

Challenges in Using Agriculture as an Engine of Growth and Poverty Alleviation in Sub- Saharan Africa

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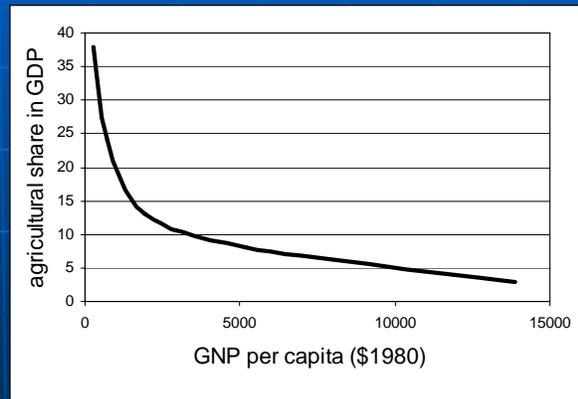
Outline

1. *The Paradox of Investing in Agriculture to Spur Income Growth*
2. *The Direct & **Indirect** Contributions of Agriculture to Growth and Poverty Alleviation*
3. *The Asian Green Revolution Model*
4. *Challenges in Fostering a Green Revolution in Sub-Saharan Africa*
5. *Implications for Program & Policy Design*

Paradox of Investing in Agriculture to Spur Income Growth

Structural Transformation: The process by which increasing proportions of employment and output of an economy are accounted for by sectors other than farming as per capita incomes rise.

- No country has achieved a high standard of living with the majority of its population or GDP in farming.
- Yet poor, agrarian economies initially need to invest in agriculture to make their economies less agricultural.



Pathways between agricultural growth, broader economic growth & poverty alleviation

- Direct participation in more productive farming
 - As family farmers
 - As farm laborers
- Indirect (linkage) effects
 - Increased employment and income in producing farm inputs and processing & marketing outputs (production linkages-- backward & forward)
 - Flows of labor and capital from farming to other sectors of the economy (factor market and fiscal linkages)

Pathways between agricultural growth, broader economic growth, and poverty alleviation

- Indirect (linkage) effects
 - Increased employment in producing consumer goods (consumption linkages)
 - Increased economic productivity due to better nutrition of workers and more efficient (less liquid) investment (productivity linkages)
- Lower prices for staples, which:
 - Raise real incomes of the poor
 - Help expand employment by holding down wage rates (wage good effect)

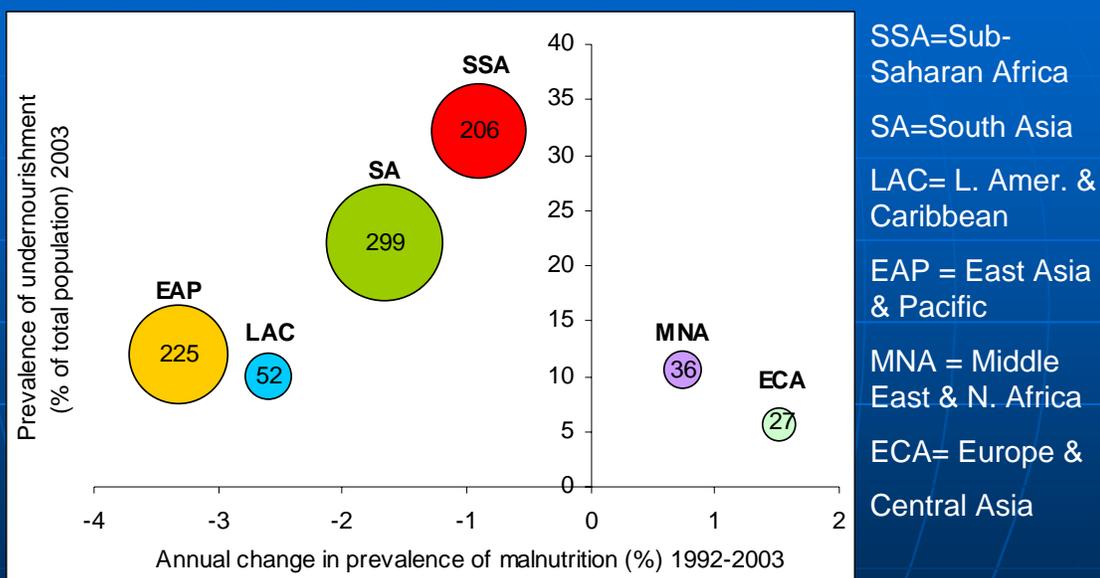
Pathways between agricultural growth and poverty alleviation

- Both direct and indirect effects depend both on technology *and* institutions, especially markets
- Experience of Green Revolution in Asia: *indirect* effects (especially the consumption linkages & wage-good effects) had bigger anti-poverty effects than the direct effects.

How did it work in Asia? The Asian Green Revolution model

- Productivity increase in staple crop grown by smallholders (primarily in irrigated areas)→
 - Income increase of adopters
 - Some increase in labor demand for staples production
 - Increased labor demand in forward and backward linked industries
 - Big increase in employment in labor-intensive goods demanded by richer staple food producers (and those in linked industries)—often horticulture and animal products (e.g., dairy)
 - Lower staple food prices:
 - Increased real income of huge number of low-income consumers
 - Held down wage rates, allowing expansion of non-agricultural employment

Progress in Asia; less in SSA



Source: World Bank, World Development Report 2008

Is the Asian model appropriate for Subsaharan Africa?

- While same basic principles apply, structural differences between Asia and SSA imply that Africa's green revolution(s) will look very different from those in Asia, suggesting the need for some different strategies.

A few key structural differences

- Size & diversity, incl. gender
→ diversity of farming systems
- Spatial issues
 - 48 separate countries, many small
 - Importance of regional trade & transaction costs
 - National governance problems become regional
 - Scale & spillovers in research, education, policy

A few key structural differences

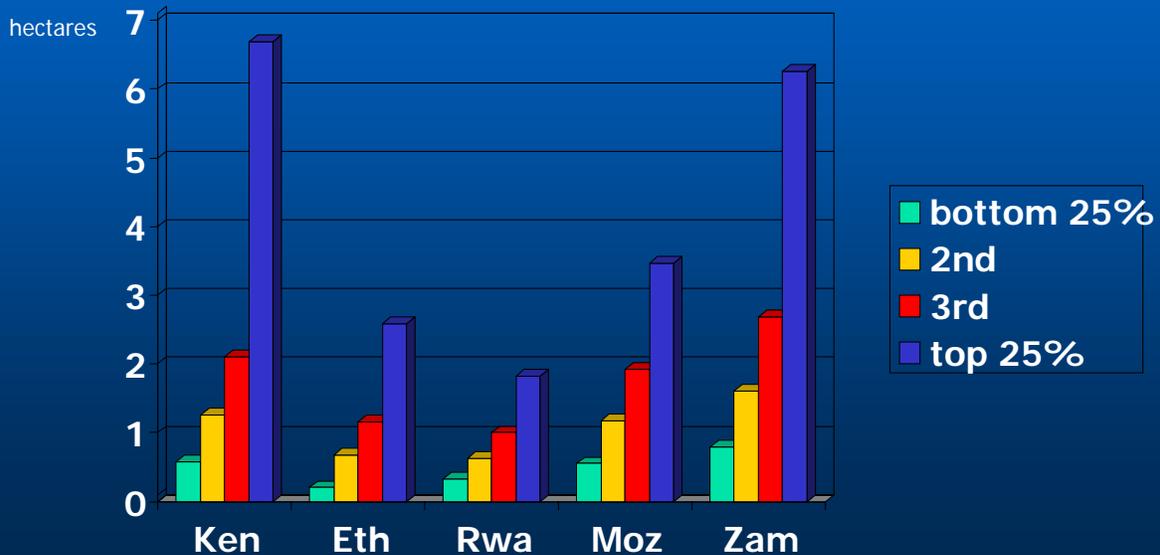
Population density & infrastructure density

- Irrigation density 1/5 of that of India in 1961
- Road density < 1/3 of that of India in 1961
- Major implications for technologies, markets, and capital mobilization

A few key structural differences

- Landlocked
 - Localization of poverty
 - High transport costs →
 - Marketing costs as important as production costs
 - Prices more volatile than in coastal areas
- Economies are much more open now than in the 1960s

Diversity of smallholders: Small farm sector



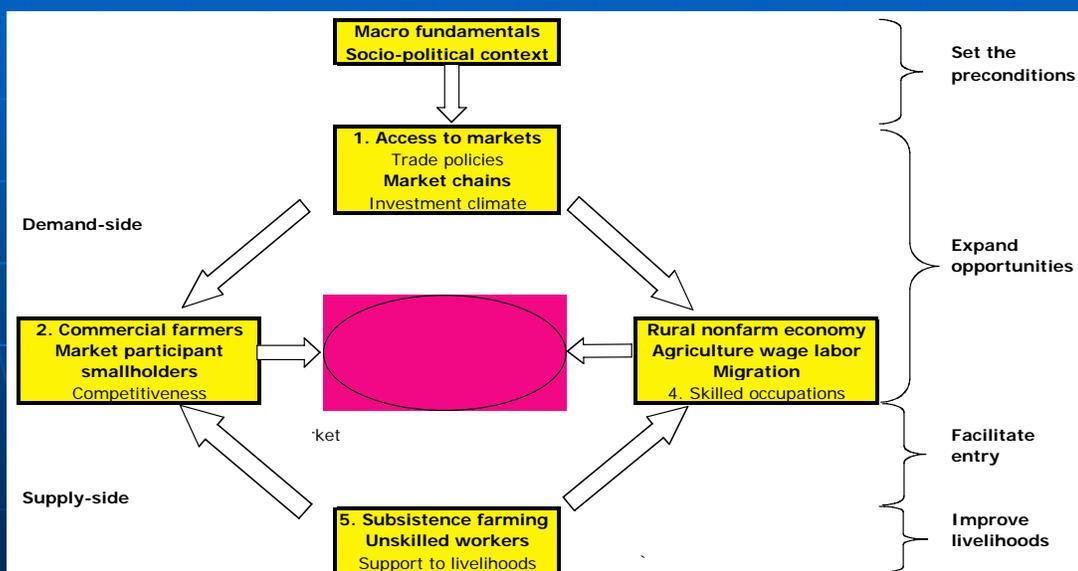
Diversity of smallholders

- A minority of smallholders will be able to “farm their way out of poverty”
- Poorer smallholders involved in different livelihoods than better-off neighbors

Diversity of smallholders

- Therefore:
 - The *indirect* impacts of agricultural growth become extremely important for poverty reduction
 - Need complementary investments (e.g., in education, labor & land market improvements) to help the most resource-constrained move out of poverty agriculture
- Good news: poorest are often neighbors to better off, strengthening potential linkages

Five dimensions of an agriculture-for development strategy



Source: de Janvry, background document for WDR 2008

Implications for an agriculture-for-development strategy

- ***Strategic investments but no silver bullets***
- ***Ag Technology:*** Different technological needs for different types of smallholders
 - One group needs technology to spur growth; the other needs to stabilize consumption while investing to eventually exit agriculture.
 - Need to focus on both
 - E.g., yield stabilization vs. yield growth
 - Different mix of crops and livestock
 - Value chains vs. making rural food markets work better

Implications for an agriculture-for-development strategy

- Tailoring farmer support services to more diverse needs
 - Much interest in developing more demand-driven extension, but whose demands? Does one size fit all?
- Strengthening links between research and extension
 - Extension has traditionally had weak links to research and higher education
 - How to link these 3 elements without necessarily replicating the land-grant model?

Implications for an agriculture-for-development strategy

- ***Making markets work better:***
 - Outputs
 - Inputs
 - Factors
 - Labor
- ***Complementary investments*** to increase labor mobility, including intergenerationally
 - Rural education
 - Easing migration and remittances

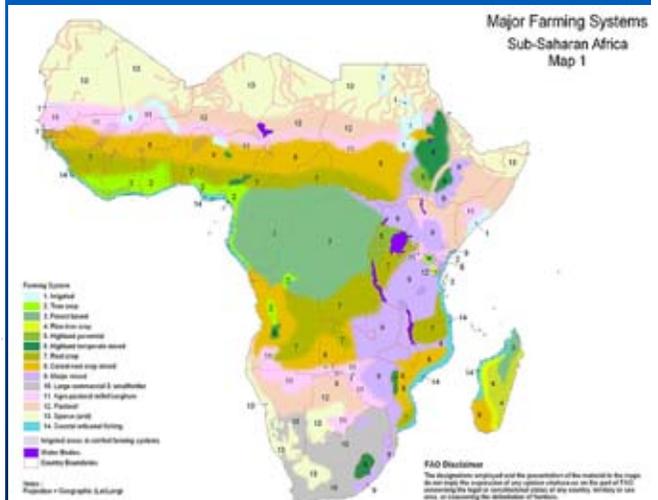
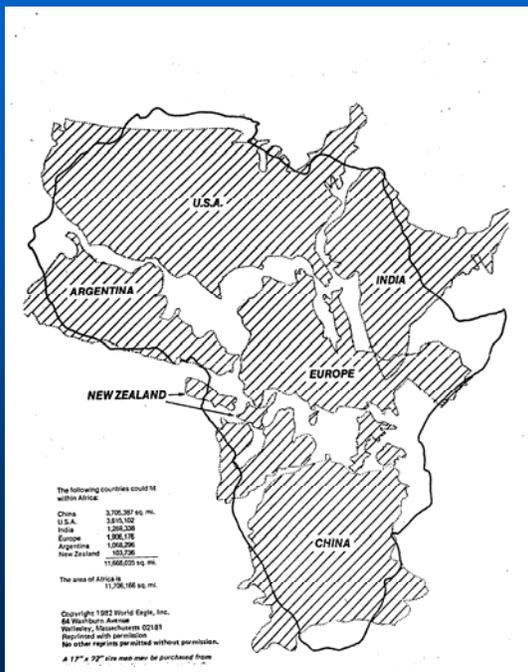
Making rural institutions work better

- ***Hard & soft infrastructure:***
 - Roads; water management; rural electrification
 - Improved policy & market information: Strengthening local capacity is critical

Thank you very much!

Africa's size & diversity

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Infrastructure Density ^{*}

- % arable land irrigated
 - India, 1961: 15.8%
 - Dev. Asia, 1961: 21.5%
 - SSA, 2003: 3.5%
 - Cost of increasing Africa's irrigation to India's in 1961: at least \$114 billion
- Road density:
 - India, 1950: 730 km/1000 km²
 - SSA, 2003: 201 km/1000 km²