



YOUR LOGO

# AGRICULTURAL DEVELOPMENT AND STRUCTURAL TRANSFORMATION

EE463 Globalization and International Development  
FACULTY OF ECONOMICS  
THAMMASAT UNIVERSITY

Semester 1  
2022



Agriculture is a  
**DOMINANT** sector in many of the  
world's poor countries

*Dwight Perkins*

# Key Sector Characteristics\*

- Significant share of GDP
- High share of labor force
- Special characteristics of the agricultural production function
- Direct consumption of agriculture outputs by its producers (subsistence)
- Agriculture's role as a resource reservoir

\*Timmer, Falcon and Pearson



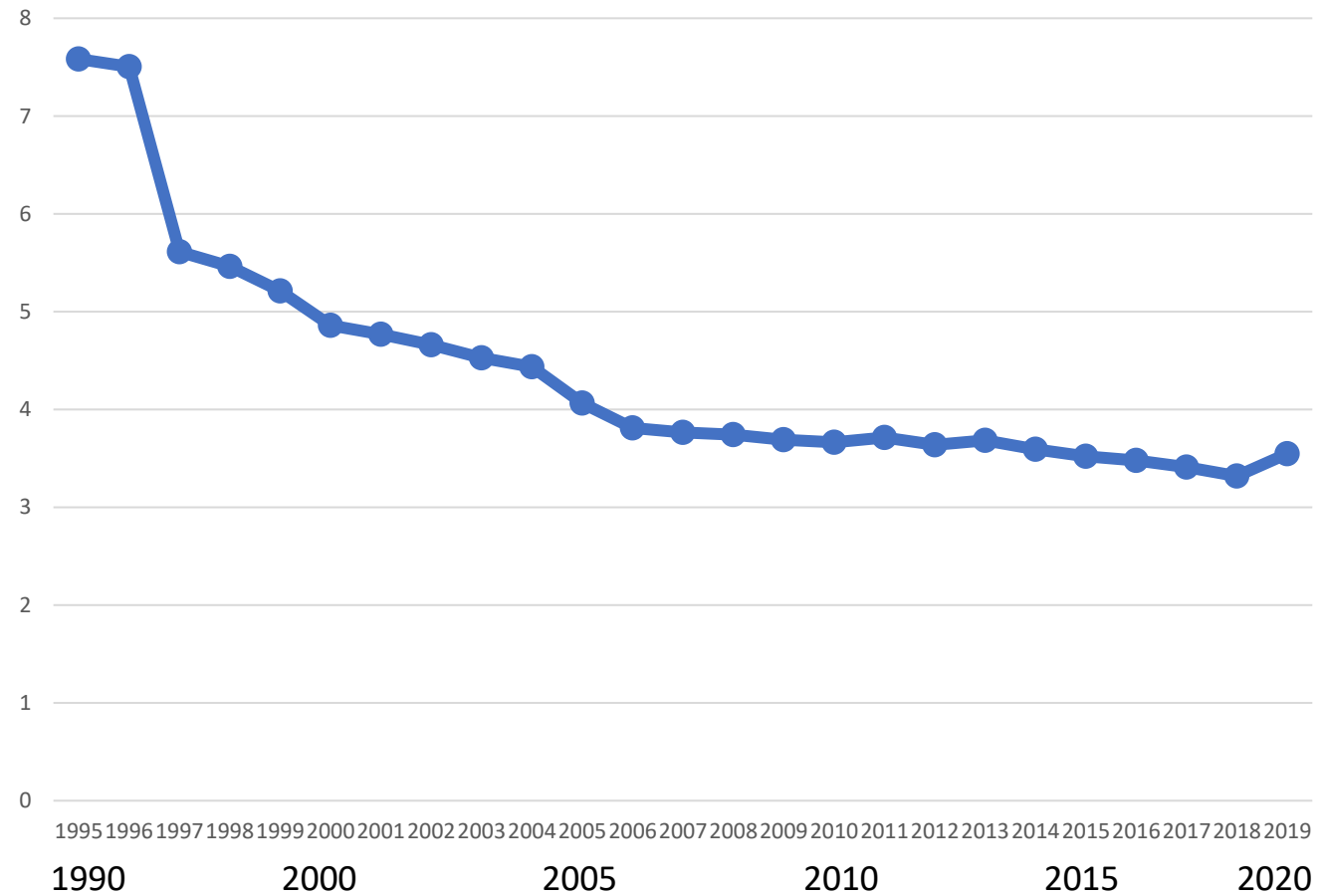
# Labor Participation and Income Share

- Comparison across countries and regions
- High participation to income ratio indicates low productivity



# Declining agriculture share of GDP

- Share of agriculture sector to total GDP worldwide has declined for 7.5% in 1985 to less than 3.5% in 2020



# Features of Agricultural Production



## Seasonality

farmers minimize costs through timing of activities such as planting and harvesting



## Sources of risk

Farmers are exposed to price fluctuations and changes in weather



## Geography

Agriculture is distributed through wide areas which requires effective marketing



## Technology

Productivity growth is driven by technological change; acquiring technology is a challenge



# AGRICULTURAL SYSTEMS

Traditional and modern, or settled systems

# Traditional Systems

- **Shifting cultivation.** Producers cultivate an area until its fertility is exhausted. Opening up new areas sometimes involves slash and burn
- **Pastoral nomadism.** Producers travel more or less continuously in search of better pastures; usually based on livestock
- **Subsistence production.** Small scale, under 3 hectares; farmers consume most of production. Farmers are either land owners or are laborers



# Settled Agriculture

- **Mixed farming** Farming method engaged in intensive annual and/or perennial cropping and livestock perennial crops to sell to the market
- **Commercial plantation farming** Farming method engaged in large-scale estate; generally specializes in cash crops such as coffee, tea, rubber and palm oil



# Constraints to Agriculture Development

## Economic

- Inefficient farm markets
- Poor quality infrastructure
- Low prices for agricultural produce
- Uncertainty of land tenure



# Constraints to Agriculture Development

## Technical

- Absence of agriculture inputs: seed variety, quality of seeds, fertilizers
- Poor land/soil quality
- Lack of technology and know how



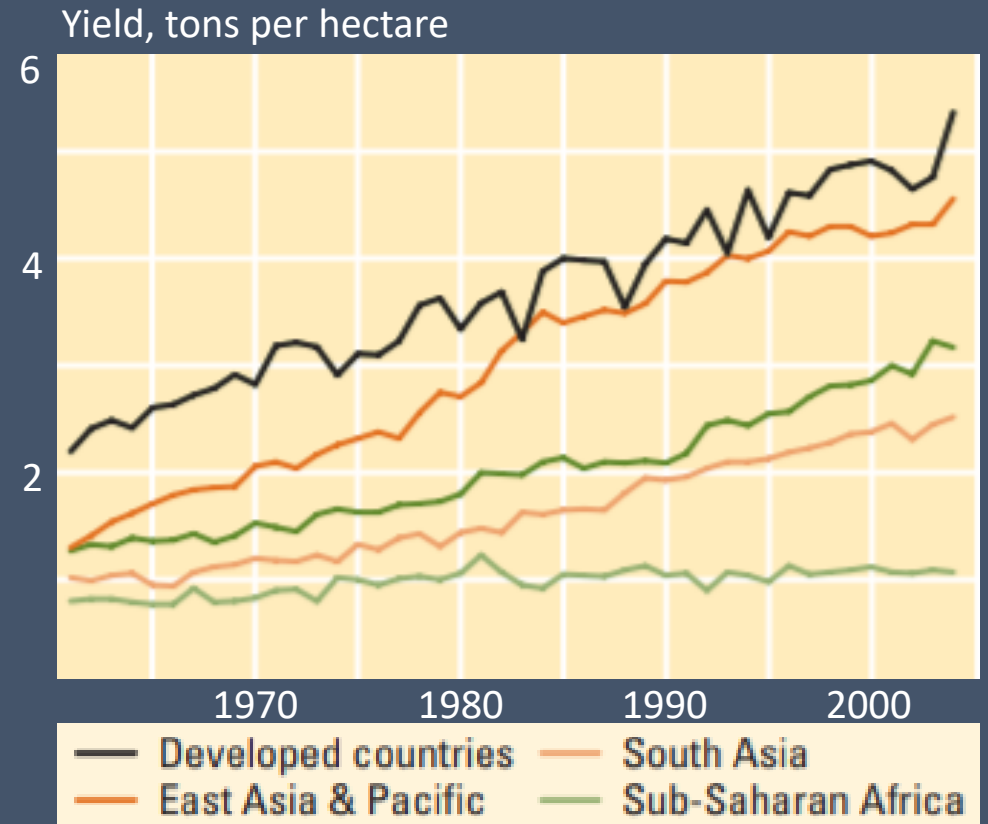


# STRUCTURAL TRANSFORMATION

Changes in the portion of the agriculture sector's contributions to the overall economy

# Trends in Agricultural Productivity

- **Increasing world agricultural production** particularly since the 1960s green revolution
- **Decline in economic growth rates** particularly since the 1980s, resulting in cuts in agricultural research and development expenditures
- **Marked differences across regions** in yield (tons per hectare). Sub Saharan Africa has not progressed much; East Asia and Pacific countries have substantially increased their crop yields



# Labor Surplus Model (Arthur Lewis)

- **Diminishing returns:** crops require land while land is fixed. To increase production, farmers move to poorer land
- **Redundancy:** the agriculture sector has a large labor force, more than necessary to produce food. The surplus labor could be shifted to the industrial sector without reducing agricultural output
- **Shift from agriculture to industrial sector employment:** will continue until the decrease in agricultural employment will result in a decrease in agricultural output



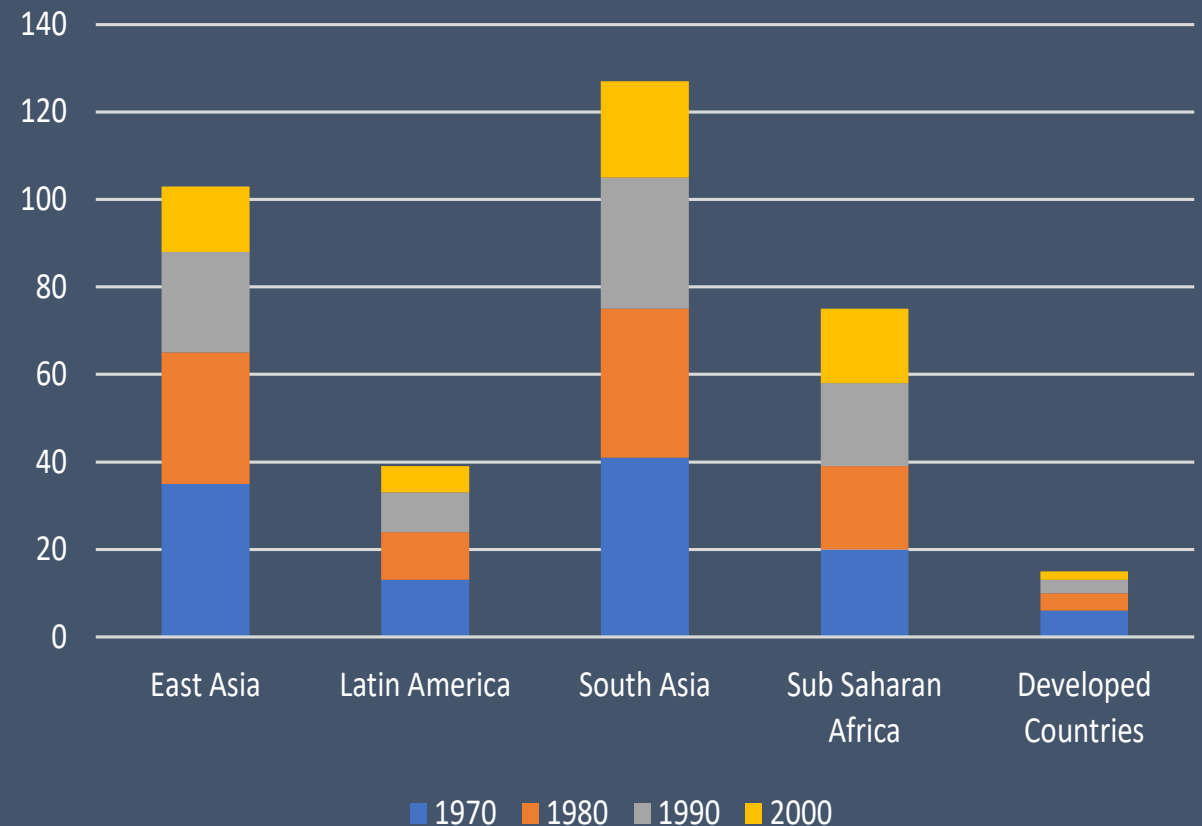


**Structural transformation** refers to systemic changes in sector proportions as economies grow

*Dwight Perkins*

# Structural Transformation

- Despite its importance, agriculture share of GDP is declining
- At low levels of income, agriculture dominates share of GDP and employment
- As economies grow, share of agriculture decreases while manufacturing increases
- Followed by a demographic transition whereby birth rates and death rates become lower



# Phases of Structural Transformation



YOUR LOGO

## Phase 1

### Output increase

Increase in agricultural output per worker creates surplus in rural economy

## Phase 2

### Surplus

Surplus is transferred to non agricultural sector (taxes, payment for agriculture inputs)

## Phase 3

### Market linkage

Integration of agriculture and non agriculture factors and market linkages; rural-urban migration supported by improved mobility

## Phase 4

### Integration

Agriculture sector is fully integrated into the economy



# Summary

- The agriculture sector is unique, as it has a relatively large share of GDP and employment, features of the agricultural function, a large share of sector's output consumed by producers, and its role as a reservoir of resource
- The agricultural systems include shifting cultivation, pastoral nomadism, and subsistence farming; and mixed farming and plantation farming



# Summary

- Agriculture is important because most of the world's poor live in rural areas and are engaged in agriculture; agriculture is important to ensure food security
- Agricultural growth is more effective in reducing poverty compared to industrial growth because in most developing countries people are disproportionately concentrated in rural areas and most are poor
- Growth in agricultural productivity plays an important role in facilitating the release of labor and capital from agriculture for employment in industry and services

**T**HANK **Y**OU!