

19th Session of the Commission on Phytosanitary Measures

#Planthealth for food security, environmental protection
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Tools for supporting systems approach – from the IPPC Project with STDF funding




Nelson Laville, official facilitator for Systems Approach tools

Systems Approach dates back to the 1980s

- ISPM 14 *ready for revision
- Article on history is available online -

“What we aspire to is that the different measures within a Systems Approach toolbox could cumulatively reduce or eliminate pest presence in a consignment.”

Eric Jang

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Home / Outlooks on Pest Management, Volume 31, Number 3



The Birth, Growth and Future of Systems Approach

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Authors: Laville, Nelson; Witty, Kenrick; Garcia, Ulises

Source: Outlooks on Pest Management, Volume 31, Number 3, June 2020, pp. 113-114(2)

Publisher: Research Information

DOI: https://doi.org/10.1564/v31_jun_04

Increased demand for support for systems approach

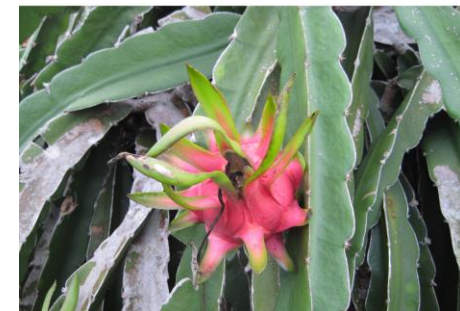
- Loss or preference away from chemical options, both field and post-harvest fumigation
- Adaptation of pests to new areas with climate change and less crop diversity
- High costs of proposing trade that does not occur, or stopping trade when one exporter fails to comply cannot be tolerated in today's economy
- Change in the European approach to embrace more combined measures for Pest Risk Management: the PRATIQUÉ project in Europe led to STDF project 2011-2014 in SE Asia with four NPPOs: Thailand, Vietnam, Malaysia and Indonesia, Imperial College London, CABI, Queensland University of Technology, and NZ and Singapore observers – the aim was to co-create new decision support tools



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Beyond Compliance:
Integrated systems approach for pest risk management

These STDF-supported tools were streamlined and aligned further with regional understandings of plant health concepts, under an **IPPC Project** funded by STDF, Beyond Compliance Global. This resulted in Systems Approach experts trained to facilitate the IPPC tools for all FAO languages.

They came from:

- Kenya, South Africa, Uganda
- Iraq
- Mexico, Dominica, Belize
- Latvia and China – with alternative funding
- RPPOs - **Comunidad Andino** and **Near East Plant Protection Organization**



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Food and Agriculture
Organization of the
United Nations



International
Plant Protection
Convention

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IPPC / Centre of Excellence / Phytosanitary Systems

Phytosanitary Systems

The essential components of a Phytosanitary System are identified below and each component page brings together all of the relevant technical resources to help National Plant Protection Organization (NPPO) staff understand and access information related to a subject. Relevant technical resources include: [International Standards for Phytosanitary Measures \(ISPMs\)](#), [CPM Recommendations](#), [IPPC Guides and training materials](#) as well as [Contributed resources](#).

This page has been developed in cooperation with members of the [Implementation and Capacity Development Committee \(IC\)](#)

Sub pages



Systems Approach

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IPPC / Centre of Excellence / Phytosanitary Systems / SYSTEMS APPROACH / SYSTEMS APPROACH ONLINE TOOLS

SYSTEMS APPROACH ONLINE TOOLS

Beyond Compliance tools

The Beyond Compliance tools (developed with STDF funding) are offered as templates, with instructions for use, in order to build a Systems Approach, as described in ISPM 14 (The use of integrated measures in a systems approach for pest risk management). The aim is to help NPPOs go beyond simply complying with pest risk management plans proposed by trade partners, towards a more informed and confident stance of negotiation. Their use also supports the development of combinations for managing pest risk associated with pathways, since single measures are often not sufficient to prevent introductions. The templates allow users to save multiple versions for an iterative development of plans. Facilitators have been trained to support the use of the Beyond Compliance tools for those wishing to employ Systems Approach. Two tools are provided: the Decision Support for System Approach (DSSA), and the Production or Pathway chains.

Decision Support for Systems Approach (DSSA) +

Production or Pathway Chain +

Tools & Manuals

Decision Support for Systems Approach (DSSA)

- Tool: [EN](#) [ES](#) [FR](#) [RU](#) [AR](#) [ZH](#)
- Manual: [EN](#) [ES](#) [FR](#) [RU](#) [AR](#) [ZH](#)

Production or Pathway Chain

- Tool: [EN](#) [ES](#) [FR](#) [RU](#) [AR](#) [ZH](#)
- Manual: [EN](#) [ES](#) [FR](#) [RU](#) [AR](#) [ZH](#)

VERY IMPORTANT: Read [here](#) about regional settings before opening the DSSA template

[Find out more about tools](#)

<< Phytosanitary system page

SYSTEMS APPROACH

- [1. Main page](#)
- [2. Online Tools](#)
- [3. Facilitators](#)
- [4. Contributed resources](#)

[FAQs](#)



Download the Beyond Compliance tools

[« Cancel and go back](#)

In order to download the Beyond Compliance tools, please register by filling out the form below. We may contact you in the future with any updates or for feedback to help us improve the tool

Please fill this form.

Your personal information will be stored to help us to track the usage of the tool, this DOES NOT include the publication or sharing of your name, surname, email address and any other personal detail to third parties or publicly.

In future, you can be contacted to give your feedback to help us to improve it.

First name

Last name

Production Chains (or pathways)

BEYOND COMPLIANCE GLOBAL - Production Chain Template

Enter details in to cells E6, E7, E8 and E9

Authors of Production Chain:

Date of this version:

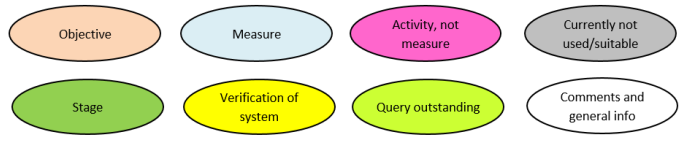
Commodity:

Pest/pathogen:

Exporting country region:

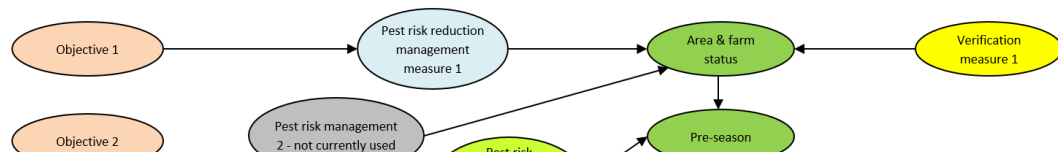
Importing country/region:

Bubble template:



Suggested objective categories

- Indicates level of pest challenge/infestation
- Reduces pest challenge
- Prevents pest infestation
- Reduces pest infestation
- Prevents re-infestation
- Evidence of measure implementation
- Verifying implementation performance
- Traceability



This is a common sense way to visualize (with color coding) and discuss components or options for a Systems Approach along the production chain or a pathway without estimating efficacy.

The objective of each measure is identified, which supports confirmation of independent measures and highlights gaps and redundancies.

Verification and traceability measures are included (as defined in ISPM 5 – phytosanitary measures)

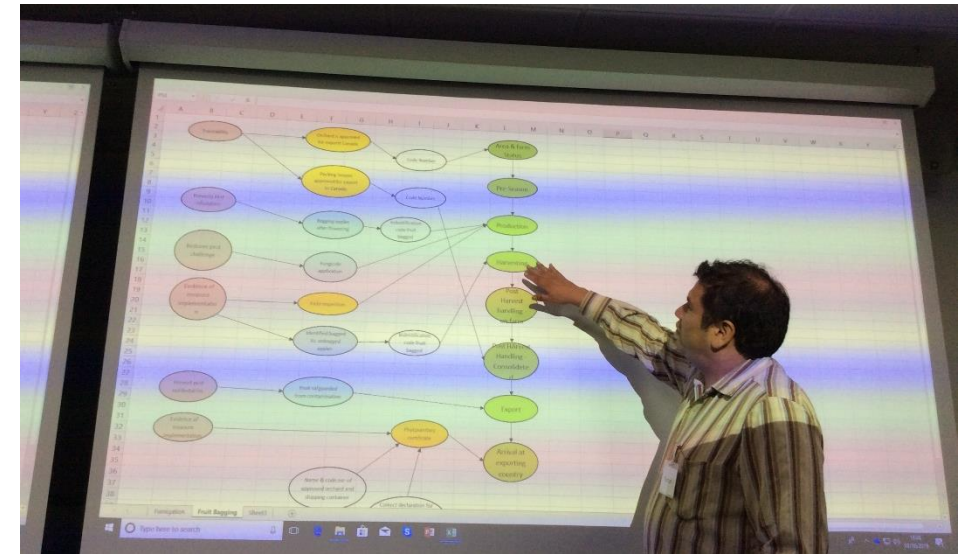
Activities that are not official can be included, as well as measures not currently employed.

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There is always paper and pen, or color post it notes – but it is harder to edit, share or project larger



Decision Support for Systems Approach tool

- This tool provides structure for:
 - Background details from a dossier, PRA or similar characteristics affecting management options
 - Selecting possible phytosanitary measures from the limited range of options
 - Evaluating the measures and overall system, with data or expert judgement
- The tool is most relevant for working through details of proposals with a group
- Individual efficacy of measures assessed (including uncertainty)
- Expert elicited distributions are easy to evaluate and communicate, using graphic representation

Beyond Compliance Global - Decision Support for Systems Approach (DSSA)
Complete Part A to define the Crop, Pest and Trading Countries

Version date: 28/06/2021

Tool is for:



All Contributors, References and Resources

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Microsoft Excel - DSS_for_Systems Approach Dragon fruit_insect pests 120111 New proposed

BEYOND COMPLIANCE
Decision support scheme (DSS) for screening Systems Approach measures

PART C: Comparison of Systems Approach measures

TABLE C1. Description of candidate measures (these may be used alone or with other measures)

Risk management measures available (automatically read in from Table B2)	Efficacy		Verification		Way in which measure reduces risk:	Associated measures
	1.1 a) What is its potential contribution to risk reduction?	1.1 b) Uncertainty	1.2 a) The measure can be verified?	1.2 b) Uncertainty		
i 2.1 Treatment of planting material against insects (aphids, ants)	High	Low	Easy	Low	Insecticide spray can kill aphids & ants on the surface of planting material before planting.	The objective of this measure is reducing population of insect pests and reducing infestation pressure. Other measures with this objective include monitoring, lure trapping, bait spraying.
ii 3.1 Field sanitation at end of previous season	Medium	Low	Easy	Low	All infested fallen fruit are collected and destroyed.	The objective of this measure is reducing population of insect pests and reducing infestation pressure. Other measures with this objective include monitoring, lure trapping, bait spraying.
iii 4.2 Pruning and tree structure	Medium	Low	Very easy	Low	Pruning & destroying all unused branches can reduce aphids & ants resources.	The objective of this measure is reducing population of insect pests and reducing infestation pressure. Other measures with this objective include monitoring, lure trapping, bait spraying.
iv 4.5 Lure and kill pheromone/ insecticide traps or MAT	High	Low	Easy	Low	Reduces adult fruit fly population.	The objective of this measure is reducing population of FF and reducing infestation pressure. Other measures with this objective include monitoring, lure trapping, bait spraying.
v 4.6 Protein bait with insecticide mist	High	Low	Easy	Low	Reduces fruit fly population by killing adult insects that are attracted to the bait.	The objective of this measure is reducing population of FF and reducing infestation pressure. Other measures with this objective include monitoring, lure trapping, bait spraying.
vi 4.7 Insecticide cover sprays	Medium	Low	Easy	Low	Kills aphids & ants on the tree and some fruit fly adults may be killed by contact with insecticide.	The objective of this measure is reducing population of insect pests and reducing infestation pressure. Other measures with this objective include monitoring, lure trapping, bait spraying.
vii 5.2 Fruit trimming and bagging	Very high	Low	Easy	Very low	Fruit trimming removes aphids & ants resources. Bagging young fruit can avoid the entry of insect pests.	The objective of this measure is to protect fruit from infestation during production by insect pests. Associated measures are other barrier measures such as insect netting.
viii 6.2 Harvested fruit kept in shade, in plastic boxes with insect netting for prompt transportation to processing facility	High	Low	Easy	Low	Avoids infestation of insect pests.	The objective of this measure is to protect fruit from infestation post harvest by insect pests in the environment.
ix 6.4 Sorting by governor, removal and destruction of damaged and infested fruit	Medium	Medium	With some difficulty	Medium	This measure can remove some damaged fruit by fruit fly. Governor not as experienced as	Objective is to detect, remove and destroy infestation.

DSSA filled in by a group discussion, there is a place to save references such as publications used

- The DSSA tool is Excel-based using Visual Basic for Applications (VBA) macros to move input across the parts
 - Read the manual for steps to change the setting which allows this to be a Trusted file (or if your institution is blocking all macros, find a personal computer to use the tool)

Example Production Chain Publicly available from e-Book

Dragon fruit from Vietnam

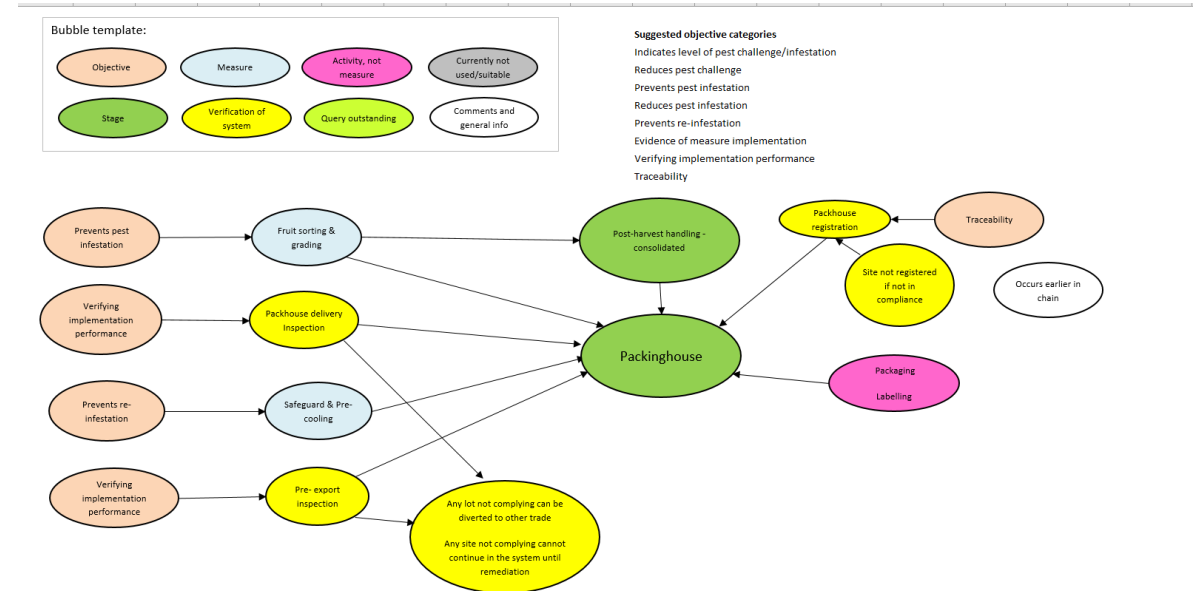
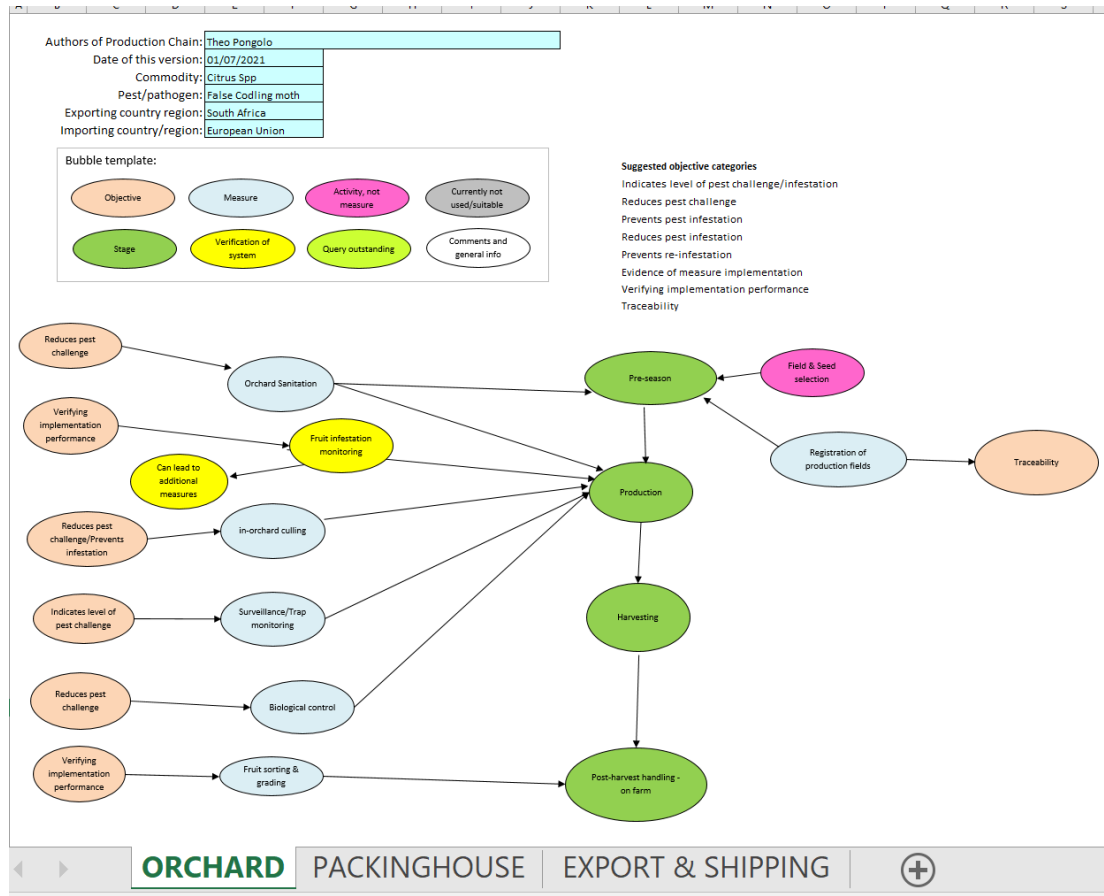


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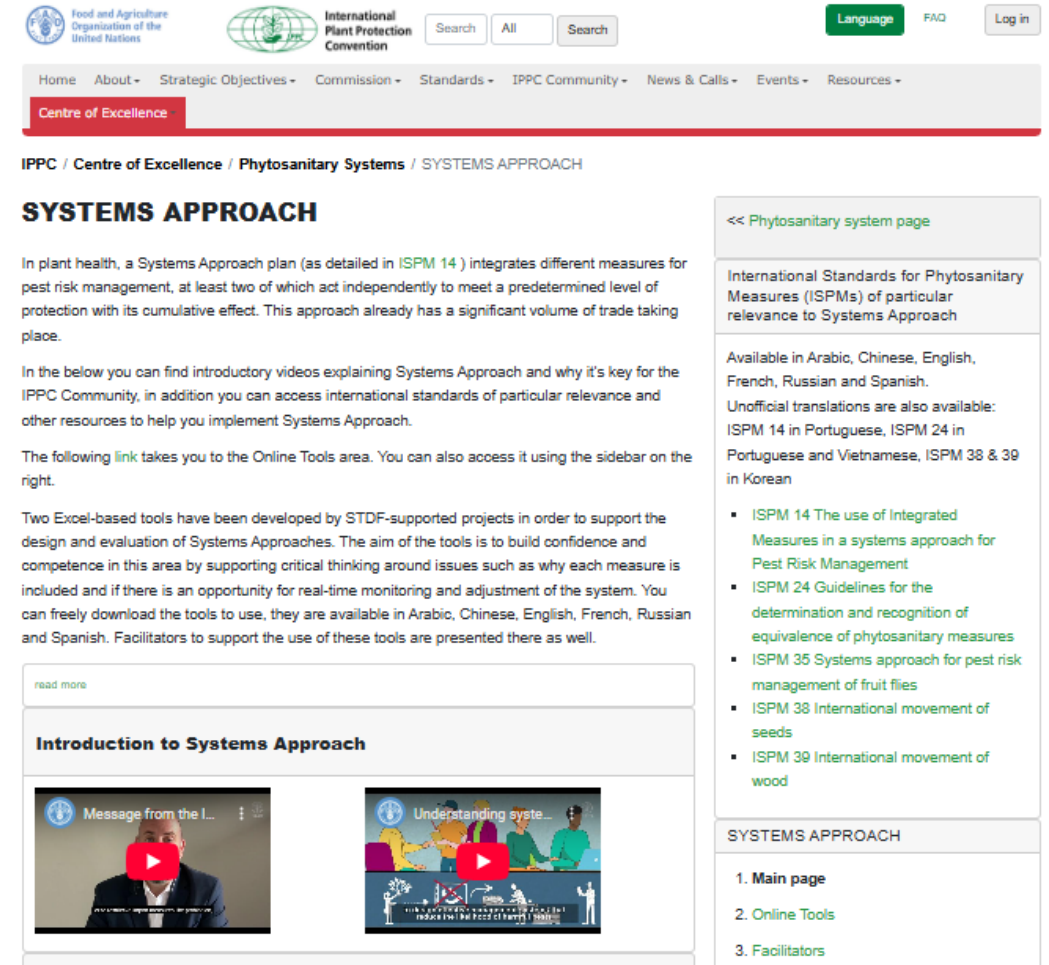
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Complex case broken down into measures in the orchard, measures in packing house etc.



Resources on Systems Approach

- Video message from the Implementation and Capacity Building Committee about the resources
- Video explaining Systems Approach, that can be used with stakeholders
- PowerPoints on basic concepts
- Tools that can be downloaded from online
- Manuals supporting use of these tools
- e-Book from first project, describing Systems Approach and methods for working with tools (Free download from the STDF website or click on right side bar Contributed Resources from page shown)



The screenshot shows the IPPC Centre of Excellence website page for Systems Approach. The page features a navigation menu with options like Home, About, Strategic Objectives, Commission, Standards, IPPC Community, News & Calls, Events, and Resources. A search bar is also present. The main content area is titled "SYSTEMS APPROACH" and includes introductory text about the approach, a list of resources, and a video player. The right sidebar contains a list of international standards (ISPMs) relevant to the Systems Approach, such as ISPM 14, 24, 35, 38, and 39. The page also includes a "read more" link and a "Contributed Resources" section with video thumbnails.

Food and Agriculture Organization of the United Nations | International Plant Protection Convention

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SYSTEMS APPROACH

In plant health, a Systems Approach plan (as detailed in ISPM 14) integrates different measures for pest risk management, at least two of which act independently to meet a predetermined level of protection with its cumulative effect. This approach already has a significant volume of trade taking place.

In the below you can find introductory videos explaining Systems Approach and why it's key for the IPPC Community, in addition you can access international standards of particular relevance and other resources to help you implement Systems Approach.

The following link takes you to the Online Tools area. You can also access it using the sidebar on the right.

Two Excel-based tools have been developed by STDF-supported projects in order to support the design and evaluation of Systems Approaches. The aim of the tools is to build confidence and competence in this area by supporting critical thinking around issues such as why each measure is included and if there is an opportunity for real-time monitoring and adjustment of the system. You can freely download the tools to use, they are available in Arabic, Chinese, English, French, Russian and Spanish. Facilitators to support the use of these tools are presented there as well.

read more

Introduction to Systems Approach

Message from the I... | Understanding syste...

SYSTEMS APPROACH

1. Main page
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International Standards for Phytosanitary Measures (ISPMs) of particular relevance to Systems Approach

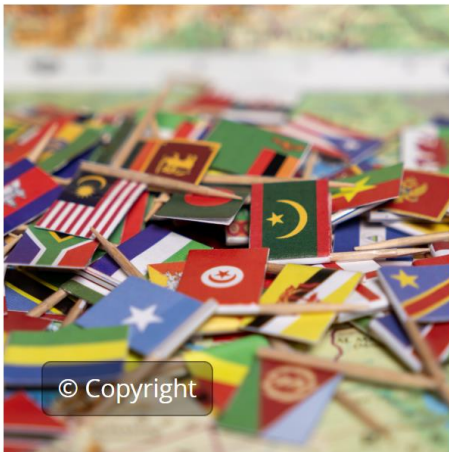
Available in Arabic, Chinese, English, French, Russian and Spanish.
Unofficial translations are also available:
ISPM 14 in Portuguese, ISPM 24 in Portuguese and Vietnamese, ISPM 38 & 39 in Korean

- ISPM 14 The use of Integrated Measures in a systems approach for Pest Risk Management
- ISPM 24 Guidelines for the determination and recognition of equivalence of phytosanitary measures
- ISPM 35 Systems approach for pest risk management of fruit flies
- ISPM 38 International movement of seeds
- ISPM 39 International movement of wood

Same resources are on the new Plant Health Campus under Market Access – consider other uses including protection of natural biodiversity when importing plant products

Home	International Plant Protection Convention	NPPO management	Communication & partnerships	Pest risk analysis	
Surveillance and pest status	Market access	Import & export	Inspection & audit	Emergency response	Pest pathways

Market access



This category provides practical guidance for achieving and maintaining market access. You will learn about the rights and obligations of NPPOs in relation to trade in plants and plant products and will also be introduced to a typical process for securing access to a new market.

This category will also provide information about the role that systems approaches can play in market access.

Featured Video



Understanding systems approach

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- *Your export opportunities are only as good as your national pest status*

- *Your national pest status is only as good as your strategy for import requirements, contingency planning and overview of the entire picture*

Recap -

- Lack of evidence around efficacy of options leads to requests for more measures to allow trade to start – a good Systems Approach protocol can provide more data from the trade itself, while reducing redundancy over time
- Stakeholders – producers, consolidators, packing house and brokers with researchers and regulators – should be involved in designing Systems Approach plans that are feasible for both large and small growers, and the IPPC tools can support that
- Negotiation between trade partners often takes years – these tools can help to highlight exactly where the disagree is. Maybe it is not important!
- Trade negotiations involve more regulators and fewer biologist as all of our NPPOs face restricted resourcing – tools can support that negotiation phase

- There are IPPC tools on the International Phytosanitary Portal to support systems approach – These have been moulded by NPPO and RPPO representatives over the past decade to be easily understood and fit for purpose to use for designing and evaluating export, import or other pathway risk management using Systems Approach
- The IPPC materials are in all FAO languages and provided in Excel software which is widely available (although they also work with a pen and paper!)
- Facilitators are available to support you and STDF would consider PPG requests for implementing these tools in support of market access
- Additional funds would allow merging or coordination with other initiatives, if desired. Additional funds could be used to train additional facilitators in the IPPC tools



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Thank you