



Operation of a National Plant Protection Organization

A guide to understanding the principal
requirements for operating an organization to
protect national plant resources from pests



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This paper presents a guide to the operation of a national plant protection organization (NPPO) as a component of the IPPC National Phytosanitary Capacity Building Strategy, which was adopted by the fifth session of the Commission on Phytosanitary Measures (CPM) (2010) of the IPPC. This work has been developed by selected experts and reviewed by the IPPC Capacity Development Committee (including phytosanitary experts from the seven Food and Agriculture Organization regions), the technical consultation among regional plant protection organizations (RPPOs) and the IPPC Secretariat. The elaboration of this manual was possible thanks to the financial contribution of the Standard and Trade Development Facility (Project STDF 350).

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**Food and Agriculture Organization
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IPPC Definitions Used

Area of low pest prevalence

An area, whether all of a country, part of a country, or all or parts of several countries, as identified by the competent authorities, in which a specific pest is present at low levels and which is subject to effective surveillance or control measures [IPPC, 1997; revised CPM, 2015]

Emergency action

A prompt phytosanitary action undertaken in a new or unexpected phytosanitary situation [ICPM, 2001]

Integrity (of a consignment)

Composition of a consignment as described by its phytosanitary certificate or other officially acceptable document, maintained without loss, addition or substitution [CPM, 2007]

National plant protection organization

Official service established by a government to discharge the functions specified by the IPPC [FAO, 1990; formerly "plant protection organization (national)"]

Pest

Any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products. Note: in the IPPC, plant pest is sometimes used for the term pest [FAO, 1990; revised FAO, 1995; IPPC, 1997; revised CPM, 2012]

Pest free area

An area in which a specific pest is absent as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained [FAO, 1995; revised CPM, 2015]

Pest free place of production

Place of production in which a specific pest is absent as demonstrated by scientific evidence and in which, where appropriate, this condition is being

officially maintained for a defined period [ISPM 10, 1999; revised CPM, 2015]

Pest free production site

A production site in which a specific pest is absent, as demonstrated by scientific evidence, and in which, where appropriate, this condition is being officially maintained for a defined period [ISPM 10, 1999; revised CPM, 2015]

Pest risk analysis

The process of evaluating biological or other scientific and economic evidence to determine whether an organism is a pest, whether it should be regulated, and the strength of any phytosanitary measures to be taken against it [FAO, 1995; revised IPPC, 1997; ISPM 2, 2007]

Phytosanitary legislation

Basic laws granting legal authority to a national plant protection organization from which phytosanitary regulations may be drafted [FAO, 1990; revised FAO, 1995]

Phytosanitary measure (agreed interpretation)

Any legislation, regulation or official procedure having the purpose to prevent the introduction or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests [FAO, 1995; revised IPPC, 1997; ICPM, 2002; revised CPM, 2013]

Phytosanitary security (of a consignment)*

Maintenance of the integrity of a consignment and prevention of its infestation and contamination by regulated pests, through the application of appropriate phytosanitary measures [CPM, 2009]

Plant quarantine

All activities designed to prevent the introduction or spread of quarantine pests or to ensure their

official control [FAO, 1990; revised FAO, 1995; revised CPM, 2013]

Point of entry

Airport, seaport, land border or any other location officially designated for the importation of consignments, or the entrance of persons [FAO, 1995; revised CPM, 2015]

Quarantine pest

A pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled [FAO, 1990; revised FAO, 1995; IPPC 1997]

Regulated non-quarantine pest

A non-quarantine pest whose presence in plants for planting affects the intended use of those plants

with an economically unacceptable impact and which is therefore regulated within the territory of the importing contracting party [IPPC, 1997; revised CPM, 2013]

Regulated pest

A quarantine pest or a regulated non-quarantine pest [IPPC, 1997]

Surveillance

An official process which collects and records data on pest presence or absence by survey, monitoring or other procedures [CEPM, 1996; revised CPM, 2015]

Treatment

Official procedure for the killing, inactivation or removal of pests, or for rendering pests infertile or for devitalization [FAO, 1990, revised FAO, 1995; ISPM 15, 2002; ISPM 18, 2003; ICPM, 2005]

Note: These definitions are sourced from the IPPC *Glossary of phytosanitary terms* (ISPM 5). This list includes only the glossary terms that are used in this guide. The Glossary is updated annually based on decisions taken by the IPPC Commission on Phytosanitary Measures. The complete and updated glossary is maintained at: www.ippc.int/publications/glossary-phytosanitary-terms. The definitions are accurate as of August 2015.

* Indicates that the term, at the time of publishing, is on the work programme of the Technical Panel for the Glossary, which means the terms or definitions may be revised or deleted in the future.



Acronyms and Abbreviations

ALPP	Area of low pest prevalence
CPM	Commission on Phytosanitary Measures
FAO	Food and Agriculture Organization of the United Nations
ICT	Information and communication technology
IPPC	International Plant Protection Convention
IRSS	Implementation Review and Support System
ISPM	International Standard for Phytosanitary Measures
NPPO	National plant protection organization
PCE	Phytosanitary Capacity Evaluation (tool)
PFA	Pest free area
PFPP	Pest free place of production
PFPS	Pest free production site
PRA	Pest risk analysis
SOP	Standard operating procedure
SPS	Agreement on the Application of Sanitary and Phytosanitary Measures of the WTO
WTO	World Trade Organization

1. Introduction

Recognition that the movement of pests around the world can have devastating consequences on national plant resources and food security has sparked a global response to prevent the introduction and spread of plant pests, and to promote measures for their control. The International Plant Protection Convention (IPPC) was established in 1951 with this specific purpose. The latest revision (in 1997) provided closer alignment with the Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures of the World Trade Organization (WTO), and provides a framework for international cooperation towards achieving its purpose.

Contracting parties to the IPPC commit to preventing the introduction and spread of plant pests. A central obligation under this cooperative agreement is to establish and maintain a national plant protection organization (NPPO). This obligation was included in the "New Revised Text" (1997) of the IPPC and sets out clear functions for the NPPO. In many cases, fulfilling these functions and obligations requires contracting parties to establish institutions, systems and operations that go beyond the scope of the older and more restrictive concept of *plant quarantine*.

This manual provides information on the operational procedures and actions required of a functional NPPO. It suggests an overall strategic framework and outlines the main areas to consider when operating and managing core programmes. In addition, the manual describes the supporting environment (including the stakeholders) needed by an NPPO to maintain the required level of efficiency, effectiveness and acceptability of

phytosanitary activities. The manual gives broadly applicable information that may be adapted to the specific context of each user. It is highly recommended that contracting parties conduct a needs assessment process (such as using the Phytosanitary Capacity Evaluation tool, see www.ippc.int/en/core-activities/capacity-development/phytosanitary-capacity-evaluation/) to understand the national context in which the NPPO operates, and to prioritize the activities, resources and planning of the organization.

NPPO managers should consider the sustainability of the organization's operations in all of the areas discussed throughout the manual. This includes sourcing sustainable financing, planning for long-term staffing arrangements, having contingency plans in place for changes in political contexts and planning for pest incursions and emergency situations to ensure that the organization can be sustained and will remain relevant over the long term.

Each section of this manual begins with a box highlighting what you can learn from that section. The discussion questions can then be used to assess your level of understanding. Definitions of terms are also provided at the beginning of this manual and throughout the text.

National plant protection organization

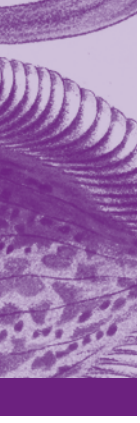
Official service established by a government to discharge the functions specified by the IPPC [FAO, 1990; formerly "plant protection organization (national)"]

Pest

Any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products [FAO, 1990; revised FAO, 1995; IPPC, 1997; revised CPM, 2012]

Plant quarantine

All activities designed to prevent the introduction or spread of quarantine pests or to ensure their official control [FAO, 1990; revised FAO, 1995; revised CPM, 2013]



2. National Plant Protection Organization

Learning objectives

- Understand the definition, functions and obligations of an NPPO and contracting party under the IPPC
-

2.1 Definition and concept

The IPPC defines a national plant protection organization as the “official service established by a government to discharge the functions specified by the IPPC [FAO, 1990; formerly plant protection organization (national)]”.

In practice, this means that the NPPO shall be the competent and legally responsible entity for implementing the functions outlined in the IPPC. These encompass the actions needed to prevent the introduction and spread of plant pests. The establishment of a functional NPPO is a national obligation for all contracting parties to the IPPC.

2.2 Functions and obligations

The IPPC outlines the functions of the NPPO as well as those of the contracting party (the country that has signed and ratified or otherwise adhered to the IPPC). In practice, the NPPO frequently carries out the contracting party’s responsibilities. Both sets of roles are listed in Table 1.

In addition to the roles stated in the Convention text, the contracting parties are encouraged to set their phytosanitary measures in line with the international standards for phytosanitary measures (ISPMs). This is to promote harmonization and is a central element of both the IPPC and the Agreement on the Application of SPS Measures of the WTO. Where relevant, references are made throughout the text to relevant standards. However, new

Phytosanitary measure (agreed interpretation)

Any legislation, regulation or official procedure having the purpose to prevent the introduction or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests [FAO, 1995; revised IPPC, 1997; ICPM, 2002; revised CPM, 2013]

standards are adopted and updated annually and contracting parties/NPPOs are encouraged to keep up to date (see <https://www.ippc.int/en/core-activities/standards-setting/ispm/>). Active, thoughtful participation by contracting parties in the IPPC standard-setting process and the IPPC governance processes, such as the Commission on Phytosanitary Measures (CPM), is also encouraged, and is usually carried out by NPPOs.

Discussion Questions:

- ◇ List the responsibilities of an NPPO under the IPPC.
- ◇ What are the obligations for contracting parties?

Table 1. Responsibilities of the NPPO and contracting party obligations in support of the NPPO

Contracting party obligations in support of the NPPO	IPPC texts
Make provisions, to the best of its ability, for a national plant protection organization...	Article IV.1
Each contracting party shall make provision, to the best of its ability, for the following: <ul style="list-style-type: none"> • The distribution of information within the territory of the contracting party regarding regulated pests and the means of their prevention and control • Research and investigation in the field of plant protection • The issuance of phytosanitary regulations and the performance of such other functions as may be required for the implementation of this Convention 	Article IV.3(a) Article IV.3(b) Article IV.3(c), (d)
Each contracting party shall: <ul style="list-style-type: none"> • Submit a description of its official national plant protection organization and of changes in such organization to the Secretary • Provide a description of its organizational arrangements for plant protection to another contracting party, upon request • Designate a contact point for the exchange of information connected with the implementation of this Convention. 	Article IV.4 Article IV.4 Article VIII.2
Responsibilities of the NPPO (as in IPPC Text Article IV 2 (a–h))	IPPC texts
Issuance of phytosanitary certificates	Annex 1 of the IPPC (1997) ISPM 7 (2012) and ISPM 12 (2015)
Surveillance of growing plants, including both areas under cultivation (inter alia fields, plantations, nurseries, gardens, greenhouses and laboratories) and wild flora, and of plants and plant products in storage or in transportation, particularly with the object of reporting the occurrence, outbreak and spread of pests, and of controlling those pests, including the reporting referred to under Article VIII paragraph 1(a)	ISPM 6 (2011)
Inspection of consignments of plants and other regulated articles moving in international traffic and, where appropriate, the inspection of other regulated articles, particularly with the object of preventing the introduction and/or spread of pests	ISPM 23 (2011)
Disinfestation/disinfection of consignments of plants and other regulated articles moving in international traffic, to meet phytosanitary requirements	ISPM 18 (2011), ISPM 28 (2011)
Protection of endangered areas and the designation, maintenance and surveillance of pest free areas and areas of low pest prevalence (ALPPs)	ISPM 4 (2011), ISPM 10 (2011), ISPM 26 (2015), ISPM 29 (2011), ISPM 30 (2011)
Conduct of pest risk analyses	ISPM 2 (2011), ISPM 11 (2013), ISPM 21 (2011)
Ensure, through appropriate procedures, that the phytosanitary security of consignments after certification regarding composition, substitution and re-infestation is maintained prior to export	ISPM 25 (2011)
Staff training and development	ISPM 7 (2012)



3. Strategic Framework for Effective Operation of an NPPO

Learning objectives

- Understand the need for and main components of a strategic plan
 - Learn about the different kinds of capacity required for NPPO functions
 - Understand the basics of resource mobilization
-

Fully functioning NPPOs safeguard agriculture, natural resources and the environment from the negative impacts of pests. They thereby contribute to enhanced food security and improved trade opportunities. They work closely with other relevant stakeholders (including government and the private sector) to maintain an effective national system to prevent the introduction and spread of pests. Achieving these goals requires a strategic plan and the necessary capacity (technical, legal and management), as well as the ability to mobilize resources.

3.1 Strategic plan

A strategic plan sets out where an organization is going, how it is going to get there and how it will know if it has got there or not. The planning process provides an opportunity for partners and staff to establish a common language and engage in the NPPO's work to achieve its goals. The plan will include a clear vision, mission statement, strategic objectives and organizational culture, as well as detailed action plans.

Vision

The vision of the NPPO should be in line with that of the IPPC Strategic Framework, which states it is "protecting global plant resources from pests". In this context, the vision of the NPPO may be "to protect national plant resources from pests".

Mission statement

A mission statement provides a purpose and direction and should conform to the IPPC Strategic

Framework. According to the IPPC's mission statement, the national-level mission may be "to control plant pests and protect national plant resources from the spread and introduction of pests of plants, in order to preserve national food security, biodiversity and to facilitate trade".

Strategic objectives

The strategic objectives of the NPPO should be defined for a set time (e.g. 5–10 years) and should be guided by the desire to fulfil its mandate, as defined by the IPPC. Within the context of national development, the broad objectives may be as follows:

- ◆ to protect national plant resources through implementing appropriate phytosanitary measures in imports
- ◆ to facilitate market access and safe international trade in plants and plant products through a robust export certification system
- ◆ to reduce risks to national food security and the environment by protecting plant resources.

Each strategic objective should be supported by defined and achievable activities and results. Achieving the strategic objectives depends largely on the resources available and the support of stakeholders. The list below provides an example illustrating how to structure objectives and activities (in this case regarding training).

The following list provides an example of supporting activities to strengthen the phytosanitary capacity of an NPPO.

Pest risk analysis

The process of evaluating biological or other scientific and economic evidence to determine whether an organism is a pest, whether it should be regulated, and the strength of any phytosanitary measures to be taken against it [FAO, 1995; revised IPPC, 1997; ISPM 2, 2007]

Phytosanitary capacity strengthening:

1. Identify/develop training programmes for staff at all levels of competencies.
2. Prepare training manuals, standard operating procedures (SOPs) and written instructions for specific activities.
3. In-country training of inspectors in all regions.
4. In-country training workshops for senior technical staff and subject specialists from agricultural universities and research institutions in pest risk analysis (PRA) and ISPMs.
5. Overseas tours for senior management staff of the NPPO to become familiar with other plant health regulatory systems.
6. Overseas/in-country specialist training for technical personnel as required to enhance and maintain technical skills.

Organizational culture

A good culture within an organization determines the health of the working environment and it is important that employees acknowledge it. Organizational culture helps to define attitudes and actions regarding tasks, roles, people, power and change. It provides a framework through which the NPPO can acknowledge and resolve internal problems, and analyse and meet external challenges. An organization's competitiveness depends in part on its ability to create an environment that motivates and stimulates its personnel. NPPO management should cultivate a feeling of belonging and pride in the organization. Healthy attitudes to accountability, respect towards the organization and each other, job satisfaction, and staff wellbeing are all components of a good NPPO culture.

Discussion Questions:

- ◇ Consider the vision and mission of your NPPO. Could these be improved?
- ◇ Why is it important to build a good organizational culture?
- ◇ How is this achieved in your own NPPO and are there any areas that could be improved?

3.2 Phytosanitary capacity

National phytosanitary capacity is defined as: "The ability of individuals, organizations and systems of a country to perform functions effectively and sustainably in order to protect plants and plant products from pests and to facilitate trade, in accordance with the IPPC" (IPPC, 2012).

There are three different but closely related levels of phytosanitary capacity: (a) the system or context in which organizations, groups and individuals operate; (b) organizations and groups within the system; and (c) individuals within organizations and groups. Within these, there are various dimensions of phytosanitary capacity.

At the **system level**, dimensions of capacity include the policies, laws, regulations and standards that provide the framework for plant protection, as well as the mechanisms for management, communication and coordination among the different organizations involved.

At the **organizational level**, it includes the mission, structure, operational procedures and culture of organizations involved in plant protection, as well as their human, financial and information resources and infrastructure, among others.

At the **individual level**, it includes knowledge, skills, competencies, experience and ethics.

By referring to the individuals, organizations and systems of a country, it is recognized that national phytosanitary capacity combines the knowledge and functions of many entities in a country, not just NPPOs.

The necessary knowledge is related to the following functions:

- ◆ inspection
- ◆ diagnosis
- ◆ PRA
- ◆ import regulation
- ◆ export certification
- ◆ record keeping
- ◆ information management
- ◆ communication.

In addition, the NPPO needs a good management system that ensures the required number of staff together with the necessary competency and expertise, paying attention to appropriate training and competitive salaries. The management system should also be in charge of operational programmes and maintaining quality control.

Discussion Question:

- ◇ List the different levels of phytosanitary capacity.

3.3 Legal capacity

Effective operation of the NPPO requires the following:

- ◆ sound primary and secondary phytosanitary legislation based on the IPPC provisions
- ◆ clear written procedures and administrative support for enforcement of legal provisions
- ◆ all staff:
 - are familiar with phytosanitary legislation
 - are aware of their roles and responsibilities, as outlined in legislation
 - have a copy of phytosanitary regulations in their information kits
- ◆ a programme for the development of manuals and SOPs based on phytosanitary regulations is established
- ◆ border agencies are familiar with national phytosanitary legislation and cooperate with the NPPO in protecting national plant resources and food security

- ◆ all stakeholder groups (including importers, exporters, producers, civil society, service providers, government ministries and departments) are informed to ensure their compliance and support.

Phytosanitary legislation

Basic laws granting legal authority to a national plant protection organization from which phytosanitary regulations may be drafted [FAO, 1990; revised FAO, 1995]

Discussion Questions:

- ◇ What are the legal capacity requirements of an NPPO?
- ◇ Can you “tick all of the above” for your organization?

3.4 Management capacity

Management capacity is needed across all functions and programmes. Starting at the top, the director should have the necessary managerial skills required for managing the NPPO. All programmes (e.g. pest surveillance, import regulation, export certification, regionalization, treatment and diagnostics) need to be managed properly by qualified personnel. Regional managers or regional programme coordinators should also be prepared according to their responsibilities.

Administrative staff need to possess knowledge in such areas as finance, human resources, and information and communication, especially when the NPPO is semi-autonomous and responsible for these functions.

Treatment

Official procedure for the killing, inactivation or removal of pests, or for rendering pests infertile or for devitalization [FAO, 1990, revised FAO, 1995; ISPM 15, 2002; ISPM 18, 2003; ICPM, 2005]



Credit: FAO/Vladimir Rodas

Surveillance

An official process which collects and records data on pest presence or absence by survey, monitoring or other procedures [CEPM, 1996; revised CPM, 2015]

3.5 Resource mobilization

The NPPO should always strive to meet its responsibilities to the best of its ability. It will therefore need to identify the priority programmes and activities, and ensure that adequate and sustainable resources are available. In many cases, government budgetary provisions to NPPOs are insufficient and can change from year to year with changing government priorities. NPPOs should ensure that the national legal frameworks make adequate provision for charging fees for services where applicable. They should also negotiate

an arrangement where part or all of these fees are retained for the operation and constant improvement of the NPPO.

Note that the NPPO might not possess all the required competencies and facilities, but it certainly needs to have access to them. Collaborating institutions and service providers should be identified for all phytosanitary programmes, including surveillance, diagnosis, treatment and import–export procedures. External services can be engaged through authorization systems where services are provided, but the ultimate responsibility remains with the NPPO.

Discussion Question:

- ◇ In which areas does your NPPO need to authorize external services?

4. Operation of Phytosanitary Programmes

Learning objectives

- Understand the obligations of the NPPO regarding the core activities of pest surveillance, import verification and export certification, among others
- Identify relevant aspects that could be improved in your own NPPO

In principle, the NPPO should implement all the responsibilities, obligations and rights set out in the IPPC, although in reality this may prove difficult and the NPPO may need to prioritize. This section describes the core activities of an NPPO, which include pest surveillance, import verification and export certification and regionalization, among others (Figure 1).

4.1 Surveillance

Surveillance is “an official process which collects and records data on pest presence or absence by survey, monitoring or other procedures [CEPM, 1996; revised CPM, 2015]”. It supports phytosanitary programmes and provides information for phytosanitary decision-making (ISPM 6, 2011). The IPPC requires the NPPO to be responsible for the surveillance of plants, particularly with the purpose of reporting the occurrence, outbreak and spread of pests (IPPC, 1997: Article IV 2(b)).

Regulated pest

Quarantine pest or a regulated non-quarantine pest [IPPC, 1997]

Pest free area

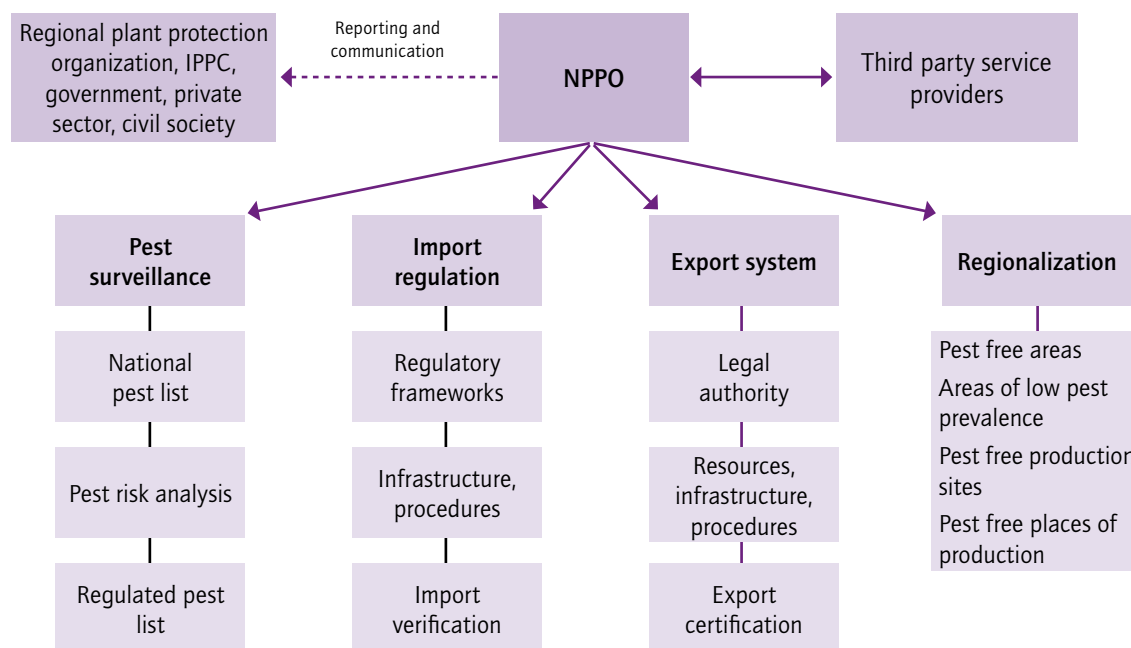
An area in which a specific pest is absent as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained [FAO, 1995; revised CPM, 2015]

Surveillance data underpins several NPPO functions, including:

- ◆ establishment of a regulated pest list
- ◆ PRA for the establishment for phytosanitary import requirements of the country
- ◆ establishment of lists of pests present in the country (as often required by potential importing countries for their PRA)
- ◆ establishment of pest free areas (PFAs), ALPPs, pest free places of production (PFPPs) and pest free production sites (PFPSs)
- ◆ determination of pest status in an area
- ◆ confirmation of pest eradication
- ◆ reporting the presence, outbreak or spread of pests, and the results of controlling those pests.

Contracting parties are required to justify their phytosanitary measures on the basis of PRA and ISPMs. PRA cannot be undertaken without surveillance data.

A pest surveillance programme needs to be well-planned, adequately resourced and sustainable. It also requires policy support and inclusion in the regular budget. It is useful to appoint a national pest surveillance manager who has responsibility for defining the scope of the programme, identifying relevant staff and stakeholders and establishing mechanisms for engaging external assistance (e.g. from universities and research institutions), as required. A team of subject specialists and other phytosanitary experts will work under the national manager to ensure all procedures are followed and to develop manuals and guidelines covering all activities for a specific

Figure 1: Operation of NPPO phytosanitary programmes

commodity or pest. The subject specialists will also identify the activities and resources needed for training, surveillance procedures, transport and diagnostic support, among others.

A surveillance programme therefore requires the following:

- ◆ an agreed plan
- ◆ sustainable and appropriate funds
- ◆ a technical manager/coordinator
- ◆ subject specialists and technical support staff
- ◆ information technology resources for pest database development
- ◆ surveillance equipment (e.g. global positioning system)
- ◆ communication equipment
- ◆ access to laboratories for pest identification and confirmation
- ◆ operations manuals describing procedures of general surveillance and surveys of specific commodities and pests
- ◆ stakeholder participation (where necessary)
- ◆ public awareness and education programmes.

For specific surveys, it is important to determine the target pest and/or commodity and duration of the activities. Staff will need to be trained in the operations required and will need adequate supervision and coordination to ensure

the integrity of results. It is also important to define specific roles and lines of reporting.

For sample collection, it is important to have defined methods for collection and sample preparation, as well as identification and confirmation procedures. Specimens should also be stored and pest records established, as defined by the IPPC.

ISPM 6 (2011) describes the components of survey and monitoring systems for the purpose of pest detection and the supply of information for use in many phytosanitary activities.

Pest free place of production

Place of production in which a specific pest is absent as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained for a defined period [ISPM 10, 1999; revised CPM, 2015]

Pest free production site

A production site in which a specific pest is absent, as demonstrated by scientific evidence, and in which, where appropriate, this condition is being officially maintained for a defined period [ISPM 10, 1999; revised CPM, 2015]

Discussion Question:

- ◇ List the main requirements of a pest surveillance programme.
- ◇ Identify the key people involved in your surveillance programme.

4.2 Import regulations

The IPPC establishes the rights and obligations of contracting parties in relation to import regulations and the responsibilities of the NPPO of the importing country (IPPC, 1997: Article VII and Article IV(c), (d) and (f)).

The objective of a phytosanitary import regulatory system is to prevent the introduction of quarantine pests or limit the entry of regulated non-quarantine pests with imported commodities and other regulated articles. An import regulatory system has two components: (a) the regulatory framework of phytosanitary legislation, regulations and procedures; and (b) an official service (the NPPO), which is responsible for operation or oversight of the system.

ISPM 20 (2011) describes the structure and operation of a phytosanitary import regulatory system and the rights, obligations and responsibilities that should be considered when establishing, operating and revising the system.

Phytosanitary regulatory frameworks

The regulatory frameworks should include the legislation and regulations to be implemented. They should be checked to ensure the NPPO has the following authority.

Sovereign right to regulate: IPPC contracting parties have sovereign authority, in accordance with applicable international agreements, to prescribe and adopt phytosanitary measures to protect plant health within their territories and to determine their appropriate level of protection for plant health.

Assigned responsibility for import regulation: IPPC contracting parties shall technically justify

phytosanitary measures "on the basis of conclusions reached by using an appropriate pest risk analysis or, where applicable, another comparable examination and evaluation of available scientific information" (IPPC, 1997).

Powers of enforcement: including inspection powers, penalties and non-compliance provisions.

Organizational arrangements and infrastructure for import regulation

The NPPO should have technical and administrative resources to perform import control functions. Some of the arrangements could include the nomination of a manager for import regulation and technical staff with appropriate training for enforcing phytosanitary import requirements and laboratories with suitable facilities for supporting border functions (these may be within or outside the NPPO). Organizational arrangements also include technical staff qualified for setting phytosanitary import requirements, preferably by an independent technical unit at the central level. The NPPO is also responsible for ensuring border posts are adequately equipped and treatment facilities are available where necessary. Relevant stakeholder involvement may be necessary for effective phytosanitary import verification.

Procedures and requirements

In establishing phytosanitary import requirements, the NPPO may:

- ◆ establish a PRA unit dedicated to conducting PRAs and establishing phytosanitary import requirements for plants, plant products and other regulated articles
- ◆ provide training for staff to undertake PRA
- ◆ ensure appropriate links between surveillance programmes, the PRA unit and the import regulatory programme through shared databases and effective lines of communication
- ◆ provide a means of communication between the NPPO and stakeholders as well as with other NPPOs to access information from trading partners
- ◆ make provision for incident review and import regulation system review.

In addition to establishing phytosanitary import requirements, the NPPO shall:

- ◆ promote transparency by making phytosanitary import requirements known to trading partners
- ◆ establish collaboration with other border agencies and stakeholders for joint action in a common purpose of pest prevention
- ◆ establish an effective communication system among all staff involved, with clear lines of communication among decentralized offices, laboratories, border posts and headquarters to ensure effective coordination of operations
- ◆ have office space and equipment to permit inspection of imported commodities
- ◆ have facilities for holding, disinfection or disinfestation at the borders or regional locations where high-risk material is handled
- ◆ provide adequate transport for inspectors and other regulatory personnel
- ◆ provide post-entry quarantine facilities for high-risk material.

Border arrangements and collaboration with other border authorities

Effective border operations are the key to successfully preventing pest introduction. In this regard, prevention procedures may be most effective when there is collaboration with other border authorities (e.g. customs, port authorities and immigration services). Immigration cards and customs declaration forms may include declaration of regulated articles.

Customs and immigration authorities are well-placed to advise the NPPO on the arrival of regulated articles and assist in enforcement of phytosanitary regulations. Specific agreements may be established with postal services.

The NPPO should have:

- ◆ access to information on arrivals to support its decision-making at the borders
- ◆ operational procedures to ensure consistent application of phytosanitary measures and procedures
- ◆ office space and equipment to permit inspection of imported commodities in other border authority areas.

Regulated non-quarantine pest

A non-quarantine pest whose presence in plants for planting affects the intended use of those plants with an economically unacceptable impact and which is therefore regulated within the territory of the importing contracting party [IPPC, 1997; revised CPM, 2013]

Quarantine pest

A pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled [FAO, 1990; revised FAO, 1995; IPPC 1997]

Inspection and enforcement

Phytosanitary inspections should be carried out by, or under the authority of, the NPPO. Inspections may be done at the point of entry, at points of trans-shipment, at the point of destination or at other places where imported consignments can be identified (e.g. major markets), provided their phytosanitary integrity is maintained and appropriate phytosanitary procedures can be carried out. When import inspection is occurring in places other than the point of entry, it should be established that the consignment may be returned to the country of export in the case of non-compliance. Phytosanitary inspections may be applied to all consignments as a condition of entry or as part of an import inspection programme, where the level of inspection (i.e. the number of consignments inspected) is established on the basis of the level of risk determined by a PRA.

Written instructions should be prepared to guide inspectors in the three basic elements of consignment compliance checking: (a) document checks (e.g. phytosanitary certificates and import permits); (b) consignment identity and integrity checks; and (c) physical phytosanitary inspections, sampling and/or testing, among others.

Compliance checks should be carried out promptly (IPPC, 1997: Article VII.2(e)). Where appropriate, checks should be done in cooperation with other agencies involved in the regulation of imports (e.g. customs) to minimize interference

Point of entry

Airport, seaport, land border or any other location officially designated for the importation of consignments, or the entrance of persons [FAO, 1995; revised CPM, 2015]

with the flow of trade and the impact on perishable products.

Provisions for enforcement must support the regulation of imports. Arrangements should include legal mandates for inspectors to allow them to:

- ◆ inspect or test plants, plant products and other regulated articles
- ◆ enter premises, conveyances and other regulated articles where regulated pests may be present
- ◆ take and remove samples from regulated articles, (including samples for analysis)
- ◆ detain regulated articles
- ◆ treat or require treatment of regulated articles, including premises and conveyances in which a regulated pest is found to be present
- ◆ refuse entry of consignments and order their reshipment or destruction
- ◆ take emergency action
- ◆ set and collect fees for import-related activities or those associated with penalties.

Action in cases of non-compliance and emergency action

Notifications are provided by the importing country to the exporting country to identify significant failures of consignments to comply with specified phytosanitary import requirements or to report emergency action that is taken on the detection of a pest posing a potential threat. In the case of non-compliance, the notification is intended to help in investigating the cause of the non-compliance, and to facilitate steps to avoid recurrence (ISPM 13, 2011).

Notifications and information used for notification are valuable for official purposes but may also be easily misunderstood or misused if taken out of context or used imprudently. To minimize the potential for misunderstandings or abuse, countries should be careful to ensure that notifications and information about notifications are distributed in the first instance only to the exporting country (ISPM 13, 2011).

Emergency actions are taken on the detection in an imported consignment of: (a) regulated pests not listed as being associated with the commodity from the exporting country; and (b) organisms posing a potential phytosanitary threat.



Credit: APHIS/Ken Hammond

Emergency action

A prompt phytosanitary action undertaken in a new or unexpected phytosanitary situation [ICPM, 2001]

Integrity (of a consignment)

Composition of a consignment as described by its phytosanitary certificate or other officially acceptable document, maintained without loss, addition or substitution [CPM, 2007]

Discussion Question:

- ◇ What are the main responsibilities of an NPPO regarding import regulations?

- ◆ administrative and operational responsibilities
- ◆ resources and infrastructure
- ◆ documentation and record-keeping
- ◆ communication
- ◆ review.

Legal authority

The NPPO shall have the sole authority by legislative or administrative means to conduct, develop and maintain a phytosanitary certification system relating to exports and re-exports, and the legal responsibility for its actions (IPPC, 1997: Article IV 2(a)).

The NPPO may have the authority to prevent the export of consignments that do not meet phytosanitary import requirements.

In operating an export regulatory system, the NPPO should ensure that the phytosanitary legal frameworks clearly provide this authority and there is no other authority responsible for export certification. It should also understand its responsibilities as indicated in Article IV.2(a) of the IPPC and make the necessary arrangements for discharging these responsibilities.

Administrative and operational responsibilities

Export certification is conducted in relation to the export of local produce or the re-export of imported commodities. In this regard, the NPPO should be strategic in planning its operations. It is important that the NPPO identifies its users and, where necessary, registers them in an appropriate database for ease of contact and information sharing. It also needs to establish a close working relationship with these users, who include producers, exporters and re-exporters.

The NPPO may also establish a management system to ensure all legislative and administrative requirements relating to phytosanitary certification are satisfied. This includes making a person or office within the NPPO responsible for the phytosanitary certification system and defining the duties and communication channels of all personnel involved in phytosanitary certification. This needs adequate personnel with appropriate qualifications and skills as well as ongoing training.

Furthermore, it is important to identify, approve and establish appropriate and legally

4.3 Export certification

The IPPC states: "Each contracting party shall make arrangements for phytosanitary certification, with the objective of ensuring that exported plants, plant products and other regulated articles and consignments thereof are in conformity with the certifying statement ... in the models set out in the Annex of this Convention" (IPPC, 1997: Article V.1 2(b)).

The phytosanitary certificate is the documentary attestation that the phytosanitary certification process has been undertaken, as described in the IPPC (1997). The model phytosanitary certificates (as described in the Annex to the IPPC, 1997) should be used. Specific guidance is provided in ISPM 12 (2015), while ISPM 7 (2012) outlines the requirements of an export certification system.

The NPPO shall develop and maintain a phytosanitary certification system for checking compliance of plants, plant products and other regulated articles with the phytosanitary import requirements of importing contracting parties.

The system for issuing phytosanitary certificates includes several components:

- ◆ legal authority
- ◆ information on phytosanitary import requirements

binding relationships with third-party service providers (treatment providers and laboratories for pest diagnosis, among others) who may be needed to support the certification process.

The NPPO is legally responsible for all activities regarding the export certification process. The operational arrangements are varied but should be ensured for reliable certification. When issuing a certificate, it should be as per the model of the IPPC certificates (ISPM 12, 2015) for export and re-export, and according to the conditions set in Article V.2(a) of the IPPC (1997).

The NPPO staff should be technically qualified and duly authorized to have the capability to undertake functions related to the certification process (as detailed in ISPM 7, 2012).

The NPPO should ensure customs and other handlers are aware of their roles in maintaining the phytosanitary integrity and security of consignments in the exporting country after the phytosanitary certification is performed.

Resources and infrastructure

Resources and infrastructure for the phytosanitary certification include:

- ◆ staff
- ◆ information on phytosanitary import requirements
- ◆ technical information on regulated pests
- ◆ equipment and facilities.

The NPPO of the exporting country should have, or have access to, personnel with the technical qualifications and skills appropriate for the duties and responsibilities of conducting phytosanitary certification activities. Personnel involved in the phytosanitary certification should have no conflict of interest in the outcome of the phytosanitary certification. Personnel involved in phytosanitary certification should be provided with adequate

technical information concerning regulated pests for the importing countries.

Except for the issuance of phytosanitary certificates, non-governmental personnel may be authorized by the NPPO to perform specified certification functions. To be authorized, such personnel should be qualified and skilled, under the responsibility of the NPPO.

The NPPO of the exporting country should:

- ◆ manage the overall certification process
- ◆ base the phytosanitary certification on official information from the importing country
- ◆ check phytosanitary import requirements stated on documentation brought to them by exporters to verify that they are valid and current
- ◆ have documented procedures in place relating to phytosanitary certification
- ◆ ensure adequate equipment and facilities are available to carry out sampling, inspection, testing, treatment and other phytosanitary procedures.

Documentation and record-keeping

The NPPO should have a system for documenting the relevant procedures applied and for maintaining records (including documentation storage and retrieval). The system should allow for the trace-back of phytosanitary certificates issued and the related records (ISPM 7, 2012).

It is important for the NPPO to maintain guidance documents and work instructions, as appropriate, covering all the procedures of the phytosanitary certification system. This includes:

- ◆ specific activities relating to phytosanitary certificates (as described in ISPM 12, 2015), including inspection, sampling, testing, treatment and verification of the identity and integrity of consignments
- ◆ maintaining security over official seals and marks
- ◆ ensuring trace-back of consignments, including their identification and phytosanitary security (as appropriate)
- ◆ investigating notifications of non-compliance from the NPPO of an importing country, including, upon request by the NPPO of the importing country, a report of the outcome of such an investigation (in line with ISPM 13, 2011)

Phytosanitary security (of a consignment)*

Maintenance of the integrity of a consignment and prevention of its infestation and contamination by regulated pests, through the application of appropriate phytosanitary measures [CPM, 2009]



Credit: FAO/Swiatoslaw Wojtkowiak

- ◆ investigating invalid or fraudulent phytosanitary certificates, when the existence of these has been brought to the attention of the NPPO by means other than a notification of non-compliance.

Records should be kept concerning all procedures relating to phytosanitary certification. The use of a secure electronic storage and retrieval system is recommended for standardized documentation of records. Copies of phytosanitary certificates should be kept by the NPPO for the purposes of validation and trace-back for an appropriate period of time (at least one year) (ISPM 7, 2012).

For each consignment for which phytosanitary certificates are issued, records should be kept, including the following:

- ◆ inspection, testing, treatment or other verification that was carried out
- ◆ samples taken
- ◆ names of the personnel who undertook these tasks
- ◆ the date on which the activity was undertaken
- ◆ the results obtained.

The NPPO should also have documented procedures in place for interactions with users.

Communication

The NPPO should have procedures for regular communication with relevant government departments and agencies, authorized personnel, the private sector including producers, brokers and exporters, handlers and other stakeholders, and the general public concerning pest status, phytosanitary import requirements of importing countries and operational procedures.

It is useful to maintain communication with the IPPC contact point of the importing country to clarify and confirm phytosanitary import requirements if necessary. If, after phytosanitary certification, the NPPO of the exporting country becomes aware that an exported consignment may not have complied with phytosanitary import requirements, the IPPC contact point or designated alternative point of contact in the importing country should be informed as soon as possible (ISPM 7, 2012).

Review

The NPPO should periodically review the effectiveness of all aspects of the export certification system and implement changes to the system if required.

Discussion Question:

- ◇ What are the key components of a phytosanitary certification system?
- ◇ Who in your NPPO is responsible for each of these areas?

4.4 Regionalization

Regionalization concepts include ALPPs, PFAs, PFPPs and PFPSs. The pest status of regulated pests in an area could be changed through the combined result of a number of measures and creates opportunities for a country to negotiate market access.

These measures are usually trade-driven, directed to a specific commodity and target a specific pest or pests of the plants or plant products intended for export. The measures applied by an NPPO to establish a PFA, or to prevent the introduction of a known pest into an area designated for the propagation of plants, are often conducted through a bilateral arrangement with a trading partner and are documented for later auditing and verification. These measures are implemented as structured programmes under the responsibility of the NPPO of the exporting countries.

Pest free areas and areas of low pest prevalence

When establishing PFAs and ALPPs, the NPPO should take several issues into account.

Financial feasibility: Undertake a cost-benefit analysis to assess the cost of the systems and activities needed to establish and maintain PFAs and ALPPs and manage identity and phytosanitary security of the consignment. These costs may then

Area of low pest prevalence

An area, whether all of a country, part of a country, or all or parts of several countries, as identified by the competent authorities, in which a specific pest is present at low levels and which is subject to effective surveillance or control measures [IPPC, 1997; revised CPM, 2015]

be weighed against the potential income from anticipated exports over time, the market access opportunities for expansion of exports and the benefits to environment and food security.

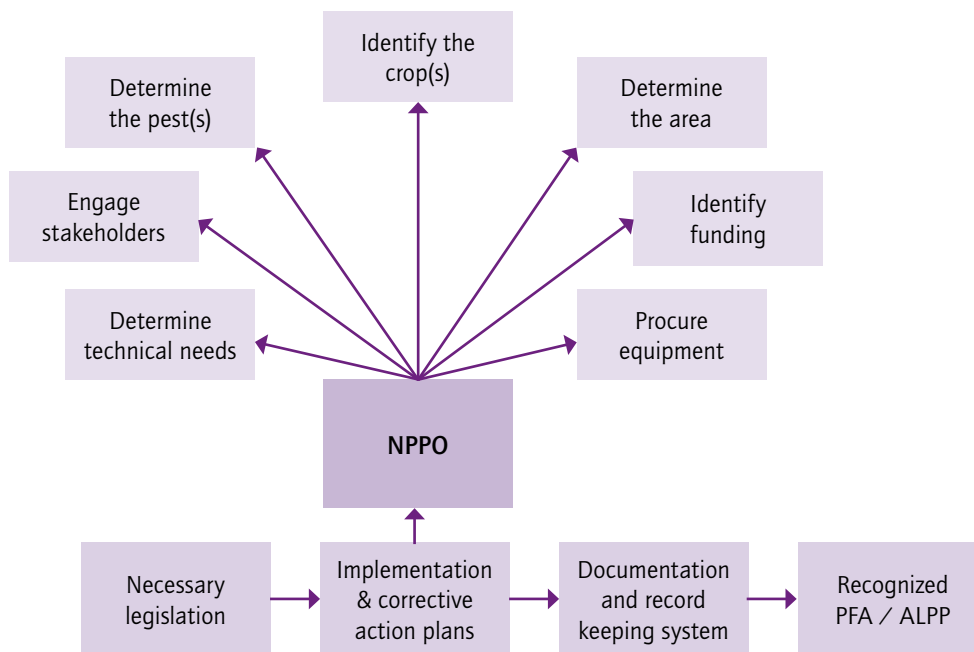
Technical feasibility: To define technical feasibility, studies should be performed on:

- ◆ the pest to be regulated (biological considerations)
- ◆ the types of crop, cropping patterns, host plants and the spread of pest in the targeted area
- ◆ possible physical and other barriers that may play a part in establishing pest free or low prevalence status
- ◆ the measures required to establish and maintain pest free or low prevalence status (their efficacy and practicality of their application)
- ◆ the availability of inputs and reliability of supply
- ◆ the legal and administrative requirements that should be instituted.

Environmental impact assessment: This should determine the potential environmental effects (physical environment, natural enemies and other species, removal of host species and their impact, etc.) of establishment and maintenance of a PFA or an ALPP.

Establishment of PFAs and ALPP: The steps undertaken by the NPPO to establish a PFA or ALPP are outlined in Figure 2 and include:

- ◆ identify the crops to be protected
- ◆ determine the pest(s) to be regulated
- ◆ determine the area to be regulated
- ◆ identify the stakeholders likely to be affected by regulation of the pest(s)
- ◆ determine funding mechanisms with considerations for sustainability
- ◆ determine the technical requirements for establishment and maintenance of the programme
- ◆ procure the necessary equipment and supplies
- ◆ consider the logistics of the operation
- ◆ establish an implementation plan
- ◆ secure the necessary legislation to support the regulatory aspects of the programme
- ◆ provide a robust documentation system to support the declaration and recognition of PFA or ALPP, once established.

Figure 2: Establishing a PFA or an ALPP

ISPM 29 (2011) contains details on the type of information that should be exchanged to recognize a PFA or an ALPP. This information should be transmitted to the importing contracting party as part of the recognition request. The steps recommended in section 4 of ISPM 29 (2011) include:

- ◆ request for recognition by the NPPO of the exporting contracting party
- ◆ acknowledgement by the importing contracting party of receipt of the information package and indication of its completeness for assessment purposes
- ◆ description of assessment process to be used by the importing contracting party
- ◆ assessment of the technical information
- ◆ notification of results of assessment
- ◆ official recognition.

Once PFA or ALPP are attained, it is important to maintain the status. The NPPO shall study the likely pathways for re-infestation, introduction or outbreak and develop a corrective action plan

to respond rapidly and decisively to eliminate or control any pests that are reintroduced.

All actions undertaken by the NPPO in support of a PFA or ALPP programme should be well-documented for audit and verification. The NPPO should have a suitable record-keeping system in place.

See ISPM 4 (2011), ISPM 5, ISPM 10 (2011), ISPM 26 (2015), ISPM 29 (2011) and ISPM 30 (2011) for more information.

Discussion Question:

- ◇ List the steps undertaken by the NPPO to establish a PFA or an ALPP.
- ◇ What capacity do you have within your NPPO and where are you likely to need external support?
- ◇ Do you have systems in place to govern such arrangements, when needed?



5. Liaison and Managing Relationships with Stakeholders

Learning objectives

- Understand the importance of liaison, stakeholder relations, and information and communication technology (ICT) in the effective management of phytosanitary programmes
 - Learn about the key stakeholder groups and main tools for managing information and communication
 - Learn about the different types of agreements governing international cooperation on phytosanitary measures
 - Understand the need for research in the field of plant protection
-

The management of phytosanitary programmes will be enhanced when the NPPO liaises regularly with international and regional organizations, maintains good relations with stakeholders and has an effective information and communication system.

5.1 Bilateral and other agreements

The ISPMs provide guidance on the procedures to be established for international cooperation and harmonization of phytosanitary measures. The IPPC also recognizes the importance and need for bilateral agreements that respect the objectives of the IPPC, while facilitating safe trade. The NPPO should also be aware of provisions included in regional and international trade agreements that affect them.

As an example, bilateral agreements may be made to establish equivalency of measures (ISPM 24, 2011). This is an important principle that allows countries to demonstrate the efficacy of alternative measures (to those imposed by the importing country) in meeting the appropriate level of protection required by the importing country.

Agreements among concerned countries may be established for the transit of consignments through one or more countries en route to the final destination, and for third-country quarantine of plants or disinfection/disinfestation of regulated articles. They may also be established to guide

Discussion Questions:

- ◇ What are the different types of agreements governing international cooperation on phytosanitary measures?
- ◇ Which are applicable to your NPPO?

cooperation on issues that affect a specific group of countries, or when a region chooses to establish relevant agreements to deal with such issues.

5.2 Liaison with international and regional organizations

The NPPO may wish to designate an office or a person who will be responsible for liaising with international and regional organizations. On the other hand, the IPPC requires contracting parties to designate an *IPPC contact point*. The name and contact details of the contact point shall be provided to the IPPC Secretariat and posted on the International Phytosanitary Portal (<https://www.ippc.int/>).

The NPPO should also provide an effective means of communication to allow the contact point to receive information, requests, notifications, etc., and respond in a timely manner. Information

received should be acted upon promptly by ensuring it is passed on to the appropriate division, department or persons, and by following up any response required. It is also important to keep proper records on all correspondence received and sent.

Discussion Question:

- ◇ In your NPPO, who is the IPPC contact point? What other roles does he/she perform?

5.3 Stakeholder engagement

Stakeholders include national and local government agencies, research institutions, universities, scientific societies (including amateur specialists), producers, consultants, museums and the general public that should collaborate or engage with the NPPO to strengthen its activities and programmes. This section suggests how such stakeholders may be engaged.

Border agencies

Border agencies, which include immigration, customs, port authorities, food safety and animal health institutions, work in a collaborative manner. To enhance their engagement in its activities, the NPPO may do the following:

- ◆ examine the mandates or legal frameworks of these organizations to gain a clear understanding of their roles
- ◆ determine how they may assist the NPPO in its operations
- ◆ convene or participate in meetings with these agencies
- ◆ provide adequate information to these agencies regarding the legal mandate, phytosanitary regulations, and responsibilities and requirements of the NPPO
- ◆ share updates regarding phytosanitary regulations, emergencies and imminent phytosanitary threats to promote collaborative action towards managing associated risks

- ◆ identify specific issues to be addressed by any of these agencies (e.g. office space or location, information display boards and enforcement)
- ◆ determine and develop, where necessary, protocols or procedures to be followed in specific circumstances.

Relevant ministries or other government bodies

Policy-level inter-ministerial discussions and decision-making are often required to achieve meaningful cooperation. The NPPO may use the following procedures to promote their engagement:

- ◆ advise the permanent secretary or appropriate policy-level person of the issues to be addressed at that level
- ◆ provide a clear written description of the issues to be addressed and the possible actions required from the NPPO and relevant ministries and other governmental bodies
- ◆ request communication with the concerned ministry or agency to allow appropriate action to be taken
- ◆ request identification of a contact person at the concerned agency for follow-up and effective collaboration
- ◆ establish relevant instruments, procedures or protocols where necessary for effective cooperation between or among the concerned bodies
- ◆ provide periodic updates and reports to strengthen and sustain the required level of cooperation.

Producers, exporters and importers

The NPPO may encourage engagement by convening meetings or seminars with the purpose of educating these groups on the relevant regulations, procedures or decisions that affect them. The NPPO may also identify the role of each group in promoting phytosanitary activities. Some examples are given below.

Producers should be encouraged to:

- ◆ comply appropriately with phytosanitary regulations
- ◆ undertake pest surveillance, where appropriate
- ◆ record and promptly report the detection of new pests

- ◆ improve their knowledge of pests associated with crops or plants.

Exporters should be encouraged to:

- ◆ cooperate with the NPPO in all phytosanitary certification processes
- ◆ provide their NPPO with phytosanitary import requirements as they are updated
- ◆ maintain phytosanitary security of the consignment, as necessary
- ◆ report pests or problems associated with the consignment promptly
- ◆ comply with phytosanitary import requirements
- ◆ improve their knowledge of pests associated with commodities.

Importers should be encouraged to:

- ◆ cooperate with the NPPO during import verification
- ◆ comply with phytosanitary import requirements
- ◆ safely confine infested commodities and associated pests if found, even after release by the inspector
- ◆ promptly report to the NPPO infested commodities or detection of regulated pests.

The NPPO may provide training and education to these groups to encourage their compliance to meet their responsibilities. The NPPO can also encourage the reporting of new pests or pest outbreaks as promptly as possible and provide updates on any change in requirements that may affect them. This could be complemented through the availability of a telephone hotline to speed up communication.

Institutions

These include universities, research centres, diagnostics laboratories and disinfestation or disinfection companies that may provide services to the NPPO.

A meaningful partnership with a university or research institution may include:

- ◆ access to subject specialists
- ◆ research related to phytosanitary issues
- ◆ phytosanitary modules included in degree programmes, where appropriate, with training delivered by NPPO staff
- ◆ training of NPPO staff in relevant courses offered by universities
- ◆ joint research programmes with shared costs



Credit: FAO/Vladimir Rodas

- ◆ development of pest datasheets for surveillance and other purposes
- ◆ inputs to the discussions on draft standards and guidelines.

The NPPO may engage the services of universities and research and diagnostic institutions by first identifying the resources the institution could provide to complement the NPPO's competencies and then establishing discussions on how the NPPO might access these resources. It will then be important to prepare appropriate and preferably formal agreements, contracts or memoranda to ensure accountability and timely responses. The NPPO will need to provide any necessary training on related ISPMs, and develop protocols, SOPs, manuals or guidelines to ensure the product or service complies with NPPO requirements. It is also necessary to establish an authorization system. The NPPO should maintain responsibility for the use of the information produced under this type of agreement. Cost-sharing approaches may be developed where applicable, and review procedures established and agreed, as necessary.

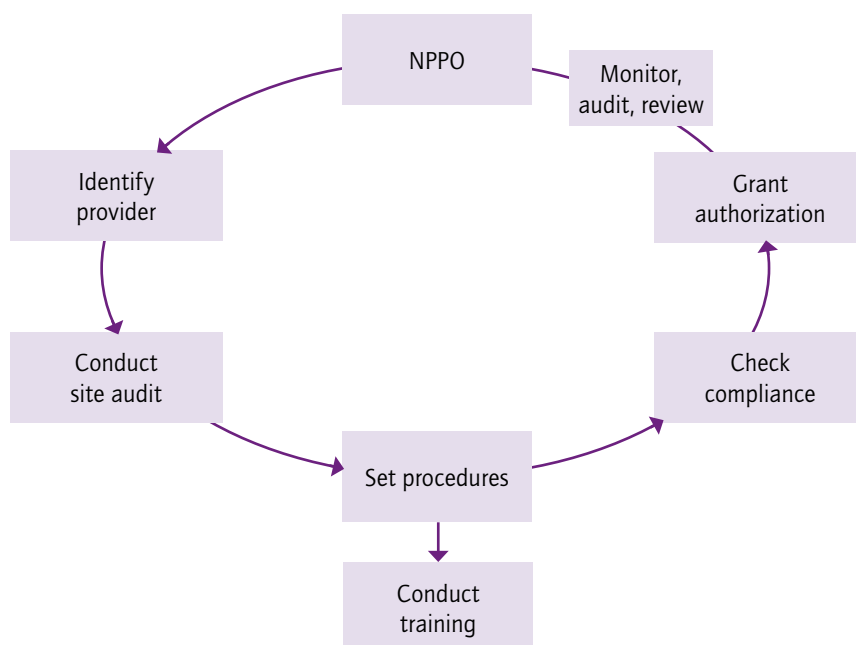
Third party service providers

The NPPO may wish or need to use additional service providers for inspection, phytosanitary certification, verification or treatment, among other things. Such companies or agencies should be authorized to undertake phytosanitary actions on behalf of the NPPO and to become the legal entities.

It is important that the NPPO ensures the quality of the services and audits the process as per the agreement (Figure 3). The following steps are involved in authorization of service providers.

1. The NPPO identifies a potential service provider (laboratory, company, institution or individual) with the specific competencies required, and conducts a site audit to evaluate the facility for suitability, and evaluates competencies of personnel and procedures and documentation on compliance with the relevant requirements.
2. Discussions are held to determine the conditions for performing certain functions on behalf of and under supervision of the NPPO.
3. The improvements or adjustments to the procedures or physical changes to the facility that the potential service provider must make are

Figure 3: General authorization process for appointing third party service providers



determined. Standards, protocols or guidelines with which the potential service provider must comply are discussed and decided. Training is conducted where appropriate to ensure the necessary competencies.

4. The NPPO conducts periodic audits following the training or adjustments to ensure it complies with the required standards, guidelines and protocols.
5. The NPPO authorizes the service provider for a prescribed time and notifies this in writing. Monitoring, audit and review procedures are then finalized and maintenance of authorization is subject to on-going audits by the NPPO.

Committees and boards

Committees and boards may be established and used in advisory, management or coordinating roles depending on the needs of the NPPO. Autonomous/ semi-autonomous NPPOs may have a management board, which may be appointed to chart the direction and priorities of the NPPO over a specific time.

Discussion Question:

- ◇ List the main stakeholder groups who work with your NPPO.

5.4 Research

The IPPC states: "Each contracting party shall make provision, to the best of its ability, for ... research and investigation in the field of plant protection" (IPPC, 1997: Article IV.3(b)). It follows that, where existing means of plant protection are inadequate for controlling pests of plants and plant products and in preventing their introduction and spread into endangered areas, research should be undertaken to the extent of the ability of contracting parties.

Specific topics for research of interest to NPPOs could cover:

- ◆ pest biology, identification and diagnostics
- ◆ pest surveillance methods and procedures
- ◆ inspection methods
- ◆ treatments
- ◆ PRA procedures
- ◆ pest control methods.

Where topics for research are identified, the NPPO should determine the most appropriate means of achieving a successful outcome. A thorough literature review will identify the results of previous research, if any, and whether these provide the necessary information. If further work is needed, the NPPO should develop a detailed proposal for further consideration by an appropriate national or international research organization.

Discussion Question:

- ◇ When might research be required and how would you go about designing a proposal?

6. Information Sharing

Learning objectives

- Learn about the systems and resources required to support internal and external NPPO communications and the security of this information

NPPOs collect and process large volumes of information and therefore need to invest in ICT systems that have the facility for expansion and are compatible with those of NPPO stakeholders, interoperable and secure.

Internal communication

NPPOs may use a range of ICTs to support their core technical functions, including mobile phones, voice over internet protocol technologies (e.g. Skype), video conferencing and document scanning software.

NPPO regional outpost officers should have easy access to computers and the internet, landlines, mobile or radio-based telephone facilities, and a reliable means to capture, store and retrieve information.

Field officers and other personnel stationed at points of entry may require access to robust intranets so they can access centralized phytosanitary information systems to register pest interceptions, log cases of non-compliance and process other inspection data and file routine reports. They may also need access to a



Credit: FAO/Vladimir Rodas

national data repository holding pest information, surveillance data, PRA information and dossiers, geographic information system data, audits, and export certification data including trace-back, phytosanitary certification information, audit results and verifications performed on third-party service providers.

External communication

It is important to communicate with external stakeholders and the NPPO may wish to consider a web-based portal as a worthwhile investment to enhance the sharing of information. This may provide early warning information, data on pest outbreaks and pest status and market access information. Websites and public access databases are useful to reveal the public face of the NPPO and reflect its transparency in terms of delivering its mandate. The NPPO may also consider establishing a web-based forum for gathering stakeholder feedback. Symposia, seminars and outreach material in the form of booklets, fact sheets, leaflets and newsletters are also useful.

Security of information

NPPOs may consider establishing computer usage and data protection policies for their staff and third

parties that can access their information systems. The NPPO should ensure there is appropriate access to information and confidential data are protected. This will reduce the risk of data loss or phytosanitary information systems being compromised by computer viruses or hackers.

Access policies may be instituted to permit or restrict access to specific data for NPPO staff and external users and to log their activities. The NPPO should provide e-mail systems to ensure security and confidentiality of incoming and outgoing data and appropriately designed facilities to house computers and related networking equipment.

Discussion Questions:

- ◇ What facilities does your NPPO have to facilitate internal and external communication?
- ◇ Could these be improved?
- ◇ If so, how?

7. Technical Assistance and Capacity Development

Learning objectives

- Learn about the resources and technical assistance that may be available to the IPPC contracting parties
-

Capacity development for implementation of the IPPC is a core work area of the IPPC Secretariat. IPPC Article XX (1997) makes provision for technical assistance to be offered, particularly to developing countries, with the aim of improving national capacity and supporting a fully functional NPPO. The CPM has identified a capacity development strategy and work plan (IPPC, 2012). NPPOs should be aware of this and should contribute and participate actively in the components identified in the work plan.

7.1 Capacity development tools of the IPPC

Phytosanitary Capacity Evaluation tool

One of the main tools made available by the IPPC Secretariat is the Phytosanitary Capacity Evaluation (PCE) tool, see www.ippc.int/en/core-activities/capacity-development/phytosanitary-capacity-evaluation/. NPPOs can use this tool to assess their phytosanitary gaps, capabilities and needs. They can then plan their own development priorities and design their own national phytosanitary action plan. The PCE can also be used to assist with the formulation, implementation and management of phytosanitary projects, and to provide oversight to phytosanitary capacity development projects.

Inputs from the PCE to developing countries' proposals tend to address the following issues:

- ◆ dispute avoidance/resolution
- ◆ phytosanitary emergencies
- ◆ policy and legislation

- ◆ training
- ◆ infrastructure and equipment
- ◆ information exchange
- ◆ phytosanitary systems.

Implementation Review and Support System

The IPPC has developed the Implementation Review and Support System (IRSS). This is operating currently as a project, and includes a review of the implementation of the IPPC and ISPMs by members, among other activities related to emerging and cross-cutting issues that influence the implementation of the IPPC by contracting parties. The IRSS information is available at <https://www.ippc.int/en/irss/>.

Phytosanitary resources webpage

The IPPC Secretariat has made available a range of resources to support the implementation of the IPPC and its standards (available at www.phytosanitary.info). The website includes resources developed under the auspices of the IPPC Secretariat, contributed resources, a database of capacity development projects and activities, and a roster of consultants.

7.2 Sources of assistance for contracting parties

Financial support for participation in IPPC activities

The IPPC Secretariat provides financial support to developing countries to enhance their participation

in its activities, including participation in the CPMs and CPM bodies meetings. It also provides funding for developing countries to attend and participate in annual IPPC regional workshops.

FAO technical cooperation programmes

These are designed to address technical issues at the national level that are deemed urgent and are limited to around US\$500,000. FAO operates technical cooperation projects at regional level and under other modalities.

Other organizational support

Other organizations, including international banks, development agencies, development partnerships, etc., can provide financial support to specific

development projects at national or regional level. Each donor has specific requirements for application, formulation, implementation and supervision of projects that need to be considered when deciding to present a project proposal.

Discussion Questions:

- ◇ What are the main resources and technical assistance available to IPPC contracting parties?
- ◇ Which are you using already and which do you need to find out more about?

8. Staff Training and Development

Learning objectives

- **Understand the need for staff training and development of capacities and the main components of a staff training and development programme.**
-

The responsibilities of the NPPO (as identified in IPPC, 1997: Article IV.2(h)) include staff training and development. The NPPO administers a diverse range of activities and its staff shall have the appropriate qualifications, skills and experience needed to manage the following NPPO functions and systems:

- ◆ legal and administrative systems
- ◆ administration and strategic planning
- ◆ policy and operation of regulatory requirements
- ◆ regulatory development and revision
- ◆ implementation of operational procedures
- ◆ PRA and regulated pest lists
- ◆ processing market access proposals
- ◆ phytosanitary import requirement development
- ◆ pest surveillance
- ◆ pest diagnostics
- ◆ inspection and verification
- ◆ sampling and testing
- ◆ audit and compliance checking
- ◆ action in case of non-compliance
- ◆ emergency action
- ◆ completion of reporting obligations
- ◆ third-party authorization
- ◆ industry, community and government liaison
- ◆ international liaison
- ◆ communications
- ◆ staff training and development.

An effective NPPO will try to ensure that all the functions under its administration are performed by people with appropriate skills and experience and follow international standards and nationally accepted protocols and standardized operational procedures. To some extent this can be achieved through the appointment of suitably qualified and skilled staff. Universities, technical colleges and

comparable tertiary institutions offer advanced education qualifications and generally provide graduates with a skill set that is appropriate for some NPPO roles. Higher degrees can also provide graduates with relevant specialized skills. However, the courses offered by these institutions rarely cover regulatory plant health specifically. Consequently, a staff training and development programme is essential to ensure an effective and sustainable NPPO. This needs to be well-supported and to focus on continual improvement. It needs to have adequate financial and technical resources and to be approved annually by the NPPO director or head.

A staff training and development programme may include the following:

- ◆ dedicated unit for training and development
- ◆ strategic plan for continual improvement
- ◆ documented training packages, standards, protocols and operating procedures
- ◆ access to training facilities and equipment
- ◆ agreements with educational and research organizations
- ◆ outsourcing for trainers and specialized experts
- ◆ secondments/staff exchanges with other NPPOs or relevant organizations.

Discussion Questions:

- ◇ What are the key components of a staff training and development programme?
- ◇ Which areas are already managed well by your NPPO and where could improvements be made?

9. References and Resources

CEPM. 1996. *Report of the Third Meeting of the FAO Committee of Experts on Phytosanitary Measures*, Rome, 13–17 May 1996. Rome, IPPC, FAO.



CPM. 2015. *Report on the Tenth Session of the Commission on Phytosanitary Measures*. Rome, 16-20 March 2015. Rome, IPPC, FAO.

IPPC. 1997. *International Plant Protection Convention*. Rome, Secretariat of the IPPC, FAO.

IPPC. 2012. *IPPC national phytosanitary capacity development strategy*. Rome, IPPC, FAO. Available at: https://www.ippc.int/static/media/files/publications/en/2013/06/04/1344411980_ippc_npcd_strategy_2012-05_201304232111en.pdf (accessed September 2015).

ISPM 2. 2011. *Framework for pest risk analysis*. Rome, IPPC, FAO.

ISPM 4. 2011. *Requirements for the establishment of pest free areas*. Rome, IPPC, FAO.

ISPM 5. 2015. *Glossary of phytosanitary terms*. Rome, IPPC, FAO.

ISPM 6. 2011. *Guidelines for surveillance*. Rome, IPPC, FAO.

ISPM 7. 2012. *Phytosanitary certification system*. Rome, IPPC, FAO.

ISPM 10. 2011. *Requirements for the establishment of pest free places of production and pest free production sites*. Rome, IPPC, FAO.

ISPM 11. 2013. *Pest risk analysis for quarantine pests*. Rome, IPPC, FAO.

ISPM 12. 2015. *Phytosanitary certificates*. Rome, IPPC, FAO.

ISPM 13. 2011. *Guidelines for the notification of non-compliance and emergency action*. Rome, IPPC, FAO.

ISPM 18. 2011. *Guidelines for the use of irradiation as a phytosanitary measure*. Rome, IPPC, FAO.

ISPM 20. 2011. *Guidelines for a phytosanitary import regulatory system*. Rome, IPPC, FAO.

ISPM 21. 2011. *Pest risk analysis for regulated non-quarantine pests*. Rome, IPPC, FAO.

ISPM 23. 2011. *Guidelines for inspection*. Rome, IPPC, FAO.

ISPM 24. 2011. *Guidelines for the determination and recognition of equivalence of phytosanitary measures.* Rome, IPPC, FAO.

ISPM 25. 2011. *Consignments in transit.* Rome, IPPC, FAO.

ISPM 26. 2015. *Establishment of pest free areas for fruit flies (Tephritidae).* Rome, IPPC, FAO.

ISPM 28. 2011. *Phytosanitary treatments for regulated pests.* Rome, IPPC, FAO.

ISPM 29. 2011. *Recognition of pest free areas and areas of low pest prevalence.* Rome, IPPC, FAO.

ISPM 30. 2011. *Establishment of areas of low pest prevalence for fruit flies (Tephritidae).* Rome, IPPC, FAO.

All ISPMs can be found and downloaded at

<https://www.ippc.int/en/core-activities/standards-setting/ispm/#publications>

Easy-access list of additional resources

IPPC. 2012. *IPPC strategic framework 2012–2019.* Rome: IPPC, FAO. Available at: https://www.ippc.int/static/media/files/publications/en/2013/06/03/1344410402_ippc_strategicframework_e_w_201305101054en.pdf

International Plant Protection Convention website: www.ippc.int

Adopted ISPMs: <https://www.ippc.int/core-activities/standards-setting/ispm>

IPPC Convention text: <https://www.ippc.int/publications/1997-international-plant-protection-convention-new-revised-text>

Phytosanitary Resources page: www.phytosanitary.info – manuals, training materials, and other resources. Materials posted to the page have been reviewed and noted by the IPPC Capacity Development Committee for relevance and consistency with the IPPC framework.

Training manuals and e-learning course on pest risk analysis: <http://phytosanitary.info/pr>

Additional materials can be contributed (in any language) through a form on the page, for review by the IPPC Capacity Development Committee.

IPPC helpdesk: <http://irss.ippc.int/helpdesk> – includes a question and answer forum, frequently asked questions and links to additional resources.

IPPC

The International Plant Protection Convention (IPPC) is an international plant health agreement that aims to protect cultivated and wild plants by preventing the introduction and spread of pests. International travel and trade are greater than ever before. As people and commodities move around the world, organisms that present risks to plants travel with them.

Organization

- ◆ The number of contracting party signatories to the Convention exceeds 181.
- ◆ Each contracting party has a national plant protection organization (NPPO) and an Official IPPC contact point.
- ◆ 10 regional plant protection organizations (RPPOs) have been established to coordinate NPPOs in various regions of the world.
- ◆ IPPC liaises with relevant international organizations to help build regional and national capacities.
- ◆ The Secretariat is provided by the Food and Agriculture Organization of the United Nations (FAO-UN).



International Plant Protection Convention (IPPC)

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