Megatrends and the Future of African Economies

Lulama Ndibongo Traub, T.S. Jayne, Felix K. Yeboah, and Ferdinand Meyer

Presentation at the ReSAKSS Annual Conference
Addis Ababa, Ethiopia
September 2\textsuperscript{nd}, 2015
Africa’s Past

TIME

AFRICA’S WOES

January 16, 1984

$1.75

BUSY SIGNALS
Life Without Mr. Ball

Coups, Conflict
And Corruption

The Agony of
Africa

AFTER THE
HURRICANE
What did we do?

• **2000:** Millennium Development Goals (MDG)
  • *Target:* eradication of extreme poverty and hunger by 2015

• **2003:** Comprehensive Africa Agriculture Development Program (CAADP)
  • *Target:* agricultural led development strategy

• **2003:** Maputo Declaration
  • *Target:* 6% annual average growth rate in agricultural sector
  • *Target:* Commitment to invest 10% of total national budget on Agriculture.

• **2006:** Abuja Declaration
  • *Target:* increase fertilizer use from 8 kg/ha to 50 kg/ha

• **2014:** Malabo Declaration
  • *Target:* double Agricultural productivity by 2025
  • *Target:* halve post-harvest losses
  • *Target:* reduce stunting and underweight to 10% and 5%; respectively
Africa’s Present

Inside This Week: Technology Quarterly

The Economist

December 3rd-9th 2011

Africa Rising

President Newt? Brace yourselves
Britain’s coming recession
Why India needs Walmart
France tries to stay AAA
The science of ethical foie gras

Epicurean

Newsweek

Europe’s Choice
The Death of Human Rights

March 1, 2010

Africa: The New India

How an Economic Explosion is Transforming the Continent
Tomorrow belongs to the people who prepare for it today
– African Proverb
Our Objectives are to

1. Identify the megatrends shaping the regions economic, political and social landscape

2. Classify the megatrends
   - The relative impact on the African food system
   - The degree to which the direction and/or force can be influenced through policy action
Six Megatrends

- Trend #1: Global food & energy prices
- Trend #2: Scramble for Africa’s land
- Trend #3: Land degradation
- Trend #4: Youth bulge & employment
- Trend #5: Income growth & distribution
- Trend #6: Greater Climate Variability
Trend #1

Global Food and Energy Prices
Trend #1: Global Food & Energy Prices

- Factors driving future food prices
  - Energy prices
  - Population growth
  - Rising income in BRICS
  - Slowing grain productivity in major grain breadbasket regions of the world (Grassini, 2013 and Cassman, 2010)
  - Growing scarcity in productive resources (land & water) in Asia
  - Rising costs of bringing land under cultivation (Chamberlin et. al., 2014)
Trend #2

Scramble for Africa’s Land: Changing Land Ownership Patterns
Nine countries contain 90% of Africa’s unutilized arable land

<table>
<thead>
<tr>
<th></th>
<th>Non-forested unutilized land¹ (million ha)</th>
<th>Proportion</th>
<th>Cumulative Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRC</td>
<td>84.8</td>
<td>46.5%</td>
<td>46.5%</td>
</tr>
<tr>
<td>Angola</td>
<td>18.9</td>
<td>10.4%</td>
<td>56.9%</td>
</tr>
<tr>
<td>Congo</td>
<td>12.9</td>
<td>7.1%</td>
<td>63.9%</td>
</tr>
<tr>
<td>Zambia</td>
<td>10.8</td>
<td>5.9%</td>
<td>69.9%</td>
</tr>
<tr>
<td>Cameroon</td>
<td>10.5</td>
<td>5.7%</td>
<td>75.6%</td>
</tr>
<tr>
<td>Mozambique</td>
<td>9.0</td>
<td>4.9%</td>
<td>80.5%</td>
</tr>
<tr>
<td>CAR</td>
<td>7.1</td>
<td>3.9%</td>
<td>84.4%</td>
</tr>
<tr>
<td>Gabon</td>
<td>6.5</td>
<td>3.6%</td>
<td>88.0%</td>
</tr>
<tr>
<td>Sudan</td>
<td>5.8</td>
<td>3.2%</td>
<td>91.2%</td>
</tr>
<tr>
<td>Rest of Africa (n=45)</td>
<td></td>
<td><strong>8.8%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
Trend # 2: Large-scale Land Acquisitions

- **East**: 53%
  - Intended: 2,000,000
  - Concluded: 4,000,000
  - Failed: 6,000,000

- **West**: 30%
  - Intended: 1,000,000
  - Concluded: 2,000,000
  - Failed: 3,000,000

- **Southern**: 17%
  - Intended: 1,000,000
  - Concluded: 2,000,000
  - Failed: 3,000,000

- **Central**: 30%
  - Intended: 1,000,000
  - Concluded: 2,000,000
  - Failed: 3,000,000

- **North**: 17%
  - Intended: 1,000,000
  - Concluded: 2,000,000
  - Failed: 3,000,000

Source: Land Matrix, 2013
Trend #2: Land Acquisitions

<table>
<thead>
<tr>
<th>Country</th>
<th>Land Owned (millions of ha)</th>
<th>Remaining PAC (millions of ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana</td>
<td>4.0</td>
<td>3.5</td>
</tr>
<tr>
<td>Kenya</td>
<td>2.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Zambia</td>
<td>3.0</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Dimensions:
- Large scale (>100ha)
- Medium-scale (5-100 ha)
- Small-scale (0-5 ha)
Trend #2: Scramble for Africa’s arable land

• Anticipate
  o Demise of customary tenure systems and rise of land markets
  o Rising land prices
  o Increased concentration of farmland
  o Increasing land scarcity for rural-born Africans
### Evidence of medium-scale farmers

<table>
<thead>
<tr>
<th></th>
<th>Number of farms</th>
<th>% growth in number of farms</th>
<th>% of total cultivated area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Zambia</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 – 2 ha</td>
<td>638,118</td>
<td>748,771</td>
<td>17.3</td>
</tr>
<tr>
<td></td>
<td>17.3</td>
<td>34.1</td>
<td></td>
</tr>
<tr>
<td>2 – 5 ha</td>
<td>159,039</td>
<td>418,544</td>
<td>163.2</td>
</tr>
<tr>
<td></td>
<td>45</td>
<td>31.7</td>
<td></td>
</tr>
<tr>
<td>5 – 10 ha</td>
<td>20,832</td>
<td>165,129</td>
<td>692.6</td>
</tr>
<tr>
<td></td>
<td>14.3</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>10 – 20 ha</td>
<td>2,352</td>
<td>53,454</td>
<td>2272.7</td>
</tr>
<tr>
<td></td>
<td>6.6</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>20 – 100 ha</td>
<td>--</td>
<td>13,839</td>
<td>53.3**</td>
</tr>
<tr>
<td></td>
<td>--</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>820,341</td>
<td>1,399,737</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Zambia MoA Crop Forecast
Categories of “emergent” farmers

**Type 1A: Investor Farmer**

<table>
<thead>
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<th>Mode of entry into medium-scale farming status</th>
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<td>---------- Kenya ---------</td>
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<tr>
<td>(n=164)</td>
<td>(n=180)</td>
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- % of cases: 58 | 60
- % men: 91.4 **|** 80
- Year of birth: 1960 | 1947
- Years of education of head: 11 | 12.7
- Have held a job other than as a farmer (%): 100 | 83.3
- Formerly or currently employed by the public sector (%): 59.6 | 56.7
- Initial landholding size when started farming (ha): 106.6 | 22.6
- Current landholding size (ha): 74.9 | 50.1
- % of land currently under cultivation: 24.7 | 46.6
- Decade when land was acquired:
  - 1969 or earlier: 1.1 | 6
  - 1970-79: 5.1 | 18
  - 1980-89: 7.4 | 20
  - 1990-99: 23.8 | 32
  - 2000 or later: 63.4 | 25

Source: MSU, UP, and ReNAPRI Retrospective Life History Surveys, 2015
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Source: MSU, UP, and ReNAPRI Retrospective Life History Surveys, 2015
Trend #3

Land degradation in smallholder farming areas
Trend #3: Rising Land Scarcity

Panel A: Total Rural Population (millions)

Source: UN 2013
Trend #3: Land degradation

Population growth

Land pressure / incentives to intensify

Deficiencies in SOC & Micronutrients / acidification

Reduced fallows / increased fertilizer use

Low crop response rates to N
Variation in farmers’ efficiency of fertilizer use on maize, Agro-ecological Zone IIa, Zambia

Source: XX, (2013)
Trend #4

The “Youth Bulge” & Employment
Trend #4: Youth Bulge & Employment

Age pyramid: rural SSA, 2015

62% < 25 years old

Source: United Nations, Department of Economic and Social Affairs, Population Division (2013).
Trend #4: Youth Bulge & Employment

**Implications**

- Between now and 2025 over 330 million young people will be entering into the labor market
  - Under the most favorable scenario, the urban and non-farm sectors will be able to absorb roughly 200 million of the youth into gainful wage employment
- Most Africans will be engaged in primary Agriculture over the next 15-20 years.
Trend #4: Youth Bulge & Employment

China

Source: Groningen Global Development Centre, 2013
Trend #4: Youth Bulge & Employment

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Source: Groningen Global Development Centre, 2013
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Source: Groningen Global Development Centre, 2013
Trend #4: Youth Bulge & Employment

Ghana

Total persons employed (in thousands)

Year


0 1000 2000 3000 4000

Agriculture
Manufacturing
Business/trade
Mining
Public sector
Others

Source: Groningen Global Development Centre, 2013
Trend #4: Youth Bulge & Employment

Source: Groningen Global Development Centre, 2013
Trend # 4: Jobs by sector, Sub-Saharan Africa

Source: World Bank (Filmer and Fox), 2014
Trend #5

Income Growth and Distribution
Megatrend #5: income growth and distribution

GDP per capita (constant 2005 USD)

Trend #5: Rising Income but skewed distribution

Source: World Bank Development Indicators, 2015
Non-SSA Countries’ share of High-value products imported by SSA

Source: ITC Trade Map, 2014
Net Grain Exports for Southern Africa

Net Export for Southern African (without South Africa)

- Maize
- Wheat
- Rice
- Total Net Export

Source: FAO, 2015
Net Grain Exports for East Africa

Source: FAO, 2015

![Graph showing net exports for Maize, Wheat, Rice, and Total Net Export from 1980 to 2010.](Image)

- **Maize**
- **Wheat**
- **Rice**
- **Total Net Export**

Source: FAO, 2015
Net Grain Exports for West Africa

Source: FAO, 2015

Net Export for Western Africa

Year

Maize
Wheat
Rice
Total Net Export

Millions of Tonnes

Source: FAO, 2015
Production in Africa

High-Value Commodity Production and Consumption Change (2011/13 to 2023)

- Beef
- Poultry
- Dairy
- Sugar
- Vegetable
- Oil

Cereal Production and Consumption Change (2011/13 to 2023)

- Coarse Grains
- Rice
- Wheat
Production in Latin America

**High-Value Commodity Production and Consumption Change (2011/13 to 2023)**

- Beef
- Poultry
- Dairy
- Vegetable
- Oil
- Sugar

**Cereal Production and Consumption Change (2011/13 to 2023)**

- Coarse Grains
- Rice
- Wheat
Trend #6

Climate Variability
Trend #6: Climate Change

• Precise impact of Climate Change will vary across the global but two predictions are (Schlenker and Lobell, 2010);
  o Greater variability
  o Possible decline in productivity
Trend #6: Climate Change

- Agricultural productivity
  - Developed World
    - 31% of total wheat, rice and maize production has reached a yield plateau or experienced an abrupt decline in yield growth rates (Grassini, 2013)
  - Africa
    - Relatively low yield levels → growth potential in grain production before reaching the regions bio-physical limits
    - Implies the growing importance of the continent to as a source for food to meet global demand
Trend #6: Climate Change

• Africa production potential
  o Expansion
    • At the cost of last remaining ecosystems
  o Intensification
    • Require minimizing the constraints to appropriate technology adoption (e.g. water saving technology)
    • Evidence of rising mechanization among medium-scale farmers
Correlation between district medium-scale landholdings and measures of tractor use, northern/central Ghana
Recap: Six Megatrends

- Trend #1: Global food & energy prices
- Trend #2: Scramble for Africa’s land
- Trend #3: Land degradation
- Trend #4: Youth bulge & employment
- Trend #5: Income growth & distribution
- Trend #6: Greater Climate Variability
Thank You