An assessment of the canning bean value chain in Kenya: Opportunities and Challenges

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Presentation Outline

- Introduction
- Methodology
- Results and Discussion
- Conclusion
- Way Forward
- Acknowledgement
The current demand for common bean in Kenya already surpasses domestic production.

Trend is forecast to continue given high population growth rate, climate change and stagnant-to-declining yields.

Canning beans have been grown in eastern Africa since early 1950s,

However little work has been done to develop improved bean varieties that combine tolerance to biotic and abiotic stresses with canning quality.
Introduction

- For the last 60 years, the canning industry in East Africa has relied on one particular variety – Mexican 142

- Developed in the 1950s and released initially in Tanzania (1940s) and later in Kenya (1960s) and subsequently in Ethiopia (1970s).

- Variety has succumbed to diseases such as rust, angular leafspot, bacterial blight and recent frequent drought conditions

- A project to address breeding, agronomy, collective commercial production and capacity building issues along the canning bean value chain was initiated
Methodology

- Primary data was collected using semi-structured questionnaires for the different categories of respondents i.e, Producers (47), Processors (2), Institutional consumers and individual consumers (47).

- The institution consumers were divided into two sub-categories i.e supermarkets who sell the canned beans and hotels, hospitals and schools who consume.

- The producers had been contracted by Tru-Foods Limited and supplied with Mexican 142 bean variety

- Data were analyzed using descriptives and an economic model
Results and Discussion

Gender of respondents

- Men: 36
- Women: 64
Most farmers were aged between 41 and 70 years.

Farmers over 60 years were the majority showing that farming is still being practiced by the old.

Youth were only 6% indicating that the young people have not embraced farming as a means of income generation.
Majority of farmers planted canned beans in areas measuring .1 to .25 acres

Only 2% planted beans for canning in land size bigger than one acre
Reasons for not planting beans for canning

- Out of the 45 respondents, 44 stopped planting canning beans.
- Majority of farmers cited low selling price and lack of markets as a major reason for stopping production.
- Other reasons were poor yields, pests and diseases and lack of payment.
- Farmers indicated that they were ready to produce canning beans only if marketing was organized and prices improved.

<table>
<thead>
<tr>
<th>Reasons for not planting canning beans anymore</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth is not favored by the soil</td>
<td>2</td>
</tr>
<tr>
<td>Prone to attacks by pests and diseases</td>
<td>7</td>
</tr>
<tr>
<td>Lack of market</td>
<td>18</td>
</tr>
<tr>
<td>Low selling price</td>
<td>30</td>
</tr>
<tr>
<td>No information about buying the produce</td>
<td>1</td>
</tr>
<tr>
<td>Poor yields</td>
<td>14</td>
</tr>
<tr>
<td>Requires a lot of farm chemicals for maintenance</td>
<td>3</td>
</tr>
<tr>
<td>Variety loss</td>
<td>8</td>
</tr>
<tr>
<td>Lack of payment to some farmers</td>
<td>6</td>
</tr>
<tr>
<td>No good taste when cooked</td>
<td>3</td>
</tr>
<tr>
<td>Requires better education especially in spacing</td>
<td>1</td>
</tr>
<tr>
<td>Rainfall shortage</td>
<td>4</td>
</tr>
<tr>
<td>Excessive rainfall that destroyed the produce</td>
<td>1</td>
</tr>
<tr>
<td>High production cost</td>
<td>1</td>
</tr>
<tr>
<td>Rumours about the variety being of low quality</td>
<td>1</td>
</tr>
<tr>
<td>Weather changes</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>
Bean Processing

- Two major bean processors were interviewed i.e Tru-Foods Limited and Njoro Canners Limited.

- They source almost 90% of their grain from Ethiopia through the Moyale border.

- Tru-Foods sells its canned bean products (Kenylon baked beans and Githeri) to local supermarkets, distributors and the disciplined forces (KDF, police, KWS, KFS).

- She supplies approximately 720000 cans of canned bean and per year.

- She also exports E. Africa countries and the United Kingdom.
- Njoro canners’ biggest customer is the Kenya Disciplined forces (i.e. Kenya Defence Forces, Police force, Kenya Wild Life Services and National Youth Services).

- She sells approximately 1.2M cans per year to the forces.

- They sell very little in the supermarkets, approximately 100,000 cans.
• For canned Githeri (mix of green maize and beans), supermarkets purchased higher numbers compared to canned beans.

• This could be because githeri is a common and popular meal which takes long to prepare and gets spoiled fast if not refrigerated.

• Both processors informed the study that both canned beans and Githeri have very high demand which most times they are not able to meet due to low and unreliable supply.
- Poor quality of beans purchased (29%) was cited as the major challenge facing both processors.
- Mixed varieties hence affecting cookability, non-uniformity.
Suggestions for Improving Bean Processing Industry

- Local production of enough beans within the country: 40%
- Provision of certified bean seeds to farmers: 10%
- Appropriate government policies: 20%
- Establish a constant supply for the canned beans: 20%
CANNING BEAN CONSUMPTION

- Majority of the respondents (89%) interviewed did not consume canned beans.
- Most respondents (27%) said that they believed that only rich people consume canned beans.
- Other reasons were high prices (20%), lack of awareness (15%), did not like the taste (15%), Non-availability (11%)
Most of canned bean consumers were aged between 18 and 35 years.

Respondents in the ages between 36 and 45 did not consume canned bean at all.

Households headed by an unemployed head did not consume canned beans. This could be attributed to affordability and lack of awareness.
Results and Discussion

Institutional Consumers

- All the supermarkets stocked canned beans from different processors including Kenylon of Tru-Foods, Peptang from Premier Foods, Del Monte by Delmonte UK Ltd, baked beans from America and Heinz of Heinz Company.
- There is also canned githeri (mixture of maize and beans) which is a staple food for some communities in Kenya.
Institutional consumers (supermarkets)

- Most cans are 400-440 grams
- Price ranged between $0.8 to $1
- Most supermarkets said most of their clients were hotels and guest houses.

### Canned bean brands found in supermarkets in Kenyan

<table>
<thead>
<tr>
<th>Brand name</th>
<th>Company</th>
<th>Unit (g)</th>
<th>Selling price (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Golden Valley</td>
<td>Njoro Canners</td>
<td>440</td>
<td>0.8</td>
</tr>
<tr>
<td>Delmonte baked beans</td>
<td>Delmonte UK</td>
<td>400</td>
<td>0.95</td>
</tr>
<tr>
<td>Heinz baked beans</td>
<td>Gulf Food Industries, Dubai</td>
<td>400</td>
<td>1</td>
</tr>
<tr>
<td>Kenylon baked beans and Githeri</td>
<td>Trufoods</td>
<td>420</td>
<td>0.85</td>
</tr>
<tr>
<td>Peptang baked beans and Githeri</td>
<td>Premier Foods Ltd</td>
<td>420</td>
<td>0.90</td>
</tr>
</tbody>
</table>
Out of 6 institutional consumers interviewed, 2 informed the study that they served canned beans to their clients. These were hotels and the private hospital.

The primary and secondary schools and prisons did not consume canned bean though they consumed common bean on a daily basis.

All the canned beans in hotels and hospitals were served at breakfast.
Conclusion

- Producers cited low selling prices and pest and disease attack as the most important challenge they face in production and marketing of canning bean.

- Processors cited poor quality of grains as a major challenge they face and want addressed.

- The study also shows that very few Kenyans consume canned bean due to its high prices and unawareness of how to prepare and serve it.

- There is need for processors to develop a cheaper bean product which is faster to prepare, cheaper packaging material.
Milestones

• Through the Bioinnovate Project “Value Added Bean Technologies for enhancing Food Security, Nutrition, Income and Resilience to cope with Climate Change and Variability Challenges in Eastern Africa”,

• 2 bean varieties suitable for canning have been released in Kenya.

  ▪ These are **KAT-SW-12 (Kenya Mali)** and **KAT-SW-13 (Tamutamu)**

  ▪ Had HC higher than 1.7 and water uptake of >90%

  ▪ Farmers have started multiplying seed
Release status of canning bean varieties in BioInnovate consortium 3 project

<table>
<thead>
<tr>
<th>Institution</th>
<th>NPT/NVT</th>
<th>DUS/VVT</th>
<th>No. released</th>
<th>No. to be released</th>
<th>Year of release</th>
</tr>
</thead>
<tbody>
<tr>
<td>EIAR</td>
<td>8</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2013/2016</td>
</tr>
<tr>
<td>KALRO</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td></td>
<td>2015</td>
</tr>
<tr>
<td>UoN</td>
<td>12</td>
<td>12</td>
<td>4</td>
<td></td>
<td>2015</td>
</tr>
<tr>
<td>SARI</td>
<td>3</td>
<td>3</td>
<td></td>
<td>3</td>
<td>2015/2016</td>
</tr>
<tr>
<td>RAB</td>
<td>10</td>
<td></td>
<td></td>
<td>3</td>
<td>2015</td>
</tr>
<tr>
<td>ISABU</td>
<td>6</td>
<td></td>
<td></td>
<td>2</td>
<td>2016</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>44</strong></td>
<td><strong>21</strong></td>
<td><strong>7</strong></td>
<td><strong>10</strong></td>
<td></td>
</tr>
</tbody>
</table>
Acknowledgement

We acknowledge

- Bio-innovate and Sida for funding this work,
- PABRA and CIAT for partnering with us.
- We can also not forget the respondents i.e farmers, processors and consumers.
Asante Sana

Thank you