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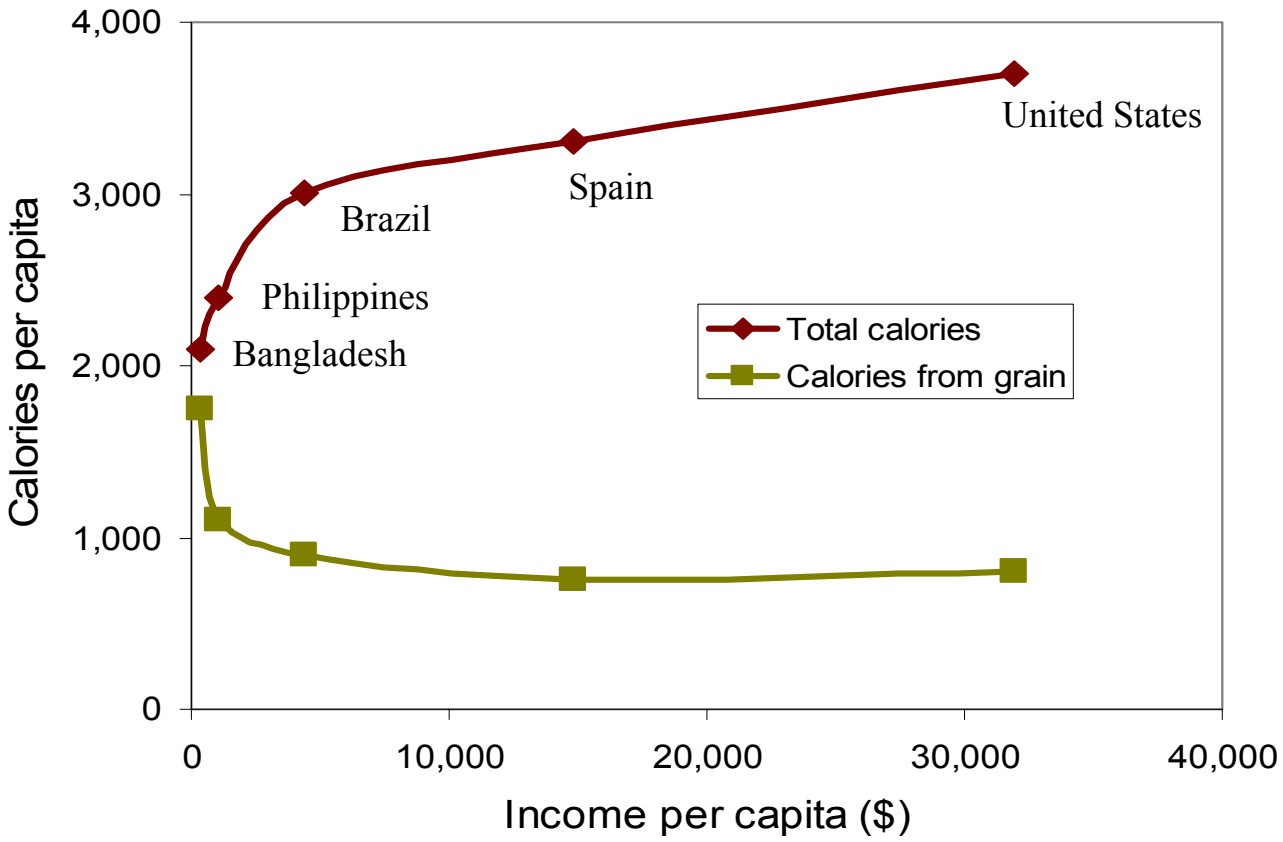
Resources, Technology, and Agricultural Productivity in a Changing World

Susan Offutt
Economic Research Service, USDA
Agricultural Outlook Forum
February 19, 2004, Arlington, VA

Context

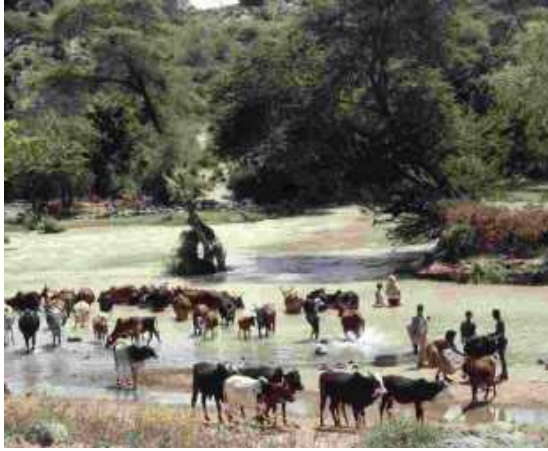
- Mature food markets in developed countries
- Rising food demand in developing countries
  - population growth
  - income growth
  - urbanization
- Gains from trade with, and investment in, developing countries

Income and consumption



Source: Economic Research Service, USDA

Sources of productivity growth



- Investment in resources, technology, and market access
- IFPRI finds that investment in international agricultural R&D
  - increases agricultural imports by developing countries (by increasing incomes)
  - contributes to high-performance crop varieties planted in developed countries

Resources

- Private incentives ≠ public incentives
- Short-run incentives ≠ long-run incentives
- Incomplete markets and inappropriate policies can result in unsustainable use of
  - cropland and rangeland
  - water resources
  - forests
  - fisheries

Technology

- Domestic and foreign investors face risks associated with insecure property rights (including intellectual property).
- Private investors face limited demand from developing country farmers.
- Questions about technology transfer from developed countries to developing, or from favored environments to marginal areas.

Market access and information

- Markets may be impeded by high transactions costs and poor infrastructure.
- Prior trade agreements and domestic support programs in developed countries can limit developing countries' access to international markets.
- Developing countries are sensitive to price instability because they tend to be highly dependent on only a few commodities.

Conclusions

- Significant challenges remain...
- ...but also considerable (and mutual) benefits from measures that improve productivity and market performance in both developed and developing countries