Banana Production in Africa: An Industry Under Threat?

Phumelele Jele
E-mail: Phumelele.Jele@kzndard.gov.za
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Background

• African Crop Science Society Conference (October 2013) - Uganda

• Southern Africa Phytosanitary Inspection Workshop (September 2016) - Pretoria

• South African Banana Growers Association

• Food and Agriculture Organization (FAO)
Global Industry Overview

- Banana (Musa spp.) is a crop of high economic significance
- NB as both food and cash crop
- Produced in 133 countries
- A 28 billion USD industry
- 100 million tons produced globally on 9.9 million hectares
Global Industry Overview

% Contribution by Region

- Africa: 56%
- Americas: 25%
- Asia: 17%
- Europe: 2%
- Oceana: 0%

Together we have made KZN a better province to live in.
Global Industry Overview

Global Importance of Banana

- Bananas: 35%
- Apples: 19%
- Grapes: 19%
- Oranges: 17%
- Mangoes: 10%

TOGETHER WE HAVE MADE KZN A BETTER PROVINCE TO LIVE IN
Top 10 banana producing countries (2015)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Production (million tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>India</td>
<td>30.05</td>
</tr>
<tr>
<td>2</td>
<td>China</td>
<td>11.94</td>
</tr>
<tr>
<td>3</td>
<td>Uganda</td>
<td>11.83</td>
</tr>
<tr>
<td>4</td>
<td>Philippines</td>
<td>9.45</td>
</tr>
<tr>
<td>5</td>
<td>Ecuador</td>
<td>8.24</td>
</tr>
<tr>
<td>6</td>
<td>Brazil</td>
<td>7.65</td>
</tr>
<tr>
<td>7</td>
<td>Indonesia</td>
<td>6.34</td>
</tr>
<tr>
<td>8</td>
<td>Colombia</td>
<td>5.27</td>
</tr>
<tr>
<td>9</td>
<td>Cameroon</td>
<td>4.94</td>
</tr>
<tr>
<td>10</td>
<td>Tanzania</td>
<td>4.08</td>
</tr>
<tr>
<td>28</td>
<td>Mozambique</td>
<td>0.45</td>
</tr>
<tr>
<td>30</td>
<td>South Africa</td>
<td>0.39</td>
</tr>
</tbody>
</table>
Banana Consumption (per capita per annum)

- Philippines 56 kg
- USA 12.7 kg
- EU 10.8 kg
- RSA 8 kg
- Uganda 191 – 250 kg (matooke)
African Industry Overview (2013)

• Africa contributes 17% of global banana production

• Produced in 41 countries

• Uganda is the largest producer in SSA

• Both fresh market and cooking bananas

• A staple food most countries in East Africa
RSA Industry Overview (2013/14)

- Bananas produced in 3 provinces
- Total production 463395 tons
- Value of industry R16 billion
RSA Industry Overview (2013/14)

- Average price per ton R4278
- Imports of 100 000 tons
- Import price R2000 per ton
- 99.9% of imports from Mozambique

<table>
<thead>
<tr>
<th>Channel</th>
<th>Value (tons)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFPM’s</td>
<td>277633</td>
<td>60</td>
</tr>
<tr>
<td>PROCESSING</td>
<td>176125</td>
<td>38</td>
</tr>
<tr>
<td>EXPORTS</td>
<td>9637</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>463395</td>
<td>100</td>
</tr>
</tbody>
</table>
Banana Industry Under Threat?

- Climate change
- Lack of genetic diversity
- Diminishing soil fertility (low yields)
- Pests and diseases
Typhoon Bopha, Philippines (2013)
Banana leaf spot (Black sigatoka)
Banana bunchy top virus
Banana weevil
Fusarium wilt (Panama disease)

• Most destructive banana disease of all time

• A soil- borne fungal disease caused by *Fusarium oxysporum* sp. cubense (Foc)

• First outbreak (Race 1)- extinction of *Gros Michel* plantations

• Survives in soil > 30 years
Fusarium wilt of banana (Foc TR4)

- New strain of the fungus known as Tropical Race 4 has emerged.
- Highly destructive to commercial Cavendish plantations.
- First identified in Taiwan (1990’s)
- Jordan, then Mozambique -2013
- Lebanon, Pakistan, Queensland – 2015
- Currently in 2 locations in N Mozambique.
Foc TR4

- Spread by contaminated plant parts, soil and water
- Rapid dispersal (14 000 plants infected in 2 years)
- No effective fungicides
- Symptoms appear on roots, stems, leaves, and fruit
- Confirmed by tissue sample analysis
Global Distribution of Fusarium Wilt

![Map showing the global distribution of Fusarium Wilt](image)

- **Problem Area (Race 1)**
  - This area is under attack by Race 1 of Panama disease.

- **Problem Area (Tropical Race 4)**
  - This area is under severe attack of the new Tropical Race 4 (TR4) strain of Fusarium.

- **Banana daily diet area**
  - This area is on risk. The farmers here made the banana their living.

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**Department:**
- **Agriculture & Rural Development**
  - **Province of Kwazulu-Natal**
Foc TR4 – Containment

TOGETHER WE HAVE MADE KZN A BETTER PROVINCE TO LIVE IN
Foc TR4 – African perspective

• Africa- banana a staple food for 20 million people (food security)

• Loss of income

• No resistant cultivars

• Breeding efforts concentrated in Asia

• Increase in banana prices (limited affordability)
Current Status and Impact

• China - > 40 000 ha infected
• Philippines - > 40 000 ha abandoned
• Indonesia - > 8 million plants destroyed annually, loss of R75 million USD/ annum
• Two farms in Mozambique under quarantine
• South Africa on high alert (declared a phytosanitary risk)
Foc TR4 – Interventions

• World banana forum – task force (December 2013)
• Australia – Biosecurity Queensland established guidelines for TR4 containment
• Latin America and the Caribbean – contingency plan to cater for 9 countries
• Africa – African consortium for TR4 launched in RSA (April 2014)
Foc TR4 - Interventions

- BARNESA – Banana Research Network for Eastern & Southern Africa (breeding of resistant cultivars)
- FAO – Food and Agriculture Organization (phytosanitary guidelines & protocols)
- IITA – International Institute of Tropical Agriculture (research and fund-raising)
- Universities – Stellenbosch & Eduardo Mondlane (research and diagnostic services)
Implications for extension

• Creation of awareness to stakeholders
• Farm monitoring
• Early detection and reporting
• Sending suspect plant samples for identification
• Training of stakeholders in quarantine activities
Conclusion

• World banana production under threat, particularly from TR4

• Africa even more vulnerable due to limited resources

• Extension services have a major role to play in containing the looming epidemic (TR4)
Thank you.