Fertilizer Markets: Extending the Frontiers

By

Valerie Kelly
Department of Agricultural Economics
Michigan State University

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Road Map

- Livelihoods, markets, and fertilizer
- Why a focus on fertilizer markets?
- Dealing with the “frontier”
  - Why it is an issue
  - Different views of what the frontier is
  - How it can be extended (in theory)
  - How it is being extended (in reality)
- The Fertilizer Policy Toolkit
Livelihoods - markets - fertilizer

- Agriculture = rural livelihood in Africa
- Agricultural growth is pro-poor
- Growth requires better productivity
- Technology drives productivity growth
- Technology adoption requires markets
- Fertilizer is a proven technology

Why focus on fertilizer markets?

- Fertilizer use/ha is low and stagnant
- Nutrient depletion is high and growing
- Cereal yields are low and stagnant
- Fertilizer can improve the situation
  - Excellent potential for maize and rice
  - Fair potential for sorghum
  - Variable for export and cash crops
Why are “frontiers” an issue?

- Dissatisfaction with 20 years of reforms
- Millennium Development Goals and poverty
- Exaggerated exuberance about fertilizer
  - MD Goals
  - MD Villages
  - Fertilizer summit

What is the “frontier”?  

- Simple concepts mask complex realities
- **On the surface**: the frontier is the geographic limit of the current fertilizer supply system
- **Under the surface**: the frontier is the complex interplay of technological, economic, political, and social factors that shape fertilizer demand and supply
To extend the frontier…

- Create an enabling environment
- Stimulate commercial supply
- Stimulate effective demand

Enabling environment requires

- Finance systems that provide…
  - Credit at all levels of the system
  - Foreign exchange for importers
- Human capital development for…
  - Farmers, traders, and their organizations
  - Business and technical knowledge and skills
- Policies that...
  - Promote investment in public goods
  - Minimize uncertainty for private investors
- Regulatory mechanisms that...
  - Protect all against poor quality products
  - Protect those who follow rules from those who don’t
- Market information that informs about…
  - Input and output prices
  - Product flows
Both Demand and Supply Can Move the ‘Frontier’ Out

Emerging lessons

- A combination of market and non-market approaches is common
- Difficult to assess impacts
- Emerging lessons
  - Inter-linked input/output markets help
  - Farmer education and training is important
  - Contribution of subsidy programs not clear
  - Private sector led approach has had good results in Kenya
The Kenyan Experience

- Slow, steady growth in commercial imports and consumption 1990-2004

![Graph showing commercial imports, consumption, and donor imports from 1990 to 2004.]

The Kenyan Experience

- Increases in the kilograms of fertilizer applied per hectare for key crops

<table>
<thead>
<tr>
<th>Crop</th>
<th>1995/96</th>
<th>2003/04</th>
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<tbody>
<tr>
<td>Tea</td>
<td>326</td>
<td>387</td>
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<tr>
<td>Sugar</td>
<td>115*</td>
<td>142</td>
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<tr>
<td>Mono-crop Maize</td>
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<td>67</td>
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<tr>
<td>Inter-cropped Maize</td>
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<td>102</td>
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</tbody>
</table>

*1996/97
The Kenyan Experience

- Increase in percent of farmers using

<table>
<thead>
<tr>
<th>Region</th>
<th>1995/96</th>
<th>2003/04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal Lowlands</td>
<td>2%</td>
<td>6%</td>
</tr>
<tr>
<td>Western Lowlands</td>
<td>2%</td>
<td>8%</td>
</tr>
<tr>
<td>Marginal Rain Shadow</td>
<td>12%</td>
<td>27%</td>
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<tr>
<td>Eastern Lowlands</td>
<td>19%</td>
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<td>Western Transitional</td>
<td>29%</td>
<td>61%</td>
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<tr>
<td>Western Highlands</td>
<td>52%</td>
<td>74%</td>
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<tr>
<td>High Potential Maize</td>
<td>67%</td>
<td>90%</td>
</tr>
<tr>
<td>Central Highlands</td>
<td>63%</td>
<td>93%</td>
</tr>
</tbody>
</table>

The Kenyan Experience: Why 1

- Supportive government policy
  - Import licensing quotas eliminated
  - Price and foreign exchange controls eliminated
  - Restrictions on package size relaxed
  - No large subsidy or distribution programs

- Private sector responded
  - 3 major and 7 contributing importers
  - 500 wholesalers and 3000 to 7000 retailers
  - Farm-to-retailer distance down (8 to 4 kms)
  - Fertilizer sold in small packs (1, 5, 10 kg)
  - 60% decline in port to consumer margins
The Kenyan Experience: Why 2

- Supportive donor/NGO programs working on both D and S issues
  - Building agro-dealer networks
    - Stockist training
    - Credit guarantees
  - Developing value chains
    - Input/output links for credit
    - Collateralization of stocks for market timing
  - Public/private extension partnerships
  - Focus on medium to high potential areas

Looking ahead in Kenya

- Private sector is committed, investing, and slowly expanding to new markets
- GOK not happy about some indicators
  - Aggregate maize production declining
  - Aggregate maize yields declining
  - Prevalence of poverty still very high
- GOK’s approach is to increase intervention
  - Cereal’s board imports/distribution
  - Plans to revive agricultural parastatals
  - Talk of major subsidy program
Is there a better way?

- **Perhaps**: The Fertilizer Policy Toolkit
- CD-based decision tool being developed by the World Bank
- Designed to help policy makers and program designers select appropriate interventions to expand the frontiers of input markets
Key toolkit messages

- Have a well-defined goal and target group
- Make sure that …
  - Fertilizer is appropriate for goal and target
  - Both demand and supply are addressed
- If non-market intervention is needed, use market-friendly approaches such as
  - Demonstration packs
  - Input vouchers
  - Matching grants
  - Loan guarantees

Toolkit best practices

- Integrate fertilizer into a broad ag strategy
- Favor market-based solutions
- Balance competition & economies of size
- Pay attention to demand
- Insist on economic efficiency
- Empower farmers
- Ensure sustainability and exit strategy
- Pursue regional integration
- Promote pro-poor growth
The End

Before Fertilizer & improved seed

After fertilizer & improved seed

FIPS-Africa Photo

Supplementary graphs/figures
Fertilizer use trends are stagnant

Sub-Saharan Africa: Nitrogen, Phosphate, Potash, and Total NPK Consumption, 1990/91 - 2002/03

Cereal yields are low and stagnant
Plant nutrient depletion is very high

Marketing margins decline

![Map of Africa showing nutrient depletion](image)

![Graph showing marketing margins decline](image)