

Using economic analysis to inform SPS decision-making

Weaknesses in sanitary and phytosanitary (SPS) capacity can have a significant impact on human, animal and plant health, and trade. In addition to understanding the main SPS capacity constraints and possible responses, governments need to be aware of their costs and benefits to be able to establish priorities across different capacity building options and allocate resources effectively.

The use of economic analysis supports such decision-making processes. Experiences in the use of economic analysis indicate the significant savings and/or returns on investment to be achieved from SPS capacity building, providing compelling evidence to help convince national treasuries and donors of the need for resources. This briefing note reviews the use of economic analysis in SPS decision-making, based on presentations and discussions at a workshop organized by the Standards and Trade Development Facility (STDF) in Geneva on 30 October 2009.

Some economic analysis methodologies

- **Cost-benefit analysis** calculates and compares flows of costs and benefits of capacity building options, expressed in monetary terms, over time. Used on an *ex ante* and *ex post* basis, its applications range from simple accounting to highly complex econometric models.
- **Cost-effectiveness analysis** ranks the monetary costs of alternative options against their physical benefits. It identifies the most cost-effective way to achieve a given option, but does not determine if this option produces a net benefit.
- **Multi-criteria decision analysis** is a relatively new approach which can be used to examine several options that differ in their associated costs and benefits, against various criteria. Different units (monetary or non-monetary) can be used to measure the costs and benefits.

How is economic analysis used and what are the benefits?

A number of countries and organizations have applied economic analysis in the SPS area to: (i) examine the impact of past or ongoing investments in SPS capacity building *ex post*; or (ii) consider the expected impacts of prospective investments *ex ante*. For instance, New Zealand routinely implements cost-benefit analysis as part of a structured SPS decision-making framework. Belize has analysed the costs and benefits of investing in control of the Pink Hibiscus Mealybug, an exotic plant pest, to justify continued financing and support. The Philippines has assessed the financial returns on Foot and Mouth Disease (FMD) control.

These and other experiences show that making systematic use of economic analysis in SPS decision-making has three main benefits. First, by helping to avoid the risk of inefficient and ineffective decisions, use of economic analysis promotes better use of resources. It can also help to determine the point along the value chain at which investments would generate the greatest returns. Second, using economic analysis contributes to objectivity, consistency, transparency and accountability in decision-making. Third, by indicating the potential returns on investment and/or cost-savings involved in addressing SPS problems, economic analysis can provide compelling evidence in support of SPS capacity building. Yet, many countries face common challenges in applying economic analysis methodologies.

Key messages

- Economic analysis offers a tool to inform and improve SPS decision-making and enhance the allocation of resources.
- Economic analysis complements scientific studies and generates evidence that can help to convince national treasuries and donors of the potential benefits and/or cost-savings of addressing SPS capacity constraints.
- Using economic analysis helps to minimize the risk of ineffective and inefficient decisions and resource allocations.
- The use of economic analysis promotes transparency, objectivity and accountability in decision-making.
- Different economic analysis methodologies exist and should be applied as appropriate to the particular situation and question being addressed.
- Incomplete data and lack of required knowledge and skills limit the application of economic analysis within SPS decision-making in many developing countries.

Common challenges in using economic analysis

- Limited skills and knowledge.
- Incomplete data and concerns about data quality.
- Quantification of unknown and future benefits (especially human health, social and environmental benefits).
- Measurement and/or attribution of costs and benefits.
- Coping with uncertainty (e.g. due to inadequate data, models used, etc.).
- Time and resources required.

Facilitating the use of economic analysis in SPS decision-making

Recognize the role and value of economic analysis. This is essential to convince policy makers and others of the benefits of making more systematic use of economic analysis in SPS decision-making.

Start small. Use of economic analysis is a challenging process that should be built up over time. Even in cases where there are data limitations, relatively simple types of economic analysis can be carried out. It is advisable to expand the use and complexity of economic analysis gradually, as it becomes more accepted in SPS decision-making and more capacity is available.

Improve data collection and management. Improving the availability and quality of data is a prerequisite. Regulatory authorities responsible for food safety, animal and plant health in many developing countries need better capacity to collect and analyse data that can be used in economic analysis and to support their work more generally (e.g. setting risk-based priorities for inspection).

Develop capacity. Given the relatively steep learning curve involved, more training on how to apply economic analysis methodologies, and the development of complementary manuals and guidelines, is needed to equip staff of food safety, animal and plant health agencies with the necessary knowledge and skills.

Adopt a clear SPS decision-making framework. Decisions are often made subjectively or arbitrarily. Experiences show that adopting a framework for SPS decision-making, that includes a core set of guiding principles and a clear process, enhances the quality of decisions.

Recognize uncertainty. Uncertainty is inherent in economic analysis, particularly in situations where data is limited. Therefore, any recommendations emerging from economic analysis should be framed in terms of the uncertainty involved.

Consult and involve stakeholders. This has several benefits. Stakeholders can often contribute relevant data for economic analysis. Keeping stakeholders informed also promotes accountability and transparency, and encourages their support for any decisions made.

Ongoing process. Economic analysis utilizes the best data available at the time. Undertaking tracking studies is useful to measure the actual benefits and their impacts, and adjust decisions as necessary.

Economic analysis and risk analysis. Economic analysis can complement and enrich risk analysis by providing information on the economic consequences, costs and benefits of risk management options.

Consider the value chain. Taking a value chain approach can enhance the usefulness of economic analysis and allocation of resources. Understanding how stakeholders involved in value chains modify and manage pests and diseases is important to better understand the possible entry points for interventions aimed at keeping those chains healthy.

Some examples of the use of economic analysis

- The costs of HACCP implementation in the United States over a 20 year period were estimated in the range of US\$1.1 to US\$1.3 billion, with estimated benefits of up to US\$171 billion (Crutchfield *et al*, 1997).
- OIE studies have shown that the costs of preventing animal diseases are significantly less than the costs of managing outbreaks (e.g. in Asia, Foot and Mouth Disease (FMD) eradication programmes have provided improved trade and market access benefits worth several times the investment).
- Belize calculated that BZ\$1 spent on the Medfly programme generated direct or indirect benefits of up to BZ\$140.

Further information

- For presentations from the STDF Workshop, related documents and *Guidelines on the Use of Economic Analysis to Inform SPS Decision-making* see: www.standardsfacility.org/Economic_analysis.htm