Cassava Sector – Warm-Up Quiz

**The plant & food**
- Which parts of the cassava plant can be consumed?
  Leaves – Flowers – Fruit – Seeds – Roots
- How much can one cassava plant produce?
  1 – 2 – 5 – 10 – 25 – 50 – 100 – 150 – 200kg – more
- Is cassava safe to eat fresh?
  Yes – No – Sometimes
- How is cassava best stored?
  In the Ground – Cellar – Sealed container – Store – Dried in Bags
Cassava Sector – Key Features

**Cassava, key features**

- Production cycle 8 months to several years, no specific harvest

- Most cassava tubers are toxic when fresh

- Cassava cannot be stored fresh

- Most cassava is home processed and consumed
Cassava Sector in Rwanda – Key Figures

Cassava is a key staple food in Rwanda
- Production on 90-100,000 hectares

- Average field size 0.12 hectares

- Production cost RWF 44/kg or RWF 120-700,000/ha (depending on fertiliser use, land rental and labour costs)

- Yield of 7-15MT/ha. Production potential is as high as 30 MT/ha.
Cassava Value Chain

- Seeds
- Fertiliser
- Pesticides
- Ploughing
- Weeding
- Harvesting
- Fermenting
- Drying
- Milling
- Storage
- Export
- Domestic

Pre-Harvest

Post-Harvest
Cassava Value Chain - Inputs

*Inputs*
- Planting material is retained from harvested plants*
  (*virus resistant varieties are made available by RAB)*
- Little or no fertiliser or organic matter is used for cassava
- Cassava requires no pesticides

Opportunity for input finance is very limited!
Cassava Value Chain – Farmer/Cooperative

**Cassava growth**

- Other crop (beans) will often grow in newly planted cassava field

- Cassava is often planted on marginal land (not “main” crop)

- Harvest time is not crucial and gradual (mostly during dry season to allow easy drying of fermented cassava chips)

- Cooperative or farmer association plays no role in growth
Cassava Value Chain – Processing

*Cassava processing*
- Processing to render “bitter” cassava suitable for consumption
- 1 kg of dried cassava chips = 4 kg of fresh unpeeled cassava
- Dried (fermented) cassava chips can be stored for some time
- Few commercial processors, majority processed “at home”
Cassava Value Chain – Market

**Cassava market**
- Sale of cassava products mainly urban areas
- Some export to neighbouring regions and international
- Market value relatively stable RWF 50/kg for raw tubers or RWF 300-500/kg for cassava flour
# Cassava Sector – Financing Needs

<table>
<thead>
<tr>
<th></th>
<th>Input finance</th>
<th>Raw material collection finance</th>
<th>Inventory finance</th>
<th>Asset Finance</th>
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</thead>
<tbody>
<tr>
<td>Farmers</td>
<td></td>
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<tr>
<td>Cooperatives</td>
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<td>X</td>
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<tr>
<td>Processors</td>
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</table>

*BPR* – Cassava Sector Training – Page 10
## Cassava Sector – SWOT

<table>
<thead>
<tr>
<th><strong>Strengths</strong></th>
<th><strong>Weaknesses</strong></th>
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<tbody>
<tr>
<td>- Suitable soil &amp; climate for cassava</td>
<td>- Low nutritional value</td>
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<tr>
<td>- All-year harvest on marginal land</td>
<td>- Long production cycle</td>
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<td>- Drought resistant</td>
<td>- Requires processing for storage</td>
</tr>
<tr>
<td>- High yields and low production costs</td>
<td>- Degrades soils</td>
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<tr>
<td>- Stable market demand</td>
<td>- Not very tasty</td>
</tr>
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<td>- Cost competitive</td>
<td>- Toxic if not processed adequately</td>
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<thead>
<tr>
<th><strong>Opportunities</strong></th>
<th><strong>Threats</strong></th>
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<tbody>
<tr>
<td>- Improve nutrition value of the flour by adding proteins such as soja flour</td>
<td>- Viral diseases development or loss of genetic resistance</td>
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<tr>
<td>- Export potential to African diaspora in Europe and Americas</td>
<td>- Slow distribution of improved (disease resistant) varieties</td>
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<td>- High yield potential with adequate use of fertilisers</td>
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Cassava Sector – SWOT Specific

**SWOT analysis**

- Strengths & Weaknesses are specific to each client
  - Examples
  - Good yields because of fertiliser use
  - Difficult access to market / multiplier
  - Recognised RAB multiplier
- Opportunities & Threats can also be client specific
  - Examples
  - New processor offering off-take guarantees
  - Spreading of brown streak disease
## Cassava Sector – Risks

<table>
<thead>
<tr>
<th>Key risks</th>
<th>Mitigants</th>
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<tbody>
<tr>
<td>Crop disease</td>
<td>Using selected planting material and good cropping techniques</td>
</tr>
<tr>
<td>Theft</td>
<td>Plant bitter varieties (less attractive for theft)</td>
</tr>
<tr>
<td>Majority of production is not commercialised (no cash revenues)</td>
<td>Financing through cooperative only based on track record</td>
</tr>
<tr>
<td>Price risk</td>
<td>Financing amount based on market prices</td>
</tr>
<tr>
<td>Quality of end product</td>
<td>Working with certified processors only</td>
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Cassava Sector – Case Study

Case study – Asset finance
- Cooperative with 500 members producing cassava on 50 hectares
- Production about 700 MT fresh tubers/year
- Cost of cassava tubers RWF 50/kg
- Cooperative wants to invest RWF 50 million in processing equipment with capacity of 5 MT/day
- Expected gross margin RWF 25 million/year
- Off-take for 10MT Flour/month at RWF 450/kg from Kigali trader
- Assets for security: office building and savings of RWF 15 million