

# SEE THE FEED CHANGE FUTURE



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# SEE THE FEED CHANGE FUTURE

- Feed the Future Initiative:
  - launched by President Obama last spring
  - endorsed by the G8 in the summer
  - endorsed by the G20 in the fall
  - endorsed by the entire membership of FAO last December
- The USG has committed to invest \$3.5B over the next 3 years
  - Whole of Government strategy
- The other members of the G20 have committed \$18.5B

# Global Food Security: A Goal, A Challenge

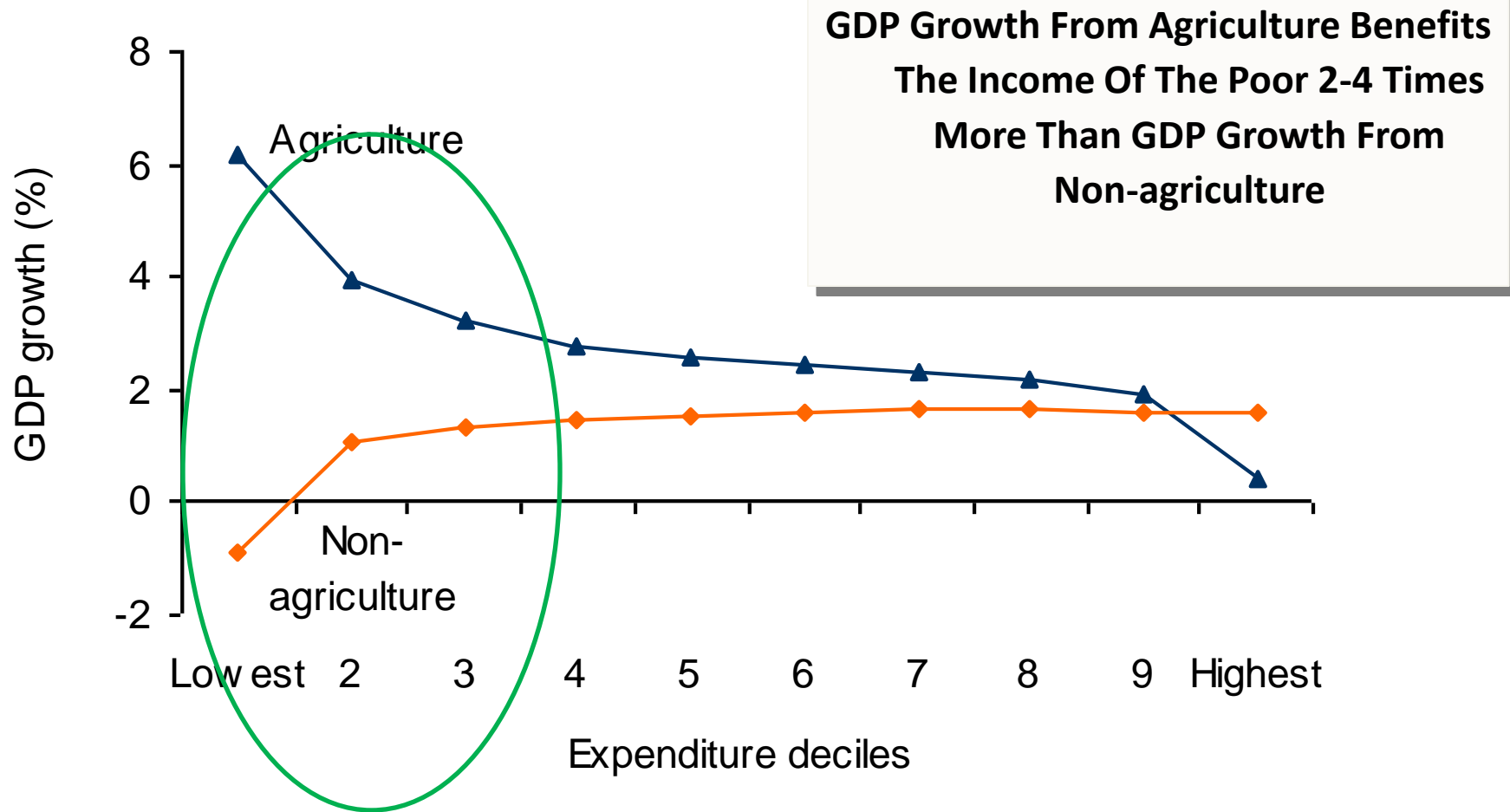
- USDA-ERS estimates food consumption and access in 70 developing countries.

## Share of food-insecure population relative to total population



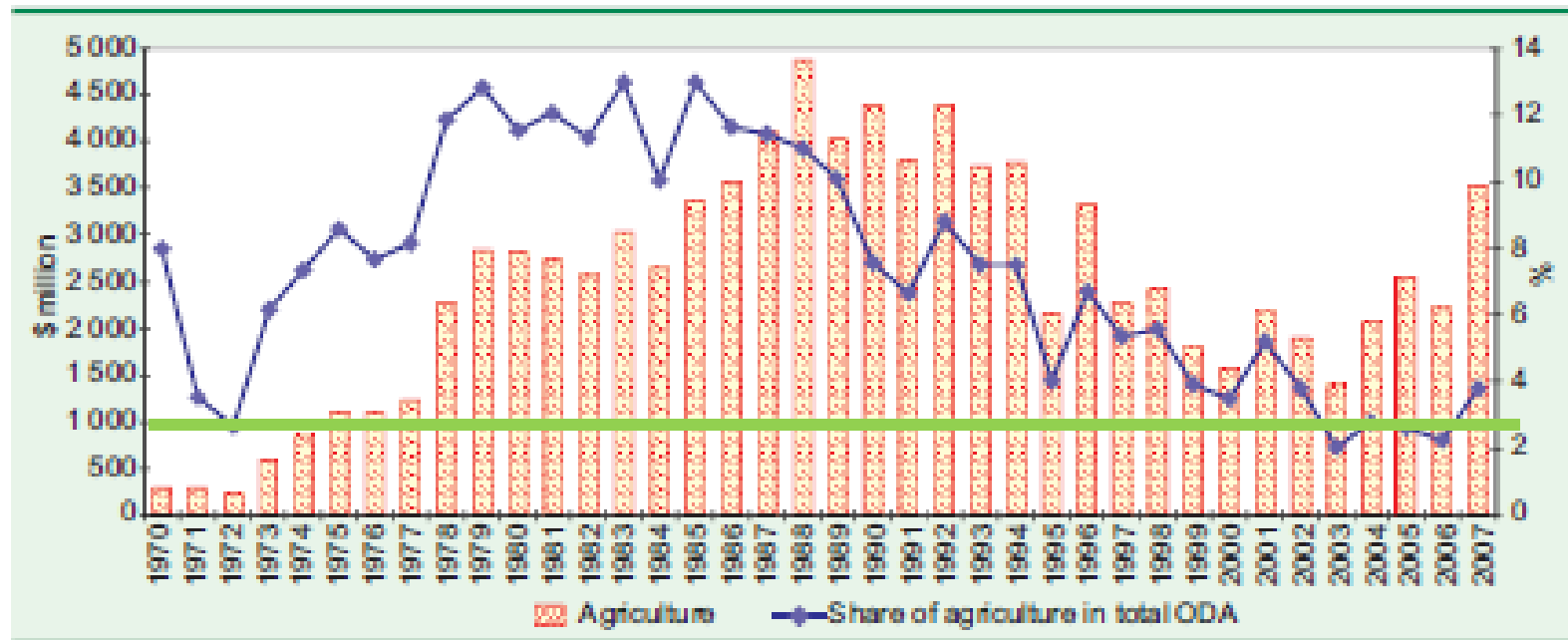
\*Those estimated to be consuming less than 2,100 calories per person per day.

# Agriculture Remains The Best Means Of Reducing Rural Poverty & Hunger



# Development Assistance to Agriculture Declined from 1973 to 2007

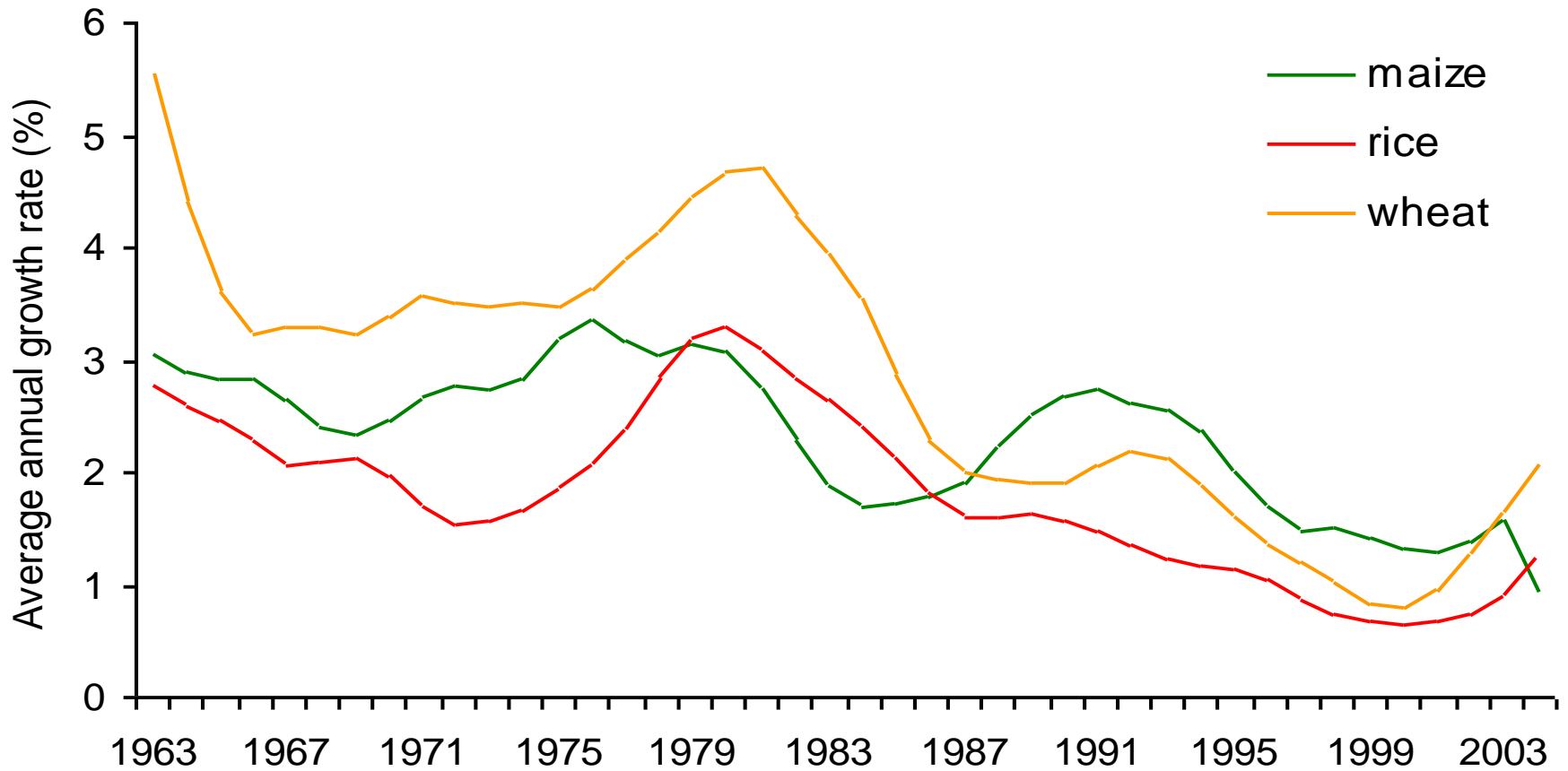
Development Assistance to agriculture: value and share of total ODA, 1970-2007



Source: UNCTAD, based on OECD, OECD.Stat Extracts (accessed on 6 May 2009).

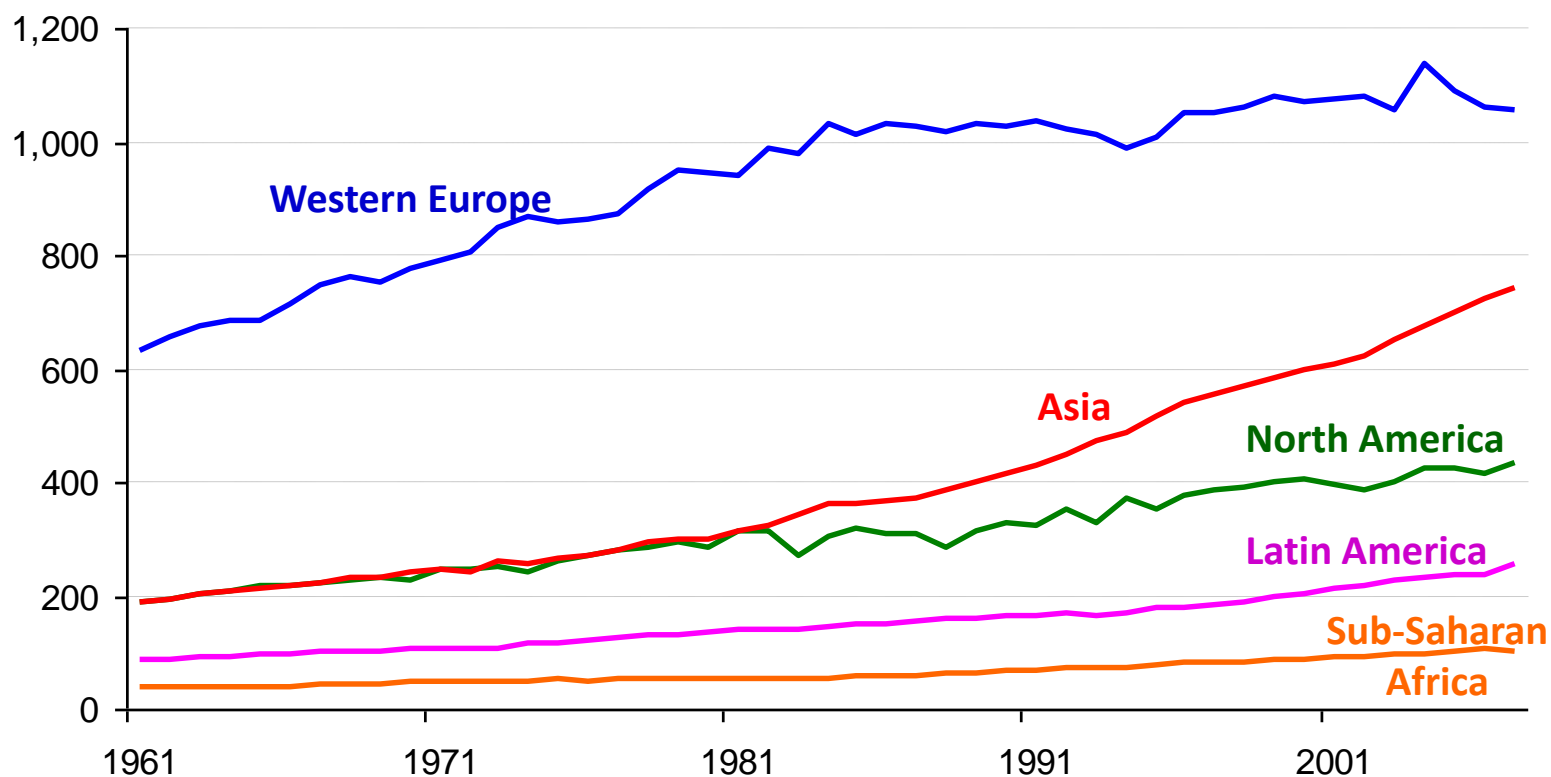
Note: Data from 1970 to 1994 include forestry and fishing, which account for roughly one quarter of total agriculture, forestry and fishing.

# Cereal Crop Growth in the Developing World



# But: Ample Opportunity Exists to Increase Output...

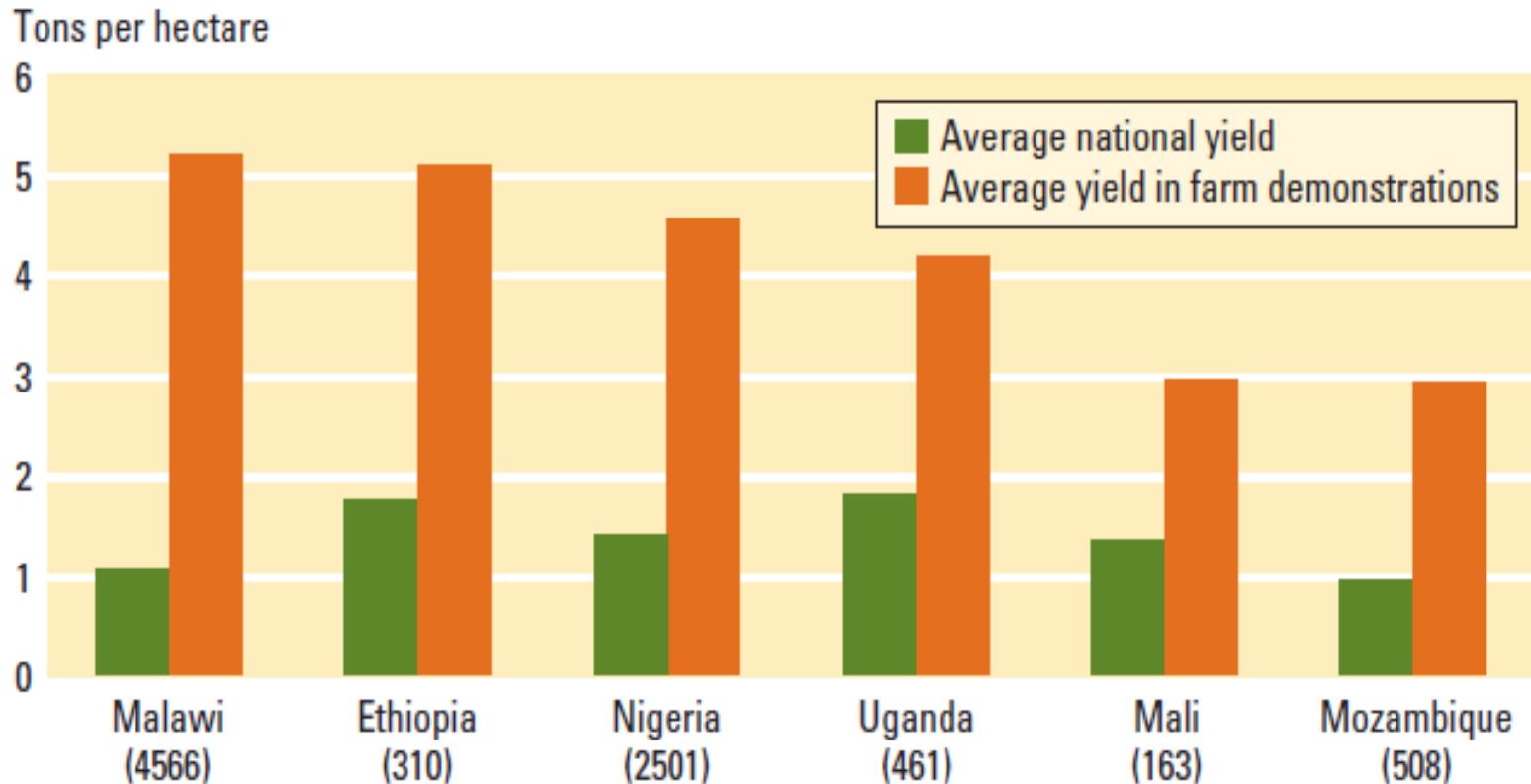
Agricultural output per hectare of land  
(constant 2000 US \$)



Source: Fuglie, ERS/USDA (derived from FAO, 2009)



## And to Increase Developing Country Yields



- **Farm demonstrations occurred on actual farms with:**

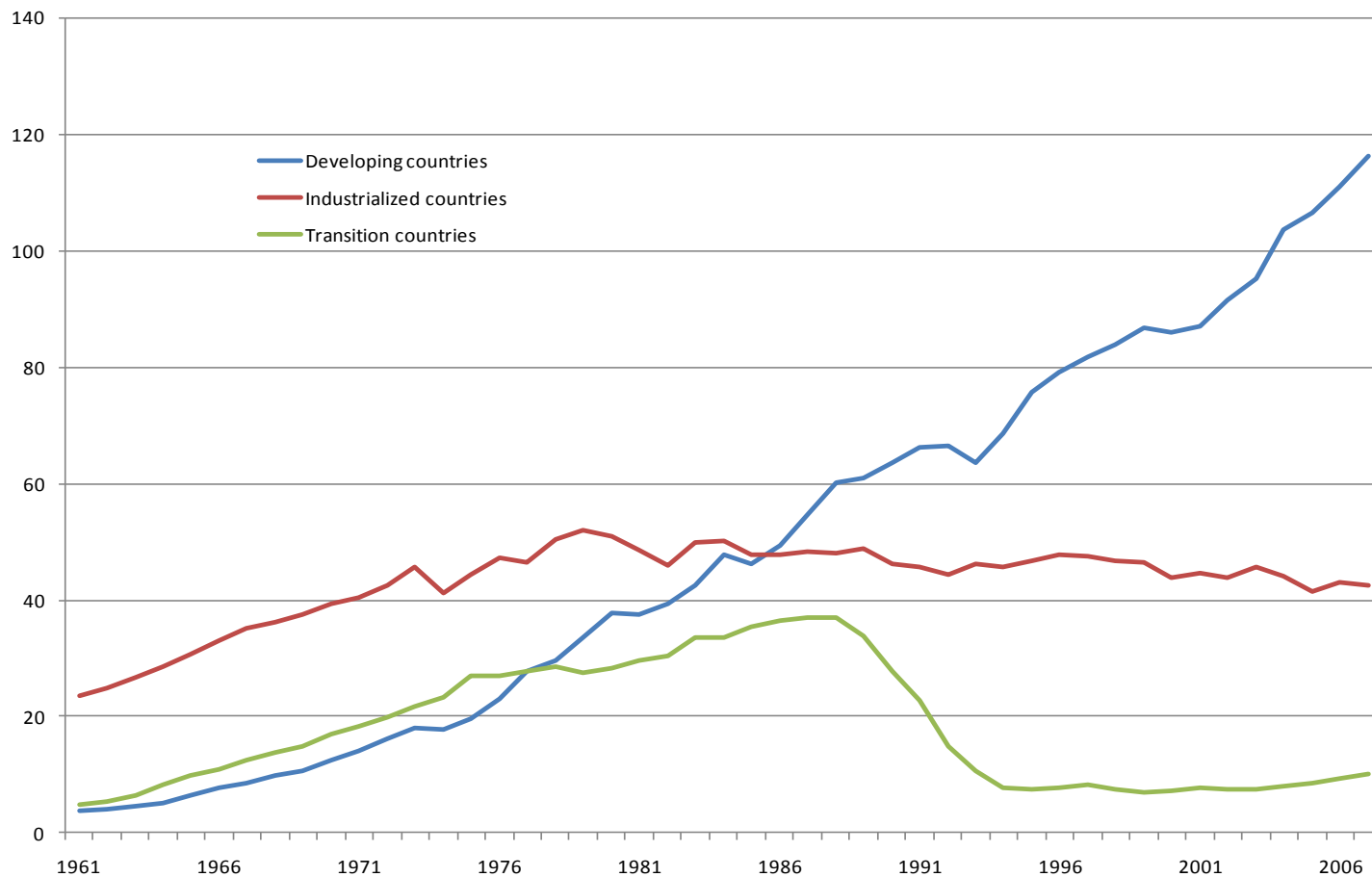
- new seeds
- fertilizer, and
- better management techniques





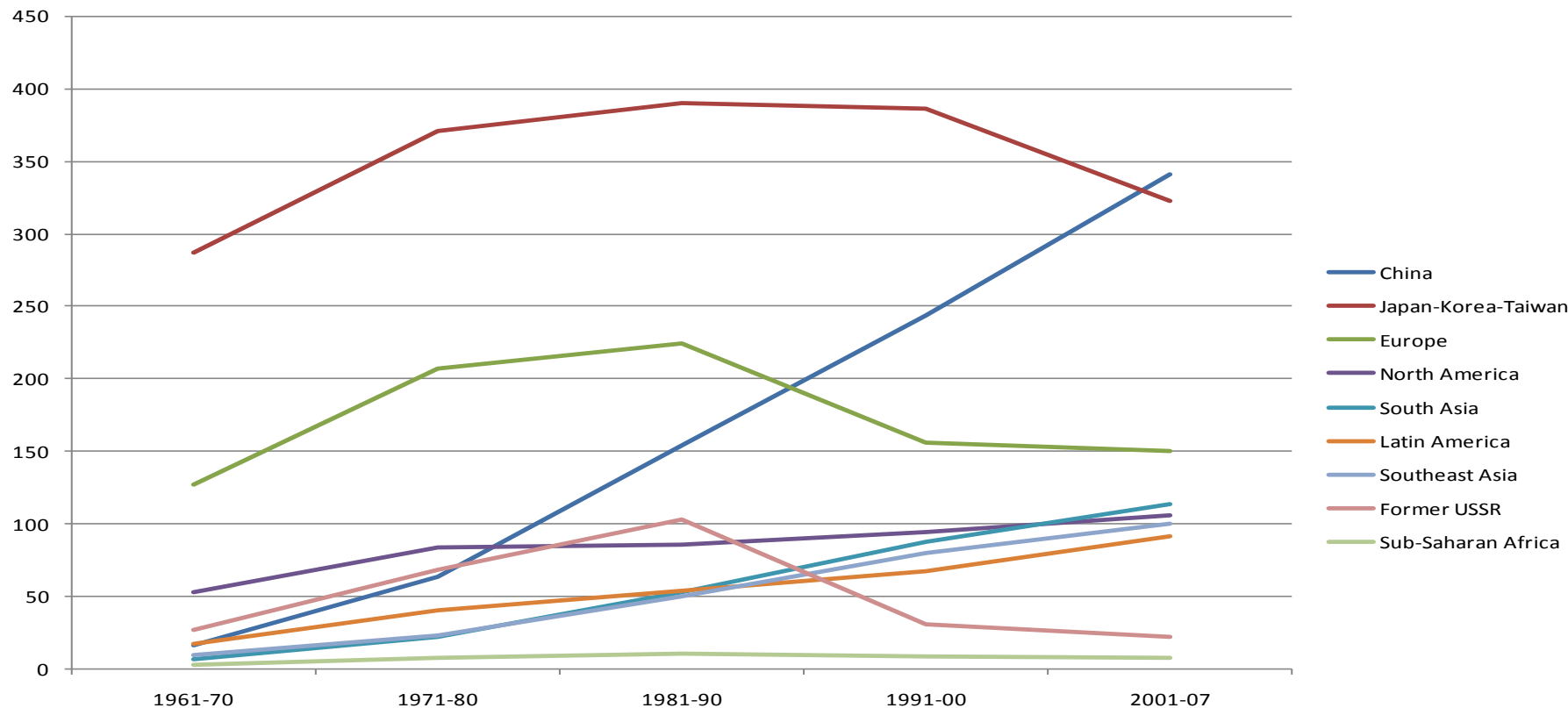
# Developing Country Fertilizer Consumption Rising Fast; Industrialized Country Use Flattening

**Chart 1. Trends in Total Fertilizer Consumption  
(millions of metric tonnes of nutrients)**



# But, Africa Still Lags in Fertilizer Applications

**Chart 3. Trends in Fertilizer Application Rates**  
(kg of nutrients /ha of cropland, average by decade)



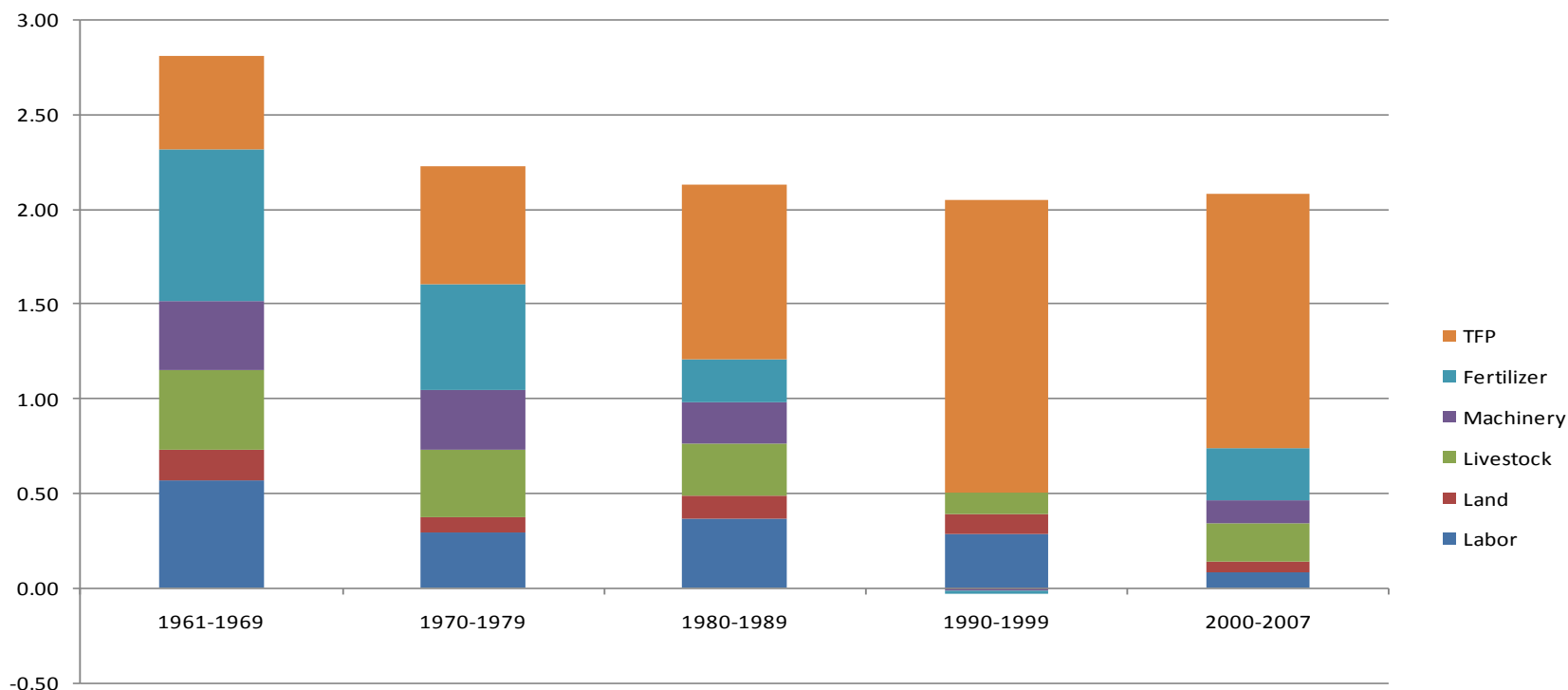
Source: FAO

\*Note: East Asia has a high level of multiple cropping (successive crops in same year)



# Fertilizer Critical to Global Ag Productivity Until 1989

**Chart 2. Sources of Global Agricultural Growth, by Decade  
(average annual growth rate, %)**



The height of the bar shows the average annual growth rate in global agricultural output by decade. The colored components of the bar show how growth in resources (fertilizer, machinery, livestock capital, land and labor) and total factor productivity (TFP) each contributed to output growth. Increases in fertilizer use were the dominant source of agricultural growth during the "Green Revolution" decades of the 1960s and 1970s. Increases in TFP, which, through adoption of new technology and farming practices, raise the efficiency of resource use, is now the most important source of output growth in global agriculture.

# Challenges of Jump Starting Fertilizer Use

- **Modern fertilizer industry emerged following World War II**
  - often accompanied by **heavy government intervention** in the sector
- Past 30-40 years: **gradual withdrawal of government intervention** from the fertilizer sector
  - Although it **remains pervasive in some countries** (i.e. India)
- In developing countries, **fertilizer subsidies have proven to be expensive and often financially unsustainable**
  - **Indonesia:** subsidy = 43 % of total government support for agriculture
  - **Nigeria:** subsidy in 1996 = 87 % of the government's support for agriculture & 24 % of the entire national budget (just before it eliminated them)
  - **Zambia:** subsidy = 37% of the entire agricultural support budget in 2004/05



# Smart Subsidies

- There has recently been renewed interest in the use of “smart subsidy” instruments to support fertilizer use in developing countries
- “**Smart subsidy**” idea: Provide the subsidy in the form of a voucher or coupon to poor and limited resource farmers who would otherwise not use fertilizers
  - Goal : **do not displace commercial sales**
  - Smart subsidy programs **difficult to implement** in practice
  - Malawi’s program heralded as successful at increasing maize production, but economic research indicates **it displaced commercial sales**