Maize Scoping Study

Key Findings

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Justification of study

- Maize accounts for 54-65% energy intake
  – ‘chimanya ndi moyo’ meaning ‘maize is life’
- Different processing systems and structures
- Inadequate concrete data on supply and processing of maize & other maize products
Target Countries

Cluster 1: East and Southern Africa (2016)
- South-Africa, Malawi, Zambia, Zimbabwe, Rwanda, Burundi, Tanzania, Kenya, Uganda, Mozambique, Namibia, Botswana and Angola.

Cluster 2: West Africa franc zone (2014)
- Senegal, Guinea-Bissau, Cote d'Ivoire, Togo, Benin, Mali, Niger, and Burkina Faso.
- 10 industries assessed
Goal

• Provide concrete information on the potentials and scope for maize flour fortification initiative

Objectives

• Establish availability of maize as a staple food
  – quantity and the
  – The way maize is processed and consumed as flour or other foods.
The study entailed....

• Tracing the flow of maize grain along the supply chain

Ascertaining

• Consumption patterns and volume of consumption
• Volume of local production
• Volume of internal and external trade in maize grain and flour
• Milling structure and capacities
Methodology

Phase 1: Online review of secondary data
• Identification, collection and review of existing reports and supporting documents

Phase 2: Country visits to validate and fill data gaps
• Tanzania, Kenya, Malawi, Zimbabwe and Uganda
Consumption

- Flour into Thick Porridge
Consumption

Green Roasted Maize
Production

• Over 80% maize is produced by large number of smallholders

• 65-88% of households grow their own maize

• White vs yellow maize
  – 10-30% of white maize for feeds

• Production concentrated in specific ecological and geographic areas in the countries
Production

Production and Consumption Trend (2006-2016)

East Africa

Southern Africa

Total Production (1000MT)  Total Consumption (1000MT)


• The west African countries do consume their own production with limited exports and imports.
Initiatives to increase productivity

• Government input subsidy
• Research and technology in new varieties of seed
• Diversification away from maize dependence
Grain Supply

- Seasonal deficits in months towards new harvest
- Carry-over stocks from the bumper harvest of 2014/15
- Imports mainly through south Africa
Marketing and distribution

• Distribution from areas of surplus to deficit areas

• Farmers tend to sell much more of their harvest at very low farm-gate

• Marketing influenced by own consumption level, efficiency of marketing systems, infrastructure and storage
Internal market channels

• Thin farmers weekly markets
• Middlemen
• Millers buying agents
• Government parastatals
• Farmer associations- joint marketing
Cross boarder trade

• Distribution from surplus to deficit countries
• Formal vs informal trade
• Impact of subsidies in prices of imports
• Ban on imports-
• Policies on import of GMO
Milling

• Over 70-80% of grain end up in small toll hammer mills located in every village
• Issues of quality and GMP
• Large roller mills source grain from far and wide areas
• Distribute flour to far and wide areas
• High transaction costs and high flour prices
Milling

West Africa (2014)

• Milling capacity varied widely among the industries,
• Dominance of small mills
• Overall: 300 to 20,000 metric tons per year,
• 50% producing 300-600 MT/yr and
• 50% around 3,000-6,000 MT/yr.
Flour distribution

- Large/medium mills often end up in supermarkets and exports
- Proximity to the markets plays an important role in the distribution of flour from millers
- Flour imports are not cost effective and efficient
- Contribution of informal cross border trade
## Summary of supply chain

<table>
<thead>
<tr>
<th>Production</th>
<th>Grain Distribution</th>
<th>Milling</th>
<th>Flour Distribution</th>
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</thead>
<tbody>
<tr>
<td>Own production</td>
<td>No marketing</td>
<td>Small /toll mills</td>
<td>No distribution</td>
</tr>
<tr>
<td>Smallholder Surplus production</td>
<td>Village weekly markets</td>
<td>Small/toll mills</td>
<td>No distribution</td>
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<td></td>
<td>Middlemen</td>
<td>Small commercial, medium</td>
<td>Rural/urban market</td>
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<td></td>
<td>Miller buying agents</td>
<td>Medium/large mills</td>
<td>Rural /urban markets</td>
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<td></td>
<td>Government agents</td>
<td>Medium/large mills</td>
<td>Rural/urban markets</td>
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<td>Farmer association</td>
<td>Medium/large mill</td>
<td>Rural/urban markets</td>
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<tr>
<td>Large scale production</td>
<td>Milling buying agents</td>
<td>Medium/large mills</td>
<td>Urban markets</td>
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</tbody>
</table>
Recommendations

• Country delegates to fill data gaps where appropriate
• For detailed information, future studies should be country specific
• Future studies should be undertaken with direct collaboration with governments
• Map current and potential fortifications initiatives by country