



# Agriculture's Strategic Role in Feeding and Fueling a Growing World

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# Farm Foundation Role

***Farm Foundation** serves as a catalyst for sound public policy by providing objective information to foster deeper understanding of issues shaping the future for agriculture, food systems and rural regions.*



**Learning  
from our Past**

**Cultivating our  
Future**



# 75 years ago



- More than 20% of the workforce employed in production agriculture
- Production agriculture's share of GDP about 7 %
- 1933 Agricultural Adjustment Act—the first “Farm Bill”



# Today



- Less than 2% of workforce employed in production agriculture
- Production agriculture's share of GDP is less than 1%
- Food Conservation and Energy Act of 2008

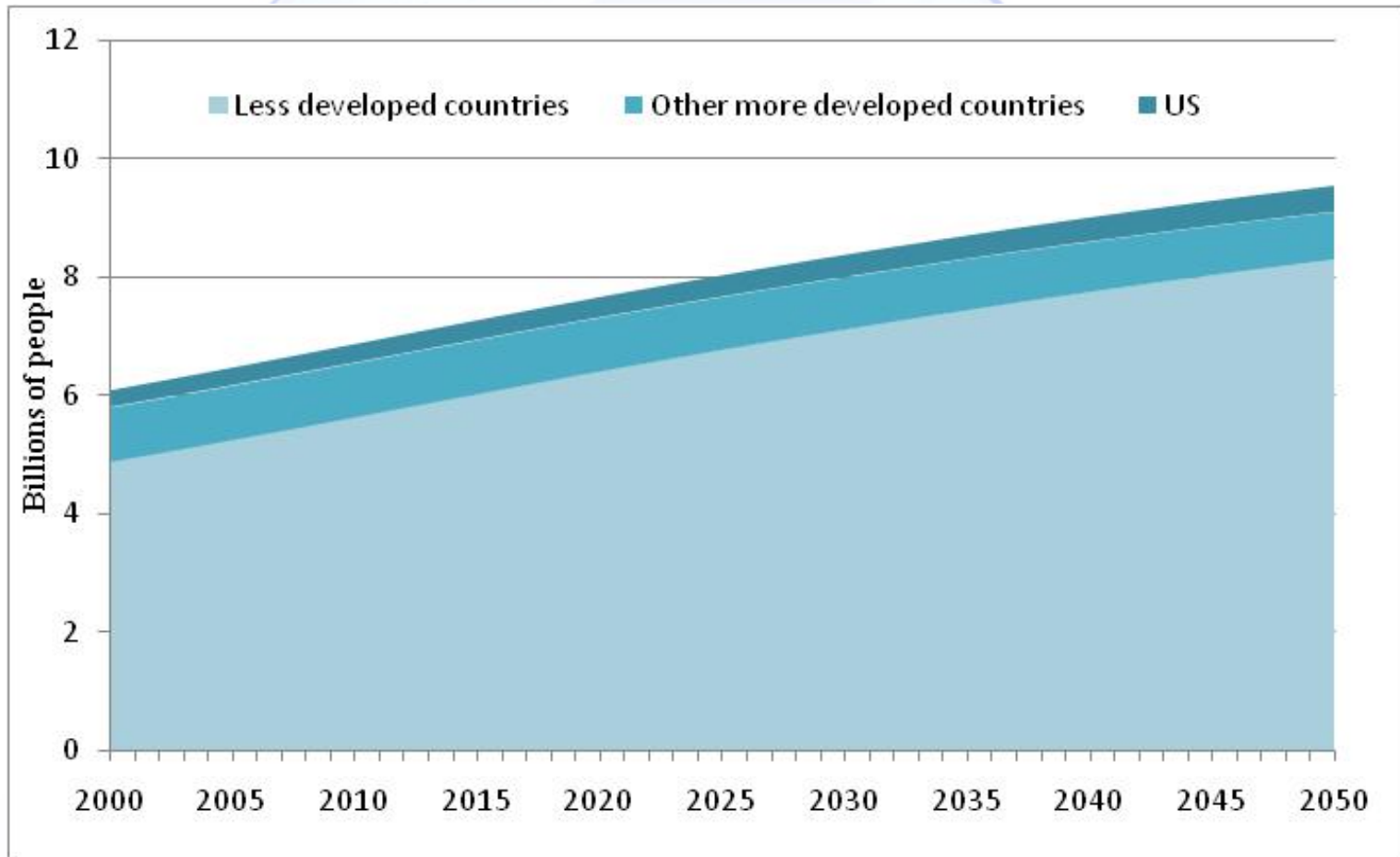


# 75 years of change



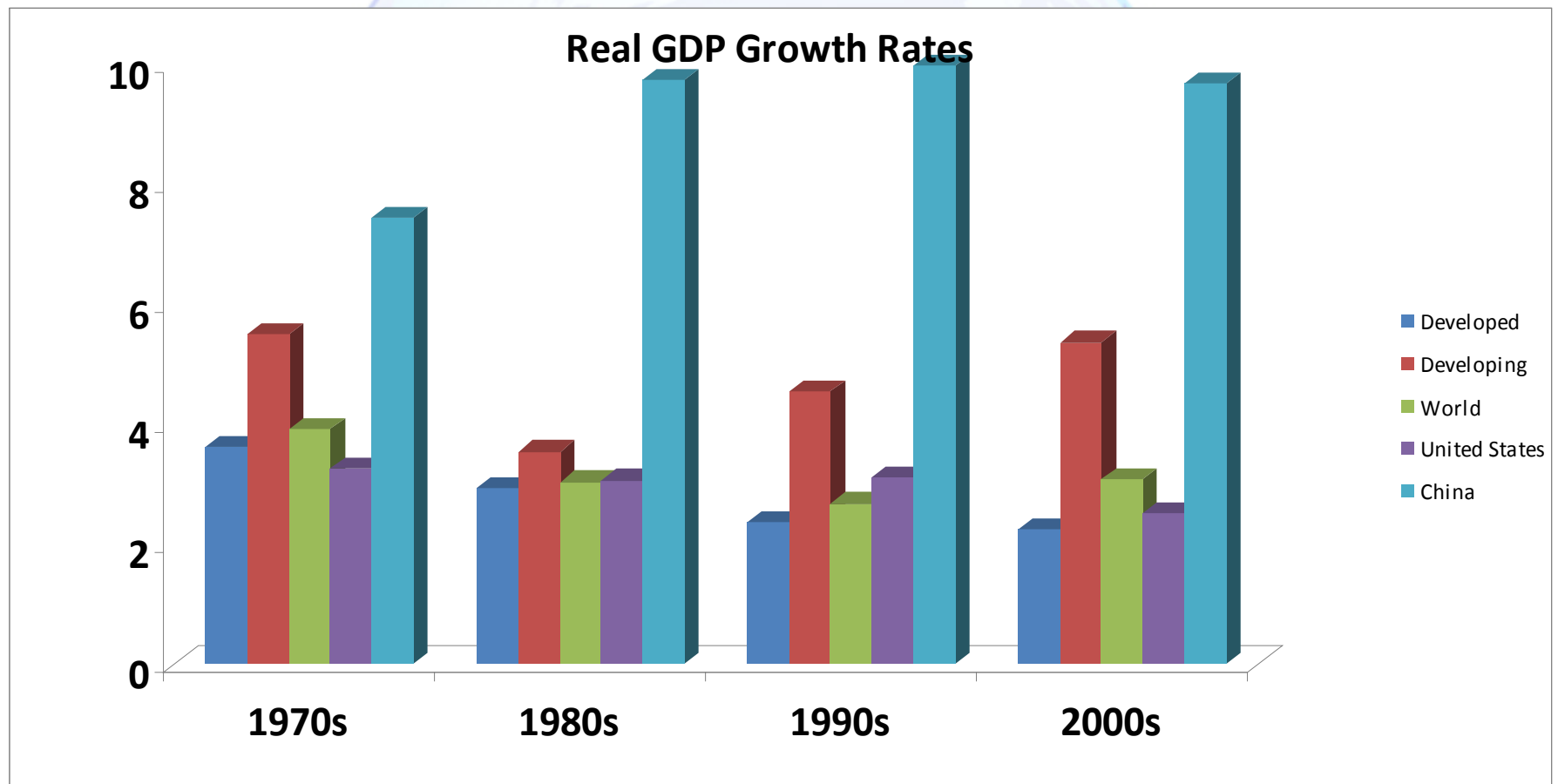


# Growing population





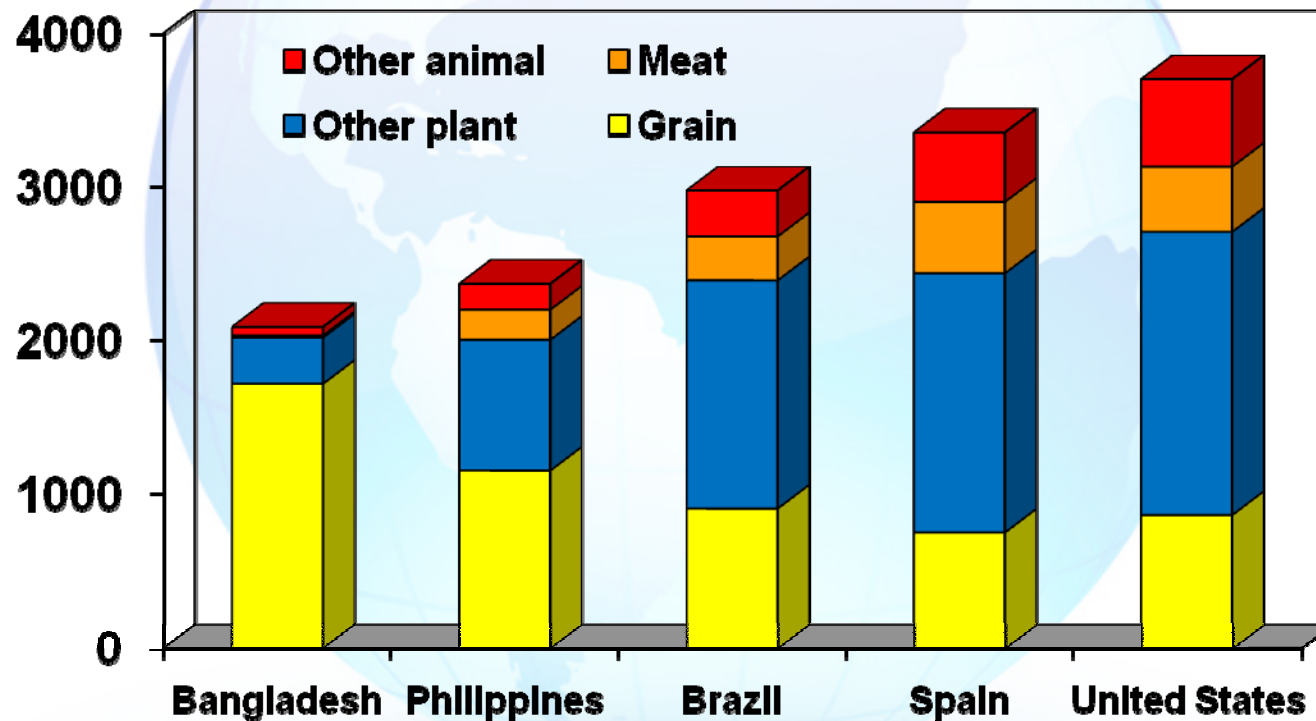
# Rising incomes





# Diets diversify as incomes rise

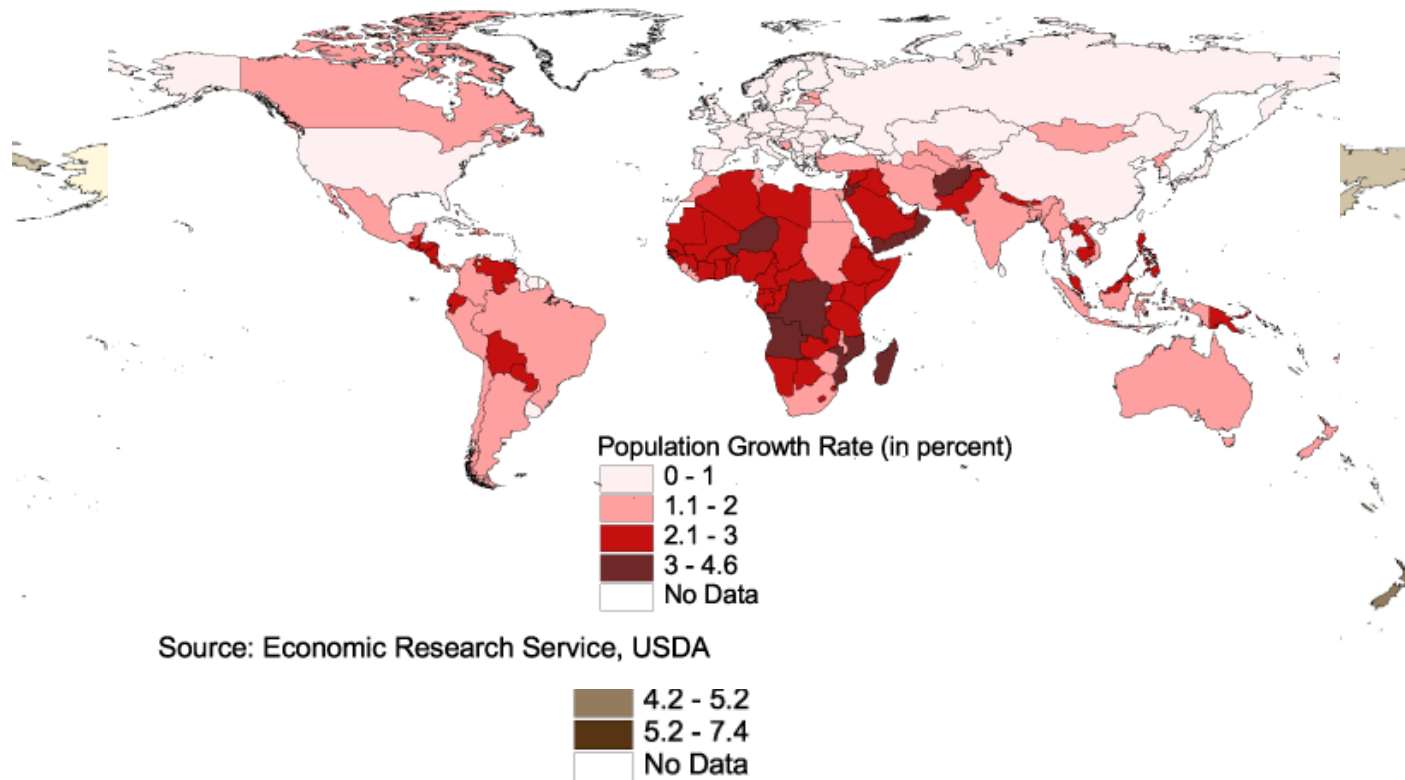
Calories/Day





# Growth markets are in the developing countries

Population growth is more rapid in developing countries



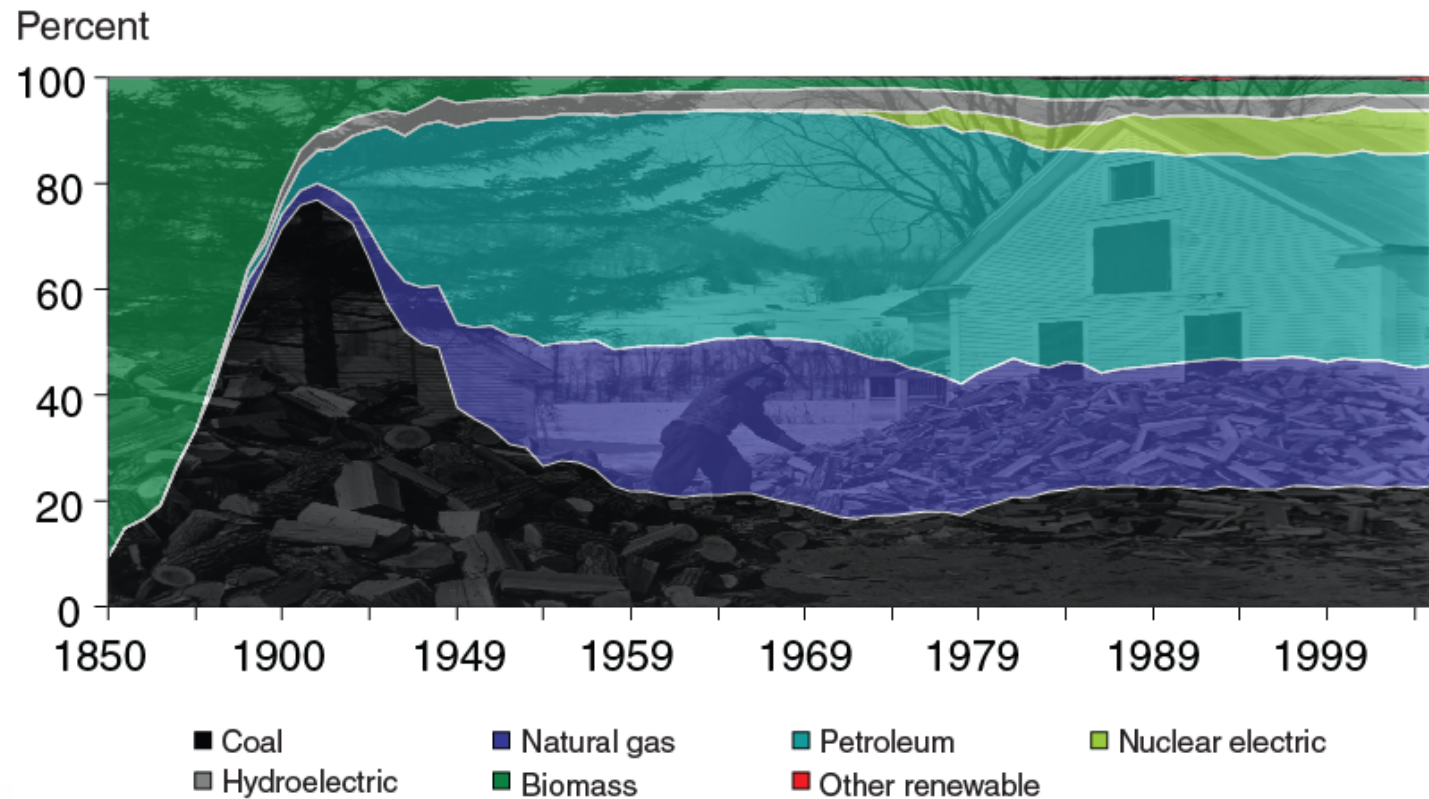
Source: Economic Research Service, USDA

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# We once lived in an economy powered by biomass . . .

## Energy consumption by source



Note: Time scale 5 years prior to 1949.

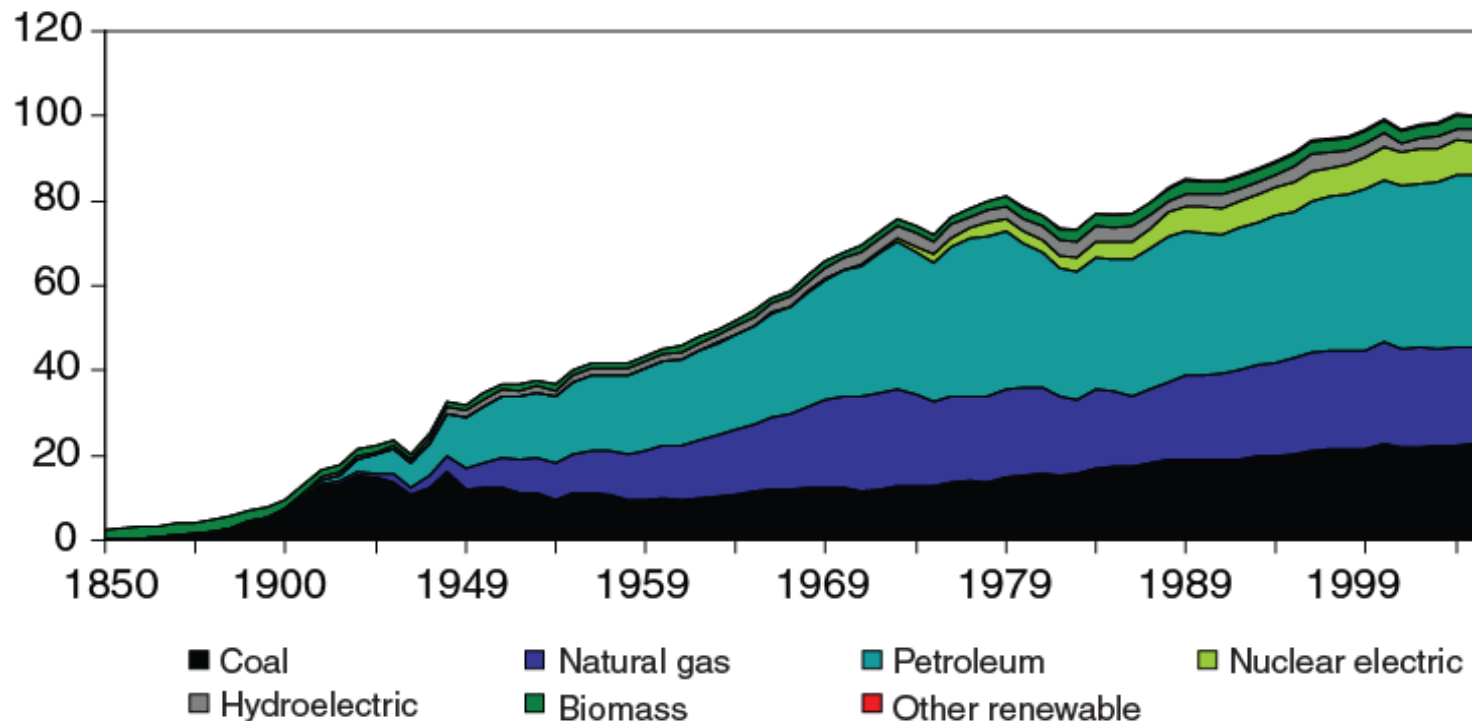
Source: Energy Information Agency Annual Survey Review, 2001, 2005.



... but total energy use has increased dramatically

## Energy consumption by source

Quadrillion BTUs



Note: Time scale 5 years prior to 1949.

Source: Energy Information Agency Annual Survey Review, 2001, 2005.



# Demand for agricultural output could double

By 2030 we may need to increase the world's agricultural production by over 50% just to keep pace with increased food demand due to rising population and income. Even without taking into account increased demand for renewable energy feedstocks

Some believe that the world's agricultural production may need to double by 2050. Where will it come from?



# Constraints on world agriculture production



40% too dry  
21% too wet  
21% too cold

6% too rough terrain  
2% unsuitable soils



## Other constraints

- Water
  - Farmers use 70 percent of the planet's water but growing urban areas are outbidding agriculture
- Global climate change
  - There is uncertainty about the positive and negative effects of warming on agriculture
  - Also uncertain are the costs to agriculture of policies to mitigate climate change

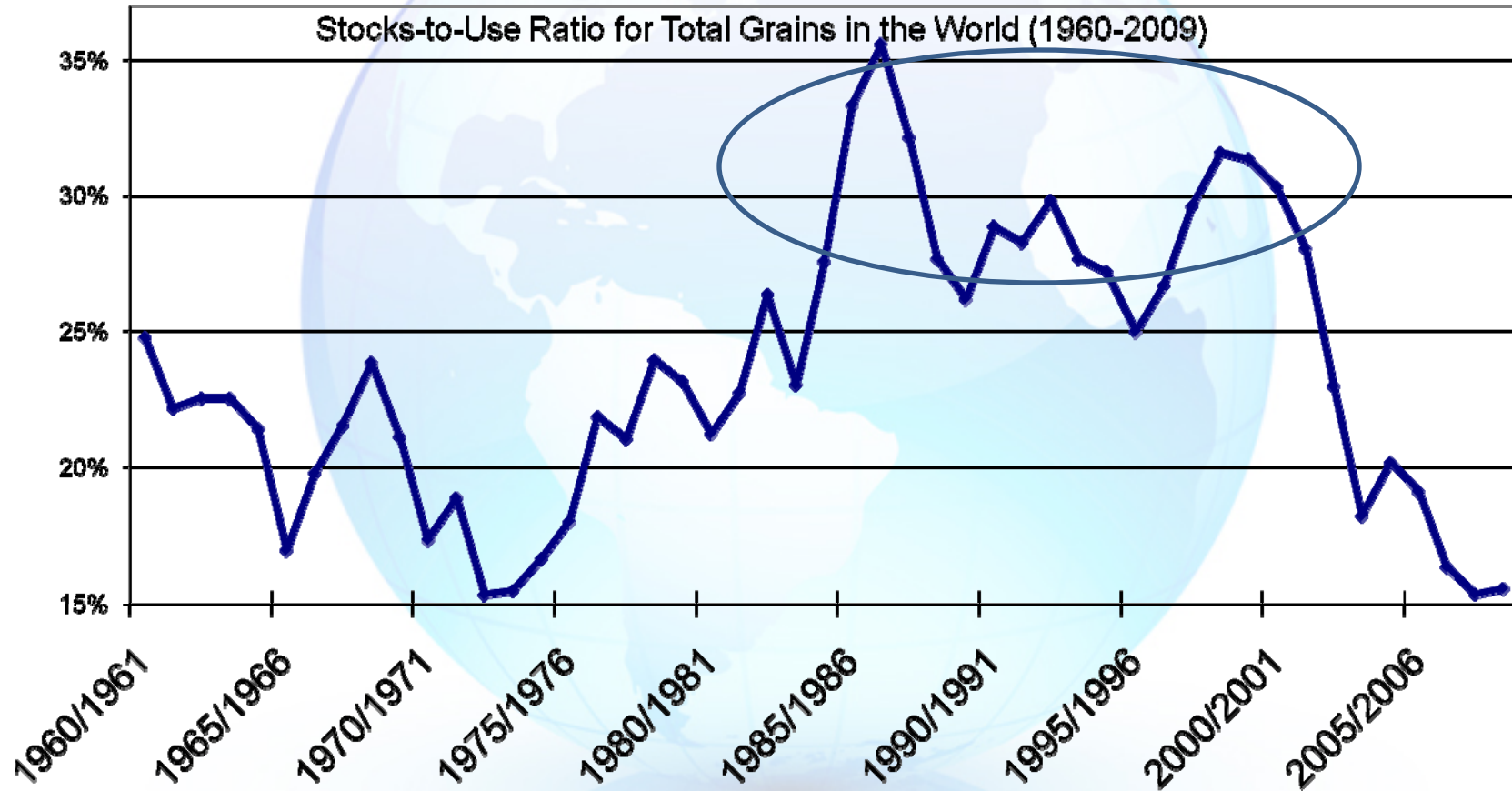


# The 30-Year Challenge

- With the right tools and incentives, the world's agricultural producers and agribusinesses will rise to the challenge
- Those incentives and tools are heavily influenced by public policy
- Need to begin to build the framework to meet the challenges of the future



# Policies shaped by abundance





# Six areas of challenges

- Global financial markets and recession
- Global food security
- Global energy security
- Climate change
- Competition for natural resources
- Global economic development



# Recurring themes

- Uncertainty
- Public understanding
- Unintended consequences
- Trade-offs
- Research and development
- Infrastructure
- Trade
- Absence of a clear strategy for U.S. agriculture

# Financial assistance



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FOOD & ENERGY



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# For more information

- Visit [www.farmfoundation.org](http://www.farmfoundation.org) to find:
  - *“The 30-Year Challenge: Agriculture’s Strategic Role in Feeding and Fueling a Growing World”*
  - *“What’s Driving Food Prices?”*