Integrating Food and Nutrition Security into Economic Transformation and Industrialization Agenda: How can agriculture be the driver rather than follower of economic transformation in Tanzania?

New Dodoma Hotel, Dodoma

14th - 16th February, 2018
The Changing Farm Structure in Africa: Causes, Consequences and Policy Implications

Acknowledgements: The work highlighted here is jointly funded through the generous support of the American people through the United States Agency for International Development (USAID) under the Food Security Policy Innovation Lab and by the Bill and Melinda Gates Foundation under the Guiding Investments in Sustainable Agricultural Intensification Grant to MSU.
Outline

1. Document how rapidly farm structure is changing
2. Characteristics of MS farmers
3. Causes
4. Consequences
5. Policy implications
Outline

1. Document how rapidly farm structure is changing
2. Characteristics of MS farmers
3. Causes
4. Consequences
5. Policy implications
## Changes in farm structure in Tanzania (2008-2012)

<table>
<thead>
<tr>
<th>Farm size</th>
<th>Number of households (% of total)</th>
<th>% growth in number of farms between initial and latest year</th>
<th>% of total operated land on farms between 0-100 ha</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>0 – 5 ha</td>
<td>5,454,961 (93%)</td>
<td>6,151,035 (91%)</td>
<td>12.8</td>
</tr>
<tr>
<td>5 – 10 ha</td>
<td>300,511 (5%)</td>
<td>406,947 (6%)</td>
<td>35.4</td>
</tr>
<tr>
<td>10 – 20 ha</td>
<td>77,668 (1%)</td>
<td>109,960 (2%)</td>
<td>41.6</td>
</tr>
<tr>
<td>20 – 100 ha</td>
<td>45,700 (1%)</td>
<td>64,588 (1%)</td>
<td>41.3</td>
</tr>
<tr>
<td>Total</td>
<td>5,878,840 (100%)</td>
<td>6,732,530 (100%)</td>
<td>14.5</td>
</tr>
</tbody>
</table>

Source: LSMS/National Panel Surveys
Changes in farm size distributions: Summary

1. Number of small farms growing slowly
2. Share of area under small farms declining
3. Number of medium-scale farms growing rapidly
4. Share of area under medium-scale growing, and currently over 40% of farm holdings (> 25% of cultivated area)
Outline

1. Document how rapidly farm structure is changing

2. Characteristics of MS farmers

3. Causes

4. Consequences

5. Policy implications
Rise of the medium-scale farmers

Pathways into medium-scale farming:

- Smallholders gradually transitioning to large-scale farming - Farm-led entry
- Land acquisition using savings from non-farm employment - Non-farm-led (lateral) entry

Who are the medium-scale farmers?

- Characteristics of MS farmers
Three sub-categories of medium scale farmers (Kenya, Zambia, Ghana)
Three sub-categories of medium scale farmers: Kenya, Zambia, Ghana

- "Elite rural based": 35%
- Successful smallholder farmers via farm expansion: 5%
Three sub-categories of medium scale farmers: Kenya, Zambia, Ghana

- "Elite urban based": 60% 
- "Elite rural based": 35% 
- Successful smallholder farmers via farm expansion: 5%
% of National Landholdings held by Urban Households

- Ghana: 26.8%
- Kenya: 22.0%
- Malawi: 11.2%
- Rwanda: 18.3%
- Tanzania: 32.7%
- Zambia: 22.0%

Source: DHS, various years between 2004-2014
Outline

1. Document how rapidly farm structure is changing
2. Characteristics of MS farmers
3. Causes
4. Consequences
5. Policy implications
Causes of changing farm size distributions

1. Rise in world food prices – heightened investor interest in farmland

2. Elite capture- urban-farmer and farmer lobbies capture of land and agricultural policies

3. Rapid population growth
   • Increased competition of land resource- skyrocketing land prices
   • Fragmentation/subdivision in areas of favorable market access

4. Rise of new towns converting formerly remote land into valued property
Sub-Saharan Africa: only region of world where rural population continues to rise past 2050

Total Rural Population (millions)

Source: UN (2013)
Outline

1. Document how rapidly farm structure is changing
2. Characteristics of MS farmers
3. Causes
4. Consequences
5. Policy implications
Consequences of changing farm size distributions (+)

1. More use of capital and labor-saving forms of agricultural production
   - Rising use of mechanization e.g. tractor use
   - Possible spillovers from medium-scale farms to smallholders → inputs and output

2. Vent-for-surplus [e.g. Tanzania, Zambia]
   - Medium-scale farm contributing a large share of agricultural output
   - Sell to large-scale traders → reduced transaction costs → higher prices
   - Increased agricultural output>> growth multipliers to agro-processing

3. Productivity differences between small- and medium-scale farms – limited evidence
   - But reasons to believe that capitalized and educated farmers will be more efficient
Nominal value of tractor imports to sub-Saharan Africa (excluding South Africa), 2001-2015

Source: vanderWesthuisen, forthcoming

Source: vanderWesthuisen, forthcoming

Value of Imports: US$ Thousand

Ghana
Nigeria
Kenya
Tanzania
Zambia
Linear (Tanzania)
Consequences of changing farm size distributions (-)

4. Enclosure
   - Elite use control of state processes to appropriate public and community lands for private benefit
   - Growing land scarcity driven by middle/high income urban people seeking to acquire land

6. Rising inequality of farmland distribution
   - Are medium-scale farms expanding onto new land or displacing smallholders?
   - Rising land prices → straining smallholders, women and youth access to land

7. Is mechanization displacing agricultural employment?
   - Limited non-farm employment opportunities
   - Push factors-led rural to urban out-migration
Output and Factor Price Indices: Northern Tanzania

Source: vanderWesthuisen, forthcoming
Output and Factor Price Indices: Western Tanzania

Source: Divan et al (Forthcoming)
### Inequality: GINI coefficients in farm landholding

<table>
<thead>
<tr>
<th>Country (Type)</th>
<th>Period</th>
<th>Movement in Gini coefficient:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana (cult. area) (GLSS)</td>
<td>1992 → 2013</td>
<td>0.54 → 0.70</td>
</tr>
<tr>
<td>Kenya (cult. area) (KIHBS)</td>
<td>1994 → 2006</td>
<td>0.51 → 0.55</td>
</tr>
<tr>
<td>Tanzania (landholdings) (LSMS)</td>
<td>2008 → 2012</td>
<td>0.63 → 0.69</td>
</tr>
<tr>
<td>Tanzania (area controlled) (ASCS)</td>
<td>2008</td>
<td>0.89</td>
</tr>
<tr>
<td>Zambia (landholding) (CFS)</td>
<td>2001 → 2012</td>
<td>0.42 → 0.49</td>
</tr>
</tbody>
</table>

**Source:** Jayne et al. 2014 (JIA)
Outline

1. Document how rapidly farm structure is changing
2. Characteristics of MS farmers
3. Causes
4. Consequences
5. Policy implications
Implications for policy

1. The “transition” issue is still alive in sub-Saharan Africa
   - How to transform African economies from current situation to more diversified and productive economy

2. Agricultural productivity growth will STILL be the cornerstone of any inclusive economic development and improved livelihoods:
   - Ag. productivity will influence the pace of growth in non-farm jobs (multiplier effects)
   - Ag. productivity will influence pace of labor force exit out of farming
   - Ag. productivity will influence labor productivity in broader economy

3. Multiplier effects may be much weaker when agricultural land is concentrated among medium-scale farms
Strategic policies to increase ag. productivity

1. Invest in R&D and institutional capacity building to generate new knowledge
2. Develop robust and effective extension systems to facilitate access to productivity enhancing technologies
3. Improve coverage and quality of physical infrastructure (energy, road, communication, etc.)
4. Facilitate access to productivity enhancing inputs (e.g. fertilizer), markets, and resources (e.g. land, finance, etc.)
5. Develop youth-centered programs to make farming profitable for young people
   - Distinguish between “trying to keep youth in agriculture” vs. “giving youth viable choices”
   - Promote mentoring by successful farmers (youth mentors)
6. Provide stronger land rights for women
Three categories of activities that promote structural transformation

1. Actions that the private sector will undertake on its own
   • Example: distribution of inputs to areas where demand is strong

2. Actions that the private sector will undertake if governments create a favorable ‘enabling environment’
   • Example: distribution of inputs to areas where demand would be strong with improved road, port, communications infrastructure

3. Actions that the private sector will not do under most circumstances and that governments must do
   • Example: Infrastructure, education, R&D, extension services
Tomorrow belongs to people who prepare for it today

--African Proverb--

Source: Traub, Lulama et al. (2017)