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The U.S. Government's Global Hunger & Food Security Initiative



## Agrifood System Transformation in Africa and Asia: Implications for Poverty and Food Security



# Agrifood System Transformation in Africa and Asia: Implications for Poverty and Food Security

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Presentation at The Economics of Global Poverty Conference,  
Gordon College  
6 January 2015

# Objectives of paper

Given that:

- Ending hunger and reducing poverty are closely related objectives; and
- Agrifood systems are an important part of the economies where most of the poor live
- Develop a conceptual framework to explore how AFS dynamics affect the poor
- Formulate hypotheses and identify empirical gaps to guide food security policy research

# Agrifood System Definition

*“the set of value chains from inputs to farming to post-farmgate segments including processing and distribution”*

## Why AFS?

- Poor can interact with AFS as consumers, suppliers, or as labor
- Changes in one part of the AFS can have important implications for poor in another

# How are AFS related to poverty?

$$rwage \geq povline$$

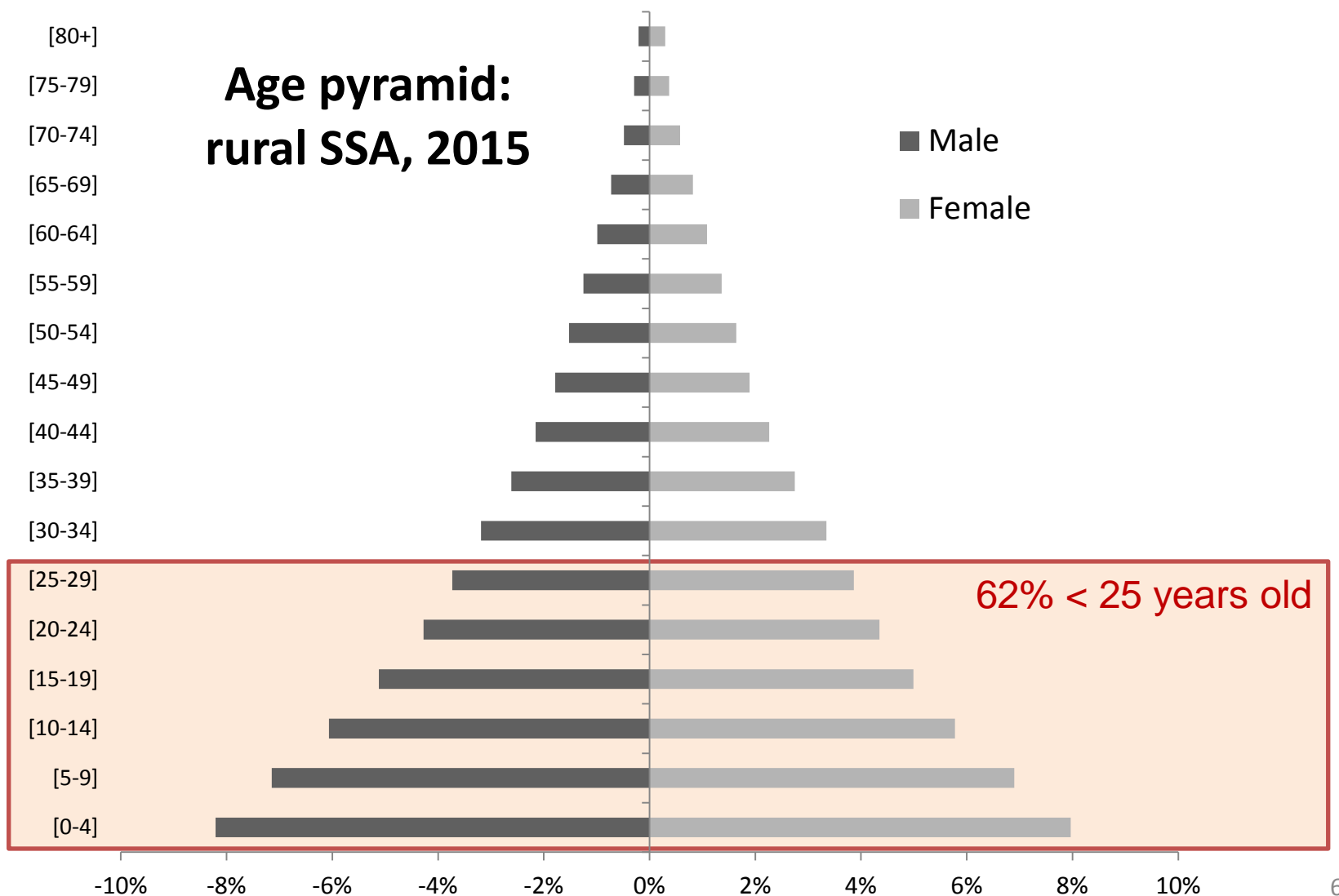
where:

$$rwage = \frac{E(nwage)}{(npfood * sfood) + (npnonfood * snonfood)}$$

Variable definitions:

- *rwage*: real wage
- *povline*: poverty line
- $E(nwage)$ : expected value of nominal wage (*nwage*)
- *npfood*: nominal food basket price
- *sfood*: expenditure share of food
- *npnonfood*: nominal non-food basket price
- *snonfood*: expenditure share of nonfood
- $sfood + snonfood = 1$

# Importance of employment dimension of AFS for Africa



# Unpacking AFS

- Urbanization and diet change
- Post-farm supply chain restructuring
- Rural factor markets and rural non-farm employment
- Farm level intensification

Descriptive analysis -> hypotheses:

- Degree of urbanization and income growth in Africa over past ten years has unleashed new dynamics
- Changes taking place at multiple levels in AFS simultaneously

Asian experience can inform hypotheses, but can we expect similar patterns?

# Urbanization and diet change

- Africa is urbanizing very rapidly
    - 30 – 40% of pop in Eastern and southern Africa (comparable to South Asia)
    - 50% of pop in West Africa (comparable to Southeast Asia)
  - Mean per capita incomes doubled over past ten years
  - Rapid diversification in types and forms of food consumption
    - 50 – 80% non-staple share of food consumption (dairy, fruit and vegetables, poultry, fish)
    - Rapid increase in share of processed food (even in \$1 - \$2 per day income category)
- > poor are increasingly dependent on market and hence employment dimension of AFS very important



# Employment patterns (million jobs)

SECTOR	RURAL	URBAN	TOTAL
<b>AFS</b>	73.0	8.4	81.0
<b>Non-AFS</b>	11.0	6.1	17.1

- Tschirley et al (forthcoming) LSMS data for 6 countries in Eastern and Southern Africa (Ethiopia, Uganda, Tanzania, Mozambique, Malawi, Zambia)

# AFS Employment patterns

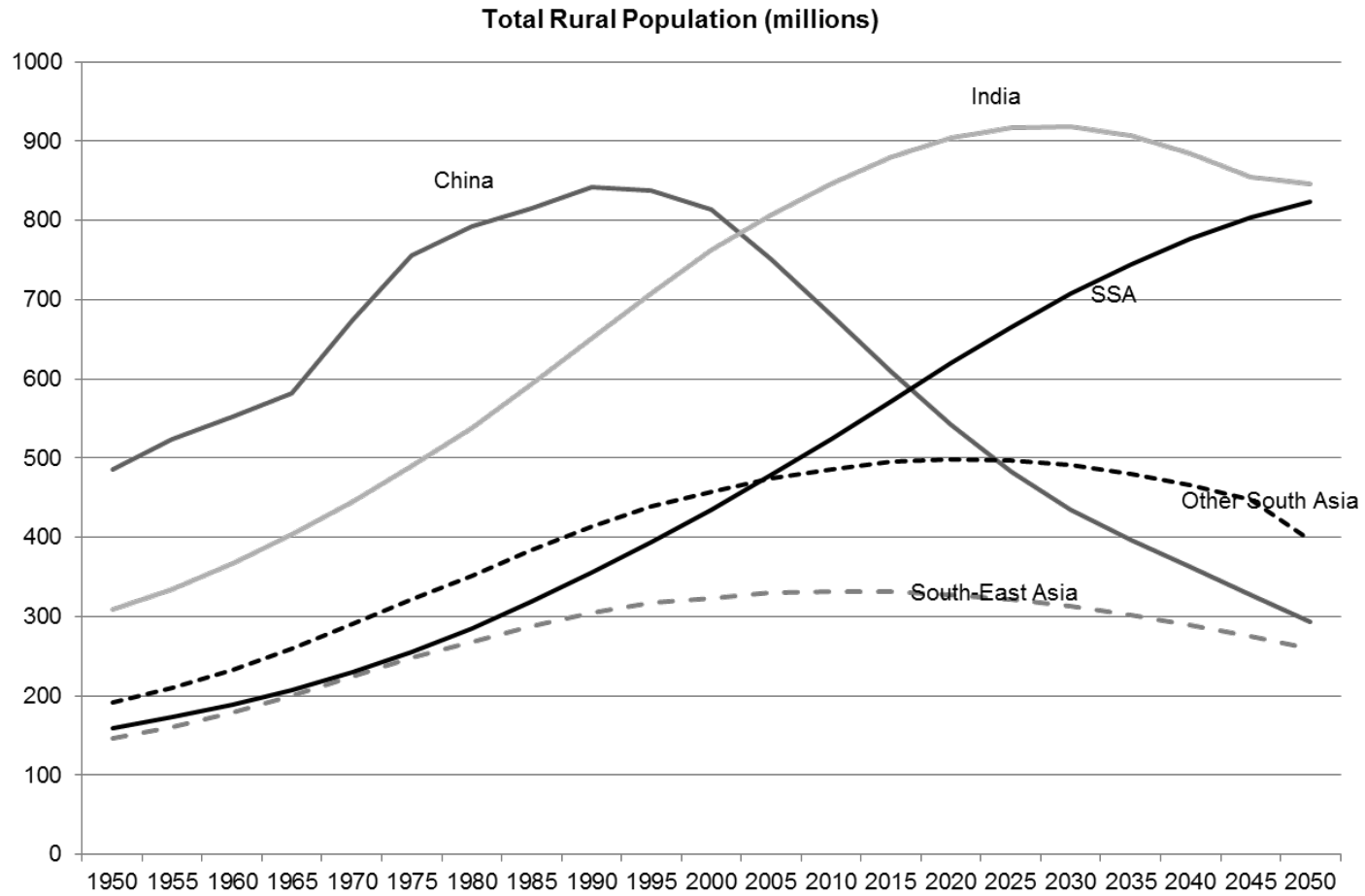
TYPE	RURAL	URBAN
OWN FARMING	82%	57%
FARM EMPLOY	12%	8%
NON-FARM EMPLOY	7%	35%
TOTAL	100%	100%

# The rise of processed foods

*Projected market growth, 2010-2040  
(estimated purchased food budget share, 2040)*

	<b>Unprocessed</b>	<b>Processed, Low Value Added</b>	<b>Processed, High Value Added</b>
<b>Non- perishable</b>	<b>4x (8%)</b>	<b>5.5X (17%)</b>	<b>7X (23%)</b>
<b>Perishable</b>	<b>6.5X (20%)</b>	<b>8X (18%)</b>	<b>10X (15%)</b>

# Future rural employment patterns in Africa?



Source: UN Population Council 2013

# Changing pattern of farm size in Africa

	Large scale	Medium-scale (5-100 ha)	Small-scale (0-5 ha)	Total land controlled	Potentially available cropland remaining
	Millions of hectares				
Ghana	3.08	4.21	5.08	= 12.37	3.56
Kenya	0.69	0.84	2.63	= 4.16	1.01
Zambia	2.11	2.47	2.09	= 6.67	3.35

Source: Jayne et al. 2014 JIA

# Research agenda for AFS dynamics and the poor (illustrative)

- How will urbanization and diet change affecting employment opportunities and food security?
  - Different patterns of urbanization
- What patterns of farm intensification will emerge where?
  - Geographical poverty traps
  - Access for smallholders (e.g., irrigation)
- How will emergence of mid-sized farms affect smallholder sector?
  - Competition for land resources
  - Employment opportunities
  - Technology spillovers (direct and indirect)
- What skillsets do the poor need to participate in AFS opportunities?

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