BANANA PRODUCTION, CONSUMPTION AND TRADE IN ASIA
SITUATION AND CHALLENGES

SESSION 6: Banana Markets and Uses

INTERNATIONAL BANANA SYMPOSIUM
Banana Improvement, Health Management, Use Diversification and Adaptation to Climate Change
The Lees Hotel, Kaohsiung City, Taiwan November 20, 2012

Lothar Trueggelmann
Unifrutti Group of Companies
Premiere Agricultural Services Corporation (PASC)
Lantapan, Bukidnon, Philippines
BANANA CULTIVATION ZONE (TROPICAL/SUBTROPICAL)
Israel, production under shade nets
Turkey banana terraces
Turkey banana greenhouses
Philippines, large plantation

Pictures: Dr. Israeli, Dr. Gubbuk, PBGEA
Coexistence of well maintained and not so well maintained grower farms
The Banana Production Diversity in Asia:

- With Southeast Asia as the Center of Origin and the Center of Diversity, Asia's agriculture is producing a wide selection of - also commercially - of Dessert and Cooking Banana cultivars.
- Over the Asian continent climatic, biotic, and socio-economic also vary considerably and influence the choice of varieties planted, cropping patterns and the use of inputs.
- In consequence production systems vary widely:
  - Backyard or home garden growing
  - Small scale farming
  - Mixed cropping production systems
  - Local or export market integrated medium sized farms
  - Export oriented large scale production (corporate, private, cooperative)

The Statistics about Production, Consumption, local and international Trade do not reflect this diversity

- The level of aggregation is very high, e.g. FAO STAT only makes a distinction between “Plantain and Banana”
- Country statistics are difficult to compare, due to varying methods and aggregations on the national level
- Regional studies and detailed description of specific situations can become anecdotic, vis-à-vis the goal of an continental overlook
## Banana Production by World Areas (1,000 kg)

<table>
<thead>
<tr>
<th>Cooking Banana</th>
<th>Dessert Banana</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Highland + AAB</td>
<td>4,000</td>
</tr>
<tr>
<td></td>
<td>Plantain AAB</td>
<td>7,890</td>
</tr>
<tr>
<td></td>
<td>Gros Michel + others</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Cavendish</td>
<td>11,990</td>
</tr>
</tbody>
</table>

|                  | N. America | 0     |
|                  | S. America | 5,314,743 |
|                  | C. America | 972,800  |
|                  | Caribbean  | 956,216  |
|                  | W. C. Africa | 8,198,008 |
|                  | E. Africa  | 1,137,036 |
|                  | N. Africa ME | 31     |
|                  | Asia       | 1,299,184 |
|                  | Oceania    | 1,431   |
|                  | Europe     | 101    |
|                  | Total      | 17,879,550 |

|                  | % Asia on Total of category | 7.3% |
|                  | % Category on Total Asia    | 26.7% |

**Data Source:** Lescot, 2010
Dessert Banana Production Areas by Region (average of 2006 to 2010) and % increase from 1981/85 to 2006/10

Country | ha | % Increase
---|---|---
1 | India | 714,300 | 171%
2 | Philippines | 440,028 | 225%
3 | China | 333,232 | 225%
4 | Thailand | 131,541 | 225%
5 | Indonesia | 104,074 | 115%
6 | Viet Nam | 95,720 | 115%
7 | Bangladesh | 55,088 | 115%
8 | Pakistan | 34,187 | 115%
9 | Cambodia | 29,760 | 115%
10 | Malaysia | 23,566 | 115%

Data Source: FAO Stat
Dessert Banana Production Volume by Region (average of 2006 to 2010) and % increase from 1981/85 to 2006/10

Country | MT | % Increase
---|---|---
1 India | 25,457,460 |
2 China | 8,410,277 |
3 Philippines | 8,216,156 |
4 Indonesia | 5,724,984 |
5 Thailand | 1,651,848 |
6 Viet Nam | 1,397,280 |
7 Bangladesh | 889,028 |
8 Malaysia | 297,507 |
9 Turkey | 196,624 |
10 Pakistan | 152,351 |

Asia 53,193,360 MT 349%
Central Asia
Western Asia 607,132 MT 314%
Southern Asia 26,687,118 MT 473%
Eastern Asia 8,410,471 MT 1,712%
South-Eastern Asia 17,488,639 MT 196%

Data Source: FAO Stat
Dessert Banana Supply (kg/capita/yr) by Region (average of 2006 to 2010) and % increase from 1981/85 to 2006/10

<table>
<thead>
<tr>
<th>Country</th>
<th>kg/a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines</td>
<td>42.4</td>
</tr>
<tr>
<td>Indonesia</td>
<td>21.4</td>
</tr>
<tr>
<td>Maldives</td>
<td>17.2</td>
</tr>
<tr>
<td>India</td>
<td>15.8</td>
</tr>
<tr>
<td>Israel</td>
<td>14.5</td>
</tr>
<tr>
<td>Thailand</td>
<td>14.3</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>14.1</td>
</tr>
<tr>
<td>UAE</td>
<td>12.7</td>
</tr>
<tr>
<td>Cambodia</td>
<td>10.6</td>
</tr>
<tr>
<td>Jordan</td>
<td>9.3</td>
</tr>
</tbody>
</table>

Data Source: FAO Stat
Dessert Banana (Cavendish) Import and Export Countries in Asia

<table>
<thead>
<tr>
<th>Country</th>
<th>MT</th>
<th>Country</th>
<th>MT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines</td>
<td>1,908,328</td>
<td>Japan</td>
<td>1,092,738</td>
</tr>
<tr>
<td>China</td>
<td>40,044</td>
<td>China</td>
<td>331,948</td>
</tr>
<tr>
<td>India</td>
<td>30,401</td>
<td>S-Korea</td>
<td>308,252</td>
</tr>
<tr>
<td>Malaysia</td>
<td>27,121</td>
<td>Saudi Arabia</td>
<td>248,093</td>
</tr>
<tr>
<td>Thailand</td>
<td>22,226</td>
<td>Turkey</td>
<td>224,262</td>
</tr>
</tbody>
</table>

Data Source: Lescot, 2010
Abiotic Production Challenges

- **Tropical Cyclones – Typhoons**
  - Crop damage and loss
  - Induces cyclic production
    - Due to scheduling of production accordingly to Typhoon seasons
    - Or after destruction “synchronized” production recovery

- **El Niño Phenomena**
  - Yield loss
  - Forecasts available
  - Irrigation as assurance needs investment and water access

- **Global Change**
  - Shift of local climatic condition – levels and variability
  - New regional set of comparative advantages
  - Higher frequency of extreme events
THE TYPHOON BELT
Tropical Cyclones 1945 - 2006

Tropical Cyclones, 1945–2006. Data from the Joint Typhoon Warning Center and the U.S. National Oceanographic and Atmospheric Administration
Biotic Production Challenges

Management of diseases remains the most important challenge for banana producers, regardless is local or export market oriented.

- Fusarium wilt (Fusarium oxysporum f. sp. cubense) – overall viability of Banana production
- Banana bunchy top (BBTV) and other virus diseases – smallholder sustainability
- Sigatoka diseases – high cost factor
- Moko/blood disease – productivity, smallholder sustainability
- Nematodes
- Insect pests
Demand Driven Challenges
Export Markets

Market Seasonality, Example Exports to Japan

For the producer:
- Where is the breakeven?
- Impacts on cash flow?
- Anti-seasonal production?

But also window of opportunity for temporary exporters
- Pole Vaulting

Seasonality Index of Banana Prices in Japan, 1998-2010
(Time series component decomposition, multiplicative model)
Market evolution: From Food Security to Food Safety

- Developed markets shift from Food Security towards Food Safety
- Higher importance to external and internal quality
- Pesticide residues => Establishment of Positive List
- Global GAP, ISO, other external certifications
- Acceptance of agricultural practices by the consumer, e.g., pesticide usage, GMO, etc.
Market Price Effects
Export Markets

- Elasticity of Demand
  - Price Elasticity, Example China (FAO, CCP:BA/TF 09/2)

<table>
<thead>
<tr>
<th></th>
<th>Banana</th>
<th>Mango</th>
<th>Pineapples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banana</td>
<td>-0.798</td>
<td>0.685</td>
<td>-0.258</td>
</tr>
<tr>
<td>Mango</td>
<td>0.167</td>
<td>-0.806</td>
<td>0.061</td>
</tr>
<tr>
<td>Pineapples</td>
<td>-0.364</td>
<td>0.063</td>
<td>-0.303</td>
</tr>
<tr>
<td>Apple</td>
<td>0.221</td>
<td>0.158</td>
<td>0.503*</td>
</tr>
</tbody>
</table>

- For Japan the direct price elasticity decreased -0.91 in 1971 to -0.33 in 1993 (Seale et al. 2005). Also household studies in Japan confirm this trend (Abdulla et al. 2011)

- Income elasticity – Example Recession response
  - lower sensitivity of tropical fruits consumption to changes in income, compared to the other commodities. (FAO CCP:BA/TF 09/CRS 14)
Export Market Access

- Quarantine and Phytosanitation Requirements
  - As agricultural scientists our first concern is always a healthy plant in a healthy environment.
  - But is this always in the interest of the banana plant, the banana producer and the banana consumer? Impacts on consumers should also carefully evaluated (James and Anderson, 1998).
Market ruptures due to external events

- Examples

- Political sanctions to Iran are hampering the banana trade since 2010 – Banana export industry becomes “collateral damage”.

- Abrupt closure and ban of China market for export from Philippines
Market ruptures due to external events – not always negative for the banana producer.

Kaiko Akai is very annoyed. The attractive 21-year-old university student has been planning to do a banana diet for some time now, but she can’t get started — and not for lack of trying. “I keep going to OK Store, my local supermarket every single day,” she says. “In fact, I’ve just been there. There are no bananas on the shelves, and it’s been like that for a month.”

Akai has never weighed more than 100 pounds, and is so slim that her waist is swimming in Zara’s smallest size XS skirt. She doesn’t need to lose any weight. But Japanese girls obsessed with diets tend to jump at any trendy new ones, so, when Akai heard about a popular actress who’d lost 26 pounds through the Morning Banana Diet, she had to try it. And the dearth of bananas as her local supermarket, and many others, is testimony to the popularity of the new dieting fad.
Thank You Very Much!