



YOUR LOGO



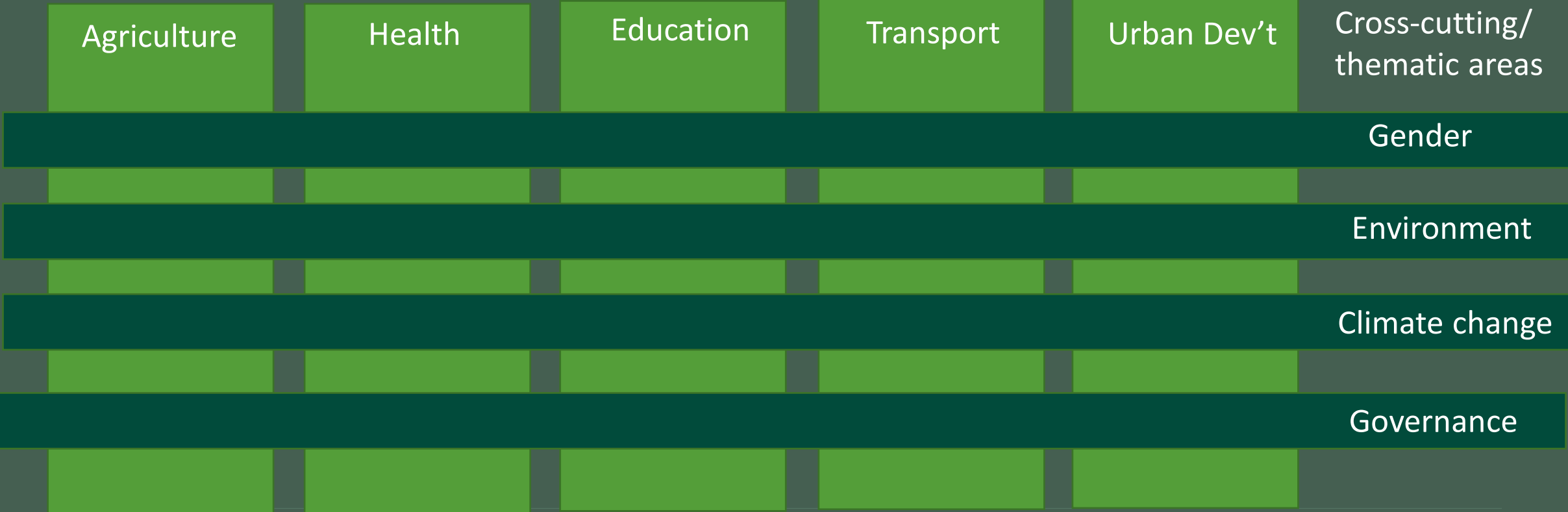
Agricultural Transformation and Development

FACULTY OF ECONOMICS, THAMMASAT UNIVERSITY

MODULE 4

What are development sectors?

Development sectors are key areas that contribute to economic output



Agriculture in developing countries

- Two thirds of the world population are poor, most live in rural areas with agriculture as main source of income
- Subsistence: farmers consume what they produce; no surplus to sell to the market; their basic concern is survival
- Status: Most farmers are either smallholders or laborers on other people's land rather on large-scale commercial agriculture



Agriculture in developing countries

- Low productivity: although employment in the agriculture is around 50%-70% of the total workforce, its contribution to GDP is around 30%-40%
- Agriculture is vulnerable to adverse weather (flood and droughts), pests/insects and external shocks



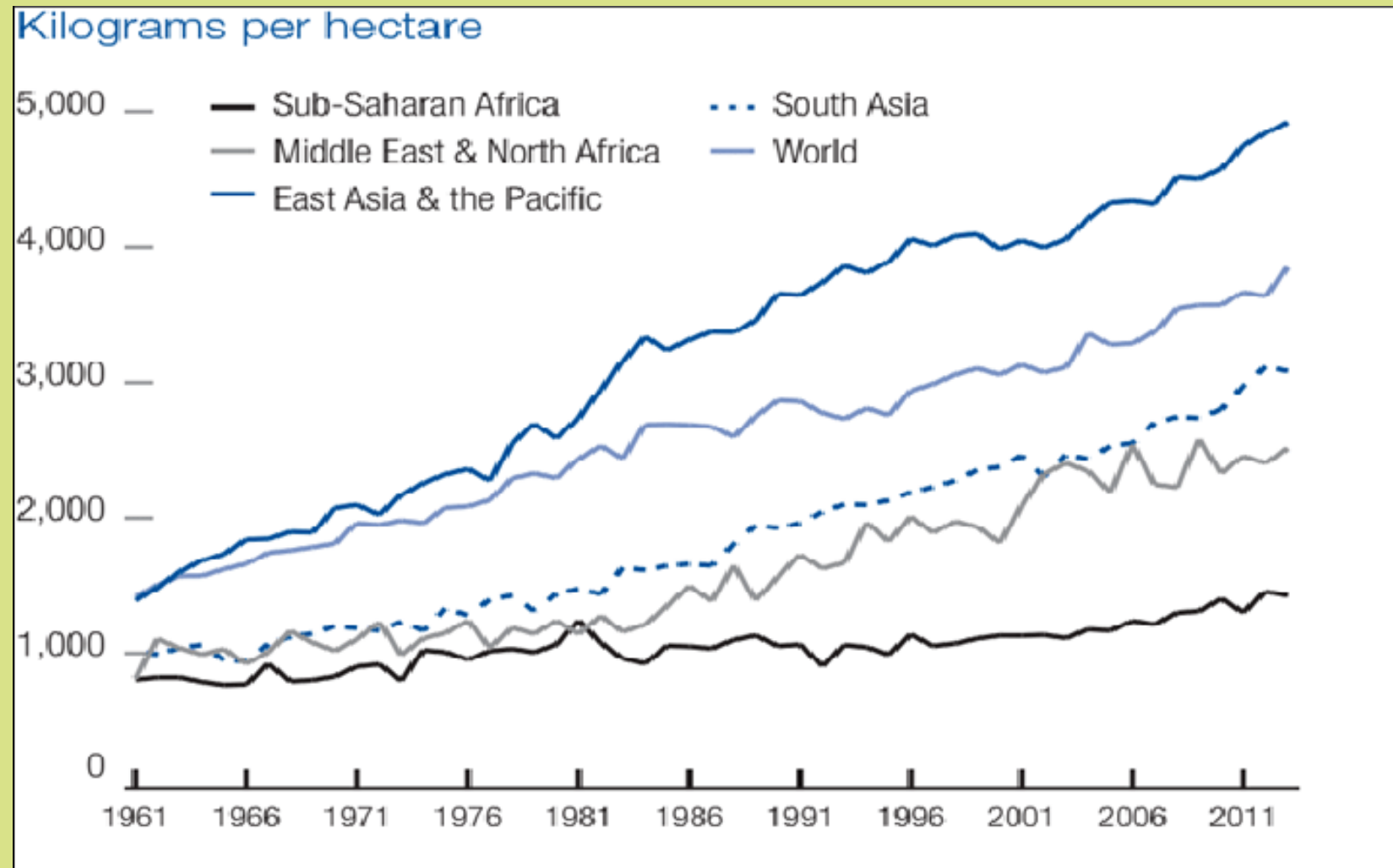
Trends in world agriculture

- Agriculture output: worldwide agriculture production has been increasing due to increased productivity
- Investments in infrastructure, improved technical know-how, access to capital, farm inputs and markets; however progress is uneven
- Share of output: the share of agriculture sector to GDP in general, however, has declined worldwide



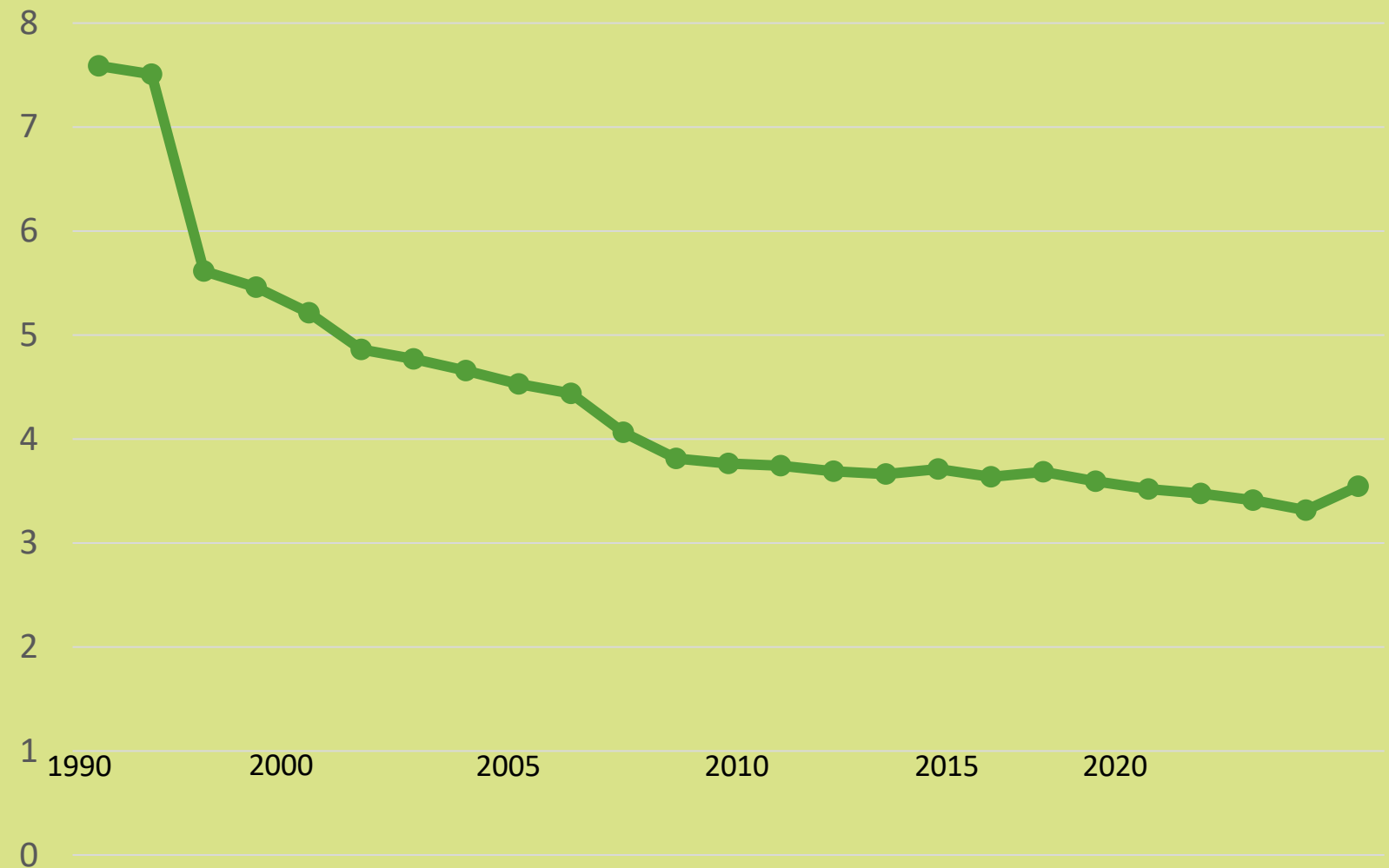
Cereal yield worldwide, 1960-2011

- Worldwide, food production has been increasing
- Cereal production rate (and productivity) has increased faster than population growth rate, particularly in East Asia and the Pacific



Declining agriculture share of GDP

- Share of agriculture sector to total GDP worldwide has declined
- 1985: share was 7.5%
- 2020: share was less than 3.5%



Share of key economic sectors

Country	Agriculture	Manufacturing	Services
United States	0.9	19.1	80.0
China	7.9	40.5	51.6
Japan	1.1	30.1	68.7
South Korea	2.2	39.3	58.3
Indonesia	13.7	41.0	45.4
Thailand	8.2	36.2	55.6
Vietnam	15.3	33.3	51.3

Comparative agriculture patterns

- **Latin America:** inequality in land ownership and concentration of land in the hands of the few; *latifundios vs minifundios*
- **Transforming economies (Asia):** too many people, limited land; most land belong to smallholders or absentee owners
- **Sub Saharan Africa:** subsistence farming, shifting cultivation, lack of technology; labor scarcity, land degradation



Farming methods and income



Slash and burn



Subsistence farming



Non-farm employment



Commercial farming

Agricultural production, 1970-2020

- Agricultural production has been able to keep up with population growth
- Agricultural programs have reduced hunger and raised productivity over the past 5 decades
- This includes improved farming methods, extension services, rural infrastructure, rural credits, and livelihood programs
- However success has been uneven



The Green Revolution

- Boost in grain production and farm yields with the discovery of new hybrid seed varieties of rice, wheat, and corn
- “Feed the world” strategy so that less-developed countries will not follow the footsteps of socialism
- Increased food production enabled developing countries to increase national output and significantly reduce poverty



ISSUES IN THE AGRICULTURE SECTOR



Issues in production

- Slash and burn had reached a limit where soil is not able to revitalize nutrients
- Subsistence farmers unable to purchase seeds, fertilizer and have limited agricultural know-how
- Food shortages due to flood, drought and other natural disasters
- In some countries the share of labor in the agriculture sector decreases even when GDP does not increase



Impacts from agricultural activities



Clockwise from top left

- Deforestation
- Drought
- Floods
- Environmental pollution

Rural poverty

- Poverty is often associated with rural areas
- If development is to take place and become self sustaining, it will need to address the issues of rural areas and agriculture



Health and hygiene

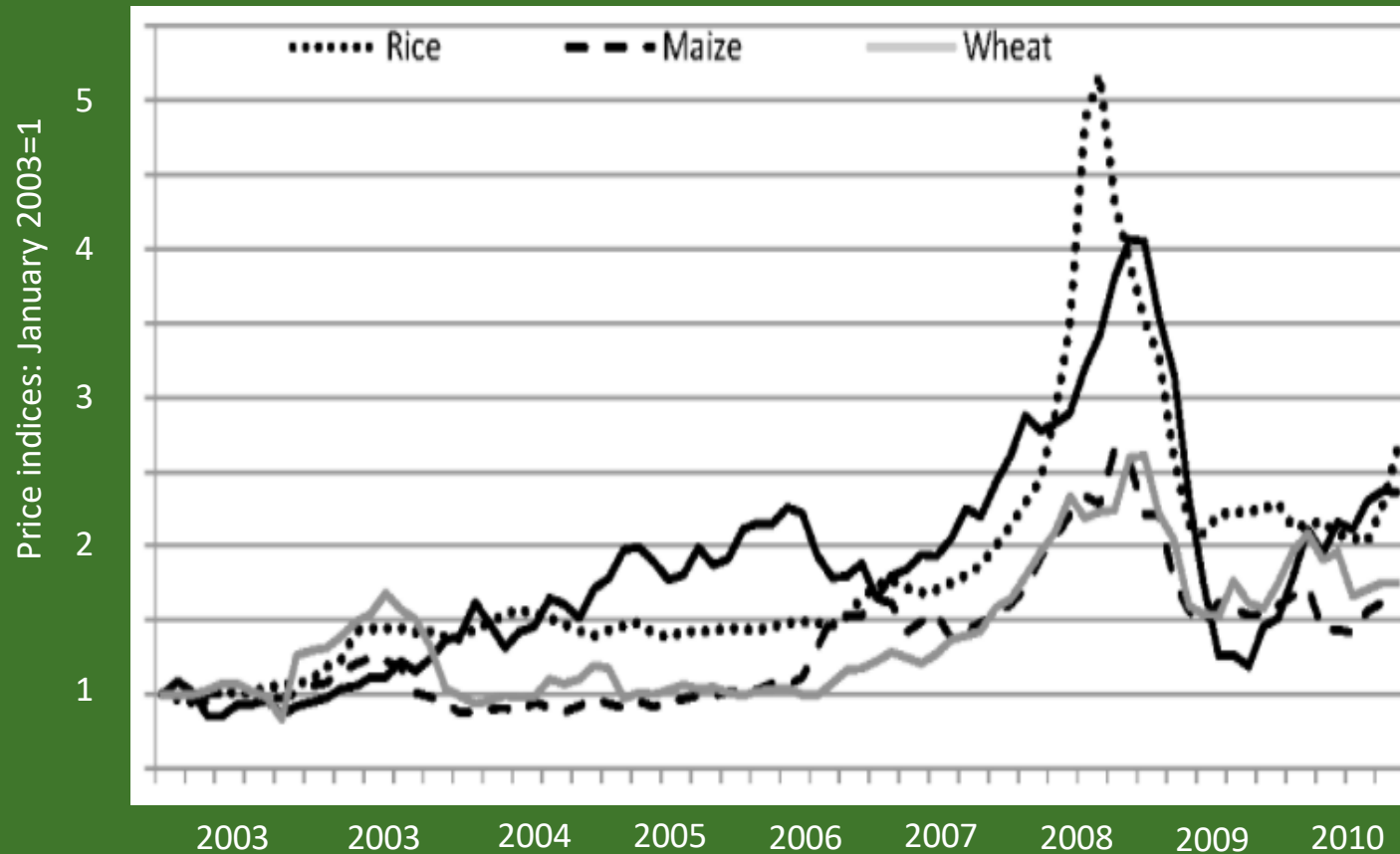


Shelter



Global Food Crisis

- 2005-2008: the world suffered a severe food crisis; rapid increase in food prices, triggered by a rise in petroleum prices
- Price of rice tripled from \$335 per ton to \$1,000 from October 2007 to April 2008; wheat and maize prices also went up



Source: IMF, 2009

Global food crisis 2008

Several causes:

- Diversion of food production to biofuels
- Rising energy costs
- Increasing demand for meat from China
- Variability in weather patterns
- Government interference in food pricing
- Neglect of the agriculture sector in favor of the manufacturing and services sectors





GOVERNMENT ROLE, PROGRAMS AND STRATEGIES

Government role in agriculture

- **Address externalities and market failures** through appropriate policies:
- Positive externalities (e.g., windfall in crop harvest) could be addressed through subsidies (providing storage, maintaining fair prices);
- Negative externalities (agricultural waste) could be addressed through taxes or penalties



Government role in agriculture

- **Improve efficiency and reduce poverty**, particularly in rural areas by providing infrastructure (irrigation, rural roads), provide farmer access to credits and markets, and needed skills (agriculture extension activities)
- **Stabilize food prices** by guaranteeing farm gate prices for farmers and ensuring adequate supply for consumers



Programs to improve productivity

Clockwise from top left:

- Agriculture extension services
- Mechanization
- Access to credit
- Infrastructure improvements



Example: agriculture and economic development strategy

Integrated rural development: an agricultural-based strategy for economic development requires the following components:

- **Accelerate output growth** through technological, institutional and price incentive changes to raise farmer productivity
- **Increase domestic demand** for agricultural output derived from employment-oriented urban development strategy
- **Diversify nonagricultural labor intensive rural development activities** that directly and indirectly support and are supported by the farming community

Conclusion

- Half of the of the world's population live in rural areas and most are poor; agriculture is often associated with poverty
- Agricultural productivity is low in most countries; share of employment exceeds agricultural share of GDP
- Although global share of agricultural to GDP is declining, agriculture is strategically important in ensuring food security (e.g., the global food crisis), poverty alleviation, and in generating income
- Productivity gains during the past 50 years is due to improved farming methods and technology (e.g., Green revolution)

Conclusion

- Government plays an important role in addressing agricultural issues: negative externalities, improving efficiency and productivity, setting policies and introducing reforms, and stabilizing agriculture prices
- Programs to improve agricultural production and productivity include extension services, mechanization; providing access to credit and improving infrastructure
- Broader strategies to link agriculture with economic development include accelerating output growth, creating demand for agriculture and diversification of rural activities

THANK **Y**OU!

Merry Christmas!

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