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Продовольственная и
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منظمة
الغذية والزراعة
للأمم المتحدة

植物检疫措施委员会

第十四届会议
2019 年 4 月 1—5 日，罗马
《国际植保公约 2020-2030 年战略框架》
议题 8.2
由缔约方志愿者起草

I. 引言

1. 《国际植保公约 2020-2030 年战略框架》自 2014 年起制定。此后，开展了大量起草、磋商、反馈和修订工作。主席团目前建议，在预计于植检委第十五届会议（2020 年）期间召开的部长级会议正式通过《战略框架》之前，由植检委第十四届会议（2019 年）批准该《战略框架》。

II. 背景

2. 2014 年，战略规划小组第三次会议开展了一项活动，旨在确定《国际植保公约》未来将面临的挑战。活动名称为“《国际植保公约》未来 20 年”。参与者对《国际植保公约》所面临的潜在挑战和机遇加以归类并选取了一系列有潜在进一步研究价值的议题。

3. 在 2015 年战略规划小组第四次会议上，小组决定“《国际植保公约》未来 20 年”工作应为《国际植保公约战略框架》的修订打下基础。会议认为，《国际植保公约 2020-2030 年战略框架》应是一项宏伟的事业，《国际植保公约》可在该框架内探索在拟议“2020 国际植物健康年”之后的年份中开展的新活动。战略规划小组和植检委主席团预见到，《战略框架》可作为在“2020 国际植物健康年”可能召开的植检委部长级会议的一项主要成果正式予以通过。战略规划小组成员 Peter Thomson 先生（新西兰）和 Ralf Lopian 先生（渔业及水产养殖部）自愿牵头《战略框架》起草进程。

本文件可通过此页快速响应二维码读取；粮农组织采用此二维码旨在尽量减轻环境影响并倡导以更为环保的方式开展交流。
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4. 在 2016 年战略规划小组第五次会议上，志愿者们提交了《战略框架》架构草案供战略规划小组讨论。战略规划小组讨论了草案的拟议战略目标，确定了今后《国际植保公约》可能开展的发展活动。

5. 2017 年，植检委就《2020-2030 年战略框架》拟议的高层构架和内容提出了意见，重点尤其放在愿景、使命和战略目标上。普遍认为，《战略框架》的目标应与联合国可持续发展目标密切联系。为此编制了一份新的草案并在 2017 年 10 月的战略规划小组会议上进行了讨论。战略规划小组几乎就《战略框架》的各项内容提出了详细意见。战略规划小组的反馈意见纳入了该文件新的版本。

6. 2018 年，植检委提出意见，此后开展了充分的国家磋商。收到了超过 850 项意见。起草人员认真审议并大致接受所提意见，并在此基础上对文件进行了一系列调整。在 2018 年 10 月战略规划小组会议上收到最终反馈意见。战略规划小组邀请起草人员与秘书处合作，根据战略规划小组意见最终敲定文件。此后，主席团将在植检委第十五届会议（2020 年）最终通过文件之前，提交框架最终版供植检委第十四届会议（2019 年）批准。

III. 结构和内容

7. 起草人员聆听了收到的反馈意见并在第一版《战略框架》之后对其做出重大调整。结构和内容反映了植检委和战略规划小组的反馈意见。当前草案载于附录 I。

8. 提请植检委认识到，《战略框架》不是国际植检措施标准或植检委建议。作为一项战略，其主要目的是向不熟悉植检委术语表及通常适用于通用术语的准确用法的许多外部相关方宣传植检委的意图。因此，请参与者接受从严格意义上讲听上去并不完全“顺耳”和“准确”的措辞。

9. 秘书处将在植检委第十五届会议前组织文件的适当编辑、排版和出版工作。

IV. 时间表

10. 植检委第十二届会议为制定和批准《战略框架》提出了示意性时间表。已遵循该时间表；且按照该时间表，《战略框架》将能够准备好，以供计划在“2020 国际植物健康年”期间召开的植检委第十五届会议的一次部长级会议通过。从现在起时间表如下：

- 2019 年——植检委第十四届会议批准《国际植保公约 2020-2030 年战略框架》。
- 2020 年——植检委第十五届会议期间召开的部长级会议通过《国际植保公约 2020-2030 年战略框架》。

V. 植检委第十四届会议讨论与建议

11. 请植检委：

- 1) 在植检委第十五届会议（2020 年）正式通过前，批准《国际植保公约 2020-2030 年战略框架》内容。

DRAFT

Strategic Framework for the International Plant Protection Convention (IPPC) 2020 – 2030

Protecting the World's Plant Resources from Pests

Developed by the Commission on Phytosanitary Measures

DRAFT

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Purpose of This Document

This document aims to communicate the work of the Commission on Phytosanitary Measures (herein after referred to as the Commission) and its priorities for the coming 10 years.

Readers will be able to understand the International Plant Protection Convention (IPPC), the work carried out by the Commission, what the Commission is trying to achieve, and why it matters.

This document will guide the plant health activities of the Commission and its main partners, the National Plant Protection Organizations (NPPOs) of contracting parties and Regional Plant Protection Organizations (RPPOs), over the period 2020 - 2030. Ten years is a long time though, so as we move forward we expect to adapt and respond to ensure we stay on course, not with what we decide today, but with where we need to be in the future.

Who Should Read This Document and Why

The target audiences for this document are broad.

- **Contracting Parties and National Plant Protection Organisations and Regional Plant Protection Organisations** – will use this document at all levels of government and across governmental and non-governmental organisations to communicate how the work of the Commission supports a country to achieve its goals in the areas of: plant protection, food security, protection of forests and the environment, and safe trade and economic development. This strategic framework can be used to align your own strategy and activities to achieve the objectives of the IPPC.
- **Agricultural Producers, Farmers, Exporters and Importers** – the agricultural industry will better understand the threat of plant pests and the vital need for plant protection services and measures, including global plant health standards, to safeguard sustainable agricultural productivity, and profitability.
- **FAO Divisions / Departments and other relevant International Organizations** – will be able to see the work the IPPC Secretariat is doing that could relate to their activities and programmes. They might also see how the IPPC Secretariat could benefit from knowing about or contributing to their work. This will increase the opportunities for alignment of effort, improve resource utilisation, and increase the chance of delivering better results.
- **Donor Agencies** – will be able to identify opportunities to achieve their goals through working with the IPPC Community. They might find specific areas where they want to invest to effect change at a global level, or it may help them to identify priority areas as they work with individual countries.
- **Contracting Party Delegates to the annual Commission meetings** – will use this document to stay focused on agreed objectives and key result areas and thereby determine priorities for the coming years. Effecting change can take many years, so this document will help them remember what they considered to be important and why and help them to clarify the needs for changing direction and building in flexibility for adjustment to changes.

Glossary of Abbreviations

- CBD Convention on Biological Diversity
- CITES Convention on International Trade in Endangered Species of Wild Fauna and Flora Convention. Note in this document references to ‘the Convention’ are to the International Plant Protection Convention
- CPM Commission on Phytosanitary Measures
- EMPRES Emergency Prevention System
- ePhyto Electronic Phytosanitary Certificate
- EPPO European Plant Protection Organisation
- IAEA International Atomic Energy Agency
- IC Implementation and Capacity Development Committee
- IPCC Intergovernmental Panel on Climate Change
- IPPC International Plant Protection Convention (The Convention)
- ISPM International Standard for Phytosanitary Measures
- NPPO National Plant Protection Organisations
- RPPO Regional Plant Protection Organisation
- SPS The Agreement on the Application of Sanitary and Phytosanitary Measures, the "SPS Agreement"
- SC Standards Committee
- STDF Standards and Trade Development Facility
- TFA World Trade Organization’s Trade Facilitation Agreement
- UN United Nations
- WCO World Customs Organisation
- WTO World Trade Organization

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Executive Summary

The introduction and spread or outbreak of plant pests significantly affects food security, biodiversity and economic prosperity. A vast range of plant pests threatens global food production, the productivity and biodiversity of forests and the wild flora of the natural environment. Preventing those pests spreading and establishing in new countries and regions is the aim of national plant protection services (NPPO) and the International Plant Protection Convention (IPPC). Prevention is invariably more cost effective than the alternatives of maintaining long-term control, containment, eradication, or in the worst case, the consequences of unchecked impact.

The IPPC is the global international treaty for protecting plant resources (including forests, aquatic plants, non-cultivated plants and biodiversity) from both direct and indirect damage by plant pests, for facilitating safe trade through common and effective action to prevent the spread and introduction of plant pests, and to promote appropriate measures for their control. It is the only standard setting body for phytosanitary measures recognized by the World Trade Organization's (WTO) the Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS Agreement) and has 183 contracting parties. The IPPC is governed by the IPPC Commission, which mainly identifies actions to control the spread of pests into new areas, develops and adopts international plant health standards and recommendations to harmonize international trade and assists countries in the implementation of those actions and standards. This document communicates the work of the IPPC Commission and its priorities for the coming 10 years.

NPPOs and the IPPC will encounter significant changes in their operating environment during 2020-2030. Global trade in forestry, food and agricultural products is expected to grow and diversify, as will the volume and speed of passenger and freight movements. This increases the potential for pests to move faster than ever before. Structural and operational changes in NPPOs will be caused by developments like data processing and transmission as well as efficiency considerations in how far, for example, border clearance processes can be simplified to facilitate fast trade of perishable products. Advances in science and capacity developments, such as remote sensing, will significantly affect plant health activities as will the mitigation of climate change related impacts on agriculture and plant health. All these and other changes and their impacts on the operating environment of NPPOs and the IPPC have been considered in the development of this strategic framework.

The IPPC Strategic Framework 2020 – 2030 is structured into six major sections (please see also the one-pager graphic at the end of this executive summary) and have the following content:

Mission of the IPPC	<i>Protect global plant resources and facilitate safe trade.</i>
Vision of the IPPC	<i>The spread of plant pests is minimized and their impacts within countries are effectively managed.</i>
Goal of the IPPC	<i>All countries have the capacity to implement harmonised measures to prevent pest introductions and spread, and minimise the impacts of pests on food security, trade, economic growth, and the environment.</i>
Strategic Objectives	<i>A. Enhance global food security and increase sustainable agricultural productivity B. Protect the environment from the impacts of plant pests C. Facilitate safe trade, development and economic growth</i>
IPPC Development Agenda	<i>1. Harmonisation of Electronic Data Exchange: Implementing a global system for production and exchange of electronic phytosanitary certificate information (ePhyto) 2. Commodity and Pathway Specific ISPMs: ISPMs developed for specific commodities and pathways, with accompanying diagnostic protocols, phytosanitary treatments and guidance.</i>

3. **Management of E-commerce and Postal and Courier Pathways:** *A coordinated international effort to address the spread of pests and pest host material sold through e-commerce and distributed through postal mail and courier pathways.*
4. **Developing Guidance on the Use of Third Party Entities:** *Enabling use of third parties to perform phytosanitary actions, including treatments, inspections, etc.*
5. **Strengthening Pest Outbreak Alert and Response Systems:** *A global pest alert and response system to communicate emerging pest risks, so countries can proactively adapt their phytosanitary systems to reduce the risk of introduction, and to strengthen of country and regional abilities to respond effectively to pest outbreaks including new incursions.*
6. **Assessment and Management of Climate Change Impacts on Plant Health:** *A work programme is initiated to assess and manage impacts caused by climate change with regard to plant health and international trade of plants and plant products.*
7. **Global Phytosanitary Research Coordination:** *A voluntary mechanism for global phytosanitary research coordination, to accelerate development of science to support all regulatory phytosanitary activities.*
8. **Diagnostic Laboratories Networking:** *Establish a network of diagnostic laboratory services and diagnostic protocols to support countries to identify pests in a more reliable and timely manner.*

Core Activities

- *Standard Setting*
- *Implementation and Capacity Development*
- *Communication & International Cooperation*

Each of the three Strategic Objectives has a number of Key Result Areas, which outline the impact the Commission expects to see when the Commission, contracting parties, RPPOs and partner organisations successfully work together to deliver this Strategic Framework. Results will be delivered through both the core work of the IPPC and the IPPC Development Agenda.

The **Strategic Objective A** - *Enhance global food security and increase sustainable agricultural productivity.* This aims at reducing the international spread of pests, since the losses caused by the spread of a new pest into new areas or crops can be much more catastrophic than endemic pests in a given area. The impact of plant pests on food security is particularly evident in the developing world where plant health regulatory frameworks often lack capacity. If pest spread is reduced and existing pests are better managed, crop productivity will increase and production costs fall. This would result in significant economic benefits to growers, importers, consumers and governments. Growers would be more able to produce food for their own consumption, domestic supply and exports. The work of the IPPC to enhance global food security and increase sustainable agricultural productivity strongly supports the UN 2030 sustainable development goals 2 (Zero Hunger) and 12 (Responsible Consumption and Production).

Strategic Objective B - *Protect the environment from the impacts of plant pests.* This is especially targeted at plant pests which are invasive alien species and which can and do have a significant and devastating impact on the terrestrial, marine and freshwater environments, agriculture and forests. Consequently, the IPPC framework is applied to address environmental concerns as they relate to plant biodiversity and emerging problems associated with invasive alien species that are plant pests. This applies also to plant pests, which have due to climate change impacts, changed their ranges and impact

potential significantly. The work of the IPPC for this Strategic Objective strongly supports the UN 2030 sustainable development goals 13 (Climate Action) and 15 (Life On Land).

Trade is a critically important part of most national economies. Consequently, **Strategic Objective C - Facilitate safe trade, development and economic growth** recognizes that trade in plants and plant products and the earnings from this trade, stimulates economic growth and brings well-being and prosperity to rural communities and agricultural sectors. The main potential pathway for the global spread of pests is through international trade, so the IPPC aims maximise the benefits of trade by enabling countries to reduce the risk of international pest spread through applying harmonized phytosanitary standards. The IPPC provides standards (ISPMs) for countries to develop import and export systems that manage the pest risks associated with trade in plants and plant products. When properly implemented, trade can occur safely, i.e. without spreading plant pests. The work of the IPPC for this Strategic Objective strongly supports the UN 2030 sustainable development goals 1 (No Poverty), 8 (Decent Work and Economic Growth), and 17 (Partnerships For The Goals).

The **IPPC Development Agenda 2020-2030** with its eight key development programmes identify priority new work aligned to the Commissions' Vision, Mission, and Strategic Objectives. The identification of these priority programmes is based on the likely changes to the operational environment of national, regional, and global plant protection organizations and associated opportunities and challenges. The key development programmes are firmly grounded within the strategic objectives of the strategic framework and ensure that the Commission is well positioned to continue development and coordination of international plant health activities to well beyond 2030. However, each of the new key development programmes is subject to securing required resources to sustain them. Each of these is described by the outcome envisaged for 2030 and a detailed description of each development programme is given.

The **Core Activities** identified are primarily the tools used to achieve the strategic objectives of the IPPC. **Standard Setting** is an important tool to further international harmonization and its positive effects on international trade and preventing the spread of plant pests. The WTO SPS Agreement recognizes standards developed under the auspices of the IPPC as the only international standards for plant health. ISPMs are adopted by the Commission having been developed on a science basis by various technical panels, expert working groups, and the IPPC Secretariat. International harmonization through the development of ISPMs is one of the “*raison d'être*” of the IPPC and stands at the forefront of its efforts to prevent the spread of plant pests.

The IPPC has long recognised the futility of setting standards without also supporting capacity development to enable the Convention and its standards to be effectively implemented by contracting parties. Therefore, **Implementation and Capacity Development** is an essential component of the IPPC work. Through the suite of ISPMs and capacity development programmes, the Commission provides the framework for the NPPOs and the support to help NPPOs build capacity to carry out their functions. Without strong implementation and capacity development activities, the aims of the IPPC, to prevent the spread of pests, will especially for the poorest and most climate change affected nations, become pointless.

Communication & International Cooperation are essential tools aimed at ensuring the understanding of the potential for serious negative impacts from introduced pests worldwide and the development of plant health policies in the policy considerations of different Intergovernmental and Non-governmental organizations. Professional communication with key audiences and intensive cooperation with other international organizations, such as WTO, CBD, WCO and RPPOs, are specifically important to maintain impetus following the International Year of Plant Health 2020.

INTERNATIONAL PLANT PROTECTION CONVENTION

STRATEGIC FRAMEWORK 2020-2030



OUR MISSION

Protect global plant resources
and facilitate safe trade



OUR VISION

The spread of plant pests is minimized and their impacts within
countries are effectively managed

OUR GOAL

All countries have the capacity to implement harmonised measures to
prevent pest introductions and spread, and minimise the impacts of
pests on food security, trade, economic growth, and the environment

STRATEGIC OBJECTIVES

A

Enhance global food security
& increase sustainable
agricultural productivity

B

Protect the environment
from the impacts of
plant pests

C

Facilitate safe trade,
development &
economic growth

CORE ACTIVITIES



Standard setting



Implementation &
capacity development



Communication &
international cooperation

IPPC DEVELOPMENT AGENDA 2020-2030

1. Harmonisation of Electronic Data Exchange.
2. Commodity, and Pathway Specific ISPMs.
3. Management of E-commerce and Courier Mail Pathways.
4. Developing Guidance on the Use of Third Party Entities.
5. Strengthening Pest Outbreak Alert and Response Systems.
6. Assessment and Management of Climate Change Impacts on Plant Health.
7. Global Phytosanitary Research Coordination.
8. Diagnostic Laboratory Networking.

CONTRIBUTING TO UN 2030 SUSTAINABLE DEVELOPMENT GOALS



Introduction

The International Plant Protection Convention (IPPC) is the global international treaty for protecting plant resources (including forests, aquatic plants, non-cultivated plants and biodiversity) from plant pests and for facilitating safe trade through common and effective action to prevent the spread and introduction of plant pests and to promote appropriate measures for their control.

The IPPC is deposited with and administered through the Food and Agriculture Organization of the United Nations (FAO). The IPPC was established as a convention in 1951 and amended in 1979 and 1997. The Commission on Phytosanitary Measures (herein referred to as "the Commission"), is the governing body for the IPPC. The work plan approved by the Commission is administered by the IPPC Secretariat.

The IPPC extends beyond the protection of all cultivated plants to the protection of natural flora and plant products. It includes both direct and indirect damage by pests and plants as pests (collectively called pests under the IPPC). It also covers vehicles, aircraft and vessels, containers, storage places, soil and other regulated articles that can harbour or spread pests.

The IPPC provides a framework and a forum for international cooperation, harmonization of action, and technical exchange between contracting parties. It is the only standard setting body for phytosanitary measures recognized by the World Trade Organization's (WTO) the Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS Agreement).

Implementation of the IPPC involves collaboration by National Plant Protection Organizations (NPPOs), the official services established by contracting parties to carry out the functions specified by the IPPC; and Regional Plant Protection Organizations (RPPOs), which act as coordinating bodies at a regional level to achieve the objectives of the IPPC.

The IPPC Commission comprises delegates from each of the contracting parties, **183 as of January 2018**. The Commission meets during March or April each year usually at FAO headquarters in Rome, Italy, to promote cooperation and agree on a work plan to implement the objectives of the IPPC. In particular, the Commission:

- reviews the state of plant protection around the world
- identifies actions to control the spread of pests into new areas
- develops and adopts international plant health standards and recommendations
- approves programmes to support implementation of the Convention and adopted standards; and
- cooperates with international organizations on matters covered by the Convention

The IPPC has become particularly significant and relevant in light of evolving plant health risks associated with the increasing movement of plants and people, climate change, the spread of pests, and the need to ensure food security, to protect plant resources and biodiversity and to support the safe expansion of global trade and economic growth opportunities for all.

Plant Pests

[Two page spread of case studies with pictures and edited down to fit on 1 page.]

The introduction and spread or outbreak of plant pests has significantly affected food security and economic prosperity (see Box 1). A vast range of plant pests threaten global food production (including animal feed), the productivity and biodiversity of forests and the wild flora of the natural environment. Some historical impacts of plant pests are well known, such as:

- Potato blight (*Phytophthora infestans*) on potatoes in Ireland,
- Coffee leaf rust (*Hemileia vastatrix*) on coffee in Sri Lanka, Central America and Brazil,
- Fusarium wilt on bananas (*Fusarium oxysporum* f.sp. *cubense*) in Latin America, Asia, Australia and Africa,
- Phylloxera (*Daktulosphaira vitifoliae*) on grapes in Europe and the United States,
- South American leaf blight of rubber (*Microcyclus ulei*) on rubber in Brazil,
- Yellow rust (*Puccinia striiformis*) on wheat in North America, Europe, Asia, North and East Africa,
- Dutch Elm disease (*Ophiostoma ulmi*) on elm in Europe and the United States and European
- Gypsy Moth (*Lymantria dispar*) in the north-eastern forests of North America, and
- Fall Armyworm (*Spodoptera frugiperda*) in Americas and more recently in Africa.
- Citrus Greening disease (*Candidatus Liberibacter asiaticus*) on citrus in parts of the Americas, Asia and Africa,
- *Xylella fastidiosa* causing disease symptoms across a broad range of hosts in parts of the Americas, Asia and Europe.

Although the impacts of pests range from negligible to extremely high, it is often difficult to fully assess these impacts ahead of time. Preventing pests from spreading and establishing in new countries and regions is invariably more cost effective than maintaining long-term control, containment, eradication, or the consequences of unchecked impact. Some illustrative pests case studies can be found in the text boxes (Pest Case Studies 1-4).

Pest Case Study 1: *Halyomorpha halys*, the Brown Marmorated Stink Bug (BMSB)

Halyomorpha halys, the Brown Marmorated Stink Bug (BMSB), is native to Asia. It has invaded both Europe and the United States, where it has spread quickly. In the mid-Atlantic region, serious losses have been reported for a range of crops. Hosts in invaded areas include many fruit trees, vegetables, row crops, ornamentals and native vegetation. BMSB is also a major nuisance pest due to its overwintering behaviour. In autumn adults can aggregate in very large numbers in houses and other man-made structures, emitting a pungent smell when disturbed. This aggregative association with man-made structures (such as shipping containers) also increases the likelihood of long distance transport of BMSB as a contaminating pest. The Commission has adopted an International Standard for Phytosanitary Measures (ISPM) on the international movement of used vehicles, machinery and equipment to minimize the probability of introduction of contaminating pests on these pathways.

Operating Environment 2020 – 2030

To plan for the future it is important to try to envision what the future might look like. Rather than attempt to make specific predictions a useful approach is to identify and extrapolate emerging major trends and some of their drivers. These provide a general picture of the future that this strategic framework needs to address, both in terms of challenges and opportunities. Major trends expected to be present during this period with relevance to the Commission and its members include:

Increasing and More Diversified Trade

Global trade in forestry, food and agricultural products has tripled in value terms since the turn of the millennium and it is expected that this trend will continue. Political stability will tend to support trade growth, while instability will be a disruptor. In 2015, the FAO noted that the global trade in food products will continue to expand rapidly, but that the structure and pattern of trade will differ significantly by commodity and by region. FAO also predicted that “greater participation in global trade is an inevitable part of most countries’ national trade strategies, but that the process of opening up to trade, and its consequences, will need to be appropriately managed if trade is to work in favour of improved food security outcomes¹”. In addition, how commodities are traded is anticipated to change. The geographical separation of individual steps in the production chains will affect trade and require countries to cooperate. Specific drivers for this trend have been identified as follows:

Pest Case Study 2: *Xylella fastidiosa* (Xf)

Xylella fastidiosa (Xf) is the causal agent of Pierce’s disease of grapevines, and of diseases of many other important crops (including citrus, avocado, olives and stonefruits), ornamental and forestry plants. The bacterium is vectored by xylem-feeding insects, particularly sharpshooters and spittle bugs. The host range of Xf is wide and expanding rapidly as it encounters new hosts and new vectors in invaded ranges. Over 300 plant species can be affected by one or more of its subspecies or strains. In the 1990s a strain emerged in Brazil as citrus variegated chlorosis disease (CVC). CVC rapidly became one of the most economically important diseases of orange production, causing annual losses of several million dollars. Xf has now emerged and spread in some European countries, causing a serious outbreak on olives. In Italy, it is rapidly spreading and threatening the traditional olive industry and its associated social and traditional linkages. This disease is now causing serious economic, environmental, social and trade impacts. The Commission has adopted a diagnostic protocol for *Xylella fastidiosa*.

□—————

¹ <http://www.fao.org/publications/soco/the-state-of-agricultural-commodity-markets-2015-16/en/>

Structural and Operational Changes in the Way National Plant Protection Organisations Work

NPPOs have undergone considerable changes in the past 20 years. The increase in volumes and diversity of traded commodities requiring certification or checking at border has led to considerable operational changes of NPPOs.

Developments in data processing and transmission have made it possible to communicate

phytosanitary relevant information in real-time. Producers and other stakeholders have increasingly understood the benefits of plant health standards and procedures to their business prospects. They are increasingly willing to cooperate with NPPOs to streamline production and regulatory

activities. As public funding comes under pressure, NPPOs will need to make further efficiency gains and increase collaboration to achieve necessary plant health goals. The main developments in this area are expected to be as follows:

- Border clearance processes will be simplified to get products to consumers faster, creating challenges for import inspection. The WTO Trade Facilitation Agreement will support these changes.
- Importing industry participants will increasingly take responsibility for ensuring pest risks are managed from exporting countries through private standards and commercial arrangements.
- Changes will occur in production practices, e.g. vertical farming, enabling new approaches to pest management.
- Communication, data exchange and management capabilities will enable easier access to specialist expertise and sharing of information for pest risk analysis.
- Public sector and international organization funding will become more constrained, putting pressure on agencies to innovate to find efficiencies in pest risk management, e.g. targeted inspection and other risk-based interventions.
- Public will continue to demand transparency and ‘open government’, and maintaining public agency ‘social licence to operate’ will require NPPOs to more effectively communicate their value proposition.
- Importing countries will expect higher levels of protection, and disagreements on appropriate phytosanitary measures are expected to intensify, slowing market access negotiations or disrupting existing trade.
- Consumer demand will continue to increase for fresh fruits and vegetables free of pesticide residues. This will become more challenging as pests spread across borders and will require new improved approaches to pest risk management by exporting and importing countries.

Pest Case Study 3: *Bursaphelenchus xylophilus*, the pine wood nematode (PWN)

Bursaphelenchus xylophilus, the pine wood nematode (PWN) is the causal agent of the economically and environmentally significant ‘pine wilt disease’ in species of pine (*Pinus* spp.). PWN is native to North America and is vectored by species of the wood-inhabiting longhorn beetle *Monochamus*. PWN was introduced into Asia (Japan) at the turn of the 20th century via timber exports, and has now spread into China and Korea. PWN was first detected in Europe (Portugal) in 1999 and now threatens to spread in Europe. The spread of the disease from tree to tree is primarily through the vector (*Monochamus* spp.), and the emergence of adult beetles from PWN infested wood is believed to be the most likely method of introduction. Local species of *Monochamus* that can vector PWN are found throughout the Northern Hemisphere. PWN is not only an important pest with regard to forestry production, but can have significant environmental repercussions such as biodiversity loss or increased erosion in alpine environments. Prior to the adoption of the standard related to the use of wood packaging material (ISPM 15), wood packaging was considered to be the main pathway for the spread of PWN. The Commission has adopted a set of ISPMs to assist in PWN management.

- The role of RPPO's to develop regional standards and then assist less developed countries to implement them, will become increasingly important. RPPO's and NPPO's may have to adapt their current operating models.

Scientific and Capacity Development

Although overall research in traditional plant health related disciplines is expected to decline, it is expected that a number of research developments will significantly affect plant health activities. Continuing

developments in molecular biology and genetic sequencing are expected to deliver new tools but also new challenges for plant health diagnostics. Developments in IT and remote sensing applied to plant health, and increased data analytics capabilities will open doors for new approaches in surveying and monitoring for plant pests. Some of these positive developments

Pest Case Study 4: *Spodoptera frugiperda*, known as Fall Armyworm (FAW)

Spodoptera frugiperda, known as Fall Armyworm (FAW), is an insect that is native to tropical and subtropical regions of the Americas. In its larval stage, it can cause significant damage to crops, if not well managed. It prefers maize, but can feed on more than 80 additional species of plants, including rice, sorghum, millet, sugarcane, vegetable crops and cotton. Recently it has become a major concern in Africa. Since its first occurrence in January 2016 and it has quickly spread across virtually all of sub-Saharan Africa within a few years. In addition it has spread to India and China in 2017-2018. Because of increasing trade and the moth's strong flying ability, it has the potential to spread further. Farmers and NPPOs need substantial support to sustainably manage the pest in their cropping systems. The FAW has the potential to significantly reduce food production in the areas it has been introduced to and thus contributing to food shortages especially in Africa.

will be limited by capacity needs in developing countries and especially in least developed countries. The capacity of such countries needs to be strengthened to allow them to participate in world trade. The main developments in this area are expected to be as follows:

- Scientific advances will improve ability to detect pests faster and provide new methods to manage pests and their spread.
- New research methods may contribute to the development of pest resistant plants.
- Detection of new pests without reliable information on their potential to cause harm will present challenges to risk management.
- "Big data"² and advanced analytical tools will provide new opportunities to detect patterns and target pest surveillance and border inspections.
- Differing capacities among countries to monitor and respond to pest risks will impact trade and put neighbouring countries at risk.
- Less developed countries may continue to face difficulties acquiring technology, retaining expertise, and setting up viable phytosanitary systems for participation in agricultural trade. However, some technologies may become cheaper and more universally available, which would benefit developing countries.

Impacts of Climate Change on Plant Health

The mitigation of climate change related impacts on agriculture and plant health will present a major challenge to NPPOs and international organizations in the plant health field. Changes in food production patterns and their trade will become apparent over the next two decades. The consequential changes in plant health, such as pest epidemiological anomalies and frequent distribution extensions will provide challenges, especially in the areas of surveillance, monitoring and pest risk analysis. The danger of pests

² The use of extremely large data sets that may be analysed computationally to reveal patterns, trends, and associations.

adapting to changed climate parameters may cause new pest risk to major staple crops. The main drivers in this area are expected to be:

- Climate change will result in more frequent extreme weather events, potentially leading to altered locations and methods of food production around the world.
 - Climate change will affect pest epidemiology, distribution, host distribution and thereby, pest impacts.
 - Water security/availability will become an increasing challenge for more regions in the world, affecting where crops are grown and marketed.
 - New or mutated pests or their more aggressive strains will emerge and impact significantly on crop productivity and quality, the environment and trade.
-
- [Insert a pictograph of the future]

Mission of the IPPC

Protect global plant resources and facilitate safe trade.

Vision of the IPPC

The spread of plant pests is minimized and their impacts within countries are effectively managed.

Goal of the IPPC

All countries have the capacity to implement harmonised measures to prevent pest introductions and spread, and minimise the impacts of pests on food security, trade, economic growth, and the environment.

Strategic Objectives

As an international body, the Commission is focused on outcomes at a global level. The IPPC is the primary international treaty for protecting global plant resources (including forests, non-cultivated plants and biodiversity) from plant pests and for facilitating the safe movement of plants and plant products and other regulated articles in international trade. The core purpose of the IPPC is to prevent the international spread of plant pests and reduce their impact, but this only matters to the extent it enables the achievement of broader outcomes. Achieving the purpose of the Convention contributes positively to outcomes that are important to the entire world.

The Commission has identified three Strategic Objectives that capture the major contributions it makes in a global context. While contracting parties and RPPOs cannot take complete accountability for any of the objectives, they can play an important role, and must ensure that efforts stay focused on achieving results in these areas. The three Strategic Objectives are equally important and the Commission work programme must be balanced to ensure the collective work programme contributes to all three objectives.

Key Result Areas are described for each Strategic Objective. The Key Result Areas outline the impact the Commission expects to see under each Strategic Objective when the Commission, contracting parties, RPPOs and partner organisations successfully work together to deliver this Strategic Framework. Results will be delivered through both the core work of the IPPC and the IPPC Development Agenda Initiatives described later in this document.

The Commission's three Strategic Objectives are to:

- **Enhance global food security and increase sustainable agricultural productivity**
- **Protect the environment from the impacts of plant pests**
- **Facilitate safe trade, development and economic growth**

The IPPC, as a convention established under FAO Article XIV, plays a critical role in supporting each of these Strategic Objectives through its programmes, standards, and actions.

All IPPC core activities contribute to these Strategic Objectives. In addition, the IPPC 2020-2030 Development Agenda initiatives will significantly strengthen the impact the work of the Commission will have on these Strategic Objectives. Delivery of the Development Agenda will depend on whether sufficient resources can be secured through the FAO regular programme funding and additional financial resources.

Within the framework of the IPPC the contracting parties and RPPOs play a critical role in advancing the implementation of the convention at a national and regional level. The NPPOs of contracting parties are important partners to the IPPC in terms of developing concrete actions at a national level to fulfil their mandated role, implement the convention and ISPMs and prevent the spread of pests that can affect agriculture, food security and biodiversity. RPPOs are also critically important in coordinating these efforts at a regional level and especially in developing and implementing capacity building activities. In addition, RPPOs may be able to undertake specific tasks in implementing this strategic framework on behalf of the Commission. For this reason effective partnerships with contracting parties and RPPOs are essential for achieving progress with these Strategic Objectives.

A. Enhance Global Food Security and Increase Sustainable Agricultural Productivity

High impact pests can challenge primary production, food, and feed supplies in all nations. In 2015 in the Journal of Agricultural Science Oerke estimated global crop losses due to pests “varied from about 50% in wheat to more than 80% in cotton production”, with estimated losses of “26–29% for soybean, wheat and cotton, and 31, 37 and 40% for maize, rice and potatoes, respectively”³. The losses caused by the spread of a new pest into new areas or crops can be much more catastrophic, sometimes causing total loss of crops until new strategies can be deployed to combat the pest. As pest spread is managed, crop losses are reduced and food security increased.

Food security – the availability of and access to adequate food supplies has many dimensions including population dynamics, land use choices, climate change, crop production practices, management of pests, access to genetic resources, new production technologies, trade, food aid, and rural development. Demographic trends may exert pressure on food security globally but particularly in developing regions. Overall, FAO estimates that global agricultural output needs to expand by about 70 percent to meet the food needs of the population expected in 2050. Crop production is expected to continue to account for over 80 percent of the world’s food.

Crop production intensification and pest management strategies need to be more sustainable than current or historical ones i.e. they must value and enhance ecosystem services such as soil nutrient dynamics, pollination, and water conservation. They must also build on elements that include integrated pest management, biological control of pests, conservation agriculture, access to and sustainable use of plant genetic resources, while also reducing soil, air and water pollution.

The impact of plant pests on food security is particularly evident in the developing world where plant health regulatory frameworks often lack capacity. Contracting parties should be ensuring their plant health regulatory frameworks are appropriately structured, resourced and implemented to avoid pests putting their food security at risk. The IPPC can support contracting parties to have the skills, capacity and knowledge they need to do this.

If pest spread is reduced and existing pests are better managed, crop productivity will increase and production costs fall. This would result in significant economic benefits to growers, importers, consumers and governments. Growers would be more able to produce food for their own consumption, domestic supply and exports.

2030 Key Result Areas

- A1: All NPPOs have effective pest surveillance systems in place for timely detection of new pest arrivals and monitoring spread.
- A2: All NPPOs have strong capacities to monitor, detect, diagnose, report, and prepare rapid responses to pest outbreaks, so that these pests do not cause major impacts on food supplies and they do not spread thereby threatening other regions and trading partners.
- A3: A plant health emergency response system that facilitates timely action against new pest incursions and supports countries with emergency response systems tools and knowledge.
- A4: Sustainable pest risk management options, such as ‘systems approaches’, are implemented widely to minimise pest impacts right through the production process and harvesting, and minimise the need for endpoint treatments.
- A5: All NPPOs have Pest Risk Analysis (PRA) capacity in place to identify and mitigate pest risks to crop production.
- A6: Pest risk prevention is integrated throughout the production, processing and trade chain of plants and plant products.

Contribution to the UN 2030 Sustainable Development Agenda⁴

The work of the IPPC to enhance global food security and increase sustainable agricultural productivity strongly supports the UN 2030 sustainable development goals 2 and 12.

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³ OERKE, E. (2006). Crop losses to pests. The Journal of Agricultural Science / Volume 144 / Issue 1 / February 2006. <https://doi.org/10.1017/S0021859605005708>

⁴ <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>



Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
 Goal 12. Ensure sustainable consumption and production patterns

B. Protect the Environment from the Impacts of Plant Pests

Awareness has increased the importance of invasive alien species, which can and do have a significant and devastating impact on the terrestrial, marine and freshwater environments, agriculture and forests. The IPPC and its standards and the IPPC framework are applied to address environmental concerns as they relate to plant biodiversity and emerging problems associated with invasive alien species that are plant pests. Continuing concern with climate change and protecting forests and the environment compels the Commission, RPPOs and contracting parties to be aware of the potential for pest distribution and impacts to change with the changing climate. Governments' policies to minimize harm to forests and the environment, climate change and spread of invasive alien species will have to be matched with the need to maintain sustainable food production in order to ease poverty and feed their populations. Identification and promotion of environmentally sustainable measures to manage pests (including pest plants) will be needed.

As climate change impacts are felt more widely, more frequent extreme weather events have the potential to increase the rate of natural windborne spread. Climate is often a limiting factor for a pest both in terms of their survival and fecundity. As climates modify, plant and pest ranges will change and pest impacts have the potential to increase significantly.

Importantly the IPPC has recognised the need to protect environments from pests in ways that don't themselves have negative environmental impacts. Acceptance of sustainable pest risk management options, such as systems approaches, are reducing reliance on end-point chemical-based and other treatments. The prevention of pest spread also significantly reduces the need to use harmful chemicals in the environment or to resort to destructive methods of control which can be particularly impactful in forests.

The IPPC engages with biodiversity and environment related conventions, international collaborations, and capacity development arrangements such as the Convention on Biodiversity, the Global Environmental Facility and the Green Climate Fund. Whereas the Convention on Biodiversity addresses biodiversity and the environment in general, the IPPC deals specifically with those invasive alien species that are pests of plants, and establishes standards and provides guidance for protection against them. Many ISPMs have elements directed to protection of biodiversity. The IPPC standards on pest risk analysis (ISPM 2, ISPM 11, and ISPM 21) for example, can be essential and important tools for the assessment of environmental pest risks. The standard concerning the treatment of wood packaging material (ISPM 15) is aimed at management of tree and wood pests that can affect forest biodiversity or wood production.

The IPPC has and continues to progress the development of a number of other standards, guidance and recommendations dealing with the potential movement of plant pests important to the protection of biodiversity. These deal with invasive aquatic plants, minimizing pest movement by sea containers and air containers, and reducing the pest risk from waste material from ships.

The IPPC also makes accessible a wide range of resources for environmental agencies to take action against pests with environmental and biodiversity impacts.

2030 Key Result Areas

- B1: Contracting parties recognise management of environmental plant pests as part of their responsibilities and work with national environmental sector agencies to support pest management programmes aimed at environmental protection.
- B2: Contracting parties have mechanisms in place to control the spread of environmental contaminating pests on non-plant trade pathways, e.g. invasive ants on vehicles and machinery, or gypsy moth egg masses on sea containers and vessels.
- B3: Mechanisms are in place to share adaptation strategies for responding to the impacts of climate change.
- B4: Agencies with environmental and forest biodiversity stewardship responsibilities regularly access information and other resources managed by the IPPC Secretariat.
- B5: Contracting parties continue to improve their capacity to implement key IPPC standards which directly address the spread of forest and environmental pests, such as ISPM 15 on wood packaging materials and other such standards, to contain the global spread of pests which threaten forests, biodiversity, and non-cultivated flora.

Contribution to the UN 2030 Sustainable Development Agenda

The work of the IPPC for this Strategic Objective strongly supports the UN 2030 sustainable development goals 13 and 15.



Goal 13. Take urgent action to combat climate change and its impacts

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

C. Facilitate Safe Trade, Development and Economic Growth

Trade is a critically important part of most national economies. Trade in plants and plant products and the earnings from this trade, stimulates economic growth and brings well-being and prosperity to rural communities and agricultural sectors. The main pathway for the global introduction and spread of pests is through international trade.

Minimising production losses from pests and reducing pest control costs and side effects, is important to maximising returns for domestic growers. Preventing the spread of pests to new areas, eradicating newly established pest populations, or creating recognised pest free areas, pest free places of production and pest free production sites, simplify access to export markets. Exporting countries need strong phytosanitary systems to assure their trading partners that the imports they receive will not come with pests that would harm the importing country economy or environment. When exporting countries have established strong phytosanitary certification systems and therefore provide reliable phytosanitary assurances to the importing countries, trade pathways are smoothed and barriers to trade can be less.

Economies and citizens benefit from imported plant products through availability of a greater variety of products, and year round access. Imports are also an important source of new plant varieties or breeding material to grow the agricultural economy. Importing countries need effective systems to understand and manage the pest risks that may be associated with trade in plants and plant products. This capability supports the establishment of technically justified phytosanitary measures, robust border controls and science-based trade negotiations.

The IPPC provides standards (ISPMs) for countries to develop import and export systems that manage the pest risks associated with trade in plants and plant products. When properly implemented, trade can occur safely, i.e. without spreading plant pests. When countries operate their phytosanitary systems

according to the Convention and harmonised measures adopted by the Commission, trading partners have a common understanding, they can trust each other's assurances, and trade negotiations should be simpler and quicker.

The World Trade Organization's (WTO) Trade Facilitation Agreement (TFA) entered into force on 22 February 2017 after two-thirds of members completed their domestic ratification process. This agreement will support NPPOs in their responsibilities relating to import-based risk prevention and management. In this regard, there will be increasing imperatives to work more closely with border agencies, including Customs. The IPPC will seek to increase collaboration with the World Customs Organisation and the WTO on the trade facilitation agenda.

2030 Key Result Areas

C1: Commodity specific standards with harmonised phytosanitary measures have facilitated and accelerated trade negotiations and simplified safe trade in plant products.

C2: Detection of pests in trade pathways are declining as exporting countries take more responsibility for managing the pest risk on exports, and importing countries report detections more quickly and more consistently.

C3: NPPOs have built capacity and been supported to establish phytosanitary export assurance and phytosanitary certification systems that have strong integrity and are trusted by trading partners.

C4: The efficiency of administering phytosanitary certification systems has improved and the circulation of fraudulent certificates has been eliminated through electronic phytosanitary certification systems including the Generic National System and the Global ePhyto Hub.

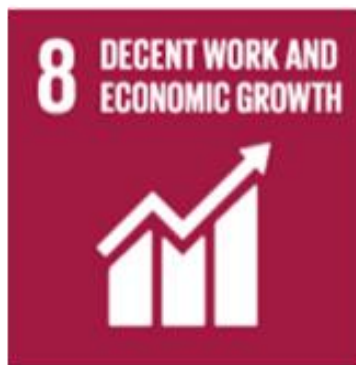
C5: NPPOs have access to expert advice to enable resolution of bilateral trade concerns of a phytosanitary nature.

C6: NPPOs are able to meet regularly to deliberate on phytosanitary research and emerging issues and other matters of common interest.

C7: Member countries have legislation in place to enable implementation of ePhyto.

Contribution to the UN 2030 Sustainable Development Agenda

The work of the IPPC for this Strategic Objective strongly supports the UN 2030 sustainable development goals 1, 8, and 17.



Goal 1. End poverty in all its forms everywhere.

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

IPPC Development Agenda 2020 - 2030

The IPPC Development Agenda 2020-2030 aims to identify priority programmes of new work aligned to the Commissions' Vision, Mission, and Strategic Objectives. The identification of these priority programmes is based on the prospective changes to the operational environment of national, regional, and global plant protection organizations.

The Commission, as an international body with an underlying secretarial structure will be subject to policy and budgetary changes of its hosting entity, FAO. The success of the Commission to deliver on the purpose of the Convention will ultimately be measured against its ability to support the needs of contracting parties to stop the spread and reduce the impact of pests, but it will also be measured on its contribution to achieving the UN Sustainable Development Goals. To face possible budgetary constraints the Commission may have to streamline operations and integrate operational delivery much more closely with relevant FAO departments and offices.

The IPPC Development Agenda 2020 – 2030 helps to address these anticipated changes to the operational environment of the Commission by proposing several development programmes for the 2020 – 2030 period. Delivery of these programmes will contribute significantly to achieving the Strategic Objectives of the Commission and the UN 2030 Sustainable Development Goals. The development programmes are firmly grounded within the strategic objectives. They ensure that the Commission is well positioned to continue development and coordination of international plant health activities to well beyond 2030. However, each of the new programmes is subject to securing required resources to sustain them.

Eight key development programmes have been identified. Each of these is described by the outcome envisaged for 2030 and then a more detailed description of each development programme is given.

1. Harmonisation of Electronic Data Exchange: [Implementing a global system for production and exchange of electronic phytosanitary certificate information \(ePhyto\)](#)

Desired 2030 Outcome:

A global system for production and exchange of electronic phytosanitary certificate information is fully operational and integrated at a country level into trade single windows. The system is supported by a sustainable business model and is self-funded. A significant global effort to implement it in all countries has been completed. The system has strengthened and simplified safe trade in plants and plant products, reducing transaction costs, expediting the clearance of compliant products and eliminating fraud.

Description:

Electronic systems to facilitate the implementation of the Convention and its standards have been focused on by the Commission for several years. The establishment of an international hub for the exchange of electronic phytosanitary certificate information and the development of a Generic ePhyto National System have received much attention and been viewed as major keys to facilitating safe trade. The successful establishment of an ePhyto system firmly positions the Commission within the safe trade facilitation sphere and underlines the Commission's ability to contribute more than just ISPMs to support the trade objectives.

The development of any electronic system faces the prospect of rapidly advancing technology which makes it impossible to fathom now what the developments and opportunities will be from 2020 - 2030. For the Commission, the aim must be to keep abreast of the newest developments in electronic systems and identify their potential to enable implementation of the Convention and its ISPMs. This would primarily focus on information exchange activities and further extension of the ePhyto system. An activity of the Commission could be to investigate the value of a centralized phytosanitary import requirements database, based on information uploaded by each importing country. It could simplify achieving common understanding of each country's phytosanitary requirements. In addition, it could be connected to an extended ePhyto system to simplify the certification process. Other notification requirements, such as notification of non-compliance, could be included into the ePhyto system.

Going forward, CPM will work closely with the World Customs Organization (WCO) and other relevant organizations regarding implementation of the Trade Facilitation Agreement (TFA), particularly the development and implementation of the single window concept. This will ensure the global ePhyto solution being developed under the IPPC is aligned with the broader TFA single window model. This will recognize the right of member countries to determine for their own country how electronic phytosanitary certificate information interfaces with single window systems.

Intensifying the Commissions efforts to maintain or develop electronic systems to facilitate the implementation of the IPPC and international harmonization, would significantly contribute to safe trade development and the implementation of the Convention and its standards.

Activities to be carried out during 2020 - 2030 could include:

- Successful establishment of the IPPC ePhyto hub as the international system for exchange of electronic phytosanitary certificate information.
- Successful establishment of the IPPC Generic ePhyto National System for production, sending, and receiving of electronic phytosanitary certificate information.
- The successful implementation of both the ePhyto hub and the Generic National System, where needed, by all contracting parties.
- Investigation of including other databases into the ePhyto hub or associating them with the electronic certification requirements.
- Establishment of pilot projects for new or improved electronic systems.

2. Commodity and Pathway Specific ISPMs: ISPMs developed for specific commodities and pathways, with accompanying diagnostic protocols, phytosanitary treatments and guidance.

Desired 2030 Outcome:

Many new ISPMs have been adopted and implemented for specific commodities and pathways, with, as required, accompanying diagnostic protocols and phytosanitary treatments to support implementation. They provide NPPOs with harmonized phytosanitary measures, which they may use to support their pest risk analysis activities and import regulatory systems, or to establish export-oriented production systems. This has simplified trade and expedited market access negotiations.

Description:

Trade is no longer characterized by the exchange of finished products alone, but also by the co-production of goods between countries. Some of the largest agricultural companies diversify their presence and production around the world. This enables companies to move plants and plant products around the world to respond to fluctuations in demand, as well as source agricultural materials from different countries and regions. Furthermore, intensifying agricultural development efforts result in increased trade and exchange of plant propagation materials and movement of workers, increasing the risks of cross border or intercontinental transmission of some pests. Thus, plant health strategies must evolve to prevent, respond and/or manage pest risks as business practices and production methods change.

The IPPC can respond by generating commodity and pathway specific standards that will facilitate safe trade and reflect both traditional and changing business practices for the international movement of plants and plant products. These standards should be accompanied by pest-specific diagnostic protocols, phytosanitary treatments, surveillance methods, risk-based sampling provisions and other guidance material which will help countries to fully implement new standards. The commodity- and pathway-specific ISPMs may also include provisions for verification, such as audits.

In most cases, trade can only occur after bilateral negotiation between countries to ensure they are satisfied phytosanitary risks will be appropriately managed. These negotiations are based on WTO SPS principles and IPPC standards. Over the years, multiple trading partners bilaterally negotiate rules to manage pest risks associated with a commodity or pathway, even though often, many of the pests associated with the commodity are identical in each of the bilateral negotiations. Significant advances in trade facilitation would be made if standards (ISPMs) were developed that established harmonized pest risk management options for the major pests or major groups of pests associated with a commodity

or a pathway. Countries would still be free to negotiate measures for pests of concern not properly covered by the commodity or pathway specific ISPM, if technically justified.

Future standard setting will focus more and more on commodity- or pathway-specific topics rather than on broad conceptual and foundational issues which have been largely addressed. In order to establish a relevant work-programme for commodity or pathway specific ISPMs it is necessary to first determine carefully the structure, format, content, breadth of coverage and implementation of such standards, taking into account the fact that the needs may differ for different types of commodities and pathways. These are the precursors before concrete standard setting could commence

The development of commodity and pathway specific standards may also incorporate additional activities with regard to new phytosanitary treatments. Many of the commodity and pathway specific ISPM may need to include new phytosanitary treatments, which could be readily applied by NPPOs and have a very low environmental impact, while still being efficacious against target pests. For this reason, it could be necessary that the Commission intensifies its activities on the adoption of new phytosanitary treatments.

Activities to be carried out during 2020 - 2030 would include:

- Develop and agree on the structure, format and content of commodity and pathway specific ISPMs and apply these concepts to the development of commodity- or pathway-specific ISPMs.
- Conduct an assessment of the critical factors necessary for an NPPO to effectively implement a commodity standard, and the barriers that have to be overcome.
- Agree on the criteria to prioritize a list of commodity and pathway specific ISPMs and, if appropriate, establish a work programme for the development of commodity and pathway specific ISPMs.
- As part of performance monitoring, after implementation, evaluate the economic, trade, food security, and environmental benefits delivered by a selection of commodity or pathway specific standards.
- Intensify current activities on phytosanitary treatments.
- As necessary, establish working groups to develop alternative pest risk management approaches for individual pests, pathways, or commodities.

3. Management of E-commerce and Postal and Courier Pathways: A coordinated international effort to address the spread of pests and pest host material sold through e-commerce and distributed through postal mail and courier pathways.

Desired 2030 Outcome:

A coordinated international effort has substantially reduced the spread of pests and pest host material sold through e-commerce and distributed through mail and courier pathways. Volumes of high-risk plant material traded online in small quantities and shipped via courier pathways is sourced from authorised or accredited plant health export programs, and compliance is tracked and enforced in collaboration with other border agencies, the international postal services and courier services.

Description:

Sales of plants, plant products, and pests ordered through the internet (e-commerce) and courier mail services have increased significantly in the years since the IPPC and most ISPMs were adopted. E-commerce is fuelling an increasing volume and diversity of traded commodities. In many cases online traders of plants, plant products, and other regulated articles are not aware of applicable regulations and do not consider a customer's location before agreeing to a sale or trade and shipping their purchases to them. This lack of knowledge of a customer's location can lead to consignments of regulated articles being imported into a country without any effort to meet the phytosanitary import requirements of the customer's country.

It is expected that e-commerce and the shipment of products via courier services will grow significantly. This will be associated with an upsurge in regulated articles traded and shipped internationally by mail

or courier services. Phytosanitary organisations around the world will need efficient tools and procedures to screen courier mail and packages. In addition, international harmonization of measures and procedures for e-commerce and courier mail operators may be the most efficient way to address this problem. Cooperation with other sectors such as customs (WCO) and the prevention of trade in endangered species (the Convention on International Trade in Endangered Species of Wild Fauna and Flora - CITES) which face similar problems as the phytosanitary services may help to develop a far reaching and efficient international system.

Activities to be carried out during 2020 - 2030 could include:

- An international communications effort targeting **companies** trading through e-commerce channels and consumers to ensure they understand that the importing country may have phytosanitary requirements, why those requirements exist, and how to comply with phytosanitary import requirements.
- Establishment of an inter-agency network (CITES/WCO/IPPC/and other interested agencies) to create synergy in developing a joint policy and recommendations with regard to e-commerce and courier/postal pathways. Joint inter-agency toolkit could also be developed for the regulation and screening of e-commerce and courier/mail pathways.

Develop and implement policy/program/mechanism for sharing information on best practices, traders that need more encouragement to follow requirements, etc.

4. Developing Guidance on the Use of Third Party Entities: Enabling use of third parties to perform phytosanitary actions, including treatments, inspections, etc.

Desired 2030 Outcome:

Countries wanting to use third parties will have access to harmonised resources to support them to do this in an effective manner with the necessary management processes and controls. Standards have been adopted and implemented that give guidance on the use of third party entities to perform various phytosanitary actions, including treatments, inspections, diagnostic identification, etc. The standards ensure that when governments choose to take this option, the actions continue to be carried out to the same standard and level of phytosanitary security.

Description:

Many NPPOs encounter unexpected problems while performing their functions such as short term new pest eradication or surveillance activities, which cannot be addressed by regular NPPO staff. In such situations the availability of third party entities to overcome such shortcomings may be beneficial. Because the NPPO is responsible for the outcome of activities undertaken under its responsibility. The decision to use third party entities is a voluntary one and lies with the NPPO.

The Convention allows phytosanitary actions to be carried out by public officers and properly authorised third-parties. Authorization of third party entities to perform specific phytosanitary actions such as inspection, testing, surveillance, diagnostic, treatment and auditing on behalf of the NPPO is now common in many countries. In some cases the authorization process is regulated by general country legislation which is not necessarily plant health specific. In the absence of harmonised guidance, NPPOs have used a variety of systems for authorizing third party entities and widely varying levels of oversight, control and verification takes place. This variation could contribute to a reduced confidence in the reliability of actions undertaken by the third party entities. This in turn could lead to trade difficulties where importing countries impose additional import requirements to lift their confidence in the safety of the import.

Activities to be carried out during 2020 - 2030 could include:

- Adoption of relevant ISPM(s) and guidance on authorization of third party entities to perform phytosanitary actions such as inspection, sampling, testing, surveillance, monitoring and treatment on behalf of the NPPO.
- Explore how confidence in authorization programmes can be increased internationally, e.g. through an international authorization system.

- Provide capacity develop resources as needed to assist NPPOs wanting to start using a third party entity model.

5. Strengthening Pest Outbreak Alert and Response Systems: A global pest alert and response system to communicate emerging pest risks, so countries can proactively adapt their phytosanitary systems to reduce the risk of introduction, and to strengthen of country and regional abilities to respond effectively to pest outbreaks including new incursions.

Desired 2030 Outcome:

A global pest alert system with mechanisms to evaluate and communicate emerging pest risks is in place, providing regular information to NPPOs on changes in pest status around the world. NPPOs are using this to quickly adapt their phytosanitary systems to reduce the risk of introduction and spread. In case of outbreaks, strengthened pest outbreak response systems and tools are helping countries take much more timely action against especially new incursions. NPPOs, RPPOs and the FAO have collaborated to develop and roll out a comprehensive but easy to use toolbox to support countries responding quickly and effectively. RPPOs are playing an active role to assist NPPOs and coordinate outbreak responses across their regions.

Description:

The speed and volume of internationally traded commodities provides the opportunity for pests to spread into new areas with considerable swiftness. For NPPOs to keep abreast with rapidly changing pest occurrences and distribution scenarios considerable investments in emerging risk scanning is necessary. This scanning activity is undertaken by some countries and RPPOs but is not always shared widely.

A Global Pest Alert System could receive outputs from countries and RPPOs already scanning them and make them more readily available and digestible by all contracting parties. For countries or regions not already well covered, a generic tool could be developed to allow easy entry and dissemination of emerging pest risk information. RPPOs could play an important role across regions to identify and communicate emerging pest risks.

Having improved situational awareness of changes in pest risk will support countries to proactively adapt their phytosanitary systems to reduce the risk of new introductions and establishments of pests. Consideration is also needed on how to improve pest reporting from countries. New strategies are needed to improve reporting as a pest alert system would function best for all if contracting parties participate in an efficient, timely and comprehensive pest report system.

Outbreaks of pests can present significant challenges to the countries and region in which these pests occur. Challenges such as the lack of know-how, lack of tools, or insufficient plant health capacity in science or operational delivery, are in many cases not addressed sufficiently to prevent further spread and mitigate impacts on crops and the environment. This results in unnecessary threats to food security, the environment and trade.

The risk of new pest incursions and outbreaks can be reduced by phytosanitary actions on trade pathways, but not eliminated. Therefore it is critical countries are able to detect and respond quickly, through access to appropriate incursion response support. In many cases regional coordination structures to efficiently control cross-border pests have not been developed. RPPOs have an important role to play coordinating within regions, supporting for NPPOs responding to pests and facilitating neighbouring countries to assist.

There is an urgent need to lift the capacity of countries to respond and this can, at least in part, be achieved through the establishment of an easily accessible toolbox of resources. Such resources could be developed under the Commission's work programme or simply made available by contracting parties. The Commission also has a role to facilitate the uptake of such resources in advance of an outbreak through training and other implementation activities. The Commission could also explore the establishment voluntary funding mechanisms to assist countries for which funding is the critical limiting factor in successfully responding to pests.

Activities to be carried out during 2020 - 2030 would include:

- Understand the global state of emerging pest risk scanning and reporting at NPPO and RPPO levels, and user requirements for an enhanced system.
- Continue to work with countries to facilitate the development of pest surveillance systems, based on IPPC standards and other technical guidance, necessary for early detection and response to emerging pest risks.
- Develop a system to coordinate the dissemination of information on emerging pest risks and changes in pest status, including establishing common data standards for all countries and regions engaged in this activity.
- Set-up a generic system countries and RPPOs could use to enter and report emerging pest risks including changes in pest status.
- Explore new ways to facilitate timely reporting of new incursions and to remove current barriers that work against proactive pest reporting.
- Develop a clear IPPC mandate, policy and structure including, if appropriate, the integration of the Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES) plant health activities into an overall plant health mandate. Establish a network of phytosanitary emergency response expertise
- Facilitate engagement of expertise and response resources in a timely manner
- Develop a simple and effective incursion response toolbox that countries can use including contingency response plans, delimitation methods, diagnostic protocols, containment protocols, lists of lures, attractants and control agents, control options, phytosanitary treatments, etc.
- Facilitate advocacy with potential donors for support in implementing the developed incursion response tool box.
- The establishment of a strengthened international pest outbreak response system under the IPPC provides unique opportunities to address catastrophic pest outbreaks, such as the recent outbreak of Fall armyworm (*Spodoptera frugiperda*) in Africa, by providing speedily expertise and methodologies for its eradication. The benefits can be substantial, however, resources needed to establish and maintain such a system will overtax current IPPC capabilities. For that reason this activity must go hand-in-hand with the creation of an international donor initiative to finance it.

6. Assessment and Management of Climate Change Impacts on Plant Health:

A work programme is initiated to assess and manage impacts caused by climate change with regard to plant health and international trade of plants and plant products.

Desired 2030 Outcome:

The impacts of climate change on plant health and the safe trade of plants and plant products are evaluated especially in relation to pest risk assessment and pest risk management issues and phytosanitary issues are adequately reflected in the international climate change debate under the Intergovernmental Panel on Climate Change (IPCC).

Description

Trade presents a high potential to leverage challenges, such as regional food shortages due to climate change impacts. However, climate change impacts on plant pests and pest vectors also threaten the international trading system. Plant pests and pest vectors use international trade as a pathway for spread into new areas of the world. To realize the potentials of international agricultural trade and to prevent that the benefits of this trade are transmuted into detriments it is imperative to strengthening phytosanitary activities with regard to climate change. Since pest and plant distribution, pest epidemiology and pest impacts may change considerably due to climate change, robust surveillance and monitoring systems are vital on national, regional and international levels. Knowledge about pests and their potential climate change induced changes in life-cycles, epidemiology and pathogenicity is essential to undertake pest risk assessments to determine steps and actions to manage these risks effectively and economically.

Phytosanitary issues with regard to climate change must receive a higher standing in the general policy consideration for climate change. It is essential that phytosanitary policies and strategies are adequately reflected in the work of the IPCC. Political weight and subsequent funding for phytosanitary needs on national, regional and international level will only be available when phytosanitary issues are recognized as an important component of the climate change debate.

Until today the Commission has addressed climate change related issues only rudimentary. If climate change related issues should receive more attention in the work of the Commission it is imperative that this issue be addressed in a systematic manner. This may be best achieved through the creation of a task force on climate change to define ambitious and proportionate priorities for action.

Activities to be carried out during 2020 - 2030 could include:

- Explore how far the Commission needs to address climate change issues and their impact on plant health policies.
- Establishment, if appropriate, of a structure to systematically analyse and discuss climate change and plant health.
- Development of recommendations with regard to climate change and plant health and, if necessary, of guidelines for pest risk analysis and surveillance.
- Mainstreaming phytosanitary policies into the climate change debate.

7. Global Phytosanitary Research Coordination: A voluntary mechanism for global phytosanitary research coordination, to accelerate development of science to support all regulatory phytosanitary activities.

Desired 2030 Outcome:

An analysis of international phytosanitary research structures and policies has been conducted with a view to explore in how far internationally coordinated plant health research can help countries to avoid overlap in research activities and to utilize research resources in the most efficacious manner. Possibilities for establishing an international phytosanitary research collaborative structure have been explored and if appropriate established.

Description

International research collaboration across nations, institutions, and disciplines, leads to higher quality science, efficiencies of resource use, better outcomes and wider adoption of results. However, these benefits of collaboration only occur where there is mutual interest and alignment of goals, leadership, and support for collaboration. The ingredients for successful collaboration are facilitating processes and structures, leadership, a 'vision' and ultimately funding - for both research and collaboration. In addition, the need to develop a balanced portfolio of research work, ranging from strategic to applied research, is essential in creating synergistic collaboration.

To establish an international research collaboration it is important to develop a Commission policy on the matter and to agree on structures. Collaboration with international plant health research organizations (e.g. EUPHRESKO), may present perspectives for the policy and structural planning. The complete administration and governing of this activity could be delegated to RPPOs thus avoiding resource requirements on behalf of the IPPC Secretariat.

The development of an initiative to establish a global phytosanitary research coordination policy and structure is an important component for the Commissions' strategic objectives.

Activities to be carried out during 2020 - 2030 could include:

- Analysis of existing international research coordination policies and structures.
- Explore the benefits of developing an IPPC policy and structure, especially determining the role of RPPOs in this activity.
- Adoption of an IPPC international research coordination and policy and structure.
- Establishment, if appropriate, of an international phytosanitary journal for publication of phytosanitary research findings.

8. Diagnostic Laboratories Networking: Establish a network of diagnostic laboratory services and diagnostic protocols to support countries to identify pests in a more reliable and timely manner.

Desired 2030 Outcome:

An international network of diagnostic laboratory services provides reliable and timely pest identifications. National laboratories with strong diagnostic functions are officially recognised as capable of offering reliable services within regions or globally, reducing the need for all countries to develop duplicated capacity.

Description:

Diagnostic expertise is one of the major capabilities for the proper functioning of any NPPO. For many countries, however, the availability of diagnostic expertise or services is severely restricted due to structural capacity and know-how. Any country wishing to take part in the trade of agricultural commodities must be able to demonstrate that its products are free from pests. To do that access to diagnostic services is essential. In addition, proper access to diagnostic expertise is a key issue for countries to be able to detect pests in imported commodities and therefore to prevent the entry of regulated pests, which may cause considerable damage to agriculture or environment.

Establishing world-class diagnostic laboratories and keeping up with advances in diagnostic technology is extremely costly. It is emerging that the only viable option for many countries to access high-end diagnostic services will be through cooperation across countries to remotely access diagnostic capacity at an international, regional or sub-regional level. For example, a diagnostic laboratory, established on a sub-regional level could efficaciously and efficiently service the needs of several countries in the region. Country A in the region may have a laboratory for entomology while country B may specialise in plant pathogens and country C nematodes, etc. In the near future, joint diagnostic centres and laboratories may be the only way for many countries to access state of the art diagnostic services.

The IPPC could focus on lack of access to diagnostic capacity in many countries by establishing a voluntary network of diagnostic laboratories. Existing generic laboratory standards could also be leveraged. The IPPC could also develop a project model for sub-regional diagnostic centres which could serve as a blue-print for donors when providing technical assistance to developing countries (e.g. STDF).

Activities to be carried out during 2020 - 2030 could include:

- Conceive a model for the establishment of sub-regional joint diagnostic laboratories and proficiency testing.
- Adopt required standards and diagnostic protocols
- Facilitate the establishment of an international laboratories network.
- Establish and communicate a listing of available diagnostic laboratories and their expertise.

Core Activities

Standard Setting

The WTO SPS Agreement recognizes standards developed under the auspices of the IPPC as the only international standards for plant health. ISPMs are adopted by the Commission and come into force once countries establish aligned requirements within their national legislation. The standards of the IPPC are recognized as the basis for phytosanitary measures applied in trade by the Members of the WTO.

The standard setting work of the IPPC is led by the Commission's Standards Committee. The Standards Committee is supported by various technical panels, expert working groups, and the IPPC Secretariat. Three main types of standards have been developed to provide an internationally agreed approach for the harmonisation of phytosanitary regulations and to guide and assist NPPOs in performing their various functions.

Foundational Standards – these establish internationally accepted principles and approaches for NPPOs to undertake such activities as pest risk analysis, establishing pest free areas, surveillance, establishing a phytosanitary certification system, pest reporting, etc.

Phytosanitary treatments (e.g. ISPM 28) – these establish internationally accepted treatments for pests on commodities such as irradiation, fumigation, temperature treatment, etc.

Diagnostic Protocols (e.g. ISPM 27) – these are targeted at specific pests and establish the internationally accepted method for accurate diagnostic identification.

In addition, CPM recommendations are also adopted on a range of topics that are highly relevant to contracting parties but not deemed suitable for the development of an ISPM. The Commission is now starting to develop more ISPMs for specific commodities and pathways. Examples include ISPM 15 for international movement of wood packaging material and ISPM 41 for international movement of used vehicles, machinery and equipment. Developing ISPMs for a prioritized list of commodities would fill a significant need when used as the starting point for market access agreements. They have the potential to significantly simplify bilateral trade negotiations. Similarly, ISPMs for pathways (such as used vehicles, machinery and equipment) will do much to limit the spread of pests including those that are invasive alien species that commonly spread as contaminating pests.

The Standards Committee works hard to ensure ISPMs are not only based on science and technically robust, but that they are also practical and can be implemented in real situations. Increasingly the IPPC is inviting industry bodies to participate in expert working groups to provide advice on development of ISPMs. Industry perspectives will further enhance the value of ISPMs but some conflicts of interest may also arise and these need to be recognised and managed.

2030 Key Result Areas

SS1: Prioritized commodities and pathways are covered by commodity or pathway specific ISPMs adopted or being developed by the commission.

SS2: NPPOs base their phytosanitary systems and import requirements on adopted ISPMs.

Implementation and Capacity Development

The IPPC is typically referred to as a standard setting body. However, the IPPC has long recognised the futility of setting standards without also supporting capacity development to enable the Convention and its standards to be effectively implemented by contracting parties.

Within each contracting party, fully functioning NPPOs are charged with operating an effective national system to prevent the introduction and spread of pests. Delivery of the system often requires the joint effort of multiple government agencies and the private sector. The Phytosanitary Capacity Evaluation tool was developed by the Commission many years ago to help countries evaluate their capacity to implement the convention. This forms the basis for many capacity development plans, and also provides an insight into global capacity needs and programs.

Through the suite of ISPMs and capacity development programmes, the Commission provides the framework for the NPPOs and the support to help NPPOs build capacity to carry out their functions. Examples of national capacity include the ability to establish and operate an import regulatory system,

the ability to conduct pest risk analysis, pest surveillance, pest eradication operations, and operation of an export system capable of providing official assurances through phytosanitary certification.

The Commission collaborates with donor partners and contracting parties to assist NPPOs to develop the required capacity. This collaborative work is essential for countries to capitalise on the economic growth opportunities available through trade development, and protect their agricultural production and natural resources.

In 2014, the Commission agreed to significantly strengthen its focus on implementation of the Convention and ISPMs. Since then:

- the first major implementation pilot programme has been established focused on pest surveillance,
- the IPPC Secretariat has been reorganised to more strongly focus on implementation and capacity development, and
- a new subsidiary body has been created, the Implementation and Capacity Development Committee charged with oversight of the IPPC's long-term Capacity Development Strategy.

Within the Capacity Development Committee sub-groups have been established to manage and govern Disputes and Avoidance (DAS) and the Implementation Review and Support System (IRSS).

Substantial efforts are being focused on implementation and capacity development, however, it is limited by the extra-budgetary resources that can be secured (additional to the FAO regular programme funds). Fortunately, development agencies are willing to assist with programs to lift the capacity of countries to improve their economy through trade, and support communities to manage pest problems. Capacity development projects can have a major positive impact on the ability of NPPOs to discharge their responsibilities if their needs are well defined through the Phytosanitary Capacity Evaluation (PCE) system tool developed by IPPC. The project to develop and implement a Global ePhyto Hub and Generic National System funded by the STDF and member country contributions is an outstanding example of this (see inset box).

The ePhyto Solution Project was developed to provide all IPPC Contracting Parties that are interested, developed and developing alike, with the opportunity to exchange phytosanitary certificate information digitally. The project established a central Hub as a harmonized exchange tool to facilitate the exchange of electronic certificates as an alternative to the current practice of exchanging paper certificates as well as a simple generic system (Generic ePhyto National System/GeNS) for developing countries for the production, sending and receipt of electronic phytosanitary certificates. The establishment of these tools will improve the security of official communications between countries and facilitate trade flows. It will also eliminate the cost and complexity of countries developing individual systems for electronic data exchange and the necessity to negotiate exchange protocols on a country by country basis.

2030 Key Result Areas

ICD 1: The state of plant health in the world is understood, needs are known and mechanisms to facilitate action are functioning.

ICD 2: The Phytosanitary Capacity Evaluation tool has been widely used by member countries to understand strengths and weaknesses and develop plans to address capacity deficiencies.

ICD 3: The IPPC Secretariat is resourced to help countries access assistance to address phytosanitary capacity needs.

Communication & International Cooperation

The communications efforts of the Commission are aimed at ensuring understanding of the potential for serious negative impacts from introduced pests worldwide. This must be understood not just by the plant health community but also by key audiences such as the general public, national governments, and decision makers (policy and financial), to demonstrate the importance of plant health being a national and global priority that justifies and receives appropriate and sustainable support.

These communication efforts are guided by the [IPPC Communications Strategy](#). The four objectives of the IPPC Communications Strategy are to:

- increase global awareness of the importance of the Convention and of the vital importance to the world of protecting plants from pests;
- highlight the IPPC's role as the sole international plant health standard setting organization with the objective of helping to ensure the safe trade of plants and plant products
- improve the implementation of the ISPMs; and
- support the activities of the IPPC Secretariats Resource Mobilization programme.

The IPPC makes use of many different opportunities to reach out internationally so its mission is well understood. Annual themes were introduced to promote specific aspects of the IPPC mandate on an annual basis. For the period 2016-2019 the IPPC focused on the following themes:

- **2016 Plant Health and Food Security**
- **2017 Plant Health and Trade Facilitation**
- **2018 Plant Health and Environmental Protection**
- **2019 Plant Health and Capacity Development**

In addition, through the efforts of contracting parties to the IPPC, the United Nations proclaimed **2020 the International Year of Plant Health (IYPH)**. The IPPC will contribute in the development of an environment in which to celebrate the IYPH2020 program at national, regional and global level

The IPPC recognizes the importance of maintaining strong links with treaties and organizations that share common interests (e.g. WTO, CBD). These relationships can range from informal flexible arrangements to highly defined relationships. The IPPC Secretariat has strong relationships with all RPPOs in facilitating contracting parties to implement the IPPC. National or regional FAO offices play an important role for the implementation of the IPPC and its standards.

The IPPC Secretariat also cooperates with many other treaties and organizations. This cooperation is essential to mainstream plant health considerations and policies into the general debate on environmental and development issues. Especially with regard to climate change and capacity building a more intensified cooperation with relevant international organizations is necessary to ensure that the evaluations of climate change impacts incorporate pest related impacts and that attention is drawn to potential donor organizations about the phytosanitary capacity building needs of developing country NPPOs.

2030 Key Result Areas

CIC 1: The IPPC Secretariat is effectively communicating phytosanitary issues and the importance of plant health.

CIC 2: The IPPC Secretariat successfully cooperates with other international organizations and global forums to further increase the visibility of the Convention and its objectives in international policies.

CIC3: The IPPC Secretariat is effectively coordinating with FAO to ensure that national or regional FAO offices play an important role in the implementation of the IPPC and its standards.