Prioritizing SPS Investments for Market Access: An Overview of the Framework

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The SPS capacity-building challenge

- The SPS capacity gap
- Limited resources is the fundamental problem
- This requires that coherent and evidence-based plans are defined for SPS capacity-building
- The decision-making process in many countries is a long way from this!
WE USE A NUMBER OF COMPLEX MEASURES IN DETERMINING OUR INVESTMENT DECISIONS.
Optimal planning for SPS capacity-building

- Evidence-based priorities
- Focus on the costs and benefits of enhanced capacity
- Make full and careful use of available information
- Maximum transparency
- ‘Living process’
The P-IMA framework

• Structured approach to establishing priorities between alternative SPS capacity-building options
• Enhances transparency of SPS capacity-building decisions
• Facilitates inputs to priority-setting from diverse stakeholders

Greater resource efficiency
Demand-driven capacity-building
Enhanced trade and social impacts
Development of the P-IMA Framework

• Looked at various ways in which SPS capacity-building needs might be prioritised:
  • Cost-benefit analysis (CBA)
  • Cost-effectiveness analysis (CEA)
  • Multi-criteria decision analysis (MCDA)
• MCDA considered ‘best’ approach
• Process developed around the use of MCDA
What is MCDA?

- Way of making choices on basis of multiple criteria
- Applied when:
  - Choices driven by more than one criterion
  - No one option is clearly the best
- Recognises the need to make trade-offs when options perform well on some criteria and less well on others
- Widely used family of techniques in private and public sectors
### Using MCDA – Choosing a Car

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Weight</th>
<th>Capacity-Building Options</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Audi</td>
</tr>
<tr>
<td>Cost</td>
<td>20%</td>
<td>22</td>
</tr>
<tr>
<td>Recommended by a friend</td>
<td>72%</td>
<td>1</td>
</tr>
<tr>
<td>Fuel consumption</td>
<td>8%</td>
<td>8</td>
</tr>
</tbody>
</table>
## Basic P-IMA Framework Structure

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
<th>Capacity-Building Options</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Option1</td>
<td>Option 2</td>
<td>Option 3</td>
<td>Option 4</td>
<td>Option 5</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>20%</td>
<td>$3 million</td>
<td>$500,000</td>
<td>$2 million</td>
<td>$250,000</td>
<td>$3 million</td>
</tr>
<tr>
<td><strong>Impact on Exports</strong></td>
<td>30%</td>
<td>30%</td>
<td>20%</td>
<td>50%</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Health Impact</strong></td>
<td>30%</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Poverty Impact</strong></td>
<td>20%</td>
<td>Minor</td>
<td>Major</td>
<td>Moderate</td>
<td>Minor</td>
<td>Major</td>
</tr>
<tr>
<td><strong>Ranking</strong></td>
<td></td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>
Stages to the P-IMA Process

Compilation of Information Dossier

Definition of Choice Set

Definition of Decision Criteria and Weights

Compilation of Information Cards

Review of Information Cards

Derivation of Quantitative priorities

Validation

Sifting of Options
Stages to the P-IMA Process

Compilation of Information Dossier → Definition of Choice Set → Sifting of Options

Definition of Decision Criteria and Weights → Compilation of Information Cards

Review of Information Cards → Derivation of Quantitative priorities → Validation
Capacity-Building Options - Vietnam

- Food safety controls for shrimp production for export
- Food safety controls for Pangasius production for export
- Food safety controls for capture fish and fishery product exports
- Food safety controls for fresh fruit and vegetable and aromatic herb exports
- Hygiene controls for spice exports
- Residue controls for honey exports
- Plant pest controls for chilli and aromatic herb exports
- Plant pest controls for mangosteen exports
- Plant pest controls for rambutan exports
- Controls on pesticide residues for rice exports
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## Decision criteria and weights

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Decision Criteria</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Costs and Difficulty of implementation</strong></td>
<td>Up-front investment</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>On-going costs</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>Difficulty of implementation</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Trade impacts</strong></td>
<td>Impact on exports</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>Trade diversification</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>Impact on international reputation</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>Impact on capacity to deal with future SPS problems</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Direct agri-food impacts</strong></td>
<td>Impact on agricultural productivity</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>Impact on domestic public health</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>Impact on environment</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Social impacts</strong></td>
<td>Livelihood</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>Impact on vulnerable groups</td>
<td>6%</td>
</tr>
</tbody>
</table>
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## Measurement of decision criteria

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost/Difficulty of implementation</strong></td>
<td></td>
</tr>
<tr>
<td>Up-front investment</td>
<td>Absolute value (US$)</td>
</tr>
<tr>
<td>Annual on-going costs</td>
<td>Absolute value (US$)</td>
</tr>
<tr>
<td>Difficulty of implementation</td>
<td>Very easy (-3) to Very difficult (+3)</td>
</tr>
<tr>
<td><strong>Trade impact</strong></td>
<td></td>
</tr>
<tr>
<td>Change in absolute value of exports</td>
<td>Absolute value in 2017 (US$)</td>
</tr>
<tr>
<td>Trade diversification impact</td>
<td></td>
</tr>
<tr>
<td>Impact on international reputation</td>
<td>Large negative (-3) to Large positive (+3)</td>
</tr>
<tr>
<td>Impact on ability to deal with future SPS problems</td>
<td></td>
</tr>
<tr>
<td><strong>Domestic agri-food impacts</strong></td>
<td></td>
</tr>
<tr>
<td>Agricultural/fisheries productivity</td>
<td>Very negative (-3) to Large positive (+3)</td>
</tr>
<tr>
<td>Domestic public health</td>
<td></td>
</tr>
<tr>
<td>Environmental protection</td>
<td></td>
</tr>
<tr>
<td><strong>Social impacts</strong></td>
<td></td>
</tr>
<tr>
<td>Impact on livelihoods</td>
<td>Multiplicative scale composed of scale of impact (number of people affected) on scale from 0 to 10 and magnitude of impact (degree to which livelihood is impacts) on scale from -10 to +10.</td>
</tr>
<tr>
<td>Impact on vulnerable groups/areas</td>
<td>Very negative (-3) to Large positive (+3)</td>
</tr>
</tbody>
</table>
## Food safety controls for aquaculture production of shrimp for export

<table>
<thead>
<tr>
<th>Decision Criterion</th>
<th>Value</th>
<th>Details</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost and difficulty of implementation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up-front investment</td>
<td>US$240.7 million</td>
<td>Average cost per farm of GAP implementation and certification estimated at US$14,534. Number of farms in 2012 was around 30,000 of which 20% already GAP certified. Approximately, 70 per cent of shrimp production in 2011 was destined for EU, US, Japan and Australia.</td>
<td></td>
</tr>
<tr>
<td>On-going cost</td>
<td>US$42.6 million</td>
<td>Costs of official post-harvest monitoring plan around US$3 million/year. Farm-level costs of around US$2,720 per farm. Number of farms in 2012 was around 30,000 of which 20% already GAP certified. Approximately, 70 per cent of shrimp production in 2011 was destined for EU, US, Japan and Australia.</td>
<td></td>
</tr>
<tr>
<td>Difficulty of implementation</td>
<td>+2</td>
<td>Difficult—very large number of small producers, including many smaller producers.</td>
<td>High</td>
</tr>
<tr>
<td><strong>Trade impact</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in absolute value of exports</td>
<td>US$204.6 million</td>
<td>Significant reduction (say 80%) in import rejections in major export markets (currently around US$7 million/year). If do not upgrade food safety controls, likely to see loss of non-GAP-certified shrimp exports to EU, US, Japan and Australia (estimated at US$1.33 billion in 2011). To some extent will be offset by increased exports to regional markets, notably China. Say, 15% decline in medium term overall.</td>
<td></td>
</tr>
<tr>
<td>Trade diversification</td>
<td>+2</td>
<td>Ultimately, the lack of such controls could lead to loss of key markets, requiring greater reliance on regional markets.</td>
<td>Medium</td>
</tr>
<tr>
<td>International reputation</td>
<td>+3</td>
<td>Viet Nam has high rates of rejections in its main export markets due to antibiotic residues and microbiological contamination. Significant reductions in the number of rejections will enhance Viet Nam's international reputation appreciably.</td>
<td>High</td>
</tr>
<tr>
<td>Capacity to deal with future SPS problems</td>
<td>+3</td>
<td>Implementation of GAP and associated official controls will mean much greater control of food safety along the value chain. As a result, will be much greater ability to prevent and control future problems.</td>
<td>High</td>
</tr>
<tr>
<td><strong>Domestic agri-food impact</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural/fisheries productivity</td>
<td>+1</td>
<td>Yields may decline due to lower antibiotic use. But better disease control could offset this. May get higher price due to lower rejection levels, increased exports, etc.</td>
<td>Medium</td>
</tr>
<tr>
<td>Domestic public health</td>
<td>0</td>
<td>Some sales to domestic market, although in medium term likely that GAP will be implemented in value chains directed at export markets. Overall impact likely to be minimal.</td>
<td>Medium</td>
</tr>
<tr>
<td>Environmental protection</td>
<td>0</td>
<td>Negative if leads to increased production area. But GAP should mean is a lesser environmental impact of production. Overall, probably neutral.</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Socio-economic impact</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Impact on livelihoods                                   | 90             | Large numbers of people employed directly or indirectly in the shrimp aquaculture sector (estimated at around 1 million), many of which are poor. Could expect significant decline in livelihood if appreciable loss of exports. Scale = 9/Impact=10 

Impact on vulnerable groups                             | -2             | Shrimp production involves a large number of poor small-scale producers. Involvement of women is limited in aquaculture production. Women extensively involved in processing sector. Implementation of GAP likely to lead to consolidation of production away from small-scale producers.                                                                 | Medium     |
Stages to the P-IMA Process

1. Compilation of Information Dossier
2. Definition of Choice Set
3. Definition of Decision Criteria and Weights
4. Compilation of Information Cards
5. Review of Information Cards
6. Derivation of Quantitative Priorities
7. Validation
8. Sifting of Options
Decision criteria measures scores – up-front investment ($)

- Residue controls for honey exports
- Plant pest controls for chilli and aromatic herb exports
- Food safety controls for aquaculture production of shrimp for export
- Plant pest controls for mangosteen exports
- Food safety controls for fresh fruit and vegetable and aromatic herb exports
- Plant pest controls for rambutan exports
- Controls on pesticide residues for rice exports
- Hygiene controls for spice exports
- Food safety controls for capture fish and fishery product exports
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D-Sight Analysis Platform
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8. **Sifting of Options**
Prioritisation – Equal weights model

Residue controls for honey exports
Food safety controls for capture fish and fishery product exports
Controls on pesticide residues for rice exports
Food safety controls for fresh fruit and vegetable and aromatic herb exports
Plant pest controls for mangosteen exports
Food safety controls for aquaculture production of penagius for export
Food safety controls for aquaculture production of shrim for export
Plant pest controls for rambutan exports
Plant pest controls for chilli and aromatic herb exports
Hygiene controls for spice exports
Using the Outputs of the P-IMA Framework

- Evidence to support development of SPS projects
- Help mobilize resources
- Guide the development of national SPS action plans
- Improve SPS planning and decision-making processes
Practical implementation of the P-IMA framework

- Technical working group must be in place from the outset
- Resources are needed to implement the framework
- Need buy-in at all levels of decision-making process
- Need a champion!
- Linkages and discourse with stakeholders are critical
- ‘Living process’
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Validation
Challenges in implementing the framework

• Framework can be challenging at first:
  • New way of making decisions
  • New way of thinking about SPS capacity-building
  • Mechanics of the process

• Enhanced transparency can be threatening to some
Training in the Application of the P-IMA Framework

• Historically been undertaken face-to-face:
  • User manual
  • Aflandia case study

• Remote training module been developed:
  • Facilitation manual
  • South Indantia case study
For More information.....

https://www.standardsfacility.org/prioritizing-sps-investments-market-access-p-ima