Fertilizer Supply Chain in Kenya

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Research Workshop at IFPRI offices in Dakar, Senegal on Fertilizer Supply Chain in Kenya, Malawi, Nigeria and Uganda

August 8th – 9th, 2016
1 Introduction
   • Fertilizer supply chain in Kenya

2 Data collection methods
   • Secondary data
   • Primary data

3 Final Report

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Course Outline

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Fertilizer Supply Chain in Kenya
Objective of the project

- **Main objective:** to provide a comprehensive and detailed overview of the fertilizer supply chain in Kenya.
- **Specific objective:** to provide an in depth description of the market structure, practices and outcomes along the supply and distribution channel in Kenya (e.g. at the production/import level, wholesale level, and retail level).
Scope

- Focus on main fertilizer(s) used (e.g., CAN, DAP, Urea, and NPK)
- Identify main market centers and distribution channels in Kenya;
- Estimate the number and type of sellers (e.g., public/private) at each point in the supply chain (producers/importers, wholesalers, retailers);
- Prices and volume of sales both across and within each point in the supply chain;
- Dispersion among sellers and distance to closer (upward) supplier, among others;
- Characteristics of business entities;
- Collection and analysis of secondary data and primary data from interviews and small surveys,
Post liberalization fertilizer policy regime in Kenya is considered a success story in SSA [Kibaara, 2009].

During the SAPs in 1990s, fertilizer markets were liberalized, government price controls and import licensing quotas were eliminated, and fertilizer donations by external donor agencies were phased out [Ariga, 2008].

Pre-reform period had been characterized by state-run agencies or private farmer organizations (with heavy state intervention in their management) in input and output markets for import and export, distribution, and retailing.
Kenyan fertilizer consumption need to nearly double from 0.5 to 0.9 million MT to meet the agricultural growth targets set in the CAADP country investment plans [IFDC, 2012].

**Figure 1:** Source: Fertilizer Facts: www.fertilizer.org
Sources of fertilizer in Kenya

- Imports $\approx 86\%$;
- Local production $\approx 10,000$ MT (2%) [Mathenge, 2009];
- Locally blended $\approx 60,000$ MT annually (new blending plant by Toyota Tsusho due for commissioning this month);
- Private sector dominates imports market;
- Govt agencies KTDA and NCPB;
- Major sources Middle East, USA, Europe, Asia and South Africa;
- New sources China, India and Singapore;
- GoK policy -no duty or VAT on fertilizer.
The structure of fertilizer market in Kenya [Mathenge, 2009]

- Importers: > 10, with 4 firms = 85% market share.
- Wholesalers/distributors: > 500
- Retailers/agro-dealers: > 8,000

There are new entrants to manufacture—Toyota Tsusho
Toyota Tsusho starts work on fertiliser plant in Kenya

Monday, 07 September 2015 04:56

The first phase of the construction of a fertiliser plant at the cost of about US$980mn started in Eldoret, Kenya last week.

Once operational, the plant is expected to bring down the cost of one of the key farm inputs. The factory, which has been funded through a public-private partnership between the government of Kenya and Toyota Tsusho East Africa, is meant to streamline manufacturing, supply and distribution of the vital farming ingredient.

“We expect the cost of production to drastically reduce upon the completion of the local plant. It is estimated that 40 per cent of the cost of fertiliser is due to freight and port handling charges,” said Gituro Wainaina, acting director of the Vision 2030 Delivery Secretariat.
### Types of fertilizer consumed in Kenya

<table>
<thead>
<tr>
<th>Type of fertilizer</th>
<th>Specific variety</th>
<th>% of national consumption (2002-2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planting (basal)</td>
<td>DAP, MAP, TSP, SSP, NPK20:20:0, NKP23:23:0</td>
<td>48.56</td>
</tr>
<tr>
<td>Top-dressing</td>
<td>CAN, ASN, UREA, SA</td>
<td>25.36</td>
</tr>
<tr>
<td>Coffee</td>
<td>NPK 18:4:12, NPK 20:10:10, NPK 17:17:17, NPK 16:16:16</td>
<td>4.90</td>
</tr>
<tr>
<td>Tobacco</td>
<td>NPK8:16:24+MgO+0.1%B</td>
<td>0.02</td>
</tr>
<tr>
<td>Specialized</td>
<td></td>
<td>6.48</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100.00</td>
</tr>
</tbody>
</table>

**Figure 2**: Source: [Mathenge, 2009]
### Consumption intensities by region

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal Lowlands</td>
<td>2.7</td>
<td>6.8</td>
<td>8.0</td>
<td>12.3</td>
</tr>
<tr>
<td>Eastern Lowlands</td>
<td>35.2</td>
<td>48.3</td>
<td>56.6</td>
<td>56.6</td>
</tr>
<tr>
<td>Western Lowlands</td>
<td>5.9</td>
<td>11.8</td>
<td>15.0</td>
<td>30.5</td>
</tr>
<tr>
<td>Western Transitional</td>
<td>58.1</td>
<td>77.0</td>
<td>85.8</td>
<td>87.8</td>
</tr>
<tr>
<td>High Potential Maize Zone</td>
<td>86.1</td>
<td>90.5</td>
<td>90.5</td>
<td>93.6</td>
</tr>
<tr>
<td>Western Highlands</td>
<td>91.5</td>
<td>89.9</td>
<td>92.2</td>
<td>94.6</td>
</tr>
<tr>
<td>Central Highlands</td>
<td>99.2</td>
<td>99.6</td>
<td>97.1</td>
<td>97.9</td>
</tr>
<tr>
<td>Marginal Rain Shadow</td>
<td>27.0</td>
<td>35.1</td>
<td>32.4</td>
<td>54.1</td>
</tr>
<tr>
<td><strong>Overall sample</strong></td>
<td><strong>63.9</strong></td>
<td><strong>69.9</strong></td>
<td><strong>71.9</strong></td>
<td><strong>76.3</strong></td>
</tr>
</tbody>
</table>

Source: Tegemeo Panel Data

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Secondary data

Formal requests:

- KNBS-Obtained monthly import data (Jan 2014-Dec 2015)
- MoA-Input division (waiting response)
- AGMARK-involved in the starter packs, credit guarantees and training.
- IFDC-to visit
- FAO/AF
- Tegemeo panel data
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- Interview from importers/wholesalers/retailers;
- Personal interviews-using CAPIs from the main market centres;
- Algorithms developed and tested;
- Obtained a list of wholesalers and retailers from fertilizer sales-reps with contacts;
- Agro-dealer Map
- Pending work: validation (pre-testing) of the instrument, selection and training of the enumerators.
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IFDC;
MOA Annual reports;
KNBS economic surveys;
Tegemeo panel data;
other sources.
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After the report—what next?
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Asante sana!