

**STDF**

Standards and Trade  
Development Facility

# PRIORITIZING SPS INVESTMENTS FOR MARKET ACCESS (P-IMA)

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A FRAMEWORK TO INFORM AND IMPROVE  
SPS DECISION-MAKING PROCESSES







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Development Facility

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DECISION-MAKING PROCESSES

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The findings, interpretations and conclusions expressed in this document are entirely those of the author. They do not necessarily represent the view of the STDF or any of its partner agencies or donors.

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<sup>1</sup> For information on this workshop, see: <http://www.standardsfacility.org/prioritizing-sps-investments-market-access-p-ima>

# ACRONYMS

<b>APHIS</b>	Animal and Plant Health Inspection Service, United States
<b>CAADP</b>	Comprehensive Africa Agriculture Development Programme
<b>COMESA</b>	Common Market for Eastern and Southern Africa
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FMD</b>	Foot and Mouth Disease
<b>GAP</b>	Good agricultural practice
<b>IICA</b>	Inter-American Institute for Cooperation on Agriculture
<b>IPPC</b>	International Plant Protection Convention
<b>MCDA</b>	Multi criteria decision analysis
<b>MRL</b>	Maximum residue level
<b>NPPO</b>	National Plant Protection Organization
<b>NPV</b>	Net present value
<b>OIE</b>	World Organisation for Animal Health
<b>PCE</b>	Phytosanitary Capacity Evaluation Tool
<b>P-IMA</b>	Prioritizing SPS Investments for Market Access
<b>PVS</b>	Tool for Evaluation of the Performance of Veterinary Services, OIE
<b>SPS</b>	Sanitary and phytosanitary
<b>STDF</b>	Standards and Trade Development Facility
<b>USAID</b>	United States Agency for International Development
<b>USDA</b>	United States Department of Agriculture
<b>WHO</b>	World Health Organization
<b>WTO</b>	World Trade Organization



# INTRODUCTION

Developing countries face considerable demands to enhance their sanitary and phytosanitary (SPS) capacity in the context of broader domestic economic and social policy objectives, including the desire to boost agri-food exports. In most cases, the resources available to governments from national budgets, donors and/or private businesses are insufficient to meet all of the identified needs, especially when prevailing export-oriented SPS capacity is weak. This requires hard choices to be made between competing investments that may all be likely to bring appreciable benefits, for example in terms of export performance, agricultural productivity and/or health protection.

Prioritizing investments in SPS capacity-building in the context of scarce resources is not easy. Proponents of competing investments will almost always be able to make compelling cases why particular weaknesses should be addressed immediately, while other investments can wait. Efforts to establish priorities will be closely scrutinised and often questioned by those who favour investments that are judged to be of lower priority. It is critical, therefore, that priorities are set in a coherent and transparent manner so that the results can be understood and appraised by diverse public and private sector stakeholders that may have competing interests and/or perspectives based on their specific mandates.

## A framework to inform and improve SPS decision-making processes

The Standards and Trade Development Facility (STDF), in collaboration with USAID, USDA, COMESA and governments in a number of developing countries, has developed a framework to help inform and improve SPS planning and decision-making processes. Known as “*Prioritizing SPS Investments for Market Access*” (P-IMA), the framework aims to inform and improve decisions on where to invest in SPS capacity, if and when resources are limited. Its use will contribute to a number of positive results (see Box 1).

### Box 1. Expected results of using the P-IMA framework

- Evidence on the likely impacts (e.g. on trade, poverty reduction, public health) of investing in SPS capacity that can help to obtain additional resources from national sources or donors.
- Greater economic efficiency of SPS investment decisions. Scarce resources are more likely to be allocated in a way that supports policy objectives (e.g. economic development, poverty reduction, public health, agricultural development).
- More transparent and accountable choices between multiple investment options.
- Improved dialogue between diverse public, private and other stakeholders with an interest in SPS capacity building, and more inclusive decision-making processes.

## Box 2. Reported benefits of using the P-IMA framework

- In Belize, use of the P-IMA framework provided the evidence needed to obtain public resources to address key SPS priorities and to avoid investing in areas of low impact.
- In Mozambique, stakeholders used the findings of the analysis to inform project design and secure donor funds to address two of the top-ranked priorities.
- In COMESA Member States, use of P-IMA helped to raise high-level awareness about the importance of SPS capacity and ensured that SPS priorities were integrated in agriculture sector investment plans under the Comprehensive Africa Agriculture Development Programme.
- In Africa, USAID reported that from its perspective, P-IMA represents a step towards more traditional cost benefit analysis and an increase in the rigour of project selection and design.

The P-IMA framework helps to inform SPS decision-makers by engaging all the relevant stakeholders in a discussion of possible SPS investment needs, identifying and using decision criteria and weights to prioritize investment options, and making transparent all the data and information utilized. It makes use of multi criteria decision analysis (MCDA) to consider and evaluate decision criteria, and prioritize a range of possible SPS investments. MCDA is not new. Governments and the private sector have been using MCDA to inform decision-making processes (e.g. in the area of natural resource management or transportation) since the 1960s. In the public health area, authorities in Canada have used a multi criteria decision analysis framework to rank foodborne risks. The P-IMA framework enables SPS decision-makers to use and benefit from this approach. It aims to encourage a fundamental shift in the way in which decisions on SPS capacity-building investments are made. It seeks to move towards greater efficiency in the use of scarce resources and to enhance the transparency and accountability of resource allocation decisions. While decisions might still be made to pursue SPS investments that are not prioritized highly (e.g. for political or other reasons), using P-IMA makes transparent all the information on which priorities are established, and puts the onus on decision-makers to justify their choices.

Demand for this framework came from interest expressed by participants at an STDF workshop in 2009 on the use of economic analysis and other methodologies to inform SPS decision-making

processes.<sup>2</sup> During this workshop, SPS delegates from developing countries requested support to use evidence-based approaches to inform decisions on where to invest in SPS capacity-building, raise high-level awareness and attract additional resources to address SPS-related supply-side constraints.

### Initial results and experiences with the use of P-IMA

From 2011 until 2015, the P-IMA framework was applied in 10 developing countries, which differed in the scale and diversity of their agri-food exports, and the range and magnitude of SPS capacity-building needs.<sup>3</sup> These experiences highlighted many of the benefits, for instance, in terms of facilitating public-private dialogue on SPS matters, increasing political awareness about the benefits of investing in SPS capacity (linked to trade, economic growth, agricultural productivity, etc.), informing project design and leveraging additional funding (Box 2). They also demonstrated that it is possible and valuable to use the P-IMA framework even where there is limited access to data or where officials have little or no prior experience with structured approaches to priority-setting.

<sup>2</sup> Henson, S.J. and Maskaure, O. (2007). Guidelines on the Use of Economic Analysis to Inform SPS-related Decision-Making. Geneva: Standards and Trade Development Facility. See: [http://standardsfacility.org/sites/default/files/STDF\\_Coord\\_291\\_Guidelines\\_22Jan10\\_0.pdf](http://standardsfacility.org/sites/default/files/STDF_Coord_291_Guidelines_22Jan10_0.pdf)

<sup>3</sup> Notably Belize, Ethiopia, Malawi, Mozambique, Namibia, Rwanda, the Seychelles, Uganda, Zambia and Vietnam. See the STDF website for more information: <http://www.standardsfacility.org/prioritizing-sps-investments-market-access-p-ima>

## About this user guide

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This document provides a detailed, step-by-step guide to apply the P-IMA framework. It is targeted specifically at experts who are tasked with using the P-IMA approach to prioritize SPS capacity-building needs. Other stakeholders involved in this process, as well as officials in government departments and ministries responsible for planning or finance, donors and development partners, may also find this approach to be of interest.

This guide has been prepared based on the experiences and lessons in using the framework in developing countries, as well as feedback received from experts in relevant national and regional organizations, STDF partners, donors and observer organizations. While it is intended to be self-explanatory and easy-to-follow for individuals wishing to use the P-IMA approach, additional guidance and advice is available in case of need.<sup>4</sup> An STDF Briefing Note providing a concise introduction to the P-IMA framework is also available.<sup>5</sup>

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4 For guidance or further information, contact the STDF Secretariat [STDFSecretariat@wto.org](mailto:STDFSecretariat@wto.org).

5 See: <http://www.standardsfacility.org/prioritizing-sps-investments-market-access-p-ima>

# HOW DOES P-IMA WORK?

The P-IMA framework provides a structured process to establish priorities among a set of multiple SPS capacity-building needs, where available resources are insufficient to address all of these needs at the current point in time.<sup>6</sup> This is the situation in which most governments find themselves, especially in developing countries where prevailing food safety, animal health and/or plant health capacity tends to be weak and limited resources are available in both the public and private sector. Not only do tough choices have to be made, but resources need to be used as effectively and efficiently as possible given the extent of economic and social development priorities.

Importantly, SPS capacity-building needs that are supported by those with the “loudest voice” may not be the best things to invest in *first*. Rather priorities should be established on the basis of clear criteria and a transparent process so that they are open to scrutiny and can be revisited as more and/or better data become available. As such, the P-IMA framework should ideally be used on an on-going basis, for instance to take account of new information, new SPS capacity-building options that emerge and/or needs that have been addressed or are no longer relevant.

## Scope of the P-IMA framework

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The WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) sets out the basic rules on how governments can apply food safety and animal and plant health measures (sanitary and phytosanitary or SPS measures) to protect health and facilitate trade. It aims to achieve a balance between the right of WTO Members to implement legitimate health protection policies and the goal of allowing the smooth flow of goods

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<sup>6</sup> This framework takes as its starting point work on the development of a decision tool for priority-setting in the context of microbial food-borne disease in Canada. See: Henson, S. J., Caswell, J.A., Cranfield, J.A.L., Fazil, A.F., Davidson, V.J., Anders, S.M. and Schmidt, C. (2007). *A Multi-Factorial Risk Prioritisation Framework for Food-Borne Pathogens*. Amherst MA: Department of Resource Economics, University of Massachusetts.

across international borders without unnecessary restrictions. Developing countries typically face a variety of SPS capacity-building needs related to weaknesses in their ability to protect domestic health and/or meet SPS requirements in export markets.

This guide explains how the P-IMA framework can be used to prioritize diverse SPS capacity-building needs related to market access. Depending on the particular context, these needs may relate to food safety, animal and/or plant health challenges affecting exports. The guiding principles behind the framework are outlined in Box 3.

Reflecting the STDF’s mandate, the focus of the P-IMA framework is on SPS weaknesses that impede exports of agri-food products. Clearly this represents only part of the rationale for investing in SPS capacity. Other food safety, plant health and/or animal health issues are often of major domestic concern, even if they may have a limited influence on exports. Additional factors (e.g. transportation, compliance with technical regulations and standards) can also influence trade. It is important to recognize these confines to the P-IMA framework, even if the framework captures domestic spill-overs from investments focused on enhancing export performance.<sup>7</sup> Ideally, use of this framework would be accompanied by efforts to fully understand and prioritize capacity-building needs in the areas of food safety, plant health and/or animal health, as well as in the TBT arena, as a whole.

The particular set of SPS capacity-building needs or investment options to be prioritized using the P-IMA framework are selected and agreed upon by the stakeholders involved. New SPS capacity-building needs or investments can easily be incorporated once the process is underway. Guidance on the

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<sup>7</sup> As explained on pages 43-45, the approach outlined in this User Guide has been used successfully to inform and prioritize interventions in other areas. For instance, in Belize and Malawi, based on the success of using the P-IMA framework to prioritize SPS investments, the same approach was used to inform strategic planning and priority-setting in other areas including agriculture and trade facilitation.

### Box 3. Guiding principles

The P-IMA framework is based on four key principles:

**Flexibility:** It can be applied to as many potential capacity-building needs as considered relevant, as well as diverse decision criteria that might be measured in distinct ways given available data.

**Pragmatism:** The design balances rigour in establishing priorities with the almost inevitable problem of scarce and/or weak data. The framework seeks to make use of the best data and information available. When new or better data become available, this can be easily incorporated.

**Participation:** Inputs are encouraged from stakeholders (e.g. government, private sector, research and academia) with an interest in strengthening SPS capacity.

**Transparency:** The framework makes clear the criteria and information on which priorities are established so that they are open to scrutiny and can be challenged.

definition of the SPS capacity-building options to be considered during the analysis, and the type of decision criteria, is provided later (see Stage 2 and 3).

#### Complementing sector-specific capacity evaluation tools

Most efforts to identify and/or prioritize SPS-related capacity-building needs adopt a sectoral perspective, whereby existing food safety, animal health and/or plant health capacity is assessed in order to identify weaknesses and capacity building needs to address them. International and regional organizations have developed capacity evaluation tools to help benchmark food safety, animal and plant health capacity to international standards and/or established norms (see Box 4). Use of these official capacity evaluation tools is strongly encouraged to enable countries to properly identify and fully understand the full range of weaknesses that exist in the area of food safety, animal and plant health capacity, whether related to domestic health or trade. Whilst it is not essential that these tools have been employed prior to the application of the P-IMA framework, it is strongly recommended.

With its focus on prioritizing SPS investments for market access, the P-IMA framework, takes a different perspective and complements the SPS-related capacity evaluation tools mentioned above. This approach recognizes that: (i) not all weaknesses in food safety, animal or plant health capacity

impede agri-food exports; and (ii) SPS capacity across the public and private sector is relevant to export performance.

#### Transparent use of multiple criteria to prioritize SPS investment options

The guiding principles behind the P-IMA framework are outlined in Box 3. The framework is designed to enable priorities to be established amongst multiple, and often large numbers of, SPS capacity-building options that can differ markedly in their characteristics and the associated flow of costs and benefits over time. Furthermore, it facilitates

#### Box 4. Key sector-specific capacity evaluation tools

- FAO/WHO Food Control System Assessment Tool
- IPPC's Phytosanitary Capacity Evaluation (PCE) Tool
- OIE's Tool for the Evaluation of Performance of Veterinary Services (PVS)
- IICA's SPS-related capacity evaluation tools

For more information, see: <http://standardsfacility.org/capacity-evaluation-tools>

prioritization on the basis of multiple criteria that are measured in distinct ways and to which differing weights might be assigned. In so doing, the framework aims to mimic the manner in which resource allocation decisions are made in practice, although often such decisions are less structured and lack transparency.

In making decisions in our daily lives or in professional settings, we usually consider and evaluate a number of different criteria. In many decisions, these different criteria are considered implicitly and decisions are often made based mainly on intuition. When decisions concern complex issues, have major implications on resources and/or are likely to affect multiple stakeholders, it can be valuable to clearly identify the range of decision-making options and explicitly evaluate multiple criteria. This process, when well-structured and carried out, tends to result in more informed and better decisions. The P-IMA framework uses multi criteria decision analysis (MCDA) to facilitate this process (see Box 5). Some international organizations, notably FAO, are exploring the use of MCDA to support evidence-informed food safety policies and risk management decisions.<sup>8</sup>

### Steps in the using the P-IMA framework

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The P-IMA framework proceeds through a logical sequence of steps, which are outlined in Figure 1. Whilst no prior knowledge of MCDA is required, it is assumed that the framework is applied by a multi-disciplinary team (the so-called “Working Group”), which in addition to SPS experts also includes some experts with basic knowledge of economic analysis principles. SPS stakeholders from the public and private sector are engaged and consulted throughout the process. This user guide explains these steps in detail.

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<sup>8</sup> See <http://www.fao.org/3/a-i3944e.pdf>, <http://www.fao.org/3/a-i3920e/i3920e15.pdf> and <http://www.fao.org/3/5e9f91b5-c3f5-4e3f-b8ef-bcaf57f1e848/au639e.pdf>

## Box 5. Multi-criteria decision analysis

As its name implies, multi criteria decision analysis (MCDA) offers an approach to consider and evaluate different criteria to support decision-making. MCDA is not something new. Governments and the private sector have been using MCDA, often in relation to decisions on natural resource management or transportation, to inform their decision-making processes since the 1960s. In the public health area, authorities in Canada have used a multi criteria decision analysis framework to rank foodborne risks. The example below provides a simple illustration of how MCDA works in practice.

Table 1 presents an illustrative simple example – buying a car. Specifically, the table outlines five models of car from which a choice has to be made. It is judged that four criteria are relevant to deciding how to prioritize these five options: 1) cost; 2) maximum speed; 3) whether the model has been recommended by a friend (who is judged to be knowledgeable about cars) and 4) fuel consumption. Presumably, a decision-maker will aim to minimise decision criteria 1 and 4, and maximise criteria 2 and 3.

**Table 1. Illustrative example of multi-criteria decision analysis**

Decision Criteria		Decision Weights	Model of Car				
			Model 1	Model 2	Model 3	Model 4	Model 5
1	Cost (\$)	20%	50,000	20,000	35,000	15,000	50,000
2	Maximum speed (Km/hour)	30%	150	120	180	100	140
3	Recommended by friend	30%	No	Yes	No	Yes	Yes
4	Fuel consumption	20%	High	Low	Moderate	High	Low

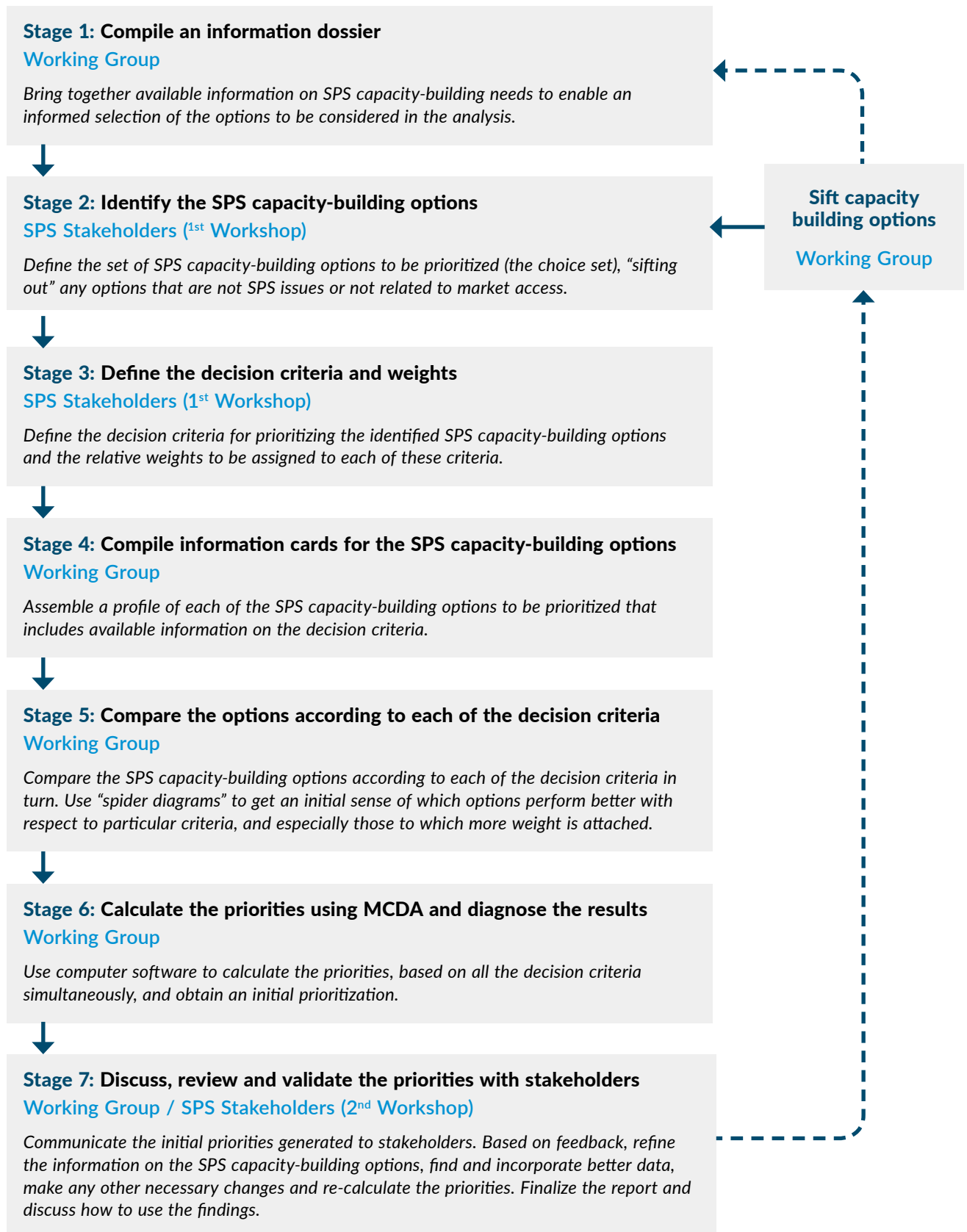
Given that none of the five models of car performs best across all four decision criteria – in which case the top option would be obvious – the prioritization of these options is not straightforward; the models need to be compared on the basis of the four decision criteria simultaneously. The task is further complicated by the fact that the decision criteria are not considered of equal importance, as indicated by the decision weights. Thus, decision criteria 2 and 3 are considered more important than criteria 1 and 4. The broad group of techniques known as MCDA provide a systematic way in which to address this problem; that is how to compare a range of capacity-building options on the basis of multiple decision criteria, which are not weighted equally?

In order to employ MCDA in the context of buying a car (or setting priorities amongst SPS capacity-building investments) in practice, each of the key elements in Table 1 need to be defined, specified in a measurable manner and then actually measured. That is:

- The options to be considered (i.e. the five different car models under consideration).
- The decision criteria on which the prioritization is to be based.
- The weights to be applied to each of the decision criteria.

In turn, measurements need to be assigned to each of the options across the defined decision criteria, as in Table 1. MCDA can only be applied after the prioritization problem has been so-specified and the related data have been assembled.

**Figure 1. Steps involved in using the P-IMA framework**





# PREPARING TO USE THE P-IMA FRAMEWORK

Experience with applying the framework to date demonstrates the need to be well prepared and to see the establishing of priorities as a collective exercise that draws on the expertise and experience of the wider agri-food and trade community within a country. The following preparatory groundwork is recommended to ensure that there is the necessary capacity to apply the P-IMA framework properly, and also buy-in within government and among wider stakeholders.

1. Brief senior government officials (including those responsible for SPS controls, agriculture, trade, finance and resource allocations) about the P-IMA framework, its purpose and potential benefits. This is important to ensure broad awareness and acceptance of the P-IMA framework and the principles by which it establishes priorities amongst competing SPS capacity-building, and to encourage support for the resulting analysis. National SPS committee meetings could be used to share information with key stakeholders. Looking beyond the public sector, it is also valuable to inform and engage stakeholders in the private sector, including those with a specific interest in particular export commodities, as well as civil society and academia. Broad-based efforts at the outset to engage all relevant SPS stakeholders, and establish linkages and dialogue across the areas of food safety, animal health and plant health, will enhance the subsequent process of using the P-IMA framework and build support for the outcomes.
2. The P-IMA framework is most easily applied where there is awareness and quite detailed knowledge of prevailing weaknesses in SPS capacity. Ideally, countries should first have applied SPS-related capacity evaluation tools to properly understand the specific weaknesses in SPS capacity that exist in the context of efforts to promote agri-food exports (see Box 4).
3. Create a small working group responsible for applying the P-IMA framework (see Box 6 for examples). While the composition of this group will differ between countries, reflecting

## Box 6. Examples of P-IMA working groups

In **Zambia**, the team responsible for the work carried out in 2015 to prioritize export-focused SPS investments comprised five experts covering food safety, animal and plant health, and trade. These included government officials from the Veterinary Department, the Phytosanitary Service and the Standards Body, as well as an economist from a national agricultural and trade policy research institute. COMESA provided some assistance to the team in Zambia, including through two regional resource persons.

In **Belize**, the P-IMA framework was applied in 2012 under a small STDF project. The working group responsible for the data collection and analysis work was led by the Belize Agricultural Health Authority. An external consultant was engaged to facilitate and provide guidance during the process.

In **Vietnam**, the team that applied the P-IMA framework in 2012 included seven officials from different departments (Animal Health, Plant Protection, National Agro-Forestry-Fisheries and Quality Assurance) in the Ministry of Agriculture and Rural Development (MARD), as well as the Ministry of Industry and Trade (Import-Export Department) and the Ministry of Health (Vietnam Food Administration). The SPS Office in MARD facilitated the process, with the support of an external consultant.

distinct institutional structures and divisions of responsibility for SPS and trade matters, it should generally include individuals with responsibility/expertise related to: food safety, plant health, animal health, trade and economic analysis. These individuals should also ideally have linkages to key stakeholders in the public and private sectors that can provide data and other inputs to support the work. A group of four or five individuals generally provides the necessary expertise, while being of a manageable size. Ideally, this group also includes an external and neutral facilitator who is responsible for managing the working group and ensuring that the P-IMA framework is applied properly and in a non-biased and timely manner. This individual may come from academia, a national research institution or another country where the P-IMA framework has been previously applied.

4. Equip members of the working group with the knowledge and skills to apply the P-IMA framework through some prior training. At a minimum, this should involve reading this user guide and completing the case study exercise included. It is also useful to consult others, who have already worked with the framework, and the STDF Secretariat can suggest useful contacts. If local expertise remains lacking and resources are available, a consultant might be employed to facilitate the process. It is highly recommended that this consultant have prior experience with the application of the P-IMA framework in a comparable developing country context. The STDF can provide guidance to identify such an individual.

5. Ensure members of the working group have access to the resources required to apply the P-IMA framework (see Box 7). Whilst application of the P-IMA framework is not particularly resource intensive, some costs are involved. In connection with the resources available, thought should also be given to the longer-term arrangements to re-use the framework to update priorities as circumstances change over time.

### **Box 7. Resource requirements**

Key resources requirements may include:

- Time of members of the working group to implement the framework from initial planning through to dissemination of the results to stakeholders.
- Time of the working group facilitator. If this is an external expert, he/she may need to be recompensed financially.
- Financial costs of stakeholder workshops, travel of working group members, data collection, computer software, etc.

# STEP-BY-STEP GUIDE TO USE THE P-IMA FRAMEWORK

This Section of the user guide provides detailed step-by-step instructions on how to apply the P-IMA framework with the help of a fictional country case study, “Aflandia” (see Annex 1). The case study describes a fictitious developing country that faces a number of SPS problems. It is used to provide a practical worked example and includes sufficient information to enable SPS capacity-building needs to be prioritized using the P-IMA framework. The results are presented in the main text or annexes to the user guide. The Aflandia case study has been used extensively in face-to-face training workshops on the P-IMA framework. Readers are encouraged to work through the case study themselves in order to familiarize themselves with the workings of the framework and to identify areas where particular care is needed with the assembly and/or analysis of information.

The working group that leads the application of the P-IMA framework is tasked with preparing a written report that clearly describes the process followed, as well as the stakeholders involved, the information available, the set of SPS capacity-building options considered (and excluded options, if any), the decision criteria and weights used, and the resulting priorities. Examples of reports prepared in countries that have used the P-IMA framework are available on the STDF website and provide a useful template for reporting.<sup>9</sup>

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<sup>9</sup> See: <http://www.standardsfacility.org/prioritizing-sps-investments-market-access-p-ima>



# STAGE 1

## COMPILE AN INFORMATION DOSSIER

The first stage of the analysis involves the compilation of a dossier of information on SPS capacity-building needs that aims to inform the priority-setting process, and notably the initial selection of SPS capacity-building options in Stage 2.

The aim of the dossier is to:

- Build on and provide input from past efforts to identify weaknesses in SPS capacity and/or SPS capacity-building needs.
- Ensure that the identification of SPS capacity-building needs in Stage 2 takes as its starting point existing information to avoid “reinventing the wheel”.
- “Level the playing field” across stakeholders giving input to the priority-setting exercise by providing advance access to a common set of information.

The information dossier consists of existing information on SPS capacity weaknesses and related capacity-building needs that are gleaned from secondary sources (such as published or unpublished reports) and/or gathered through a preliminary collection of new data, as appropriate. A range of information might be included in the dossier as outlined in Box 8.

It is important to emphasise that compilation of the information dossier does not constitute an official assessment or statement of prevailing SPS capacity. Rather, the aim is to build up a picture of potential SPS capacity-building needs using already existing information. In so doing, it is important to be cognisant of how the data being used have been collected, and the nature and magnitude of weaknesses and/or biases in these data, if any.

The process of compiling the information dossier essentially involves “tracking down” as much

### Box 8. Possible contents of information dossier

The contents of the information dossier will likely vary from country to country, but might conceivably contain the following:

- Reports from application of SPS capacity evaluation tools (see Box 4).
- Less formal and even *ad hoc* assessments of SPS capacity undertaken by public authorities in the country itself, donors, researchers, etc.
- Data and/or reports on the value and volume of agri-food exports over time.
- Data and/or reports on border rejections in key export markets.
- Reports of export problems from exporters.
- Records of specific trade concerns raised at the WTO.
- Interviews and/or surveys undertaken with agri-food exporters, government officials charged with SPS controls, etc.
- Results of national testing or surveillance programmes related to SPS issues of relevance to agri-food exports.

See Annex 2 for selected online sources of SPS-related information.

pertinent information as possible. In some countries, especially with well-organized SPS institutions, information might be relatively easy to obtain. In others, however, quite extensive detective work may be required involving consultation with stakeholders across the public and private sectors, academic researchers, donors, international organizations, etc. In such cases the information dossier will tend to emerge gradually in a “snowball” fashion. In all cases, having spent time raising awareness of the P-IMA framework before getting started will make this task much easier.

Once compiled, the information dossier needs to be structured and made available in an accessible manner (e.g. through the website of a relevant organization, distribution as email attachments, on a USB drive or in hard copy form). Ideally this information should be as easy to obtain as possible to encourage stakeholders to refer to it prior to Stage 2. Having compiled the dossier, and given that the P-IMA framework is designed to be used on an on-going basis, the information dossier should be updated on a fairly regular basis as new information and data become available. It is also recommended to share the information dossier with the STDF Secretariat for inclusion in the STDF virtual library. The STDF website provides access to the information dossiers prepared to inform the application of the P-IMA framework in various countries.<sup>10</sup>

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<sup>10</sup> See: <http://www.standardsfacility.org/prioritizing-sps-investments-market-access-p-ima>

# STAGE 2

## IDENTIFY THE SPS CAPACITY-BUILDING OPTIONS

The second stage is to define the set of SPS capacity-building options to be considered in the prioritization process, the so-called “choice set”. The options are defined based on the information dossier and a structured process of consultation with stakeholders. It is crucial that the “right” individuals (i.e. government officials and private sector representatives that are knowledgeable about the key SPS constraints faced) are involved so that the full range of potential SPS capacity-building options is identified.

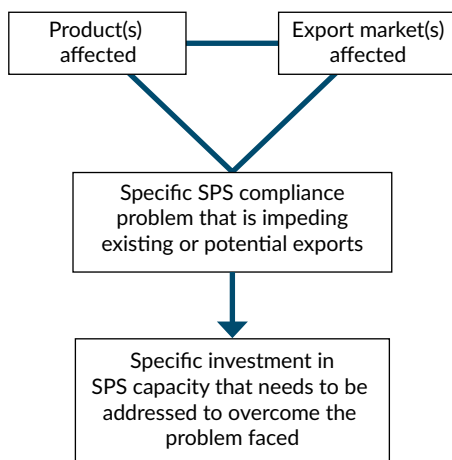
It is important to recognize that any SPS capacity-building option not included in the choice set will be excluded from the prioritization. Thus, the initial focus should be on capturing the full range of SPS capacity-building needs, which can then be “slimmed down” at a later stage, as necessary. At the same time, the task of applying the framework gets more demanding as the number of options increases.

In order for a coherent set of options to be prioritized, a set of clearly-defined and mutually-exclusive SPS capacity-building needs are identified. Each of the SPS capacity-building options defined should consist of four components, illustrated in Figure 2. Imposing this structure on the definition of the SPS capacity-building options helps to ensure that the various options included in the choice set can be linked directly to trade impacts. It also helps to exclude more generic weaknesses (e.g. out-dated legislation and/or shortage of trained personnel) if they cannot specifically be linked to trade.<sup>11</sup> In cases where such general weaknesses are considered to affect trade they may be included in the relevant SPS capacity-building option.

An interactive stakeholder workshop is used to identify the initial set of SPS capacity-building options. The amount of time needed will reflect the expected number of issues to be raised, which will tend to be greater in a large country with substantive and/or more diversified exports, and less in a smaller country with relatively small and/or less diversified exports. Nevertheless, in most cases, a period of four hours tends to be sufficient. In scheduling the workshop and deciding on overall length it is important to reflect on the demands of stakeholders (including likely time constraints of the private sector) and what efforts can be made to maximise participation. A sample agenda based on a half-day workshop, which is usually sufficient, is provided in Annex 3.

Efforts should be made to ensure representation of the full cross-section of relevant stakeholders, including the public and private sector and civil society, in this workshop. At the same time, since large workshops are more difficult to manage and provide less time for participants to provide their inputs, care must be taken to find an appropriate balance between the number and diversity/

**Figure 2. Definition of SPS capacity-building options**



<sup>11</sup> For instance, in some cases, enterprises export particular products, even though SPS legislation may be out-dated.

representativeness of participants. Details about the stakeholder workshops in Aflandia, Belize and Malawi are summarized in Box 9.

The workshop should start with an overview of the priority-setting process, so that participants are adequately informed and feel inclusive to the process. At the minimum, the introduction should summarise the:

- Overall objective and focus of the priority-setting process.
- Structure and key components of the P-IMA framework.
- Inputs required from participants at the workshop and in the longer-term.
- Anonymous nature of the workshop process such that the responses provided will not be identifiable and attributable to any individual.
- Fact that results will be reported back to workshop participants and stakeholders more widely, and that their feedback will be used in finalising the prioritization.

While all participants should be encouraged to consult and read the information dossier prior to the workshop, it is essential that the working group

members familiarize themselves with the contents of the information dossier.

The workshop participants are actively involved in identifying the potential SPS capacity-building options to be considered in the initial choice set. They are requested to identify these options by providing information on the product affected, the specific SPS compliance problem, the market concerned and the specific investment needed to overcome the identified problem. Participants are provided with forms (see Annex 4) to assist this process and are free to complete as few, or as many, forms as they wish.

Once participants have completed this task, forms are collected and shuffled to randomise the order and separate responses from each participant as much as possible. The moderator then proceeds by reading out each form in turn and writing the four elements on a flip chart. In consultation with the workshop participants, options are grouped together if they are clearly the same. All SPS capacity-building options are treated equally, regardless of how many participants put them forward for inclusion in the initial choice set. Thus, the fact that a particular option is nominated more frequently may reflect the interests of workshop participants, rather than its likely priority in terms of competing for resources.

### Box 9. Stakeholder workshops

In **Aflandia**, a half-day workshop was convened in the national capital to identify the SPS capacity-building needs to be included in the analysis. The workshop was attended by 25 public sector, 20 private sector and 6 civil society/academic stakeholders. It was facilitated by an external expert from another country in the region with experience in using the framework. Participants at the workshop were extremely engaged and the discussions lively. By the end of the workshop, a total of 14 SPS investment options to be included in the choice set had been identified.

In **Belize**, a one-day stakeholder workshop to define the choice set, decision criteria and weights was attended by 35 participants. They included representatives from relevant line ministries (agriculture, health, economic development, investment and trade) along with producers, exporters, processors, academia and two international organizations. By the end of the workshop, participants had identified 21 possible SPS capacity building needs for consideration.

In **Malawi**, the first stakeholder workshop was organized by the Ministry of Industry and Trade on 8 February 2012. It was attended by 37 participants (17 public sector, 9 private sector, 6 donors, 5 research/academia). Participants identified 31 capacity-building options; this list was later reduced to 16 options, which were considered after the sifting process.



This process normally results in a large number of potential SPS capacity-building options. The second part of this stage aims to confirm through a “sifting” process that each of these is indeed a legitimate option, given the defined scope of the prioritization process. The sifting process ensures that capacity-building options that are not related to market access are excluded at an early stage in the prioritization process (see Box 10). That said, in some cases, the team carrying out the analysis may wish, for political or other reasons of relevance to the country, to retain some investments that are not specifically trade focused.

Through this process capacity-building options might be excluded from the choice set altogether, options

might be combined or even divided. The end result should be a set of mutually-exclusive capacity-building needs that are truly trade and SPS-related.

The process of sifting the initial set of SPS capacity-building options will likely start in the stakeholder workshop. Often stakeholders will question the inclusion of a particular option and, provided this is on the basis of one of the criteria outlined above, a discussion can be held within the workshop setting. Care is needed here, however, to ensure that options are not excluded because of vocal and powerful interests rather than on the basis of these legitimate criteria. The aim at this stage is not to exclude options because they are likely (or perceived) to be low priority.

#### Box 10. Key questions to ask in the sifting exercise

- **Is the problem recorded a real SPS issue?** In other words, are exports constrained by weaknesses in food safety, plant health or animal health capacity, or due to non-conformity with other factors (e.g. product quality or labelling requirements, which are not SPS issues)? Furthermore, is the SPS compliance problem currently relevant, has it been solved or has the export market relaxed or changed their requirements so they are no longer problematic?
- **Is the option really related to trade?** Sometimes capacity-building needs are defined that do not relate to trade, but instead to food safety, animal health or plant health controls that have no direct consequence for exports. These should normally be excluded since the focus of the analysis here is on export-oriented SPS capacity-building investments.
- **Is the option economically viable?** For example, if the option relates to establishing new exports, is there evidence that demand exists for the product concerned in the defined target export market(s) and that this demand can be fulfilled in a commercially-viable and sustainable manner given prevailing production costs, transport capacity, reliability and costs, etc.?
- **Are the sector concerned and the level of existing and/or potential exports substantive?** In some cases, export-oriented SPS capacity-building options may be proposed that relate to a small sector, perhaps consisting of only a single firm, or to levels of exports that are insignificant in the context of the overall level of agri-food trade. If so, the impacts of any investments in the associated SPS capacity are likely to be minimal and this option will almost automatically be ranked low in the quantitative priority-setting exercise. This emphasises the need to consider each of the proposed options in the context of the wider agri-food sector and structure of exports.
- **Are there other SPS or non-SPS capacity gap(s) that also need to be addressed?** In some cases, trade is impeded by multiple SPS issues, and/or unrelated capacity constraints, not all of which may be immediately apparent. For example, whilst an option may relate to a particular plant pest, it might be that other plant pests also need to be addressed in order to gain access to the target export market(s) or that product quality is the ultimate constraint. This may require that other capacity-building options in the choice set are undertaken simultaneously, that the scope of the option under consideration is expanded, or that the option is excluded altogether, etc.

Much of the sifting process, however, will be undertaken by the working group once the workshop has concluded. The members of the working group should consider each of the proposed capacity-building options in turn, based on the questions in Box 10, consulting relevant stakeholders for further information and/or clarification as necessary. Representatives of relevant STDF partners may also be requested to provide guidance to this process. Any capacity-building option that is excluded should be noted, with the reasons why this decision has been made, and listed in the report to ensure transparency and enable stakeholders to challenge such decisions if they so desire.

In the case of Aflandia, the sifting exercise excluded some of the options raised by stakeholders at the workshop, which were considered not to be SPS issues (see Box 11). The exclusion of these options does not mean that they are unimportant, but that they do not fit within the trade-related confines of the analysis. Following the sifting exercise, a total of 10 SPS capacity-building needs remained in the Choice Set for Aflandia (see Box 12).

#### **Box 11. Capacity-building needs excluded from the choice set in Aflandia**

- Enhanced quality controls for cinnamon exports to the US: *Not an SPS issue*
- Fair trade certification for nutmeg exports to the EU and US: *Not an SPS issue*
- Organic certification of honey for exports to the EU: *Not an SPS issue*
- Implementation of GAP for fresh vegetables to meet requirements of domestic supermarkets: *Relates to domestic markets and not trade*

#### **Box 12. SPS capacity-building needs included in the choice set in Aflandia**

- Aflatoxin testing for groundnut exports to the EU
- Hygiene controls for wild capture shrimp exports to the EU
- Antibiotic controls for aquaculture shrimp exports to the EU
- Pest status of pineapple for regional export markets
- Residue monitoring for honey exports to the EU
- Pesticide controls for fresh produce exports to the EU
- Demonstrating pest freedom for hot pepper exports to the US
- FMD-free areas for beef exports to regional markets
- Aflatoxin controls for maize exports to regional markets
- Pest treatment for mango exports to regional markets

# STAGE 3

## DEFINE THE DECISION CRITERIA AND WEIGHTS

Having identified the SPS capacity-building options to be considered, the next stage is to define the decision (or choice) criteria against which these options will be compared. These decision criteria aim to capture the full range of costs and benefits considered appropriate to the prioritization of the SPS capacity-building options. Any criterion that is excluded from the analysis will have no influence on the eventual prioritization of the various options under consideration.

Through the applications of the P-IMA framework to date, a fairly common inventory of potential decision criteria has been defined (Table 2). While there has been some variation in the chosen decision criteria at the margins, there has tended to be very limited variation in terms of the core criteria. There are no “rights” or “wrongs” in the selection of the decision criteria, which will depend on the extent to which the stakeholders involved consider that the prioritization should be based on more direct impacts versus less direct and/or wider impacts. That said, it is recommended that the decision criteria used (and the associated weights) are broadly consistent with national policy priorities. This may be achieved by reminding participants at the workshop about relevant goals and priorities defined in national development plans and other important policy documents. Conceivably, of course, the selection of criteria (and the associated weights) might differ across stakeholder groups. In such cases, separate analyses could be run for these distinct groups to ascertain the extent to which such differences in the drivers of the prioritization influence the eventual results of the analysis.<sup>12</sup>

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<sup>12</sup> In Vietnam, for example, separate weightings were derived for public and private sector participants at the stakeholder workshop. This enabled two different sets of rankings, i.e. for the public and private sector stakeholders involved, to be generated and compared.

**Table 2. Potential decision criteria to prioritize SPS capacity-building options**

Broad Criteria	Decision Criteria	What is covered
Cost and complexity of implementation	<ul style="list-style-type: none"> <li>▪ Up-front investment</li> <li>▪ On-going costs</li> <li>▪ Difficulty of implementation</li> </ul>	<p>This covers up-front (non-recurring) investments as well as recurring costs of establishing, operating and maintaining the respective element of SPS capacity. The aim is to minimize these costs, and also the difficulties likely to be faced in upgrading capacity. As such export-oriented SPS capacity-building options with lower costs and that are easier to implement will tend to be preferred, everything else being equal.</p>
Trade impacts	<ul style="list-style-type: none"> <li>▪ Change in absolute value of exports/export losses avoided</li> <li>▪ Degree to which exports are diversified by products and/or markets</li> <li>▪ Impact on international reputation for export-oriented SPS capacity</li> <li>▪ Impact on ability to manage future SPS problems/issues</li> </ul>	<p>The potential direct benefits of SPS capacity-building are captured here. These include the change brought about by a particular SPS investment option in the value of exports or losses of exports averted, degree to which trade becomes more diversified (and therefore presumably more robust), reputational gains on the part of export partners from improved SPS capacity and the ability to deal with future trade problems. Taken together, these capture both the immediate and direct gains from SPS capacity-building as well as the longer-term and more diffused impacts.</p>
Domestic spillovers	<ul style="list-style-type: none"> <li>▪ Impact on agricultural / fisheries productivity</li> <li>▪ Impact on domestic public health</li> <li>▪ Impact on local environment</li> </ul>	<p>These criteria capture the domestic spill-overs of SPS capacity-building through improvements in agricultural productivity, domestic public health (predominantly improved food safety) and local environmental impacts. In the longer term, gains in agricultural productivity, in particular, might lead to gains in trade through enhanced cost competitiveness, although the chief focus of this group of decision criteria is on more immediate spill-overs.</p>
Wider social impacts	<ul style="list-style-type: none"> <li>▪ Impact on employment</li> <li>▪ Impact on levels of poverty</li> <li>▪ Impact on vulnerable groups (e.g. gender)</li> <li>▪ Impact on local food security</li> </ul>	<p>These criteria cover the wider socio-economic impacts of SPS capacity-building (e.g. employment, levels of poverty and impacts on vulnerable groups). The impacts of gains in SPS capacity are somewhat ambiguous. For example, gains that boost trade could provide new income-earnings opportunities for smallholders, thus reducing poverty. Conversely, they may bring about consolidation of agricultural production, possibly excluding smallholders.</p>

In assessing the potential impacts of a particular SPS capacity-building option, care needs to be taken both to avoid over-attribution and to include spill-over effects. For example, numerous factors may explain future export flows and these factors must be taken into account when predicting the impact of a particular improvement in SPS capacity. At the same time, while a particular investment may be focused on specific weakness (e.g. pesticide residue analysis for fresh fruits and vegetables), the associated infrastructure could have wider benefits (e.g. for pesticide residue analysis in cereal products and/or analysis of other chemical contaminants in a range of food products). It can be difficult to identify some of these spill-over effects *ex ante*, and certainly the temptation to over-estimate in order “to be safe” should be avoided. At the minimum, the potential for over-attribution and/or under-estimation of spill-over effects should be acknowledged (and noted in the report) and taken into consideration when interpreting the final results.

The selection of decision criteria generally takes place during the stakeholder workshop following the definition of the SPS capacity-building options, although they could be defined in other ways (e.g. by senior decision-makers or by the working group based on national development plans and priorities). Furthermore, this initial selection of decision criteria can be revisited and revised at any point. Workshop participants are presented with the range of potential choice criteria in Table 2 and asked to define their own list of decision criteria using the form in Annex 5. The role of the criteria in Table 2 is to stimulate the thought process of workshop participants on factors that might be taken into account in establishing priorities.

Having defined their lists, workshop participants are then asked to assign weights to each of their chosen criteria by allocating 100% across the items on their own list, using the form in Annex 5. These weights take account of the fact that it is unlikely that all of the decision criteria will be considered of equal importance in prioritizing the SPS capacity-building investments. Thus, a decision criterion given a weight of 20%, for example, will be considered twice as important (and given twice the weight) than another criterion given a weight of 10% in prioritizing the investment options.

At the conclusion of the workshop, the individual forms with the decision criteria and weight of participants are collected and collated. A combined list of decision criteria is assembled and the mean weight calculated assigned on the basis of the scores attached by each participant. A zero is assigned as the score for any item not given a weight by an individual participant, such that an overall weighting can be derived for each criterion for the workshop participants as a whole. Typically, some of the decision criteria have very low weights, reflecting the fact that they were put forward by a relatively small number of workshop participants. These items are typically excluded from the prioritization process; they will have very little impact on the overall prioritization given their low weight but increase appreciably the amount of data that has to be collected in Stage 4. While it is a somewhat arbitrary cut-off, decision criteria with a weight of less than 5% are typically excluded at this stage.

Table 3 reports the decision criteria from the Aflandia case study, categorized according to the four broad categories in Table 2. The decision weight associated with each criterion is also provided.

**Table 3. Decision criteria and weights for Aflandia case study**

Decision Criteria	Decision Weight
<b>Cost</b>	
Up-front investment	15%
On-going cost	9%
<b>Trade Impact</b>	
Change in absolute value of exports	21%
<b>Domestic Spillovers</b>	
Impact on domestic agricultural productivity	13%
Impact on domestic public health	11%
Impact on local environment	7%
<b>Social Impacts</b>	
Impact on poverty	14%
Impact on vulnerable groups	10%
<b>TOTAL</b>	<b>100%</b>

# STAGE 4

## COMPILE INFORMATION CARDS FOR THE SPS CAPACITY-BUILDING OPTIONS

The next stage involves the construction of information cards that bring together the required information for each of the SPS capacity-building options being considered. The information cards serve two key functions: (i) they set out information for each of the SPS capacity-building options in the consistent manner that is necessary for reliable prioritization; and (ii) they ensure that this information (including where it comes from and how measures for each decision criterion have been made) is transparent and open to scrutiny by stakeholders. A separate information card should be prepared for each of the SPS capacity-building options under consideration.

The information cards contain three key elements.

- A quantitative estimate of the impact of the SPS capacity-building option with respect to each of the defined decision criteria.
- A description of the source of the data and methods used to derive the estimate for each decision criterion.
- An indicator of the level of confidence associated with the estimate for each decision criterion.

Importantly, the information cards should be seen as a “living document”. In many cases, the available data will be limited and/or of questionable quality, such that “best estimates” will need to be made. As new and better data become available, these estimates can be revised and the information sheets updated. The information sheets may also need to be revised based on stakeholders’ feedback. What is important is that the information sheets, and revisions to them, must be evidence-based. It is not sufficient that a particular stakeholder does not like the estimates that have been derived; if they want

these changed then they must provide evidence to support this.

Compiling the information cards is usually the most challenging and time-consuming part of the process of applying the P-IMA framework. A standard pro forma template for the information cards is provided in Annex 6. Completing the information cards involves the following steps:

### Define the way in which each of the decision criteria is to be measured

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The first step in compiling the information card involves defining the way in which each of the decision criteria is to be measured. Table 4 discusses the alternative ways in which a particular criterion might be measured, with the most desirable at the top of the table and least desirable at the bottom. In practice, the choice between these alternative approaches to measurement reflects the nature of the impact associated with a particular decision criterion<sup>13</sup> and the availability and quality of data. In many cases, a judgement has to be made between applying the “best” form of measurement and the reliability of the associated estimate.

Continuous data can take any value, including fractional units. For example, the up-front investment and/or on-going costs of a particular SPS capacity-building option might be estimated in monetary amounts. The absolute change in the value of exports and/or income of farmers resulting from a SPS capacity-building option might be measured in the same way. Alternatively, impacts can be measured in terms of proportions or ratios, for example the percentage change in the value of exports.

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<sup>13</sup> For example, continuous or discrete measures are not applicable to distinct events, such as being approved for exports to a particular export market.

**Table 4. Alternative measures for decision criteria**

Type	Description	Example
Continuous	Absolute value and/or magnitude of change	Monetary value of up-front investment Percentage change in value of exports
Discrete	Number	Number of small farmers impacted
Ordinal	Scaling	2 = 'Large impact' 1 = 'Small impact' 0 = 'No impact'
Nominal	Yes/No	Access to new markets Increase in value of exports

Discrete data can only take particular (typically whole) values. For example, the number of small-scale producers benefitting from a particular SPS capacity-building option might be measured discretely; it is not possible to have fractions of a farmer.

Where there is sufficient information to measure the impacts of an SPS capacity-building option using continuous or discrete data, ordinal scales can be used. An ordinal scale presents numerically the order (or rank) of a series of items. For example, the impact of an SPS capacity-building option on the value of exports might be measured as follows:

+1 = 'Increase'  
0 = 'No change'  
-1 = 'Decrease'

Where more information on the scale of change is available, the scale might be extended to:

+2 = 'Large increase'  
+1 = 'Increase'  
0 = 'No change'  
-1 = 'Decrease'  
-2 = 'Large decrease'

Note that the distance between the points of such scales is not necessarily equal; they only indicate how the SPS capacity-building options are ordered

relative to one another and not how large the differences between them are.

Finally, the lowest form of measurement is provided by nominal data in which arbitrary numbers are assigned to particular categories of impact. Nominal measures are sometimes referred to as indicator or dummy variables. For example:

1 = 'Yes'  
0 = 'No'

Such data is used to show when a discrete impact occurs, for instance if a particular SPS capacity-building option brings about access to a new market. Alternatively, a discrete measure might be used for non-discrete impacts but where there is a lack of data to enable the magnitude of impact to be quantified; for example, whether an SPS capacity-building option brings about an increase in the value of exports or benefits smallholder producers.

Table 5 describes the decision criteria and measurements used for the Aflandia case study.



**Estimate the impacts of each SPS capacity-building option for each decision criteria, using the defined measure**

The second step in the process of compiling the information cards involves estimating the impacts of each SPS capacity-building option for each decision criteria in turn, using the defined measure.

Before starting, two key parameters must be defined:

- **Baseline:** The impacts of each SPS capacity-building option need to be measured relative to a clearly defined baseline. This baseline should reflect the “state of the world” over time in the event that a particular SPS capacity-building option is not undertaken, recognizing that change is likely to happen regardless of whether the investment is made or not. The challenge here is

to separate out the impact of each SPS capacity-building option on a particular decision criterion from all other influences to avoid over-attribution. For example, exports to a particular country might expand even in the absence of investments in a particular SPS capacity-building option. Thus, the impact to be measured and included in the respective information card is the incremental impact of the SPS capacity-building option on observed export growth.

- **Timeline:** The period over which the impacts of each SPS capacity-building option is to be considered and measured. A longer timeline will capture more fully the impacts of a particular option, especially where these extend over a protracted period of time and/or occur appreciably at some time in the future (e.g. as is the case with certain animal disease controls). At the same time, however, deriving reliable

**Table 5. Measures of decision criteria for the Aflandia case study**

Decision Criteria	Measurement
<b>Cost</b>	
Up-front investment	Absolute value (\$)
On-going costs	Absolute value (\$)
<b>Trade Impact</b>	
Absolute change in value of exports	Absolute value (\$)
<b>Domestic Spillovers</b>	
Agricultural/fisheries productivity	Large negative (-2) Negative (-1) No change (0) Positive (+1) Large positive (+2)
Domestic public health	
Environmental protection	
<b>Social Impacts</b>	
Poverty impacts	Large negative (-2) Negative (-1) No change (0) Positive (+1) Large positive (+2)
Impact on vulnerable groups: Marginal areas Women Children Smallholder producers/Artisanal fishers	Aggregate of score for four groups. For each of the four groups: Large negative (-2) Negative (-1) No change (0) Positive (+1) Large positive (+2)

estimates of impacts well into the future can be difficult, and certainly the issue of attribution becomes more of a problem. In applications of the P-IMA framework to date (and in the Aflandia case study) the impacts of the defined SPS capacity-building options are assessed over a five year time horizon.

One final decision to be made before estimating the impacts of the SPS capacity-building options is whether to use discounting and, if so, the appropriate discount rate (see Box 13). In existing applications of the P-IMA framework, discounting has generally not been applied. The rationale for this is that it is only possible to apply discounting to monetary flows in the analysis, and not to decision criteria that are measured using non-monetary measures. Thus, using discounting would employ different standards in terms of the treatment of the flow of impacts over time between those measured using monetary and non-monetary measures. Discounting is not used in the Aflandia case study.

It is important to remember that the P-IMA framework is focused on setting priorities across a wide range of SPS capacity-building options that may differ significantly (e.g. in terms of the size of sector, magnitude of export potential, etc.). This implies that, in deriving an estimate for a particular decision criterion (e.g. the change in aggregate value of exports or impact on poverty), account needs to be taken of:

- The magnitude of the parameter embodied in a particular decision criterion at the baseline in relative terms, taking a broad socio-economic perspective. For example, the value of exports of the respective commodity relative to agri-food exports or total commodity exports as a whole.
- The predicted scale of change brought about by the SPS capacity-building option, for example, the percentage increase in annual exports of the selected commodity.

Thus, everything else being equal, the impact of a particular capacity-building option will be greater if a relatively large number of poor farmers are engaged in the production of the target commodity and/or if the predicted impact on their income is positive and large. Similarly, the impact of a particular capacity-building option will be reduced if a relatively

### Box 13. Use of discounting?

Discounting is used to reflect the time value of a flow of money at various points over time. Generally, flows of money in the future are valued less than flows now. This time preference is reflected in an appropriate discount rate. Where the costs associated with at least one of the SPS capacity-building options, for example, are spread over a long period of time and, in particular, occur appreciably in the future, it might be considered appropriate to convert these to a net present value (NPV) using an appropriate discount rate. Governments have an established discount rate used for finance purposes and this can normally be obtained from the ministry of finance.

small number of poor farmers are engaged in the production of the target commodity and/or if the predicted impact on their income is limited.

A range of information sources should be consulted in deriving estimates of the portfolio of decision criteria for each SPS capacity-building option (see Box 14). The choice between these alternative information sources will reflect various factors such as the availability of prior information in the country concerned, access to resources and time constraints.

### Consider the reliability of the estimates included in the information cards

Finally, for each of the estimates a judgement is made as to its reliability given the amount and quality of data available, and confidence in any assumptions that have had to be made. Generally, a three-point categorisation is used for this purpose, namely: "High", "Medium" and "Low". The main purpose of this exercise is to ensure that individuals examining the prioritization and underlying information sheets are aware of estimates for which confidence is low. Additional efforts should generally be made to find better and/or additional data where confidence is judged to be low. Furthermore, efforts to test and enhance the robustness of the prioritization (e.g. Stage 7) should focus first on estimates with a "low" confidence assessment.

#### **Box 14. Possible sources of information to help compile the information cards**

- Prior assessments of SPS, food safety, animal and/or plant health capacity-building needs and costs for the country. These will be included in the information dossier prepared in Stage 1, and are a logical starting point for the gathering of data for the information cards.
- Extrapolations from prior assessments or cost estimates for other countries with broadly the same capacity-building needs, level of economic development, scale and mix of agri-food exports, etc.
- *Ad hoc* or structured consultations and/or surveys of public and private sector stakeholders, donors and/or academics that have experience with implementing comparable SPS capacity-building needs and that can provide reliable appraisals of the required actions and associated costs and impacts.
- *Ad hoc* or structured consultations and/or surveys of international experts that have experience with implementing comparable SPS capacity-building needs and that can provide reliable appraisals of the required actions and associated costs and impacts.
- Official trade data from national or international sources. The International Trade Centre offers a particularly user-friendly source of trade data (<http://www.intracen.org/itc/market-info-tools/trade-statistics/>).

#### **Assemble the information cards**

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Having compiled the available data and made the required estimates for each of the SPS capacity-building options, the information cards can be assembled. The information cards for the Aflandia case study are provided in Annex 7. The information cards should then be shared with relevant stakeholders in order to provide an initial check and validation of the information sources consulted, assumptions made, methods employed to derive estimates, etc.

#### **Assemble all the data collected in a summary sheet**

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The measures reported in the information cards are then transposed into a standard summary sheet. This sheet aims to assemble all of the data to be employed in the quantitative prioritization process in a format that is comparable to how it will be entered into the software used to undertake MCDA. This not only simplifies the data entry process, but provides an easy way in which to cross-check the estimates reported in the information sheets and used in the MCDA process. Table 6 provides a summary for the Aflandia case study.



# STAGE 5

## COMPARE THE OPTIONS ACCORDING TO EACH OF THE DECISION CRITERIA

Before calculating the priorities, the SPS capacity-building options are compared on the basis of each decision criterion in turn. To facilitate these comparisons, the data in the information cards is presented as a series of spider diagrams that provide a visual representation of how the various options perform with respect to each decision criterion. These spider diagrams can be constructed as radar charts using the graph function in Excel and/or Word.

The spider diagrams perform two important functions:

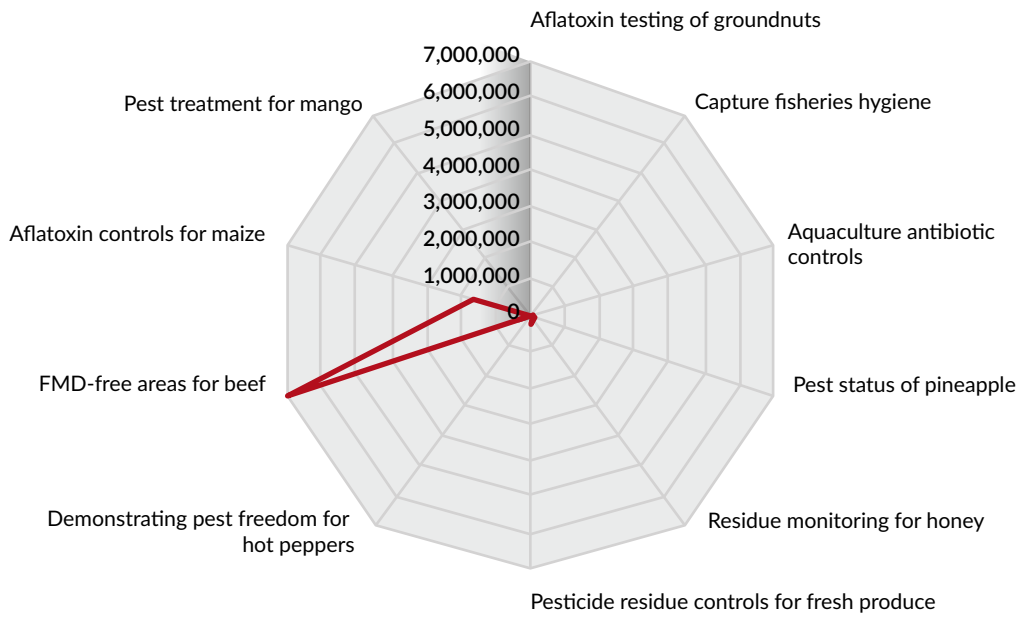
- SPS capacity-building options that are clear outliers (i.e. distant from other options) with respect to particular decision criteria can be easily identified. In such cases, checks should be made of the data in the information card to ascertain that the respective estimate is robust.
- The consistency with which each decision criterion is measured across the SPS capacity-building options can be checked. In other words, are the same values assigned to SPS capacity-building options with broadly similar impacts according to particular decision criteria? Are SPS capacity-building options with bigger (smaller) impacts assigned larger (smaller) values than options with smaller (bigger) impacts?

The spider diagrams can also be used to identify and exclude SPS capacity-building options that are considered infeasible for some reason, ahead of Stage 6. For example, it might be that there are absolute limits on the available budget and that any options that exceed this budget are excluded. Likewise, any options that have a negative impact on the poor might be considered politically infeasible and so are removed from the choice set.

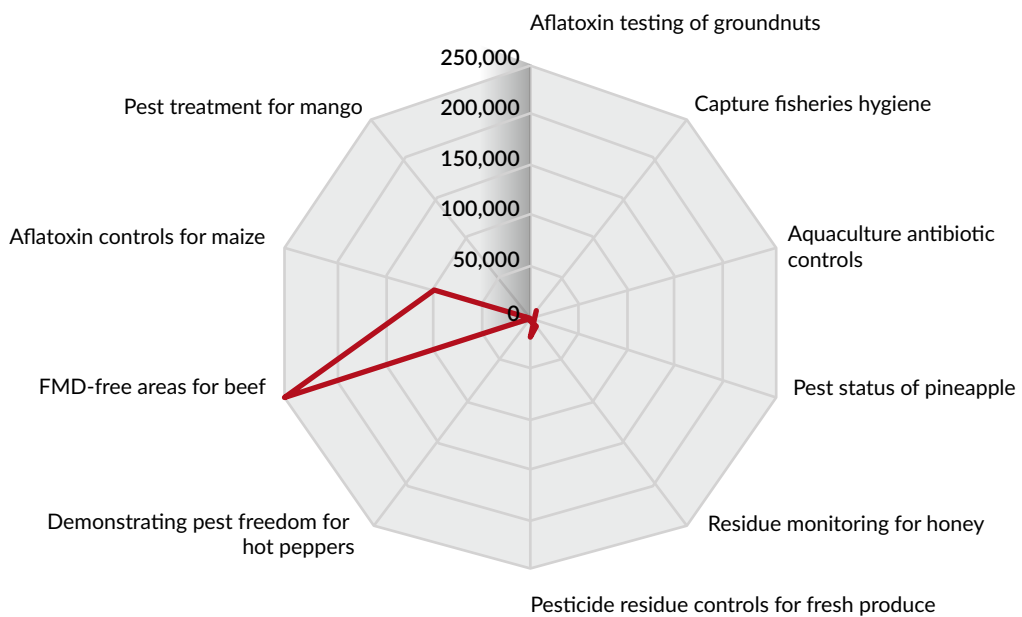
Spider diagrams for the Aflandia case are provided in Figure 3. It can be seen, for example, that FMD-free areas for regional beef exports has the highest up-front investment and on-going costs, while pest status of pineapple for regional exports is estimated to provide the greatest change in the absolute value of exports.

Figure 3. Spider diagrams for Aflandia case study

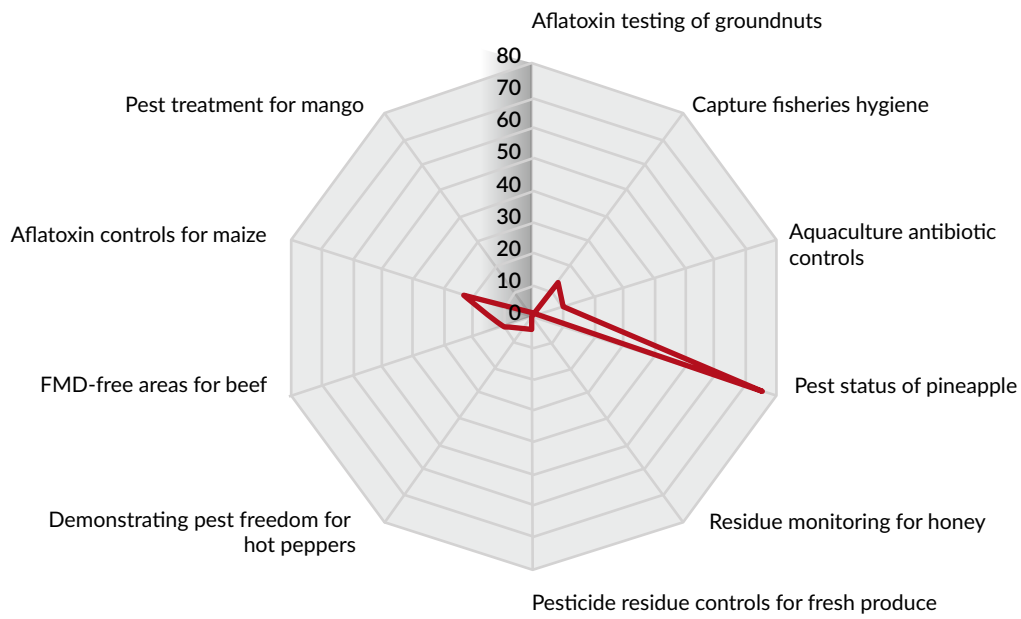
Decision Criterion 1. Up-front Investment



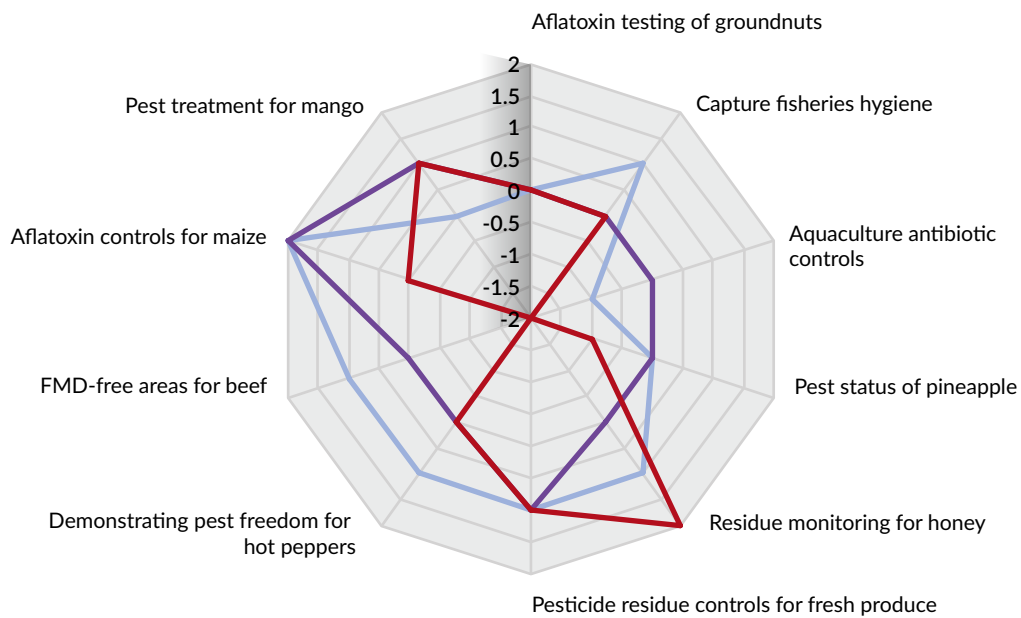
Decision Criterion 2. On-going Costs



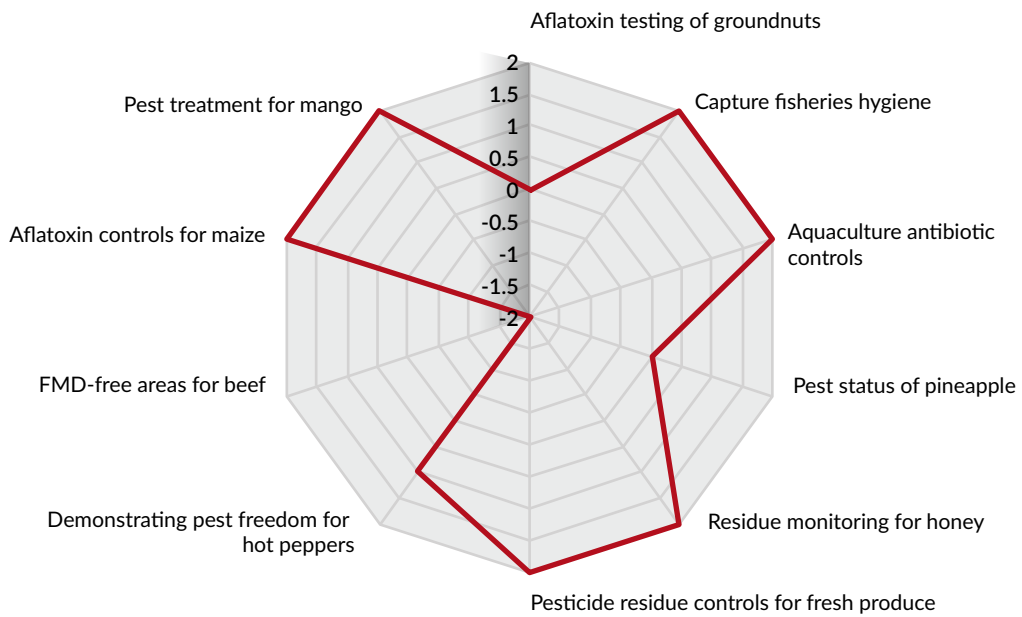
**Decision Criterion 3. Change in Absolute Value of Exports**



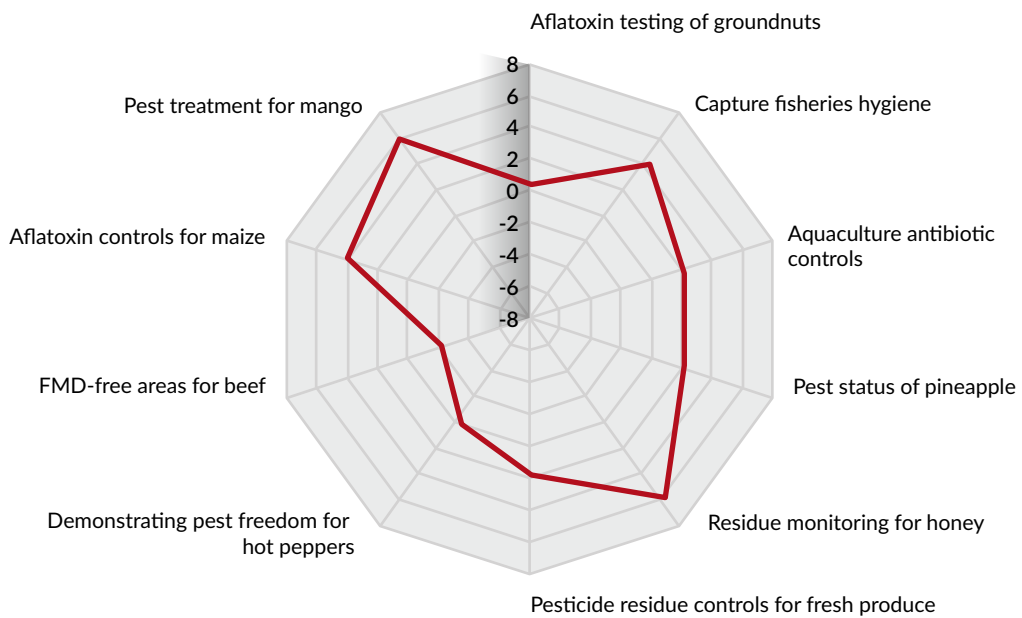
**Decision Criterion 4 to 6. Domestic Spill-overs**



**Decision Criterion 7. Impact on Poverty**



**Decision Criterion 8. Impact on Vulnerable Groups**





# STAGE 6

## CALCULATE THE PRIORITIES USING MCDA AND DIAGNOSE THE RESULTS

This stage of the P-IMA framework uses MCDA to calculate the priorities (or rank the SPS investment options) based on all the decision criteria simultaneously. Computer software is used to facilitate this process. It takes the data presented in Table 6 from the Aflandia case study, for example, and compares the various options according to the portfolio of decision criteria, taking account of the fact that these criteria are weighted differently.<sup>14</sup> One of the key benefits is the ability of this approach to compare SPS capacity-building options even when the decision criteria are measured differently.<sup>15</sup>

### Data entry and baseline prioritization

The specific software used to undertake the prioritization is called D-Sight (see Box 15). This software provides a user-friendly interface for entering the data from Table 6, undertaking the prioritization and performing various diagnostics of the results. The following text provides guidance on how to use D-Sight to prioritize the SPS capacity-building options under consideration. It is important that the user is familiar with the basic structure and operations of the software before getting started with Stage 6.<sup>16</sup>

<sup>14</sup> The specific form of MCDA used in the P-IMA framework is called outranking. This approach prioritizes options on the basis of pair-wise comparisons, essentially identifying which options "outrank" other options most often.

<sup>15</sup> One disadvantage is that the options under consideration are ranked according to whether they perform better/worse according to a specific decision criterion. No account is taken of magnitude of difference between the options according to this choice criterion.

<sup>16</sup> The user manual is available at: <http://www.d-sight.com/manual/manual.html>

Most of the data that needs to be entered into D-Sight is provided in Table 6. Thus:

1. Under the *Alternatives* tab the name of each of the capacity-building options from Table 6 is entered. A shorter name and description can also be entered, if desired. The shorter name is useful to identify the different options in some of the output figures.
2. Under the *Criteria* tab the name of each of the decision criteria from Table 6 is entered. A shorter name and a description can also be entered for each of the decision criteria, if desired.

### Box 15. D-Sight Computer Software

D-Sight is a decision-making software solution offered by a company based in Belgium. D-Sight provides a user-friendly interface, backed up by mathematical power, to support decision-making processes. It has been tested by more than 50 universities worldwide. D-Sight can be used to prioritize the different SPS capacity-building options included in the choice set and to diagnose the results.

The STDF has procured a limited number of copies of the D-Sight software. SPS experts in developing countries who have assembled a team to use the P-IMA framework to prioritize SPS capacity building needs can request a copy of this software from the STDF Secretariat.

Further information on D-Sight, and a free trial version of the software, is available at:

<http://www.d-sight.com/>

**Table 6. Summary of decision criteria estimates for Aflandia case study**

Capacity-Building Option	Decision Criteria (and Weights)							
	Up-front Investment (15%)	On-going Costs (9%)	Absolute change in value of exports (21%)	Impact on agricultural/fisheries productivity (13%)	Impact on domestic public health (11%)	Impact on environment (7%)	Impact on poverty (14%)	Impact on vulnerable groups (11%)
Aflatoxin testing for groundnut exports to the EU	\$40,000	-\$7,176	0	0	0	0	0	0
Hygiene controls for wild capture shrimp exports to the EU	\$55,000	\$15,000	\$13 million	1	0	0	2	4
Antibiotic controls for aquaculture shrimp exports to the EU	\$100,000	\$5,000	\$11 million	-1	0	-2	2	2
Pest status of pineapple for regional export markets	\$150,000	\$0	\$50 million	0	0	-1	0	2
Residue monitoring for honey exports to the EU	\$40,000	\$10,000	\$875,000	1	0	2	2	6
Pesticide controls for fresh produce exports to the EU	\$250,000	\$20,000	\$5 million	1	1	1	2	2
Demonstrating pest freedom for hot pepper exports to the US	\$10,000	\$0	\$5 million	1	0	0	1	0
FMD-free areas for beef exports to regional markets	\$7 million	\$250,000	\$10 million	1	0	-2	-2	-2
Aflatoxin controls for maize exports to regional markets	\$1.5 million	\$100,000	\$23 million	2	2	0	2	4
Pest treatment for mango exports to regional markets	\$15,000	\$3,000	\$500,000	0	1	1	2	6

3. The *Evaluation* tab will now present a spreadsheet that looks the same as Table 6. The data from the table can now be entered into D-Sight.
4. Under the *Hierarchy* tab, the decision weights are entered. The weights for the Aflandia case are provided in Table 3 and Table 6. Make sure that the *Normalize Weights* button is pressed after entering or changing these weights.

Finally, a number of important parameters need to be entered in the *Parameters* tab. Note that the default settings in this table are left unchanged unless alternative values are detailed below. For each of the decision criteria, it is necessary to define:

1. Whether the objective is to maximise or minimize the value of the decision criterion. In most cases this is clear. Thus, in the Aflandia case, the desire is to minimise the up-front investment and on-going costs; more desirable capacity-building costs have lower values for these decision criteria. The objective is to maximize the value of all other decision criteria; more desirable capacity-building costs have higher values for these decision criteria. This is entered in the *Min/Max* column of the *Parameters* tab.
2. The form of the function being used to model preferences for each of the decision criteria. As a general rule, this should be set to *Linear* for all criteria being measured using continuous or discrete data, and to *Level* for all decision criteria being measured using ordinal or nominal data.<sup>17</sup> This is entered in the *Function* column of the *Parameters* tab.
3. The units being used to measure each of the decision criteria. These are entered in the *Unit* column of the *Parameters* tab.

After entering all of the parameters and the data from Table 6, the priorities can be calculated using the *Ranking and Scores* command under the

<sup>17</sup> Other functional forms can be used. However, this requires more in-depth knowledge and understanding of outranking, and specifically the PROMOTHEEE algorithm used to derive the prioritization, which is beyond the scope of most potential users of the P-IMA framework.

Analysis group. The key output is provided under the *Ranking* tab, which provides the score of each of the SPS capacity-building options out of a possible maximum of 100%.<sup>18</sup> The options can be sorted into descending order using the *Sort* command which can be accessed by right clicking the mouse.

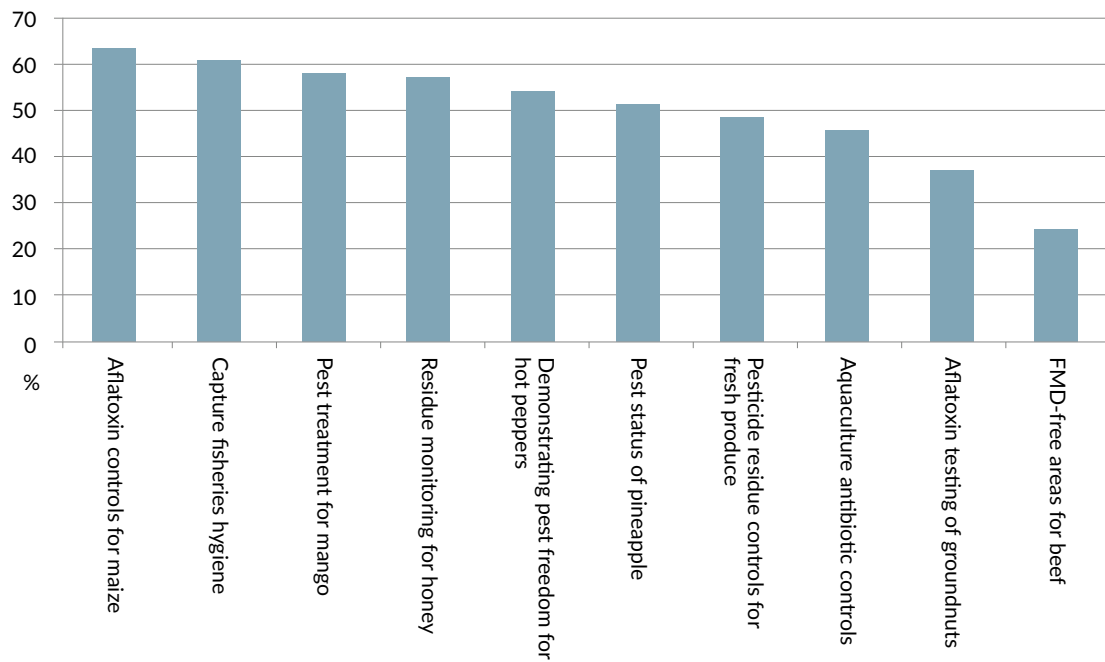
Use of D-Sight provides a relatively easy and user-friendly interface to generate a number of charts and graphs that rank the SPS capacity-building options included in the choice set, based on the associated decision criteria and weights. In actual applications of the P-IMA framework to date, three different rankings or prioritizations have been generated, based on the use of alternative weights. These comprise: (i) the “baseline” prioritization which reflects the weights assigned by participants at the stakeholder workshop; (ii) the “equal weights” prioritization, in which each of the weights has the same value; and (iii) the “cost and trade impact” prioritization, which excludes decision criteria not related to costs and trade impact. These three prioritizations are illustrated and discussed below for the Aflandia case study (Figures 4, 6 and 7).

Figure 4 reports the baseline prioritization of the 10 SPS capacity-building options in the Aflandia case study. It can be seen that aflatoxin controls for regional maize exports is ranked first, with a score of 64%, followed by hygiene controls for wild capture shrimp exports to the EU with a score of 61%.

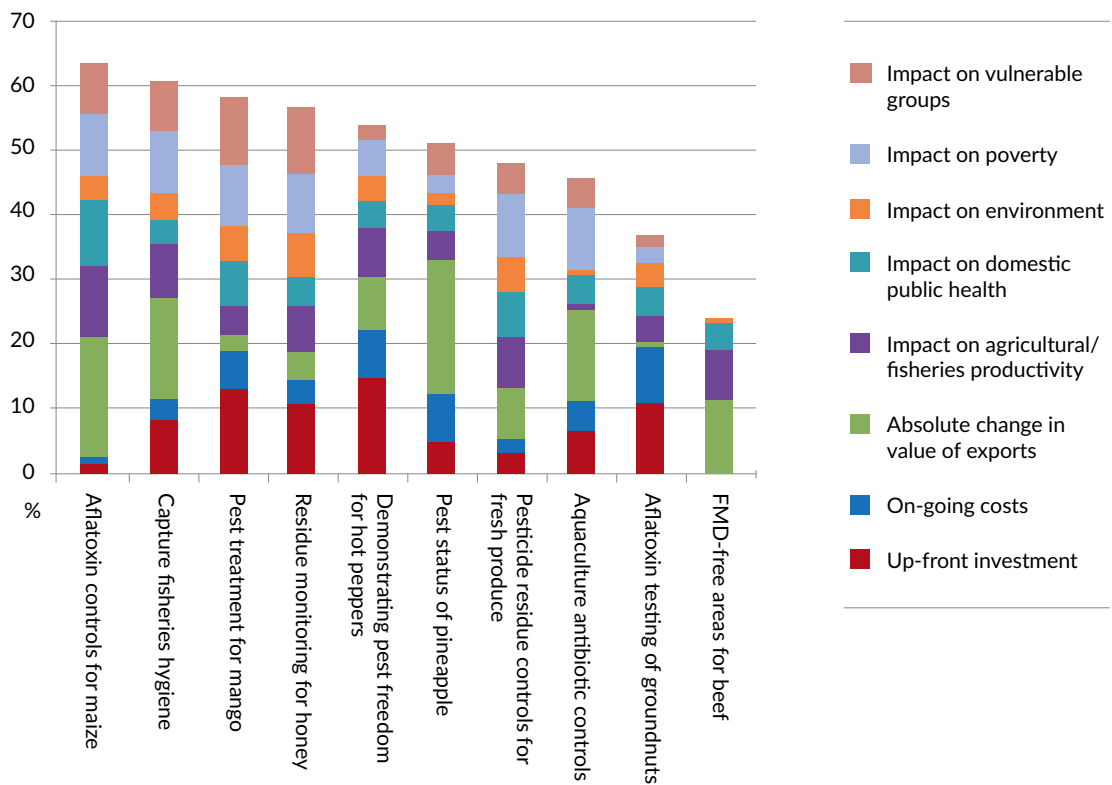
Having prioritized the SPS capacity-building options under consideration, it is important to understand why particular options are ranked above or below others. This information is provided by a contribution analysis which is performed by pressing the *Criteria Contribution* command under the *Analysis* group. Again, the options can be sorted into descending order using the *Sort* command which can be accessed by right clicking the mouse. Figure 5 provides the contribution analysis for the Aflandia case study. It can be seen, for example, that

<sup>18</sup> The software uses outranking to prioritize the different options. It calculates positive and negative preference flows for each of the options. The positive flow expresses how much an alternative dominates the other options being considered, and the negative flow how much it is dominated by the other options, given its performance according to the defined decision criteria. The options are ranked on the basis of the net preference (the positive flow less the negative flow). An SPS capacity-building option with a score of 100% is better than all other options with respect to all of the decision criteria. Conversely, an export-oriented SPS capacity-building option with a score of 0% is worse than all other options with respect to all of the decision criteria. Thus, a score nearer to 100% indicates that a particular export-oriented SPS capacity-building option performs better relative to the other options being considered.

**Figure 4. Baseline prioritization for Aflandia case study**



**Figure 5. Contribution analysis for Aflandia Case Study**



the top ranked option (aflatoxin controls for regional maize exports) performs relatively well for most of the decision criteria, but less well for up-front investment and for on-going costs, reflecting the fact that it is costly. Conversely, the bottom-ranked option (FMD-free areas for regional beef exports) performs poorly for most decision criteria but well for absolute changes in the value of exports, reflecting the fact that it is estimated to have a large positive trade impact.

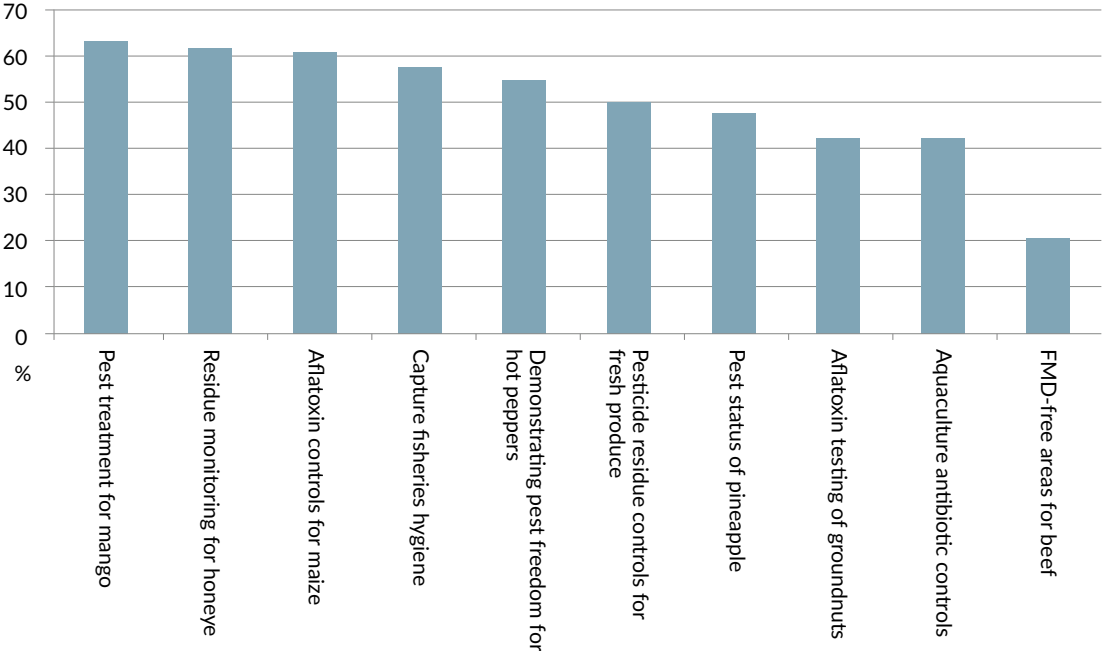
**Sensitivity analysis**

Having estimated quantitative priorities using the baseline model, it is important to assess the robustness of these estimates to changes in the key elements of the analysis. Perhaps the most uncertain element of the prioritization is the weight to be attached to each of the decision criteria. Conceivably different stakeholder groups will weight distinct decision criteria differently and this could be

the cause of considerable disquiet or disagreement over the final prioritization. For this reason, the sensitivity of the results to changes in the decision weights should be examined. This simply involves changing the weights in the *Hierarchy* tab, normalizing the weights and re-running the analysis. It is noteworthy that, in many cases to date, changing the weights assigned to the decision criteria did not appreciably change the set of SPS capacity-building options that are ranked most highly.

Figure 6 presents the prioritization of the 10 capacity-building options in the Aflandia case study under the scenario that all decision criteria are weighted equally. It can be seen that this has a significant impact on the prioritization, with pest treatment for regional mango exports ranked first with a score of 63% and residue monitoring for honey exports to the EU second with a score of 62%. Aflatoxin controls for regional maize exports is now ranked third.

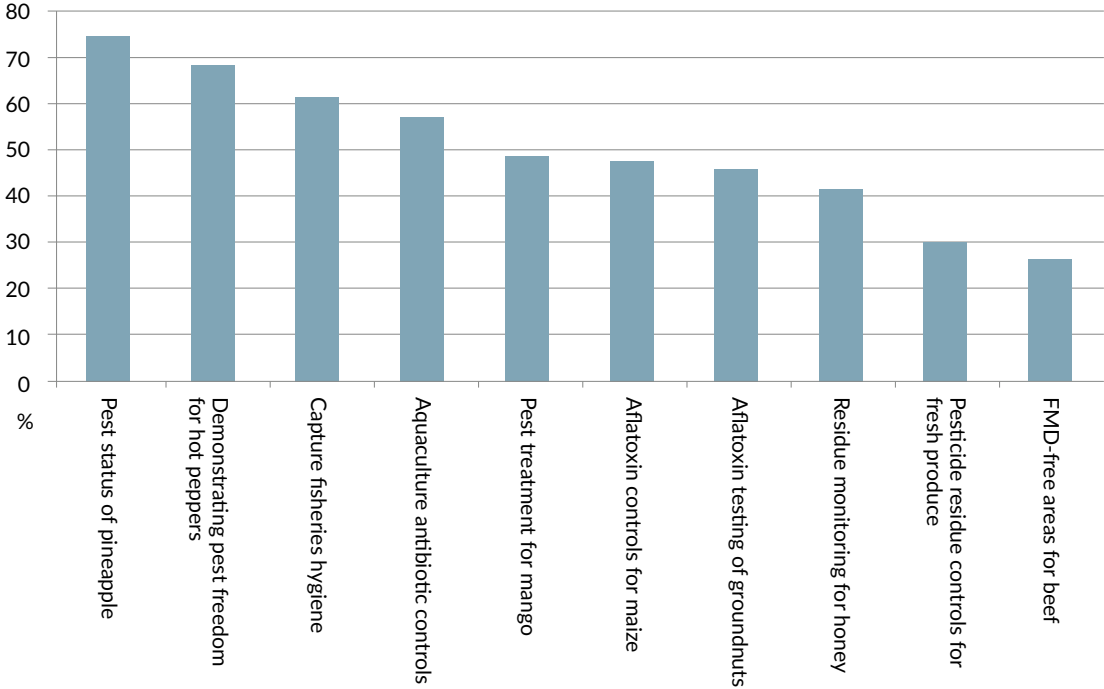
**Figure 6. Equal weights prioritization for Aflandia case study**



Once the data has been entered into D-Sight, it is possible to run different scenarios quite easily. One alternative scenario is normally produced that reflects the more specific priorities of the ministry of trade. This scenario only attaches a positive weight to up-front investment, on-going costs and the change in absolute value of exports. In other words, it essentially indicates the cheapest way of achieving appreciable gains in trade through SPS capacity-building. The results of this scenario for the Aflandia case study are presented in Figure 7. Now pest status for regional pineapple exports is ranked first with a score of 74% and demonstrating pest freedom for hot peppers comes second with a score of 68%.

It is also important to revisit the information cards and, in particular, the estimates with low confidence. For example, it is assumed in the information sheet for the hot pepper option that exports of US\$5 million annually will be achieved through investment in this option. An alternative scenario, however, is that the trade costs associated with hot pepper exports to the US are prohibitive and, as a result, there is no trade impact of this option. This alternative analysis can be performed easily; the measure for absolute change in the value of hot pepper exports to the US is changed in the *Evaluations* tab and the analysis re-run. The results are reported in Figure 8. While the hot pepper option was ranked fifth with a score of 54% in the baseline prioritization (Figure 4), it is now ranked seventh with a score of 48%.

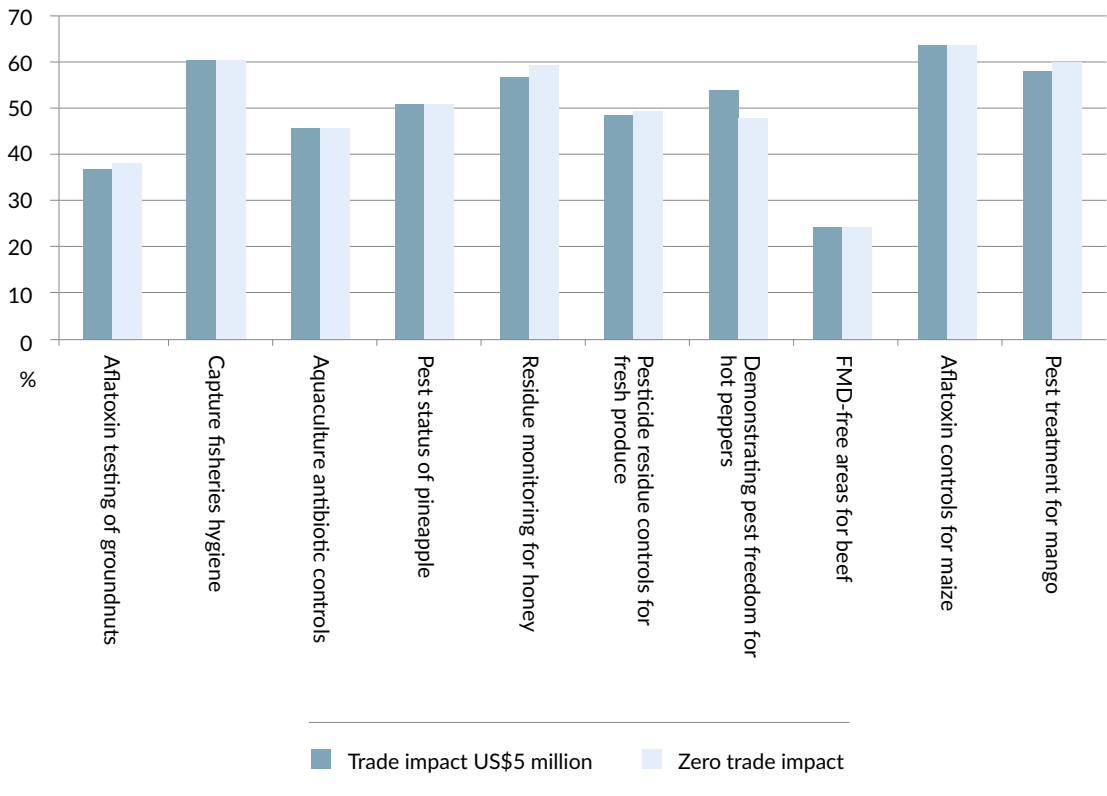
**Figure 7. Cost and trade impact prioritization for Aflandia case study**



The Aflandia case study highlights the need to explore carefully the sensitivity of the baseline prioritization to changes in the defined parameters and measures in the information sheet over which there is most uncertainty. This is an iterative process; if initial sensitivity tests show the baseline priority to be robust across varying and conceivable values of key parameters, for example, the analysis can be more restricted in its scope. If, however, the prioritization is evidently highly sensitive to changes in the key parameters and/or impact measures over which there is uncertainty, more in-depth analysis will be needed. The aim in such cases is to identify the key parameters and measures that influence the order in which SPS capacity-building options are prioritized and to spend time generating more robust values for them.

The prioritizations obtained, as well as the different scenarios, should be clearly documented in a draft report, which is shared with relevant stakeholders for feedback (Stage 7). This report provides detailed information on the application of the P-IMA framework step-by-step. In addition to presenting the findings of the analysis, and discussing any issues related to sensitivity or low confidence of the data used, it briefly describes how the analysis was carried out, the decision criteria and weights used, the stakeholders involved, etc. For transparency, the information cards prepared for each of the SPS capacity-building options are attached as annexes.

**Figure 8. Prioritization for Aflandia case study with varying trade impacts for the hot pepper capacity-building option**







# STAGE 7

## DISCUSS, REVIEW AND VALIDATE THE PRIORITIES WITH STAKEHOLDERS

The final stage of the P-IMA framework focuses on discussing, reviewing and validating the findings of the work carried out to prioritize SPS capacity-building options. The aim is to ensure that all stakeholder groups understand the prioritization and how it has been derived, and to encourage follow-up. Validation of the findings does not imply that everyone will be satisfied with the result, especially if the SPS capacity-building option(s) they support are not ranked highly. However, they will understand why the various options were ranked in the way they were given the defined decision criteria and weights.

Key to the success of the validation stage is recognition among stakeholders that the prioritization is a product of two key categories of parameters: (i) the selection of SPS capacity-building options considered, decision criteria and decision weights (derived through an inclusive and structured process of stakeholder engagement); and (ii) the estimated measured impact of each of the SPS capacity-building options for each of the defined decision criteria, based on the best available data. This means that the prioritization is entirely explained by the defined parameters and measures, which are substantively laid out in the information cards. The implication is that if a stakeholder wishes to challenge the prioritization, they must challenge the data included in the information card, and put forward alternative parameters and/or new data that can be incorporated into a new analysis.

Stakeholders are requested to review the draft report documenting the findings of the analysis and prioritization. A second workshop is then organized to present and discuss the findings of the analysis with stakeholders, seek their views and comments, and consider options to improve and refine the analysis. The workshop provides an opportunity to discuss any alternative scenarios, the most plausible

scenarios identified and how to address data uncertainties. Normally a half-day (or less) provides sufficient time for this workshop (Box 16). It is often beneficial to invite representatives of senior government officials, international organizations, donors and other development partners with an interest in SPS capacity building. The draft report should be distributed to participants well in advance of the meeting.

After the workshop, the analysis is re-run taking account of input from stakeholders and efforts to address and incorporate improved data. The report is then revised and distributed to stakeholders with a defined time to receive additional comments, if any. The report is finalized once comments have been received and addressed, with further refinements of the prioritization undertaken as required. Importantly, the prioritization and report should be seen as living entities. They should be revised as new information becomes available, new SPS capacity-building options arise and/or existing options are addressed, priorities changes, etc.

### Box 16. Proposed agenda for stakeholder validation workshop

- Introduction to the working group responsible for the prioritization work
- Overview of key stages in the data collection and analysis work
- Introduction to the key parameters (decision criteria and weights) driving the prioritization
- Key findings derived from the analysis:
  - The “baseline” prioritization (i.e. based on the decision criteria and weights provided by the Stage 2 stakeholder workshop) including the spider diagrams and baseline prioritization scores and contribution analysis provided by D-Sight
  - The “equal weights” prioritization (i.e. the prioritization that results when all the decision criteria are assigned equal weights).
  - Other alternative scenarios based on the sensitivity analysis that demonstrate how sensitive the baseline prioritization is to changes in key parameters and/or measures from the information sheets over which there is most uncertainty.
- Open discussion about the key findings, concerns or queries about the data in the information cards, etc.
- Options to address data uncertainties, and to refine and improve the analysis.

### Box 17. Mainstreaming SPS Investments in CAADP: Experiences from COMESA

In 2003 Heads of State in the African Union endorsed CAADP as a planning and resource mobilization tool to transform the agriculture sector. Pillar II of CAADP provides a framework to improve market access and seeks to increase investments in rural infrastructure and trade-related capacities for market access. However, as a result of competing interests for very limited resources and the low priority typically given to SPS issues, many SPS capacity gaps have tended to persist and to become non-tariff barriers to trade. In 2011, the 7th CAADP Partnership Platform in Yaounde, Cameroon endorsed the decision to mainstream SPS priorities into CAADP. Further, in their summit of June 2014, the AU Heads of State endorsed the Malabo Declaration on Accelerated Agricultural Growth and Transformation, setting out direction for agriculture for the continent for the next 10 years, essentially constituting the agricultural component of the first 10 years’ plan of Africa’s Transformation Agenda 2063 (Agenda 2063 was declared by Heads of State of the AU at the 50th Anniversary as both a Vision and an Action Plan. It is a call for action to all segments of African society to work together to build a prosperous and united Africa based on shared values and a common destiny).

COMESA is one of the AU recognized Regional Economic Communities (CEN-SAD, COMESA, EAC, ECCAS, ECOWAS, IGAD, SADC and UMA), viewed as the development and political institutions on which to anchor Agenda 2063. Thus, the COMESA Secretariat coordinates and facilitates CAADP and Malabo road map implementation in its Member States, including promoting the P-IMA framework as a unique planning and resource mobilization tool to complement the CAADP framework. It has encouraged its Member States to use the P-IMA framework to take stock of SPS capacity needs, prioritize and cost investment options with the best returns, and integrate SPS investments into national agriculture sector investment plans under CAADP. Since 2011, public and private sector stakeholders in COMESA Member States, including Ethiopia, Malawi, Rwanda, Seychelles, Uganda and Zambia, have used the P-IMA framework to prioritize SPS investment needs. These experiences have highlighted the potential of P-IMA to provide a practical and inclusive mechanism to prioritize investments in SPS capacity-building needs. They have also enhanced collaboration between the various sectors of the economy, built consensus amongst regulatory agencies and other stakeholders, facilitated continuous improvements based on the availability of new information.

# USING THE OUTPUTS OF THE P-IMA ANALYSIS

The P-IMA framework aims to bring about a fundamental shift in the way decisions are made with respect to SPS capacity-building investments. It seeks to move towards greater efficiency in the use of scarce resources and to enhance the transparency and accountability of resource allocation decisions. This requires that the framework is not applied on a one-off basis, but rather becomes a central part of national SPS planning and decision-making processes. Demonstrating the utility of the P-IMA framework through concrete activities that deliver benefits in the short term is crucial in this context.

Experiences with the use of the P-IMA framework show that the immediate outputs produced, including the prioritization itself as well as the information sheets, may be used in a number of ways. For instance, to:

1. Provide compelling evidence to support SPS project development. Use of the P-IMA framework identifies specific instances where weaknesses in SPS capacity impede agri-food exports and defines which investments are likely to provide the greatest return, given the decision criteria considered most pertinent. Projects defined on the basis of a rigorous priority-setting exercise tend to be more compelling to potential funders, whether in national government or bilateral or multilateral donors.
2. Enable more coherent funding requests to be compiled. The prioritization provides a concrete basis on which to base requests for funding from bilateral and multilateral donors. Sometimes funding requests submitted to donors consist of a virtual “shopping list” of capacity-building needs and related projects, which are not prioritized and/or well justified in terms of their likely returns (in this case enhanced export performance).
3. Guide the development of a national action plan for the enhancement of SPS capacity, based on clear and coherent evidence of

the trade and other impacts of potential investments, and a clear and justifiable prioritization of these investments (given that available resources are unlikely to be sufficient to fully fund the plan in the short to medium term). For instance, selected COMESA Member States used the P-IMA framework to take stock of SPS capacity needs, prioritize and cost investment options with the best returns, and integrate SPS investments into national agriculture sector investment plans under the Comprehensive Africa Agriculture Development Programme (see Box 17).

4. Improve SPS planning and decision-making processes. The greatest potential returns are to be gained by using the P-IMA framework on an on-going basis. Thus, as specific SPS capacity-building needs are addressed and/or emerge, or as new data becomes available, the prioritization is updated. The framework can also be used to stimulate and/or inform discussions among relevant stakeholders about potential future SPS capacity-building needs, for instance by running “what if” scenarios: What would be the capacity-building needs if SPS requirements for key exports were to be changed or enhanced? To what extent would future problems be prevented or offset if investments in SPS capacity were to be made now? What SPS capacity-building needs would emerge with efforts to promote new agri-food exports and how would these be prioritized against existing needs? These are all questions that national SPS planning processes should address, and use of the P-IMA framework facilitates a more coherent and reasoned debate around these topics.

Whilst the P-IMA framework is designed to be applied to the specific context of SPS capacity-building investments that cut across the areas of food safety, plant health and animal health, it can be easily adapted to other uses. For example, it could be applied to prioritize capacity-building investments related specifically to food safety, plant health or

animal health. Alternatively, it might be applied only to SPS capacity-building investments within priority export commodities (e.g. fresh produce, milk and dairy products, fish and seafood, etc.), or to analyse the different options to solve a particular challenge (e.g. aflatoxin control). The scope of the prioritization exercise can also be extended to include non-SPS concerns that relate to domestic markets, or to include TBT issues. In other cases, the P-IMA approach has been used to prioritize interventions in agriculture or trade facilitation, more broadly. Some of the experiences of Belize, COMESA Member States and Malawi in using the P-IMA framework are described in Boxes 17, 18 and 19.

### **Box 18. Benefits of using the P-IMA framework in Belize**

In Belize, the analytical work carried out as part of the P-IMA framework helped to communicate the trade-related impacts of particular SPS investments to policy-makers at a glance. The various charts and graphs produced clearly illustrated the returns on different types of investment, and provided evidence to convince policy-makers of the value of addressing particular SPS-related needs and attract additional resources from the national budget. Within six months of applying the P-IMA framework, new investments were obtained to improve animal health controls, which facilitated live cattle exports to Mexico. The analysis also revealed some oversights in previous work to estimate the costs of some SPS investments, which enabled missing data to be incorporated so that resources could be allocated most effectively.

Use of the P-IMA framework in Belize built on BAHA's already strong relationships with other government agencies and the private sector. Dialogue and transparency in SPS priority-setting was strengthened. The open discussions enhanced stakeholders' appreciation of what is required to gain and maintain market access for agri-food products, BAHA's essential role in this regard, and the importance of adequate funding to ensure that functions are carried out effectively. This resulted in greater support for BAHA's work.

Based on the positive experiences, the government identified opportunities to apply the P-IMA approach to support other decision-making processes. For instance, BAHA used the P-IMA methodology to support the development of its own strategic plan and to inform priority setting and resource allocation decisions under the Agricultural Services Project funded by the Inter-American Development Bank (IDB). The Belize Trade and Investment Development Service (BELTRAIDE) subsequently used the approach to prioritize actions to support micro and small and medium size enterprises. The Ministry of Natural Resources and Agriculture used the approach to prioritize programmes related to food and nutrition security, and foreign exchange earnings.

For more information, see: <http://www.standardsfacility.org/PG-365>

### **Box 19. Adapting the P-IMA framework to prioritize the trade facilitation action plan in Malawi**

In Malawi, the Ministry of Industry and Trade (MOIT) led efforts to prioritize SPS capacity needs in 2012, involving the authorities responsible for food safety, animal and plant health, the private sector and donors. Use of the P-IMA framework was considered to give a greater degree of confidence about where to invest resources in SPS capacity building to achieve the greatest impact. It also encouraged stakeholder dialogue, informed the development of project proposals and helped to secure funding.

Based on these experiences, officials in the Ministry of Industry and Trade (MOIT) decided to use the same approach to develop a prioritized list of actions for the National Trade Facilitation Action Plan. A number of reports, each with their own priorities for trade facilitation, had been produced by national authorities, international organizations and development partners in Malawi. These included the National Export Strategy (NES), the Non-Tariff Barriers Strategy, the Commonwealth Secretariat Trade Facilitation Study, the UNECA Trade Facilitation Study, the Diagnostic Trade and Integration Study (DTIS) for the Enhanced Integrated Framework (EIF), and the Category C commitments identified for the WTO Trade Facilitation Agreement.

Faced with the “daunting task of choosing which recommendations to implement” given the number of key recommendations in addition to the National Export Strategy”, the MoIT saw an opportunity to develop a common set of harmonized priorities that would be more manageable to address, based on all the actions identified in the already existing reports, and avoid duplication, misalignment and inefficient use of the limited resources available.

The data collection and analysis work was based on a thorough process of desk research, group discussions and stakeholder consultations, facilitated by the “Access to Markets” Technical Working Group under the Trade, Industry and Private Sector Development Sector Wide Approach (TIPSWAp). Representatives of key government agencies, the private sector, research, academia and civil society were engaged during a stakeholder workshop in June 2014 to take stock of what had already been done. They eliminated actions that were overlapping, irrelevant or already implemented, redefined unclear recommendations, and grouped together certain related activities. During this process, stakeholders identified actions to be included in the analysis and also defined decision criteria and weights. A draft report documenting the findings of the analysis was produced and shared with national stakeholders, development partners and donors in Malawi prior to its finalization. The final report of this exercise – “The Consolidated National Trade Facilitation Action Plan” (July 2014) – was shared widely, validated at a stakeholders workshop, and presented to the Access to Markets Technical Working Group and the National Trade Facilitation Committee. Today, this Action Plan serves as the main tool to help the government and donors identify, address and track priorities for trade facilitation and to inform resource allocation decisions.

# ANNEX 1

## AFLANDIA CASE STUDY<sup>19</sup>

### Introduction

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Aflandia is a coastal country with a population of 15 million. Most people live in rural areas and are involved in subsistence agriculture or artisanal fishing. The leading cash crops are cotton, maize, coconuts and coffee. Agriculture and fisheries accounted for 40% of GDP in 2010. The manufacturing sector is small (accounting for 15% of GDP in 2010). Services accounted for the remaining 45% of GDP in 2010. In recent years, Aflandia has developed a tourism sector which now attracts about 100,000 visitors per year and employs around 8,000 people. Average per capita income in 2010 was \$1,800.

The Government of Aflandia is in the process of finalizing a strategy to maintain and enhance agricultural exports, with close involvement of the private sector. In-depth consultations have been carried out with exporters. Linked to this strategy, development partners and donors have already carried out their own analytical work aimed at identifying trade-related challenges and constraints to be addressed. Several reports have been produced, some of which address the challenges of complying with export market requirements in detail. Some of these include SPS assessments and analysis on border rejections in export markets. Efforts have also been undertaken to evaluate SPS capacity-building needs using official tools developed by international organizations. In the last five years, Aflandia has carried out official evaluations of its veterinary and plant health capacity using the tools developed by the OIE and IPPC (respectively).

### The challenge

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Whilst the assessment of SPS capacity and related compliance challenges has provided extremely valuable information to the Government and the private sector, the identified needs exceed available domestic resources. Officials in the authorities responsible for SPS matters have traditionally had a hard time convincing decision-makers in the Ministry

of Finance about the benefits of investing in SPS capacity building, and the resources allocated to SPS authorities in the national budget are always insufficient. Inevitably, priorities will need to be set, although it is not clear how the competing demands of the different sectors will be reconciled.

While donors have offered support, they are demanding that Aflandia prepare a detailed SPS capacity-building plan, with defined and substantiated priorities. Even with additional donor funding, it is unlikely that there will be sufficient resources to address all the SPS capacity-building priorities needed to gain and maintain market access.

At a meeting of the national SPS Committee, one expert who recently participated in WTO's Advanced SPS Course in Geneva suggested making use of the P-IMA framework to help prioritize SPS capacity-building needs for market access. The national SPS Committee agreed, and a small team of five experts was created to lead this work. The team includes two experts from the Ministry of Agriculture (with responsibility for plant health and animal health), one expert from the Ministry of Health (with responsibility for food safety), one expert from the Ministry of Industry and Trade and one expert from the Ministry of Finance (an economist with experience in policy analysis). The team has been given two weeks to draft their report and to obtain feedback from stakeholders before delivering a final report to the Minister of Agriculture. They have their work cut out for them.

You are a member of this working group. Your task is to read and analyse the information presented below, and to work through the steps in the P-IMA framework on the basis of the information available.

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<sup>19</sup> Aflandia is a fictitious country and any similarities with a real country are coincidental and unintended.

## Trade performance

Over the years, Aflandia has had a large trade deficit. The country is a significant importer of machinery, oil, and an array of consumer products. Its traditional exports have been cotton, coffee and coconuts. Exports of cotton and coffee have fluctuated from year to year, whilst those of coconuts have declined due to persistent disease problems. As part of efforts to diversify its exports and drive economic growth and poverty reduction, the government has made efforts to encourage exports of a number of high-value agri-food products, notably shrimp and pineapple, but also fresh vegetables and honey. However, these efforts have been hampered by the lack of direct commercial flights to key high-income markets in the European Union (EU) and United States. Exports of groundnuts and maize have also grown over time.

The key characteristics of these more dynamic exports are as follows:

- **Groundnuts** exports were valued at \$10 million in 2010, most of which went to the EU. Over the last 3 to 4 years, exports grew at 10% annually, reflecting Aflandia's relatively low costs of production. Approximately, 20,000 smallholders are engaged in groundnut production for export, predominantly in relatively remote areas with few other income opportunities. There is also a large domestic market for groundnuts.
- **Shrimp** exports have expanded rapidly in recent years, reaching \$60 million by 2010. Around 90% of exports are to the EU, with the remainder directed mainly to the Middle East and China where prices are 40% lower than in the EU. Around 60% of shrimp production is from wild capture, employing 30,000 small fishers in poor northern districts. Wild capture production is not expected to grow because of efforts to ensure sustainability in the sector. The remaining 40% of production is from aquaculture, mainly near the capital. There are around 5,000 aquaculture producers of shrimp averaging 10 hectares in size. It is estimated that 40,000 people are directly employed in the aquaculture sector, most of whom are landless. The unit price of shrimp from wild capture and aquaculture production are about the same.
- Historically, Aflandia was a major exporter of spices, and in particular **cinnamon** and **nutmeg**. Whilst exports have dwindled in recent years, predominantly due to competition from more efficient producers in other developing countries, efforts are underway to promote the production of organic cinnamon and nutmeg aimed at high-value markets in the EU, US and Japan. It is estimated that exports of cinnamon and nutmeg could grow to \$10 million and \$5 million, respectively, within five years. The fact that production of these crops is dominated by smallholder producers in marginal areas of the country means they have been given high priority by the government.
- Investment in **pineapple** production has increased recently, especially in an area with high rates of poverty. Aflandia has good conditions for pineapple production and its costs of production are lower than its main competitors. Pineapple is produced on a small number of large plantations that have relatively few permanent employees, but that employ large numbers of women in pack houses. The main export markets for pineapple are neighbouring countries, which were valued at \$25 million in 2010. However, it is estimated that exports could be 200% greater within five years if access to North Rinzandia (Aflandia's larger and more affluent neighbouring country) could be achieved.
- Although exports of **honey** were only \$500,000 in 2010, these support the livelihoods of an estimated 30,000 producers, the majority of whom are women. Most production is in marginal rural areas with high rates of poverty and HIV/AIDS. Honey production is critical for the maintenance of local ecosystems. Currently, all exports are to regional markets, although a recent study identified potential EU markets worth \$1 million annually. Although there is considerable scope for increasing honey production, especially if certified organic, the study suggests that 50 per cent of regional exports would be diverted to the EU. Prices in regional markets are half those of EU markets.
- Aflandia has **fresh vegetable** exports of \$50 million annually to the EU, mainly directed at wholesale markets and the catering sector in the UK, Netherlands, France and Germany.



Production is on 10 large farms near the capital, which account for 80% of exports, and 20,000 smallholder out-growers producing under contract. These smallholders also supply the domestic market. Around 30% of smallholders in vegetable production for export are women. Exporters have explored markets in the Middle East, that appear to offer the next best opportunity, but prices there are half those of the EU markets currently served. There is also a growing market for higher-quality fresh vegetables in the growing supermarket sector in the two major urban areas of Aflandia, including the capital. It is estimated that this could be valued at \$6 million within five years.

- Building on its position in EU markets, Aflandia is exploring the scope for exporting fresh vegetables to the United States, starting with **hot pepper**. Although, there are challenges to compete against Latin American suppliers with much lower production and transport costs, the Association of Fresh Produce Exporters of Aflandia (AFPEA) estimates that exports of \$5 million a year could be achieved within five years. Around 5,000 smallholders are engaged in hot pepper production, mainly near the capital, and could expand production if this new market became available through switching away from maize.
- Aflandia is currently self-sufficient in **beef** and has potential to become a substantial exporter to regional markets if access could be achieved. Estimates suggest exports of \$10 million could be achieved within five years, expanding to \$50 million over 10 years. Most production is on large farms in areas with significant wildlife and pastoral producers that produce for own consumption and informal local markets.
- **Maize** is the staple food crop of Aflandia. As a result of efforts to boost productivity of maize production, there is now a sustained surplus for export to regional markets. Current exports amount to \$30 million, even after routine price discounts of 10 per cent due to high levels of aflatoxins. Further exports of \$20 million are expected if recurring problems with aflatoxins are addressed. Around 50% of production is on medium and large farms, and the remainder on small farms. Smallholder production tends to be

in areas with high rates of poverty, where maize is a key element of farm household income. There is no segregation of maize production according to source.

- Aflandia has been exploring the scope for **mango** exports to North Rinlandia. Mango production is widespread in the country, predominantly by smallholders and in areas with high poverty levels and prevalence of HIV/AIDS. Women are actively engaged in mango production. The potential export market for mangoes in North Rinlandia is estimated at \$500,000 per year. Many producers are beginning to doubt the viability of mango production and have started to uproot their trees, especially given the challenging quality requirements of export markets. Exports are seen as one way to prevent this happening. Mangoes also have important nutritional benefits for the local diet.

#### Stakeholder workshop to discuss export-focused SPS capacity weaknesses and related compliance challenges

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A half-day workshop was held in the national capital to identify export-oriented SPS capacity-building needs in a structured manner. The workshop was attended by 25 public sector, 20 private sector and 6 civil society/academic stakeholders. The participants were actively engaged, and the discussions informal and lively. The key findings are summarised below.

Aflandia lacks the capacity to undertake laboratory tests for aflatoxins that are internationally-recognized. The basic facilities are in place, but equipment needs upgrading and the laboratory needs to be internationally accredited. Exporters of **groundnuts** use mobile test kits that provide a qualitative assessment of the presence of aflatoxins, but no quantitative results. As a result, importers in the EU undertake tests and charge the cost to exporters in Aflandia. The estimated cost of these tests in 2010 was \$14,000. The estimated cost of upgrading the laboratory and achieving accreditation is \$40,000, with on-going maintenance costs of around \$6,000 annually. Testing costs using a local laboratory are estimated to be much lower, at around \$5,000 annually, even after accounting for growth in exports over the next few years.



**Shrimp** exports are facing two challenges:

- Despite considerable upgrading of hygiene controls along the wild capture value chain, handling methods by fishers remain largely unchanged. The European Commission undertook inspections in 2008 and raised serious concerns about this situation. The Government of Aflandia provided assurances that this situation would be rectified, although little has been done to date. It is estimated that implementing a training programme for fishers and providing plastic boxes for storage of fish on boats would cost \$55,000, with on-going costs of retraining and replacing these boxes of \$15,000.
- Controls on antibiotic use in aquaculture production. Over the last three years there have been 25 border rejections in the EU due to antibiotic residues and the Government of Aflandia is concerned that trade restrictions could soon be applied. A good aquaculture programme has been designed with funding from donors, but this has still to be implemented. The estimated cost is \$90,000. Whilst the laboratory of the Department of Fisheries has been upgraded to undertake tests for antibiotic residues, this needs to be internationally accredited at an estimated cost of \$10,000. Maintaining the laboratory is expected to cost \$5,000 annually.

Despite considerable investment in **cinnamon** production in Aflandia, exports have struggled. In particular, there have been numerous rejections at the US border due to non-conformity with quality standards, including residues of insect parts. Solving this problem would require that exporters enhance their quality control procedures and promote better control of insects by smallholder farmers. The estimated cost given existing levels of production is \$2 million and would rise to \$4.5 million if the target annual exports are to be reached. On-going costs, however, would be minimal. Exports of **nutmeg** have faced even greater problems and remain negligible. This mainly reflects the fact that the targeted high-value markets in the EU and US, in particular, are demanding fair trade certification. The estimated cost of certifying existing producers is \$750,000, with annual recertification costs of \$75,000. These producers would be capable of producing and exporting around \$1 million of nutmeg annually.

Only one region, representing 10% of Aflandia's land area, is confirmed as free of fruit fly. This is seen as a major impediment to expansion of **pineapple** exports, notably to North Rinzandia that does not permit imports of pineapple from Aflandia. In order to gain access, a survey is needed to confirm that an additional region (accounting for 20% of Aflandia's land area) is free of fruit fly. The estimated cost is around \$150,000.

Whilst Aflandia wishes to exploit market opportunities for **honey** in Germany and the UK, it is not approved to export honey to the EU. This requires that a residue monitoring plan be put in place and approved by the European Commission. The estimated cost is \$40,000, with annual costs of collecting and analysing samples using a regional laboratory of \$10,000. Organic certification would entail an additional up-front investment of \$200,000 and annual on-going costs associated with recertification of \$35,000.

In the last two years, a number of consignments of **fresh vegetables** have been rejected at the EU border due to high levels of pesticide residues. At the same time, key buyers are asking for assurances that good agricultural practice (GAP) is followed and that EU maximum residue levels (MRLs) are complied with. Increasingly, it is recognised that controls on pesticides in fresh vegetable production for exports needs to be enhanced, notably in smallholder production. Predominantly, this would involve the design of a locally-appropriate GAP protocol and the training of smallholders directed at the implementation of this protocol. It has been suggested that a local certification scheme might be implemented to ensure compliance. The estimated cost is \$250,000, with on-going costs of around \$20,000 annually.

Whilst some producers see the growing domestic market for **fresh vegetables** as a way of avoiding the challenges associated with exports, the dominant supermarket chain is beginning to apply its own food safety standards. These standards reflect those applied in certain parts of Europe where its parent company is based. Meeting these standards will require that producers adopt some form of good agricultural practice (GAP), the estimated cost of which is \$600,000 with annual on-going costs of around \$40,000. The fear is that, if producers in Aflandia do not make these investments, producers

in North Rinzandia that have already implemented GAP will capture this market.

If Aflandia is to establish **hot pepper** exports to the US, a pest risk analysis needs to be undertaken by the US Animal and Plant Health Inspection Service (APHIS). This will require the National Plant Health Organization (NPPO) in Aflandia to undertake surveillance for quarantine pests in order to provide the necessary data. It is estimated that this will require a one-off investment of \$10,000.

Aflandia faces considerable challenges with animal health controls if it is to gain access to regional markets for **beef**. Currently, it has no areas that are Foot and Mouth Disease (FMD) free. However, plans have been formulated to establish a relatively small FMD-free area where the most efficient and largest producers are situated. This would require the erection of fencing, movement of some livestock and controls on pastoralism. A buffer zone around this area would require an on-going vaccination programme. The cost of establishing the FMD-free area is estimated at \$7 million, with on-going costs of \$250,000 annually.

A long-term and persistent problem in **maize** production is the use of inappropriate post-harvest handling and storage practices that are responsible for high levels of aflatoxins in much of the harvest. There are important implications not only for maize exports but also exposure of the domestic population. The estimated cost of implementing controls on aflatoxins at the level of production, as well as further along the maize value chain, are \$1.5 million, with on-going costs of \$100,000 annually.

The final issue identified by the SPS assessment relates to treatment of **fresh fruit**, such as mangoes, to control fruit fly and facilitate exports to regional markets which are currently closed. Establishing an appropriate hot water treatment facility is estimated to cost \$15,000, with annual operating costs of \$3,000.

## ANNEX 2

# LIST OF KEY INFORMATION SOURCES FOR COMPILATION OF INFORMATION DOSSIER

### Reports from application of SPS capacity assessment tools

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OIE PVS Evaluation reports by country:

<http://www.oie.int/fr/appui-aux-membres-de-loie/evaluations-pvs/rapports-devaluation-pvs-de-loie/>

IPPC PCE Tool (overview of the tool, further registration is required to access reports):

[pce.ippc.int/](http://pce.ippc.int/)

STDF Publication - SPS-Related Capacity Evaluation Tools:

[http://www.standardsfacility.org/sites/default/files/STDF\\_Capacity\\_Evaluation\\_Tools\\_Eng\\_1.pdf](http://www.standardsfacility.org/sites/default/files/STDF_Capacity_Evaluation_Tools_Eng_1.pdf)

### Data and/or reports on the value and volume of agri-food exports over time

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FAO Statistical Yearbooks - World food and agriculture:

<http://www.fao.org/economic/ess/ess-publications/ess-yearbook/en/>

FAO Yearbook - Fishery and Aquaculture Statistics (Most recent report is 2012):

<http://www.fao.org/fishery/publications/yearbooks/en>

Database on Integration and Trade in Latin America and the Caribbean (INTradeBID) (Inter-American Development Bank):

<http://www10.iadb.org/int/intradebid/AboutUs.aspx>

### Data and/or reports on border rejections in key export markets

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EU RASFF (the Rapid Alert System for Food and Feed) portal - summary information about the most recently transmitted RASFF notifications as well as search for information on any notification issued in the past. Access to a searchable database:

<https://webgate.ec.europa.eu/rasff-window/portal/?event=SearchForm&cleanSearch=1>

UNIDO trade Standards Compliance Report:

<http://www.unido.org/tradestandardscompliance.html>

UNIDO Trade Standards Compliance Footprints (Import Rejection Analysis):

<http://www.unido.org/tscfootprints.html>

### Records of specific trade concerns raised at the WTO

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WTO SPS Information Management System (SPS IMS):

<http://spsims.wto.org/>

## Other databases and information resources

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ITC Standards Map – a roadmap to standards, codes of conducts, assessment protocols to support GVCs:  
<http://www.standardsmap.org/>

ITC trade database:  
<http://www.intracen.org/itc/market-info-tools/trade-statistics/>

EU - Pesticides database:  
<http://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN>

World Integrated Trade Solution (WITS) - access to international merchandise trade, tariff and non-tariff measures (NTM) data:  
<http://wits.worldbank.org/>

STDF Virtual Library - electronic information system containing SPS-related resources:  
<http://www.standardsfacility.org/library>

# ANNEX 3

## SAMPLE STAKEHOLDER WORKSHOP AGENDA

The Standards and Trade Development Facility (STDF) has supported the development of a framework to help countries establish priorities between competing SPS capacity-building needs. The aim of this framework is to inform and assist decision-makers to identify priorities for SPS capacity-building that might guide the allocation of resources by the public and private sectors, and by donors.

This workshop is a key part of the priority-setting exercise in your country. It specifically aims to:

- Identify specific SPS capacity-building needs on the basis of the views and experiences of workshop participants.
- Identify the factors that should be used to establish priorities between the identified SPS capacity-building needs.
- Determine which of these factors is more or less important in driving the setting of priorities between the identified SPS capacity-building needs.

The views of all workshop participants will be treated as equal, and with this in mind the active participation of all attendees will be facilitated.

The information collected at the workshop will be used in a structured process of priority-setting that will result in an ordered list of SPS capacity-building needs for your country. This listing will be produced immediately after the workshop and then distributed to participants, as well as a wider range of stakeholders for comments prior to finalization.

We are confident that workshop participants will find the exercise both interesting and rewarding.

### Background dossier

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You will be sent a dossier of background information on the SPS situation in your country, key agri-food export trends, etc. It would be useful if you could have at least browsed this information before the workshop.

### Programme

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- 8.00** Tea/coffee
- 8.30** Welcome and background and aims of workshop
- 9.00** Identification of SPS capacity-building needs
- 10.30** Tea/coffee
- 11.30** Selection and weighting of decision criteria
- 12.45** Next steps for the follow-up data collection and analysis work to complete the prioritization exercise
- 13.00** Conclusion of the workshop and lunch

# ANNEX 4

## CARDS FOR ELICITING SPS CAPACITY-BUILDING OPTIONS

<b>Product(s) affected</b>	
<b>Specific SPS problem experienced</b>	
<b>Market(s) where SPS problem is experienced</b>	
<b>Specific capacity-building needs that will address the problem</b>	



# ANNEX 6

## STANDARD INFORMATION CARD

Decision Criteria	Estimated Value	Source of Data and Method of Estimation	Level of Confidence

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# ANNEX 7

## AFLANDIA CASE STUDY INFORMATION CARDS

### Option 1. Aflatoxin testing for groundnut exports to the EU

Decision Criteria	Estimated Value	Source of Data and Method of Estimation	Level of Confidence
<b>Cost</b>			
Up-front investment	\$40,000	Costs of upgrading equipment, achieving accreditation, etc.	High
On-going cost	-\$7,176	Annual costs of maintaining accreditation \$6,000. Annual testing costs constant at \$5,000/year, making \$11,000 in total. Estimated cost of testing by customers in 5 years equal to \$20,497. Customer testing costs assumed to increase at rate of 10% in line with growth in exports.	Medium
<b>Trade Impacts</b>			
Change in absolute value of exports	0	Tests already done and so no impact on exports	Medium
<b>Domestic Spillovers</b>			
Agricultural/fisheries productivity	0	None	High
Domestic public health	0	None	High
Environment	0	None	High
<b>Social Impacts</b>			
Impact on poverty	0	None	High
Impact on vulnerable groups	0	None	High

**Option 2. Hygiene controls for wild capture shrimp exports to the EU**

Decision Criteria	Estimated Value	Source of Data and Method of Estimation	Level; of Confidence
<b>Cost</b>			
Up-front investment	\$55,000	Fisher training and provision of plastic storage boxes \$55,000	High
On-going cost	\$15,000	Costs of maintaining hygiene standards amongst fishers	High
<b>Trade Impacts</b>			
Change in absolute value of exports	\$13 million	\$60 million x 90% to EU x 60% of production x 40% price premium in EU	Medium
<b>Domestic Spillovers</b>			
Agricultural/fisheries productivity	1	Reduce wastage and spoilage on fishing boats	Medium
Domestic public health	0	None	High
Environment	0	None	High
<b>Social impacts</b>			
Impact on poverty	2	30,000 poor fishers engaged in value chain	High
Impact on vulnerable groups	4	Area far along coast from capital with few other income opportunities (2); small fishers (2)	Medium

### Option 3. Antibiotic controls for aquaculture shrimp exports to the EU

Decision Criteria	Estimated Value	Source of Data and Method of Estimation	Level of Confidence
<b>Cost</b>			
Up-front investment	\$100,000	Implementing GAP protocol: \$90,000; Laboratory accreditation: \$10,000	High
On-going cost	\$5,000	Maintaining laboratory and accreditation	High
<b>Trade Impacts</b>			
Change in absolute value of exports	\$11 million	\$60 million x growth at 5% per year for 5 years (\$76.6) x 90% exports to EU x 40% of production x 40% price premium in EU	Medium
<b>Domestic Spillovers</b>			
Agricultural/fisheries productivity	-1	Reduced productivity due to reduced use of antibiotics	Medium
Domestic public health	0	None	High
Environment	-2	Expansion of farms	High
<b>Social Impacts</b>			
Impact on poverty	2	5,000 farms of average 10ha employing 30,000 largely landless people	High
Impact on vulnerable groups	2	Employment for landless people (2)	Medium

#### Option 4. Pest status of pineapple for regional export markets

Decision Criteria	Estimated Value	Source of Data and Method of Estimation	Level of Confidence
<b>Cost</b>			
Up-front investment	\$150,000	Costs of surveys	High
On-going cost	0	None	Low
<b>Trade Impacts</b>			
Change in absolute value of exports	\$50 million	Current exports \$25 million. Estimated to result in opening of new production areas that will increase exports by 200% assuming same level of production in new area on a pro rata basis	Medium
<b>Domestic Spillovers</b>			
Agricultural/fisheries productivity	0	None	Medium
Domestic public health	0	None	High
Environment	-1	Expansion of pineapple plantations	High
<b>Social Impacts</b>			
Impact on poverty	0	Large plantations. Not labour intensive	Medium
Impact on vulnerable groups	2	Women employed in pack houses (2)	Medium

**Option 5. Residue monitoring for honey exports to the EU**

Decision Criteria	Estimated Value	Source of Data and Method of Estimation	Level of Confidence
<b>Cost</b>			
Up-front investment	\$40,000	Establishing residue monitoring plan and first survey using overseas laboratories for testing	High
On-going cost	\$10,000	Maintaining and operating residue monitoring plan	Medium
<b>Trade Impacts</b>			
Change in absolute value of exports	\$875,000	Currently export \$500,000 to regional market non-organic. Estimated 50% will be diverted to EU organic market at 50% premium (-\$125,000). Estimated exports to EU within 5 years of \$1 million annually	Medium
<b>Domestic Spillovers</b>			
Agricultural/fisheries productivity	1	Higher prices in EU markets	Medium
Domestic public health	0	None	High
Environment	2	Supports maintenance of local biodiversity	Medium
<b>Social Impacts</b>			
Impact on poverty	2	30,000 small producers - high rates of poverty	High
Impact on vulnerable groups	6	Many women producers (2); marginal area (2); area with high rate of HIV/AIDS (2)	High

## Option 6. Pesticide controls for fresh produce exports to the EU

Decision Criteria	Estimated Value	Source of Data and Method of Estimation	Level of Confidence
<b>Cost</b>			
Up-front investment	\$250,000	Design and implementation of GAP	High
On-going cost	\$20,000	Maintaining certification programme	High
<b>Trade Impacts</b>			
Change in absolute value of exports	\$5 million	20% of exports (from smallholders) diverted to Middle East at 50% lower prices if lose EU markets	Medium
<b>Domestic Spillovers</b>			
Agricultural/fisheries productivity	1	Likely to enhance productivity/reduce production costs due to greater efficiency	Medium
Domestic public health	1	Likely to reduce pesticides in produce sold to local markets	Low
Environment	1	Reduced pesticide release to environment	Medium
<b>Social Impacts</b>			
Impact on poverty	2	20,000 smallholders	Medium
Impact on vulnerable groups	2	Significant role of women	Medium

**Option 7. Demonstrating pest freedom for hot pepper exports to the US**

Decision Criteria	Estimated Value	Source of Data and Method of Estimation	Level of Confidence
<b>Cost</b>			
Up-front investment	\$10,000	Cost of PRA – pests known not to be present	High
On-going cost	0	None	High
<b>Trade Impacts</b>			
Change in absolute value of exports	\$5 million	Exporter estimates annual exports of \$5 million can be achieved. However, questions could be asked about the likely competitiveness of hot pepper exports to the US; are trade costs likely to be prohibitive?	Low
<b>Domestic Spillovers</b>			
Agricultural/fisheries productivity	1	Higher-value crop for farmers	Medium
Domestic public health	0	None	High
Environment	0	None	High
<b>Social Impacts</b>			
Impact on poverty	1	5,000 smallholders of moderate poverty level	High
Impact on vulnerable groups	0	Near to capital. Men	Medium

### Option 8. FMD-free areas for beef exports to regional markets

Decision Criteria	Estimated Value	Source of Data and Method of Estimation	Level of Confidence
<b>Cost</b>			
Up-front investment	\$7 million	Costs of establishing FMD-free area	Medium
On-going cost	\$250,000	On-going control and vaccination costs etc.	Medium
<b>Trade Impacts</b>			
Change in absolute value of exports	\$10 million	Estimated will bring about exports of \$10 million in 5 years and \$50 million in 10 years. Note alternative scenario is zero, if assume controls are not implemented within five years	Low to Medium
<b>Domestic Spillovers</b>			
Agricultural/fisheries productivity	1	Reduce animal disease losses/veterinary drug costs	Medium
Domestic public health	0	None	High
Environment	-2	Clearance of wildlife	Medium
<b>Social Impacts</b>			
Impact on poverty	-2	Mainly large farms. Negative impact on pastoralists	Medium
Impact on vulnerable groups	-2	Disruption of life of pastoralists (2)	Medium



### Option 9. Aflatoxin controls for maize exports to regional markets

Decision Criteria	Estimated Value	Source of Data and Method of Estimation	Level of Confidence
<b>Cost</b>			
Up-front investment	\$1.5 million	New post-harvest facilities. GAP implementation, etc.	High
On-going cost	\$100,000	Maintenance costs of \$100,000 per annum	High
<b>Trade Impacts</b>			
Change in absolute value of exports	\$23 million	Current exports \$30 million to regional markets: Get price discount of 10% because of persistent excessive levels of aflatoxins (\$30 million x 0.1 = \$3 million). New markets: access to two regional countries that won't import because of aflatoxins (\$20 million).	Medium
<b>Domestic Spillovers</b>			
Agricultural/fisheries productivity	2	Reduced rejection levels plus higher price from existing markets	Medium
Domestic public health	2	Also self-consumption and supply domestic market - will see decline in mycotoxin levels	Medium
Environment	0	None	High
<b>Social Impacts</b>			
Impact on poverty	2	50% of production by poor smallholders	Medium
Impact on vulnerable groups	4	Production in marginal areas (2); many smallholders for which maize is a key source of livelihood (2)	Medium

### Option 10. Pest treatment for mango exports to regional markets

Decision Criteria	Estimated Value	Source of Data and Method of Estimation	Level of Confidence
<b>Cost</b>			
Up-front investment	\$15,000	Installation of hot water treatment facility	Medium
On-going cost	\$3,000	Annual maintenance costs	Medium
<b>Trade Impacts</b>			
Change in absolute value of exports	\$500,000	No exports currently. Regional markets estimated at \$500,000 annually	Low
<b>Domestic Spillovers</b>			
Agricultural/fisheries productivity	0	None	High
Domestic public health	1	Suggested makes mango production viable and will enhance local consumption with nutritional benefits	Low
Environment	1	Incentives to maintain trees	Low
<b>Social Impacts</b>			
Impact on poverty	2	50,000 poor producers with few alternative livelihood opportunities	Low
Impact on vulnerable groups	6	Marginal area (2); High rate of HIV/AIDS (2), lots of involvement of women (2)	Low

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