Wheat consumption in sub-Saharan Africa: Trends, drivers, and implications for food security and policy

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Wheat consumption in SSA ↑ rapidly

- 2000-09: 650,000 MT/year (4.2%)

Source: FAOSTAT Commodity & Population databases

Per capita consumption, SSA

- Wheat
- Maize
- Rice (milled equivalent)
Growing structural deficit - 3 main staples

Net exports, SSA

Source: FAOSTAT Trade database

Rising importance of wheat in SSA staple food diets → possible dilemma

- A major pathway for broad-based economic growth is structural transformation; key part is rural-urban synergies

- BUT, urban consumers’ demand for wheat met mainly by imports or production from large-scale commercial farms (excl. Ethiopia)
  - Minimal rural/urban synergies
OUTLINE

1. Introduction
2. Trends in net imports & food consumption – key differences across regions
3. Expenditures on wheat vs. other staples
4. What is driving rising demand for wheat?
5. Conclusions & policy implications

The “big 5”: 53% of wheat net imports

- 5 countries – most of SSA wheat imports (2000-09)
  1. Nigeria (23.0%)
  2. Sudan (10.7%)
  3. Ethiopia (8.2%)
  4. South Africa (6.6%)
  5. Kenya (4.9%)
- Source wheat mainly from US (34%), Argentina (15%), Australia (8%)
  - Severe droughts, ↑ wheat prices
- 64% of total consumption
- 44% of population

Source wheat mainly from US (34%), Argentina (15%), Australia (8%)
- Severe droughts, ↑ wheat prices
Trends in wheat consumption

- P.c. consumption ↑ except in South & North Africa

Sources: FAOSTAT Commodity Balances & Population databases

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Supplies of main staple grains ↑ faster than population since early 1990s

- P.c. wheat & rice consumption ↑
- Marginal ↓, if any, in p.c. maize consumption (↑ in West Africa)

➤ Good news for food security (availability)
  - Wheat playing important role

Wheat becoming #1 staple in many places in SSA

- Lusaka, Zambia – 2007/08

Source: Mason & Jayne (2009)
Wheat becoming #1 staple in many places in SSA

- Lusaka, Zambia – 2007/08

Similar patterns:
  Kitwe, Zambia
  Nairobi, Kenya
  Maputo, Mozambique

Wheat dominates (slightly) among rural non-poor in Ethiopia

- 2004/05

Source: Mason & Jayne (2009)
Source: Berhane et al. (2011)
Wheat expenditure shares in ESA: general patterns (excl. Ethiopia)

- Non-poor > poor
- Urban > rural

Potential drivers of rising wheat demand

1. \(\downarrow\) wheat prices relative to other staples
2. \(\uparrow\) incomes
3. Population growth
4. Urbanization
5. \(\uparrow\) opportunity cost of time, esp. women
6. Food aid
wheat prices relative to other staples?

- Trends in price ratios – world & retail 9 countries

Source: IMF, Primary Commodity Prices database

Ratio of wheat price: other staple prices

- Declining: Nigeria, Kenya, Mozambique, Cameroon
- Rising: South Africa, Ethiopia, DRC, Zambia
- No significant trend: Mauritania
Rising incomes?
- p.c. GDP relative to retail wheat prices – 8 countries

Factors driving wheat consumption in SSA
- Regression analysis
- 45 countries
- 1980-2009
- Dependent variable: total wheat consumption

No significant trend in other 5 countries
Factors driving wheat consumption in SSA: key findings

- World prices: Not significant
- GDP (income): US$1 million → 1.9-4.8 MT (elasticity 0.09-0.22)
- Total population: 1,000 people → 30-50 MT
  - 670,000-1.12 million MT increase/year 2010-20
  - 770,000-1.28 million MT increase/year 2020-30
- Urbanization: Not significant
- Ratio of female-to-male labor force participation: 1 percentage point → 5,000-6,200 MT
- Food aid (1-3 year ago): 1 MT lagged food aid → 0.69 MT consumption

Conclusions & policy implications

1. SSA faces deepening staple food deficit
   - Much of gap being filled by imported wheat

2. Wheat consumption in SSA ↑ rapidly
   - ↑ population, incomes, women’s opp. cost of time
   - Imported or large-scale commercial farms (excl. Ethiopia)
   - Unlikely to generate rural-urban synergies or broad-based economic growth
Policy options for meeting domestic grain demand

A. Neutral – no tariffs, protection, taxes, etc. on imported staples
   – Large imports of wheat/rice continue
   – **Pros**
     • Food prices capped at import parity
     • Consumer sovereignty
   – **Cons**
     • Drain on foreign exchange
     • Minimal rural/urban synergies

B. Trade policy (tariffs, protection) to increase relative price of imported staples
   – **Goals**
     • Shift consumption toward domestically produced staples
     • ↑ incentives for domestic staple food production
     • ↑ rural/urban synergies
   – **Pros**
     • IF ↑ supply AND ↑ demand domestic staples → ↑ synergies
     • ↑ government revenue (tariffs)
   – **Cons**
     • IF ONLY ↑ supply OR ONLY ↑ demand → negative effects on net sellers or net buyers
     • ↑ food bills for consumers of imported staples (non-poor)
     • ↓ consumer sovereignty
Policy options for meeting domestic grain demand

C. Promote domestic production through non-distortionary measures
   - Rural infrastructure, irrigation, ag R&D, extension, market information
   - **Pros**
     - IF \( \uparrow \) supply **AND** \( \uparrow \) demand domestic staples \( \rightarrow \) \( \uparrow \) synergies
     - Investments promote agricultural growth & poverty reduction
     - Consumer sovereignty
   - **Cons**
     - IF ONLY \( \uparrow \) supply \( \rightarrow \) \( \downarrow \) prices \( \rightarrow \) negative effects on net sellers (non-poor)
     - Time lag

Policy options for meeting domestic grain demand

D. Promote value addition/processing of staples grown by smallholders to improve convenience
   - Key driver of wheat demand: \( \uparrow \) opportunity cost of time
   - \( \downarrow \) prep time, \( \uparrow \) convenience of coarse grains
   - Blending domestic staples w/ wheat flour
   - **Pros**
     - Potential for \( \uparrow \) rural/urban synergies (incl. \( \uparrow \) urban employment?)
     - Consumer sovereignty
   - **Cons**
     - Consumer demand uncertain
     - Investors willing to take risk?
Policy options for meeting domestic grain demand

- Not mutually exclusive (or exhaustive)
- Policymakers – identify objectives and weigh pros/cons for different types of HHs

Thank you! Questions?

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