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COMMISSION ON PHYTOSANITARY MEASURES

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| Tenth Session |
| Rome, 16-20 March 2015 |
| ePhyto - update |
| Agenda item 9.3 |
| Prepared by the CPM Bureau, ePhyto Steering Committee and the IPPC Secretariat |

I. The Development of an ePhyto Hub

1. CPM-9 (2014) received the ePhyto Hub Feasibility Study, encouraged the ePhyto Steering Group (ESG) to urgently continue its work including preparing for the development of an ePhyto hub and adopted APPENDIX 1 (Electronic phytosanitary certificates, information on standard XML schemes and exchange mechanisms (2014) to ISPM 12, The CPM Bureau was requested by the CPM to report back to CPM -10 (2015) providing adequate information to the CPM to make a decision on how to proceed with ePhyto.
2. Over the last year the ESG, under the oversight of the CPM Bureau has continued its work in the following areas:
 - 1) Increasing awareness and understanding of electronic phytosanitary certification (ePhyto).
 - 2) Exploring and progressing capacity development opportunities.
 - 3) Preparing for the development of an ePhyto hub.
 - 4) Considering implementation issues associated with creating an ePhyto hub.
3. A meeting of the ESG with the IPPC Secretariat was held in Wageningen, Netherlands in July 2014 to develop a plan of work, discuss capacity development opportunities and resolve high level design issues for the hub. The ESG continues to hold monthly teleconference calls to keep the work progressing. An ePhyto technical working group was created and has worked virtually to develop a functional specification for the hub with sufficient detail for potential vendors to provide cost estimates.

Increasing Awareness

4. *Factsheets* – The ePhyto Steering group has produced five ePhyto factsheets¹ providing updates on the work of the ePhyto steering group and a basic introduction to ePhyto concepts, terminology and Appendix 1 of ISPM 12.
5. *Frequently Asked Questions (FAQs)* – FAQs have been produced to answer questions raised during CPM 9 (2014). These are also posted on the IPP².
6. *Website* – ePhyto pages on the IPP have been updated to provide a place where contracting parties can go to find reference information and learn more about ePhyto and how the work is progressing. The feasibility study, Factsheets, FAQ's and useful slide presentations are available and more will be added over time.
7. *IPPC Regional workshops* – During the annual IPPC regional workshops run by the IPPC Secretariat, ePhyto was included as a topic for discussion. The participants had the opportunity to discuss issues related to the process and the implementation of the hub and stressed the need to have a single centralized procedure at the global level.
8. *Technical Consultation among Regional Plant Protection Organizations* - During this meeting, RPPOs reported on their activities related to e-phyto and the status of implementation action in their regions. It was specifically mentioned that most of the participating RPPOs were ready to support the development of the Hub.

Capacity Development

9. *Regional meetings* - In April EPPO organized a workshop on Electronic certificates and related information technology (IT) systems with 32 participants from 14 countries. All countries present and a member of the ESG gave presentations on developments in electronic certificates. A report is available on the EPPO website³. In October the APPPC held a workshop to build understanding and preparedness for ePhyto among APPPC countries. Over 40 officials from 20 countries attended. Members of the ESG and IPPC Secretariat gave presentations and led some discussions sessions. A report of this meeting provided as an information paper CPM 2015/INF/08⁴. Also in October NAPPO held a 1 day workshop on ePhyto as part of its annual meeting. The meeting was attended by industry and government and discussions focused on the current direction of ePhyto, challenges remaining, and current capacity of many countries. There were several question and answer sessions throughout the day and the symposium was well received. Three members of the ESG were present as well as representatives from 5 countries. Including industry over 80 individuals participated.
10. *CPM Side Session* – a side-session is scheduled for CPM-10 (2015) to assist interested contracting parties to gain a fuller understanding of the ePhyto concept and what is being proposed for a CPM decision.
11. *STDF Proposal* - In October 2014 following the Strategic Planning Group (SPG) meeting the IPPC Secretariat worked with the ESG and CPM Bureau members to develop an STDF proposal for a US\$1,200,000 project to build capacity of contracting parties to exchange phytosanitary information electronically. The proposal is to support three key activities:
 - Activity 1: Provide a global harmonized exchange tool for electronic phytosanitary certificates.
 - Activity 2: Assist countries to set up a generic system for national production and receipt of electronic phytosanitary certificates.
 - Activity 3: Assist countries to implement electronic phytosanitary certification.

¹ ePhyto fact sheets posted on the IPP: <https://www.ippc.int/core-activities/ephyto>

² FAQs: <https://www.ippc.int/core-activities/ephyto>

³ Report from April 2014 EPPO workshop on Electronic certificates:
http://archives.eppo.int/MEETINGS/2014_conferences/e_certification_baku.

⁴ <https://www.ippc.int/core-activities/governance/cpm>

12. Letters of support for the proposal have been provided from many contracting parties. A final decision by the STDF on the proposal will be made in April 2015. If this grant is given, additional funding would be needed for a project manager for 2 years and for training activities which would not be covered by the project. A CPM decision strongly supporting the hub development along with financial commitments will be needed for this project.

Preparing for the Development of an ePhyto Hub

13. *Functional Specification* – a functional specification for the hub has been developed by the technical working group and approved by the ESG. The prevailing philosophy has been to keep the hub functionality very simple. This will keep costs low and make it easier for countries to start using the hub. At a later date, if desired, additional functionality may be added. In addition to simplicity, security and confidentiality of information are also critical. Certificate information will be encrypted to ensure security and confidentiality. The hub will not read the certificates and it will only hold them in the hub for the short time between the certificate being sent by the exporting NPPO and being picked up by the importing NPPO. 24/7 continuity of service is required.

14. An easy to understand description of the functionality of the hub to achieve a completely secure transmission is provided in a simple one page illustration which is also posted on the IPP⁵. It uses the analogy of a mail pathway with explanatory text to explain security and authentication steps.

15. A full functional specification has not yet been developed for the generic system for national production and receipt of certificates. This system could be used by contracting parties who have a phytosanitary certification system (ISPM 7) but do not yet have an electronic system capable of producing ePhytos. The core functionality is expected to include:

- Enter phytosanitary certificate data
- Produce phytosanitary certificates (ePhytos and/or paper)
- Encrypt and send ePhytos to hub or directly to another NPPO
- Store ePhytos sent and received
- Receive ePhytos from hub or from another NPPO directly and decrypt
- Read/view/print/produce pdf of ePhytos

16. This system should provide significant benefits to contracting parties currently without an electronic national system and to their trading partners.

17. *Business rules* – In addition to functional specifications, business rules need to be decided. These are largely independent of the design of the hub or generic national system. Examples of such rules include:

- Which version of the UNCEFACT Schema will be used and how moving to a new version will be agreed and rolled out.
- Acceptable communication protocols between the national system and the hub.
- How to keep harmonised terms up to date.
- How to recover the costs of the hub and maintaining harmonised terms.
- Defining contractual arrangements for users of the hub to for example limit liability of the FAO/IPPC.

18. The ESG consider almost all of these business rules can be worked out after a decision is made to proceed with the hub. For some business rules there are many options to be worked through, for example:

How to recover the costs of the hub – this could be done by establishing prepaid accounts for each NPPO and debiting from the account of an exporting or importing NPPO \$0.xx every time a certificate is received at the hub. Or, a fixed monthly or annual fee could be set for

⁵ Flow chart of analogy of a mail pathway: <https://www.ippc.int/publications/ephyto-hub-vs-secure-letter-flowchart>

users of the hub. An annual fee could be graduated according to broad categories of volume of use.

19. The ESG is developing a full list of all required business rules and options. However work will not commence until a decision is made to proceed with the hub, otherwise time and effort could be wasted. If CPM decides to proceed, the ESG proposes to work with the IPPC Secretariat, FAO (e.g. FAO Legal Services) and the United Nations International Computing Centre (UN ICC) to develop the rules and seek endorsement on a full set of rules from the CPM Bureau. This would need to be achieved before the end of the first piloting period (recognising some rules would have to be in place earlier). Once established, the rules would need to be accepted by those NPPO's wishing to use the hub. A user group could be set up to manage the rules of the hub.

20. **Provider discussions** – over the past year the ESG has had discussions with multiple providers who would like to work with the IPPC to develop or host and run the hub. There is strong interest in the project and it has become clear that within the constraints of the functional specification, there will be many ways to develop a solution that will meet the needs of contracting parties who want to exchange certificates through the hub. However selection of a provider and detailed discussions cannot progress until a decision to proceed is made by the CPM.

21. Useful discussions have been had with the UNICC. This is a UN organisation which provides computing services for more than 35 UN entities. It operates like a private service provider but only recovers costs. Importantly it retains the privileges & immunities of UN bodies, including confidentiality and tax and duty exemptions. Working with the UNICC may provide significant benefits if the IPPC were to use it to manage the development and host/run the hub. However, only limited discussions with the UNICC can be had until a decision to proceed is made by the CPM.

22. **Costing** – cost estimates have been sought for the following elements:

- Developing the hub – building or modifying software, testing and deploying.
- Hosting the hub – hosting the hub with sufficient back-up and monitoring to ensure continuity of service.
- Running the hub – day-to-day operating of the hub.
- Authentication services – ensuring that only authorised NPPO's can access the hub and send or receive certificates.
- Country participation costs – for example the cost of obtaining/maintaining digital signatures if these are required.

23. A wide range of options could be available. Some options would have an up-front capital cost to develop the hub and low usage fees, other options would have no up-front development costs but a higher usage fee. An analysis of cost estimates received will be presented to CPM . However, negotiations with potential providers and firm costs cannot be provided at this time. If the cost estimates are reasonable, and likely to be within the resources that can be secured, ESG will encourage the CPM to proceed with the hub development.

Making a Decision

24. Much progress has been made but more work remains. The ESG is of the view that further progress will be difficult without a clear CPM decision to proceed to develop the hub. The ESG supports the concept of the Hub and will finalise detailed, technical design work – this will be reported to the Bureau.

25. The ESG encourages the CPM to support the option to proceed with a Hub.

26. Participation in the Hub will be voluntary. Contracting parties will need to make their own decision on when to start using the hub. That may be in 1 year or in 5 or 10 years or some may choose to never use it. All contracting parties will have work to do to start using a hub. Those that already have an electronic system will need to adapt their system to interface with the hub. Some contracting parties will need to change their legislation to recognise electronic transactions as legitimate. Some may have to establish mechanisms to fund the cost of transmitting via the hub. Some may have to

review their national philosophy on control of IT systems or use of cloud-based platforms. These are all valid constraints to participation in a hub. However, in the view of the ESG, a decision on when an individual contracting party is ready to use the hub, should be independent of a decision on when the IPPC should make a hub available for those who are ready to use it.

27. At its core, the proposal to develop a hub is to assist contracting parties to achieve global harmonisation in the electronic exchange of phytosanitary certificate information. Without harmonisation the transaction costs associated with trade will be higher. Without a hub (relying on point-to-point exchange systems), achieving and maintaining harmonisation could be more difficult and costly. The hub system is especially more beneficial for the countries who have not yet started the development of an electronic exchange system, including many developing countries. The proposed hub system provides:

- Ease of access for new countries.
- No need to bilaterally negotiate technical transmission protocols.
- No need to adapt transmission protocol for each new trading partner.
- Everyone play by one set of rules and one way to interpret the rules.
- The best chance of capturing the benefits of harmonisation and maintaining them over the long term.

Recommendations

28. The CPM is requested to:

- *Note* the activities of the ePhyto Steering group (ESG) and the IPPC Secretariat.
- *Note* the ePhyto materials now on the IPP including factsheets, FAQ's, and functional specifications which will help contracting parties to understand ePhyto and answer question previously raised.
- *Confirm* support for the submission of the STDF proposal for the activities outlined above to enable Contracting Parties to provide phytosanitary assurances in trade in an innovative, cost effective and globally harmonized way.
- *Support* the Secretariat to implement the project, subject to the outcome of the STDF proposal decision.
- *Support* the development of a hub for ePhyto and provide additional resources needed to proceed with the development and pilot of the hub and generic national system.
- *Support* the continued work of the ePhyto Steering Group under the oversight of the CPM Bureau.
- *Encourage* the ePhyto Steering Group and Secretariat to urgently continue its work in this area including:
 - *Participate* in the management of the submitted STDF project and associated activities
 - Developing business rules and other requirements to implement the hub
 - Proposing a management structure for the hub.
- *Request* the CPM Bureau report back to CPM-11 (2016) on progress.