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FAO REGIONAL CONFERENCE FOR ASIA AND THE PACIFIC

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Report of the Asia and Pacific Plant Protection Commission (APPPC) and Update on Fall Armyworm and on Desert Locusts in Asia and the Pacific

Executive Summary

The Asia and Pacific Plant Protection Commission (APPPC) coordinates and supports plant protection activities of its Members in Asia and the Pacific, with emphasis on developing regional standards for phytosanitary measures (RSPMs), contributing to the development of international standards for phytosanitary measures (ISPMs), and promoting information exchange among Members and other countries in the region. It also plays a leadership role in supporting the implementation of Integrated Pest Management (IPM) and pesticide management programmes at regional and national levels. Focus is given to the capacity development among Members. This report reviews APPPC's activities in the past biennium (2020-2021) and provides updates on various plant protection projects in the region. It also addresses current challenges and opportunities, taking into account the incursion and spread of Fall Armyworm (FAW) and Desert Locust (DL).

Suggested action by the Regional Conference

The APRC is invited to consider this information paper and give comments under "Any other matters". It may wish to:

a. recognize the importance of the key outcomes of the APPPC biennium (2020-2021) discussions about the development of the draft RSPMs and ISPMs and regional action programmes;

b. encourage to further explore mechanisms whereby the Food and Agriculture Organization of the United Nations (FAO) can work with countries in the region to sustainably manage and control FAW populations to limit infestations and yield losses and address subsequent transboundary pest and disease outbreaks;

c. encourage to further explore mechanisms whereby FAO can work with countries in the region to sustainably manage Desert Locust swarms and implement anticipatory actions and control measures;

d. support plant health activities of the International Year of Plant Health (IYPH) legacy and support the final endorsement of the resolution for an International Day of Plant Health on12 May every year at the next UN General Assembly.

Queries on the content of this document may be addressed to:

APRC Secretariat

APRC@fao.org

Introduction

1. APPPC convened for the first time in 1956. It administers the Regional Plant Protection Agreement for Asia and the Pacific and reviews the plant protection situation at the national level among its 25 Members and at the regional level. Among its key objectives are coordinating and promoting the development of regional plant protection systems, assisting Members in developing and implementing effective plant protection programmes, setting RSPMs, facilitating inputs into the development of ISPMs, and promoting information exchange.

Key activities

Plant Quarantine

2. APPPC assists Members in assessing and mitigating risks to their national plant resources by using science-based measures to safeguard their cultivated and wild plants. Emphasis is placed on developing and enhancing the capacity of Members for pest surveillance, pest risk analysis, pest risk management through systems approaches, and implementation of both RSPMs and ISPMs. It also assists Members in managing outbreaks of invasive species and promotes safe agricultural trade. As well, it facilitates information exchange among Members through its website (www.apppc.org), which allows countries to share import and export requirements, pest reports, updated pest control programmes, and early warnings of risks. The Commission assists Members in developing plant health policies, regulations, systems and practices, aiming at mitigating the potential risk of the introduction and spread of regulated pests. It also supports the International Plant Protection Convention (IPPC) in developing and implementing ISPMs through organizing annual regional workshops.

Integrated Pest Management

3. As an ecosystem approach to crop production and protection, IPM has been actively endorsed by APPPC. The approach is an ecologically based, environmentally safe method for farmers to protect their crops against pest and disease incursions without resorting to potentially dangerous chemicals. APPPC promotes increased adoption of the IPM approach through farmer field schools, regional IPM programmes, collaborative research, and capacity development programmes for farmers, trainers and extension workers. The key objective is to enable Members to adopt IPM technologies suitable to their respective situation.

Pesticide Management

4. Pesticide misuse remains a common challenge in the region. These chemicals, in particular highly hazardous pesticides (HHPs), have adverse impacts on the environment and biodiversity, pose serious risks to human health, and can result in the resurgence of chemical-resistant pests. APPPC coordinates with Members to ensure that production, trade and use of chemical pesticides are properly regulated in line with the FAO International Code of Conduct on Pesticide Management and with other international treaties, including the Rotterdam and Stockholm Conventions.

Regional context

5. Although Asia and the Pacific is known for its high degree of plant diversity and is home to tens of thousands of plant species, overharvesting of natural resources, pollution, misuse of pesticides, invasive species, and climate change are increasingly leading to species loss and threatening this diversity. Noteworthy is the fact that climate-triggered pest outbreaks have caused negative socio-economic implications in several countries in the region. Careless and haphazard use of pesticides, in particular of HHPs, has become increasingly serious. The misuse of chemical control has negative impacts on on-farm biodiversity, leading to damaged ecosystems, increased agricultural footprints, and deterioration of human health. Pesticide misuse has been linked to the sharp drop in farmland birds and insect populations. International trade in plant and plant products also poses potential risks to plant productivity and natural ecosystems through the introduction and spread of invasive plant pests. The damage caused by pest introductions and outbreaks imposes enormous costs on affected countries in the region in terms of ecological destruction, economic losses, and detrimental social effects.

Brief biennial report of APPPC activities (2020-2021)

6. APPPC's activities for the biennium (2020-2021) were inevitably affected by the COVID-19 pandemic. Many activities were postponed and others cancelled. Out of 16 original activities for 2021, only nine were implemented: ISPM 6 Pest Surveillance programme; regional workshop on draft ISPMs; regional webinar on commodity-based standards; ePhyto workshop; continued work on the Regional Implementation Guidance on seeds; Standards Committee meeting; meeting before the fifteenth session of the Commission on Phytosanitary Measures (CPM15); training webinars held by the Rotterdam Convention (replacing a regional training workshop); and national training and action planning workshop in Nepal (online).

7. Activities to take place in 2022 or later included: Workshop 5 on the implementation of ISPM 6; workshop on ISPM32 – categorization of commodities according to pest risk; hands-on training on molecular diagnostics for South American Leaf Blight; workshop on pesticide residue detection; workshop on pesticide application by unmanned aerial vehicles; implementation of the Rotterdam Convention; meeting prior to CPM16; working group planning meeting for the 32nd Session (possibly with the Steering Committee); and workshop on emerging pests. Although China offered to host the 32nd Session of the APPPC, the meeting might have to be held virtually.

IPPC's call for topics

8. In September 2021, APPPC submitted to the IPPC Secretariat a draft specification for Commodity-Based Standards on Mango Fruit. Apart from several countries in Asia, APPPC's proposal received support from many Regional Plant Protection Organizations (RPPOs) and their members.

9. The Pacific Plant Protection Organization also submitted its proposal for a new ISPM on the safe provision of food and aid, together with the related draft specification, to which APPPC issued a letter of support. Australia and New Zealand are members of both RPPOs.

10. New Zealand plans to submit a proposal on the revision of ISPM 26 on the Establishment of pest-free areas for fruit flies and four diagnostic protocols including Fall Armyworm and spotted wing drosophila, and Japan plans to submit topics regarding field inspection and a testing laboratory.

2021 IPPC-APPPC Regional Workshop

11. The workshop was held virtually from 6 to 9 September 2021, with 86 National Plant Protection Organization (NPPO) officials from 16 countries in attendance. The meeting covered three areas: consultations on new and revised ISPM specifications; updates from the IPPC Secretariat; and discussions on regional issues.

ePhyto Solution

12. IPPC has built a hub capable of exchanging other types of certificates as well (e.g. sanitary certificates). Freight forwarders using ePhyto are benefiting with reduced costs and improved security. Implementation has been supplied for several countries with a harmonized and consistent approach being developed, which reduces the number of non-compliance events. In September 2020, the Industry Advisory Group of the IPPC ePhyto Solution called on governments to support the adoption of ePhyto to facilitate international agricultural trade, which will be crucial in safeguarding global food security beyond the COVID-19 recovery period.

13. The solution has three components: a harmonized message; the hub to facilitate the exchange of ePhytos; and the Generic ePhytos National System (GeNS). Several national systems have joined while other countries are using GeNS. The system allows the ePhyto certificate to be seen in the same format or structure when it is received by a country. Ninety-one countries are registered to use it, with 57 actively exchanging certificates; 15 are using GeNS. More than 60 countries are planning to use this system.

14. Countries can use other systems to link with the hub. The system may also provide copies for industry systems in the future. Standardized training is available for NPPOs and all users. The ePhyto International Steering Group is looking at expanding the functions of the system to exchange

inspection reports, non-compliance reporting, and collaboration with other agencies, and to provide linkages with other government systems and linkage to industry systems (e.g. blockchain). Translation into other languages, routine maintenance, and other enhancements are being developed. In the future, the system will also be able to send messages, e.g. for replacement certificates. For further development, APPPC gathered information regarding ePhyto contact points from countries in the region that wanted to use a national system or the GeNS. The information would determine the type of support to be given. As the ePhyto Industry Advisory Group hosted several webinars to promote uptake of ePhyto, APPPC focused on the implementation of ePhyto in the region, and identification of training needs on the technical side. The aim was to enable more NPPOs to electronically exchange phyto certificates.

International Year of Plant Health 2020 and its legacy

15. IYPH 2020, which ended in July 2021, was successful in fulfilling its purposes of raising global awareness on how protecting plant health can help end hunger, reduce poverty, protect the environment and boost economic development. It served as a key catalyst in protecting plant health to sustain life transmitted by the IYPH slogan, *"Protecting plants, Protecting life".* The slogan resonated high on the global agenda. APPPC encouraged Members to maintain the momentum built to further enhance their phytosanitary capacity.

16. A major IYPH legacy was the establishment of the International Plant Health Conference, to be held in May 2022. A scientific review on the impact of climate change on plant pests published in June 2021 gave a scientific basis for future work on assessing and managing the impact of climate change on plant health. The IYPH Youth Declaration prepared by 26 youth groups expressed ideas for further actions to protect and promote global plant health and help achieve the Sustainable Development Goals.

17. In October 2020, the twenty-seventh session of the FAO Committee on Agriculture endorsed a resolution championed by Zambia for an International Day of Plant Health on 12 May every year. The proposal was later validated by the FAO Council and Conference. The UN General Assembly will now consider the proposal for final endorsement at its next session.

Development of APPPC five-year strategic plan

18. APPPC is formulating its five-year strategic plan (2022-2026) led by New Zealand, taking into consideration many challenges, opportunities and potential benefits to be gained by the Members. The challenges include international trade, new technologies, climate change, transboundary plant pests, and the COVID-19 pandemic. Emphasis will be placed on future directions and how to align the plan with the implementation of IPPC's developmental agenda items. Focus will also be given to the maintenance of relevance, value and benefits of APPPC's work programme to Members. The plan will include a mission statement, an environmental scan of the current situation and APPPC's leadership in phytosanitary matters. Noteworthy are five directions and areas of focus: (i) development of measures for plant protection; (ii) development of information management systems; (iii) capacity development; (iv) inputs into international systems; and (v) development of administrative systems. A virtual workshop was held in November 2021 to discuss the strategic plan in detail; it will be proposed for adoption at the thirty-second session of the APPPC.

Transboundary pests and diseases

19. APPPC activities over the past biennium demonstrated more emphasis on transboundary threats. The spread of FAW in Asia and the Pacific countries brought about an increasing concern. In the absence of natural control or good management, the trend could cause significant damage, including to staple food crops. FAW posed a threat to the food security and livelihoods of millions of smallholder families. Once it entered a country and established itself, response and management actions would require considerable resources. As a result, preparedness and preventive measures were a top priority and focused on preventing the spread and potential outbreaks. Response to pest attacks needed to be balanced and include a range of sustainable alternative solutions to the use of chemical pesticides. Farmers needed substantial support through IPM programmes to sustainably manage FAW

in their cropping systems. Thanks to FAO's inputs and great efforts put in by its Members in Asia and the Pacific, the concern about FAW outbreaks has been addressed and several countries are now well prepared and equipped with appropriate strategies and action plans as well as affordable technologies, tools and control options based on the IPM approach.

FAO's response to Fall Armyworm

20. At the 163rd Session of the FAO Council in December 2019, the Global Action for FAW Control over 2019-2022 was launched, aiming to: establish global and regional collaboration on monitoring, early warning, and IPM of FAW; reduce crop yield losses caused by FAW; and lower the risk of further spread of FAW to new areas. FAO Plant Production and Protection Division was called upon to play a leading role in implementing the global action, with IPPC leading the prevention and preparedness components.

21. Coordination activities in Asia and the Pacific were conducted through the establishment of a regional steering group in June 2020. The group consisted of 23 members from governments and technical partners in the region. Common challenges identified were: inadequate knowledge and research; variability of monitoring and early warning systems used by countries; expensive and laborious current control methods; insufficient information on locally validated control options; and delayed access to IPM products.

22. Three geographic zones – Northeast Asia, South Asia and Southeast Asia – are designated in the region. Each zone has a designated demonstration country with scale-up training activities involving the surrounding countries. The training activities facilitate information-sharing and knowledge exchange. China serves as the demonstration country in Northeast Asia, India in South Asia, and the Philippines in Southeast Asia.

23. In each demonstration country, a national task force is set up and a national focal point appointed for the day-to-day management of the task force and to serve as the communication focal point. The national task force is responsible for preparing a regional IPM strategy in collaboration with other countries in their respective zones. Technology evaluation and capacity development are conducted by the demonstration countries to ensure widespread adoption and implementation of the IPM strategy, of which awareness and capacity development is an integral part of developing adequate responses and sustainable FAW management and control. Farmer field schools with well-adapted curricula are the preferred medium to educate and reach large numbers of farmers.

Update on Desert Locust upsurge

24. For most affected countries, the Desert Locust is the primary agricultural pest. In the past, farmers in East Africa and South Asia faced very tough times as swarms of locusts numbering in the hundreds of billions hit these regions. Recently, some two dozen countries in Africa and Asia faced the worst Desert Locust upsurge. During 2019 and 2020, extensive breeding occurred during the spring in southern Iran and during the summer along the India-Pakistan border. Swarms reached northern India and Nepal in early summer 2020. However, the situation improved as the infestations were successfully managed. Substantial efforts by Pakistan and India brought the upsurge under control in Southwest Asia by autumn 2020. FAO's Desert Locust Information Service operates a global early warning system to reduce the frequency, duration and intensity of devastating Desert Locust plagues. The system provides a key element in preventive control by analysis and mapping of field data from national survey and control teams, combined with earth observation imagery to monitor rainfall, soil moisture and vegetation, and models to estimate locust development and swarm migration.

Challenges and opportunities

25. The COVID-19 outbreak, first identified in December 2019, had significant impacts on the implementation of APPPC's activities. Many had to be postponed while others had to be conducted virtually.

26. However, the pandemic accelerated the digital transformation of agriculture, as in the case of Viet Nam. In February 2021, the country approved a plan to restructure its agriculture sector, aiming at developing sustainable agriculture. Emphasis was placed on applying high, digital and information technology to all stages of the global agricultural value chain. The plan paved the way for recent actions and initiatives to boost digital transformation in agriculture and rural development.

27. With the advent of software programmes such as Zoom, online meetings have become common. In the post-COVID-19 world, virtual and hybrid meetings will be increasingly popular, as they help expand target audiences and promote inclusivity. To become more effective, organizations including APPPC need to transform the way they work by making use of the new technologies.

28. Digital technologies inspire education and training systems that can promote capacity-building on plant protection as well as pest and pesticide management in the post-COVID-19 world. They also offer unprecedented opportunities for smallholder farmers at the forefront of the sustainable food supply chain to equip themselves with the necessary tools and knowledge not only to fight against pests and protect plant health but also to increase their productivity, yields, and income to previously unachievable levels. For Asia and the Pacific, digital technologies will most likely prove to be a lifeline for the implementation of APPPC's future plant protection activities.

Pest Management

29. Climate change has a major impact on crop production and agricultural pests. It broadens the pests' distributional range, undermines ecological resilience, and thereby triggers outbreaks. Climate-induced pest invasion poses a serious risk not only to food security but also to the livelihoods of smallholder farmers. APPPC has worked with Members to determine priorities, which include working towards and applying science-based sustainable management solutions, modernizing Sanitary and Phytosanitary Measures, and using ePhyto to facilitate agricultural trade.

30. Research advances in plant protection have been much slower than in pest multiplication and building up resistance. Community development and various extension programmes that could educate and encourage farmers to adopt the innovative IPM strategy hold the key to reduce the deleterious impacts of pests.

31. Regular reporting on emerging pests needs to be strengthened in many countries in Asia and the Pacific.

32. Core IPM principles and decision criteria are being steadily abandoned, resulting in increased adoption of prophylactic measures such as insecticide-coated seeds.

33. Global travel and trade have spread half of all emerging plant diseases, which tripled in volume over the last decade. As a result, investments in improving and strengthening national phytosanitary systems and structures, including ePhyto, are crucial as plant pest management of one country affects the success of others.

Pesticide Management

34. Pesticide residues constitute major food safety hazards. The development of alternatives to chemical pesticides such as biopesticides and their fast-track registration are a top priority. Devising alternative means to counter the escalating use of chemical pesticides is a growing concern in the region.

35. Most countries have laboratories to monitor pesticide residues. However, the number of annual analyses and their reporting is minimal.

36. Countries with limited human resources for pesticide registration need to establish and strengthen (sub-) regional collaboration, where applicable, to share their registration procedures, data and decisions. Pesticide registration needs to be emphasized for crops and pests. On this basis, a direct liaison with the Rotterdam Convention Designated National Authority of target countries should be made to review the status of the implementation of the Convention at country level. The Convention Secretariat could further provide trainings for interested parties on the pesticide registration toolkit.

Other activities, such as support to strengthen pesticide legislation, could be jointly provided by the Convention and FAO's Legal Office upon request.

37. Capacity-building of life-cycle management of pesticides should be strengthened, with a focus on identification, assessment, and mitigation of HHP/Severely Hazardous Pesticide Formulations.

38. Inadequate technical capacities, policies, regulatory hurdles, and intense industry lobbying further prevent the uptake of non-chemical crop protection practices.

Opportunities for more effective pest and pesticide management

39. New analytical tools are available for detecting patterns in trade, pests, and border non-compliance, allowing more effective border inspections and pest surveillance.

40. According to the feedback received from Members, the Rotterdam Convention and the FAO Pesticide Registration ToolKit are effective means for pesticide management and risk reduction. Further technical assistance by the Convention and training on the ToolKit would be very useful for the region.

41. Improved measures to limit the international spread of pests through trade and travel and adjustments to plant protection protocols were recognized.

42. Novel pest control such as biopesticides is widely recognized. Biological control products are effective in reducing the risk arising from haphazard use of HHPs.

Key recommendations for pest and pesticide management

a. Continue building capacities on preparedness, early warning, monitoring, surveillance and response to specific threats as identified by Members;

b. continue the technical discussion to develop the Regional Implementation Guidance on phytosanitary measures for chili seed as part of the implementation of ISPM 38 on the international movement of seeds;

c. develop a normative strategy on combating emerging pests and diseases and transboundary threats in the context of increased movement of commodities through trade and climate change-linked occurrences;

d. work closely with IPPC and Plant Protection teams of FAO's Plant Production and Protection Division in developing APPPC's five-year strategic plan;

e. encourage Members to maintain the momentum built by IYPH 2020 to further enhance phytosanitary capacities in the region and support the final endorsement of the resolution for an International Day of Plant Health on 12 May every year at the UN General Assembly's next session;

f. encourage Members to ratify and implement the Rotterdam Convention, which will enable them to make informed decisions and prevent unwanted international trade of hazardous pesticides, and to benefit from the exchange of information on regulatory decisions, risk evaluations and sustainable alternatives to HHPs. In this regard, the Convention could provide webinars to requesting countries on pesticide risk evaluation.