DEVELOPING NATIONAL SPS SYSTEMS

COMMON PRINCIPLES AND DIVERSE NEEDS

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CONTENTS

EXECUTIVE SUMMARY

The purpose of this study is to promote good practice in preparation of sanitary and phytosanitary (SPS) Action Plans for the development of national SPS systems.

Challenges

Developing countries face **challenges how to participate successfully in international agricultural and food markets**. They struggle with technical and policy questions about what capacity they need for their national SPS system, how they can develop it, whether they can afford the costs and reap benefits.

Many developing countries have serious **weaknesses** in their national SPS system for contributing to national development objectives; some have systems that still lack basic functionality. Frequently, pursued objectives for trade and health protection are vague and there are serious discrepancies between SPS ambitions and available resources. Weaknesses in SPS performance can negatively affect other countries by risks of spill-overs of pests, diseases, unsafe food, and constraints to their trade.

Responses

Most common in developing national SPS systems are *ad hoc* projects. If such projects target well-defined constraints for SPS performance they can be adequate. In cases of major gaps in information about the national SPS system, unclear overall policy objectives and multiple and interrelated weaknesses in its performance, a broad analysis may be desirable before formulating projects.
Some efforts aim to avoid *ad hoc* choices by a systematic **assessment of capacity** for implementing international standards, advocated by the international standard setting bodies (ISSB) – the Codex Alimentarius, the International Plant Protection Convention (IPPC) and the World Organisation for Animal Health (OIE). ISSB have developed capacity assessment tools for SPS sectors: food safety, plant health or animal health. Other efforts focus on preparation of **SPS Action Plans** for developing capacity. Thus far, no tool has been developed for this; this study aims to fill this gap. It takes the WTO SPS Agreement as its starting point and focuses at national SPS systems as a whole.
New in the present study is use of a **logical framework** (logframe) for the description of national SPS systems. The logframe has five components: (i) inputs and SPS capacity elements; (ii) SPS management and background processes; (iii) outputs: SPS services provided; (iv) outcomes of services provided; and (v) impact of SPS operations. A logframe helps to align SPS capacity development with sustainable development goals (SDGs).

SPS capacity is defined as the ability to perform SPS functions, solve SPS problems, and set and achieve SPS objectives in a sustainable manner. Central questions for each SPS Action Plan are: (i) What scope and size of a national SPS system is appropriate for a particular country? (ii) What is good practice for developing SPS capacity?

Some approaches to SPS capacity development focus more at the input side of national SPS systems and others more at outcomes. The first give most emphasis to develop capacity for implementing international standards and compliance with provisions of the international agreements, the latter to developing capacity for solving bottlenecks for realizing benefits in trade and health protection. This study argues that attention to both the input and outcome side will mostly give optimum results.

Performance of national SPS systems should be measured against their contribution to national development objectives. Unfortunately, no indicators are available for international comparison of SPS performance.

Donors and international agencies contribute much to needed technical advice, good practice development and funding of investment for SPS capacity development. Because of risks of spill-overs of pests, diseases and food safety risks to other countries, bilateral and multilateral cooperation in SPS capacity development can provide international benefits.

Good practice considerations for SPS policies

This study provides general guidance for preparing SPS Action Plans, based on considerations of compliance with the SPS Agreement, national conditions and analyses and directions for good practice on special topics. A summary of topics is listed below.

Legal and institutional framework. Periodic review of SPS legislation is desirable. Change of laws should be pursued with priority in case there are inconsistencies, gaps and non-compliance issues, which critically affect the functioning of the national SPS system.

Transparency. Transparency is a WTO obligation and a cross-cutting means for benefiting from membership. Providing information will be helpful to create confidence in a country's SPS measures and for market access agreements. Secrecy can be counterproductive.

Unnecessary costs for traders. SPS measures unavoidably disrupt trade and cause transaction costs to traders. However, many measures are more costly than necessary. Nine examples are given of SPS practices that could be improved.

Unacceptable health risks. There is a need for periodic reassessment of desirable levels of health protection. Some SPS measures may not be sufficiently effective. Some health risks may not receive sufficient attention, others more than necessary.

Capacity of traders and producers. Trade depends on capacity of producers and traders to meet SPS requirements. Good practice roles for Government can be to promote their capacity by raising awareness, support training and use of risk management tools, and applied research.

Risk assessment. Since SPS risk assessment can be very demanding, developing countries need pragmatic solutions. Only in cases of special interest do they need to conduct full risk assessment. Mostly, use can be made of assessments done in other countries. Risk categorization is necessary for setting SPS requirements and risk management.

Role of private SPS service providers. An overview is provided of roles that can be performed by private service providers and conditions that apply, such as public supervision, accreditation and legislation.

Laboratory capacity. There are many unsustainable investments in public laboratories because operational costs (20-30% of new investment) and depreciation cannot be covered and capacity not maintained. Laboratory development should start with a realistic business plan. A national plan for laboratory development can also be helpful. Fiscal autonomy and regulation are needed to enable good management of public laboratories.

Market segmentation. Developing countries have informal market segments in which many SPS requirements can only in the medium- and long-term be enforced. In the short- and medium-term, countries need to consider which international standards are most relevant based on their national context. It is good practice to differentiate requirements across segments based on risk and to phase out this differentiation gradually.

Border control. SPS agencies can improve border handling by better management and better cooperation with other border agencies. Where possible, controls should be done away from the Border Checkpoints (BCP). Export controls by SPS agencies are generally undesirable. SPS legislation should indicate what can be imported through informal border trade. Cooperation with other agencies may simplify release procedures, application and document requirements, and ultimately, enable single windows, single administrative declaration (SAD) forms and electronic applications.

Rent-seeking and corruption. Rent-seeking reduces effectiveness and efficiency of SPS systems. It deserves more attention. Improvements include: transparency, strengthen the rule of law, simplify procedures, reduce document requirements, minimize contacts between traders and SPS staff, make use of risk-based management, abolish unnecessary licensing and import permits. Not rarely, numbers of inspections and inspectors can be reduced. IT-based applications can be helpful. Efforts can be enhanced by broader anticorruption programs which may include increase of salaries.

Domestic and foreign capacity. SPS agencies prefer their own inspection and laboratory services. Nevertheless, unit cost may be high and quality may not meet international requirements. Good

practice is level-playing field for all service providers, no subsidies for domestic providers for operational cost and no obstacles for foreign providers.

ICT. Information and communication technology (ICT) offers opportunities for improving SPS systems. However, SPS agencies in many developing countries still have low computer literacy. Competent authorities (CAs) have different business processes which require separate ICT systems and interfaces with Customs. Automation of SPS systems that have major compliance issues is undesirable. Countries are not obliged to accept automated systems and exporters should in parallel maintain paper-based systems. Initially, automation of SPS management requires higher costs and more skill.

Funding. Constraints and imbalances in funding and lack of clear priorities undermine the effectiveness and efficiency of SPS systems. Many countries could benefit from clear policy objectives, priorities, sequencing and related budget needs for the short, medium and long term. Cost recovery from beneficiaries requires more attention.

Considerations and recommendations for preparing SPS action plans

1. The purpose of SPS Action Plans is to help decision makers by clarifying issues for SPS capacity development, such as sharpening policy objectives, understanding SWOT (strengths, weaknesses, opportunities and threats) of the national SPS system, desirable policy reform, rational use of scarce resources, prioritization and sequencing of investments, and dialogue with the donor community. SPS Action Plans should focus on contribution to objectives in trade and protection against health risks, have a relation to national development objectives, and explicitly contribute to SDGs. They should go beyond adoption of international standards and SPS technical considerations of management of the CAs.

2. An SPS Action Plan can be self-standing as well as part of broader public plans, such as for trade facilitation, public health improvement, and national and agricultural development.

3. The usefulness of preparing an SPS Action Plan depends on clarity of its scope, buy-in from the private sector and ownership of senior policy makers in Government. Preparation should progress in cycles with periodic guidance from senior policy makers. At the end they will decide on the final SPS Action Plan.

4. Making an SPS Action Plan is only recommendable if there is a likely follow-up in desirable policy reform and/or investment.

5. Preparation of an SPS Action Plan has to start with clarification of scope, focus, ownership, team qualification, resource requirement, mandate for such work, expertise needed and expectations among commissioners and recipients. Also, clarification of policies and development objectives in SPS and related fields is an important early task for planning SPS capacity development.

6. Preparing an SPS Action Plan is a major exercise which requires a considerable amount of time and budget, and input from a multi-disciplinary team of specialists.

7. Since rent-seeking and corruption can significantly affect the effectiveness and efficiency of SPS systems, governance issues deserve to be included in plans for capacity development.

8. Transparency and consultation with all stakeholders are important for the quality and balance of an SPS Action Plan and its acceptance by Government, the private sector and the donor community. Confidentiality and lack of transparency can contribute to the selective use of information for rent-seeking and in-fighting among stakeholders.

9. Data collection can follow the description of the logframe. Since it can be very demanding, shortcuts will be desirable and can be guided by information available from previous efforts, and limitations in focus and resources.

10. SWOT analysis and economic evaluation can contribute to dialogue and sharpening options for improvement. Prioritization can be enhanced by estimates of efforts that would be required for implementing each option, including those in the political domain, and expected benefits.

11. SPS capacity development can be expensive if it includes increasing staff and investment in laboratories and technical facilities. But improvements of weak SPS policies, requirements that are more costly than necessary, and SPS measures that are low-effective and low-efficient, need not be expensive. Such improvements may result in savings and leaner investment plans for the same or better outcomes.

12. Use of tools for prioritization and assessing net financial benefits faces constraints because of lack of hard data. Yet, it is important to make use of them, with sensitivity analysis where relevant, to get assessments of the magnitude of costs and benefits.

13. Because of ever changing policies, challenges and opportunities, SPS Action Plans may deserve updating after 6-8 years.

ABBREVIATIONS

AI	Avian Influenza
AQSIQ	General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China
ALOP	Appropriate Levels of Protection
ASEAN	Association of Southeast Asian Nations
BCP	Border Checkpoints
BSE	Bovine Spongiform Encephalopathy
CBP	Customs and Border Protection of the USA
CA	Competent Authority
CAC	Codex Alimentarius Commission
CBD	Convention on Biological Diversity
COMESA	Common Market for Eastern and Southern Africa
CTIS	Cambodia Trade Integration Study
DTIS	Diagnostic Trade Integration Study
EBA	Enabling the Business of Agriculture
EFSA	European Food Safety Authority
EIF	Enhanced Integrated Framework
EU	European Union
DALYs	Disability-adjusted Life Years
FAO	Food and Agriculture Organization of the United Nations
FMD	Foot and Mouth Disease
GAP	Good Agricultural Practice
GHP	Good Hygiene Practice
GMP	Good Manufacturing Practice
GRP	Good Regulatory Practice
GRS	Revenue Service of Georgia
HACCP	Hazard Analysis and Critical Control Points
HPAI	Highly Pathogenic Avian Influenza
ICT	Information and Communication Technology
IICA	Inter-American Institute for Cooperation on Agriculture
IPPC	International Plant Protection Convention
ISSB	International Standard Setting Bodies
ISO	International Organization for Standardization
ISPM	International Standards for Phytosanitary Measures
IT	Information Technology
ITC	International Trade Centre
MRA	Mutual Recognition Agreement
MRL	Maximum Residue Limits
NPPO	National Plant Protection Organization
NVWA	Netherlands Food and Consumer Product Safety Authority (Nederlandse Voedsel- en Warenauthoriteit)
OECD	Organisation for Economic Cooperation and Development
OIE	World Organisation for Animal Health
PCE	Phytosanitary Capacity Evaluation
P-IMA	Prioritizing SPS Investments for Market Access
PVS	Performance, Vision, Strategy (IICA tool)
PVS	Evaluation of Performance of Veterinary Services (OIE PVS tool)
SAD	Single Administrative Declaration
SDG	Sustainable Development Goals
SMTQ	Standards, Metrology, Testing and Quality
SPS	Sanitary and Phytosanitary
STDF	Standards and Trade Development Facility
SWOT	Strengths, Weaknesses, Opportunities and Threats
TBT	Technical Barriers to Trade
TCP	Technical Cooperation Projects
TFA	Trade Facilitation Agreement
TPR	Trade Policy Review

TRS	Time Release Studies
UNCTAD	United Nations Conference on Trade and Development
UNECE	UN Economic Commission for Europe
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNIDO	United Nations Industrial Development Organization
USA	United States of America
WCO	World Customs Organization
WHO	World Health Organization
WTO	World Trade Organization

JUSTIFICATION AND ACKNOWLEDGMENT

The purpose of this study is to promote good practice in preparation of SPS Action Plans for the development of national SPS systems. It aims to benefit SPS policymakers, planners and SPS specialists in Governments and donor and international agencies, and private sector specialists. It may also be helpful to trade facilitation, health policy and SPS technical specialists to understand the national SPS system, SPS policy issues, and SPS capacity development within the framework of general development, and similarities across SPS sectors.

The study uses information from official documents, study reports, and experiences the author has from a few years as observer in the SPS Committee of the World Trade Organization (WTO), chair and member of the Working Group of the Standards and Trade Development Facility (STDF), work for more than 15 years as SPS policy specialist for international organizations, and working experience in a few dozen developed and developing countries. During these many years the author has much benefitted from information and insights of large numbers of specialists in Governments, the private sector, and international organizations.

Examples given in this study are mostly for illustration only and often do not identify the source since the information may be sensitive, cannot be provided here in a full context and is by now possibly dated.

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However, the contents of this study, opinions reflected and any mistakes are the sole responsibility of the author and do not necessarily reflect opinions of persons and institutions consulted.

1 INTRODUCTION

Developing countries face challenges how to participate successfully in international agricultural and food markets. In particular, compliance with sanitary and phytosanitary (SPS) requirements can be demanding. There are success stories of trade and control of health risks, and costly failures with unsustainable investments. The purpose of this study is to promote good practice in preparation of SPS Action Plans for the development of national SPS systems. National SPS systems, characterized here as "regularly interacting units forming an integrated whole with the purpose to realize SPS benefits"[1], are the main focus of this study.

All international trade of agricultural products and food is subject to controls related to health risks, so-called SPS measures. Members of the World Trade Organization (WTO) need a national SPS system. Without such systems countries cannot sufficiently benefit from international trade and can suffer damages from lack of control of pests, diseases and unsafe food. They struggle with technical and policy questions about what capacity they need for their system, how they can develop it, whether they can afford the costs and reap benefits. However, national SPS systems are complex and costly to operate, and in particular developing countries face challenges how to develop and operate effective and efficient systems.

There are different approaches to developing national SPS systems. Some largely focus on capacity for implementation of international standards developed by the international standard setting bodies (ISSB): the Codex Alimentarius, the International Plant Protection Convention (IPPC) and the World Organisation for Animal Health (OIE).[2] These bodies have developed sectoral capacity assessment tools for this purpose. Some other efforts focus on preparing SPS Action Plans for the whole SPS area, which combine capacity assessment with planning for interventions to develop capacity.

Although quite some SPS Action Plans have been made, mainly by the World Bank Group, so far, no tool or guidance is available for making such Plans. This study aims to do that. It looks at the national SPS system as a whole and it takes the WTO SPS Agreement as its starting point. Although there are distinct differences between the SPS sectors (plant health, animal health and food safety), there are good reasons to look at them as one system since all have to comply with the provisions of the WTO SPS Agreement (to be explained in ANNEX 1), there are quite some cross-cutting technical, scientific, institutional and coordination issues between them and there is always competition for scarce resources.

Special for the present study and new in SPS capacity development is that it uses a logical framework (logframe) for description and analysis of national SPS systems.[3] This has major advantages. It helps to align SPS capacity development efforts with good practice in general development efforts and links efforts to the achievement of the sustainable development goals (SDGs).

Central questions for the analysis in this study and for each SPS Action Plan are: (1) What scope (in terms of coverage of products, health issues and technology) and size of a national SPS system is appropriate for a particular country? (2) What is good practice for developing SPS capacity[4] to better serve its needs? Countries differ much in their needs and possibilities to develop and operate SPS systems, and answers will depend on characteristics of each country. They all, even major market economies, have weaknesses in their systems, and face ever changing market and health conditions. So, developing an appropriate national SPS system is a never-ending challenge.

This study is structured as follows. Chapter 2 discusses the origin and principles of the international system of the WTO for managing SPS controls and its main implications for developing countries. Chapter 3 describes national SPS systems and discusses the concepts of capacity and performance of national SPS systems and what is known empirically about capacity and performance of national

[1] Wikipedia borrows a general definition of "system" from the Merriam-Webster dictionary: "A system is a regularly interacting or interdependent group of units forming an integrated whole" and adds that "Every system is delineated by its spatial and temporal boundaries, surrounded and influenced by its environment, described by its structure and purpose and expressed in its functioning". [Retrieved 28 September 2018.]

[2] The OIE acronym refers to the original name in French: Office International des Epizooties.

[3] STDF (2010) also used a log frame. However, it was not described with the same detail as the present study does and it was used for the development of SPS indicators to measure performance of national SPS systems, not for preparing SPS Action Plans.

[4] This study follows the modern OECD terminology of capacity "development", which in the past often was called "capacity building". See OECD 2006.

SPS systems. Chapter 4 briefly discusses the role of donors and international agencies in SPS capacity development.

Chapter 5 develops an approach for preparing SPS Action Plans for developing national SPS systems and data collection needed. Chapter 6 provides guidance for the analysis of a large range of topics that will result in options for better performance of the national SPS system.

Chapter 7 discusses the finalization of SPS Action Plans, in which the options are compared and prioritized. Senior policy makers will provide guidance to the process of preparing the SPS Action Plan and at the end they will decide on prioritization, the whole SPS Action Plan, and next steps. The final chapter provides conclusions and policy recommendations for SPS capacity development and for preparation of SPS Action Plans. ANNEXES contain a summary of the provisions of the SPS Agreement; details of the components that make up the national SPS systems; a guidance on data collection for preparing a SPS Action Plan; public and private roles in national SPS systems; and analytical issues for developing laboratories.

2 GENERAL BACKGROUND ON SPS

This Chapter provides information about the international SPS system.

2.1 Why do countries protect themselves against SPS risks?

Plant and animal pests and diseases and unsafe food can cause great damage to agriculture, food business, nature and peoples wellbeing. Their damage can be caused by entry from abroad with trade of animals, plants and unsafe goods. Governments have for long taken measures to control the risk of introduction and spread of pests and diseases with public good characteristics, and with the emergence of industrial processing of food and trade of food over long distances, public controls also started to focus on safety of food.

2.2 What is the international framework for SPS?

Many pests and diseases and unsafe foods have international spread and can easily cross borders, and with increased movement of people and traded goods, gradually international cooperation has become an important aspect of safety controls. For cooperation of these controls three international agreements were established: the OIE for control of animal diseases, the International Plant Protection Convention (IPPC) for control of plant pests and diseases, and the Codex Alimentarius for food safety. In 1994, the World Trade Organization (WTO) was established with the purpose to promote international trade. All Members of the WTO are automatically bound by the Agreement on the Application of Sanitary and Phytosanitary Measures[5], here called the SPS Agreement. The purpose of the SPS Agreement is to promote trade and enhance health protection. It assures that countries have the right to establish and maintain SPS measures to achieve the level of sanitary or phytosanitary protection they deem appropriate, provided they comply with the provisions of the Agreement. Main provisions of the Agreement are provided in ANNEX 1. Their purpose is to allow for health protection in ways that prevent disguised protection. The 2013 WTO Trade Facilitation Agreement (TFA),[6] which aims at simplification of trade procedures, sharpens some of the implementation guidance of the SPS Agreement.[7]

The SPS Agreement covers a broad scope of economic activities and legislation (See Box 1), whereas the Codex Alimentarius, IPPC and OIE are sectoral, more focused on health issues and standards, and more technically detailed. The SPS Agreement recommends WTO Members to participate in the development of international standards, guidelines and recommendations by the Codex Alimentarius, IPPC and OIE and to use these international standards, guidelines and recommendations for harmonization of SPS measures. Codex Alimentarius, IPPC and OIE are often referred to as standard setting bodies. The WTO system has a binding dispute settlement, which means that the provisions of the Agreement must be observed.

[5] WTO (World Trade Organization) 1994. “Agreement on the Application of Sanitary and Phytosanitary Measures.” WTO, Geneva. Available online at https://www.wto.org/english/tratop_e/sps_e/spsagr_e.htm

[6] WTO Members concluded negotiations at the 2013 Bali Ministerial Conference on the landmark Trade Facilitation Agreement (TFA), which entered into force on 22 February 2017 following its ratification by two-thirds of the WTO membership. https://www.wto.org/english/tratop_e/tradfa_e/tradfa_e.htm

[7] The relation between the TFA to the SPS Agreement has been explained in a note by the WTO secretariat (WTO 2014). https://www.wto.org/english/tratop_e/sps_e/tf_sps_e.pdf

Box 1 Definition of sanitary or phytosanitary measures

Any measure applied:

(a) to protect animal or plant life or health within the territory of the Member from risks arising from the entry, establishment or spread of pests, diseases, disease-carrying organisms or disease-causing organisms;

(b) to protect human or animal life or health within the territory of the Member from risks arising from additives, contaminants, toxins or disease-causing organisms in foods, beverages or feedstuffs;

(c) to protect human life or health within the territory of the Member from risks arising from diseases carried by animals, plants or products thereof, or from the entry, establishment or spread of pests; or

(d) to prevent or limit other damage within the territory of the Member from the entry, establishment or spread of pests.

Sanitary or phytosanitary measures include all relevant laws, decrees, regulations, requirements and procedures including, *inter alia*, end product criteria; processes and production methods; testing, inspection, certification and approval procedures; quarantine treatments including relevant requirements associated with the transport of animals or plants, or with the materials necessary for their survival during transport; provisions on relevant statistical methods, sampling procedures and methods of risk assessment; and packaging and labelling requirements directly related to food safety.

Source: WTO 1994, Annex A, article 1 of the SPS Agreement.

3 CAPACITY AND PERFORMANCE OF NATIONAL SPS SYSTEMS

This Chapter explains characteristics of national SPS systems. It starts with a description of elements followed by sections with definitions of the concepts of capacity and performance. Then it looks at practices in capacity development, followed by discussion of tools for capacity evaluation that have been developed to assist planning in capacity development. The final section explores experiences with financial analysis of efforts to develop SPS capacity.

3.1 National SPS systems

National SPS systems differ much across countries by size, specialization and the way they are organized, operate and perform. Yet, they share many similarities because of the provisions of the SPS Agreement, and because countries adopt international standards and recommendations and (selectively) copy practices from other countries. This study uses a logical framework[8] structure, or logframe for short, for the description of national SPS systems. It consists schematically of the following logically related components: (i) inputs and capacity elements; (ii) SPS management and background processes[9]; (iii) outputs (SPS services provided); (iv) outcomes; and (v) impacts (contribution to national development objectives). The elements of the system are explained in ANNEX 2 starting with a summary in ANNEX Table 2.1. ANNEX Table 2.2 provides an overview how the national SPS system relates to SDGs. Here a few general concepts are discussed.

What is capacity of the national SPS system? UNDP defines capacity as "the ability of individuals, institutions and societies to perform functions, solve problems, and set and achieve objectives in a sustainable manner" and "if capacity is the means to plan and achieve, then capacity development describes the ways to those means."[10] Following this definition, **SPS capacity is the**

[8] OECD 2008, p17. The logframe is an analytical tool (logic model) for graphically conceptualizing the hypothesized cause-and-effect relationships of how project resources and activities will contribute to achievement of objectives or results. Use of logframes is nowadays broadly considered as good practice by development agencies in result-based project management.

[9] This study takes SPS management and background processes as a separate component. It shares characteristics with inputs and capacity elements, but as a separate component it helps to describe how inputs and capacity elements are managed to produce SPS services for private stakeholders and trading partner countries.

[10] UNDP 2009, p 5.

ability to perform SPS functions, solve SPS problems, and set and achieve SPS objectives in a sustainable manner. SPS capacity depends on inputs and capacity elements, and quality of management and background processes.[11]

Performance Bigger and more advanced economies will generally have bigger SPS systems with broader scope, in terms of products and health issues covered, technologies used and services provided. However, most important is what a country gets back relatively to its efforts, which is called here **SPS performance**.

Unfortunately, there are no **international performance indicators** for national SPS systems that can be used for comparison and policy dialogue. For trade and public management, international "proxy" indicators[12] are available for comparing country performance for Doing Business,[13] Governance,[14] and corruption perception.[15] For border checkpoints (BCP), time release studies (TRS) are regularly conducted.[16] For food safety, WHO has developed quantitative country-based indicators for the burden of food borne diseases,[17] but these indicators also cover many factors outside the SPS domain, including water and sanitation and contribution of practices within households. The new World Bank Group programme Enabling the Business of Agriculture (EBA)[18] covers some aspects. An STDF study (2010) proposed a tentative set of indicators, but was not followed up by field testing.

3.2 What is an appropriate national SPS system?

A national SPS system needs to comply with the provisions of the WTO SPS Agreement summarized in ANNEX 1. It should also serve the national interest and reflect special national characteristics such as:

SPS management and general administration. SPS legislation has to follow general principles and practices of legislation and administration that are applicable in each country.

Actual and desired pest, disease and food safety situation. A country may adopt its own appropriate levels of protection (ALOPs), which will affect SPS capacity development needs and priorities.

Size of a country. Various measures of the size of a country – population, economy, geographic area, annual number of shipments of goods subject to SPS measures – and regionalization and compartmentalization are main factors for decisions on SPS capacity development.

Private sector capacity. The required national SPS system will depend much on private sector systems' expertise, financial resources, and its organization.

Characteristics of imported and exported goods. Some traded goods carry greater health risks and require more intensive control. Products from some origins pose high risks. Some destinations have tight requirements.

Compliance with international commitments. Commitments to bilateral trade agreements and regional economic agreements, like the European Union (EU) or the Association of Southeast Asian Nations (ASEAN), need to be reflected in national SPS systems.

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[11] Kevin Walker (2013) has a somewhat similar broad view on SPS capacity. However, unlike this study, Walker does not explicitly link capacity to development objectives. www.standardsfacility.org/PPG-379

[12] Since these indicators focus mainly on inputs used and outputs achieved and not so much on outcomes, the term "proxy" is used here to indicate that these are not proper performance indicators. However, background statistical analysis may have established a solid relation between inputs and outputs with outcomes.

[13] http://www.doingbusiness.org/reports/global-reports/doing-business-2018

[14] http://info.worldbank.org/governance/wgi/#home

[15] https://www.transparency.org/

[16] See description WCO 2011. http://www.wcoomd.org/en/topics/facilitation/resources/~/media/01713916ED2A4BD38DC119C5E64B890D.ashx

[17] The WHO uses disability-adjusted life years (DALYs) to estimate the numbers of years lost because of disease. http://www.who.int/topics/global_burden_of_disease/en/
For burdens of plant and animal pest and diseases international indicators are not available.

[18] World Bank 2017. http://eba.worldbank.org/

Trade priorities. SPS capacity development for enhancing trade may need to be aligned with priorities of trade facilitation. Trade policies can also focus on boosting exporter competitiveness by reducing transaction costs, including those related to SPS measures.

Political stability and national sovereignty. If countries consider themselves too dependent in trade on certain other countries, they may take measures, including in the SPS area, to mitigate such dependence and get more access to other markets.

Characteristics of the existing SPS system. SPS capacity development has to take into consideration the legal and institutional build-up which has emerged in the past. Second-best arrangements may have a long life because change may be costly and not a priority.

Social concerns. Concerns for groups of consumers and producers can guide priorities for SPS capacity development. For social reasons, prioritization can target regions, products, sanitary and phytosanitary risks and market segments.[19]

Informal border trade. Many developing countries have porous borders with extensive informal trade flows, which are important for the livelihoods of traditional societies. SPS capacity development has to engage with it constructively.

Governance. The quality of governance is an important consideration for designing SPS measures. Countries with weak governance should be reluctant to adopt SPS measures that offer more opportunities for rent-seeking.

3.3 Approaches to SPS capacity development

Two main approaches can be distinguished. The first focuses primarily at inputs and capacity elements for developing a national SPS system as shown in ANNEX Table 2.1, not at outcomes of the system. Countries should comply as much as possible with principles and provisions of the SPS Agreement and adopt recommended international standards of the ISSB, and related ISO standards, such as ISO 17025 for laboratories. This approach is typically followed at SPS sector-level by ISSB and their parent organizations, FAO and OIE, and often also by bilateral donor-funded sectoral assistance projects for food safety, animal and plant health control.

The second approach focusses primarily on desired outcomes of the whole SPS system, in particular at removing SPS bottlenecks for exports, such as solving SPS capacity gaps for improving market access, and also, but less frequently, reducing the risks of pests, diseases and the health burden caused by unsafe food, or removing bottlenecks to imports. Application of international standards and strengthening competent authorities (CAs)[20] is pursued to the extent necessary for solving SPS bottlenecks. This approach is typically followed by the World Bank and bilateral donors in export promotion and trade facilitation projects. Also, Diagnostic Trade Development Studies (DTIS), conducted under the auspices of the Enhanced Integrated Framework (EIF)[21], to the extent focused at SPS, follow this approach.

Both approaches have advantages and disadvantages, but in most cases combined attention to the input and outcome sides of the system may give countries the best results. However, in practice there is little interaction between the two approaches. A recent study commissioned by STDF and EIF reports that “Existing SPS capacity assessments such as those carried out using the Phytosanitary Capacity Evaluation (PCE) tool of the IPPC and the Performance of Veterinary Services (PVS) tool of the OIE are rarely taken into account in DTISs.”[22] Reversely, also in application of these tools there is rarely reference to DTISs and other studies.

[19] Van der Meer and Ignacio 2007.

[20] For national SPS management and communication with other countries, public and private stakeholders and civil society, for each sector powers have to be invested by law in one central authority, generally called the competent authority (CA). See ANNEX 2 section 1 for further information on CAs.

[21] EIF See: https://www.wto.org/english/tratop_e/devel_e/teccop_e/if_e.htm

[22] Gobena 2016.

3.4 Capacity evaluation tools

SPS capacity evaluation tools have been developed[23] by FAO, IPPC, OIE and the Inter-American Institute for Cooperation on Agriculture (IICA) and have been widely applied. In an overview, STDF mentions six sectoral and three cross-cutting tools, and some tools for related areas of other agencies.[24] [25] The most recent IPPC and OIE tools, and a new FAO/WHO tool are not available for independent users.

The tools of FAO/WHO, IPPC and OIE, and the overview by STDF are primarily focused at capability to implement standards of the Codex Alimentarius, IPPC and OIE. Results obtained by applications of the FAO/WHO, IPPC and OIE tools are confidential unless they are released by the national authorities and in practice not easy to use by other agencies. Capacity to facilitate trade and WTO SPS provisions in ANNEX C of the SPS Agreement are not addressed explicitly. Also, institutional aspects of national SPS systems receive little attention.[26] The definition of capacity development, used in the tool for food control systems (FAO 2006), is related to the UNDP definition of capacity development and focuses at contribution to development objectives. The definitions used by the other tools are more focused at inputs and compliance with Codex Alimentarius, IPPC and OIE standards and recommendations.

After 2000 the World Bank intensified its work on SPS with studies and action plans. Many studies were made for use in policy dialogue, DTIS and investment plans.[27] Some studies applied SWOT analysis. They do not systematically look at adoption of international standards, but rather at obtaining benefits from improvements in trade and, to a much lesser extent, health and prioritization of capacity development efforts. Some action plans provide (crude) estimates of returns from investments in SPS capacity development. World Bank SPS reports are in principle available in the public domain. The World Bank did not develop an explicit tool for SPS Action Plans.[28]

3.5 Costs and benefits

Cost-benefit analysis of SPS capacity development faces many difficulties, a few of which will be briefly mentioned below. A main obstacle is the lack of data needed. But that is not the only obstacle. In many countries, a general weakness in SPS policy making is the lack of clear SPS objectives for trade and health risks, and opinions within government and society what the appropriate levels of protection (ALOP) should be, can diverge greatly.[29]

In many developing countries relatively more high-level political support is given to export promotion than to health protection, than is the case in developed countries. This preference often divides Ministries of Finance and Trade on the one hand and CAs and Ministries of Health on the other. Ministries of Finance are often not convinced about the benefits of adopting international standards, as advocated by the CAs, and implementation frequently lacks necessary funding.[30] Noteworthy is also that SPS policies can be biased to powerful stakeholders.[31]

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[23] Initially, partly with STDF support.

[24] STDF 2011. Recently, the STDF secretariat prepared an update STDF 2017. See also STDF Briefing Note: http://www.standardsfacility.org/sites/default/files/STDF_Briefing_14.pdf

[25] Details are found in IICA 2008a, IICA 2008b, IICA 2009a and IICA 2009b. The OIE tool owes much to the earlier work by IICA.

[26] See Walker (2013) for emphasis on importance of institutional aspects.

[27] Most studies are found in a synthesis report Food Safety and Agricultural Health Standards Challenges and Opportunities for Developing Country Exports. World Bank 2005. P141. http://documents1.worldbank.org/curated/en/618321468780553085/pdf/31207.pdf. After this study was written additional action plans were prepared for Armenia (World Bank 2007a), Lao PDR World Bank 2007c), Moldova (World Bank 2007b), and Vietnam (World Bank 2006); and a regional study for CIS countries (Van der Meer, Kees; Humpal, Don; de Haan, Cees; Ignacio, Laura; Qin, Xin 2007).

[28] Henson et al. 2002 proposed an outline for the World Bank for making an SPS Action Plan, but it has hardly been used and it was not tested and presented as an official explicit tool.

[29] Setting objectives is reflected in the definition of SPS capacity development used in this study: The ability to perform SPS functions, solve SPS problems, and **set** and achieve SPS objectives in a sustainable manner.

[30] In Cambodia it was observed during the preparation of the Cambodia Trade Integration Study (CTIS) 2014-2018 that the country's SPS representatives agreed in Association of Southeast Asian Nations (ASEAN) meetings on harmonization of standards, but that there was no follow-up in the country after they came back home. Cambodia was reportedly not the only ASEAN country with such discrepancy.

[31] In a particular country, several specialists observed that SPS authorities were ordered to work on expensive technology for market access to Japan, whereas the SPS authorities lacked inputs for basic regular tasks.

Among international agencies there are also differences in appreciation of developing SPS capacity needed for trade facilitation and capacity for protection against health risks, which is probably related to their mandates. World Bank, UNCTAD, the EIF and ITC tend to be more oriented towards support for trade promotion and Codex Alimentarius, IPPC, OIE, FAO and WHO more towards health protection.[32]

Cost-benefit analyses play only limited roles in mitigating differences in policy preferences for health protection and trade promotion. Lack of awareness is often seen as the reason for not investing in SPS capacity development and, therefore, there are frequent calls for raising awareness about SPS issues. But often the problem is not so much ignorance but rather differences in preference.

Although there are limitations in application of *ex ante* cost-benefit analysis, it is important to have at least a notion of the magnitude of costs and benefits and the effectiveness and efficiency of proposed interventions. In difficult cases sensitivity analysis can be added to get a better understanding about the relative importance of assumptions and guesstimates. In other cases, the multi-criteria decision analysis tool Prioritizing SPS Investments for Market Access (P-IMA), developed by Henson for STDF, might be used.[33]

4 ROLE OF THE DONOR COMMUNITY IN SPS CAPACITY DEVELOPMENT

The SPS Agreement recommends developed WTO Members to provide technical assistance and "Special and Differential Treatment" of developing countries, to mitigate difficulties in complying with the SPS Agreement and Members' SPS requirements.[34] Countries can obtain much relevant information for their SPS management through participation in international meetings. The ISSB, the IICA, the World Bank and main donors provide diagnostic assessments of the national SPS system or even SPS Action Plans. Total annual support for SPS capacity development probably amounts to more than US$100 million.[35] In 2001 the Standards and Trade Development Facility (STDF) was initiated as a cooperation in the SPS area of FAO, OIE, World Bank, WHO and WTO.[36] Independent evaluations have found good achievements of the STDF, from a perspective of aid effectiveness.[37] Capacity building efforts of some donors and agencies are well evaluated, but less known still are the results of efforts of others, especially ISSB and the World Bank.[38]

Experiences with support from donors and international agencies range from often excellent to occasionally mixed results. Yet, challenges remain for STDF and its members in better serving developing countries. Support provided is sometimes skewed by constraints of their institutional mandate, source of funding, and limited expertise. Some bilateral donors tend to be reluctant to provide support that might result in more competition from imports for their own producers. The ISSB often provide support for adoption of international standards. Some donors and agencies, have preference for either trade facilitation or health protection. Cooperation, as said already, is sometimes limited: Agencies involved in trade facilitation often ignore SPS capacity assessments of the ISSB[39] and, reversely, in capacity evaluation of the ISSBs rarely reference is made to DTISs and relevant other analytic work.

Sustainability remains a weakness of many support projects in the SPS area.[40] Differences in approach might result in conflicting policy advice. Insufficient cooperation can result in competition.

[32] A representative of WHO once argued that safe food is a basic human right and that hence all countries should adopt the same international standards. Costs should not be an excuse given the human rights principle.

[33] STDF 2018 http://www.standardsfacility.org/prioritizing-sps-investments-market-access-p-ima and Henson 2016. http://www.standardsfacility.org/sites/default/files/P-IMA_Guide_EN.pdf The P-IMA tool focuses mainly on capacity to enhance exports, and less on capacity to reduce health risks. Like cost-benefit analysis, it uses assumptions and subjective assessments because of lack of data.

[34] WTO 1994, Preamble and article 9; and article 10.

[35] In the past efforts were made to record support for SPS capacity development (WTO 2006), but these were discontinued because of underreporting and definition issues.

[36] See https://www.standardsfacility.org/partners

[37] See OECD 2008. Principle 3 on donor harmonization states: "Donor countries and organisations co-ordinate their actions, simplify procedures and share information to avoid duplication."

[38] Many capacity assessments have been conducted by ISSB and their parent organizations. Independent evaluation of these tools and their follow-up would be useful. Evaluation of investments is common in the World Bank, but SPS is generally not highlighted separately.

[39] Gobena 2016.

[40] A recent independent meta-evaluation of 22 STDF projects completed before 2015 shows that performance with regards to sustainability could be further improved. (Anderson 2018) Sector focused projects

More transparency about the tools of SPS capacity assessment would be desirable for cooperation, and the proprietary use of tools may discourage their use by other agencies, donors and independent consultants.[41] STDF Briefing Note 16 also provides a list of recommendations for better cooperation.[42]

5 PLANNING FOR SPS CAPACITY DEVELOPMENT

UNDP's already mentioned guidance report considers capacity development as a continuous cyclical process, hopefully resulting in an upward spiral.[43] No countries, not even the most advanced ones, fully comply with all SPS provisions and fully reach their development objectives related to SPS capacity. Moreover, there are always new and emerging risks and opportunities from changes in trade, technology and biosecurity that ask for responses.

This study focuses on good practice in preparing SPS Action Plans which roughly covers part of the cyclical process. This Chapter discusses preparation for making SPS Action Plans and collection of information, the next Chapter describes analyses and good practice that should be the basis of Plans.

5.1 Preparation

Three important questions for capacity development are:[44]

1. To what END do we need to develop this capacity? What will be its purpose?
2. Whose capacities need to be developed? Which groups or individuals need to be empowered?
3. What kinds of capacities need to be developed to achieve the broader development objectives?

These starting questions ask for clarification of the mandate for preparing an SPS Action Plan, the scope of work and the background. How did the idea for making a Plan evolve? Was it initiated by a donor with funding available, or requested by Government? Did a crisis in SPS management, a health hazard or a market access issue trigger demand for the Plan, or did it evolve from a political commitment to a bilateral or multilateral trade agreement, or from a general feeling in Government that SPS capacity was lagging behind to serve the needs of the country adequately? Are the recipients primarily CAs or higher-level political decision makers? What are the core issues in the expectations of the commissioner and the recipients? Has the commissioner a commitment to deliver an analytical study only or also to fund implementation of the SPS Action Plan? Does the recipient expect a report with recommendations for reform and has it commitment for implementation, or does it see the Plan as just a step towards receiving donor funded investment? Will the study include sensitive elements, such as rent-seeking and compliance with international obligations?[45] Will it be conducted with transparency and ultimately be published, or be kept confidential and for the benefit of the recipient country (or a limited number of persons in the CA[46])?

The preparation of an SPS Action Plan has to be transparent and include broad dialogue. Following the UNDP principles, SPS capacity development must contribute to national development objectives and SDGs. Without contribution to development of trade and /or reduction of health risks it has in fact no purpose. Here, the scope of the Plan is the whole SPS system, summarized in ANNEX 2 Table 2.1.[47] What capacity elements need to be developed depends on the actual scope of the SPS system, targeted policy objectives, analysis and consultation.

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tend to perform better than technical assistance projects because of direct relations with ultimate users and broader nature of these projects. Reportedly, after 2015 more focus has been given to sustainability.

[41] The reported consequence is that in some cases instead of contracting the ISSB or their parent organization for using the tools, the donors and consultants make their own assessments or make no assessments.

[42] STDF and EIF 2016. STDF Briefing Note 16.

[43] UNDP 2009, p21.

[44] UNDP 2009, p19

[45] Some countries pretend to have a better system than they actually have and hide their weaknesses.

[46] Once the author was approached by a Deputy Director General of a veterinary department with the question to provide him with a copy of the PVS (performance evaluation of the veterinary service) conducted by OIE, which, according to him, the Director General refused to share. This is an exceptional case but selective use of unpublished reports of this kind for internal bureaucratic politics is not uncommon.

[47] However, the methodology might also be adapted for a sector (plant health, animal health, food safety, fisheries), or parts of the SPS system that contribute to a selected number of outcomes, such as reduction of the burden of a particular animal disease, reduction of transaction costs for traders, improving trust among trading partners, or access for a particular product to a new market.

Stakeholders in SPS capacity development are general policy makers, SPS leaders and specialists, primary producers, food enterprises, exporters, importers, and consumers. Those affected or having a role to play should be involved. That can for relevant topics also apply to representatives from trading partners who have a mutual interest in well-functioning SPS systems. Also, representatives of relevant international and donor organizations should preferably be involved in consultations for sharing information and coordination.

5.2 Collection of information

Collection of information will often occur in cycles with increasing detail and depend on the planned scope of the SPS capacity development. It will start with a broad picture of the national SPS system and then dig deeper in areas of interest. Detailed collection of information of all elements of the SPS system, requires much work and is generally not practical. Shortcuts will be desirable and guided by the focus of the SPS Action Plan. There may also be information available from previous studies and ongoing projects. In the analytic phase further data collection may shed light on possible underutilization and constraints of capacity elements. Guidance for collection of information is provided in ANNEX 3.

Collection of general information requires generalists, whereas subject matter specialists are needed for detailed technical information in plant protection, animal health, fisheries and food safety, sometimes supported by other specialists such as for laboratories or private enterprises. Teams will preferably consist of national and international specialists. Informants in the public sector to be interviewed are policy makers and managers as well as specialists in relevant units. Interviews of private sector representatives will shed additional light on issues because they often have better information about certain topics and experiences and views different from public officers.

6 ANALYSES AND DIRECTIONS FOR GOOD PRACTICE

Could the SPS system contribute better to national development objectives, i.e. deliver more trade and reduced trade-related health risks? Areas of possible gains can be suggested by exporters, importers, SPS specialists and analysts of trade, agricultural health and food borne diseases.

Suggestions made, raise analytical questions about what SPS inputs, capacity elements and management processes might form a bottleneck for achieving better SPS outcomes. If improved measures can be identified, then further justification is still needed. For example, would (additional) benefits be sufficiently higher than (additional) costs? Since situations will differ country by country, there is no blueprint and this Chapter discusses often encountered areas of weaknesses in national SPS systems that might be solved by improvements. For deeper understanding of analytical issues, practitioners may read ANNEXES 2 and 3 first.

6.1 Legal and institutional framework

Good practice is to conduct periodic reviews of SPS legislation. Changing laws and institutional mandates often takes much time and it can create uncertainty. Therefore, flaws that don't require immediate action, can wait till a periodic major upgrade. But, in case legislation is outdated and there are critical inconsistencies, gaps, and non-compliance issues with requirements of trading partners or with main provisions of the international SPS system, which critically affect the functioning of the SPS system, changes can be a priority. A few examples: Different laws can provide inconsistent or overlapping mandates which may cause rivalry between agencies and unnecessary costs to traders. Mandates of CAs, essential for complying with important international requirements, may be insufficient. Powers of the executive may be insufficiently defined, leading to excessive use of discretionary power.

6.2 Transparency

Transparency is a core provision of the SPS Agreement. It is also a cross-cutting means for successful WTO membership. Countries that do not provide sufficient information about their pest, disease and food safety situation, their import requirements and SPS capacity will find it harder to participate in trade negotiations and to obtain market access agreements. Secrecy can be counterproductive. Providing information to trading partners and stakeholders and developing a culture of transparency will help to create trust in a country's SPS measures, and trust is one of the desired outcomes of the SPS system.

6.3 Unnecessary costs for traders

SPS measures unavoidably disrupt trade and cause transaction costs to traders. But, as documented by STDF, measures often cause more transaction costs to traders than necessary[48] and, consequently, export competitiveness is eroded, and importers and users are affected by the increased costs of imported products. Nine examples are given:

(1) Not making good use of risk management means that the incidence of controls is as high on low-risk as on high-risk products. Proper application of risk management will reduce the cost for safe traders and improve cost-efficiency of use of public resources.

(2) There can be mandatory licensing for traders that is not justified on the basis of risks. Licensing causes more steps and costs for traders and less flexibility, and it can be a source of rent-seeking and corruption. Good practice is to require licensing only for risky products. However, registration of traders that addresses security concerns or adds to the efficiency of release processes may be justifiable.

(3) Mandatory product registration may not be sufficiently based on risks and contribute an unnecessary burden to product innovation and trade. Good practice is to require registration only for high-risk products.

(4) Some countries require obtaining advance import permits. It is often related to reluctance to clearly formulate import requirements. This is costly to traders and should only be applied for explicitly identified high-risk products.

(5) SPS procedural requirements can cause high cost to traders. In some countries the number of forms and the offices to visit is high. Waiting time for obtaining papers, inspections and approvals can also be high. Total costs vary much between countries. Good practice is (i) to require few documents; (ii) use only one office for communication, applications and lodging; and (iii) little waiting time.

(6) Lack of transparency about requirements and waiting times increases uncertainty for traders. Long and uncertain lead times can cause serious business cost because of missing deadlines for shipping and delivery to clients. Especially perishable goods are sensitive because they lose quality and value rapidly. Each country should fully publish safety requirements on food, and on plant and animal pests and diseases, including quarantine pest lists and animal quarantine requirements.

(7) Just as for Customs, rent-seeking behaviour of SPS institutions and staffs will cause at best a cost margin, but rent-seeking causes in many cases complex processes with many offices to visit and unnecessary controls and waiting times and unpredictable decisions. Unnecessary controls may generate income from testing for laboratories and fee income for inspectorates. Rent-seeking interests may resist reform measures.

(8) Duplication of controls causes additional costs to traders. Good practice is to recognize controls by competent other SPS agencies and private service providers, abroad and in the country, both through voluntary recognition and mutual recognition agreements (MRAs).

(9) Harmonization of standards and procedures can much contribute to reducing costs. The SPS Agreement recommends to harmonize with international standards, but harmonization can encompass much more as is the case in economic blocks, such as the EU or ASEAN, and through trade agreements. Countries can also voluntarily adopt standards and procedures of trading partners.

6.4 Unacceptable health risks

A country may have undesirable gaps in health protection. Some SPS measures may not be sufficiently effective. Some health risks may not have received sufficient attention. For example, the risk that rubber blight might spread from Latin America to Southeast Asia for a long time received insufficient attention. Fall Armyworms and African Swine Fever in Asia are recent examples. Some

[48] For overviews see Rathebe 2015; Van der Meer 2014a, 2014b, Van der Meer and Samrith 2014; Van der Meer and Rasphone 2014; Van der Meer and Marges 2014.

latent risks may become more important. Pests and diseases may come up and spread in the world as happened to many newly invading pests, invasive species and mad cow disease (BSE). Food scares of biological and chemical origin can come up, and also crises such as food fraud with melamine. Because of increased trade and changes in consumption patterns, some risks may become more prominent. Origins of products may change and new products may provide new risks. Public acceptance of certain health hazards may decline. It is also possible that some measures are no longer needed because the risk has significantly reduced or that less trade disruptive measures have been developed. Some quarantine pests may have become widespread and no longer deserve to be banned at import. These are all important reasons to periodically review risks, adjust the appropriate levels of protection and, accordingly, modify measures and capacity.

6.5 Capacity of traders and producers

Inspectorates don't export; traders do. Trade depends much on the capacity of producers and traders to meet requirements. International good practice is that the private sector generally has the responsibility to provide safe food and the role of Government is primarily supervision. The situation is different for risks of pests and diseases. Here the public sector has main responsibilities and market access is often based on Government to Government market access agreements, because in many cases producers and traders can do little to protect themselves against contagious pests and diseases.[49]

Meeting food safety requirements as well as mitigating risks are basics in risk management tools for the private sector. Good practice roles for Government can be to promote private schemes and to strengthen the capacity of private enterprises to meet market requirements by raising awareness, support for training, and applied research. Capacity of exporters includes ability to organize themselves, to solve bottlenecks and emergencies, and to co-fund expenses of SPS services.

6.6 Risk assessment

The SPS Agreement prescribes that measures should be based on risk.[50] Risk assessment is scientific assessment of the risks of unsafe food, pests and diseases, and the damage they can do. It should provide the basis for SPS measures (except for cases where measures are fully based on international standards), but it would be very demanding in terms of expertise and resources needed to base all SPS measures on full risk assessment and therefore it is impossible, especially for developing countries. Countries should as a minimum have a small committee with basic knowledge to conduct risk assessment projects for special cases, for example SPS conflicts with trading partners. In most cases country risk managers can base themselves on consensus, or on findings of risk assessments done in other countries.

A first step for risk-based management is risk categorization of products, product-market combinations and processes. Most of the work can be done by small teams of specialists; only few issues require support from research or risk assessment teams. Risk-categorization can initially be robust and requires modest levels of experience because there is little disagreement about the risk level of most products. Guidance can be used from other countries and ISSB. Good practice is to periodically actualize risk categorization and make it gradually more sophisticated. Results of risk-categorization will be translated in transparent requirements for import and production.
Many countries could improve their risk management significantly by making good use of open sources of information about non-conformities of requirements such as RASFF[51] and Europhyt (on phytosanitary issues) of the EU, and INFOSAN of the WHO[52].

6.7 Role of private SPS service providers

Operation of an SPS system involves many capacity elements, activities and services, as shown in ANNEX 2 Table 2.1, Government does not need to provide all. ANNEX 4 Table 4.1 provides an overview of possible roles of private sector service providers. In mature economies, private sector service providers have the largest market shares in many inspection, certification and laboratory

[49] The differences in public and private responsibilities finds their justification in the fact that protection against many contagious pests and diseases has stronger public goods elements than assuring safe food.

[50] The ISSB have developed tools for risk analysis, which consists of risk assessment, risk communication and risk management. Risk communication asks for full transparency about the knowledge of risks. Risk management is the decision making in Government about what levels of risks are acceptable.

[51] RASFF is the Rapid alert system for food and feed.

[52] INFOSAN is the WHO International Network of Food Safety Authorities

services. They are mostly preferred by traders and producers because they are generally reliable with quicker delivery of results than public service providers. Hence, enhancing the development of private sector service providers contributes to better availability of services. An advantage is also that scarce public funds can be used for areas not covered by private sector service providers. Unfair competition with public funds and (discriminatory) regulations against private service providers is not good international practice.

A challenge for Governments is proper supervision of private service providers. In case of problems and emergencies only the CA can speak with authority with counterparts abroad and that requires that it has sufficient information and technical expertise to be considered as competent partner.

A new challenge for CAs is cooperating effectively with modern supply chains which increasingly share SPS control duties with CAs. The advantage is that it reduces some of the tasks of the CAs but it also requires that CAs become competent in supply chain control, making agreements with different stakeholders, supervising electronic systems, privacy issues and making investments for these new roles.

6.8 Laboratory capacity

There are many examples of unsustainable investments in public laboratories, often because of lack of good analysis. Elements for analysis include demand for volume and sophistication of laboratory services, which will differ country by country. Questions are who can be providers and what are minimum technical requirements for laboratory services. Important for laboratory development are business plans for individual laboratories and development plans for each country. Good practice recommendations for analysis for planning capacity development are provided in ANNEX 5.

6.9 Market segmentation

The SPS Agreement does not allow countries to discriminate between traders from different countries and between domestic and foreign traders. However, in developing countries market segmentation with informal, emerging modern and modern segments, raises serious challenges to regulators. They may be tempted to adopt many international standards. However, enforcement of international standards would generally be very costly. In the informal sector, it would also result in strong resistance because it could drive traders out of business, affect the livelihood of low-income consumers and probably also boost black markets. The emerging modern market segment still has limited market share. If producers and traders in this segment are forced to apply international standards, they may lose market share.

There is little guidance from international agencies and donors on how to manage these challenges. Of course, Governments should, to the extent possible, show in legislation, enforcement and capacity development their willingness to progressively comply with the WTO non-discrimination principle. A strategy is needed that progressively pursues this and avoids international market conflicts and serious domestic health risks. This asks for selectivity in applying international standards, with priority for products of high risk, and no or lower standards for products and activities with low risks and difficult to enforce. Zoning might be a tool. For example, priority safety standards may only be applied in urban areas, whereas traditional food processing in rural areas which causes limited risks, such as use of unpasteurized milk, may be exempt from controls. In informal markets, Governments should focus only on important risks for plant and animal pests and diseases and major human health risks.[53]

6.10 Border control

Decisions about the number of border checkpoints (BCP) and their location are jointly taken by Governments of neighbouring countries based on considerations of geography, infrastructure, trade flows, economic development and national security. In most countries there are a few main BCP with broad service and smaller BCP with only limited service. SPS agencies mostly have restricted mandates. Effectiveness of SPS control measures at BCP is often much lower than desirable and transaction cost higher than necessary. Improvements can be constrained because SPS agencies are small and less powerful players at BCP than Customs and security agencies are and have little influence on decisions of infrastructure layouts and general service provision at BCP.

[53] Georgia has legislation that excludes enforcement of a number of standards for the informal sector, but under the free trade agreement with the EU this legislation will be phased out.

In many developing countries informal border trade of goods subject to SPS controls is estimated at up to 50 % or more. It is important for the wellbeing of border communities and enters through small BCPs or uncontrolled tracks and waterways. Herds can be driven through forests, rivers and fields. Most traditional border trade does not pose serious biosecurity risks since pest and disease situations on both sides of the border are similar. However, it can be dangerous if it includes goods traded over long distances with unknown risks and if goods enter in case of outbreaks and emergencies.

Good practice for SPS border control is to define in legislation what goods can be handled at main and small BCP and what goods may enter through informal border trade. For example, import of medium and high-risk products should only be allowed through BCP that have capacity to conduct controls. And, perhaps, only goods originating from within a certain distance from the border should be allowed through informal border trade, whereas entry of products from farther origins should be forbidden. In case of outbreaks, temporary bans can be enforced with the help of border police and other agencies and awareness raising at community level. Managing risks at the border asks for controls selectively and proportionally focused on risks. If controls on formal trade pose a higher burden than necessary, they will inadvertently result in more informal trade.[54] In those cases formal controls are ineffective.

Overall, good practice border control for Customs and SPS agencies alike is to conduct controls as much as possible away from the border. Necessary SPS certification can in principle be done everywhere and exports don't need SPS physical exit control other than an occasional check for fraud. Import controls can be limited by use of risk-based controls, market access agreements and accepting conformity assessments and certification from qualified providers abroad, and be conducted at premises of the importer or bonded warehouses.

In nearly all countries there remain ample opportunities for improving effectiveness of border release processes. Deficiencies in cooperation between border agencies result in long release procedures, duplicative requirements, and duplicative applications. In some countries, Customs occasionally releases goods before SPS controls have taken place.[55] There is no or limited use of single window applications, single administrative declaration (SAD) forms and electronic applications. Rent-seeking and corruption interests may undermine effectiveness and efficiency of release operations. Simple duties, such as document and identification checks, and implementation of risk-based release, could largely be delegated to Customs, but in most countries, agencies work largely separated, often in sequence, sometimes in parallel. Improving border release processes often requires sustained efforts, also from high levels in government.

6.11 Rent-seeking and corruption

Rent-seeking and corruption increases transaction costs of traders and reduces protection. It conflicts with the provisions of the SPS Agreement. It plays a role in Customs and SPS with payments for reduced waiting times, access to low risk lanes, artificially created overtime service, tea money payments, and influencing release decisions. Sometimes more and larger samples are taken than justifiable.[56] Assignments on the border are much wanted and not rarely result in high informal payments for obtaining jobs in Customs and SPS.[57] Vested interest in rent-seeking can form stiff resistance against reform of border release processes.

Corruption undermines the standing of border agencies. Whereas Customs is necessary for tax collection, there is often doubt in Government about the benefit of the SPS border controls. Sometimes drastic anti-corruption policies are implemented, such as banning part of SPS inspectors from the border.[58] Corruption discourages donors involved in trade facilitation to support border agencies, especially SPS agencies.

[54] Examples have been observed where safe products were sent through informal channels only because formal routes were too cumbersome.

[55] Such cases have been reported to the author in several countries.

[56] Reported in different countries. Apparent reasons are luxury consumption and sale of product samples.

[57] Since possibilities for income from illicit activities differ much among BCP and inland duty locations, some countries operate rotation of SPS staff for reasons of fairness. This, of course, thwarts the development of professional skills needed on the border.

[58] In some countries SPS agencies are restricted by law to be present at the border and BCP, or constrained by border authorities in their operations.

Since corruption thrives most under conditions of limited transparency, use of discretionary powers, complex procedures, and low salaries of controllers, efforts should be made to improve transparency, strengthen the rule of law, simplify procedures, reduce document requirements and seek means to increase salaries. The number of contacts between traders and SPS staff should be reduced as much as possible, preferably with a single window system. Risk-based management and IT-based applications[59] will reduce opportunities for money making, especially by abolishing use of unnecessary licensing and import permits. Not rarely, numbers of inspections can be reduced. And, last but not least, efforts to push back rent-seeking and corruption in SPS can be much enhanced if they are part of broader anticorruption programs by the Government.

6.12 Domestic and foreign capacity

Often, there are ample opportunities to use service providers abroad or from abroad for inspection, laboratory services and certification. However, SPS agencies have strong preference for having capacity themselves. Nevertheless, unit cost of self-owned domestic services may be high, and quality often does not meet international requirements. Traders often lobby for domestic services, because they hope these will be easier available and at lower fees. That might actually be the case if investment or services are subsidized. SPS Action Plans should analyse the use of domestic and foreign capacity. Openness and competition among service providers are important for developing a viable SPS system.

6.13 ICT

Information and communication technology (ICT) offers opportunities for improving the performance of SPS systems. It can greatly improve the use of databases on pests, diseases, food safety, and compliance of traders. Applications for forms, inspection and certification and issuance of certificates can be done electronically. ITC can be used to inform BCPs in advance about the arrival of shipments. It also enables coordinated release processes by Customs and SPS agencies. This can reduce waiting times and transaction costs for traders and improve the effectiveness of health control efforts. It enables the fight against corruption since it reduces the number of personal contacts between traders and SPS staff and can provide more transparency about what happens on various places in the country.

However, adoption of automated systems meets many challenges. First, infrastructure in developing countries still does not connect all BCP to national ICT infrastructure, which implies that investment in general ICT capacity is needed first. Second, SPS agencies in less developed countries are still at the beginning of use of ICT in their regular administration, with low computer literacy and dominance of paper-based processes.[60] Part of the traders also don't have automated administration suitable for electronic applications, which means that SPS agencies need to maintain a paper-based process parallel to automated systems.[61]

Third, sectoral CAs are small with each different business processes which cannot be simply consolidated and, therefore, requires sector-specific systems. Automation in SPS agencies is far behind Customs. Automated Customs systems, such as ASYCUDA,[62] are not suitable for handling SPS release processes and, therefore, separate systems have to be made for each of the CAs with interfaces with the Customs system. Since SPS agencies have no significant expertise in ICT themselves they are for automation strongly dependent on Customs and support from donor agencies. Therefore, introduction of coordinated systems for risk-management and single window border handling systems with one electronic SAD and annexed documents, is very slow.

Fourth, automation meets critical questions of sequencing for countries that have SPS systems that are not fully compliant with WTO SPS provisions. For example, as argued already, undesirable licensing and import permits should be phased out. However, there is inclination to let undesirable procedures survive in automated form. A general principle for automation is to get business

[59] Such e-phyto, see: http://www.standardsfacility.org/PG-504

[60] Sometimes staff has not yet been trained in basic packages, such as excel, and desk computers are only used as typewriters. In one country border staff still used handwritten logbooks and used a desk computer to type periodic reports of which hard copies were sent to HQ where they were much later, after the last regional report was available, consolidated in hard copy periodic national reports.

[61] In some countries, traders are obliged to use licensed service providers for use of electronic applications.

[62] Automated SYstem for CUstoms DAta.

processes right first. Since many developing countries have their basics in SPS not in place, rushing for automation is undesirable and a second-best solution.

Fifth, much ICT work has been done by UN Economic Commission for Europe (UNECE), UNCTAD, the World Customs Organization (WCO), ASEAN, IPPC and countries with much trade[63] to develop building blocks for automation of Customs and SPS border release. Although there are international standards for electronic certificates and data models, countries are not obliged to accept them and, therefore, exporting countries should maintain options for paper-based systems. Acceptance of electronic documents is generally based on bilateral agreements and support by the leading country. There are differences in progress made between IPPC, which is more trade oriented, and OIE, which is more focused on animal health and veterinary services. The scope of automation also differs much between systems focused on SPS sectors, and cooperative models for Customs and SPS sectors. Proliferation of all these systems will over time increasingly result in calls for consolidation.

Developing countries should be aware that automation of the SPS system is a long process. It will ultimately provide benefits to trade and health protection, but initially, it requires higher costs and more skilled staff. Sequencing is necessary, with paper and automated processes in parallel. Main benefits can be expected in export of plant products and imports of packed and processed food products.

6.14 Funding

In many developing countries funding constraints undermine the effectiveness and efficiency of the SPS system. Active and passive surveillance of pests and diseases and food safety, and operating laboratories suffer most from shortages of funds.[64] Often there is also imbalance in funding because of weak planning, priority setting and management. Many developing countries do not have clear policy objectives and priorities for SPS capacity development and are dependent on projects with priorities set by donors. Donors prefer support for investment, especially in laboratories, but Governments usually are not prepared to provide the operational funds. Good plans would make objectives more realistic.

In quite some countries funding is inflexible. Cost recovery from beneficiaries of SPS services is exemplary in some countries but it deserves much more attention in other. It should enable flexibility in purchase of inputs and coverage of continuous expenses. Especially, laboratories are businesses that need some degree of fiscal autonomy.

7 FINALIZING AN SPS ACTION PLAN

An SPS Action Plan contributes to national development objectives. Data collection, analyses and directions for good practice will provide options for strengthening the SPS system. Consultation and further analyses will enable decision making, prioritization and sequencing.

For all options, estimates have to be made of the magnitude of human resources needed, complexity of institutional and legal change, investment and annual operational costs. Benefits can be enhanced trade, mitigated health risks, social benefits and strengthened national sovereignty. Initially, approximations of required inputs and benefits will suffice and, if needed, followed by more detailed estimates later in the process.

Options will generally range from improved management and policy reform, leading to improved effectiveness and efficiency of interventions on the one hand, which may not be costly or in some cases even generate savings, to major investment on the other. Some of the options might be addressed by interventions within the SPS domain, whereas others might require involving agencies in Trade, Public Health and Customs. The time required for each intervention will depend on the gestation of improvements. Some interventions will require sequencing. Improvements might be mostly in the public domain or depend mainly on private sector responses.

[63] New Zealand and the Netherlands, among others, have been pioneering countries. They focus on bilateral trade flows of main products with countries that are the destination of their exports or the source of their imports.

[64] World Bank 2010a recommended Lao PDR for the medium term an annual operational funding for SPS management of about one million US$. To put it in perspective, the country has a population of 6.8 million and in 2011 the recorded value of export and import of goods subject to SPS controls together was about $ 1.3 billion.

Consultations, preferably guided by a committee consisting of public and private sector representatives, are needed for bringing in technical information, assumptions to be made, and weighing merit and desirability of the interventions. They can be focused on special topics or on broader interventions. A useful exercise is to make a SWOT analysis of the SPS system and use it for consultation. This can lead to further analysis of possible interventions and can result in better estimates of costs and benefits. Where relevant, economic analysis should be applied for prioritization, and for estimating returns to investment. Prioritization may make use of the STDF tool Prioritizing SPS Investments for Market Access (P-IMA).[65] Like cost-benefit analysis, it requires assumptions and subjective assessments. Assumptions used should be provided together with the results. Sensitivity analysis might be helpful in case of weakness of data. Assessment of the contribution of the SPS Action Plan to SDGs would relate it to overall development efforts.

The proposed interventions could be prioritized for about 5-10 years and be sequenced for the short (years 1-3), medium (years 3-5) and long term (years 5-10). The Plan will provide information about the magnitude of resources required and likely outcomes and impact. The interventions can be listed as improved management, policy reform, sectoral topics and cross cutting topics. Although the SPS Action Plan is not a project implementation plan, some indications should be given about how the plan would be implemented.

Consultation with senior policy makers during the preparation process can lead to policy guidance, interim decisions, and shortcuts in analysis. The draft SPS Action Plan will respond to the scope agreed at the beginning of the planning process and possible modifications on the basis of consultation with senior decision makers. Senior policy makers will, after possible modification, adopt the final SPS Action Plan and decide about implementation.

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions about national SPS systems and capacity

1. A national SPS system can be described within a logframe with five components: (i) inputs and SPS capacity elements; (ii) SPS management and background processes; (iii) outputs: SPS services provided; (iv) outcomes of services provided; and (v) impact of SPS operations.

2. SPS capacity is the ability to set objectives, perform functions and solve problems. SPS system performance is what a country gets back relatively to its efforts.

3. The objective of national SPS systems is to contribute to national development objectives through enhancement of import and export trade and protection against health risks of consumers, plants and animals.

4. Many less developed countries, have serious capacity gaps in their national SPS system; some have systems that still lack basic functionality.

5. A frequently observed weakness in national SPS systems is that the targets for trade and health protection are vague.

6. National SPS systems share basic characteristics because of the provisions of the international system of the WTO, but capacity needs differ much between countries.

7. There are no international performance indicators of national SPS systems, such as for doing business, governance, corruption, logistic performance and release time at BCP.

8. Since national SPS systems are part of national administrations their performance should be considered in that broader context.

9. Weaknesses in SPS performance can negatively affect other countries by risks of spill-overs of pests, diseases, unsafe food, and constraints to their trade flows.

[65] STDF 2018 and Henson 2016. The tool mainly focuses on capacity to enhance exports, and less on enhancing imports and capacity to reduce health risks.

8.2 Conclusions about SPS capacity development

1. Approaches for SPS capacity development that give attention to input and outcome often provide best results.

2. Approaches with buy-in from the private sector tend to have more sustainable results and can be better related to SDGs.

3. Among national and international agencies there are different preferences for health protection and trade which can affect priority setting in SPS capacity development. Differences partly stem from mandates of the agencies.

4. Because of spill-over of risks of pests, diseases and food safety to other countries, cooperation in SPS capacity development can provide international benefits.

5. SPS capacity development in developing countries depends much on support from the donor community and international agencies because it is complex and expensive.

6. International and donor agencies in SPS contribute much to capacity development in developing countries. Remaining challenges are sustainability of improvements, limitations in expertise and mandates which can result in skewed support, divergence in advice provided and insufficient cooperation among agencies.

7. SPS Action Plans help decision makers clarifying SPS capacity development, such as sharpening policy objectives, understanding SWOT of the national SPS system, desirable policy reform, rational use of scarce resources, prioritization and sequencing of investments, and dialogue with the international community.

8. An SPS Action Plan can be self-standing as well as being part of plans for trade facilitation, public health improvement, and agricultural development.

9. The usefulness of preparing an SPS Action Plan depends on clarity of its scope, buy-in from the private sector and ownership of senior decision makers in Government.

8.3 Recommendations for developing national SPS systems

1. SPS capacity development should contribute to national development and SDGs and go beyond technical considerations of CAs and adoption of international standards.

2. Transparency and consultation are important for acceptance by Government, private sector stakeholders and the donor community.

3. If SPS capacity development targets well-identified constraints a project approach may be adequate. In case of major gaps in information about the national SPS system and multiple weaknesses in SPS performance an SPS Action Plan may be desirable.

4. Clarifying policies and development objectives in SPS is an important first step for planning SPS capacity development.

5. Since rent-seeking and corruption affect the functioning of SPS systems, governance issues deserve to be included in plans for capacity development.

8.4 Recommendations for preparing an SPS Action Plan

1. Preparation of an SPS Action Plan requires commitment, a considerable amount of time and budget, and input from a multi-disciplinary team of specialists.

2. Preparing an SPS Action Plan is only recommendable if there is a likely follow-up.

3. Preparing an SPS Action Plan has to start with thorough clarification of scope, focus, ownership, team qualification and resource requirement.

4. Preparation should go in cycles with periodic guidance from senior policy makers.

5. Since collecting data can be very costly, shortcuts will be desirable, guided by information available already and limitations in scope and resources.

6. Focusing on improving SPS measures that are low-effective, low-efficient and more costly than necessary can result in savings in investment and operational expenses.

7. Tools for prioritization and assessing net financial benefits all face lack of hard data; yet it is important to use them for assessments of the magnitude of costs and benefits, where relevant with sensitivity analysis.

8. SPS Action Plans deserve updating after 6-8 years.

9 HOW TO INITIATE PREPARATION OF AN SPS ACTION PLAN?

Sectoral SPS authorities (CAs) and private sector stakeholders can propose preparation of an SPS Action Plan, but it will generally have to be decided and owned by high-level SPS authorities who want a broad cross-cutting analysis of the capacity of the national SPS system with possible follow-up with reform or upgrading. Donors and international agencies with focus on relatively small projects and sectoral capacity are less likely to fund SPS Action Plans than donors and international agencies interested in more comprehensive efforts, such as those interested in trade facilitation, agricultural development and competitiveness.

LITERATURE

Abegaz, Mulat 2007. Mobilizing aid for trade for SPS-related technical cooperation in East Africa. SPS Balance Sheets for Kenya, Tanzania and Uganda. STDF, Rome.

Anderson, Jens 2018. Beyond results: Learning the lessons from STDF projects. STDF, Geneva. http://www.standardsfacility.org/sites/default/files/STDF_Meta-evaluation_EN.pdf

FAO 2006. Strengthening national food control systems: Guidelines to assess capacity building needs. FAO, Rome.

FAO 2007. FAO Biosecurity Toolkit. FAO, Rome.

FAO (unpublished). FAO/WHO National Food Control Systems Assessment Tool. cited in STDF 2017.

Gobena, Ambra 2016. Enhancing SPS capacity to promote trade for development in least developed countries: A review of diagnostic trade integration studies. STDF and EIF, Geneva. http://www.standardsfacility.org/sites/default/files/EIF_STDF_Study_Final.pdf

Hafemeister, Jason 2008. Strengthening links between supply and demand of SPS-related technical assistance in Central America (Stage 2). Regional SPS Balance Sheet for Central America. STDF, Rome.

Henson, Spencer 2016. Prioritizing SPS investments for market access (P-IMA). A framework to inform and improve SPS decision-making processes. STDF, Geneva. http://www.standardsfacility.org/sites/default/files/P-IMA_Guide_EN.pdf

Henson, Spencer and Masakure, Oliver 2009. Guidelines on the Use of Economic Analysis to Inform SPS-related Decision-Making. STDF/Coord/291/Guidelines. WTO, Geneva. https://www.standardsfacility.org/sites/default/files/DraftWorkingPaper_RevDec10_0.pdf

Henson, S., S. Jaffee, C. de Haan, and K. van der Meer 2002. "Sanitary and Phytosanitary Requirements and Developing Country Agri-food Exports: Methodological Guidelines for Country and Product Assessments." Washington, D.C.: World Bank.

IPPC 2017. Phytosanitary Capacity Evaluation Tool (PCE). https://www.ippc.int/en/pce/ accessed 20 November 2017.

IICA 2008a. Performance, vision and strategy (PVS) for sanitary and phytosanitary measures: An institutional vision. IICA, San Jose, Costa Rica. http://repiica.iica.int/DOCS/B0744I/B0744I.PDF accessed 20 November 2017.

IICA 2008b. Performance, Vision and Strategy (PVS) for National Food Safety Services. Second Edition. IICA, San Jose, Costa Rica. http://repiica.iica.int/docs/B0701i/B0701i.PDF (accessed 20 November 2017).

IICA 2009a. Performance, Vision and Strategy (PVS) for National Veterinary Services. Second Edition. IICA, San Jose, Costa Rica. http://repiica.iica.int/docs/B0750I/B0750I.pdf (accessed 20 November 2017).

IICA 2009b. Performance, Vision and Strategy (PVS) for National Plant Protection Organizations. 2nd Edition. IICA, San Jose, Costa Rica. http://repiica.iica.int/DOCS/B2117I/B2117I.PDF (accessed 20 November 2017).

OECD 2000. Results based management in the development co-operation agencies: a review of experience. background report. OECD, Paris. https://www.oecd.org/dac/evaluation/dcdndep/31950852.pdf

OECD 2006. The challenge of capacity development: Working towards good practice. OECD, Paris. http://www.oecd.org/dac/evaluation/dcdndep/40945568.pdf

OECD 2008. The Paris Declaration on Aid Effectiveness and the Accra Agenda for Action. OECD, Paris. http://www.oecd.org/dac/effectiveness/34428351.pdf

OIE 2010. OIE Tool for the Evaluation of Performance of Veterinary Services (OIE PVS Tool), Fifth Edition. OIE, Paris.

OIE 2013a. OIE Tool for the Evaluation of Performance of Veterinary Services (OIE PVS Tool). Sixth Edition. OIE, Paris.

OIE 2013b. OIE Tool for the Evaluation of Performance of Veterinary Services and/or Aquatic Animal Health Services. First Edition. OIE, Paris.

OIE 2017. The OIE PVS Pathway. OIE Paris. http://www.oie.int/en/support-to-oie-members/pvs-pathway/ (accessed 20 November 2017).

Rathebe, Jennifer M. 2015. The implementation of SPS Measures to facilitate safe trade. Selected Practices and Experiences in Malawi, South Africa and Zambia. STDF, Geneva. http://standardsfacility.org/sites/default/files/STDF_Rathebe_Report_Final_Nov2015.pdf

STDF 2008. Good Practice in SPS-related Technical Cooperation in the Greater Mekong Subregion. Prepared for the STDF by Kees van der Meer and Laura L. Ignacio. G/SPS/GEN/872. Sep. 2008. See: https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=106853&CurrentCatalogueIdIndex=0&FullTextHash=1&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True

STDF 2010. Indicators to Measure the Performance of a National SPS System STDF / OECD Working Paper. Secretariat Working Paper Draft Rev.3 (Dec. 2010). STDF, Geneva. http://www.standardsfacility.org/sites/default/files/DraftWorkingPaper_RevDec10_0.pdf (accessed 18 February 2018)

STDF 2011. SPS-Related Capacity Evaluation Tools. An Overview of Tools Developed by International Organizations. Second edition. WTO, Geneva. http://standardsfacility.org/sites/default/files/STDF_Capacity_Evaluation_Tools_Eng_1.pdf

STDF 2016. Ephyto: Enhancing safe trade in plants and plant products. WTO, Geneva. http://www.standardsfacility.org/PG-504

STDF 2017. Driving knowledge on food safety, animal and plant health: SPS capacity evaluation tools in action. STDF briefing note 14. WTO, Geneva. http://www.standardsfacility.org/sites/default/files/STDF_Briefing_14.pdf (Accessed 20 November 2017).

STDF 2018. Prioritizing SPS investments for market access (P-IMA) http://www.standardsfacility.org/prioritizing-sps-investments-market-access-p-ima (accessed 27 February 2018)

STDF 2018b. Public-Private Partnerships. WTO, Geneva. http://www.standardsfacility.org/public-private-partnerships

STDF/EIF 2016. Enhancing sanitary and phytosanitary capacity to promote trade for development in least developed countries. STDF Briefing Note 12. March 2016 http://www.standardsfacility.org/sites/default/files/STDF_Briefing_no12_EN.pdf

Transparency International 2018. Corruption Perceptions Index 2016. https://www.transparency.org/news/feature/corruption_perceptions_index_2016

UNDP 2009. Capacity development: A UNDP primer. United Nations Development Programme, New York, NY 10017, USA. http://www.undp.org/content/dam/aplaws/publication/en/publications/capacity-development/capacity-development-a-undp-primer/CDG_PrimerReport_final_web.pdf

Van der Meer, Kees 2014a. Implementing SPS Measures to Facilitate Safe Trade. Principles and Practice in Cambodia, Lao PDR, Philippines and Thailand. STDF, Geneva. http://www.standardsfacility.org/facilitating-safe-trade

Van der Meer, Kees 2014b. Implementing SPS measures to facilitate safe trade in Thailand. Study conducted for the Standards and Trade Development Facility (STDF). STDF, Geneva. http://www.standardsfacility.org/sites/default/files/Implementing_SPS_Measures_to_Facilitate_Safe_Trade_Thailand_Jun-2014.pdf

Van Der Meer, K., and Ignacio, L. 2007. "Standards and Supply-Chain Coordination—Impact on Small-Scale Producers." In FAO Commodities and Trade Proceedings 2: Governance, Coordination and Distribution Along Commodity Value Chains, Rome, 4–5 April 2006. Rome: FAO Trade and Markets Division. 85–94.

Van Der Meer, Kees and Ignacio, Laura 2008. "SPS Balance Sheets for Cambodia, Lao PDR, Vietnam and CLV. Strengthening links between supply and demand of SPS-related technical assistance in a sub-group of ASEAN countries (Stage 2)". Research work for the Standards and Trade Development Facility, presented at the STDF workshop on SPS-related technical cooperation in a Greater Mekong Delta sub-region, Phnom Penh, Cambodia, 20-21 May 2008. http://webcache.googleusercontent.com/search?q=cache:iTuz-Cmh5ekJ:www.standardsfacility.org/sites/default/files/Consultation_GM_Regional.pdf+&cd=5&hl=nl&ct=clnk&gl=nl

Van der Meer, Kees and Laura Ignacio, 2011. "Sanitary and phytosanitary measures and border management" in: McLinden, Gerard, Enrique Fanta, David Widdowson and Tom Doyle, Editors, 2011. Border Management Modernization. The World Bank, Washington DC. https://books.google.nl/books?hl=nl&lr=&id=PNqQqVanNH4C&oi=fnd&pg=PR3&dq=collaborative+border+management&ots=3slBw9FtXt&sig=wXOleZLCDSkE2NaQY5s-Wl6IAjE#v=onepage&q=collaborative%20border%20management&f=false

Van der Meer, Kees and Marges, Maribel 2014. Implementing SPS measures to facilitate safe trade in the Philippines. Country study conducted for the Standards and Trade Development Facility (STDF). STDF, Geneva. http://www.standardsfacility.org/sites/default/files/Implementing_SPS_Measures_to_Facilitate_Safe_Trade_Philippines_Jun-2014.pdf

Van der Meer, Kees and Rasphone, Sitthiroth 2014. Implementing SPS measures to facilitate safe trade in Lao PDR. Study conducted for the Standards and Trade Development Facility (STDF). STDF, Geneva. http://www.standardsfacility.org/sites/default/files/Implementing_SPS_Measures_to_Facilitate_Safe_Trade_LaoPDR_Jun-2014.pdf

Van der Meer, Kees and Samrith, Sakura 2014. Implementing SPS measures to facilitate safe trade in Cambodia. Country study conducted for the Standards and Trade Development Facility (STDF). STDF, Geneva. http://www.standardsfacility.org/sites/default/files/Implementing_SPS_Measures_to_Facilitate_Safe_Trade_Cambodia_Jul-2014.pdf

Van der Meer, Kees; Humpal, Don; de Haan, Cees; Ignacio, Laura; Qin, Xin 2007. Food Safety and Agricultural Health Management in CIS Countries: Completing the Transition. Agricultural and Rural Development Notes; No. 26. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/9550

Walker, Kevin 2013. Promoting the effective participation of SADC Member States in the WTO SPS Committee. STDF, Geneva. http://www.standardsfacility.org/sites/default/files/STDF_PPG_379_ConsultantReport_Dec-13.pdf

WCO 2011. Guide to measure the time required for the release of goods Version 2 2011 WORLD. Customs Organization, Brussels. http://www.wcoomd.org/en/topics/facilitation/resources/~/media/01713916ED2A4BD38DC119C5E64B890D.ashx

WHO 2018. Global burden of disease. http://www.who.int/topics/global_burden_of_disease/en/

World Bank 2005. Food Safety and Agricultural Health Standards: Challenges and Opportunities for Developing Country Exports. Report No. 31207. The World Bank, Washington DC. http://documents1.worldbank.org/curated/en/618321468780553085/pdf/31207.pdf

World Bank 2006. Vietnam: Food Safety and Agricultural Health Action Plan. Report No. 35231. The World Bank. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/398891468124788088/vietnam-food-safety-and-agricultural-health-action-plan

World Bank 2007a. Armenia: Managing Food Safety and Agricultural Health: An Action Plan. Agriculture and Rural Development Department and Europe and Central Asia Region, The World Bank.

World Bank 2007b. Moldova: Managing Food Safety and Agricultural Health: An Action Plan. Agriculture and Rural Development Department and Europe and Central Asia Region, The World Bank.

World Bank 2007c. Lao Peoples Democratic Republic: Sanitary and Phytosanitary Measures: Enhancing Trade Food Safety and Agricultural Health. Sustainable Development Department East Asia and Pacific Region. The World Bank. http://documents1.worldbank.org/curated/en/223061468088761302/pdf/385790LA0white1y0Standards01PUBLIC1.pdf

World Bank 2010a. Lao People's Democratic Republic: Operational Costs of Trade-Related Sanitary and Phytosanitary Activities. World Bank. http://documents.worldbank.org/curated/en/282051468045538040/Lao-Peoples-Democratic-Republic-Operational-costs-of-trade-related-sanitary-and-phytosanitary-activities

World Bank 2010b. "Sanitary and phytosanitary measures and border management". Chapter 16 of Handbook on Cooperative Border Management. World Bank, Washington D.C. http://scholar.google.nl/scholar_url?url=https://openknowledge.worldbank.org/bitstream/handle/10986/2544/588450PUB0Bord101public10BOX353816B.pdf%3Fsequenc%23page%3D278&hl=nl&sa=X&scisig=AAGBfm1U15OBYb5CJOg_78fVN1qUyFR_Lw&nossl=1&oi=scholarr&ved=0ahUKEwjg_7-RrqHSAhXDvBoKHWgQCrEQgAMIHCgAMAA

World Bank 2017. Enabling the Business of Agriculture. The World Bank, Washington DC. http://eba.worldbank.org/

World Bank 2017a. Doing Business 2018. The World Bank, Washington DC. http://www.doingbusiness.org/reports/global-reports/doing-business-2018

World Bank 2017b. The Worldwide Governance Indicators (WGI). The World Bank, Washington DC. http://info.worldbank.org/governance/wgi/#home

WTO (World Trade Organization) 1994. "Agreement on the Application of Sanitary and Phytosanitary Measures." WTO, Geneva. Available online at https://www.wto.org/english/tratop_e/sps_e/spsagr_e.htm .

WTO 2006. Overview of SPS-related technical assistance reported to the WTO/OECD trade capacity building database. Committee on Sanitary and Phytosanitary Measures, G/SPS/GEN/726.

WTO 2014. The relationship between the Trade Facilitation Agreement and the Agreement on the Application of Sanitary and Phytosanitary Measures. WTO, Geneva. https://www.wto.org/english/tratop_e/sps_e/tf_sps_e.pdf

WTO 2017. Agreement on Trade Facilitation. WTO, Geneva. Available on line at https://www.wto.org/english/docs_e/legal_e/tfa-nov14_e.htm

ANNEXES

ANNEX 1 Main provisions of the SPS Agreement

WTO Members have an obligation to comply with the provisions of the SPS agreement. Main provisions are summarized below.

Necessary and science based.[66] Measures must be necessary to protect human, animal or plant life or health, and based on scientific principles and evidence. There is no room for arbitrary measures.

Non-discrimination.[67] Measures must not arbitrarily or unjustifiably discriminate between countries and between domestic and foreign producers and shall not be applied in a manner, which would constitute a disguised restriction on international trade.

Harmonization.[68] Countries are strongly recommended to harmonize their measures on the basis of international standards where they exist[69], especially those of the ISSB. If countries want a higher level of protection, they must provide a scientific justification that the measures taken are necessary to achieve that. If countries are satisfied with lower levels of protection, they may decide not to adopt certain international standards or adopt less-constraining standards.
Countries shall participate, within the limits of their resources, in the relevant international organizations, in particular the Codex Alimentarius Commission, the IPPC, the OIE and the WTO SPS Committee.

Equivalence.[70] Countries shall accept the sanitary or phytosanitary measures of other countries as equivalent to their own if these measures achieve the same level of protection. Bilateral and multilateral agreements on recognition of the equivalence are useful tools to achieve this and are widely applied in trade agreements.

Science and risk assessment.[71] SPS measures must be based on the risks to human, animal or plant life or health, taking into account risk assessment techniques developed by the relevant international organizations. Risk assessment shall take into account available scientific evidence; relevant processes and production methods; relevant inspection, sampling and testing methods; prevalence of specific diseases or pests; existence of pest- or disease-free areas; relevant ecological and environmental conditions; and quarantine or other treatment.

Appropriate level of protection.[72] Countries should, when determining the appropriate level of sanitary or phytosanitary protection, take into account the objective of minimizing negative trade effects.

Minimal trade restriction.[73] Measures must not be more trade-restrictive than required to achieve the appropriate level of protection, taking into account technical and economic feasibility.

Pre-cautionary measures.[74] In cases where relevant scientific evidence is insufficient, a country may for a reasonable period of time provisionally adopt measures on the basis of available pertinent information.

Questions and explanation.[75] If an SPS measure is considered trade constraining and not based on international standards, an explanation of the reasons for such measure may be requested by affected countries and shall be provided.

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[66] WTO 1994, Article 2
[67] WTO 1994, Article 2
[68] WTO 1994, Article 3
[69] Developed market economies have far more (and partly also stricter) standards adopted than available from international organizations and developed countries fewer and often less strict. This reflects differences between countries with regard to economic differentiation, public demand and resources.
[70] WTO 1994, Article 4
[71] WTO 1994, Article 5
[72] WTO 1994, Article 5
[73] WTO 1994, Article 5
[74] WTO 1994, Article 5
[75] WTO 1994, Article 5

Regionalization.[76] Measures must be adapted to the SPS characteristics of the area from which the product originated and to which the product is destined. Countries must recognize the concepts of pest- or disease-free areas and areas of low pest or disease prevalence. Exporting countries claiming that areas within their territories are pest- or disease-free areas or areas of low pest or disease prevalence shall provide the necessary evidence.

Transparency.[77] Members shall notify changes in their sanitary or phytosanitary measures and shall provide information on their sanitary or phytosanitary measures in accordance with the provisions of Annex B of the Agreement.

Procedures.[78] Countries shall observe the provisions of Annex C of the Agreement in the operation of control, inspection and approval procedures.

[76] WTO 1994, Article 6
[77] WTO 1994, Article 7
[78] WTO 1994, Article 8

ANNEX 2 Description of the logframe of a national SPS system

In this ANNEX the components of national SPS systems and their elements are described.

The SPS components in ANNEX Table 2.1 are aggregates which for practical use can be disaggregated by sector, such as fisheries, human health protection and animal feed. Also, the elements of the components can be further disaggregated, such as into detailed health benefits (impact), details of services provided (outputs), management details and funding details (details of inputs and capacity elements). For the purpose of this study only the first column of the logframe is described. Description of indicators[79], and risks and assumptions, which are other columns of a logframe, is not pursued. The system will be discussed by component in the following sections.

ANNEX Table 2.1 The national SPS system

logframe elements	description	comments
impact of SPS system operations	**CONTRIBUTION TO NATIONAL DEVELOPMENT OBJECTIVES** • increased export value • increased availability of safe imports • reduced health risks	elements described can be disaggregated; there can be major gaps between SPS impact and policy objectives
outcomes of SPS services provided	• increased trust among importing countries in services provided • reduced transaction costs for traders • improved competitiveness • improved health controls	competitiveness depends on the range of services provided and their quality
outputs: SPS services provided	**TO TRADING PARTNERS** **exporting and importing countries** • enquiring about partner pest, disease and food safety situation • informing about own pest, disease and food safety situation • informing about requirements (transparency) • enquiring partner agencies about their capabilities • informing partner agencies about own capabilities • negotiating market access agreements • dispute resolution • facilitating fact finding missions **countries to which goods are exported** • implementing risk mitigation measures • enquiring about their import requirements • product certifications • certifications of establishments and processes • conducting / supervising disinfestations, treatment **countries from which goods are imported** • informing about import requirements / procedures • market access decisions **TO PRIVATE SECTOR** **exporters and foreign importers** • conducting / supervising product certifications • attestations about safety • certifications of establishments and processes	large numbers of (potential) health risks; many products; many countries; number and quality can differ much between countries with different system, size and capacity; cost covering fees can be charged to private sector for certifications and other market services

[79] As indicated already STDF (2010) made a first attempt to develop indicators.

logframe elements	description	comments
	• control of compliance with agreed risk mitigation measures **importers and foreign exporters** • conducting / supervising conformity assessments • informing about import requirements / procedures (transparency) • issuance of approvals, permits • safety inspections and release of imported products • rejections and destruction of not permitted products • information for and consultation with stakeholders • quarantine measures • conducting / supervising disinfestations • market access decisions	
SPS management and background processes	**Administration** • implementing legislation, government policies, complying with WTO provisions • evaluating legislation and procedures, preparing improvements • annual budget plans: preparing, implementing, monitoring, reporting, accountability • making optimal use of capacity elements • long-term planning • coordinating among stakeholders • participating in SPS meetings of international bodies • providing general information and raising awareness **maintaining capacity stocks** • maintaining databases ✓ collection of data from abroad ✓ collection of data from active and passive surveillance • maintaining capacities / competencies • training of staff, maintaining skills • maintaining public laboratories and technical facilities **sub-contracting** • commissioning background scientific research • sub-contracting and supervising sub-contractors	framework for SPS management provided by • Government development objectives (see Chapter 3 section 2 What is the appropriate capacity for a country?) • WTO provisions • capacity elements • funding and staff inputs and • recommendations Codex Alimentarius, IPPC, OIE
inputs and SPS capacity elements	1. legal and institutional framework 2. competent authorities 3. information on food safety, and plant and animal health 4. standards for use in SPS measures 5. capacity to respond to emergencies and outbreaks 6. capacity to conduct risk-based controls 7. tools of quality assurance and risk management for the private sector 8. systems of conformity assessment and certification 9. access to conformity testing and diagnostics facilities	funding, staff and governance can be main cross-cutting constraints for the system

logframe elements	description	comments
	10. coordination mechanism across SPS stakeholders 11. capacity for SPS negotiations with trading partners 12. funding of investment, operational costs and skilled staff 13. SPS governance	

Source: the author

INPUTS AND SPS CAPACITY ELEMENTS

For basic functioning, SPS systems need a range of inputs and capacity elements. Inputs are annual expenditure items, capacity elements are investment items which can be used for more than one year. Below they are grouped as 13 comprehensive functional items, which all consist of a series of detailed inputs with quality characteristics. This section provides description and analytical remarks of the items with attention to common critical quality issues and weaknesses. Aspects of several items and cross-cutting topics have been analysed in Chapter 6.

Legal and institutional framework

This section discusses basic issues, whereas good practice options have been provided in Chapter 6.1. Establishing a good SPS legal and institutional system is a major challenge for many countries. SPS legislation defines protection of health and related measures of trade facilitation, mandates of ministers and agencies involved, and tasks to be performed. The legal and institutional framework should be appropriate for the needs of the country. Appropriate means that, for example, a developing country in Africa without any export to Europe/USA, doesn't need the same legal framework (and investments) as an export dependent country. SPS legislation has to be compliant with the provisions of the SPS Agreement, including the requirement to publish new legislation and to notify the WTO about it, and other international obligations. And members of a trading block need to comply with basic requirements of that block.

The core legal framework for SPS mostly consists of at least primary laws for food, plant health and animal health; there may be separate or single laws for terrestrial and aquatic animal health. These laws may also cover subjects beyond the SPS domain, such as domestic health protection and animal welfare. Other laws, however, may also impact on aspects of SPS, for example, laws for agrochemicals and veterinary drugs, and laws on primary production, food enterprises, trade, Customs, border control, human health, standards, conformity assessment, and, not to forget, enforcement related legislation such as administrative law and criminal law.

Authority to approve primary legislation is in democracies generally with the National Assembly. Many laws mandate a high-level Government body such as a Cabinet of Ministers, or individual ministers to issue secondary legislation (regulations, decrees) that provides details on the implementation of the laws. Since relevant information on safety conditions can change quickly, flexibility in regulation is needed and, therefore, ministers and designated senior Government officers often are authorized by law and secondary legislation to issue tertiary-level regulations (ordonnances, administrative decisions, procedural requirements, permissions, bans, etc.).

Reform of primary legislation may take several years depending on political will; in some cases, it can take decades. Legislative reform involves a number of agencies from different ministries, the Prime Minister's Office and stakeholders from the private sector and civil society. The time required for preparation of secondary legislation is typically much shorter with fewer agencies involved. Tertiary legislation can be issued and changed quickly in response to outbreaks, measures and procedures in response to new knowledge about threats of food safety, pests and diseases, changing sanitary and phytosanitary conditions, and changes in trade and technical circumstances. The body of SPS legislation will altogether in most countries consist of at least a few dozens of pieces of legislation, and in diversified, mature economies it may be more than one hundred.

The body of legislation has to be consistent and without gaps and dysfunctional overlap. Each country has its own general legal principles, with rights and obligations of government bodies, private entities and citizens, and requirements for proposing and implementing legislation, in which SPS legislation

has to be well integrated. Legislation should follow good regulatory practice (GRP)[80] and there must be capacity and political will to implement legislation. Often observed deficiencies include gaps, inconsistencies, confusing overlap, insufficient compliance with international obligations, and insufficient implementation. Insufficient knowledge about the international SPS system among legislators and administrators can contribute much to deficiencies.

Competent authorities

Many entities can play roles in SPS management: policy units, inspectorates, laboratories, and research centres under ministries with core responsibilities for a SPS area, as well as units in the Ministries of Finance, Commerce, Foreign Affairs, the Civil Service Administration, decentralized Government units, border control units and others. For national SPS management and communication with other countries, public and private stakeholders and civil society, powers have to be invested by law in one central authority, generally called the competent authority (CA). Usually, there is one CA for each sector, such as a national plant protection office, a public veterinary authority and a food authority. There are international standards of the ISSB which provide guidance for the CAs with regards to legal mandates and technical competence.[81] Important is that CAs are recognized by counterpart agencies in trading partner countries as the first agency for communication, consultation, cooperation about relevant SPS matters such as import controls, SPS market access agreements, agreed SPS risk mitigation measures, and SPS certification.[82] However, CAs in least developed countries have difficulties to be recognized by trading partners as technically and administratively competent. Codex Alimentarius, IPPC and OIE enhance international cooperation among CAs by organizing regional and international meetings, providing support for capacity development and involving them in setting of international standards. Some CAs only participate in international meetings if travel costs are sponsored. Their technical skills often only allow for passive participation.

The efficiency and effectiveness of CAs in developing countries differ much. CAs and their mandates are sometimes not adequately defined in legislation. And often CAs are part of centralized and segmented bureaucratic environments with little functional delegation of routine management decisions, even for SPS certification and SPS market access approvals, which can cause serious delays in performing tasks by CAs.

Information on food safety, and plant and animal health

SPS policies need to be based on information about the pest, disease and food safety situation in the country. Certain information must be shared with international organizations, and trading partners can request to be provided with information. The collection of information requires active and passive surveillance programs focused on relevant health risks in production, trade, and food enterprises, and sometimes also relevant natural (wild) species. There are international standards for the way surveillance should be conducted and evidence stored. It requires scientific skills, capacity for diagnostics and testing, and storage of evidence. Knowledge about the health situation in trading partner countries is often also necessary for effectively targeting surveillance programs, risk management, export certification and setting requirements for import. Lack of reliable SPS information can be a major obstacle for export market access. There are several good national and international databases on pests, diseases and food safety hazards. However, many countries do not make good use of these sources.

Aspects of this topic have been discussed in Chapter 6.4 and are further discussed in ANNEX 3 sub 2.

Standards for use in SPS measures

Standards are necessary to be included in SPS measures for defining how safety is being protected. They include maximum residue limits (MRL) and tolerances for chemical and microbiological contaminations in products. Process standards, which are prescriptions that need to be followed to avoid hazards or to document evidence. There can also be quarantine and precautionary measures in production and trade for animals, plants and their products. Some plants and plant products are

[80] Main GRP issues are explained in OECD documents. https://www.oecd-ilibrary.org/governance/international-trade-and-good-regulatory-practices_5jlv59hdgtf5-en

[81] The EU has more detailed and binding requirements for CAs of its member countries.

[82] Sometimes, an importing country can recognize a Government agency in an exporting country on an ad hoc basis as the CA for a particular product.

only acceptable after disinfestation according to international standards and there are countries and geographic areas from which certain products and plants cannot be imported, or only after special standards (conditions) are met. There are similar requirements for animals and terrestrial and aquatic animal diseases. Standards are also necessary for inspection, testing, diagnostics, and certification.

Without standards, traders, inspectors and laboratories have no guidance what to do and traders may face uncertainty because of discretionary decisions of inspectors and unpredictability of controls. Exchange of information among trading partners is only effective if agreed relevant international, multilateral or bilateral standards are followed. Use of standards without scientific justification can act as unjustifiable non-tariff trade barriers.

Capacity to respond to emergencies and outbreaks

National SPS systems must have capacity for early detection of and rapid response to outbreaks of pests and diseases and food hazards. Some outbreaks occur periodically, sometimes related to seasons, such as locust and sometimes foot and mouth disease (FMD). Outbreaks and food scares can also enter from abroad, such as avian influenza (AI), FMD, fruit flies and internationally traded unsafe food products.

Effective response requires crisis management plans supported by adequate legal powers, and the availability of staff, budget, and emergency stocks of equipment, pharmaceuticals and pesticides. Early detection can be enhanced by communication and cooperation with other countries and international organizations through rapid alert systems. There are various early warning systems available from which developing countries can obtain relevant information. International cooperation can also enhance access to emergency stocks.[83]

Unfortunately, many countries are still ill-prepared for emergencies. Use of international databases and early warning systems is insufficient. Ministries of Finance tend to be reluctant to provide resources for emergency stocks that may remain unused if no emergencies occur.

Capacity to conduct risk-based controls

SPS control efforts should be based on assessment of risks. It is an obligation of the SPS Agreement, but it is clearly also good practice in itself to make best use of scarce resources. The health impact of scarce resources for SPS control is highest if their use is proportionate to the expected risk and damage. This will also result in lower transaction costs for traders whose goods and activities present low risk. The SPS Agreement asks only for risk-based management on imports, whereas the TFA also asks controls for exports to be risk-based. In many countries, SPS agencies apply risk-based controls for issuing certificates.

Development of risk-based controls requires risk categorization of products and processes by sectoral experts, and its use for regulation to guide inspection programs. Guidance is available from Codex Alimentarius, IPPC and OIE. Countries can also learn much from risk categorization developed by other countries. In the EU, for example, risk-based management is harmonized.

Application of risk-based management is in many developing countries still rudimentary or even absent. There is reluctance to apply it because of the knowledge, time and resources required for data collection and the constraint risk-based management poses on the discretionary power of inspectorates. Risk-based management will also most likely reduce options for rent-seeking because it much reduces the number of inspections for low-risk products and processes and related fee income generation for inspectorates and laboratories and, hence, also options for collecting informal income by officers.

Aspects of risk assessment have been discussed in Chapter 6.6.

Tools of quality assurance and risk management for the private sector

Many tools have been developed by international agencies and public and private entities by which private enterprises can show that they control SPS risks by following prescribed protocols. For

[83] In some cases, funds and emergency stocks are available from international organizations and bigger countries, such as FAO, OIE, the EU, China and the USA.

primary producers, systems of good agricultural practice (GAP) have been developed.[84] GAP is based on international principles and needs in each country to be adjusted to characteristics of products and ecosystem conditions, and requirements of Governments and buyers. Good hygiene practice (GHP) is important for guidance in food handling and in most countries, it is used as a mandatory tool for many groups of food businesses. Good manufacturing practice (GMP) is widely used in industry, also food packing houses and food processing. More sophisticated systems are HACCP,[85] HACCP-based systems, and ISO 22000.

Enterprises may prefer, based on demand of their customers, to use either international versions and protocols of tools, national versions, or versions from other countries. However, important in many cases is that tools to be used are legally defined and can be protected so that improper claims by non-compliant users will not undermine the interest of proper users.

Systems of conformity assessment and certification

Important tasks for CAs are the issuance of official SPS certificates that can be requested by producers and buyers of products and foreign authorities, such as phytosanitary certificates, veterinary health certificates, and certificates for food safety. CAs, inspectorates and laboratories they use must have the capacity to meet international requirements for issuing these certificates. If foreign parties have no confidence in the SPS authorities' capacity they will value the certificates accordingly.

SPS agencies from quite some countries, regularly or occasionally send expert missions to exporting countries to assess the capacity and performance of competent authorities and inspectorates and laboratories used. SPS market access decisions, especially for livestock products, fisheries products and sensitive plant products, can be subject to successful conclusions of such missions.

SPS certifications can be provided by accredited public and private service providers, both within the country and abroad. Governments should provide appropriate conditions for the development of a quality infrastructure[86], including enhancement of the emergence and functioning of competent public and private service providers. In many countries, private providers have no level playing field for offering SPS services because Government favours its own services. However, good practice is that Government enhances access for all qualified public and private providers, domestic and from abroad, by proper regulation. This has been discussed in Chapter 6.7.

Testing and diagnostics laboratories

Public regulators and private entities need services from diagnostic and testing laboratories for conformity assessment (i.e. testing whether product properties meet requirements) and certification for official SPS purposes. There are laboratory needs for diagnostics of animal diseases (including diseases of aquatic animals) and plant pests and diseases, and testing of food, agrochemicals and veterinary drugs. These needs can be served by laboratories within the country and abroad, by small specialized sectoral laboratories and big laboratories with broad functions. Laboratories can be public or private. They can be small or big, with total investments in equipment ranging from a hundred thousand to many millions of US$. Since laboratory services are expensive and their development involves many technical questions, capacity development requires good general and financial analysis.

Common practice in many countries is that core facilities conducting public controls are Government owned. But, the international SPS framework of WTO and ISSB allows that inspections, diagnostics and testing can be subcontracted to private entities, provided they have expertise and meet international standards[87], and that public agencies provide close supervision and keep responsibilities for core functions, such as phytosanitary certification and contact with SPS partner agencies in other countries.[88]

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[84] The acronym GAP is also used to describe good animal husbandry practice and good aquatic practice.

[85] Hazard Analysis and Critical Control Points.

[86] The term quality infrastructure encompasses SMTQ (Standards, Metrology, Testing and Quality), or in other words standardization, metrology (scientific, industrial and legal), accreditation and conformity assessment services (inspection, testing and product- and system certification).

[87] Among others, inspectorates should meet relevant standards of Codex Alimentarius, IPPC, OIE and preferably ISO 17020, and laboratories at least ISO 17025.

[88] For examples see STDF 2018b. Public-Private Partnerships. WTO, Geneva. http://www.standardsfacility.org/public-private-partnerships

SPS authorities, especially in smaller less developed countries, generally want to have their own inspectorates and laboratories rather than being dependent on private subcontractors. There are reasons for this. One is rent-seeking. Another is that subcontracting is not easy and not flexible and because of procurement and supervision requirements, unreliable public funds availability, sometimes lack of sufficient numbers of qualified providers, and regularly there may be unpredictable needs for inspection, diagnostics and testing because of changes in health threats, outbreaks and emergencies.

A possible advantage of subcontracting is that it may reduce possibilities for rent-seeking. In bigger and advanced systems, parts of the work may be sub-contracted while the responsible agencies keep in-house capacity for non-standard questions, sudden needs, oversight and reference purposes.

Private enterprises need access to testing and certification services for commercial purposes, i.e. to meet requirements by importing countries and buyers and to check for themselves quality and safety of traded products. They may have choice from many foreign and domestic public and private providers. Public services may have low fees, but yet total transaction costs may be high because of distance, complex procedures, long waiting times, unpredictability, tea money requirements and difficulty to access. Private providers – domestic and international – may be more expensive but often provide better services and 7x24 hours operating hours for laboratories. Many exporters to market economies use testing services at destination.[89] General experience is that in mature markets, private service providers have main market shares, because they are more competitive. Critical issues for developing capacities in laboratories have been discussed in Chapter 6.8.

Effective coordination across SPS stakeholders

Many SPS issues have cross-sectoral characteristics and need expertise from different specialized agencies. For example, primary products may have possible issues of safety of food and presence of pests and diseases. Some issues are routine for inspectorates and laboratories, other may require cross-sectoral action, scientific support or policy making. Mandates often have functional overlaps, which asks for coordination and sometimes delegation of tasks to avoid double inspections. Most countries have a multi-agency system with sectoral clusters, each with entities for policy making, risk assessment, scientific support, domestic and border inspection, testing/diagnostics, and international contacts. Other countries have brought some of these functions together in a single agency, for example China[90], the USA[91], the Netherlands[92], and Georgia[93], while other remain in specialized agencies with backstopping roles. The EU has combined sectoral entities for risk assessment in EFSA[94].

Typical advantages of combining tasks are that critical mass of expertise can be increased and that there is one window for communication, but it cannot solve all coordination problems. Large organizations have also internal coordination issues. But, more importantly, since not all functions and expertise necessary for SPS management can be brought together in one organization there remains always need for coordination with other agencies, such as policy units and specialized services for health and trade in different ministries, and research institutions.

In many countries, coordination between SPS agencies is enhanced by an SPS committee chaired by a leading Minister, or Deputy Prime Minister, and members from relevant agencies. Often private sector entities are participating in some of the work. For food, many countries have a National Codex Committee that focuses on food safety issues. In all cases, regular coordination requires legislative underpinning.

[89] Some private certification schemes, GLOBALG.A.P. is an example, require independent laboratories and therefore services of domestic public laboratories are excluded.

[90] General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (AQSIQ)

[91] U.S. Customs and Border Protection (CBP) under Homeland Security.

[92] Netherlands Food and Consumer Product Safety Authority (Nederlandse Voedsel- en Warenauthoriteit (NVWA))

[93] The Revenue Service of Georgia (GRS) is responsible for SPS and Customs controls on international border checkpoints.

[94] The European Food Safety Authority (EFSA) provides independent scientific advice and communicates on existing and emerging risks associated with the food chain.

Capacity for SPS negotiations with trading partners

Countries have to meet SPS import requirements imposed by trading partners. Common is that CAs of trading partners communicate about the relevant health status in their country, consult each other about scientific issues, and seek to resolve conflicts. They may be asked to provide information about the pest and disease situation and to take measures to mitigate import risks. Sometimes, there may be conflicts about correctness of decisions taken.

Special fields for negotiations are market access decisions. This is about what conditions have to be met to achieve market access for first-time exports. But, also in general, how to handle trade in case of outbreaks, emergencies and new threats, and what to do after violations of requirements.

For being successful in negotiations, it helps much if countries have reliable information about the pest-, disease- and food safety situation in their country and abroad, are backed up by good science and technical facilities, have good knowledge about the provisions of the international system, and experienced, capable negotiators. Difference in political power between small developing countries and big market economies can reduce the position of the former in negotiations. There are examples of requirements imposed on imports from developing countries that may violate the provisions of the WTO SPS system.[95] In principle, countries can start a panel case against decisions of other countries that they consider in violation with provisions of the SPS Agreement, but since that is costly and requires much time and expertise[96], developing countries don't start such cases alone.[97]

Investment, operational costs and skilled staff

Developing and operating SPS systems is expensive. A common major cause for weakness of SPS systems in many developing countries is lack of resources. However, there is little comparative information easily available among countries about the actual or necessary expenditure on SPS systems. SPS activities are carried out by a number of different agencies as fulltime and part-time tasks often with funding from a range of different Government sources, such as for personnel, public land and buildings, use of public utilities, investment, and regular and special funds for operational expenditure for offices and laboratories, including maintenance, repair, transport, travel, per diem. Public expenditure reviews[98] do not cover the SPS system separately.

The SPS Agreement allows countries to charge fees for services, provided they are not discriminatory and not higher than the actual costs of the services provided.[99] However, fees are mostly very low. For export certification, most countries tend to follow the same principle since they don't want to undermine their competitiveness by high fees.[100] These trade-related services are private goods, but many of the expensive activities of a national SPS system are public goods, which by nature cannot be charged to users, such as establishing and maintaining infrastructure, conducting surveillance and maintaining overhead. In particular, experienced staff and laboratories are expensive. Developing countries are often overoptimistic about the demand from the private sector, but experience is that funding mainly depends on income from public services such as testing and diagnostics in support of surveillance by SPS agencies. There are also some mixed public-private goods which need public support, such as developing capacity of enterprises to enhance their performance in SPS by training and adopting better management systems such as GAP, GMP and HACCP.

Gaps in funding for SPS result in dependence of CA on donor and international agencies for projects that support SPS capacity development. But these sources are limited, mostly for investment only, not always available when needed most and, more importantly, mostly not available for operating costs.

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[95] Examples observed include restrictions on imports that may carry pests that are wide-spread in the importing country and fumigation requirements for imports of products that ignore that the purpose of use does not pose a threat of spread of storage pests.

[96] One senior country official reported that he was told by a representative of an important importing country that the latter would fight any panel case, whatever the cost.

[97] They may join a panel challenge started and led by other countries.

[98] For explanation on public expenditure review see: https://openknowledge.worldbank.org/handle/10986/27264

[99] WTO 1994, ANNEX C, paragraph (f) of the SPS prescribes that any fees imposed for the procedures on imported products are equitable in relation to any fees charged on like domestic products or products originating in any other Member.

[100] There are, however, many examples of countries with CAs that, apart from fees, cause high transaction costs to exporters because of ignorance, indifference or rent-seeking behaviour.

Aspects of good practice in funding have been discussed in Chapter 6.14.

SPS governance

The effectiveness and efficiency of SPS systems not only depends on the inputs and capacity elements described above but also on good governance. Rent-seeking behaviour of institutions and officers can undermine the effectiveness and efficiency of measures to protect against health risks and increase the cost for Government and the private sector. Such measures may be maintained because they generate fee incomes for inspectorates and laboratories and tea money for inspectors. The burden for producers and traders may be high because of long waiting times, complex procedural requirements, unnecessary controls, multiple office visits, informal payments and unpredictability of decisions. Good SPS systems are generally characterized by good governance.

Good practice in reduction of rent-seeking and corruption has been discussed in Chapter 6.11.

SPS MANAGEMENT AND BACKGROUND PROCESSES

SPS management has to make best use of the available inputs and capacities to deliver optimal amounts of SPS outputs. For the medium and long term this includes making efforts for resource mobilization. It also includes raising awareness about SPS issues among policy makers and stakeholders. It should be noted that national systems do not provide control services directly to consumers, only indirectly through surveillance of markets and traders. However, a general management task for SPS agencies is to provide the public with information about policies, risks and requirements and to organize consultations with stakeholders, which, where relevant, can include civil society.

The CAs are, if properly defined and mandated, the engines of the SPS system. They perform management and background processes and plan the use of inputs and capacity elements for providing services to partner agencies abroad and the private sector. The processes can be divided in public administration tasks and what is described below as maintaining capacity elements for use in years ahead.

Operating SPS CAs, and the agencies that carry out some of the tasks, is guided by policies, legislation, Government policy, capacities, WTO provisions, and recommendations of the Codex Alimentarius, IPPC, and OIE. A core task of CAs is to periodically evaluate legislation and procedures, and to prepare updates and improvements.

Since CAs and related agencies are Government entities, the annual budget cycles with preparation of budget plans, implementation, monitoring, reporting and accountability, are central. In most less developed countries lump sum input funding of the national SPS system is practice, with weak relations between funding and activities to be conducted. SPS tasks are performed as routine or in response to assignments from higher level policy makers. In most more developed countries, some degree of output funding is followed, which means that budget allocation is partly targeted for particular SPS tasks agreed in advance.

Improvements of capacity elements may require long-term planning and resource mobilization. Operating a CA involves also coordination with CAs of other sectors, various other government agencies involved and communication with private sector and civil society stakeholders.

Specialists from CAs, or their assigned special representatives[101], should preferably regularly participate in SPS meetings of the WTO SPS Committee, ISSB and regional meetings of these and other international bodies, for the purpose of gaining and exchanging relevant information.

Capacity elements can be utilized for more than one year, sometimes many years. Data bases of the status of pests, diseases and food safety are important capacity elements. They are crucial for the quality and capacity of SPS service delivery. This requires data collection about situations abroad and from active and passive surveillance in the country. Maintaining competencies and skills requires ongoing course and hands-on training of staff. Maintaining laboratory skills and technical facilities is crucial. Laboratory equipment needs regular replacement, repair, and annual calibration and sometimes more frequently, and proficiency testing.

[101] Some may be specialists in other agencies or assigned to diplomatic delegations.

Some questions from inspectorates and foreign CAs about pests, diseases, food safety and risks cannot be answered directly and need support from research institutions. CAs may also need backstopping from science for risk management and SPS negotiations. Therefore, CAs need to commission background scientific research, sometimes to institutions abroad. The SPS Agreement and relevant international standards allow CAs to sub-contract some tasks to the private sector and other entities, but in these cases, they need to supervise sub-contractors.

OUTPUTS: SPS SERVICES PROVIDED

Inputs, management and background processes are not useful by themselves. What matters is that national SPS systems provide relevant SPS services to trading partners, importers and exporters. Trade flows and health protection can be enhanced or constrained by the scope, quantity and quality of services provided. Because of weak quality, SPS services and measures of exporting countries are often not considered as equivalent by importing countries.

Below services are specified by public entities – all trading partner countries, exporting countries, importing countries – and private entities: exporters and foreign importers, and importers.

All trading partner countries. CAs are operating under a framework established to implement the WTO SPS Agreement as well as bilateral and other agreements with trading partners. Hence, important services are conducted towards and in response to requests of trading partners. Basic questions between CAs of importing and exporting partners are about the pest, disease and food safety situation in each country for the purposes of market access decisions, certification and assessing risks. Directly related to this is providing information on import requirements (transparency) and procedures. There is also exchange of information about capabilities of partner agencies, i.e. whether CAs can assure that functions are carried out according to standards and agreements. Fact finding visits to a partner CA can be part of exchange of information. More intensive contacts and exchange of information can be necessary for negotiating market access agreements, including risk mitigating measures to be taken by the exporting side. Sometimes, there can be conflicts, disagreements and misunderstandings between CAs and close contacts and negotiations may be necessary for clarification and dispute resolution.

Exporting countries can have the task to implement agreed risk mitigation measures, including supervising whether exporters follow agreed requirements. A task is to make enquiries about import requirements needed for issuing export certifications. When needed, they have to provide certifications of products, establishments and processes. At the request of importing countries CAs have to conduct disinfestations, or if it is done by private providers, they have to supervise them.
Importing countries have to provide information about import requirements and procedures to be followed, including decisions about market access approvals.

CAs provide many **services to traders**. **Exporters and foreign importers** often need public product certifications and sometimes also certifications of establishments and processes, or attestations about safety. In case of agreed risk mitigation measures, the CAs may have to control compliance with the requirements. Exporters and foreign importers may also need official conformity assessment reports, which the CAs have to provide, or to supervise qualifications of service providers and methods used.

CAs (and SPS Enquiry Points[102]) have to provide **importers** with information about import requirements and procedures to be followed (transparency). CAs issue approvals and permits at request when conditions are met. At entry at the border check points (or at designated warehouses) they conduct safety inspections, release imported products that meet the requirements and reject or destruct not permitted products. For some products quarantine measures or disinfestations can be required which can be conducted by the CAs or a supervised service provider.

OUTCOMES OF SERVICES PROVIDED

Trust among importing countries in reliability of services provided by the CAs of the exporting country is necessary for access to their markets and efficient, uninterrupted trade flows. CA services have characteristics of a brand name. Mistakes and sloppiness can undermine the value of a brand

[102] Each WTO Member is required to have an enquiry point to answer questions about import requirements. However, many of such questions are forwarded to CAs or go directly to CAs rather than Enquiry Points (EPs).

and it takes time and reliable service delivery to build brand recognition. A good track record means that abroad exporters face less frequent controls. If an importing country is not convinced of the capacity of the CA and quality of its services, market access negotiations may be difficult and imports will be subject to intensive controls.

Transaction costs and reliability of services are main factors for traders. They are part of the cost of doing business (and investment climate) and do affect the competitiveness of traders. At an aggregate level, the SPS system contributes to a country's competitiveness through the range and quality of services delivered. It also contributes to the range and quality of health controls.

IMPACT OF SPS SYSTEM OPERATIONS

As argued in Chapter 3.1, the impact of the SPS system should preferably be measured in terms of its contribution to national development objectives. The objective of a country's SPS measures, as intended by the SPS Agreement, is to improve the national wellbeing effectively and efficiently by enhancing trade and mitigating health risks and health damage in ways suitable to national conditions and compatible with international requirements. The stylized causal mechanisms are as follows. Trade generally increases the national wellbeing by adding new and sometimes replacing less productive and lower valued economic activities. Exports will improve incomes in the export supply chains and imports will improve welfare of consumers. Export value is a main objective in many countries. However, availability of more safe imports is also important to the welfare of consumers because it provides choice and more competitive prices. It can also be important to industries that need access to imported materials. Reduced health risks for consumers, crops and livestock are a main objective for SPS measures. Protection against health risks means reduced suffering of human beings from unsafe food and reduced damage of pests and diseases in agriculture and nature. Health and trade objectives have to be balanced.

SPS objectives contribute to development objectives and can without major difficulty also be related to SDGs. ANNEX Table 2.2 provides a general assessment of the possible contribution of a national SPS system to SDGs. Of course, actual scores will differ country by country, depending on situations and measures.

ANNEX Table 2.2 Possible contribution from improved SPS system operation to Sustainable Development Goals

Sustainable development goals		**possible contribution from improved SPS system operation (0= no direct contribution; 1=small; 2=moderate; 3=strong)**	
number	**short description**	**rank**	**explanation**
Goal 1	No poverty	2	more trade, more mitigation of health hazards
Goal 2	Zero hunger	2	better control of health risks against people, crops, livestock
Goal 3	Good health and well-being	1	protection against risks of health of consumers
Goal 4	Quality education	0	no direct contribution
Goal 5	Gender equality	0	no direct contribution
Goal 6	Clean water and sanitation	0	no direct contribution
Goal 7	Affordable and clean energy	0	no direct contribution
Goal 8	Decent work and economic growth	2	more income from trade
Goal 9	Industry, innovation and infrastructure	1	conditions for agri-processing will be enhanced through reliable trade and protection against health risks and outbreaks
Goal 10	Reduced inequalities	1	more participation of labour and producers through (inclusive) trade
Goal 11	Sustainable cities and communities	1	improved safety of food in markets
Goal 12	Responsible consumption and production	1	protection of nature against health risks
Goal 13	Climate action	0	no direct contribution
Goal 14	Life below water	1	protection of marine health against pests and diseases

Goal 15	Life on land	1	protection of biodiversity against pests and diseases
Goal 16	Peace, justice and strong institutions	1	cooperation to improve trade, to mitigate health risks and to improve governance
Goal 17	Partnership for the goals	1	good SPS requires good international cooperation and partnership with private sector

Source: Indicative assessment by the author

ANNEX 3 Data collection for preparing an SPS Action Plan

This ANNEX provides guidance on collecting information that is generally needed for making SPS Action Plans. It may be used for preparation of questionnaires. The information to be collected may be further detailed or short-cut where relevant.

TRADE AND HEALTH RESULTS (OUTCOMES AND IMPACT)

SPS data collection should preferably begin with the outcomes and impact of the current system. Detailed data are necessary about trends in products exported, countries of destination, and SPS obstacles to access markets in actual and potential export countries. The same detail is needed of trends in products imported, countries of origin and related health risks. Special attention is needed for informal trade, estimates of which can be obtained from specialists in the private sector and public agencies. Health achievements of the SPS system are its contributions to reduced risks of unsafe food and of pests and diseases related to trade flows. What are the prevalence and burdens of food-borne diseases[103] and plant and animal pests and diseases? What are the risks of entry or spread of particular food-borne diseases and pests and diseases which the country wants to prevent or mitigate? Which pests and diseases form an obstacle to access certain foreign markets? What is the pest, disease and food safety situation in the country itself and in countries that are trading partners?

Existing SPS market access agreements are indications of trust countries of export destination have in the SPS system. Information about transaction costs of SPS measures, preferably in a comparative perspective, can shed light on contribution of the SPS system to competitiveness for exporters and importers. Data about non-compliance of exported goods in foreign countries and of imported goods and responses to violations are indicators of risks and effectiveness of the SPS system.

INPUTS AND SPS CAPACITY ELEMENTS

Needed are good descriptions of capacity elements and available inputs. Lack of information is an important characteristic of the system; it suggests weakness.

Most of the following topics should be collected for each sector separately

- Start with a **general description** of the SPS system, its legal base and organization.
- **Legal and institutional issues** will require information about the SPS institutional framework, including possible gaps in legislation and dysfunctional overlaps among SPS agencies. Legal review will need to go beyond technical issues of sectors.
- Good descriptions are needed about tasks and mandates of the CAs, SPS **coordination**, SPS **governance** (including rent-seeking and corruption) and **participation in international networks**.
- What is the status of information on **food safety, and plant and animal health**? Is it adequate for SPS management and in particular for prioritization of policies, risk-based management and SPS negotiations? Is the country sufficiently reporting to and making use of databases available at international agencies?
- What **risk management tools** (GAP, GHP, GMP, HACCP etc.) and **systems of conformity assessment** are available for the private sector? Are they accessible and what is their utilization? What is the capacity of the private sector to meet domestic and international SPS requirements for safe trade? Are compartmentalization and quarantine used? Which exporters are successful, for which products, which markets and why?
- What is the role of **private sector SPS service providers**? What are their capacities in providing SPS services such as inspection, treatment, testing (laboratories) and certification? How are the providers regulated and is there proper accreditation?
- What (public) **resources** are available for operating the SPS system: numbers and quality of staff, operational costs, and new and replacement investment. Usually, such information has to be collected from different budget sources. Special topics are the capacity and funding of the most expensive items of the SPS system detailed below: public laboratories, inspectorates, and border release services.

[103] The WHO uses disability-adjusted life years (DALYs) to estimate the numbers of years lost because of disease. For plant and animal health no international indicators are available.

- Guidance for questions for description of **testing laboratories** is provided in ANNEX Table 3.1.[104] Data of **diagnostic laboratories** (to detect plant and animal pests and diseases) should cover similar items. In case improvement of laboratories is intended, more detailed information will have to be gathered by a specialist.

ANNEX Table 3.1 Leading questions about testing laboratories (covering recent years)
• Describe availability of public and private laboratories
• What is the capacity and scope of work of each of the private laboratories
For each public SPS laboratory
• Its purpose
• The range of testing services it is capable to provide
• The range of available equipment with capability of each, and precision of tests
• The maintenance and calibration of equipment
• Adequacy of buildings and other physical facilities
• Numbers and qualification of staff for operating specialized equipment
• Services the laboratory actually provides in terms of numbers, kinds and purpose of tests
• Availability of fee lists
• Quality of laboratory management
➢ tests for which it has accreditation and that are recognized by trading partners
➢ participation in performance testing
• Core financial information
➢ description of its business model
➢ information about the new value of the stock of equipment
➢ annual new and replacement investment
➢ the annual operational costs for chemicals, utilities, calibration, proficiency testing, maintenance, accreditation, training, etc.
➢ income from testing from Government agencies and from the private sector
➢ support from donors and international agencies
• What is the autonomy in financial management, especially retention of fee income, flexibility to purchase laboratory supplies and services necessary for daily operation?
General information
• Is there national policy for laboratory development (public and private) and rules for competition of public and private laboratories?
• What use is being made of foreign laboratories – countries, areas of testing/diagnostics, volume and why?

Source: the author

- A good description of the **inspectorates** for recent years in terms of numbers and qualification of staff, technical facilities, programs of active and passive surveillance, compliance with international standards of inspection, and cost of operation of the inspectorates.
- **Border release services** have tasks different from general inspectorates. Description can follow the same points of attention as for the general inspectorates, but work processes and locations are different and need good description. Needed are description of BCPs, relation with Customs and other border agencies, SPS technical facilities, SPS staff, ITC, opening times and numbers of shipments handled at BCP.

[104] Article 5.3.2 of the Agreement on Trade Facilitation asks Governments to make available a list of accredited laboratories where relevant testing can be carried out.

SPS MANAGEMENT AND BACKGROUND PROCESSES

ANNEX Table 3.2 provides guidance for questions about efficacy of management of the SPS system. **The following questions should be collected for each sector separately**

ANNEX Table 3.2 Leading questions about SPS management and background processes
• Does the CA have adequate mandate to manage the system according to international good practice?
➢ Are they restricted in their mandates by higher levels of management?
• How does the annual budget system work: preparation, approval, implementation and reporting?
• How is the system funded: lump sum input or targeted output funding; regular or program budget?
➢ Information is needed about flexibility of funding in case of outbreaks and emergencies.
• How does recruitment of staff work?
• Is there a long-term SPS plan with budget, priority setting and coordination?
• Is there transparency about implementation of legislation and government policies?
• Does the CA regularly review SPS measures and prepare updates of legislation?
• Does the CA make optimal use of inputs and SPS capacity elements to deliver outputs?
• How are SPS system capacity stock elements (i.e. items for use in a number of years) being maintained and augmented or rebalanced to address (future) needs?
➢ databases about pests, diseases and food safety
➢ skills and competencies of staff and technical units, including laboratories
➢ skills for application of risk-based management
• Specify what use is being made of scientific research for improving the capacity of the SPS system
• Does sub-contracting follow international standards and requirements of trading partners?
• How does the CA participate in relevant international SPS networks?
• Describe activities undertaken to provide general information and to raise awareness

Source: the author

OUTPUTS

ANNEX Table 3.3 provides guidance for questions to be raised about the quantity and quality of services provided by the SPS system to trading partners and traders.

The following questions should be collected for each sector separately

ANNEX Table 3.3 Leading questions about services provided
1. services provided to trading partners
• Do services follow good international practice, are they reliable, timely and pro-active?
• Describe SPS diplomacy activities, such as coordination, market access negotiation and dispute resolution
• Can tasks committed under market access agreements be conducted properly?
2. services provided to traders (both public and private entities should be interviewed)
• What are the numbers of product certifications and attestations?
• What are numbers of certified establishments and processes?
• What are numbers of conformity assessments, and import permits issued?
• What are numbers of safety inspections on imports, numbers of shipments rejected, destroyed and released with or without treatment and quarantine?
• What services are provided for treatment and quarantine, and how are they managed?

• Describe transparency with regards to requirements, provision of information, consultation of traders, waiting times for inspections, certifications, issuance of permits, border release, etc.
• What is predictability of services with regard to costs, timeliness, waiting times, requirements?
• What are possible governance issues, such as rent-seeking, tea money, payments for quick service and overtime?
• Is use being made of licensing of traders (or conditional registration)?
• Are release and inspection procedures easily accessible, efficient or complex?
• Is information available on transaction costs for traders for services received? How do transaction costs affect competitiveness, relative to traders in competing countries?

Source: the author

ANNEX 4 Roles of private service providers

The following table provides information about which SPS tasks might be performed by private sector service providers.

ANNEX Table 4.1 Possible roles of private service providers in the SPS system

log frame elements / descriptions	possible roles private service providers
outputs: services provided to TRADING PARTNERS **exporting and importing countries** • enquiring about partner pest, disease and food safety situation • informing about own pest, disease and food safety situation • informing about requirements (transparency) • enquiring partner agencies about their capabilities • informing partner agencies about own capabilities • negotiating market access agreements • dispute resolution **countries to which goods are exported** • implementing risk mitigation measures • enquiring about their import requirements • product certifications • certifications of establishments and processes • conducting / supervising disinfestations **countries from which goods are imported** • informing about import requirements / procedures • market access decisions	communication with trading partners is exclusive task public sector; private service providers might contribute relevant information;
outputs: services provided to PRIVATE SECTOR	
exporters and foreign importers	
• conducting / supervising product certifications	yes, except issuing phytosanitary and animal health certificates
• attestations about safety	yes, if accepted by buyer / importing country
• certifications of establishments and processes	yes, if accepted by buyer / importing country
• control of compliance with risk mitigation measures	yes, if accepted by importing country
importers and foreign exporters	
• conducting / supervising conformity assessments	yes
• informing about import requirements / procedures (transparency)	traders often ask experienced inspection companies
• issuance of approvals, permits	exclusive task public sector
• safety inspections and release of imported products	exclusive task public sector
• rejections and destruction of not permitted products	exclusive task public sector
• information for and consultation with stakeholders	exclusive task public sector
• quarantine measures	yes, if supervised by public sector
• conducting / supervising disinfestations, treatment	yes, if supervised by public sector
SPS management and background processes	
• implementing legislation, government policies, complying with WTO provisions	exclusive task public sector

log frame elements / descriptions	possible roles private service providers
• evaluating legislation and procedures, preparing improvements	exclusive task public sector
• annual budget plans: preparing, implementing, monitoring, reporting, accountability	exclusive task public sector
• making optimal use of capacity elements long-term planning	exclusive task public sector
• coordinating among stakeholders	exclusive task public sector
• participating in SPS meetings international bodies	exclusive task public sector; sometimes observers from the private sector are allowed to join
• providing general information and raising awareness	can largely be subcontracted
maintaining capacity stocks	
• maintaining databases	exclusive task public sector, private service providers might contribute relevant information
• data collection from abroad	exclusive task public sector
• data collection from active and passive surveillance	public sector task, can partly be sub-contracted
• maintaining capacities / competencies	exclusive task public sector
• training of staff, maintaining skills	exclusive task public sector
• maintaining public laboratories and technical facilities	exclusive task public sector
sub-contracting	
• commissioning background scientific research	exclusive task public sector
• sub-contracting and supervising sub-contractors	exclusive task public sector
inputs and SPS capacity elements	
1. legal and institutional framework	responsibility public sector
2. competent authorities	responsibility public sector
3. information on food safety, and plant and animal health	responsibility public sector; private sector service providers can contribute
4. standards for use in SPS measures	responsibility public sector; consultation; parts of private sector might set stricter measures than public sector does
5. capacity to respond to emergencies and outbreaks	responsibility public sector; private sector service providers can provide some support
6. capacity to conduct risk-based controls	responsibility public sector; can be implemented by private sector service providers
7. tools of quality assurance and risk management for the private sector	important role private sector service providers; responsibility public sector for legal framework
8. systems of conformity assessment and certification	responsibilities public sector and roles private sector service providers
9. access to conformity testing and diagnostics facilities	responsibilities public sector; important roles private sector service providers
10. coordination mechanism across SPS stakeholders	responsibility public sector
11. capacity for SPS negotiations with trading partners	responsibility public sector
12. funding of investment, operational costs and staff	public and private sector service providers each responsible for items owned and operated by them
13. SPS governance	responsibility public sector; integrity standards private service providers can contribute

Sources: the author and ANNEX Table 2.1

ANNEX 5. Analyses for planning laboratory development

DEMAND FOR LABORATORY SERVICES IN DEVELOPING COUNTRIES

Realistic estimates of paying demand for services are the basis for planning development of sustainable public laboratories. Common weaknesses are overestimation of private demand for testing services, serious shortages of public funding and far fewer samples than needed to make good use of capacity. Demand for services of public SPS regulatory laboratories in less developed countries depends much on the size of active and passive surveillance programs. In more developed countries private demand is much higher of which a large share is served by private laboratories.

MARKET REQUIREMENTS

Requirements in export markets can be of dominant importance for laboratory development. For example, the EU requires advanced testing capacity and control programs by the CAs as a precondition for market access of animal products, including fish and honey. Regulators in developed market economies require high precision testing for broad ranges of residues. In case of perishable produce this must be done within a very limited time what asks for expensive testing equipment. Requirements by some private buyers in western countries, such as supermarket chains, can even be tighter for some residues. Some international buyers' schemes, such as GLOBAL G.A.P., require that independent laboratories must be used, which excludes regulatory laboratories in countries of origin. Requirements for domestic markets in developing countries are mostly much less detailed and less stringent, which means that for this demand much lower capacity is needed.

TECHNICAL ISSUES

Laboratories have economies of scale and often thresholds for viable testing and diagnostics. Advanced testing equipment is designed for high volumes of tests with almost continuous service. Low volumes of tests are not economic, given the high fixed cost of the equipment, face difficulty to maintain expertise and frequent closing down and starting up of equipment with recalibration. A piece of expensive equipment can in principle be used for different kinds of tests, but that would require regular closing down, making technical adjustments and restarting with calibration. In case of risk of cross-contamination parallel testing equipment in separated parts of the laboratory is required. For each sophisticated piece of equipment at least two experienced specialists must be available to assure continuous availability of reliable services. Maintaining staff skills requires a threshold of relevant samples per year. Buildings must meet requirements to allow operations of sensitive, expensive equipment.

DOMESTIC AND FOREIGN LABORATORIES

Experience from all over the world shows that private traders often use laboratories abroad, also when adequate facilities are available in their own country. Exporters of perishable produce often use testing facilities in the importing countries. This may be enhanced in case they use international inspection companies that also certify quality parameters and volume of shipments. Private enterprises in small developing countries can use services in bigger neighbouring countries. Choice of laboratories by the private sector is driven by convenience and costs. Government agencies sometimes also use testing and diagnostic facilities abroad for specialized testing, reference purposes, or contra-expertise.

QUALITY MANAGEMENT

Trust in the results of laboratory testing and diagnostics depends on quality management. All starts with application of good laboratory practice (GLP). Accreditation of the laboratory for specific testing parameters for ISO/IEC 17025 by recognized independent accreditors is the basis for international recognition. In addition, many public and private trading partners also prescribe testing methods and participation in relevant proficiency testing programs. Quality management requires technical and administrative standards, good management, discipline to follow procedures, and fees for initial accreditation and subsequent renewal. In developing countries quality management in many laboratories does not meet these conditions. SPS agencies in many developing countries are using their own laboratories which are not sufficiently accredited since authorities are not prepared to pay for the cost of accreditation. This is sometimes a well-considered decision given its weighing of costs and benefits.

REGULATORY LABORATORIES AND MARKET SERVICES

Regulatory laboratories often engage in activities that are not their core business, such as training, research and providing market services. Since management, discipline and culture of research laboratories are different from what is required for regulatory laboratories, this may jeopardize reliability of regulatory work. It also occurs that services are offered to private users at prices below actual costs, which means unfair competition by use of taxpayers' money. Good regulation is needed to ensure proper management of public laboratories.

BUSINESS PLAN

SPS regulatory laboratories are generally owned by a central government agency, a ministry, or an SPS agency. They may be stand-alone or part of a laboratory with broader mandate. Laboratories can have a regulatory framework and ownership rules that may complicate smooth operation. They have multiple relations with Government entities as client and through ownership, their statute, regulations for public entities, source of regular revenue and special funding, and often face slow decision making with little room to operate flexibly.

Laboratories are businesses with cost and revenue, investment and depreciation. A laboratory needs flexible procurement rules for its operations, such as solvents, chemicals, assays, and other materials for testing, partly with limited lifetime, which are partly unpredictable and needed at short notice and at multiple times during the year. A laboratory needs also uninterrupted public utilities, calibration, maintenance and repair, proficiency testing, quality management, and replacement. Operational costs are generally between 20-30% of the new value of equipment. Depreciation replacement will also be about 20% of new value.

Investment in laboratory capacity may be meaningless if the conditions for its use are lacking. There are many examples of public investments in laboratory equipment where basic considerations for priority-setting and sustainable use are lacking. Therefore, good practice is that each laboratory should have a business plan that shows crucial elements for sustainable operation. It must show the range of capabilities for testing and diagnostics, streams of samples, costs and sources of income and rules for management and procurement.

LABORATORY DEVELOPMENT PLAN

Laboratories and their staff are among the most expensive capacity elements of the SPS system. Information available to decision makers for investment and annual budgets for laboratories is often insufficient. Actual investments are often driven by "competition" among managers of SPS agencies and laboratories, not rarely with grants from donor agencies. Services available from private laboratories in the country and abroad are not sufficiently taken into consideration. Good practice is to have a national SPS laboratory development plan, preferably as part of an SPS Action Plan, with priorities, sequencing, and considerations of necessary and sufficient conditions for sustainable laboratory development. The plan should make recommendations for management, financing, establishment of fee lists and rules for fair competition when operating in the market.