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International Plant Protection Convention
Protecting the world's plant resources from pests

GENERIC

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2012

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IPPC Strategic Framework 2012-2019

Celebrating 60 years of protecting
plant resources from pests



IPPC Strategic Framework 2012-2019

Celebrating 60 years of protecting
plant resources from pests

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Executive Summary

The International Plant Protection Convention (IPPC) is a critical instrument for promoting joint actions, international cooperation and leadership in the plant protection area. The IPPC will become increasingly important in the years ahead as the primary international framework for addressing the challenges posed by globalization and the transboundary movement of injurious plant pests and diseases, collectively called pests under the IPPC.

To meet the challenge of protecting global plant resources – including agriculture, forests, natural habitats, biodiversity, and food production – there is an urgent need to strengthen the infrastructure supporting the IPPC to help prevent the spread of plant pests. In particular, the IPPC needs to strengthen its capacity to generate international standards; establish and promote effective information exchange systems among members; address the technical capacity of all member countries to implement the convention and adopted standards, especially developing member countries; and provide a sufficient and sustainable administrative support structure to meet its members' needs and priorities.

National plant protection organizations (NPPOs) are facing a similar challenge. The rapid growth in the volume and diversity of food and agricultural products in international trade is creating significant new demands on plant protection officials which are proving difficult to meet.

The vision of the IPPC is to: Protecting global plant resources from pests.

The mission: To secure cooperation among nations in protecting global plant resources from the spread and introduction of pests of plants, in order to preserve food security, biodiversity and to facilitate trade.

The strategic objectives are to:

- A protect sustainable agriculture and enhance global food security through the prevention of pest spread;
- B protect the environment, forests and biodiversity from plant pests;
- C facilitate economic and trade development through the promotion of harmonized scientifically based phytosanitary measures; and
- D develop phytosanitary capacity for members to accomplish A, B and C.

A key to achieving the objectives in this strategic framework will not only be members' commitment to global collaboration through the IPPC but more significantly the willingness of governments and perhaps non-governmental stakeholders to support and help fund IPPC programmes and infrastructure in the years ahead.

Introduction

Today, the International Plant Protection Convention (IPPC) has become particularly significant and relevant in the light of evolving phytosanitary risks associated with the spread of pests, and the need to protect plant resources and biodiversity, to ensure food security, and to support the safe expansion of global trade and economic growth opportunities. However, a gap exists between the role the IPPC can and should play in global plant protection and the actual resources available to it to meet these new international challenges.

The ubiquitous and growing threats posed by plant pests to agricultural and rural communities, to plant biodiversity and to natural habitats and ecosystems around the world remain major problems to agriculturalists, foresters and conservers of the environment. New pests are constantly being identified and known pests are becoming more widespread and damaging because of trade and climate change, so the battle with pests is on-going. In addition, in the global context, new challenges constantly appear which change the functional environment of the IPPC and demand new responses from the Commission on Phytosanitary Measures (CPM).

The IPPC's strategic objectives for the next 8 years take into account this changing global context, and encompass key IPPC initiatives and actions that are designed to support the world's needs and demands for:

- ◆ a safe and secure food supply,
- ◆ a protected environment,
- ◆ sustainable trade and economic growth, and
- ◆ a coordinated capacity development programme.

Ultimately, combined with its recognition by the World Trade Organisation (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures as the international standard setting body responsible for plant health standards, delivering on these objectives will lead to the IPPC being recognized and valued around the world as the premier international framework for protecting agriculture and the environment from plant pests, ensuring global food security, and fostering safe trade and economic growth opportunities for all member countries. The key to achieving these objectives will be the members' commitment to global collaboration through the IPPC and a willingness to support IPPC programmes and infrastructure in the years ahead.

With respect to protecting plant resources, the IPPC contributes to:

- ◆ protecting farmers and foresters from the introduction and spread of new pests;
- ◆ protecting food security;
- ◆ protecting the natural environment, plant species and diversity;
- ◆ protecting producers and consumers from costs associated with combating and eradicating pests.



The International Plant Protection Convention

The IPPC was agreed in 1951 and 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 in international trade. The IPPC is deposited with and administered through the Food and Agriculture Organization of the United Nations (FAO). Today, the IPPC consists of 175+ contracting parties and other countries which voluntarily adhere to the Convention.

The Convention was amended in 1979 and 1997. The amendments of 1997 were particularly significant in that they included provisions for a Secretariat, a Commission on Phytosanitary Measures (governing body) and a phytosanitary

standard setting mechanism. Since 1997, the demands on the IPPC for increased work in developing plant health standards, providing technical assistance, and providing global pest information have increased at a rate that has far outstripped its resources and funding. After 60 years of the implementation of the IPPC, the work programme has matured and a new phase of the IPPC implementation needs development.

Plant Pests

The introduction or outbreak of plant pests has significantly affected food security and/or had significant negative economic impact (see Box 1). A vast range of plant pests and diseases (collectively called pests under the IPPC) threaten global food production (including animal feed), the culture of forests and the wild flora of the natural environment. Some historical impacts of plant pests are well known, such as *Phytophthora infestans* on potatoes in Ireland, *Hemileia vastatrix* on coffee in Sri Lanka and Brazil, *Viteus vitifoliae* on grapes in Europe and the United States, *Microcyclus ulei* on rubber in Brazil, *Puccinia*

graminis on wheat in North America, *Ophiostoma ulmi* on elm in Europe and the United States and *Lymantria dispar* in the forests of the west coast of North America.

Although the impacts of pests range from negligible to extremely high, it is often difficult to fully assess these impacts. If pests can be prevented from establishing in an area, the resources used in prevention are invariably significantly lower than those needed for long-term control, containment, eradication (if possible) after introduction, or the consequences of doing nothing.

Box 1: Examples of major pests not previously recorded in an area



Prostephanus truncates, the larger grain borer, was accidentally introduced from Central America into Tanzania in the late 1970s, and spread to other countries in the region. In West Africa it was first found in Togo in the early 1980s. It has now spread to many African countries becoming the most destructive pest of stored maize and dried cassava in both West and East Africa. In the more tropical countries of Africa, the larger grain borer destroyed up to 70-80 percent of stored maize grains and 30-40 percent of cassava. The IPPC is now working on an International Standard for Phytosanitary Measures (ISPM) on the international movement of grain which may help to reduce the risk of the occurrence of this type of pest introduction.



Anoplophora glabripennis, the Asian longhorned beetle (ALB), is considered an invasive species in North America, because it is a serious threat to many species of deciduous hardwood trees. This pest arrived in North America in the 1980s in wood packing material. If it becomes established in the United States it could have a significant impact on natural forests, the forest products industry, and urban environment, with an estimated death toll of 1.2 billion trees if it were to spread nationwide. In the eastern USA alone, four million jobs depend on forests that are vulnerable to the ALB. The IPPC introduced ISPM 15: 2009 "Regulation of wood packaging material in international trade" to minimize the likelihood of such a pest introduction through wood packaging again.

Puccinia graminis tritici, Ug99. The risk posed by this fungus that is deadly to the world's second largest crop, wheat, continues to rise. The killer fungus, Ug99, causes stem rust disease, which can destroy entire wheat fields. Two new aggressive forms of the fungus were found in South Africa for the first time in 2010, raising concerns that it could spread. More than a billion people in developing countries rely on wheat for their food and income. (See <http://pulitzercenter.org/blog/untold-stories/global-threat-wheat-killer-rises>.) The search for resistance could be mentioned but the threat and impact will continue for many years and could cause devastation in many countries.



Liberibacter spp., *Huanglongbing*, also known as citrus greening disease, is considered the worst disease of citrus caused by a vectored pathogen. Transmission is by *Diaphorina citri*. The disease has affected crops in China, India, Sri Lanka, Malaysia, Indonesia, Myanmar, the Philippines, Pakistan, Thailand, Japan (the Ryukyu Islands), Nepal, Mauritius, and Afghanistan. Areas outside Asia have also reported the disease, including Saudi Arabia, Brazil and, most recently, the United States, Mexico, Belize and other countries in Central America. Citrus greening greatly reduces citrus production, destroys the economic value of the fruit and kills trees.



Lobesia botrana, European grapevine moth (EGVM), is the number one pest of grapes where it has been introduced. It is a pest of economic importance in Europe, the Mediterranean, southern Russia, Japan, the Middle East, Near East, and the northern and western areas of Africa. It has been reported from the wine areas of Chile (2008), the United States (California) (2009) and Argentina (2010). Without control, crop damage can be significant, in some cases leading to losses of 80–100 percent. A preliminary economic analysis of California shows that the presence of EGVM will severely impact grape and stone fruit production in that state, impacting local communities, the state's economy, and domestic and international trade with reduced availability of fresh and processed commodities. In California alone, grape production threatened by this pest was valued at USD 2.9 billion in 2008. The Chilean government since its first detection in the country (2008) has carried out a programme of official control of the pest with a budget of approximately USD 10 million annually.



Ceratitis capitata, Mediterranean fruit fly, is a significant pest of fruit and vegetables, having an enormous negative impact on horticultural production. It was detected in Mexico for the first time in 1977. A Mexico-United States programme was established the following year to prevent further introductions from Central America. Without the on-going control and eradication programme in place in Mexico, potential losses would be around USD 4.2 million in lost fruit and vegetables and costs of pesticides needed to manage this pest. In addition, there would be an estimated USD 25.8 million in lost export sales and USD 17.5 million in indirect impacts (diminished public health in the rural areas, lost employment in the horticultural sector, and environmental harm).



Global Context for the Strategic Framework

The world has changed significantly since the IPPC first came into force in 1952. The broad policy issues and international trends likely to influence or constrain regulatory policies and the programmes which will affect international plant protection in years to come are varied and complex. They largely arise from four main themes: the global economic and trade situation; environment and natural resources (including climate change); demographic trends; and food security. The regulatory policy and phytosanitary challenges ahead are shaped by these issues¹.

Global economic and trade situation

In addition to current globalization issues, trade analysts have noted major changes in trading patterns in recent years. In several countries consumer demand has diminished; cash, investor confidence, credit and consumption have decreased, with a chilling effect on international trade. The global financial crisis has caused a number of countries to become more inwardly focused and concerned about their domestic employment and fiscal situation.

In the future, to maintain and create jobs, it is expected that many governments will continue to look to foreign markets and promote exports as part of their broader economic growth strategy. In parallel, countries that have not traditionally been heavy exporters are expected to be new sources of fast-growing, value-added agricultural and food products. Developing economies are emerging and will continue to emerge in Africa, Asia, Latin America and other regions and have increasing influence on global economic policies².

Trade is expected to expand as trade capacity and interest increases among nations, including marketing opportunities that benefit rural and agricultural sectors within countries. This continued reliance on international and regional trade for stimulating economic growth, including trade in food and agricultural products, will put increasing pressure on the IPPC and national plant protection organizations (NPPOs) to effectively manage the pest risks inherent in these new or expanding trade flows as well as to develop the necessary international standards, knowledge base and technical guidance to ensure safe trade. In addition, the reduction in the role of governments will increase the need for private sector involvement and management.

Environment and natural resources

The impact of climate change in the 21st century is likely to be wide-ranging. The situation is complex but a number of factors are worth mention:

- ◆ Whatever approach governments take to the challenge of climate change, policies to minimize harm to the environment will be a priority but these would have to be balanced with the need to maintain and expand sustainable food production in order to ease poverty and feed their populations.
- ◆ Governments of an increasing number of countries are seeking domestic energy security through alternatives to fossil fuels, including through the production of biofuels.

1/ A broader overall context is described in *The Director-General's medium term plan 2010-13 and programme of work and budget 2010-11* (Paper C 2009/15 for the Thirty-sixth Session of the FAO Conference, 18–23 November 2009) and in the *Strategic Framework 2010-2019* (Paper C 2009/3 for the above Conference).

2/ United Nations/FAO Report cited by *New York Times* article (25 January 2010).

- ◆ The ozone damaging effects of methyl bromide are now well known and documented, and alternative phytosanitary measures are encouraged (see IPPC Recommendation 1).
- ◆ The options of chemical treatments for pest management will be considerably reduced when taking into account their impacts on the environment and natural resources.
- ◆ The need to ensure effective and efficient use of water in agriculture could influence where and what type of food is being produced.
- ◆ This increasing concern with climate change and protecting the environment will compel the IPPC and NPPOs to be increasingly aware of the potential changing distribution of pests with the changing climate. The promoting of environmentally friendly measures to reduce the effects of plant pests on food production and the environment and to allow the safe movement of commodities in trade will be needed.

Demographic trends

Increasing urbanization and rural migration to cities is a global demographic trend. This large-scale shift from rural to urban living may jeopardize the productivity of rural communities, a matter that national governments may seek to address through rural development programmes emphasizing sustainable, safe and locally produced and marketed foods and other plant products.

Population growth rates in developing countries are generally greater than those of developed countries. Over the next 30 years, economic power will shift to developing countries where the future global middle class and consumers will be found³.

These demographic shifts, including migration, are expected to alter the food and dietary cultures in countries around the world resulting in new patterns of food consumption and food demands.

The shifts will result in new types of food products, including horticultural goods, being shipped, legally and illegally, to new markets and locations.

Food security

Food security – the availability of and access to adequate food supplies – has many dimensions, including climate change, plant pests (including invasive alien species), trade, food aid, new production technologies and rural development. The trend of increased land utilization by emerging nations will further impact on food security, particularly in the developing world where phytosanitary regulatory frameworks lack capacity. Food aid will continue to feature high on the agenda of countries and international organizations as a humanitarian response to disasters around the world.

Developed countries are being encouraged to pursue opportunities for capacity development, technical assistance and trade promotion⁴. However, increasing trade, rather than aid, should lead to greater independence and wealth in developing countries. National regulatory agencies may expect increasingly to be called upon to provide expertise in areas such as capacity development, pest and disease control, marketing and trade, use of new (manufacturing) technologies, and in this way, contribute to the global food security agenda. However, if developing countries are not adequately prepared to meet demands for these services their ability to contribute to the global food security agenda will continue to be compromised.

The growing food security concerns and the availability of future food to growing populations around the world present massive problems to many countries. But the IPPC can play a substantive role in developing the capacity of countries to monitor and respond to plant pest risks, thereby providing a key line of defence in safeguarding that country's food supply.

3/ Goldstone, Jack A. 2010. The new population bomb. *Foreign Affairs* (January /February issue, 2010), page 38.

4/ WTO SPS Agreement, Article 9, "Technical Assistance", which states "Members agree to facilitate the provision of technical assistance to other Members, especially developing country Members", and the Doha Development Round.

Access to scientific competence and information

A problem affecting many countries is the decreasing availability of the scientifically based phytosanitary expertise that is vital for sustaining public policy components of agricultural and trade development. A large part of this is the so-called taxonomic impediment, which refers to the shrinking government investment in staff, funds and training that has led to a loss of taxonomic expertise, tools and services. This not only affects phytosanitary services but also the diagnostic services involved in the protection of the environment and biodiversity. The members of the Convention on Biological Diversity (CBD) have set up a funding system, the Global Taxonomy Partnership Fund, to increase funding to strengthen the institutional delivery of taxonomic services. (Box 2 provides references discussing the problem of phytosanitary competence.)

The IPPC can play a critical role in terms of providing a global venue where networks, partnerships, and associations can be developed as they relate to scientific and phytosanitary expertise and resources. Through such networks, IPPC member countries can seek out and leverage phytosanitary expertise that may be available in other institutions or other countries or regions.

In addition, the IPPC provides knowledge management services to:

- ◆ Allow national governments, regional plant protection organizations (RPPOs) and the Secretariat meet their reporting obligations as determined by the IPPC;
- ◆ Support policy and decisions makers;
- ◆ Improve access to scientific information;
- ◆ Objectively analyze national capacities and global trends;
- ◆ Improve transparency and trust between trading partners;
- ◆ Provide the information management needs for the whole of the IPPC work programme.

Regulatory policy challenges

With increasing volumes and diversity of trade, new and emerging market access opportunities, and decreasing human and financial resources to carry out phytosanitary regulatory programmes, NPPOs will need to concentrate their efforts on reviewing existing policies to meet the changing global context and risks. Such efforts to review and update national phytosanitary policies will also help ensure continued public confidence in plant protection regulations and programmes at the national level, and provision of resources to fund those programmes.

Box 2: Sources of information concerning phytosanitary expertise

Rassmann, Kornelia & Smith, Richard. 2011. *Business plan for the preparatory phase of The Global Taxonomy Partnership Fund*. CBD, UNEP/CBD/GTI-CM/11/INF/2, 27 May 2011 (available from <http://www.cbd.int/doc/?meeting=4847>, accessed June 2011).

European Plant Protection Organization (EPPO). 2004. Plant Health Endangered – State of Emergency (“Madeira declaration”); declaration by EPPO Council Colloquium, Madeira, September 2004 (refer *EPPO Bulletin*, 40 (2010): 127).

Miller, Sally A., Beed, Fen D. & Harmon, Carrie Lapaire. 2009. Plant disease diagnostic capabilities and networks. *Annual Rev. Phytopathol.*, 47: 15-38.

At the same time private stakeholders should be more involved and accept responsibility for phytosanitary issues. Both the government and the industry should have strong incentives for adopting risk-limiting behaviour. Closer collaboration between government and industry could lead to better prospects of tackling the raising plant health risks posed by globalization and climate change. In general, plant health policy frameworks should take into account efforts made by growers and traders in activities that contribute to protection of plant health when applying official tasks. In this way governmental resources could be used more effectively, paying most attention to areas of highest risk. This could also be an incentive for growers and producers to pay more attention to plant health issues and more responsibility in sharing between public and private sector. In the interaction between government and stakeholders other than legal instrumentation could be considered.

Increasing concerns about environmental protection, invasive alien species, and threats to biodiversity mean that environmental protection is an increasingly influential factor in trade and plant production policy. Policy shifts may be expected as interest in protecting natural plant resources and the broader agro-ecosystem gains attention in national governments and at the international level.

With the potential phasing-out of methyl bromide under the Montreal Protocol, NPPOs are increasingly turning to combinations of alternative pest management measures (e.g. systems approaches). These integrated approaches are being used more widely to counter increasing public concern on human health and on environmental grounds about traditional pesticide-based means of dealing with pest outbreaks and to allow countries to meet their obligations under the Montreal Protocol.

Specifically from a plant protection point of view, new technologies will provide NPPOs with more tools to facilitate inspections and certification of commodities, improve pest diagnosis, and enhance the traceability of commodities and rapid and effective communication. Regulatory policies should encourage the use of these tools.

Diminishing resources for collective action

Since 1997, demands on and expectations of the IPPC and its Secretariat have increased at a rate that has outstripped the resources and funding available to advance the CPM agreed collective action needed at the global level to prevent the spread of pests and protect global plant resources.

The gap continues to widen between the role the IPPC can and should play in global plant protection and the actual resources available to it to meet the burgeoning pest and disease threats. Today's global economic situation of governmental deficits, slowed economic growth and weak job markets will continue to limit governments' ability to commit new or additional resources at the international level. These global economic realities will be a serious limiting factor for the IPPC and its capacity to implement and achieve the goals in this strategic plan.

Therefore, a key to achieving the objectives in this strategic framework will not only be members' commitment to global collaboration through the IPPC but more significantly the willingness of governments and perhaps non-governmental stakeholders to support and help fund IPPC programmes and infrastructure in the years ahead.

The IPPC within FAO's Strategic Framework

The FAO Constitution (Articles I and XIV) identifies FAO's major role as a neutral forum for members to negotiate international instruments. These include multilateral agreements, codes, good practices, international standards, action plans, or other collective measures necessary to achieve a common goal (poverty and hunger reduction) or purpose in global agriculture (sustainable agricultural production and protection of food security) or the conservation and protection of the world's natural resources.

This core function as a neutral global forum facilitates and supports contracting parties' efforts to develop regional and international legal instruments and implementation of their resulting national obligations. The IPPC is one such legal intergovernmental instrument in FAO, which brings phytosanitary (plant health) officials from around the world to work together to prevent the spread of pests and protect global plant resources.

FAO's three overarching global goals are

- ◆ **reduction of the absolute number of people suffering from hunger**, progressively ensuring a world in which all people at all times have sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life
- ◆ **elimination of poverty and the driving forward of economic and social progress for all**, with increased food production, enhanced rural development and sustainable livelihoods
- ◆ **sustainable management and utilization of natural resources**, including land, water, air, climate and genetic resources, for the benefit of present and future generations.

The IPPC, as an FAO Article XIV body (Article XIV includes conventions developed and accepted by FAO members and funded by FAO), plays a critical role in supporting each of these overarching goals through its programmes, standards, and actions aimed at preventing food losses and protecting natural resources from the ubiquitous threat of plant pests. An aspect of the mandate of the IPPC is an integral part of the strategic objective entitled *Sustainable intensification of crop production* of the FAO Strategic Framework.

Core FAO functions as they relate to facilitating and supporting intergovernmental cooperation and joint actions are also reflected in the primary activities of the IPPC, specifically those relating to:

1. stimulating the generation, dissemination and application of information and knowledge, including statistics i.e. knowledge management;
2. negotiating international instruments, setting norms, standards and voluntary guidelines, supporting the development of national legal instruments and promoting their implementation;
3. promoting technical support for technology transfer; catalyse change; and develop capacity, particularly for rural institutions; and
4. undertaking advocacy and communication, to mobilize political will and promote global recognition of required actions in areas of FAO's mandate.

Each of the primary functions above is reflected in the IPPC's programme of work as a major contribution to the global food security agenda. This includes:

1. knowledge management, including information exchange, related to pest occurrence, outbreaks, and sharing of other official plant protection information among countries;
2. international standards for plant health (recognized by the WTO as science-based benchmarks to guide safe trade in plant commodities) and guidelines for the safe expansion of trade in food and agricultural commodities;
3. capacity development aimed at helping countries safeguard their and their neighbours' plant resources;
4. advocacy of the IPPC to raise its profile and influence among contracting parties on managing the global pest situation; and
5. non-binding phytosanitary dispute settlement forum for members.

FAO recognizes in its medium-term plan 2010-2013 the development and implementation of internationally recognized standards and action plans, including the preparation of draft standards for technical review and their development at the intergovernmental level. This is dependent upon the IPPC Secretariat support to the appropriate bodies. In other words, sufficient and sustainable IPPC Secretariat staffing is a prerequisite for achieving the IPPC and FAO's strategic goals. The IPPC Secretariat plays a vital and necessary role in supporting the development of international plant health standards, the implementation of an active information exchange programme among members, the implementation of capacity development and training programmes, and a non-binding dispute settlement service.

FAO provides core funding for the IPPC but in addition, a resource mobilization programme is essential to ensure sustainable and adequate resources for a professional base of IPPC Secretariat staff that can adequately and sustainably deliver the IPPC work programme. The agenda of the IPPC will be influenced by the changing global economic and trade situation, environment and natural resources considerations, demographic trends, food security policies and priorities and regulatory policy challenges. The governing body of the IPPC (the CPM) and the IPPC Secretariat will continue to strive to prioritize its work and adopt new tools related to monitoring and evaluating its programmes and activities for maximum efficiency and best results.



IPPC Strategic Framework

The IPPC has been and remains a key FAO instrument among its members for ensuring food security, conservation of plant resources, and phytosanitary capacity development. This IPPC strategic framework brings the IPPC's activities into closer alignment with the FAO strategic goals and the new FAO Results Based Management (RBM) system.

Vision of the IPPC

Protecting global plant resources from pests.

Mission of the IPPC

To secure cooperation among nations in protecting global plant resources from the spread and introduction of pests of plants, in order to preserve food security, biodiversity and to facilitate trade.

Strategic objectives

The IPPC's strategic objectives for 2012-2019 are to:

- A protect sustainable agriculture and enhance global food security through the prevention of pest spread;**
- B protect the environment, forests and biodiversity from plant pests;**
- C facilitate economic and trade development through the promotion of harmonized scientifically based phytosanitary measures; and**
- D develop phytosanitary capacity for members to accomplish A, B and C.**

The strategic objectives and the means for accomplishing them over the next 8 years are described below. Each strategic objective has a number of organisation results to be achieved.

The success in the delivery of these results will depend on whether appropriate and sufficient resources are available.

Within the framework of the IPPC the RPPOs play a critical role in advancing the implementation of the convention at a regional level. The RPPOs are important partners to the IPPC in terms of developing concrete actions in the prevention of spread of pests that can affect agriculture, food security and biodiversity and in the implementation of capacity building programmes. For this reason an effective partnership with RPPOs is essential for achieving the following strategic objectives.

A Protect sustainable agriculture and enhance global food security through the prevention of pest spread

The projected population growth (and better income prospects in many areas) will spur higher demand for food now and in the future. Demographic trends may exert pressure on the food security situation globally but particularly in developing regions, such as those in sub-Saharan Africa. 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. Over 70 percent of the crop production increase needed to achieve this will have to come from intensification on existing or shrinking arable land area, while not compromising the capacity to produce even more food in the medium term. Crop production intensification strategies must be more sustainable than current or historical ones i.e. they must value and enhance ecosystem services such as soil nutrient dynamics, pollination, pest population control, and water conservation. They must also

build on elements that include integrated pest management, conservation agriculture, access to and sustainable use of plant genetic resources, while also reducing soil, air and water pollution. Countries and regions must enhance their capacities to monitor, detect, and prepare rapid responses to pest outbreaks, so that these pests do not threaten other regions and trading partners⁵.

Fully functioning NPPOs and RPPOs safeguard agriculture, environment and natural resources from the negative impacts of pests, and thereby contribute to enhanced food security and open up trade opportunities for countries. In close cooperation with relevant stakeholders an effective national system for the prevention of the introduction and spread of pests needs to be in place, based on the shared responsibilities of both government and the private sector. For this reason, the IPPC and International Standards for Phytosanitary Measures (ISPMs) provide the framework for the effective operation of an NPPO or an RPPO, e.g. the establishment and operation of an import regulatory system, how to conduct pest risk analysis, and guidelines for surveillance, pest status and pest eradication. The ISPMs also include diagnostic protocols that facilitate the identification of major pests of plants and plant products as well as treatments or integrated measures to provide pest management options. In the future it is expected that standards will increasingly become more commodity- and pest-specific.

The International Phytosanitary Portal (IPP – <https://www.ippc.int>) is the core tool for information exchange of the IPPC. While providing the information management needs for the whole of the IPPC work programme, it specifically provides information, through a pest reporting system, on the incidence of pests of plants and plant products. Planned developments will enhance pest alert communications among members through increased capacity and access to electronic

reporting systems including through RPPOs.

This strategic objective will strongly support the FAO objective of improving the sustainable intensification of crop production⁶.

Organizational results

- A1** Pests are detected, reported and eradicated or controlled by means of improved inspection, monitoring, surveillance, diagnosis, pest reporting and pest response systems.
- A2** NPPOs are assisted in managing pest problems, for improving sustainable intensification, with the production of technical resources on standards implementation where appropriate. Information on such management programmes is shared between countries.
- A3** The movement of food commodities and basic horticultural products is facilitated by relevant ISPMs.
- A4** Food security is enhanced by aligning the IPPC capacity development strategy on developing national phytosanitary capacity with FAO and other programmes.

B Protect the environment, forests and biodiversity from plant pests

There is an increasing awareness of the importance of invasive alien species, which can and do have a significant and devastating impact on the terrestrial and marine and freshwater environments, agriculture and forests. Whereas the CBD addresses biodiversity and the environment in general, the IPPC deals specifically with those invasive alien species that are pests of plants and provides guidance for protection against them.

The IPP provides the means for countries to provide and share basic phytosanitary information such as national pest lists. This type of information enables regulatory agencies to undertake risk analyses and establish measures where necessary.

5/ FAO. FAO Strategic Framework for 2010-2019.

6/ FAO. 2011. Save and Grow: a policymaker's guide to the sustainable intensification of smallholder crop production. Rome, Italy.

The usefulness and visibility of the IPP, will be expanded to share IPPC-related information among member countries and stakeholders about recommended phytosanitary practices for specific kinds of crop, pest control measures, research findings, other national pest-related information and other related FAO/Partner information. The pest reporting system within the IPP supplies essential information, and is of significant value to environmental protection agencies, and this system will be expanded with time and resources.

The IPPC standards and the IPPC framework can be applied to address the needs of the environmental community as it relates to plant biodiversity and emerging problems associated with invasive alien species that are plant pests. The IPPC standards on pest risk analysis, for example, can be essential and important tools for the assessment of environmental pest risks when applied.

The IPPC Secretariat and its members work with their counterparts in the Convention of Biological Diversity (CBD) to identify common issues and develop standards and other means to address problems of interest to both organisations.

Many other ISPMs have elements directed to protection of biodiversity, for example, the standard concerning the treatment of wood packaging material is aimed at risk limitation of tree pests that can affect biodiversity or commercial forests. The IPPC is proposing the development of a number of other standards dealing with the potential movement of invasive alien species important to the protection of biodiversity. These will deal with minimizing pest movement by sea containers and air containers and reducing the pest risk of waste material from ships.

Capacity development programmes dealing with environmental challenges will be included in the support programmes developed by the IPPC Secretariat.

Organizational results

- B1** The environment protection and forestry sectors, both domestically and internationally, is provided with sufficient information and tools concerning new pests and their distribution. The knowledge management tools will include pest risk analysis assistance and pest management techniques.
- B2** NPPOs and RPPOs are supported in recognizing that protection of wild plants and biodiversity is part of their responsibilities and cooperate with agencies working in the environmental sector.
- B3** Appropriate standards, recommendations and other technical resources that underpin the protection of the environment and help to limit the impact of climate change are developed.
- B4** Countries are able to protect their natural plant resources against pests as supported by capacity development.

C Facilitate economic and trade development through the promotion of harmonized scientifically based phytosanitary measures

Trade is an increasingly important part of many national economies, and trade-related capacity development and standards development need to be strengthened to help countries define their policies and develop systems to take advantage of new trade opportunities. At the same time, the rising import dependency for some developing countries means that they need effective regulatory systems or frameworks to safeguard their agriculture and the environment.

The IPP contains market access-related information for the export of plants and plant products. For the development of viable export systems, a functioning NPPO is needed to ensure that phytosanitary import requirements are met. ISPMs provide guidelines on pest lists, pest status, the establishment of pest free areas, pest free places of production and production sites, and areas of low pest prevalence. ISPMs also describe export certification systems and the use of

phytosanitary certificates. ISPMs for specific pests and specific commodities could relieve NPPOs of the need to conduct PRAs and recommend phytosanitary measures for specific plant products, and thus facilitate safe trade amongst countries. The development of an electronic IPPC certification system is being pursued.

The standard setting system, in particular how it develops and adopts diagnostic protocols and phytosanitary treatments, has been criticized for its slowness. The IPPC keeps the process under review with the intent to develop more efficient procedures for standard setting.

Regarding capacity development, the setting up of efficient and recognized systems for the export of plant material, with surveillance and inspection systems and appropriate phytosanitary certification, is a most effective means of assisting a developing country to develop and maintain an export industry.

The IPPC has a major role in the WTO-SPS framework and works on areas of common interest with the World Animal Health Organisation (OIE) and Codex Alimentarius in respect of the implementation of standards which facilitate trade.

ISPMs also provide guidance on the establishment of import verification systems. Capacity development is essential in this area to ensure safe trade and the protection of agriculture and the environment from the introduction of new pests that could negatively impact national food security.

Import or export requirements can be an area of disagreement between countries. The dispute settlement systems of the IPPC could help resolve such challenges.

Organizational results

- C1** Countries evaluate and upgrade their phytosanitary certification systems to take account of the revised standards.
- C2** Safe trade is facilitated by the provision in the IPPC of a forum for discussion of plant health issues and by the development of pest-specific or commodity-based ISPMs along with associated phytosanitary measures.
- C3** Consultative mechanisms in the dispute settlement systems are utilized and reported.

D Develop phytosanitary capacity of members to accomplish A, B and C

The increased participation of smallholders in value chains can contribute significantly to poverty reduction and rural development. Any reduction in production losses underpins the success of these value chains. For example, it is imperative to guard against pest attack, to reduce the costs of protection of crops from pest outbreaks, and to eliminate product contamination that could prohibit or complicate market access. Continual improvements in plant protection and import and export systems are imperatives for developing countries to capture trade opportunities.

This frequently includes the development of a fully functioning and sustainable NPPO. To do this requires information, training, and resources such as laboratories and equipment. The IPPC has developed the phytosanitary capacity evaluation (PCE) tool that helps countries assess their phytosanitary capabilities and needs and plan their own development priorities. Assistance to developing countries to enhance their participation in the IPPC activities, including the IPPC standard setting process and information exchange, is provided by the IPPC in the form of their funded attendance at workshops and meetings. Regional workshops on draft standards are held each year to allow officials of developed and developing countries to discuss the draft ISPMs that are in the development phase. The IPPC has recently adopted a long-term strategy for capacity development. This is receiving strong support and is being guided by a team made up of representatives from each FAO region.

The IPPC has developed an Implementation Review and Support System (IRSS) which includes a review of the implementation of the IPPC and ISPMs by members (using a triennial questionnaire and feedback system) and an "IPPC Help Desk" that is made available to IPPC members.

Organizational results

- D1** Developing countries are assisted in capacity development programmes by identifying their needs and priorities using a Phytosanitary Capacity Evaluation tool.

- D2** Countries cooperate and collaborate with aid agencies to develop capacity development programmes in developing countries by means of mechanisms established by the IPPC.
- D3** The Implementation Review and Support System is fully implemented. This provides information on the implementation of the IPPC and its standards, and the challenges that members are dealing with, including problems with the implementation of standards.
- D4** Information resources are made available to allow countries to improve national phytosanitary capacity.

Functional objectives

X Effective collaboration with members and stakeholders

This functional objective links the services provided by the IPPC and its Secretariat to the organizational results by cooperation with sponsors, members supporting the IPPC trust fund, members providing assistance in kind and by means of effective liaison all those involved in capacity development programmes.

Raising the awareness among, and appropriate engagement of, stakeholders (e.g. relevant international organisations, industry, forestry agents, traders, the general public) is of vital importance to increase the sense of urgency and responsibility of all partners involved to protect the world's plant resources against plant pests.

Organizational results

- X1** The programmes of the IPPC are sustainably funded as a result of an effective resource mobilization strategy and strong commitment from FAO.
- X2** The profile of the IPPC is raised by the development and implementation of a strong advocacy programme and dynamic communication plan.
- X3** The IPPC develops major activity based strategic plans with associated short- to medium-term plans, including the agreement of priorities, based on the strategic framework.

Y Efficient and effective administration

The IPPC Secretariat plays a fundamental role in facilitating global dialogue and cooperation in protecting plant health. This plant protection function directly supports global food security, the protection of plant resources including biodiversity, and the safe movement and marketing of agricultural products. Hence, a top administrative and organizational priority is to strengthen the capacity of the IPPC Secretariat toward greater effectiveness and efficiency of the group.

Organizational results

- Y1** The Secretariat is efficient and highly productive.
- Y2** The finances of the IPPC Secretariat are well managed in a transparent and informative manner.
- Y3** The IPPC analyzes, and if appropriate, develops and exercises a degree of greater financial and administrative authority while remaining within the framework of FAO.
- Y4** The IPPC expands the IPP to support all agreed activities of the IPPC work programme, particularly advocacy, resource mobilization, standard setting, information exchange and capacity development.

Core functions

The core functions of the IPPC are:

- a setting standards and recommendations and technical guidance including diagnostic protocols and phytosanitary treatments**
- b providing a means for the dissemination of information and knowledge on pests and phytosanitary issues**
- c coordinating the development of technical support for national phytosanitary capacity**
- d providing dispute settlement facilitation**
- e providing support for the implementation of the IPPC, and its standards**
- f undertaking resource mobilization and advocacy activities to promote the activities of the IPPC and to garner funds for these activities.**

The strategic objectives, functional objectives and core functions relate closely to those of the FAO. The activities under the strategic objectives are ordered under these core functions when described in the medium-term plan.

a Standard setting

The development and adoption of standards, recommendations, diagnostic protocols and phytosanitary treatments) is currently the major role of the CPM and the IPPC Secretariat. FAO provides a neutral forum for members to negotiate such international instruments as the IPPC. IPPC standards are recognized by the World Trade Organization (WTO) as international benchmarks for trade in plant commodities.

b Information exchange

Knowledge management and dissemination includes information on pest occurrence, pest outbreaks, pest distribution, pest spread, control measures, surveillance results, emergency programmes and other technical resources. This information exchange is essential for the implementation of the Convention and its standards. The Secretariat publishes the standards and specifications, recommendations and other technical resources. The IPP is the agreed means for this purpose. Its maintenance and continued development is vital for the work of members.

Communication and advocacy are increasingly important in the work of the IPPC and this needs to become a core component of the IPPC knowledge management system that will result in increased awareness and benefits of the IPPC, and hence generate increased support for the work of the IPPC.

c Capacity development

As noted earlier, this function is essential for the implementation of the Convention and its standards, particularly so for developing countries. A long-term strategy and operational plans for capacity development has been developed to provide a comprehensive schema to use in furthering the work of the IPPC in this area.

d Dispute settlement facilitation


Along with the development of a manual for the use of members, the Secretariat has worked informally in this area on a number of problems. Therefore, it is considered essential to retain the availability of a dispute settlement mechanism for members for possible future use.

e The implementation of the IPPC, its standards and recommendations

An implementation programme called the Implementation Review and Support System (IRSS) has been established. It involves two mechanisms: a Helpdesk to answer questions regarding capacity development and assist with programme development; and an assessment of the phytosanitary capabilities of countries utilizing information gathered from the PCE tool, RPPOs, IPPC Secretariat information exchange programme, and that gathered from members using a specially designed questionnaire.

f Advocacy and resource mobilization

The development of advocacy materials and programmes is necessary for the progress of the IPPC and its standards. The IPPC has to develop a stronger profile with a much wider audience. Also, the development of mechanisms for resource mobilization is essential to develop further funding resources.




Conclusion: IPPC over the next eight years

Globalization has created many opportunities and challenges for farmers, foresters, plant health officials, and others involved in or concerned with food production and plant protection issues. New and changing patterns associated with international trade, climate, and demographics are expected to effect the global distribution of plant pests, thus creating new threats to food security, agricultural and rural communities, plant biodiversity, natural habitats and ecosystems around the world.

A core contribution of the IPPC to managing these global challenges is developing and maintaining an effective and credible forum where plant protection officials can communicate, debate, and cooperate in joint actions and measures to address long term and newly emerging global plant health issues. The expanding IPPC membership over the past decade reflects a majority view on the necessity and benefit of such coordination at the global level. However, this collaboration and coordination does not occur in a vacuum. Structures, systems, and mechanisms need to be established and maintained to foster these intergovernmental and international relationships. The IPPC is that key international structure for ensuring cooperation in plant health, including collaboration among contracting parties, RPPOs and other stakeholders.

Looking ahead, the IPPC contracting parties, RPPOs and the IPPC Secretariat will focus on the following key themes over the next 8 years:

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- 1 Enhance its contribution to the global food security agenda through new and updated standards aimed at preventing pest spread in trade and active information exchange programmes related to communicating pest occurrence, outbreaks, and sharing of other critical pest information among countries.
 - 2 Enhance IPPC actions and measures aimed at safeguarding the environment, forests, and biodiversity against plant pests. The IPPC will continue working closely with countries and other international organizations such as the CBD to address the threat of invasive alien species. IPPC standards will be developed to address the needs of the environmental community as it relates to plant biodiversity and emerging problems associated with invasive alien species which are plant pests.

- 3 Support the safe expansion of food and agricultural trade. Trade is an important part of many countries' economic growth strategy. The IPPC will develop the necessary standards to support and guide this expanding trade among countries as well as operate an IPPC Help Desk to assist countries develop their plant health-regulatory systems to take advantage of new regional and international trade opportunities.
- 4 Develop the phytosanitary capacity of members through the assessment of NPPOs' capacities and needs, and the subsequent development of prioritized assistance programmes. This will be coupled with strategies for identifying potential donor organizations involved in capacity building and development.
- 5 Actively review and support the broad implementation of IPPC and its standards through an Implementation Review and Support System. This includes use of the IPPC Helpdesk to assist with capacity development programmes and a mechanism to assess the phytosanitary capabilities of countries from information gathered by specifically designed means.
- 6 Implement cost-effective approaches to its work and adopt new approaches for prioritizing, monitoring and evaluating IPPC programmes and activities. A top organizational priority is to strengthen the capacity of the IPPC Secretariat toward greater effectiveness and efficiency of the staff.
- 7 Continuously explore possible additional roles of IPPC.

The evidence is clear from the growth in IPPC membership, increasing participation of countries in IPPC events and activities, and increasing interest by industry groups in the IPPC standards setting programme that countries are eager to collaborate with one another in addressing global plant protection issues and advancing the objectives of the Convention. However, achieving these goals and advancing the cause of plant protection in the years ahead will ultimately depend on commitments and priorities of governments and other parties to provide the necessary resources to the IPPC and its Secretariat to carry out this critical work.

IPPC

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

Organization

- ◆ The number of contracting party signatories to the Convention exceeds 177.
- ◆ Each contracting party has a National Plant Protection Organization (NPPO) and an Official IPPC contact point.
- ◆ 10 Regional Plant Protection Organizations (RPPOs) have been established to coordinate NPPOs in various regions of the world.
- ◆ IPPC liaises with relevant international organizations to help build regional and national capacities.
- ◆ The Secretariat is provided by the Food and Agriculture Organization of the United Nations (FAO-UN).



International Plant Protection Convention (IPPC)

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