Harmonization of Electronic Data Exchange – ePhyto Context

*(Prepared by the IPPC Secretariat)*

1. Background and rationale

1. The purpose of this paper is to briefly describe and seek advice for the next steps in the IPPC ePhyto Solution now that the development and implementation of harmonized data exchange has been completed and is fully operational. Harmonization of electronic data exchange as concerns phytosanitary certification has been accomplished through the development and agreement of the HUB and mapping of the XML. The underlying principle is that electronic phytosanitary certificates contain the same elements as paper phytosanitary certificates (as described in ISPM 12 (2014)). Therefore, the elements of ISPM 12 are the basis for the harmonized data exchange of phytosanitary certificates as illustrated in the Guidelines and Requirements for electronic Phytosanitary Certificates available on (<https://www.ephytoexchange.org/doc/mapping/Mapping_ISPM_12_to_ePhyto_standard_Export_certificate_V.2.pdf>). This mapping has standardized/harmonized the structure of electronic phytosanitary certificates thereby facilitating worldwide exchange of electronic certificates.

2. Next Steps

1. With both the ePhyto Hub and Generic ePhyto National System (GeNS) fully operational, and exchanges occurring on a regular basis between many contracting parties, the logical next steps are to continue reviewing live operations and identifying those areas where improvements can be made to the current operations of both the GeNS and the Hub, such as identifying and implementing additional enhancements to the system (SPS acknowledgements, digital signature support, adding notices of non-compliance, versioning, harmonization of entries for particular fields etc.), continued sustainability of the system, and developing relationships with other potential users (such as OIE and Codex – something that the WTO and World Bank are encouraging), and thus lowering costs for maintenance and operations paid to the United Nations International Computing Center (UNICC). The World Economic Forum’s Global Alliance for Trade Facilitation has been a very active partner with the IPPC Secretariat in assisting with implementation of the ePhyto Solution in several countries. The World Bank is also encouraging the IPPC and countries using the ePhyto Solution to consider how to integrate the ePhyto Solution into the Single Window concept, e.g. by facilitating the links with the Customs IT Systems in a mechanism similar to the channel in use for the EC TRACES system.

3. System Enhancements

1. Now that the system is fully functional, it is natural that users will begin to identify areas where things can be improved and additional enhancements can be added. In some cases, these things can be easily implemented without a significant disruption to operations. In other cases, there may be a requirement for the installation of a new version of the Hub to be installed; this only concerns the countries connected directly to the Hub via their own national systems, **not** the GeNS countries. One of the ongoing discussions within the ePhyto Steering Group (ESG) is how best to make this transition. After discussions with the UNICC and within the ESG, two clear approaches have been identified: mutli-versioning or version transitioning. The UNICC has carefully identified the strengths and weaknesses of each approach and the ESG will be discussing this in a call specifically dedicated to the subject to arrive at a decision.
2. Multi-versioning the Hub will provide greater flexibility for Hub users as most probably two versions of the Hub would be in operation at once. On the other hand, this will require higher maintenance costs and will slow down the pace of implementation of the ePhyto road map. Version transitioning, from the UNICC perspective would provide consistent, reduced complexity and management costs. It would require time-bounded actions and would have decreased flexibility. In addition, some countries (those with fewer resources dedicated to ePhyto may be impacted in that they could only slowly adopt the newer version. Again, this is of primary concern to those countries that access the Hub through their own national system; GeNS users are updated automatically all at the same time by UNICC.
3. Regarding electronic signatures, the UNICC has developed enhancements to the schema which will accommodate electronic signatures for all GeNS users once configured by the GeNS Administrator). The UNICC aims to introduce support for electronic signatures with new GeNS releases in October. Additional messages, such as notices of non-compliance and other messaging are gradually being worked on within the ESG and are part of the continued enhancement of the system.
4. There remains a lot of work to be done on the actual “harmonization of the entries for particular fields”. This will be extremely important for future automation. For example, there is a structured way to exchange all the data for “Packaging Type” but many entries that are commonly used on phytosanitary certificates do not exist in the referenced UNCEFACT lists so the ePhyto Solution has workarounds. Getting a complete, agreed upon list for all the various data fields would then allow for it to be codified. Plant part, Additional Declarations, Unit of Measure, etc are all fields that could be further harmonized but will require significant agreement from the member countries and in some cases regulation changes.

4. Sustainability

1. Sustainability of the ePhyto Solution is critical, and has been the subject of discussion within the ESG, the Bureau, the SPG and the CPM. Initial estimates indicated a requirement of nearly US$1 million per year to sustain operations of the system. As a result of the UNICC cost efficiencies, and enhancements to the overall system, true annual operating costs are approximately US$685,000 per year. Up until now, the initial grant from the STDF of US$1 million as well as donor funding from a few selected contracting parties has provided sufficient funding to sustain the system through all of 2021 and into 2022. Some of these contracting parties have committed to continue resources for subsequent years (most notably the European Union and the United States). This approach has served to be less burdensome with lower costs than some of the other proposals to be discussed, and is proposal number 3 below.
2. The SPG will be discussing ePhyto sustainability. Several possible options were presented by Trade Development and Facilitation Consulting in their report to the ESG on the Business model. These include:
3. Global imposition of a fixed charge per phytosanitary certificate payable to the IPPC Secretariat for maintenance and operation of the system (from US$.05 to US$1.00 (some countries do not charge for phytosanitary certificates and this would require a legal change for them making this highly option very problematic. In addition, the financial management required for such a system, as well as some of the others to be considered, would be an additional financial burden.).
4. Fees charged per country based upon a number of factors such as country development status, volume of use, etc. (as noted above, managing this type of a system would come with significant costs much the same as in the proposal above).
5. Continued donations from national governments *and* industry organizations (not individual firms)
6. FAO to cover all operational charges as a component of business as usual operations for the organization
7. Additional options include:
8. Access fee charges for blockchain companies to access the ePhyto “channel” services through an NPPO (NOTE: The “channel” services will not provide access to the ePhyto Solution for businesses. The ePhyto Solution is for government, specifically NPPO, use only. The “channel” in this case is just a “receiver”, and the only thing that business would have visibility to would be phytosanitary certificates directed to them by the issuing NPPO. In effect, the business receiver would be a cc on an email from a “no-reply” email account.
9. Cost sharing amongst other government organizations which would use the platform to exchange certificates. Not just OIE, CODEX, and IPPC but also CITES, WCO, and others.
10. Establishment of a government/private sector consortium (including other international organizations interested in and/or participating in the Hub for exchanging their certificates) which manages and develops a unique funding mechanism. (This would be a new concept, perhaps similar to the TIR system, but it would also demonstrate if successful the ability for government and industry to successfully work together.
11. Of course, it may be possible to combine a number of the above options and /or any other ideas that are easily workable.
12. It may be worthwhile to establish a set of principles to guide the cost sharing that might be agreed by CPM in a first step. This might include a model that is transparent, equitable, fair with regards to users’ payments and/or beneficiaries’ contributions, etc. (WTO principles).  It would provide boundaries agreed by the parties and could be helpful.

5. Collaboration and Coordination

1. A number of other organizations are seriously investigating the digitization of their certificates, including the OIE and Codex Alimentarius Commission. For a number of reasons (among others the number of different types of certificates in use) these two “sister” SPS organizations have progressed a little more slowly than the IPPC in arriving at harmonized electronic certification. Most recently, the OIE released a study encouraging members to look closely at the IPPC ePhyto Solution with a view to possibly making use of the system for the exchange of veterinary certificates. New Zealand and Australia have already done this on an experimental basis, and the United States is also going to test the Hub for veterinary certificates as well. The benefits of the two sisters joining the Hub are obvious. First, it would significantly reduce expenditures as there would be no need to “reinvent the wheel” in the form of an electronic certification exchange system. Both organizations would simply need to harmonize their certificates into XML format and the system could provide the exchange mechanism through the Hub (“simply” may be the wrong word to use, this is a big undertaking, but the proof of concept exists in the IPPC ePhyto Solution). The number of certificates that the Hub would need to handle is not an issue; it was built to handle 100,000 a day (currently only handling about 12,000 per month) and can easily be expanded. Finally, if the two other “sisters” were to use the Hub for electronic exchange this would lower operating costs for all three SPS organizations. The UNICC has already demonstrated this concept through the development of the UN Partner Portal (<https://www.unpartnerportal.org/landing/>) in which four separate UN agencies have joined together to make use of the portal and subsequently lowered their individual costs. In addition, the World Economic Forum’s Global Alliance for Trade Facilitation and the World Bank are engaging the IPPC Secretariat in efforts to wo link the ePhyto Solution with the Single Window concept. Efforts are underway or being planned with the Alliance in Colombia, Madagascar, India among others, and the World Bank is intending to move forward with efforts in Zambia and Cote d’Ivoire.

6. For SPG Consideration

1. The SPG is invited to:

* *note and discuss* upcoming system enhancements and versioning of the Hub,
* *discuss and recommend* financial sustainability and management options for the ePhyto Solution, and
* *discuss and recommend* best approaches for collaboration with other organizations.