Linking Research to Product Development: A Case for New Beans Products in Uganda and Kenya

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Content

• The commercial interest
• Market overview & segmentation
• New product concepts
• Product USPs
• Demand
• Challenges and opportunities
The commercial interest

Over 500M - Protein deficient

Most traded commodity in EA

Fixes Nitrogen in the soil
New Urbanites require New Products

- 80 cities in sub Saharan Africa - Over 1 million
- 12 mega cities – 10 million
- 56 % of Sub-Saharan population in urban cities
Climate change, demographics, accelerating urbanization
Middle-class spread
African population by class
\% (spending per day at PPP*)

- Upper (> $20)
- Middle ($2-$20)
- Lower (< $2)

1980 | 1990 | 2000 | 2010
---|---|---|---

Source: African Development Bank

*Purchasing-power parity

None - Vulnerable” middle 37% Rural in ESA
US 10 -20
Vulnerable” middle
US 2-10
Market overview
Middle Class in East and Southern Africa.

• 61% to 83% of the middle class’s food is purchased.

• Processed food occupies 70-80% of the class’s food expenditure, with similar shares in urban and rural areas.

• The import share of food expenditure does not rise with income in urban areas. (David Tschirley, Thomas Reardon, Michael Dolislager, and Jason Snyder Michigan State University)
Regular salary income

- Income is a very unreliable measure in Africa
Where are we in the world?
MEAN UGLSM GROUPS
LSM and SEC

**Group 1**
51% of Population
Bottom End
- LSM 1
- LSM 2
- LSM 3
- LSM 4

**Group 2**
44% of Population
Middle class
- LSM 5
- LSM 6
- LSM 7
- LSM 8

**Group 3**
5% of Population
Top end
- LSM 9
- LSM 10
- LSM 11
- LSM 12

**Urban**
- 60% in the “vulnerable middle”, at 2 to 4 dollar per day, just out of poverty with the potential to slip back;

**Rural**
- The lower middle” class, with 4 to 10 dollars a day,

- An “upper middle” class, with per capita consumption of 10 to 20 dollars a day

*Lasting Solutions*
*Effective Partners For Africa*
Group 1
Lower LSM’s
Largest group – 50%+

Group 1
Mainly rural
“Appearance” secondary
Hygiene key
Low economic participation

LSM 1
LSM 2
LSM 3
LSM 4

51%

Lasting Solutions
Effective Partners for Africa
Group 2
Middle LSM’s
Over one third

Group 2
Equally urban/rural
“Appearance” key
Hygiene secondary
Weak economic participation
The Middle Class

Group 3

Group 1

LSM 5
LSM 6
LSM 7
LSM 8

44%
Group 3
Upper LSM’s
Minority but growing

Group 3
More urban
“Appearance” matters
Hygiene matters
Investment is key
The “haves”

LSM 9
LSM 10
LSM 11
LSM 12

Group 1

Group 2

5%
New product concepts

- Bottom End – LSM 4
- Middle Class  -LSM 6
- Top End  - LSM 12
LSM 4

Bottom End – Mainly functional i.e. reduce cooking time but same product format.

- Typical church going woman or traditional alcohol drinking man
- Completed primary education
- Live in semi-planned urban areas or average rural.

Lasting Solutions
Effective Partners For Africa
Middle Class – Mainly Value added i.e. Beans plus a value add eg Tomatoes

- Multiple cooking equipment in urban
- Urban: Simple clothing but quite smart
- Rural: Tend to wear a long dress (floral design) with lessos.
Mainly trendy – must deliver the class, portability and fun aspect. (Snack)

- Own and live in their dream houses
- Almost exclusively in urban and particular major cities
- Can afford whatever they want
- They give the clothes character
Process
Screening

• Based on
  – Cooking time
  – Colour
  – Micro nutrients
  – Agronomic characteristics

• Varieties – 47
  – Uganda - 32
  – Kenya – 15

• Selected –
  – 10 Uganda
  – 7 Kenya
**Code:** IKOLOLO  
**From:** Kenya  
**Cooking Time:** 1hr 30min

**Code:** K 132  
**From:** Uganda  
**Cooking Time:** 1hr 30min

**Code:** KAB 06/F2-8-27  
**From:** Uganda  
**Cooking Time:** 1hr 25min

**Code:** KAKUNZU  
**From:** Kenya  
**Cooking Time:** 1hr 30min

**Code:** KAT 56  
**From:** Uganda  
**Cooking Time:** 1hr 25min

**Code:** KAT B1  
**From:** Uganda  
**Cooking Time:** 1hr 25min

**Code:** KAT B1  
**From:** Kenya  
**Cooking Time:** 1hr 30min

**Code:** KAT B9  
**From:** Uganda  
**Cooking Time:** 1hr 25min
**Process**

- **Small scale farmers**
  - **Aggregators**
    - Traders/Storage /etc
  - **Beans**

**Process testing**
- Time/pressure/heat
- Value add products

**Product Variants**
- **Extrusion**
- Pressure cooking
  - Pre-cooked
- **Hydrolysis**
- **Malting**

**Business modeling**
- Growing/collection/Factory
- Gate Delivery

**Market and consumer testing**
- Product consumption
- Test the message
- Trade participation
- Gender participation and value

**Format**
- Product Variants
  - Basic
- Product variants
  - Value adds
- Product variants
  - Format
Consumer variants

Snack ready to eat
0 min cooking

Quick cooking bean
15 min cooking

Basic bean
120 min cooking

Reducing cooking cost
Bean snack
Product USPs

• Great Saving
  – Charcoal/Energy
  – Water
  – Save two tins of charcoal – Usd 1.5 per day

• Quick (Time)

• Convenient

• Nutritious
  – High protein, low calories, high fiber,

• Portable – nice packaging

• Value adds
## Household opportunity

<table>
<thead>
<tr>
<th></th>
<th>Total HSLDs Estimates</th>
<th>Consumption per household per month 12.0Kg</th>
<th>Consumption per household per year 144.0 Kg</th>
<th>Precooked Target 10%</th>
<th>Precooked Target 20%</th>
<th>Precooked Target 30%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kenya</strong></td>
<td>10,321</td>
<td>62,000</td>
<td>743,000</td>
<td>74,300</td>
<td>148,600</td>
<td>222,900</td>
</tr>
<tr>
<td><strong>Tanzania</strong></td>
<td>10,095</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Uganda</strong></td>
<td>7,536</td>
<td>45,000</td>
<td>540,000</td>
<td>54,000</td>
<td>108,000</td>
<td>162,000</td>
</tr>
</tbody>
</table>

Notes: (*) for these markets additional discounts were used to compensate for the impact of widespread load shedding; (**) calculated based on Sept 2015 exchange rates
Source: MCA analysis
Willingness to pay and Purchase intents established

- General willingness to consume precooked beans
  - 89.1% likely to consume the product.

- Housewife's will be the main decision maker (60.7%)
### Willingness to buy 1 Usd - 3400 Ugx

#### Prices

<table>
<thead>
<tr>
<th>Residence</th>
<th>Measures</th>
<th>Current dry bean purchase price (N=404)</th>
<th>Optimal consumer choice price (N=511)</th>
<th>Consumer Highest price (N=512)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural (n=101)</td>
<td>Mean (Std.dev)</td>
<td>2,346.43 (539.87)</td>
<td>2,274.75 (708.012)</td>
<td>3,311.76 (1348.36)</td>
</tr>
<tr>
<td>Peri-Urban (n=108)</td>
<td>Mean (Std.dev)</td>
<td>2,474.39 (482.99)</td>
<td>3,043.12 (1377.49)</td>
<td>4,146.30 (1755.33)</td>
</tr>
<tr>
<td>Urban (n=301)</td>
<td>Mean (Std.dev)</td>
<td>2,485.37 (528.33)</td>
<td>2,709.33 (1102.63)</td>
<td>3,758.28 (1661.14)</td>
</tr>
<tr>
<td>Pooled (n=511)</td>
<td>Mean (Std.dev)</td>
<td>2,473.51 (520.18)</td>
<td>2,694.63 (1129.725)</td>
<td>3,751.17 (1643.62)</td>
</tr>
</tbody>
</table>
Challenges and Opportunity

• Increase small scale farmer incomes due to the value addition process hence higher farm gate price.
• Deforestation / Gender
• Distribution of wealth (Farmer wealth/Out growers/Grey/Side selling)
• Youth Employment - Village Aggregation centers - potential for low processing center (cleaning and sorting).
• Standardization
Thank You

Questions
Thank you

Cooks
In
10min
Growing African middle class
(Population (millions) by income group)

- Below Poverty Line
- Above Poverty Line & Below 5k GDP per capita
- Above 5K GDP per capita

Source: Silk Invest, IMF, DB, CS, JPM, HSBC, MS and regional research houses
THE EXPLOSION OF THE MIDDLE-CLASS MARKET

- Urban consumers (million)
- Consumer market (USD bn)
Where we are

• Farmers
  – 12 varieties - Grown by farmers to be supplied to processor.
  – Ready and reliable market

• Consumers – Two key products and variants

• Packaging Development

• Developing route to market /communication for precooked variants.
Assess demand and widely promote precooked beans

Potential demand and willingness to pay

- Average household consumption of beans was **4 meals** in a week. This rated as “Just enough” by 78% of the respondents.

- Average quantity consumed in a Household was **0.77Kg/Meal**

- Nutrition enhancement, fuel saving and water saving attributes are the key selling points for precooked beans.