Competing Narratives for Sustainability: Is Less More or Must We Do More With Less?

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Can Sustainable Agricultural Intensification Feed the World?
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The Problem

• The Sufficiency Narrative: Less is More
  o world population 9.2 billion people in 2050
  o dramatic environmental problems
  o consumption outstrips Earth’s capacity
  o current food systems produce waste and overconsumption => health problems
  o destruction of important ecosystems will have dramatic feedback effects that undermine the foundations of our food systems => more poverty and conflict.

• The Productivity Narrative: Doing more with less.
  o world population 9.2 billion in 2050
  o agricultural productivity slowing down
  o rising income levels shift diets to more protein rich food and will increase energy demand
  o serious threat that food demand will not be met => hunger and political instability
  o resource constraints and climate change limit the world’s capacity to expand food production.

The Solutions

• Less is More: The Sufficiency Narrative
  o demand increases need to be mitigated through behavioral change
  o scientific advances have the potential to bring forward agro-ecosystems that are both productive, respectful of ecosystems and resource saving
  o environmental externalities need to be internalized in markets - appropriate governance structures that address disruptive effect of trade.

• Doing More With Less: The Productivity Narrative
  o scientific advances have the potential to bring forward technologies that boost productivity and take into account both resource scarcities and environmental problems
  o massive investments in both public and private R&D
  o removal of barriers to technology adoption by farmers, such as infrastructure, trade barriers and access to markets.
Common Ground?

• The Problem
  o population growth
  o resource constraints
  o poverty, hunger and instability

• The Solution
  o need to increase productivity
  o a role for science
  o institutional and policy change
Is the Era of Declining Real Agricultural Prices at an End?


Direction of Prices?

Price

Supply

Behavior Change

Internalizing costs

Productivity Increases

Population and income growth

Demand

Quantity
Understanding Total Factor Productivity

Yield growth

Area growth

TFP growth
– technical change
– allocative efficiency

Input intensification

Research, extension & education
Economic incentives
Institutions

Economic incentives
Market access
Credit & support services
Infrastructure
Institutions

TFP Replaces Input Intensification as the Engine of Growth