growth opportunities and poverty-reducing potential in sub-sectors with a comparative advantage.
But, food vulnerability continues

- So far, not ensuring abundant supply of food for all;
  slow progress in reducing food insecurity
- Unstable supply and high price variability
- Increased vulnerability of local food systems to externally driven events
Entire countries risk being left behind

- Increased global capital flows are heavily concentrated in relatively few countries
- As product specifications advance rapidly, poorer countries are unable to keep up and benefit from their lower labour costs
- Substantial “adding up” problem; several countries increasing exports simultaneously leads to price collapses
- Declining interest in countries with poorly performing supply channels
Policy goals for agrifood systems development

Growth of competitive agro-enterprises and domestic markets in which remunerative prices permit innovations and new skills development

Ensure processes and products meet consumer demands and market requirements within the context of sustainable farming practices
Policy goals for agrifood systems development [cont’d]

Increase farmers' income by producing the right products, taking advantage of their comparative advantage

Expand employment throughout the agrifood system

Ensure constraints in one part of the agrifood system do not constrain progress in other parts
Further readings