# INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES (ISPM 5)

This supplement was first adopted by the Third Session of the Interim Commission on Phytosanitary Measures in April 2001. The first revision of this supplement was adopted by the Seventh Session of the Commission on Phytosanitary Measures in March 2012.
The supplement is a prescriptive part of the standard.

## SUPPLEMENT 1:

## Guidelines on the interpretation and application of the concepts of "official control" and "not widely distributed"

### INTRODUCTION

### Scope

This supplement provides guidance on:

- the official control of regulated pests, and
- determination of when a pest is considered to be present but not widely distributed, for the decision on whether a pest qualifies as a quarantine pest.

### References

**ISPM 1**. 2006. *Phytosanitary principles for the protection of plants and the application of phytosanitary measures in international trade*. Rome, IPPC, FAO.
**ISPM 2**. 2007. *Framework for pest risk analysis*. Rome, IPPC, FAO.
**ISPM 6**. 1997. *Guidelines for surveillance*. Rome, IPPC, FAO.
**ISPM 8**. 1998. *Determination of pest status in an area*. Rome, IPPC, FAO.
**ISPM 11**. 2004. *Pest risk analysis for quarantine pests including analysis of environmental risks and living modified organisms*. Rome, IPPC, FAO.

### Definition

Official control is defined as:
The active enforcement of mandatory phytosanitary regulations and the application of mandatory phytosanitary procedures with the objective of eradication or containment of quarantine pests or for the management of regulated non-quarantine pests.

### BACKGROUND

The words "present but not widely distributed and being officially controlled" express an essential concept in the definition of quarantine pest. According to that definition, a quarantine pest must always be of potential economic importance to an endangered area. In addition, it must either meet the criterion of not being present in that area or it must meet the combined criteria of being present but not widely distributed and subject to official control.
The *Glossary of phytosanitary terms* defines official as "established, authorized or performed by an NPPO" and control as "suppression, containment or eradication of a pest population". However, for phytosanitary purposes, the concept of *official control* is not adequately expressed by the combination of these two definitions.
The purpose of this supplement is to describe more precisely the interpretation of:

- the concept of official control and its application in practice for quarantine pests that are present in an area as well as for regulated non-quarantine pests, and
- the concept of "present but not widely distributed and under official control" for quarantine pests.

"Not widely distributed" is not a term included in the description of pest status listed in ISPM 8:1998.

### REQUIREMENTS

### 1. General Requirements

Official control is subject to ISPM 1:2006, in particular the principles of non-discrimination, transparency, equivalence of phytosanitary measures and pest risk analysis.

### 1.1 Official control

Official control includes:

- eradication and/or containment in the infested area(s)
- surveillance in the endangered area(s)
- restrictions related to the movement into and within the protected area(s) including phytosanitary

measures applied at import.

All official control programmes have elements that are mandatory. At minimum, programme evaluation and pest surveillance are required in official control programmes to determine the need for and effect of control to justify phytosanitary measures applied at import for the same purpose. Phytosanitary measures applied at import should be consistent with the principle of non-discrimination (see section 2.2 below).
For quarantine pests, eradication and containment may have an element of suppression. For regulated non-quarantine pests, suppression may be used to avoid unacceptable economic impact as it applies to the intended use of plants for planting.

### 1.2 Not widely distributed

"Not widely distributed" is a concept referring to a pest's occurrence and distribution within an area. A pest may be categorized as present and widely distributed in an area or not widely distributed, or absent. In pest risk analysis (PRA), the determination of whether a pest is not widely distributed is carried out in the pest categorization step. Transience means that a pest is not expected to establish and therefore is not relevant to the concept of "not widely distributed".
In the case of a quarantine pest that is present but not widely distributed, the importing country should define the infested area(s) and the endangered area(s). When a quarantine pest is considered not widely distributed, this means that the pest is limited to parts of its potential distribution and there are areas free from the pest that are at risk of economic loss from its introduction or spread. These endangered areas do not need to be contiguous but may consist of several distinct parts. In order to justify the statement of a pest being not widely distributed, a description and delimitation of the endangered areas should be made available if requested. There is a degree of uncertainty attached to any categorization of distribution. The categorization may also change over time.
The area in which the pest is not widely distributed should be the same as the area for which the economic impact applies (i.e. the endangered area) and where the pest is under or being considered for official control. The decision that a pest is a quarantine pest, including consideration of its distribution, and placing that pest under official control, is typically made with respect to an entire country.
However, in some instances it may be more appropriate to regulate a pest as a quarantine pest in parts of a country rather than in the whole country. It is the potential economic importance of the pest for those parts that has to be considered in determining phytosanitary measures. Examples of when this may be appropriate are countries whose territories include one or more islands or other cases where there are natural or artificially created barriers to pest establishment and spread, such as large countries in which specified crops are restricted by climate to well-defined areas.

### 1.3 Decision to apply official control

A national plant protection organization (NPPO) may choose whether or not to officially control a pest of potential economic importance that is present but not widely distributed, taking into account relevant factors from PRA, for example the costs and benefits of regulating the specific pest, and the technical and logistical ability to control the pest within the defined area. If the pest is not subjected to official control, it does not then qualify as a quarantine pest.

## 2. Specific Requirements

The specific requirements to be met relate to pest risk analysis, technical justification, non-discrimination, transparency, enforcement, mandatory nature of official control, area of application, and NPPO authority and involvement in official control.

### 2.1 Technical justification

Domestic requirements and phytosanitary import requirements should be technically justified and result in non-discriminatory phytosanitary measures.
Application of the definition of a quarantine pest requires knowledge of potential economic importance, potential distribution and official control programmes (ISPM 2:2007). The categorization of a pest as present and widely distributed or present but not widely distributed is determined in relation to its potential distribution. This potential distribution represents the areas where the pest could become established if given the opportunity, i.e. its hosts are present and environmental factors such as climate and soil are favourable. ISPM 11:2004 provides guidance on the factors to be considered in assessing the probability of establishment and spread when conducting a pest risk analysis. In the case of a pest that is present but not widely distributed, the assessment of potential economic importance should relate to the areas where the pest is not established.
Surveillance should be used to determine the distribution of a pest in an area as a basis for the further consideration of whether the pest is not widely distributed. ISPM 6:1997 provides guidance on surveillance, and includes provisions on transparency. Biological factors such as pest life cycle, means of dispersal and rate of reproduction may influence the design of surveillance programmes, the interpretation of survey data and the

level of confidence in the categorization of a pest as not widely distributed. The distribution of a pest in an area is not a static condition. Changing conditions or new information may necessitate reconsideration of whether a pest is not widely distributed.

### 2.2 Non-discrimination

The principle of non-discrimination between domestic requirements and phytosanitary import requirements is fundamental. In particular, requirements for imports should not be more stringent than the effect of official control in an importing country. There should therefore be consistency between domestic requirements and phytosanitary import requirements for a defined pest:

- Import requirements should not be more stringent than domestic requirements.
- Domestic and import requirements should be the same or have an equivalent effect.
- Mandatory elements of domestic and import requirements should be the same.
- The intensity of inspection of imported consignments should be the same as equivalent processes in domestic control programmes.
- In the case of non-compliance, the same or equivalent phytosanitary actions should be taken on imported consignments as are taken domestically.
- If a tolerance level is applied within a domestic official control programme, the same tolerance level should be applied to equivalent imported material. In particular, if no action is taken in the domestic official control programme because the pest incidence does not exceed the tolerance level concerned, then no action should be taken for an imported consignment if the pest incidence does not exceed that same tolerance level. Compliance with import tolerance levels is generally determined by inspection or testing at entry, whereas compliance with the tolerance level for domestic consignments should be determined at the last point where official control is applied.
- If downgrading or reclassifying is permitted within a domestic official control programme, similar options should be available for imported consignments.

### 2.3 Transparency

Domestic requirements for official control and the phytosanitary import requirements should be documented and made available, on request.

### 2.4 Enforcement

The domestic enforcement of official control programmes should be equivalent to the enforcement of phytosanitary import requirements. Enforcement should include:

- a legal basis
- operational implementation
- evaluation and review
- phytosanitary action in the case of non-compliance.

### 2.5 Mandatory nature of official control

Official control is mandatory in the sense that all persons involved are legally bound to perform the actions required. The scope of official control programmes for quarantine pests is completely mandatory (e.g. procedures for eradication campaigns), whereas the scope for regulated non-quarantine pests is mandatory only in certain circumstances (e.g. official certification programmes).

### 2.6 Area of application

An official control programme can be applied at national, subnational or local area level. The area of application of official control measures should be specified. Any phytosanitary import requirements should have the same effect as the domestic requirements for official control.

### 2.7 NPPO authority and involvement in official control

Official control should:

- be established or recognized by the contracting party or the NPPO under appropriate legislative authority
- be performed, managed, supervised or, at minimum, audited/reviewed by the NPPO
- have enforcement assured by the contracting party or the NPPO
- be modified, terminated or lose official recognition by the contracting party or the NPPO.

Responsibility and accountability for official control programmes rests with the contracting party. Agencies other than the NPPO may be responsible for aspects of official control programmes, and
certain aspects of official control programmes may be the responsibility of subnational authorities or the private sector. The NPPO should be fully aware of all aspects of official control programmes in its country.

This supplement was adopted by the Fifth Session of the Interim Commission on Phytosanitary Measures in April 2003.
The supplement is a prescriptive part of the standard.

## SUPPLEMENT 2:

## Guidelines on the understanding of *potential economic importance* and related terms including reference to environmental considerations

### 1. Purpose and Scope

These guidelines provide the background and other relevant information to clarify *potential economic importance* and related terms, so that such terms are clearly understood and their application is consistent with the International Plant Protection Convention (IPPC) and the International Standards for Phytosanitary Measures (ISPMs). These guidelines also show the application of certain economic principles as they relate to the IPPC's objectives, in particular in protecting uncultivated/unmanaged plants, wild flora, habitats and ecosystems with respect to invasive alien species that are plant pests.
These guidelines clarify that the IPPC:

- can account for environmental concerns in economic terms using monetary or non-monetary values
- asserts that market impacts are not the sole indicator of pest consequences
- maintains the right of members to adopt phytosanitary measures with respect to pests for which the economic damage caused to plants, plant products or ecosystems within an area cannot be easily quantified.

They also clarify, with respect to plant pests, that the scope of the IPPC covers the protection of cultivated plants in agriculture (including horticulture or forestry), uncultivated/unmanaged plants, wild flora, habitats and ecosystems.

### 2. Background

The IPPC has historically maintained that the adverse consequences of plant pests, including those concerning uncultivated/unmanaged plants, wild flora, habitats and ecosystems, are measured in economic terms. References to the terms *economic effects*, *economic impacts*, *potential economic importance* and *economically unacceptable impact* and the use of the word *economic* in the IPPC and in ISPMs has resulted in some misunderstanding of the application of such terms and of the focus of the IPPC.
The scope of the Convention applies to the protection of wild flora resulting in an important contribution to the conservation of biological diversity. However, it has been misinterpreted that the IPPC is only commercially focused and limited in scope. It has not been clearly understood that the IPPC can account for environmental concerns in economic terms. This has created issues of harmonization with other agreements, including the Convention on Biological Diversity and the Montreal Protocol on Substances that Deplete the Ozone Layer.

### 3. Economic Terms and Environmental Scope of the IPPC and ISPMs

The economic terms found in the IPPC and ISPMs may be categorized as follows.
Terms requiring judgement to support policy decisions:

- *potential economic importance* (in the definition for *quarantine pest*)
- *economically unacceptable impact* (in the definition for *regulated non-quarantine pest*)
- *economically important loss* (in the definition for *endangered area*).

Terms related to evidence that supports the above judgements:

- *limit the economic impact* (in the definition for *phytosanitary regulation* and the agreed interpretation of *phytosanitary measure*)
- *economic evidence* (in the definition for *pest risk analysis*)
- *cause economic damage* (in Article VII.3 of the IPPC, 1997)
- direct and indirect *economic impacts* (in ISPM 11:2001 and ISPM 16:2002)
- *economic consequences* and *potential economic consequences* (in ISPM 11:2001)
- *commercial consequences* and *non-commercial consequences* (in ISPM 11:2001).

ISPM 2:1995 refers to *environmental damage* as a factor to consider in the assessment of potential economic importance. Section 2.2.3 includes many items demonstrating the broad scope of economic impacts that is intended to be covered.
ISPM 11:2001 notes in section 2.1.1.5 with respect to pest categorization, that there should be a clear indication that the pest is likely to have an unacceptable economic impact, which may include environmental impact, in the PRA area. Section 2.3 of the standard describes the procedure for assessing potential economic consequences of an introduction of a pest. Effects may be considered to be direct or indirect. Section 2.3.2.2 addresses analysis of commercial consequences. Section 2.3.2.4 provides guidance on the assessment of the non-commercial and environmental consequences of pest introduction. It acknowledges that certain types of

effects may not apply to an existing market that can be easily identified, but it goes on to state that the impacts could be approximated with an appropriate non-market valuation method. This section notes that if a quantitative measurement is not feasible, then this part of the assessment should at least include a qualitative analysis and an explanation of how the information is used in the risk analysis. Environmental or other undesirable effects of control measures are covered in section 2.3.1.2 (Indirect effects) as part of the analysis of economic consequences. Where a risk is found to be unacceptable, section 3.4 provides guidance on the selection of risk management options, including measurements of cost-effectiveness, feasibility and least trade restrictiveness.

In April 2001 the ICPM recognized that under the IPPC's existing mandate, to take account of environmental concerns, further clarification should include consideration of the following five proposed points relating to potential environmental risks of plant pests:

- reduction or elimination of endangered (or threatened) native plant species
- reduction or elimination of a keystone plant species (a species which plays a major role in the maintenance of an ecosystem)
- reduction or elimination of a plant species which is a major component of a native ecosystem
- causing a change to plant biological diversity in such as way as to result in ecosystem destabilization
- resulting in control, eradication or management programmes that would be needed if a quarantine pest was introduced, and impacts of such programmes (e.g. pesticides or the release of non-indigenous predators or parasites) on biological diversity.

Thus it is clear, with respect to plant pests, that the scope of the IPPC covers the protection of cultivated plants in agriculture (including horticulture and forestry), uncultivated/unmanaged plants, wild flora, habitats and ecosystems.

## 4. Economic Considerations in PRA

### 4.1 Types of economic effect

In PRA, economic effects should not be interpreted to be only market effects. Goods and services not sold in commercial markets can have economic value, and economic analysis encompasses much more than the study of market goods and services. The use of the term *economic effects* provides a framework in which a wide variety of effects (including environmental and social effects) may be analysed. Economic analysis uses a monetary value as a measure to allow policy makers to compare costs and benefits from different types of goods and services. This does not preclude the use of other tools such as qualitative and environmental analyses that may not use monetary terms.

### 4.2 Costs and benefits

A general economic test for any policy is to pursue the policy if its benefit is at least as large as its cost. Costs and benefits are broadly understood to include both market and non-market aspects. Costs and benefits can be represented by both quantifiable measurements and qualitative measurements. Non-market goods and services may be difficult to quantify or measure but nevertheless are essential to consider.

Economic analysis for phytosanitary purposes can only provide information with regard to costs and benefits, and does not judge if one distribution is necessarily better than another distribution of costs and benefits of a specific policy. In principle, costs and benefits should be measured regardless to whom they occur. Given that judgements about the preferred distribution of costs and benefits are policy choices, these should have a rational relationship to phytosanitary considerations.

Costs and benefits should be counted whether they occur as a direct or indirect result of a pest introduction or if a chain of causation is required before the costs are incurred or the benefits realized. Costs and benefits associated with indirect consequences of pest introductions may be less certain than costs and benefits associated with direct consequences. Often, there is no monetary information about the cost of any loss that may result from pests introduced into natural environments. Any analysis should identify and explain uncertainties involved in estimating costs and benefits and assumptions should be clearly stated.

## 5. Application

The following criteria[1] should be met before a plant pest is deemed to have *potential economic importance*:

[1] With respect to the first and second criteria, IPPC (1997) Article VII.3 states that for pests that may not be capable of establishment, measures taken against these pests must be technically justified.

- a potential for introduction in the PRA area
- the potential to spread after establishment
- a potential harmful impact on plants, for example:
  crops (for example loss of yield or quality)
  the environment, for example damage to ecosystems, habitats or species
  some other specified value, for example recreation, tourism, aesthetics.

As stated in section 3, environmental damage, arising from the introduction of a plant pest, is one of the types of damage recognized by the IPPC. Thus, with respect to the third criterion above, contracting parties to the IPPC have the right to adopt phytosanitary measures even with respect to a pest that only has the potential for environmental damage. Such action should be based upon a pest risk analysis that includes the consideration of evidence of potential environmental damage. When indicating the direct and indirect impact of pests on the environment, the nature of the harm or losses arising from a pest introduction should be specified in pest risk analysis.
In the case of regulated non-quarantine pests, because such pest populations are already established, introduction in an area of concern and environmental effects are not relevant criteria in the consideration of *economically unacceptable impacts* (see ISPM 16:2002).

## References

**ICPM.** 2001. *Report of the Third Interim Commission on Phytosanitary Measures, Rome, 2–6 April 2001*. (Includes Appendix XIII, "Statements of the ICPM Exploratory Open-ended Working Group on Phytosanitary Aspects of GMOs, Biosafety, and Invasive Species, 13–16 June 2000, Rome".) Rome, IPPC, FAO.
**IPPC**. 1997. *International Plant Protection Convention*. Rome, IPPC, FAO.
**ISPM 2.** 1995. *Guidelines for pest risk analysis*. Rome, IPPC, FAO. [published 1996] [revised; now ISPM 2: 2007]
**ISPM 11**. 2001. *Pest risk analysis for quarantine pests*. Rome, IPPC, FAO. [revised; now ISPM 11:2004]
**ISPM 16**. 2002. *Regulated non-quarantine pests: concept and application*. Rome, IPPC, FAO.

This appendix is for reference purposes only and is not a prescriptive part of the standard.

## APPENDIX TO SUPPLEMENT 2

This appendix provides additional clarification of some terms used in this supplement.
*Economic analysis:* It primarily uses monetary values as a measure to allow policy makers to compare costs and benefits from different types of goods and services. It encompasses more than the study of market goods and services. Economic analysis does not prevent the use of other measures that do not use a monetary value; for example, qualitative or environmental analysis.
*Economic effects:* This includes market effects as well as non-market effects, such as environmental and social considerations. Measurement of the economic value of environmental effects or social effects may be difficult to establish. For example, the survival and well-being of another species or the value of the aesthetics of a forest or a jungle. Both qualitative and quantitative worth may be considered in measuring economic effects.
*Economic impacts of plant pests:* This includes both market measures as well as those consequences that may not be easy to measure in direct economic terms, but which represent a loss or damage to cultivated plants, uncultivated plants or plant products.
*Economic value:* This is the basis for measuring the cost of the effect of changes (e.g. in biodiversity, ecosystems, managed resources or natural resources) on human welfare. Goods and services not sold in commercial markets can have economic value. Determining economic value does not prevent ethical or altruistic concerns for the survival and well-being of other species based on cooperative behaviour.
*Qualitative measurement:* This is the valuation of qualities or characteristics in other than monetary or numeric terms.
*Quantitative measurement:* This is the valuation of qualities or characteristics in monetary or other numeric terms.

This appendix was adopted by the Fourth Session of the Commission on Phytosanitary Measures in March–April 2009.
The appendix is for reference purposes only and is not a prescriptive part of the standard.

## APPENDIX 1:

## Terminology of the Convention on Biological Diversity in relation to the *Glossary of phytosanitary terms*

### 1. Introduction

Since 2001, it has been made clear that the scope of the IPPC extends to risks arising from pests that primarily affect the environment and biological diversity, including harmful plants. The Technical Panel for the Glossary, which reviews ISPM 5 (*Glossary of phytosanitary terms*, hereinafter referred to as the Glossary), therefore examined the possibility of adding new terms and definitions to the standard to cover this area of concern. In particular, it considered the terms and definitions that are in use by the Convention on Biological Diversity (CBD)*, with a view to adding them to the Glossary, as has previously been done in several cases for the terminology of other intergovernmental organizations.

* The terms and definitions discussed in this document have resulted from discussion on invasive alien species by the Parties of the Convention on Biological Diversity (Secretariat of the Convention on Biological Diversity).

However, study of the terms and definitions available from the CBD has shown that they are based on concepts different from those of the IPPC, so that similar terms are given distinctly different meanings. The CBD terms and definitions could not accordingly be used directly in the Glossary. It was decided instead to present these terms and definitions in the present Appendix to the Glossary, providing explanations of how they differ from IPPC terminology.
This Appendix is not intended to provide a clarification of the scope of the CBD, nor of the scope of the IPPC.

## 2. Presentation

In relation to each term considered, the CBD definition is first provided. This is placed alongside an "Explanation in IPPC context", in which, as usual, Glossary terms (or derived forms of Glossary terms) are shown in **bold**. These explanations may also include CBD terms, in which case these are also in **bold** and followed by "**(CBD)**". The explanations constitute the main body of this Appendix. Each is followed by notes, providing further clarification of some of the difficulties.

## 3. Terminology

### 3.1 "Alien species"

| *CBD definition* | *Explanation in IPPC context* |
|---|---|
| A species, subspecies or lower taxon, introduced outside its natural past[1] or present distribution; includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce | An **alien**[2] **species (CBD)** is an individual[3] or population, at any life stage, or a viable part of an **organism** that is non-indigenous to an **area** and that has **entered**[4] by human agency[5] into the **area** |

*Notes:*

1 The qualification concerning "past and present" distribution is not relevant for IPPC purposes, since the IPPC is concerned only with existing situations. It does not matter that the species was present in the past if it is present now. The word "past" in the CBD definition presumably allows for the re-introduction of a species into an area where it has recently become extinct and thus a reintroduced species would presumably not be considered an alien species.

2 "Alien" refers only to the location and distribution of an organism compared with its natural range. It does not imply that the organism is harmful.

3 The CBD definition emphasizes the physical presence of individuals of a species at a certain time, whereas the IPPC concept of occurrence relates to the geographical distribution of the taxon in general.

4 For CBD purposes, an alien species is already present in the **area** that is not within its native distribution (see **Introduction** below). The IPPC is more concerned with organisms that are not yet present in the area of concern (i.e. quarantine pests). The term "alien" is not appropriate for them, and terms such as "exotic", "non-indigenous" or "non-native" have been used in ISPMs. To avoid confusion, it would be preferable to use only one of these terms, in which case "non-indigenous" would be suitable, especially as it can accompany its opposite "indigenous". "Exotic" is not suitable because it presents translation problems.

5 A species that is non-indigenous and has entered an **area** through natural means is not an a**lien species (CBD)**. It is simply extending its natural range. For **IPPC** purposes, such a species could still be considered as a potential **quarantine pest**.

### 3.2 "Introduction"

| *CBD definition* | *Explanation in IPPC context* |
|---|---|
| The movement by human agency, indirect or direct, of an alien species[6] outside of its natural range (past or present). This movement can be either within a country or between countries or areas beyond national jurisdiction[7] | The **entry** of a **species** into an **area where it is non-indigenous**, through movement by human agency, either directly from an area where the species is indigenous, or indirectly[8] (by successive movement from an area where the species is indigenous through one or several areas where it is not) |

*Notes:*

6 The CBD definition suggests that **introduction (CBD)** concerns an **alien species (CBD)**, and thus a species that has already entered the area. However, it may be supposed, on the basis of other documents made available by CBD, that this is not so, and that a non-indigenous species entering for the first time is being **introduced (CBD)**. For CBD, a species can be **introduced (CBD)** many times, but for IPPC a species, once established, cannot be **introduced** again.

7 The issue of "areas beyond national jurisdiction" is not relevant for the IPPC.

8 In the case of indirect movement, it is not specifically stated in the definition whether all the movements from one **area** to another must be **introductions (CBD)** (i.e. by human agency, intentional or unintentional), or whether some can be by natural movement. This question arises, for example, where a species is **introduced (CBD)** into one **area** and then moves naturally to an adjoining **area**. It seems that this may be considered as an indirect **introduction (CBD)**, so that the species concerned is an **alien species (CBD)** in the

adjoining area, despite the fact that it **entered** it naturally. In the IPPC context, the intermediate country, from which the natural movement occurs, has no obligation to act to limit the natural movement, though it may have obligations to prevent intentional or unintentional **introduction (CBD)** if the importing country concerned establishes corresponding **phytosanitary measures**.

## 3.3 "Invasive alien species"

| *CBD definition* | *Explanation in IPPC context* |
|---|---|
| An alien species whose introduction and/or spread threaten[9] biological diversity[10, 11] | An **invasive**[12] **alien species (CBD)** is an **alien species (CBD)** that by its **establishment** or **spread** has become injurious to **plants**[13], or that by **risk analysis (CBD)**[14] is shown to be potentially injurious to **plants** |

*Notes:*

9 The word "threaten" does not have an immediate equivalent in IPPC language. The IPPC definition of a **pest** uses the term "injurious", while the definition of a **quarantine pest** refers to "economic importance". ISPM 11:2004 makes it clear that **quarantine pests** may be "injurious" to **plants** directly, or indirectly (via other components of ecosystems), while Supplement 2 of the Glossary explains that "economic importance" depends on a harmful impact on crops, or on the environment, or on some other specific value (recreation, tourism, aesthetics).

10 **Invasive alien species (CBD)** threaten "biological diversity". This is not an IPPC term, and the question arises whether it has a scope corresponding to that of the IPPC. "Biological diversity" would then have to be given a wide meaning, extending to the integrity of cultivated plants in agro-ecosystems, non-indigenous **plants** that have been imported and **planted** for forestry, amenity or habitat management, and indigenous **plants** in any **habitat**, whether "man-made" or not. The **IPPC** does protect **plants** in any of these situations, but it is not clear whether the scope of the CBD is as wide; some definitions of "biological diversity" take a much narrower view.

11 On the basis of other documents made available by CBD, **invasive alien species** may also threaten "ecosystems, habitats or species".

12 The CBD definition and its explanation concern the whole term **invasive alien species** and do not address the term "invasive" as such.

13 The context of the IPPC is the protection of **plants**. It is clear that there are effects on biological diversity that do not concern **plants**, and so there are **invasive alien species (CBD)** that are not relevant to the **IPPC**. The IPPC is also concerned with **plant products**, but it is not clear to what extent the CBD considers **plant products** as a component of biological diversity.

14 For the IPPC, **organisms** that have never entered the **endangered area** can also be considered as potentially injurious to **plants**, as a result of **pest risk analysis**.

## 3.4 "Establishment"

| *CBD definition* | *Explanation in IPPC context* |
|---|---|
| The process[15] of an alien species in a new habitat successfully producing viable offspring[16] with a likelihood of continued survival | The **establishment** of an **alien species (CBD)** in a **habitat** in the **area** it has **entered**, by successful reproduction |

*Notes:*

15 **Establishment (CBD)** is a process, not a result. It seems that a single generation of reproduction can be **establishment (CBD)**, provided the offspring have a likelihood of continued survival (otherwise there would be a comma after "offspring"). The CBD definition does not express the **IPPC** concept of "perpetuation for the foreseeable future".

16 It is not clear how far "offspring" applies to **organisms** that propagate themselves vegetatively (many **plants**, most fungi, other micro-organisms). By using "perpetuation", the **IPPC** avoids the question of reproduction or replication of individuals altogether. It is the species as a whole that survives. Even the growth of long-lived individuals to maturity could be considered to be perpetuation for the foreseeable future (e.g. plantations of a non-indigenous **plant**).

## 3.5 "Intentional introduction"

| *CBD definition* | *Explanation in IPPC context* |
|---|---|
| Deliberate movement and/or[17] release by humans of an alien species outside its natural range | Deliberate movement of a non-indigenous species into an **area**, including its **release** into the environment[18] |

*Notes:*

17 The "and/or" of the CBD definition is difficult to understand.

18 Under most phytosanitary import regulatory systems the intentional introduction of regulated pests is prohibited.

### 3.6 “Unintentional introduction”

| *CBD definition* | *Explanation in IPPC context* |
|---|---|
| All other introductions which are not intentional | **Entry** of a non-indigenous species with a traded **consignment**, which it **infests** or **contaminates**, or by some other human agency including **pathways** such as passengers’ baggage, vehicles, artificial waterways[19] |

*Notes:*

19 The prevention of unintentional introduction of regulated pests is an important focus of phytosanitary import regulatory systems.

### 3.7 “Risk analysis”

| *CBD definition* | *Explanation in IPPC context* |
|---|---|
| 1) the assessment of the consequences[20] of the introduction and of the likelihood of establishment of an alien species using science-based information (i.e., risk assessment), and 2) the identification of measures that can be implemented to reduce or manage these risks (i.e., risk management), taking into account socio-economic and cultural considerations[21] | **Risk analysis (CBD)**[22] is: 1) evaluation of the probability of **establishment** and **spread**, within an **area**[23], of an **alien species (CBD)** that has entered that **area**, 2) evaluation of the associated potential undesirable consequences, and 3) evaluation and selection of measures to reduce the risk of such **establishment** and **spread** |

*Notes:*

20 It is not clear what kinds of consequences are considered.

21 It is not clear at what stages in the process of **risk analysis (CBD)** socio-economic and cultural considerations are taken into account (during assessment, or during management, or both). No explanation can be offered in relation to ISPM 11:2004 or Supplement 2 of ISPM 5.

22 This explanation is based on the IPPC definitions of **pest risk assessment** and **pest risk management**, rather than on that of **pest risk analysis**.

23 It is unclear whether **risk analysis (CBD)** may be conducted prior to **entry**, in which case the probability of **introduction** may also need to be assessed, and measures evaluated and selected to reduce the risk of **introduction**. It may be supposed (on the basis of other documents made available by CBD) that **risk analysis (CBD)** can identify measures restricting further introductions, in which case it relates more closely to **pest risk analysis**.

## 4. Other concepts

The CBD does not propose definitions of other terms, but does use a number of concepts that do not seem to be considered in the same light by the IPPC and the CBD, or are not distinguished by the IPPC. These include:

- border controls
- quarantine measures
- burden of proof
- natural range or distribution
- precautionary approach
- provisional measures
- control
- statutory measures
- regulatory measures
- social impact
- economic impact.

## 5. References

**CBD.** 1992. *Convention on Biological Diversity*. Montreal, CBD.

**CBD.** *Glossary of terms* (available at http://www.cbd.int/invasive/terms.shtml, accessed November 2008).

**ISPM 11**. 2004. *Pest risk analysis for quarantine pests including analysis of environmental risks and living modified organisms*. Rome, IPPC, FAO.