The Impact of Food Safety Standards on an Export-Oriented Supply Chain: Case of the Horticultural Sector in Guatemala

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Outline

- Introduction
- Aim of the study
- Framework
- Guatemala’s horticultural sector
- Two case studies
  - Snow Peas
  - Berries
- Conclusions
Introduction

- Proliferation and enhance stringency of food safety standards
- Standards can act as barriers to trade
- Conversely, standards can act as catalyst for upgrading and innovation
- Developing countries face limitations to respond strategically to standards
- Impacts on exports depend on the capacity to comply with standards
Aim of the study

- The present case study analyses the impact of food safety standards on the horticultural sector of Guatemala
- Focuses on exports of snow peas and berries to the United States, where problems have been experienced with pesticide residues and microbiological contamination
Framework

Strategic response to food safety standards

<table>
<thead>
<tr>
<th></th>
<th>Reactive</th>
<th>Proactive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exit</strong></td>
<td>Wait for standards and give up</td>
<td>Anticipate standards, leave particular markets or market segments, and make other commercial shifts</td>
</tr>
<tr>
<td><strong>Loyalty</strong></td>
<td>Wait for standards and then adopt measures to comply</td>
<td>Anticipate standards and comply ahead of time</td>
</tr>
<tr>
<td><strong>Voice</strong></td>
<td>Complain when existing standards are applied or new measures are adopted</td>
<td>Participate in standard creation and/or negotiate before standards are applied</td>
</tr>
</tbody>
</table>

Source: Henson and Jaffee (2007)
Framework (Cont’d)

Actors in strategic response to evolving food safety standards

<table>
<thead>
<tr>
<th></th>
<th>Individual</th>
<th>Collective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public</strong></td>
<td>Specific Ministry or agency</td>
<td>Inter-ministerial taskforces&lt;br&gt;Government to government&lt;br&gt;memoranda of understanding&lt;br&gt;Multi-country SPS counter-notification</td>
</tr>
<tr>
<td><strong>Public-private</strong></td>
<td>Subsidies/Co-financing&lt;br&gt;Joint-ventures</td>
<td>Joint public-private sector&lt;br&gt;task-forces</td>
</tr>
<tr>
<td><strong>Private</strong></td>
<td>Firm/farm investments&lt;br&gt;Company ‘codes of practice’</td>
<td>Trade/industry associations&lt;br&gt;Grower associations&lt;br&gt;Partnerships in coordinated supply chains</td>
</tr>
</tbody>
</table>

*Source: Henson and Jaffee (2007)*
Guatemala’s horticultural sector

- Non-traditional agricultural exports as an economic development strategy since 1980s
- Fruit and vegetable exports have increased considerably in the last two decades
- However, exports still face several food safety problems
- United States is the main market for Guatemala’s exports of fruits and vegetables
Guatemala’s hort. sector (Cont’d)

Guatemalan agricultural exports to the US, 1989-2006

Source: Department of Commerce, U.S. Census Bureau, Foreign Trade Statistics (2007)
Guatemala’s hort. sector (Cont’d)

US border detentions of agricultural and food product imports from Guatemala, 2000-2006

<table>
<thead>
<tr>
<th>Product</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
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<tbody>
<tr>
<td>Edible Seeds</td>
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<td>4</td>
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<td>0</td>
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<tr>
<td>Squash</td>
<td>8</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Meats and Seafood</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Sauces/Seasoning</td>
<td>9</td>
<td>6</td>
<td>5</td>
<td>12</td>
<td>7</td>
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<tr>
<td>Beverages</td>
<td>2</td>
<td>10</td>
<td>2</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Cereals and Chips</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Fresh/French Beans</td>
<td>4</td>
<td>16</td>
<td>23</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Fresh Peas</td>
<td>35</td>
<td>33</td>
<td>23</td>
<td>18</td>
<td>27</td>
</tr>
<tr>
<td>Other Fruit and Vegetables</td>
<td>11</td>
<td>19</td>
<td>18</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>80</td>
<td>95</td>
<td>94</td>
<td>76</td>
<td>102</td>
</tr>
</tbody>
</table>

*Source: FDA (2007a)*
Snow peas

- Guatemala is the main exporter of snow peas to the United States
- Guatemala has consistently had problems of pesticide residues with snow peas in the US market
- Although exports have grown, border detentions and price discounts have seriously diminished export revenue
- Guatemala has responded by improving pesticide management and raising ‘voice’ through the Integral Program for Agricultural and Environmental Protection (PIPAA)
Snow peas (Cont’d)

Volume of US fresh pea imports by source, 1989-2006

Snow peas (Cont’d)

Unit price of fresh pea imports to the US by destination

Fresh Berries

- Raspberry industry was very promising at the beginning of 1990s, as another NTAE promotion initiative

- Microbiological contamination due to *Cyclosporiasis* caused the demise of the industry

- Guatemala responded with the Model Plan of Excellence, which was a technical success, but not economically-feasible

- Reputation affected not only raspberry industry, but also other berries (e.g., blackberries)
Fresh Berries (Cont’d)

Volume of Guatemalan fresh berry exports, 1994-2006

Source: SIECA (2007)
Conclusions

- Snow pea and berry cases illustrate the challenges associated with food safety standards
- Response of Guatemala can be broadly characterized as ‘reactive’
- Raspberry case has been more dramatic, which affected not only this product, but also other berries
- The positive outcome of these two cases has been the multi-sector response to face both cases.
- It is generally considered that actions taken have significantly contributed to enhance food safety controls in the horticultural sector