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This background document[1] is designed to facilitate discussions on standing committee agenda item 3f, which delves into the opportunities and challenges associated with scaling up the IPPC ePhyto Solution.

While cross-border paperless trade typically operates under bilateral arrangements between two trading countries, the ePhyto Solution stands out for its provision of a multilateral approach. This document highlights successful experiences and lessons learned from the development of the IPPC ePhyto Solution.

Moreover, this document examines potential opportunities and obstacles in expanding the use of the IPPC ePhyto Hub. specifically, it explores which other trade-related documents could be exchanged using IPPC ePhyto Solution frameworks.

The standing committee is encouraged to review the insights presented in this document and offer guidance on whether and how to capitalize on IPPC ePhyto Solutions.

[1] The initial draft of this document was prepared by Mr. Craig Fedchock and Mr. Tengfei Wang. The topic was discussed comprehensively during the webinar organized on 23 and 24 January 2024. The following experts, listed alphabetically, attended the webinar, Mr. Alexander Goulandris, Mr. Erik Bosker, Mr. Francis Lopez, Mr. Jens Munch Lund Nielsen, Mr. Ofer Ein Bar, Mr. Simon Padilla, Mr. Yawar Nawaz, Ms. Edith Laget, Ms. Rose Souza Richards is gratefully acknowledged. Further information on the webinar is available through https://www.unescap.org/events/2024/unnext-webinar-upscaling-ippc-ephyto-solution-other-trade-related-documents. Kayan Lee and Elliot Carpenter reviewed the document.

Upscaling the IPPC ePhyto Solution to Other Trade-Related Documents: Opportunities and Challenges

I. Introduction

Phytosanitary certificates serve as formal government-issued documents verifying the pest and disease-free status of plant shipments. Traditionally, these certificates are tangible paper forms exchanged via mail, courier, or other physical channels. However, the process of obtaining them can be time-consuming, susceptible to inaccuracies, loss, and forgery. Such inefficiencies not only hinder trade by causing delays but also pose risks of spoilage, extra storage costs, and dissatisfaction among both customers and authorities.

The International Plant Protection Convention (IPPC) ePhyto Solution Project is an initiative aimed at facilitating the exchange of phytosanitary certificates (ePhytos) in international trade. The genesis of the ePhyto project can be traced back to the early 2000s when several countries independently developed their own digital phytosanitary certificate systems. However, the lack of standardization and the existence of multiple transmission protocols hindered the development of a truly global system. Recognizing this, the IPPC commissioned a feasibility study in 2013, which affirmed the viability of a global ePhyto system and recommended the development of a centralized hub to facilitate seamless exchange.

With financial backing from the Standards and Trade Development Facility (STDF), the IPPC launched the ePhyto Hub in 2018. This was followed by the introduction of the Generic ePhyto National System (GeNS) in 2019, a web-based platform designed to enable countries without their own national ePhyto systems to participate in the global exchange of ePhyto certificates.

The ePhyto system offers a multitude of advantages over its paper-based predecessor. It significantly enhances efficiency by eliminating the need for the physical transportation of certificates, thereby expediting trade processes. Moreover, the digital nature of the system bolsters security, mitigating the risk of fraudulent activities. The system also reduces costs by streamlining import and export procedures, a factor that has been substantiated by significant savings reported by countries such as Morocco[2], Ecuador[3], and Jordan[4].

By May 2024, the ePhyto system had garnered wide adoption, with 133 countries registered and 90 actively exchanging ePhytos. Over 6 million certificates had been processed, showcasing the system's efficacy and potential to transform phytosanitary certification practices. However, challenges remain, including the need for sustainable funding and the establishment of legal frameworks in all participating countries to accommodate digital exchanges.

[2] https://www.tradefacilitation.org/project/measurable-agri-food-trade-efficiencies/
[3] https://www.tradefacilitation.org/article/ecuador-celebrates-transition-to-electronic-phytosanitary-certification/
[4] https://www.tradefacilitation.org/article/jordan-launches-electronic-phytosanitary-certification/

Studies by the secretariat of ESCAP reveals that cross-border paperless trade is often based on bilateral arrangements between two trading partners (China[5], Mongolia[6], and the Republic of Korea[7]). In this sense, the case of the IPPC ePhyto Solution deserves special attention because it provides a multilateral solution for cross-border paperless trade.

Therefore, this document examines the feasibility, and challenges of upscaling the IPPC ePhyto Solution to encompass other trade-related documents, with key recommendations to support the implementation of the Framework Agreement.

II. Feasibility of upscaling

Upscaling from the IPPC ePhyto Solution to include additional certificates should not be a significant technical challenge. The IPPC ePhyto Solution was not built with the intention of exchanging phytosanitary certificates alone. In constructing the system, the intention of the ePhyto Steering Group was to provide a platform for any type of certificate to be exchanged if properly harmonized and formatted. Several Parties of the Framework Agreement such as Azerbaijan, China, Kyrgyzstan, the Philippines, the Republic of Korea, and Tuvalu are already using or testing the ePhyto Solution. An evaluation and piloting of the technological scalability of the IPPC ePhyto Solution is necessary. Any pilot project would involve harmonization of data of an additional certificate. For example, a certificate of origin or a regionally harmonized veterinary certificate, with test exchanges between Framework Agreement countries taking place once the mapping is completed. The real challenge with adding other certificates is that those certificates require a harmonized format in hypertext markup language (XML) that can be read and understood clearly by both the importing and exporting systems, something that is facilitated by the ePhyto Solution.

The phytosanitary certificate is unique among the Sanitary and Phytosanitary (SPS) certificates in that the format has been accepted and put in use by all 184 contracting parties to the IPPC. The uniformity of the certificate in use made it somewhat easy for the members of the ePhyto Steering Group to digitally map the phytosanitary certificate into a digital format. This is why any upscaling or addition of new certificate exchanges will require a concerted effort to harmonize the format first in XML, and then write the programming that harmonizes the format digitally.

This document is not to suggest that the ePhyto Solution is the only means or mechanism to facilitate the exchange of other appropriately harmonized trade documents. Instead, it is meant to stress that a system is already in place that could facilitate those exchanges should Framework Agreement countries choose to take advantage of its availability which in turn would eliminate the need to spend funds to build a new hardware to facilitate exchanges.

5 https://www.unescap.org/kp/2024/advancing-cross-border-paperless-china-reviewing-selected-documents-and-exploring-pilot

6 https://www.unescap.org/kp/2024/advancing-cross-border-paperless-mongolia-reviewing-selected-documents-and-exploring-pilot

7 https://www.unescap.org/kp/2024/advancing-cross-border-paperless-republic-korea-reviewing-selected-documents-and-exploring

III. Key challenges for upscaling

The lack of common standards for messages is a key barrier for adopting cross-border paperless solution. Lack of common data definitions, formats and field lengths for documents is a missing piece for cross-border exchange of data.

Another significant challenge is the legal recognition of electronic data and documents within a country. While technical solutions may not pose major issues—for instance, as previously mentioned, even if a country lacks an advanced paperless trade system, it can still connect to GeNs with minimal technical requirements—the real challenge lies in the legal acceptance by government agencies or businesses, such as banks, of electronic data and documents.

Another key challenge is the lack of public-private partnerships (PPP) that promotion digitalization. A general sense of skepticism between the public and private sector has likely delayed the use of PPPs to expedite digitalization. However, there are some positive developments in this area, such as the ePhyto Industry Advisory Group (IAG), which have organized several webinars in coordination with national plant protection organizations and the IPPC in several countries over the past few years.

IV. Recommendations

To support the Parties to the Framework Agreement to take advantage of the IPPC ePhyto Solution, the Parties may explore their national capabilities to get connected to the IPPC ePhyto hub, noting that the GeNs enable countries without their own national ePhyto systems to participate in the global exchange.

Furthermore, the Parties of the Framework Agreement may wish to explore collaborative opportunities with development partners. Specifically, for ePhyto Solution development, consideration may be given to the Standards and Trade Development Facilitation, which offers two types of funds. The first type, providing up to US$50,000, supports the application of SPS-related capacity evaluation tools, feasibility studies, and project proposal formulation to address specific sanitary and phytosanitary (SPS) capacity building needs related to trade. The second type, offering up to US$1,000,000, aims to enhance food safety, as well as animal and plant health capacities to meet SPS requirements8.

Other partners may also extend support to the Parties. For example, Asian Development Bank has been active in supporting the countries in Central Asia on SPS measures[9].

To further explore what other trade related documents, such as non preferential certificate of origin, could be further facilitated through the IPPC ePhyto Solution, an initial step is to identify a few documents which have been frequently used by all or most Parties to the Framework Agreement.

[8] More detailed information is available from https://standardsfacility.org/funding
[9] https://www.adb.org/projects/49190-001/main

Further work involves harmonization of data of the documents for exchange among the Parties to the Framework Agreement. Subsequently, different working groups may be established and tasked with devising the necessary XML schema for integration into the ePhyto Hub, enabling pilot exchanges of selected documents among the Parties of the Framework Agreement via the ePhyto Solution.