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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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?

\[
\text{rwage} \geq \text{povline}
\]

where:

\[
\text{rwage} = \frac{E(nwage)}{(npfood \cdot sfood) + (npnonfood \cdot snonfood)}
\]

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

Age pyramid: rural SSA, 2015

62% < 25 years old
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)

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>RURAL</th>
<th>URBAN</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFS</td>
<td>73.0</td>
<td>8.4</td>
<td>81.0</td>
</tr>
<tr>
<td>Non-AFS</td>
<td>11.0</td>
<td>6.1</td>
<td>17.1</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>TYPE</th>
<th>RURAL</th>
<th>URBAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>OWN FARMING</td>
<td>82%</td>
<td>57%</td>
</tr>
<tr>
<td>FARM EMPLOY</td>
<td>12%</td>
<td>8%</td>
</tr>
<tr>
<td>NON-FARM EMPLOY</td>
<td>7%</td>
<td>35%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
## The rise of processed foods

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

<table>
<thead>
<tr>
<th></th>
<th>Unprocessed</th>
<th>Processed, Low Value Added</th>
<th>Processed, High Value Added</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-perishable</strong></td>
<td>4x (8%)</td>
<td>5.5X (17%)</td>
<td>7X (23%)</td>
</tr>
<tr>
<td><strong>Perishable</strong></td>
<td>6.5X (20%)</td>
<td>8X (18%)</td>
<td>10X (15%)</td>
</tr>
</tbody>
</table>
Future rural employment patterns in Africa?

Source: UN Population Council 2013
## Changing pattern of farm size in Africa

<table>
<thead>
<tr>
<th></th>
<th>Large scale</th>
<th>Medium-scale (5-100 ha)</th>
<th>Small-scale (0-5 ha)</th>
<th>Total land controlled</th>
<th>Potentially available cropland remaining</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ghana</strong></td>
<td>3.08</td>
<td>4.21</td>
<td>5.08</td>
<td>= 12.37</td>
<td>3.56</td>
</tr>
<tr>
<td><strong>Kenya</strong></td>
<td>0.69</td>
<td>0.84</td>
<td>2.63</td>
<td>= 4.16</td>
<td>1.01</td>
</tr>
<tr>
<td><strong>Zambia</strong></td>
<td>2.11</td>
<td>2.47</td>
<td>2.09</td>
<td>= 6.67</td>
<td>3.35</td>
</tr>
</tbody>
</table>

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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