Assessing Costs of Production for Maize, Irish Potatoes & Rice in Kenya, 2018

Implications for Food Security

Intercontinental Hotel, Nairobi

11th October, 2018
Introduction and Meeting Objectives

Miltone Ayieko, Director, Tegemeo
Intercontinental Hotel, Nairobi
11th October 2018
Introduction..../1

• Agriculture continues to be an important sector for the country’s economy
  – Direct & indirect source of livelihood
  – Key for poverty reduction

• The Constitution of Kenya guarantees food security for every citizen under the bill of rights – Article 43

• Food Security one of the pillars for the Big Four Agenda

• Importance of food security ratified globally
  – SDG #2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Introduction../2

• The country continues to be a net importer of key staple commodities

<table>
<thead>
<tr>
<th>Input Subsidies</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Producer price support</td>
<td>Food subsidy</td>
</tr>
</tbody>
</table>

2017

Below normal rainfall
FAW prevalence

2018

Above normal rainfall
Minimal pest/disease outbreak
• Tegemeo recommendations from 2017
  • Reduce costs & enhance competitiveness for farmers by
    – Improving productivity
    – Adopt mechanization
  • Enhance soil quality & fertility
    – Adoption of ISFMs
    – Soil testing & use information to inform fertilizer choices
  • Revamp extension services
• Credible & reliable data to inform policy & planning
  • Estimation of per capita consumption, stocks, acreage, production
• There is need to monitor costs of production for key staples to:
  – Inform government interventions
    • Big Four Agenda strategies & interventions
    • Food & Nutrition Security policy
    • County government policies
  – Track competitiveness for local producers
  – Track progress on attaining food security
This year’s assessment

- Tracks the costs of production for maize, Irish potatoes and rice
- Assess the food situation, with emphasis on maize availability
- Implications on food security
  - Availability
  - Affordability
- Data comes from qualitative and quantitative surveys carried out in September 2018 and secondary sources
Workshop objectives

• To share the findings with key stakeholders (public, private and civil society)
  — Discussion and feedback

• Provide a forum for open discussion among stakeholders
  — On appropriate policy options

• Inform policy formulation and decision making
Workshop Program

• Two presentations:
  – Cost of Maize, Irish Potatoes & Rice
  – Food Situation & prospects

• Plenary and Way Forward
THANK YOU
Cost of Production for Maize, Irish Potatoes & Rice in Kenya, 2018

Tim Njagi
Intercontinental Hotel, Nairobi
11th October 2018
Maize production & consumption

• Maize is the most important cereal grain in the country
  – 65% of staple food calories (Mohajan, 2014)
  – 40% of total crop area in Kenya (ERA, 2015)
  – Produced by a large majority of smallholder farmers

Source: KNBS & USDA, 2018
Irish Potato Production

- Irish potato is an important staple food in the country.
- Cultivated by about 800,000 smallholder growers in 177,000 ha under rainfed condition (MOAI, 2016)

Source: KNBS, 2018
• Rice has emerged as an important cereal, however, about 90% of total consumption is imported
• About 80% of rice is produced under irrigation in public irrigation schemes
Key Challenges

- Low productivity
- Declining soil quality
- Crop diseases
- Weak linkages btw research-extension-farmers
- Low technology uptake
- Limited access to affordable credit
- Low market participation
- Declining land sizes
- Limited access to water for irrigation
- Effect of climate change & variability
- Poor storage facilities & high post harvest losses
- Market distortion & volatility
Research Questions

• What is the cost of production for maize, Irish potato & rice and in 2018?

• What are the major drivers of these costs?

• What are the policy interventions required to stimulate enhance efficiency?
Methodology

• Typical farm methodology in six counties, purposively selected based on importance in the production of maize, Irish potatoes & rice.
• Data collection
  • Individual maize farmers
  • FGDs
  • Key informant interviews
  • Phone surveys
Findings

Irish Potatoes
Irish Potato Production Systems and Areas

Small-scale Irish Potato Farmers

• Cultivate less than 2 acres of Irish potato
• Have monocrop and two seasons a year (sometimes three depending on weather patterns)
• Average of 70% level of commercialization
• Main buyers are traders
• Source of fertilizer is mainly commercial

• Areas of study; Nyandarua and Nakuru
## Cost of production

<table>
<thead>
<tr>
<th>Item</th>
<th>Nakuru</th>
<th>Nyandarua</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irish Potato yields (110kg/acre)</td>
<td>12.3</td>
<td>13.0</td>
</tr>
<tr>
<td>Seed</td>
<td>12,000</td>
<td>24,000</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>6,400</td>
<td>6,640</td>
</tr>
<tr>
<td>Pesticides</td>
<td>8,300</td>
<td>3,840</td>
</tr>
<tr>
<td>Herbicides</td>
<td>500</td>
<td>0</td>
</tr>
<tr>
<td>Machinery</td>
<td>4,800</td>
<td>0</td>
</tr>
<tr>
<td>Labor</td>
<td>14,350</td>
<td>19,840</td>
</tr>
<tr>
<td>Transport</td>
<td>163</td>
<td>0</td>
</tr>
<tr>
<td>Other costs</td>
<td>90</td>
<td>0</td>
</tr>
<tr>
<td>Working capital</td>
<td>1,631</td>
<td>1,901</td>
</tr>
<tr>
<td><strong>Total cost per acre</strong></td>
<td>48,234</td>
<td>56,221</td>
</tr>
<tr>
<td><strong>Cost of production per 110kg bag</strong></td>
<td>3,937</td>
<td>4,325</td>
</tr>
<tr>
<td>Land rent</td>
<td>10,000</td>
<td>10,000</td>
</tr>
<tr>
<td><strong>Total cost per acre with land rent</strong></td>
<td>58,234</td>
<td>66,221</td>
</tr>
<tr>
<td><strong>Cost of production per bag with LR</strong></td>
<td>4,754</td>
<td>5,094</td>
</tr>
</tbody>
</table>
Simulation: Good year harvest & prevailing prices

<table>
<thead>
<tr>
<th></th>
<th>Nakuru</th>
<th>Nyandarua</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield (110 kg bag/acre)</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Total cost per acre</td>
<td>48,234</td>
<td>56,221</td>
</tr>
<tr>
<td>Production cost per bag</td>
<td>1,206</td>
<td>1,406</td>
</tr>
<tr>
<td>Land rent</td>
<td>10,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Total production cost with LR</td>
<td>58,234</td>
<td>66,221</td>
</tr>
<tr>
<td>Total production cost per bag (WLR)</td>
<td>1,456</td>
<td>1,656</td>
</tr>
</tbody>
</table>
Findings on Irish potatoes

• Challenges in production include:
  – Low yields
    • Water logging & blight due to above normal rainfall
  – Crop protection & management
    • Affected by liquidity constrains
  – Severe shortage of high quality and appropriate seed varieties
  – Lack of storage facilities
    • Low prices during peak production periods
  – Control of marketing channels by middlemen
  – Disregard for packaging standards
Recommendations

• Improve access to quality seed
  – Certified seed (tissue culture)
  – Positive selection
  – Choose the best when using recycled seed
  – Importation of certified seeds

• Uptake of varieties for specific constraints
  – Disease tolerant

• Introduce climate smart practices
  • Use weather advisories

• Support construction of cold room storage in production areas
  – Organize farmers in producer associations

• Resolve laws on packaging standards to protect producer interests
Findings

Rice
Rice Production Systems and Areas

Small-scale Rice Farmers

- Undertake rice farming under irrigation in public irrigation schemes
- Cultivate less than 2 acres of rice
- Have monocrop and one season a year (with a ratoon crop)
- Average of 96% level of commercialization
- Main buyers are traders
- Source of fertilizer is mainly commercial

Areas of study; Mwea, Kirinyaga
Cost of production

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice yields (Kg per acre)</td>
<td>2,520</td>
<td>+12% from 2017</td>
</tr>
<tr>
<td>Labour</td>
<td>34,920</td>
<td></td>
</tr>
<tr>
<td>Hired machinery</td>
<td>15,250</td>
<td></td>
</tr>
<tr>
<td>Fertilizer</td>
<td>6,800</td>
<td></td>
</tr>
<tr>
<td>Irrigation water</td>
<td>3,000</td>
<td></td>
</tr>
<tr>
<td>Herbicide</td>
<td>2,400</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>1,670</td>
<td></td>
</tr>
<tr>
<td>Gunny bags</td>
<td>1,500</td>
<td></td>
</tr>
<tr>
<td>Seed</td>
<td>950</td>
<td></td>
</tr>
<tr>
<td>Pesticide</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Working capital</td>
<td>4,670</td>
<td></td>
</tr>
<tr>
<td><strong>Total cost of production</strong></td>
<td>71,380</td>
<td>+23% from 2017</td>
</tr>
<tr>
<td>Land rent</td>
<td>50,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total cost of production</strong></td>
<td>121,380</td>
<td></td>
</tr>
<tr>
<td>Total cost of production per Kg</td>
<td>48</td>
<td>No change</td>
</tr>
</tbody>
</table>
Findings

- Key drivers cost for rice production
  - Labour contributes the highest proportion of cost
    - There are still opportunities of saving costs by mechanization
    - Increase in adoption of mechanization for harvesting from 2017
  - Land rent & Hire of machinery
  - Bird scaring is an expensive activity in rice production (13% of costs)
  - Rice production is a profitable enterprise even where land is hired despite high land rates (Cost per Kg is Ksh 48 vs sale price of Ksh 78)
  - Above normal rains at harvest led to high field losses (up to 80% in some cases)
Recommendations for policy

- Need to enhance local production of rice
  - Increase area under irrigated
    - Mwea – target to increase acreage to 10,000 Ha after dam construction
  - Explore opportunities for upland rice in non-rice growing areas to boost local production
  - Use revenue from rice tariffs to support development of the sector
- Enhance uptake of innovations to reduce costs
- Enhance bird surveillance and control
- Explore credit facilities for farmers/youth if they are to engage in rice production----high capital requirement (KES 121,380/acre)
### Maize Production Systems and Areas

<table>
<thead>
<tr>
<th>Small-scale Maize Farmers</th>
<th>Large-scale Maize Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Cultivate less than 10 acres of maize</td>
<td>• Cultivate above 50 acres of maize</td>
</tr>
<tr>
<td>• Have monocrop</td>
<td>• Have a monocrop and one season a year</td>
</tr>
<tr>
<td>• Second season dedicated to other crops</td>
<td>• Average of 99% level of commercialization</td>
</tr>
<tr>
<td>• Average of 83% level of commercialization</td>
<td>• Main buyers are NCPB and millers</td>
</tr>
<tr>
<td>• Main buyers are traders</td>
<td>• Source of fertilizer is mainly subsidy</td>
</tr>
<tr>
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<td></td>
</tr>
</tbody>
</table>
Findings

Maize: Large-scale
## Cost of Production (Ksh): Large Scale

<table>
<thead>
<tr>
<th></th>
<th>Trans Nzoia</th>
<th>Uasin Gishu</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize yields (90kg bags/acre)</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Seed</td>
<td>2,020</td>
<td>1,878</td>
<td>1,949</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>4,791</td>
<td>6,313</td>
<td>5,552</td>
</tr>
<tr>
<td>Pesticides &amp; fungicides</td>
<td>1,283</td>
<td>1,528</td>
<td>1,406</td>
</tr>
<tr>
<td>Herbicides</td>
<td>3,450</td>
<td>2,550</td>
<td>3,000</td>
</tr>
<tr>
<td>Machinery</td>
<td>9,903</td>
<td>7,281</td>
<td>8,592</td>
</tr>
<tr>
<td>Labor</td>
<td>6,062</td>
<td>6,775</td>
<td>6,419</td>
</tr>
<tr>
<td>Transport (crop output)</td>
<td>2,125</td>
<td>775</td>
<td>1,450</td>
</tr>
<tr>
<td>Others (gunny bags, sisal twines)</td>
<td>1,483</td>
<td>2,137</td>
<td>1,810</td>
</tr>
<tr>
<td>Working capital</td>
<td>2,178</td>
<td>2,047</td>
<td>2,112</td>
</tr>
<tr>
<td>Production costs</td>
<td>33,296</td>
<td>31,284</td>
<td>32,290</td>
</tr>
<tr>
<td>Production costs per bag</td>
<td>1,387</td>
<td>1,331</td>
<td>1,360</td>
</tr>
<tr>
<td>Land rent</td>
<td>10,000</td>
<td>10,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Total production costs (with land rent)</td>
<td>43,296</td>
<td>41,284</td>
<td>42,290</td>
</tr>
<tr>
<td>Total production costs per bag (with land rent)</td>
<td>1,804</td>
<td>1,757</td>
<td>1,781</td>
</tr>
</tbody>
</table>
Trends in wholesale Market prices

KES 90kg bag

NCPB Price 2800
NCPB Price 2300-2800
NCPB Price 2800-3000
NCPB Price 3000-3200
Expected & prevailing prices

<table>
<thead>
<tr>
<th></th>
<th>Expected price</th>
<th>Prevailing market price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trans Nzoia</td>
<td>2450</td>
<td>1200</td>
</tr>
<tr>
<td>Uasin Gishu</td>
<td>3000</td>
<td>1300</td>
</tr>
<tr>
<td>Overall</td>
<td>2725</td>
<td>1250</td>
</tr>
</tbody>
</table>
What affects the cost of production?

• Productivity

• Inputs

• Farming technology
### Large-scale yield comparison with 2017

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<td>41,284</td>
</tr>
<tr>
<td><strong>Total production costs per bag (with land rent)</strong></td>
<td>1,804</td>
<td>2,083</td>
</tr>
</tbody>
</table>
## Simulation: Effects of fertilizer subsidy

<table>
<thead>
<tr>
<th>Item</th>
<th>Without subsidy</th>
<th>With subsidy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize yields (90kg bags/acre)</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>Seed</td>
<td>1810</td>
<td>1677</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>10200</td>
<td>7975</td>
</tr>
<tr>
<td>Pesticides &amp; fungicides</td>
<td>4155</td>
<td>1150</td>
</tr>
<tr>
<td>Herbicides</td>
<td>2400</td>
<td>3900</td>
</tr>
<tr>
<td>Machinery</td>
<td>11602</td>
<td>8738</td>
</tr>
<tr>
<td>Labor</td>
<td>6306</td>
<td>6430</td>
</tr>
<tr>
<td>Transport</td>
<td>288</td>
<td>3614</td>
</tr>
<tr>
<td>Others</td>
<td>2420</td>
<td>1225</td>
</tr>
<tr>
<td>Working capital</td>
<td>2743</td>
<td>2430</td>
</tr>
<tr>
<td>Production costs</td>
<td>41924</td>
<td>37137</td>
</tr>
<tr>
<td>Production costs per bag</td>
<td>1823</td>
<td>1485</td>
</tr>
<tr>
<td>Land rent</td>
<td>10000</td>
<td>10000</td>
</tr>
<tr>
<td>Total production cost (with land rent)</td>
<td>51924</td>
<td>47137</td>
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<tr>
<td><strong>Total production costs per bag (with land rent)</strong></td>
<td><strong>2258</strong></td>
<td><strong>1885</strong></td>
</tr>
</tbody>
</table>
Case study: Effects of late payments by NCPB

210 acres
25 bags/acre

79 acres
14 bags/acre

2014  2015  2018
Maize: Small-scale
## Small-scale maize farmers

<table>
<thead>
<tr>
<th></th>
<th>Trans Nzoia</th>
<th>Uasin-Gishu</th>
<th>Nakuru</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maize yields (90kg bags/acre)</strong></td>
<td>17</td>
<td>18 +29%</td>
<td>19 (5%)</td>
<td>18 +6%</td>
</tr>
<tr>
<td><strong>Seed</strong></td>
<td>1,850</td>
<td>1,830</td>
<td>1,800</td>
<td>1,620</td>
</tr>
<tr>
<td><strong>Fertilizer</strong></td>
<td>5,425</td>
<td>6,400</td>
<td>3,100</td>
<td>4,831</td>
</tr>
<tr>
<td><strong>Pesticides &amp; fungicides</strong></td>
<td>1,490</td>
<td>147</td>
<td>-</td>
<td>503</td>
</tr>
<tr>
<td><strong>Herbicides</strong></td>
<td>-</td>
<td>1,800</td>
<td>-</td>
<td>450</td>
</tr>
<tr>
<td><strong>Machinery</strong></td>
<td>5,810</td>
<td>7,400</td>
<td>3,540</td>
<td>5,288</td>
</tr>
<tr>
<td><strong>Labour</strong></td>
<td>9,112</td>
<td>6,507</td>
<td>11,285</td>
<td>8,938</td>
</tr>
<tr>
<td><strong>Others (gunny bags, sisal twines)</strong></td>
<td>1,065</td>
<td>1,367</td>
<td>1,729</td>
<td>1,140</td>
</tr>
<tr>
<td><strong>Working capital</strong></td>
<td>1,980</td>
<td>2,036</td>
<td>1,716</td>
<td>1,822</td>
</tr>
<tr>
<td><strong>Production costs</strong></td>
<td><strong>26,732</strong></td>
<td><strong>27,486</strong></td>
<td><strong>23,170</strong></td>
<td><strong>24,592</strong></td>
</tr>
<tr>
<td><strong>Total production costs per bag</strong></td>
<td><strong>1,572 (13%)</strong></td>
<td><strong>1,527 (20%)</strong></td>
<td><strong>1,219 (1%)</strong></td>
<td><strong>1,366 (15%)</strong></td>
</tr>
<tr>
<td><strong>Land rent</strong></td>
<td>10,000</td>
<td>10,000</td>
<td>10,000</td>
<td>9,000</td>
</tr>
<tr>
<td><strong>Total production costs (with land rent)</strong></td>
<td><strong>36,732</strong></td>
<td><strong>37,486</strong></td>
<td><strong>33,170</strong></td>
<td><strong>33,592</strong></td>
</tr>
<tr>
<td><strong>Total production costs per bag (with land rent)</strong></td>
<td><strong>2,161</strong></td>
<td><strong>2,083</strong></td>
<td><strong>1,746</strong></td>
<td><strong>1,866</strong></td>
</tr>
</tbody>
</table>
Findings on maize

• Increase in maize production for both large & small scale
  • Yield increased from 2017
    • Large-scale - 23%
    • Small-scale - 6%

• Production costs per bag for large & small scale declined
  • Large scale - 18%
  • Small scale – 15%

• Costs reduction strategies
  • Improved yields in some areas due to good weather & minimal pests/disease prevalence
  • Technology – mechanization for harvesting can further lower cost
Findings on maize

- **Fertilizer subsidy**
  - Large scale – reduced costs by 16.5%
  - Small scale - would lower the costs by 11%

- **Currently market price is low**
  - Market distortion in 2017 & incentives for imports
  - Unrestricted imports

- **Farmers expect higher prices than prevailing market prices**

- **Acreage under maize grain is likely to go down**
  - Farmers harvesting maize as silage
  - Farmers planning to reduce acreage under maize – long term impacts?
Recommendations for policy

- To reduce costs
  - Improve productivity
  - Use labor-saving technologies/mechanization
- Reduced role of government in maize markets
  - Restructure NCPB to focus only on SFR
  - Enact warehouse receipts system bill
- Which model should be used for SFR purchases?
  - Buy directly from warehouse/market
  - Virtual stocks
  - Contract farmers
  - Producer price support lead to market distortion
- Enhance adoption of climate smart agricultural practices
THANK YOU
Food Situation Assessment, 2018

Lilian Kirimi
Intercontinental Hotel, Nairobi
11th October 2018
Objectives of the assessment

• Establish general food situation in the country with emphasis on maize
• Evaluate performance of the 2018 LR season
• Assess the prospects of the SR season
• Establish the food security status in the country
• Draw lessons and relevant policy recommendations
Methodology

• Rapid assessment carried out in four counties, purposively selected because of their importance in the production of maize;

• Data collection
  • Individual maize farmers
  • FGDs
  • Key informant interviews
  • Review of secondary data
## Trends in production of key staples (million bags/tons)

<table>
<thead>
<tr>
<th>Crop</th>
<th>Unit</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>90 kg</td>
<td>41.9</td>
<td>40.7</td>
<td>39</td>
<td>42.5</td>
<td>37.8</td>
<td>35.4</td>
</tr>
<tr>
<td>Beans</td>
<td>90 kg</td>
<td>6.8</td>
<td>7.9</td>
<td>6.8</td>
<td>8.5</td>
<td>8.1</td>
<td>9.4</td>
</tr>
<tr>
<td>Irish Potatoes</td>
<td>Tons</td>
<td>1.5</td>
<td>2.1</td>
<td>2.3</td>
<td>2.0</td>
<td>1.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Sorghum</td>
<td>90 kg</td>
<td>1.9</td>
<td>1.7</td>
<td>1.9</td>
<td>2.1</td>
<td>1.3</td>
<td>1.6</td>
</tr>
<tr>
<td>Millet</td>
<td>90 kg</td>
<td>0.8</td>
<td>1.4</td>
<td>1.4</td>
<td>1.1</td>
<td>0.6</td>
<td>0.6</td>
</tr>
</tbody>
</table>

Source: MOAI, FSA August 2018 Report
Maize Production Trends

![Bar chart showing maize production trends from 2008 to 2018. The chart includes the following data:
- 2008: 26.3
- 2009: 27.1
- 2010: 35.8
- 2011: 34.4
- 2012: 41.9
- 2013: 40.7
- 2014: 39.0
- 2015: 42.5
- 2016: 37.1
- 2017: 35.4
- Estimated 2018: 46.1
- Average: 36.9

Source: MOAI, FSA Reports]
Rainfall performance, 2018

• March-April-May
  – Early onset of rains
  – Majority of areas received above average rainfall
  – Well distributed in time and space
  – Water logging & crop submersion experience in some areas
  – Favorable for both crop & livestock production

• June-July-August
  – Near to above normal average rainfall in parts of Western & Rift Valley
  – Warmer than average temperature for most parts of the country
  – Moisture stress for short season crops e.g. beans & potatoes
2018 maize production overview

• The region experienced favourable weather in 2018 compared to 2017

  – Improved maize performance in the country and the region

    • However, above average rains affected production in some regions

  – Minimal diseases or pest prevalence reported
Maize production overview

• The effects of government interventions in 2017 are still being felt in 2018
  – Farmers are holding stocks in anticipation of price increases
  – Consumer prices still high in some areas

• High imports in 2017 & early 2018 plus good production in 2018 have led to abundant supply & low wholesale market prices
Challenges in 2018 LR season

• Early onset of rains
  – Labour shortages in peak periods of crop establishment
• Water logging
  – Recorded in Western regions, submerged crops in other areas in the region
• Late delivery of subsidized fertilizer
  – Both county & national governments subsidized fertilizer received late
• Low wholesale market prices for maize
• Storage & post harvest management
  – Farmers still have last season’s crop in their stores
## LR maize performance in selected counties

<table>
<thead>
<tr>
<th>County</th>
<th>Area (ha)</th>
<th>Production (90 kg Bags)</th>
<th>% change from 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2017</td>
<td>2018</td>
<td></td>
</tr>
<tr>
<td>Trans Nzoia</td>
<td>106,951</td>
<td>106,800</td>
<td>4,848,795</td>
</tr>
<tr>
<td>Uasin Gishu</td>
<td>103,335</td>
<td>100,179</td>
<td>3,600,000</td>
</tr>
<tr>
<td>Nakuru</td>
<td>86,690</td>
<td>85,217</td>
<td>1,432,820</td>
</tr>
<tr>
<td>Narok</td>
<td>85,720</td>
<td>83,178</td>
<td>985,978</td>
</tr>
<tr>
<td>Kakamega</td>
<td>73,750</td>
<td>70,000</td>
<td>2,457,950</td>
</tr>
<tr>
<td>Kisumu</td>
<td>32,679</td>
<td>43,650</td>
<td>493,712</td>
</tr>
<tr>
<td>Nandi</td>
<td>67,600</td>
<td>67,500</td>
<td>1,995,509</td>
</tr>
<tr>
<td>Elgeyo Marakwet</td>
<td>31,373</td>
<td>30,385</td>
<td>945,250</td>
</tr>
</tbody>
</table>

Source: County Monthly Reports, August 2018
Expected Onset for OND 2018 Rains

Source: KMD, OND Forecast, August 2018

Expected Cessation for OND 2018 Rains
# Current Stocks (90 kg bags)

<table>
<thead>
<tr>
<th></th>
<th>Farmers</th>
<th>Millers/Traders</th>
<th>NCPB</th>
<th>Total stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>15,873,089</td>
<td>383,612</td>
<td>3,857,301</td>
<td>20,114,002</td>
</tr>
<tr>
<td>Beans</td>
<td>2,868,194</td>
<td>2,086,619</td>
<td>0</td>
<td>4,954,813</td>
</tr>
<tr>
<td>Wheat</td>
<td>1,534,930</td>
<td>3,169,474</td>
<td>0</td>
<td>4,704,404</td>
</tr>
</tbody>
</table>
Maize Imports

MOAI: 11,867,190 M bags (May – Dec)

KRA: 16,573,989 M bags (May – Dec)

Source: MOAI, NFS August Report, 2018
### Maize Balance Sheet (September 2018 to July 2019)

<table>
<thead>
<tr>
<th>Stocks as at August 2018 in 90kg bags</th>
<th>Base (MoA)</th>
<th>Pessimistic (SR)</th>
<th>Optimistic (SR)</th>
<th>Optimistic with KRA Figures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20.11</td>
<td>20.11</td>
<td>20.11</td>
<td>24.82</td>
</tr>
</tbody>
</table>

**Estimated Imports between September 2018 to March 2019**

- **i) Private sector/ Relief agencies estimated imports**
  - 1.20

**Estimated Harvests (September to November 2018)**

- **i) Estimated L.R Harvests**
  - 18.44
- **ii) Estimated S.R Harvests**
  - 6.00

**Available stocks (September 2018 and July 2019)**

- **45.76**
- **42.76**
- **44.26**
- **48.96**

**Expected total exports to EAC region**

- **0.20**

**Post – harvest storage losses estimated at 12%**

- **5.49**
- **5.13**
- **5.36**
- **5.92**

**Amount used for Manufacture of livestock feeds (1%), seed (1%), other products (2%)**

- **1.84**
- **1.72**
- **1.78**
- **1.98**

**Net available stocks by July 2019**

- **38.24**
- **35.72**
- **36.91**
- **40.87**

**Consumption @3.39 million bags/month for 47 million people for 11 months**

- **37.34**
- **37.34**
- **37.34**
- **37.34**

**Forecast Balance at 31st July 2019**

- **0.90**
- **-1.62**
- **-0.43**
- **3.53**
Maize prices for urban markets in the region

Source: EAGC Crop Monitor Bulletin, September 2018
Maize Prices for production markets in the region

Source: EAGC Crop Monitor Bulletin, September 2018
Maize flows in the region

Source: EAGC Crop Monitor Bulletin, September 2018
Maize prices in local markets

Source: MOAI, FSA Report August 2018
Prices of sifted maize flour

Source: MOAI, NFS August Report, 2016/7/8
Conclusion

• 2018 year harvest is projected to be good
  – LR harvest improved due to good rains, minimal disease/pest prevalence
  – SR harvest expected to be good due to normal to above normal & well distributed OND rains

• However, need to track post-harvest losses
  – Some farmers are harvesting during rainy season
  – Storage a challenge – raising concerns on food safety
Conclusion

• Prices expected to go down and stabilize after long rains harvest

• Current and expected stocks are adequate to cover the country up to start of 2019 LR harvest

• Need to collect credible & timely data for planning & informing decisions
Recommendations for policy

• No need of tariff waiver on maize imports
  • But given the market dynamics (higher prices in some countries in the region) we need to monitor the stocks very closely

• Interventions on post-harvest handling, storage & management through provision of driers and warehouse receipt system--Private sector involvement
Recommendations for policy

- There is need to promote alternative staples--rice and potatoes
- Fast track the blending of key staples
  - Reduce heavy reliance on maize & improve nutrition