STDF PROJECT GRANT APPLICATION FORM

Project Title	**An ePhyto Solution: Enhancing safe trade in plants and plant products through innovation**
Project Symbol (FAO; STDF)	MTF /GLO/XXX/STF ; STDF/PG/504
Objective	IPPC Contracting Parties are able to provide phytosanitary assurances in trade in a modern, cost effective and globally harmonized way
Budget requested from STDF	STDF Project Contribution (US $) **1000000** Overhead (US $) **120000** Total STDF Funding (US $) **1120000**
Other co-financing (FAO/IPPC; NPPOs; RPPOs)	(US $) **608000**
Total project budget	Without overhead: (US $) **1608000** With overhead: (US $) **1728000**
Project duration	3 years
Full name and contact details of the requesting organization(s)	International Plant Protection Convention (IPPC)
Full name and contact details of contact person for follow-up	Craig Fedchock, Coordinator, Marko Benovic, Consultant, IPPC Shane Sela, ePhyto Project Manager International Plant Protection Convention (IPPC) Viale delle Terme di Caracalla, 00153, Rome, Italy Tel: +39 0657052534; Fax: +39 0657054819 Email: craig.fedchock@fao.org Email : marko.benovic@fao.org Email : shane.sela@fao.org

BACKGROUND & RATIONALE

1. Relevance for the Standard Trade Development Facility (STDF)

Project goals and relevance to STDF

The International Plant Protection Convention (IPPC) is intended to facilitate the safe trade of plants and plant products. The phytosanitary certificate prescribed in the Convention constitutes the basis of communication between governments regarding the compliance of traded commodities to phytosanitary requirements. The IPPC has adopted International Standard for Phytosanitary Measures (ISPM) 7, *Phytosanitary certification system* and ISPM 12, *Phytosanitary certificates* that provide harmonized guidance on phytosanitary certification. A survey conducted in early 2016 by an ePhyto Steering Group (ESG) which was established by the Commission on Phytosanitary Measures (CPM) to guide the development of electronic phytosanitary certificates estimated that the 37% of Contracting Parties to the IPPC that responded to the survey issue about 5 million export certificates and receive about 7.5 million certificates annually. Phytosanitary certificates are used to certify a wide variety of plant and plant product commodities including food grains, forest products, seeds for planting, ornamental plant material, etc. and these figures reveal the importance of phytosanitary certification in facilitating safe trade.

 In 2012, an appendix to ISPM 12 on electronic phytosanitary certification was approved paving the way for more efficient and effective communication between governments and providing a means for expediting the trade of often perishable commodities. The appendix harmonized the concept of exchange of electronic phytosanitary certificates. Implementation of electronic phytosanitary certificates (ePhyto) is considered a key priority for the IPPC by its Contracting Parties.

In recent years, some Contracting Parties to the IPCC, predominantly developed countries, have made significant advances in developing systems for electronic certification (e-certification). This has often required considerable resources allocated in part to developing the electronic tools necessary for producing and receiving ePhytos and in another way to negotiating agreements with trading partners to make the exchanges possible. A 2014 study commissioned by the IPPC (Bryant Christie Inc, 2014), reported that development of national systems to exchange ePhytos had costed some countries about U.S. $ 8-10 million and that negotiations to establish agreements for exchange could cost U.S. $ 50 000 per country. Recognizing these substantive costs in establishing systems on a country-by-country basis for electronic exchange of certificates, a harmonized approach to e-certification would make it readily available to developing countries allowing them to maintain or even expand their market access. The ESG survey also noted that developing countries account for 38% of the countries that either receive or issue more than 100,000 certificates annually. Therefore, a coordinated effort to promote adoption of e-certification worldwide will result in

positive impacts on trade particularly for developing countries. The ePhyto Feasibility Study (Bryant Christie Inc, 2014) estimated that approximately 4-6 million certificates would be exchanged annually through an ePhyto Solution.

Furthermore, as other border agencies and the industry develop electronic data exchange tools, developing countries that are unable to adopt these systems may lose market shares should they not keep pace with this rapidly changing technology.

This project seeks to improve the capacity of developing countries to facilitate safe, secure and efficient trade in plants and plant products through the establishment of a self-sustaining global framework for electronic phytosanitary certification. This system once established and accessible to all Contracting Parties should enable them to communicate phytosanitary assurances in a modern, cost effective and globally harmonized way.

2. SPS context and specific issue/problem to be addressed

Phytosanitary certificates are issued for exported or re-exported consignments to provide assurance to the national plant protection organization (NPPO) of the importing country that the consignments meet specific phytosanitary import requirements. In order to have a functional export certification system, the NPPO of the exporting country establishes a management system to deal with the legislative and administrative requirements of certification.

In this regard, the IPPC has adopted standards specific for certification (ISPM 7 and ISPM 12) to provide NPPOs with harmonized guidance in the issuance of phytosanitary certificates by NPPOs of the exporting country. Increasingly NPPOs want to provide phytosanitary certificates electronically to:

- reduce the costs and delays related to the inspection of goods for phytosanitary certification, the payment of fees and the issuance of certificates;

- improve documentation of the inspection process;

- reduce costs associated with printing and shipping paper certificates;

- reduce costs associated with sorting, distributing, retrieving and archiving paper documents;

- increase assurances for access of imported consignments by ensuring that documentation is delivered to import authorities in a timely manner and that any issues related to documentation may be addressed prior to arrival of the consignment;

- expedite communication on specific phytosanitary certificates between exporting and importing NPPOs;

- decrease fraudulent certificates and increase transparency of certificates that have been issued and received between NPPOs;

- increase efficiency by removing manual processing of import documentation;

- enable information to be more efficiently stored and accessed (i.e. "in real-time").

- improve reporting and data analysis to make more sound, risk based decisions

- integrate existing border management systems and facilitate imports and exports

At the 2014 governing body meeting of the IPPC (CPM 9) a new appendix to ISPM 12 was adopted to harmonise the .xml format of the phytosanitary certificate, how it is to be transmitted electronically and the allowable content of the fields of the certificate.

Over the last 5 – 10 years some countries have established national systems to produce receive and transmit electronic phytosanitary certificates but each transmission protocol has been unique. As a consequence of this, many countries (especially developing countries) find it increasingly difficult to develop and integrate electronic systems for producing and receiving certificates, and then to transmit these certificates using an increasing number of country-specific transmission protocols.

This project is therefore expected to provide developing countries without an existing national system with a simple generic web-based or stand-alone system to produce, to send and to receive electronic phytosanitary certificates. It is also expected to establish a harmonised exchange tool, referred to as a "hub" which facilitates electronic exchange based upon a single communication protocol eliminating the cost and complexity of establishing bilateral exchange protocols and agreements. The combination of these two systems is referred to as "the ePhyto Solution".   The ePhyto Solution will make it easier for countries (especially those with limited resources) to start transmitting electronic phytosanitary certificates for their export consignments and to receive certificates for imported consignments. By extension, trade flows should be immensely expedited and border management should be greatly facilitated due to ease of information flow and access. This system is intended to be compatible with existing border automation systems such as customs-led National Single Windows. To facilitate this integration, the project governance structure includes an advisory committee composed of representatives of other international organizations with expertise in developing and implementing electronic data transfer tools including the World Customs Organization (WCO), the United Nations (UN) Economic Commission for Europe (UNECE), United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and the UN Centre for Trade and Development (UNCTAD).

3. Links with national/regional development plans, policies, strategies, etc.

Countries and regions are seeking ways to reduce the costs of doing business. This project in particular will directly link with Contracting Parties' national development plans to improve regulatory infrastructure. Many countries have invested in infrastructure, laws and regulations and training of relevant staff in order to deliver on

the tasks related to phytosanitary certification. These are the same pre-requisites for implementing the ePhyto Solution.

Various international agencies including the WCO, the World Trade Organization (WTO) and others are advancing discussions on strengthening coordination and collaboration amongst border management agencies as part of the forthcoming implementation of WTO's Trade Facilitation Agreement. This includes SPS related border controls. A number of single window approaches are being adopted by countries, all of which aim to develop and implement electronic documentation transfer systems to expedite border procedures and improve security. An ePhyto Solution will greatly aid these efforts.

Agricultural trade constitutes the largest percentage of the economies of a large number of Contracting Parties. The ability to maintain trade in plants and plant products and to increase volumes over time while reducing the associated phytosanitary risks and costs forms an integral part of many of these countries' development agendas. Improvement of the national phytosanitary system within these economies has an exponential impact on both national and regional development (e.g. current efforts in the Association of Southeast Asian Nations (ASEAN) region to advance an ASEAN Single Window) because it not only ensures continued and sustainable market access but also creates opportunities for new markets.

4.   Past, ongoing or planned programmes and projects

In recent years, e-certification has received world-wide attention. In the past ten years, a number of countries have started efforts to move from paper to electronic phytosanitary certificates. These efforts started in Australia and New Zealand and spread to countries like, the United States of America, the Netherlands, Kenya, The Republic of Korea, The Peoples Republic of China, Ethiopia and Chile. While the interest in this area is expanding, much of the progress has been made on a bilateral basis, particularly between developed countries resulting in the adoption of diverse point-to-point systems. The IPPC has actively sought to increase harmonization and simplify methods of electronic data exchange. An IPPC informal steering committee was set up in 2010 to coordinate efforts to simplify electronic phytosanitary certification. The main aim of this steering committee, which was composed of 5 members from FAO regions, was to guide a process leading to harmonisation and ultimately resulting in Appendix 1 to ISPM 12. The ESG was subsequently established, following adoption of the Appendix, to further explore ways to assist countries in the implementation of electronic phytosanitary certification. The ESG has representation from all FAO regions with members with experience in both information technology and phytosanitary business operations. The ESG was been tasked with coordinating and overseeing all of the activities associated with ePhyto within the IPPC. A significant output of the ESG was assisting in the preparation of the ePhyto feasibility study (Bryant Christie Inc, 2014). The study examined the progress in developing ePhyto systems, their underlying costs

and benefits and proposed methods for improving implementation. The study concluded that given the maturity of information technology, the development of a hub and generic ePhyto national system (GeNS), - the proposed ePhyto Solution - would improve international harmonization and implementation of electronic phytosanitary certification and result in efficiencies and security benefits in the trading environment. The results of the study were presented to CPM which gave its support and encouraged further work to examine whether the ePhyto Solution could be implemented in a cost effective and efficient manner.

In the developing world, examples of successful implementation of ePhyto have been reported. Kenya, a member of the African Regional Plant Protection Organization (RPPO), the Inter-African Phytosanitary Council (IAPSC), has experimented and made enormous progress in development and application of electronic phytosanitary certification with financial and technical assistance from The Netherlands. Similarly, the Netherlands assisted Ethiopia to begin a trial of a "single window" approach for the issuance of phytosanitary certificates. The system termed ASCYER is a phytosanitary component of UNCTAD's customs automation program ASYCUDA. ASYCUDA is a customs management system that facilitates trade procedures including manifests and customs declarations, accounting procedures, transit and suspension procedures. The Ethiopian trial noted a number of challenges including: turnover of trained personnel; the sub-optimal location of the server; lack of trained technical support staff; etc. which require careful consideration in the design, training and field implementation of such systems.

The first IPPC meeting on electronic phytosanitary certification was held in Wageningen, the Netherlands in 2006 followed by an IPPC meeting organized by the North American Plant Protection Organization (NAPPO) in 2009 and the first IPPC global ePhyto symposium was held in the Republic of Korea in 2011. More recently regional workshops have been organized to make all NPPOs aware of the possibilities and features of electronic phytosanitary certification. In 2012, NAPPO and the Comité de Sanidad Vegetal (COSAVE), the RPPO for a portion of South America organized a meeting in Brazil, in which the Organismo Internacional Regional de Sanidad Agropecuaria (OIRSA), the RPPO for Central America and its member countries also participated. Another ePhyto meeting was held by the OIRSA in Costa Rica where there is strong interest in establishing an ePhyto system. In 2014, the European Plant Protection Organization (EPPO) and the Near East Plant Protection Organization (NEPPO) organized a joint ePhyto meeting and the Asia Pacific Plant Protection Convention (APPPC) organized another regional workshop to further discuss ePhyto implementation issues. A survey conducted by the APPPC for that workshop highlighted that ten countries had a system for ePhyto at the time of survey. Among these, five countries could only send electronic certificates while the other five countries could only receive electronic certificates. Twelve other countries expressed their interest in access to a generic system that could be used to send and receive electronic

phytosanitary certificates. This workshop led to the establishment of a regional APPPC ePhyto Working Group comprised of members from Australia (chair), Thailand, Korea (vice-chair), Philippines, Malaysia, Indonesia, Japan and China. In addition, the workshop provided the basis for the development of a regional workplan entitled "*Implementing the IPPC Global ePhyto Solution into APPPC countries*". This work plan, which was endorsed by the APPPC at its 29th Biennial Conference in September 2015, covers preparedness (development), implementation and sustainability – related aspects. It aims to guide the NPPOs of the region in the operationalization of ePhyto providing a consistent approach for countries to deploy electronic systems in a consistent governance and project management approach. The work plan also considers the role of APPPC in providing support to its members and monitoring implementation across the region.

A 2nd IPPC Global ePhyto Symposium was hosted by the Republic of Korea in 2015. About 80 participants attended the Symposium, representing over 50 Contracting Parties of the Convention along with industry and international organizations. The symposium promoted a collective understanding (across NPPOs, industry and other certification bodies) as to how a hub and GeNS should be developed and implemented.

5. Ownership and stakeholder commitment

The primary stakeholders who actively support this project include governments and relevant departments particularly NPPOs. A letter of support is attached as Appendix 5. Further support of the project has been voiced directly by contracting parties through the CPM. For example, CPM-11 "*supported the continued work of the Secretariat and the ePhyto Steering Group under the oversight of the CPM Bureau and supported the implementation of the STDF project to pilot the hub and the generic national system to promote the use of ePhyto by CPs* [contracting parties] *worldwide including developing countries.*" (FAO, 2016). Internationally, the IPPC, as represented by its Contracting Parties, is the principle proponent of a harmonized ePhyto Solution. The IPPC has interest in setting up an international system because only with worldwide implementation which includes developing countries can electronic certification result in improving and facilitating safe, effective global trade.

At the regional level, RPPOs play an important role in supporting their member countries' adoption and implementation of electronic phytosanitary certification. OIRSA, with its members has proposed participating as a pilot region for the project and has established an ePhyto technical group with representatives from Honduras, Costa Rica and Mexico.

The IPPC is administered by the Food and Agriculture Organization's (FAO) Plant Protection and Production Division and has access to resources and expertise necessary to guarantee harmonization according to ISPM 12. The IPPC Secretariat is expected to manage the ePhyto Solution over the long term and to support broad implementation

and use of the ePhyto Solution at national level. The IPPC Secretariat fully supports this proposal and will commit staff time, financial and other resources to implement the project and ensure its success.

6. Public-public or public-private cooperation

The project focuses on an issue which combines both public-public and public-private cooperation which certainly benefits both private and public sectors through transaction cost reduction, improved trade security and increased trade flows.

The establishment of a Project Advisory Committee (PAC) is intended to further increase public-public cooperation. The PAC includes various stakeholders at the international standard setting level, along with donor agencies involved in capacity building who are broadly involved in transitioning from paper to paperless trade systems. The integration of the PAC ensures that the project aligns with advances and builds upon efforts being undertaken in other international e-certification initiatives. It also provides a meeting ground where advances made in the development of ePhyto can be used by other international agencies to facilitate a cohesive approach for e-certification in general.

Public-private cooperation is garnered through the establishment of an Industry Advisory Group (IAG). The formation of this group is a key outcome from the 2nd IPPC Global ePhyto Symposium. The engagement of industry is critical to delivering a successful outcome, particularly since industry is also actively pursuing the development of electronic data exchange systems to facilitate trade and logistics and is also cooperating with other international organizations with respect to electronic border management systems. The IAG is composed of international plant and product industry associations that support businesses trading the commodities that are subject to phytosanitary certification. The IAG will ensure connectivity between key industry groups and the governance structure of the project. It will also explore the possibility to assist in building capacity of their supplier base, often stretching out to developing countries, to advocate for the adoption of paperless trade.

At the national level, the project will be engaging the private sector in pilot countries where the GeNS will be tested. Exporters will request phytosanitary certificates from NPPOs using the ePhyto Solution and if possible may access the system directly to enter export information and request certification. Their collaboration therefore is essential to a successful implementation of the Solution.

PROJECT GOAL, OBJECTIVE, OUTPUTS & ACTIVITIES (LOGICAL FRAMEWORK)

1. Project Goal / Impact

The goal of this project is to facilitate safe, secure and efficient trade in plants and plant products, with an emphasis on developing countries. This will be accomplished in the medium term by expanding the use of electronic phytosanitary certificates.

Many developing countries perceive that electronic phytosanitary certification is unattainable given: (i) the absence or minimal levels of national technical and financial capacity to develop a system for the automation of issuance and transfer of phytosanitary certificates and (ii) the complex bilateral requirements necessary in establishing point to point systems.

The establishment of an ePhyto Solution which consists of : (i) GeNS for the production, sending and receipt of electronic phytosanitary certificates for countries which do not have such a system, and (ii) a hub which facilitates the transfer of electronic certificates between NPPOs and is easily accessible and free of costly bilateral agreements required for point to point systems will make electronic phytosanitary certification feasible for many developing countries. This is particularly true since the project also includes some technical assistance to countries in undertaking the business changes required for implementing electronic phytosanitary certification. By making these changes, developing countries will streamline their import/export certification systems including the recovery of resources committed to facilitating paper certification procedures. The improvement in efficiencies will positively spill over into their capacity to implement other core duties and ISPMs, such as: inspection, risk management and import verification. In particular, the project is expected to ultimately lead to an enhanced capacity to implement risk-based controls through better implementation of ISPMs such as ISPM 32. Also, by being more familiar with electronic phytosanitary certification, countries will more readily adopt future systems for animal health and food safety certification. This is in line with STDF's aim to enhance developing countries compliance with international SPS standards.

Internationally, e-certification systems may also facilitate integration of phytosanitary processes with other electronic border systems. Trade logistics systems will also be improved as trade flows become more predictable and efficient. For example, Union Fleur's 2014 Europhyt Interception Report (Union Fleur, 2015) documented that 60% of rejections of imported consignments of cut flowers and foliage to the European Union resulted from improper documentation. Electronic certification will eliminate these types of rejections because NPPOs will be better able to address improper documentation issues prior to shipments arriving at their destination. Improved efficiencies in the trading environment also support international objectives in ensuring food security.

Without the implementation of a harmonized ePhyto Solution, potential exists for countries to continue to expand point to point systems resulting in disparate electronic exchange approaches which may prevent developing countries from integrating with these systems. Such a situation may cause increased trade flows for countries with bilateral systems, while countries without systems may face reduced trade access. This may be particularly exacerbated if other electronic documentation initiatives follow a similar point to point approach requiring specific agreements for each exchange of a

certificate (e.g. specific agreements for animal health certificates, for health certificates, and other customs documents, etc.). An increased access to the ePhyto Solution will ensure a more inclusive trading environment and hence economic growth, in line with the goals and objectives of the STDF.

2. Target Beneficiaries

The main beneficiaries of the project are the NPPOs that issue and receive phytosanitary certificates, especially those of developing and least developed countries. In addition to the training provided to NPPO staff which will enhance competencies in export certification processes, an ePhyto Solution will reduce costs associated with printing and shipping paper certificates, and reduce those costs associated with sorting, distributing, retrieving and archiving paper documents. It will expedite communication on specific phytosanitary certificates between NPPOs of exporting and importing countries; decrease the number of fraudulent certificates and increase the confidence of the authenticity of certificates that have been exchanged between NPPOs. It will also increase efficiency by removing manual processes and enabling information to be easily stored, replaced and accessed electronically.

Other beneficiaries of the project include operators involved in agricultural and forestry value chains, particularly those involved in the trade of plants and plant products (producers, exporters, and importers). Consumers will also benefit from more predictable, efficient and compliant trade resulting from good performance of national phytosanitary systems and a more reliable supply of food.

3. Project objective, outputs and activities (including logical framework and work plan)

The goal of this 36 month project is to facilitate compliant trade through the implementation of an internationally harmonized global framework for the exchange of electronic phytosanitary certificates referred to as the "ePhyto Solution".

A logical framework is presented in Appendix 1. The major components, outputs and activities of the project are outlined below and further elaborated in the attached work plan (Appendix 3). The components described below are not ranked in chronological order as several of them run simultaneously. Instead, the timeline for the major tasks under each component is provided in Appendix 2.

Component 1: Establishment of the contract for the ePhyto Solution

The IPPC Secretariat, after careful consideration of the CPM's recommendation and taking into account Contracting Parties' concerns regarding inviolability of data, confidentiality, cyber-security and neutrality of the server's location, has selected the United Nations International Computing Centre (UNICC) as the lead technical unit for the ePhyto Solution including the selection, hosting and long-term maintenance of the GeNS and hub.

The UNICC is a not for profit UN agency and the leading provider of information technology (IT) and communication services within the UN System. It has a proven record of security and cost-benefit advantages. UNICC operates on a cost-recovery basis and has the ability to drive down service costs by generating economies of scale. Currently, there are more than 35 users of UNICC services located in more than 12 different locations. The structure of UNICC ensures that all data hosted by UNICC is protected under the framework of the Convention on the Privileges and Immunities of the United Nations, helping to ensure its inviolability. It has dedicated resources for back-up and disaster recovery and has adopted standards including ITIL, ISO/IEC 27001:2013, PRINCE2, SAS 70 and ISAE 3402 to ensure that a complete and effective set of operation controls are in place. The UNICC has undertaken a number of similar projects and as such is well positioned to evaluate and select components of the ePhyto Solution including the selection of software for a GeNS and hardware and software for the operation of the hub. It is well able to provide: system design; data centres for hosting services; enterprise backup; system performance monitoring; physical platforms as a storage option for countries; support services (help desk) and training. The UNICC has broad experience in working with hardware manufacturers, software suppliers, consultancy service providers, IT advisory service providers as well as training companies to provide its services and therefore is also well placed to provide long-term services to the IPPC for the ePhyto Solution.

FAO, through its Chief Information Office and UNICC have an existing open-ended memorandum of understanding (MOU) for computer services. The MOU provides the general basis for services provided by UNICC to the FAO and includes provisions for assumption of liabilities, etc. The MOU also provides a framework for the establishment of agreements as needed, which outline the details of the specific IT services provided by UNICC to FAO.

Key development tasks of the component include:

(i)   Establishment of a project agreement

A specific time-limited project agreement will be established between FAO and UNICC for the design, selection and development of the GeNS and the hub as described in Components 2 and 3.

(ii)   Establishment of a service agreement

Once the GeNS and hub have been developed, a separate service agreement will be established to provide for piloting, hosting and the long term operation of the ePhyto Solution as described in components 2-4. Elements of the agreement will include: the service description, requirements for network infrastructure, redundancy and backups, disaster recovery; security and data confidentiality; event management, incident management, operating system changes, maintenance windows, processes for communication, etc.

Expected deliverables under Component 1 include:

- Project Agreement FAO/UNICC
- Service Agreement FAO/UNICC

Component 2: Establishment of a GeNS for the production, sending and receipt of electronic phytosanitary certificates

This component seeks to develop a GeNS that allows countries without existing systems to produce, to send and to receive electronic phytosanitary certificates.

A web-based system is a practical solution for developing countries or countries with limited trade that do not have the resources or capacity to establish and to maintain their own server-based electronic system. In addition to providing them with an easily accessible off-the-shelf solution, a web-based system has the advantage of being centrally maintained and upgraded.

Some countries however have legislative requirements that require that data be maintained within the country. A web-based system would maintain data records at a central server outside of the country. To facilitate the adoption of the GeNS by countries with such legislative requirements, the feasibility of deploying the GeNS as a stand-alone system in a country will also be examined. If feasible, both web-based and in-country systems will be deployed facilitating individual country's requirements and needs.

Key development tasks of the component include:

(i)   Finalization of the specification

General features and operating conditions for the GeNS have been defined:

-        Compatibility with ISPM12 (Appendix 1)

-        Ability to communicate with the international hub and exchange phytosanitary certificates with participating countries;

-        Capable of producing both electronic and paper certificates;

-        Ability to authorize various parties which may have differing access requirements

-        Capability to guarantee the identity of the sender;

-        Capability to send, receive and store certificates;

-        Security features;

- Ability for business to input data;

- Flexible to permit system expansion such as ad hoc reporting; interoperability with and data transmission across other government or business systems, etc.

These features will be refined to define the specific scope of operating conditions that are achievable within the limits of the budget available in the project, over and above basic functions e.g. the extent of storage, the extent of reporting, etc.

(ii)   Review of ASYCER for use as a GeNS

The project will initially assess UNCTAD's ASYCER system, the phytosanitary certification module of ASYCUDA. ASYCER has several benefits for use as the GeNS that stretch beyond technical feasibility. The system is owned by a UN organization that has a primary mandate and expertise in development through trade promotion. It is a non-profit organization mainly driven by building the capacity of developing countries through sustainable technology transfer. ASYCUDA has been deployed in more than 90 developing countries. Given that the main target of the GeNS is developing countries, using ASYCER as a generic system would ensure the de facto inter-operability between the GeNS and ASYCUDA in 90 countries. In addition, ASYCER has flexibility for addressing in-country work flows, and specific country based data requirements. Finally, the developers are familiar with training requirements of developing countries with regard to information and communications technology.

UNICC will work with UNCTAD to review the feasibility of using ASYCER as a GeNS. UNICC will draft a recommendation outlining the technical and financial feasibility of using ASYCER. The IPPC will also assess the non-technical/business support requirements of such a venture. The requirements and the related assessment grid/template will be prepared by the project manager in consultation with the relevant PAC members and the STDF Secretariat. These include aspects such as the ease by which the system may be used by developing countries; the track-record or experience in working with developing countries; the capacity to undertake advocacy and support business changes in developing countries; the compatibility with other e-certificate systems; and other industrial or business benefits.

(iii)   Evaluation of other options for use as a GeNS, if required

Should reconfiguration of ASYCER prove to be an unworkable option, UNICC will lead the assessment and selection of other existing software that may be reconfigured for use as GeNS. UNICC will issue a call for tenders and provide a template for proposals to be submitted for the tendering process. Aspects related to possible pre-tendering procedures (call for expression of interest) and dissemination of the call for tenders will be discussed with project governance, as needed.

Evaluation of the proposals will be based on three elements (envelopes): technical, financial and non-technical/business support requirements. UNICC will evaluate the technical and financial envelopes based on criteria such as the alignment with Appendix 1 of ISPM 12; security features; cost-effectiveness of the system; the ease by which it may be reconfigured to achieve project specifications; the long term adjustment and upgrading costs; support costs (including training elements) and usability. This evaluation will be conducted using UNICC's procurement procedures through the double-envelope system.

The third element (envelope) of the submissions will contain the offers for non-technical/business support requirements as described above, based on the template provided to bidders by IPPC. The assessment of the third element will be documented by the project manager in consultation with relevant members of project governance and other stakeholders.

The results of the evaluation will be presented to PAC members for advice and validation.

(iv)   Reconfiguration of an existing system

Once a system has been selected, UNICC will begin reconfiguring the selected system for operation.

Expected deliverables under Component 2 include:

- Specifications for GeNS
- Non-technical/business support requirements list and assessment template
- Assessment report for ASYCER
- Evaluation report of additional providers, if necessary

Component 3: Establishment of an internationally accessible hub for ePhyto exchange

The component seeks to set up and make operational an internationally harmonized system for the exchange of electronic phytosanitary certificates. Such a system will avoid countries having to set-up individual bilateral agreements for transmission of data, reduce development costs and allow for ease of transmission and receipt of certification information to any country that has accessed the system.

Initial development will focus on a simple exchange process. Additional features and complexity may be added over time. However, the design should only focus on exchanging data prescribed in Appendix 1 of ISPM 12 without adding obligations beyond those currently required for paper phytosanitary certificates.

Key development tasks for this component include:

(i)   Finalization of the specification

General design specifications include:

- Use of UN/CEFACT provides a consistent XML schema to ensure standardization of the elements of a phytosanitary certificate. It also includes considerations for re-export phytosanitary certificates. In this way the use of the schema ensures that certificates are exchanged in a manner readable to all NPPOs;

- Communication by way of Simple Object Access Protocol (SOAP) which is a messaging protocol that allows programs that run on disparate operating systems

- Authentication and security of the system occurs through Secure Socket Layer (SSL) client certificates, which is a digital certificate that authenticates the identity of a website and encrypts information sent to the server.

- The certificate should be transferred inside an envelope containing only basic information that is readable to the hub (e.g. who it's from, who it's intended for, etc.)

- Receiving NPPO's should be able to either have the envelope delivered to a secure receiving system or may choose to pull a group of envelopes from the hub.

- Messages are only stored on the hub till received by the recipient.

Although a draft work specification has been prepared, codes and details need to be finalized with UNICC. After finalization the specifications will be presented and discussed with the PAC members.

(ii)   Establishment of the hub

UNICC will establish the hub based on the design specifications proposed and agreed upon by the Project Technical Committee (PTC) and discussed with the PAC.

Some internal testing of the service using dummy data transferred from a mock GeNS will be undertaken to ensure consistent operation of the hub. The UNICC will also validate transfers using fictional data transferred between two volunteer countries.

(iii)   Development of a user policy framework

To support responsible connection and use of the hub, a user policy framework will be developed which outlines the responsibility of parties, delimits the scope of liability of parties, provides data access rights, processes for authentication, archiving, payment terms for the service including the competent authority, procedures for non-payment

and collection of debt, etc. The framework will include the development of a legal use agreement or user compliance acknowledgement that countries will be required to accept before accessing the hub. Existing good practices and policy frameworks for the use of relevant electronic data transmission systems (such as those developed by UN/CEFACT, IATA, UNCTAD, etc.) will be reviewed to inform the development of the framework. Specific experts may be hired to develop the framework.

Expected deliverables under Component 3 include:

- Specifications for ePhyto hub
- User Policy Framework

Component 4: Establishment of a fully operational ePhyto Solution

A pilot consisting of approximately 10 countries will be carried out including participants from the OIRSA and APPPC regions. The pilot is expected to test the operation and usability of the GeNS and the efficiency of the hub in communicating between the GeNS and between systems built by national governments which are connected to the hub. In addition, the pilot will allow the collection of data on the operating costs of the ePhyto Solution and on the cost of its implementation at the national level. This data will feed into the process of determining a cost recovery mechanism as it will allow a more accurate estimate of the cost and efficiency of operation of the ePhyto Solution.   A detailed evaluation plan will be developed by the PTC to assess the efficiency, usability and performance of the Solution.   The evaluation plan will be reviewed by the PAC for input and advice. Upon the completion of the pilot the GeNS and hub will be reconfigured if required and then made available to countries wishing to participate.

Key implementation tasks of this component include:

(i)   Selection of pilot countries

A survey was initiated by the IPPC Secretariat to determine the preparedness of countries for participation in the ePhyto Solution. The survey was conducted between mid-December 2015 and mid-January 2016. Countries were evaluated on trade volumes, resource availability; legislative readiness and available infrastructure. Some non-quantitative factors were also considered like keenness to participate, volumes of trade with other pilot countries, etc.

Candidate countries were grouped in two categories: (i) countries with existing systems for piloting of the hub, and (ii) countries without an existing system for piloting of the GeNS with its subsequent connection to the hub.

While the selection of countries for the hub pilot can be mostly based on the data collected from the survey and does not require in-depth, in-country assessment, there is a need to consider aspects such as the balance between countries with existing systems and those that will use the GeNS; regional representation and a good working level of English, since configuration of the Solution during initial piloting will be limited to English.

A short list of countries for both the hub and GeNS pilot will be drawn up which identifies the "best fit" countries for implementation of the ePhyto Solution immediately following development. The "best fit" countries are those countries that require minimum capacity development to implement the ePhyto Solution including:

i. require no/or minimum assistance to adapt their existing national systems to connect to the hub;

ii. require minimal business process reengineering for deployment of the GeNS at a pilot scale

iii. have sufficient resources to support testing;

iv. have sufficient trade to demonstrate that the Solution is operating effectively

The decision to use the "best fit" approach in pilot country selection aims to allow for focused assessment of the technical functionalities and usability of the Solution, hence allowing a rapid release of the ePhyto Solution for uptake following the pilot phase.

The final selection of countries to participate in use of the GeNS will be based upon in-country assessments of the candidate country's readiness to participate relatively quickly in implementing a system. PTC members will undertake in-country assessments based upon preliminary assessment questionnaires that it has developed. The questionnaires aim to enable a quick situation analysis and a limited "Business Process Analysis" that would allow the PTC to rank the shortlisted countries based on their readiness. In-country assessments during this phase will also serve to evaluate the assessment process (including the need or not for trained facilitators to facilitate in-country assessment or BPA) and the usefulness/appropriateness of the assessment questionnaires. It will also help in identifying need and scope of additional resources which may be required for effective capacity building in the area of readiness assessment. Lessons learned from the in-country assessments will be documented by the project manager and the PTC. These findings will inform the gap analysis and priorities setting under component 5.

A report summarizing the outcomes of the survey and proposing the final list of countries for the pilot will be prepared and presented to the PAC for review. Input from Industry Advisory Group (IAG) will be requested, as appropriate.

Once the final selection of pilot countries is made, these will be notified and a commitment to participate will be sought. Expecting that some countries notified may

retract, a larger than needed number of countries will be selected and ranked. The target is that ultimately approximately 8 countries using existing national systems will be piloting the hub and 1-3 countries will be piloting the GeNS and the hub.

(ii)   Pilot testing of the GeNS

Account configurations, authorizations, etc. will be managed by UNICC as part of the service agreement. A user guide will be prepared by UNICC in consultation with the PTC. The pilot testing of the GeNS in selected countries will mainly focus on usability and technical testing. It will initially target a limited set of the phytosanitary certification activities in the pilot country.

The project implementation team and the NPPO will work with stakeholders to implement exchanges on one or more commodities. This would allow a first assessment of the usability of the system and its technical robustness while preparing for expansion to the full scope of country use. During this phase, the PTC will coach a core group to use the GeNS user guide and will assess the extent to which additional guidance and training materials are required to actually use the system. This assessment will include the need for tailor-made training resources according to various audience groups (a training of trainers package to be used by NPPOs, private sector targeted training, etc.). It will draw on feedback collected in the country but also monitoring of helpdesk requests following the in-country kick-off visit. The PTC will provide the NPPO with templates required for feedback and data collection in order to evaluate operations of the pilot. The templates could include documenting costs incurred with using the ePhyto Solution (man-hours) of NPPO staff and external expertise, as applicable. Templates will also be used to inform the development of a cost recovery mechanism.

After the pilot testing of the ePhyto Solution is completed and the required changes introduced into the system, the pilot country will build upon the competencies acquired during the pilot phase to fully implement the use of the system more broadly (NPPO staff and operators). The preparation for the full scale deployment may start simultaneously with the pilot and will require capacity building to implement any business process reengineering required and to train all users of the system. More details about capacity building resources are detailed in component 5.

(iii)   Connection to the hub

Countries which have developed national systems to exchange ePhytos are likely to have completed most aspects of business assessment, adjusted business operations to accommodate the electronic exchanges and have experience with the ePhyto exchange process. It is therefore anticipated that these countries will only require the technical understanding to connecting to the hub. A general specification for connecting to the hub will be developed by the PTC and the project implementation team and provided to pilot countries. The PTC will also coach countries and develop an assessment document

to identify the extent to which additional guidance and training materials are required to actually implement the system.

As with the GeNS, the PTC will provide the NPPO with templates required for data collection in order to evaluate the pilot.

(iv)   Operation and evaluation of the pilot

The pilot is proposed to operate for a minimum of three months. Pilot countries will be required to issue both ePhytos and paper documents during the duration of the pilot. Paper and electronic certificates will be required to be compared so as to verify that the information transmitted is consistent between the two methods. Sufficient transfers of data using the GeNS and the hub are also required to fully evaluate the systems effectiveness and efficiency. The project implementation team will consult with pilot countries to determine if they feel that sufficient testing was undertaken. A satisfaction survey will be developed by the PTC for distribution to the pilot participants. UNICC will also be requested to provide basic statistics on certificate exchanges and to identify any issues that arose during the pilot. The pilot evaluation will be documented and reviewed by other project governance bodies to determine if adjustments to either the GeNS or to the hub should be undertaken before full implementation.

(v)   Deployment of the ePhyto Solution and uptake

Once piloting is completed, the ePhyto Solution will be made available for any country to participate. Operational documents (design specifications and other support documents as identified during the pilot phase) will be made available on the International Phytosanitary Portal and countries with national systems may use these to connect to the hub.

Use of the generic system will be encouraged. Countries requiring assistance with technical issues or with business process reengineering to implement the GeNS may be provided assistance using the resources developed under component 6. However, it is expected that until a bridge fund is established and replenished to assist countries requiring major support; and until capacity building tools are fully developed and disseminated, deployment may be limited to those countries which have capacity to implement the system independently based upon user guides alone.

Expected deliverables under Component 4 include:

- In-country assessment questionnaires
- In-country assessment reports
- Summary report for country selection (including survey results, selection criteria for hub and GeNS, country assessment results)
- Pilot evaluation plan
- Templates (hub, GeNS) for data collection by pilot countries (costs, statistics and operations)
- Ease of implementation feedback templates (hub and GeNS) for pilot countries (including need for further guidance document)
- Pilot satisfaction survey questionnaires
- GeNS user guide
- Specification for connection to the hub
- GeNS kick-off mission assessment report (including additional guidance required and follow-up actions)
- Helpdesk requests monitoring report
- Pilot evaluation report
- Other operational documents for deployment of hub and GeNS as recommended by Pilot report

Component 5: Development and dissemination of training, advocacy and business process reengineering tools

A preliminary assessment of capacity building resources required to ensure a smooth transition of ePhyto was conducted by the PTC. This was based on extensive consultations with contracting parties and other regional and international organizations with experience in the implementation of relevant paperless trade systems in developing countries. Several types of resources were identified and grouped as follows:

- Advocacy materials: Previous experiences in paperless trade initiatives indicate that a strong political will and buy-in is a key for success. Therefore this project will produce advocacy materials to explain to policy makers the concept of electronic phytosanitary certification and its benefits for countries.

- Readiness assessment questionnaires and situation analysis: This group of resources includes varied types of materials such as questionnaires aimed at providing a quick assessment of the level of readiness of countries to adopt ePhyto, more in-depth tools e.g. Business Process Analysis guides or more specific systemic tools such as the Phytosanitary Capacity Evaluation tool that

allows the identification of cross-cutting adjustments required in the phytosanitary system to address business failures.

- <u>Technical user guides and manuals for the ePhyto Solution</u>: This group of resources will address technical needs to implement the ePhyto Solution. It includes: specifications on how to connect to the hub; a user guide for the use of the GeNS, etc. However, more detailed manuals to explain the functionalities of the ePhyto Solution may also be required.

- <u>Decision support tools</u>: These are the tools that enable countries to take an informed decision about implementing ePhyto. Such tools include: guidance on how to conduct cost/benefit analysis, to undertake a feasibility study and to elaborate a business model (clients, communication plan, services, cost-recovery, etc.) Other tools such as the STDF's Prioritizing SPS Investments for Market Access (P-IMA) tool to evaluate the priority of ePhyto implementation as compared to other investment options can be considered among these tools.

- <u>Business process reengineering:</u> These tools allow countries to prepare a workflow of the current situation and to define revised work flows that correspond to the selected business model. They also provide guidance on how to implement the changes required and to evaluate the success of the change. These tools may include an ePhyto Project Road Map and cost recovery models.

Key development tasks of this component include:

(i)   Needs assessment

The IPPC Secretariat will survey NPPOs to gather a list of needs for basic operational and business process reengineering training. NPPOs with experience in the implementation of ePhyto will be requested to provide information of the materials required to facilitate the transition to ePyhto. The project manager will also collect input from PAC members and STDF Secretariat and other relevant stakeholders on the needs identified from their respective initiatives. In addition, needs for capacity building and resources identified during the pilot phase by PTC members, pilot countries and helpdesk FAQs will be considered.

(ii)   Evaluation of existing resources

The IPPC Secretariat will undertake a call for resources from countries which have implemented phytosanitary electronic exchange to collect technical documents, policy briefings, legislative and business assessment and change resources, cost recovery options and business models and other related documents used by those countries to implement the change. In this survey, the project manager will ensure that the experience of countries that implemented e-certification systems in developing and least developed countries (e.g. experiences by Malaysia, the Philippines, Kenya, etc.) will be carefully considered with regard to how they implemented business changes, risk

assessments, national cost recovery mechanisms, legislative changes and stakeholder engagement.

Consultations will also be carried out with other international organizations including UNCTAD and the United Nations Economic Commission for Asia-Pacific (UNESCAP) (mainly with regard to the resources developed under the United Nations Network of Experts for Paperless Trade and Transport in Asia and the Pacific (UNNExT)), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Secretariat (mainly with respect to e-permitting toolkit) and others to compile an inventory of existing resources. In particular, consultation will UNESCAP will aim to review and advance work that the UNNExT has already undertaken in developing tools, guides and training materials (e.g. a Business Process Analysis Guide for Simplification of Trade Procedures, e-Business Handbook, Single Window Planning and Implementation Guide). The project will also build off the UNNExT's train the trainer approach to capacity development and will review BPA on-line training modules.

These consultations will be led by the project manager under the guidance of the IPPC Secretariat (including implementation facilitation unit), the STDF Secretariat and PAC members. They will be undertaken through technical meetings involving key stakeholders or using the services of a consultant, as required. A report will be compiled including the inventory of existing materials and their scope and shared with project governance committees.

(iii)   Gap analysis and priority setting

The list of topics requiring training resources (as well as type of materials required) gathered from the needs assessment will be analysed against the inventory of existing resources. The gaps will be identified by the project manager with the support of a consultant, as required. An exhaustive list of topics for which no materials exist will be drawn. A second list of those resources that already exist and that require adaptation will be prepared. Finally,   the technical and business training materials and approaches used during the pilot outlined in component 4 will also be assessed against those developed by countries which have implemented e-certification and those developed by other international organizations and a list of those requiring changes will be established. These lists will be presented to the project governance committees for advice and priority setting. A final list of priority training and capacity development tools will be compiled. Project resources will be allocated to adapt/develop resources by order of priority. Any tools which cannot be developed within the scope of the project will be considered in future capacity building activities and project governance committees will be requested to identify sources of additional funding to cover these needs.

(iv)   Identification of training media

The project manager in consultation with the PTC will also assess the types of training media that should be employed to support implementation including face to face training of NPPOs; train the trainer; web-based applications (such as videos, e-learning modules, etc.); written specifications and user guides; trained facilitators for BPA application in countries, etc. The PTC will conduct a survey amongst NPPOs to identify the types of media requested by countries and consult with PAC members to identify the most appropriate media for achieving training objectives. Feedback from other organizations on the uptake and impact of specific training media, such as UNESCAP's e-learning training on BPA will be considered.

(v)   Development of priority tools

Technical user guides and manuals for participation in the ePhyto Solution will be developed by the PTC and UNICC in advance of the pilot phase. Readiness assessment questionnaires and situational analysis tools will be developed by the PTC in advance of the pilot and assessed with the pilot countries prior to initiating the pilot. These tools will then be refined following in-country assessments.   Advocacy materials and business process reengineering tools will be developed during and following the pilot

A consultant will be sought to analyse and refine the development of training and capacity building tools.

The IPPC Secretariat will also discuss with other international organizations (e.g. UNESCAP, UNCTAD, etc.) possible collaboration to develop resources and deliver capacity building. The opportunity to partner with organizations with experience in providing training to developing countries will ensure better training results and leverage limited resources. Furthermore the project will work with international industry associations to improve advocacy of ePhyto within national industry sectors.

Tools will initially be developed in English, then translated into French and Spanish and ultimately into all FAO languages. Opportunities to translate resources within other capacity building projects will be sought by the project manager and the project governance committees. The experience of another STDF project (STDF/PG/350) will be considered in relation to building partnerships.

(vi)   Validation of the resources

Validation of the effectiveness of technical and business process reengineering tools will be undertaken by the PTC in at least 2 countries with minimal infrastructure for the adoption of the ePhyto Solution. The countries selected for validation of the tools will operate in languages other than English (mainly in French) to ensure that the tools are effective across languages and country set-ups. The PTC, in collaboration with other partners as identified above will provide the training and assist countries with undertaking the business changes required to implement the ePhyto Solution. The PTC

will test the various types of media discussed under task (iv) and seek country feedback on the value and effectiveness of these tools. The tools will also be provided to RPPOs and posted to the International Phytosanitary Portal for use by NPPOs. The IPPC Secretariat will request feedback from RPPOs and NPPOs through surveys. A report of tools validation phase will be prepared and shared with the PAC for advice. It will contain the outcomes of the validation conducted by the PTC in testing countries and user feedback. Adjustments will be made by the PTC.

It is anticipated that in the test countries significant changes to infrastructure, legislative and technical capacity will be required to implement the ePhyto Solution. Such changes may require several years to complete. The evaluation of tools therefore can only be based upon the incremental progress made by countries during the life of the project.

Expected deliverables under Component 5 include:

        - Needs assessment results (NPPO survey results, needs identified during pilot, etc.)
        - Inventory of existing resources
        - Lists of resources to be developed/adapted
        - A set of priority resources developed and/or adapted in English, French and Spanish
        - Report of field-testing of training resources.

Component 6: Establishment of a business model for the long term operation of the ePhyto Solution

(i)   Establishment of a bridge fund

Funding provided under the project will cover the development of the ePhyto Solution and its operation until the end of the pilot phase. It will also cover the production and validation (field-testing) of the training resources. Additional working capital will be required to cover the running expenses related to operating the ePhyto Solution (hosting, maintenance, help desk function to new and existing users, etc.) and to provide support to developing countries requiring major capacity building to implement the GeNS until a cost recovery mechanism is established (see below). To bridge this gap the IPPC Secretariat will, upon start of the project examine the options for creating an "ePhyto Bridge Trust Fund" and actively seek donor funding to support it. Contributions will be sought from bilateral donors but consideration should also be given to identifying non-traditional sources such as private sector and equity investors. A brief report outlining a fundraising strategy which considers various options will be drafted

and submitted to the project governance committees for review and advice. Several countries and regional organizations have both provided and indicated willingness to support funding the system's operation given that costs of establishment of point to point systems will be reduced by implementing the Solution.

It is anticipated that those early-adopters, i.e. countries using the ePhyto Solution prior to the entry into force of the cost recovery mechanism will not be charged for the use of the service until such a time that cost recovery mechanism will be effective.

(ii)   Development of a cost recovery mechanism

To ensure the long term sustainability of the ePhyto Solution, all participating countries would be expected to share the cost of the system. It is important to note that a cost recovery mechanism could only be developed using more accurate data collected after the establishment of the Solution and its pilot testing. Key tasks include:

- Engagement of a consultant to identify a suite of possible cost recovery mechanisms: a consultant will be contracted to undertake a scoping work on cost recovery approaches used in national and international systems, not necessarily limited to electronic certification but encompassing other data exchanges systems, peer-to-peer and electronic commerce platforms etc. This will be achieved through consultation with countries and organizations (e.g. Society for Worldwide Interbank Financial Telecommunication (SWIFT)) with experience in establishing cost recovery models for similar systems. The consultant will be familiar with business modelling and financing of international "shared ownership" systems. The ToRs for the consultant will be prepared by the project manager in consultation with the STDF Secretariat and relevant members of the PAC. This assignment will lead to the preparation of a scoping study that will serve as a background document for the preparation of the expert consultation meeting described below and as a reference document during the meeting. The consultant will also prepare a concept note for the expert consultation meeting including a draft agenda and a list of potential experts to be invited.

- Expert consultation on possible cost recovery mechanisms: Based on the outcomes of the scoping study and the meeting concept note prepared by the consultant, the project manager will organize an expert consultation meeting to discuss possible options of cost recovery for the ePhyto Solution. Participants will include selected countries and international organizations experienced in electronic certification and experts in finance, business models and strategy, as well as econometricians who will advise on aspects related to statistical modelling aimed at projecting trade flows, ePhyto Solution's uptake forecast, etc. Selection of experts will be carried out by the project manager in consultation with the STDF Secretariat and relevant PAC members. The meeting will be held in the first quarter of project operation and will focus, inter alia, on:

- Data collection needs for cost estimation including baseline (pre-implementation) data needs and post-implementation data needs. This will provide the necessary input for data collection for monitoring and evaluation purposes as well as for the elaboration by the PTC of the templates for data collection to be provided to the pilot countries before the start of the pilot.

- Clarity of the benefactors and the principles of "who should pay".

- Frequency and processes for fee collection and financial management.

- Potential options for cost recovery mechanisms.

- Additional expertise required to prepare the cost recovery mechanism.

- <u>Benchmarking of options:</u> Based on the outcomes of the expert meeting and using advice from governance committees, the project manager, supported by the consultant will further analyse the short-list of cost recovery options retained as valid and their feasibility and practicality for the ePhyto Solution. The project manager will also document the main units of the cost structure based on the service agreement proposed by UNICC and the expected capacity building needs. These include fixed and running costs such as:

    (i) GeNS operation and maintenance,

    (ii) costs for scheduled servicing or replacement of hardware (both for the hub and if required for the GeNS data store),

    (iii) software upgrades for the hub and GeNS,

    (iv) resources allocated to technical operation and hosting

    (v) provision of helpdesk functions for both the hub and GeNS

    (vi) training and capacity building for new participants

    (vii) management and administration

    (viii) general overhead costs (including IPPC staff resources, any costs associated with accounting and auditing of the operation, etc.)

The report of the analysis will be circulated to project governance committees for further input and validation.

- <u>Elaboration of the cost recovery mechanisms:</u> Once operating costs have been fully determined, benchmarked options for cost recovery will be further refined and documented by the consultant in consultation with stakeholders. The IAG role will be instrumental in assessing industry's willingness to pay. While

refining cost recovery options, consideration should be given to all possible pricing models (and there advantages and disadvantages) including :

    (i)   Establishment of a consumption-based price. In this case, decision would be made on value-based consumption or number of transactions based consumption; or

    (ii)   Establishment of a subscription-based price, in which case consideration would be given to a prorated charging system based upon country economic status.

Regardless, the determination of maximum unit cost per transaction would be based on regression analysis including the projection of uptake of the ePhyto Solution. It is anticipated that unit cost will go down as the number of NPPOs using the system increases and accordingly the number of developing countries still to implement the generic system goes down along with the cost related to their capacity building until reaching full global deployment. Establishing a ceiling of unit cost will enable countries to make an informed decision on connecting to the system.

A report documenting the proposed cost recovery mechanism (more than one option may be retained) will include the analysis of the cost structure (for operation of the system and any ongoing outreach and capacity building required for new participants) and the proposed pricing with possible scenarios (projections with future uptake). The report will also provide fund management details, including whether or not fund management should be contracted out or carried out within FAO. The final proposed approach will be presented and reviewed by the project's governance committees before submission to Contracting Parties for final decision.

- <u>Charging back costs to the NPPO:</u> Regardless of the option selected, payment for use will need to be decided upon by contracting parties. One proposed structure is the establishment of a charge-forward process based upon the previous year's transaction costs. In the initial year of cost recovery operation, the NPPO would be charged an estimated fee based upon the operation of the system during the piloting phase. If at the end of the year, transaction fees were below the break-even point, NPPOs would be required to reimburse the costs (pro rata). If an NPPO had a positive balance at the end of the year, the amount would be credited toward the next year's fee, which would be appropriately adjusted for the subsequent year and so on and so forth.

- <u>Fund governance structure</u>: Regardless of the option retained i.e. fund management by FAO or by a third party financial service provider; a fund governance charter will be elaborated. This would include the description of the fund management structure including administration (board of directors vs

Secretariat centralized administration), legal terms, reporting and oversight by CPM, liability and litigation procedures, investment policy, payment terms, procedures for non-payment and collection of debt, etc. It is anticipated that a dedicated fund will be created and each NPPO would deposit into this IPPC account under an appropriately and independently audited structure as per FAO business operation rules. The IPPC Secretariat will monitor the fund and report back to the CPM on the effectiveness and cost-benefits of the ePhyto Solution (it is anticipated that the IPPC Secretariat will provide regular reports comparing the benchmarked costs of certification incurred by NPPOs prior to implementation compared with the costs of certification following implementation.) In terms of charging back fees to NPPOs, the IPPC Secretariat has gained significant fund management experience from working with the registration of the mark prescribed in ISPM 15 *Requirements for wood packaging moving in international trade*. The IPPC Secretariat on behalf of Contracting Parties registers the mark and charges back the costs of registration to the country. The fees collected are used to support further registration. This experience will inform the elaboration of the mechanism.

> **Expected deliverables under Component 6 include:**
>
> - Report outlining options and fund-raising strategy for the ePhyto Bridge Fund
> - Scoping study on cost recovery schemes and a concept note for the expert meeting
> - Expert meeting report
> - Benchmarking report of cost recovery options and costing structure of the ePhyto Solution
> - Final cost recovery options description report
> - Fund governance charter

Component 7: Establishment of a monitoring and evaluation process

(i)   Establishment of a project governance structure

A project governance structure (see Appendix 7) will be established to ensure that:

- The project considers the experience and lessons learned from other developments at international level in relevant areas ;

- The project's capacity development components consider the tools developed by other international initiatives and factor-in any lessons learned;

- The project considers the long term potential for alignment between international e-document initiatives such as WCO Data Model, CITES e-permitting and any possible future OIE and CODEX e-initiatives.

Project Implementation Team includes:

- The Project Implementing Agency. Implementation of all activities funded under the project will be under the leadership of the IPPC Secretariat (written consent is provided in Appendix 6). The Secretary of IPPC on behalf of the IPPC will hold the budget designated for management of the project resources. The IPPC Secretariat will provide the general administrative and financial services and project monitoring following established procedures in FAO-ORACLE.

- ePhyto Project Manager . Attached to the IPPC Secretariat (ToRs are attached as Appendix 11), the ePhyto Project Manager will utilize established monitoring and evaluation methods to ensure project progress is made against agreed baselines and targets as set in the components of the work plan. The Project Manager shall be assisted by a temporary staff/consultant as necessary for day-to- day implementation of the project (to address operational, administrative and other related matters).

- The Lead Technical Unit (LTU): The UNICC will be LTU of the Project and will have full responsibility and liability for the operation of the ePhyto hub and GeNS. This relationship is established as a result of a specific MOU between FAO (the IPPC's parent organization) and the UNICC.

ePhyto Project Advisory Committee (PAC) provides advice to the ePhyto Project Technical Committee (PTC) on the development and design of the ePhyto Solution and particularly with regard to linkages and synergies to developments in other areas related to electronic certificate exchange (including trade facilitation, paperless trade initiatives, customs automation, Single Window and SPS-e-Cert).

Upon the start of the project, the PAC will review and, where necessary, recommend to the PTC, changes to the proposed work plan. The PAC will also confirm targets and identify progress indicators. Terms of Reference for the PAC are attached as Appendix 8.

Meetings of the PAC will be organized face-to-face or electronically based on the needs of the project. Milestones requiring PAC review and recommendation include inter alia : (i) after the assessments of service provider for GeNS and finalization of the specs for the hub as well as pilot plan (first semester), (ii) after the pilot phase; (iii) during the cost recovery development, etc. PAC members will be regularly updated on progress and consulted on various issues in-between PAC meetings.

ePhyto Project Technical Committee (PTC) will oversee and provide technical guidance and advice to the IPPC Secretariat on the implementation of the project. The PTC will be the main monitoring mechanism of the project in terms of delivery of outputs. Terms of reference for PTC are attached as Appendix 9. The PTC will consist of the IPPC ePhyto

Steering Group (ESG) which was established by CPM-8 to provide guidance in the implementation of ePhyto, an expert from UN/CEFACT and other ad hoc technical advisors as required.

Note : The ESG reports to the CPM Bureau and is responsible for ePhyto activities beyond those of this project. The ESG is tasked with: identifying the implementation requirements of Appendix 1 to ISPM 12; establishing processes and functions to maintain the ePhyto Solutions and a common repository of harmonised terms and codes; contributing to raising awareness, understanding and building capacity amongst Contracting Parties for ePhyto; and other related functions as required.

<u>Industry Advisory Group (IAG)</u> will advise the project on practical aspects of project implementation from an industry viewpoint and in measuring the benefits of ePhyto for the industry. Terms of reference for the IAG are attached as Appendix 10.

(ii)   Risk management

Risk	Impact	Probability	Mitigation/Assumptions
Lack of political will to support the effort	Medium	Medium	Advocacy materials being developed within the project
Resistance to harmonization of elements of the proposed system	Medium	Low	Advocacy materials developed within the project Harmonized decision making process in the CPM Demonstrate with this project that this only works with harmonization
Lack of confidence or security concerns in electronic / computerized systems	Medium	Medium	Advocacy material developed Testing of systems before implementation to demonstrate security
Legislation presents a barrier to adoption of the system	High	Medium	Raising awareness in CPM Advocacy material developed to support development of appropriate legislation
Scarcity of trainers that	Medium	Medium	Training of trainers on

understand both the IT and phytosanitary elements			understanding and combining both elements of IT and Phytosanitary aspects
Lack of minimal requirements to implement the system	Medium	Medium	Development of global framework for use by all Contracting Parties who want to use it Development of easily accessible systems to support national production, sending and receipt of electronic Phytosanitary certificates, including an on-line system that requires minimal facilities in the country itself.

(iii)   Reporting

(a)   Project reporting

✓ Progress reports

The IPPC Secretariat will prepare Project Progress Reports (PPR) on a half yearly basis for submission to the STDF Secretariat using the template provided by the latter. These reports will be presented quarterly to governance bodies and reviewed and commented upon by them. These progress reports will include: a summary of the project scope and development; the findings and conclusions to that point; the efficiency and effectiveness of implementation of the project; areas for design change; recommendations and lessons learned.

✓ Meetings and interim evaluation reports

In addition to PPRs, the project implementation team will prepare meeting, workshops and training reports as well as other reports such as the pilot's evaluation reports (including both the GeNS and the hub pilot testing) to be circulated to project governance committees' members and attached to the corresponding progress report.

An ex-post evaluation report on the implementation of the ePhyto Solution will be drafted following year one after close of the project.

✓ Financial reporting

The standard financial reporting of the FAO using the ORACLE system shall be used to report to the STDF. A full financial report shall be presented by the IPPC to the STDF Secretariat according to the terms provided by the Implementation Agreement signed between FAO and the WTO.

✓ Terminal statement

The IPPC in consultation with the PTC will prepare a final report of project activities for submission to STDF Secretariat. A draft will be produced by the 35th month of project implementation and submitted for PAC's comments. The terminal statement will be prepared in accordance with established FAO guidelines and including the components advised by the STDF.

(b)   Progress reporting to CPM

In order to disseminate information about the project results and harness support for its implementation and future sustainability, the IPPC Secretariat, RPPOs and ESG will also provide an annual report to the CPM on the global deployment of the ePhyto Solution in addition to general reporting about ePhyto development, implementation and sustainability progress across NPPOs in the various regions.

(iv)   Mid- Term Review

The Project implementation team will prepare terms of reference to commission an independent evaluation of the pilot phase. ToRs will be prepared in consultation with project governance committees and will include the following components:

- Review of project implementation reports and other relevant documents including pilot evaluation reports and cost recovery mechanism proposals.

- Collect feedback from main stakeholders

- Prepare a brief summary report with conclusions and recommendations

The report will be presented to the project governance committees for consideration and recommendations on the way-forward. The STDF Secretariat will discuss will the IPPC any contract amendments that may be necessary according to the independent review.

(v)   End of project stock taking

An analysis of realized project benefits will also be undertaken by the IPPC Secretariat prior to termination. The analysis will be based upon data collection undertaken prior to implementation compared with realized benefits following implementation. Baseline data collection may require support from an external expert based inter alia on a survey to be sent to all NPPOs. This activity will be carried out at the start of the project. The analysis of the pre-post situation will focus on country satisfaction; in-country efficiency improvements resulting from implementation; trade improvements, stakeholder

satisfaction and possible next-steps. The report, comprising description of challenges, lessons learned, good practices and recommendations on the way forward, will be presented to the project governance committees prior to termination and provided to the CPM as a tool in encouraging countries to participate and ensuring sustainability of project's results.

BUDGET

1. Estimated budget

The total estimated cost of this project is US$ 1608000 of which the STDF is requested to fund US$ **Error! Reference source not found.** (plus US$ 120000 in FAO servicing fees). The FAO/IPPC, as the implementation agency, will contribute a minimum of USD 58000 as in-kind contributions (staff time, training resources, etc.).   In addition, Canada has committed US$ 450000 to provide for a Project Manager and the associated travel costs of the position. The United States has committed US$ 100000 to assist with funding the project. An additional, USD 30,000.00 has been informally committed from at least 1 pilot region RPPO, but is yet to be formally confirmed. An estimated shortfall of US$ 300,000.00 to support operation of the hub and GeNS from the time at which STDF funding ceases to the implementation of a cost recovery option will be sought from donor member countries and has been noted in the budget and is described in task (i) of component 6. See Appendix 4 for the detailed budget estimates.

2. Cost-effectiveness

The coordination of planning and running of workshops will require some IPPC Secretariat staff resources (time, internet and travel), and there is an expectation that initial costs will be higher when applied at the global level. However, in the end a harmonised exchange tool for all countries will eliminate the cost and complexity of each country developing independent systems and bilaterally agreeing on exchange protocols with other countries. For countries with limited resources, this also make it easier for countries to start transmitting electronic phytosanitary certificates for their exported consignments and receiving electronic phytosanitary certificates for imported consignments. The project will provide developing countries with the ability and the capability to use a simple generic web-based system to produce and send electronic phytosanitary certificates and to receive electronic phytosanitary certificates for imports.

PROJECT IMPLEMENTATION

Organization responsible for project	International Plant Protection Convention Secretariat
	Viale delle Terme di Caracalla, 00153, Rome, Italy.

implementation:

Contact name (s):	Craig Fedchock, Coordinator
	Marko Benovic, Consultant
	Shane Sela, ePhyto Project Manager
Telephone:	+39-06-570-52534
	+1-250-213-5511
E-mail address:	ippc@fao.org
	craig.fedchock@fao.org
	marko.benovic@fao.org
	shane.sela@fao.org

DESSIMINATION OF THE PROJECT RESULTS

The materials and tools developed through this project will be translated into as many FAO languages as resources allow and made available online to provide broad access to these resources by countries, technical assistance providers and others. In addition, Contracting Parties will be able to access them through the IPPC website, the ePhyto webpage, the IPPC Phytosanitary resources page and the STDF website. The project will produce and disseminate a fact sheet explaining the objectives and the planned activities at the start of the project, as per STDF requirements and template. The fact sheet will be revised after completion of the project to include achievements and lessons learned.

ATTACHMENTS

APPENDIX 1: LOGICAL FRAMEWORK

Objectives	Performance Indicators/Deliverables	Means of Verification	Assumptions / Risks
Goal: Safe, secure and efficient trade in plants and plant products is facilitated	Business regulatory environment component of the country policy and institutional assessment (CPIA) demonstrates 0.1 - 0.3 point improvement over 10 years in countries which have implemented the ePhyto Solution.	Industry satisfaction survey World Bank ease of doing business report Trade volume statistics Government auditing reports	Lack of political will to support the effort Lack of resources at global and national level Other trade factors influence changes in market access Required infrastructure changes at the country –level cannot be completed
Purpose: : IPPC Contracting Parties are able to provide phytosanitary assurances in trade in an modern, cost effective and globally harmonized way	At least 90 IPPC Contracting Parties using the ePhyto Solution after 10 years of full scale deployment of the Solution Non-compliance notifications related either to errors in certification or fraud reduced by 20% in 5 years for countries that have implemented the ePhyto Solution. Reduction by 20% in cost of operation of phytosanitary certification for those NPPOs fully implementing the ePhyto Solution in 5 years	Export certification data at country level CPM reports Survey reports Country reports Baseline and post implementation data collection	The system is ready to be deployed Countries are interested in it Resistance to harmonization of elements of the proposed system Lack of confidence or security concerns in electronic / computerized systems

Objectives	Performance Indicators/Deliverables	Means of Verification	Assumptions / Risks
Outcome: A sustainable ePhyto Solution for electronic phytosanitary certification established and accessible.	Self-sustaining system established by close of project Contracting Parties that have piloted the ePhyto Solution report that they are confident to use the system Industries in countries that have piloted the ePhyto Solution report that trade is more efficient.	Reports by the lead technical unit Export certification data at country level Survey reports RPPO reports Website data Report on business model	Lack of minimal requirements to implement the system Delays in designing, building and implementation of the system Political will to adopt the system is lacking or not seen as a national priority Legislation presents a barrier to adoption
Output 1: Contracting for the development and operation of ePhyto Solution is complete	1.1 Project agreement with UNICC to evaluate ePhyto Solution options by month 3 1.2 Service agreement for development and operation of GeNS and hub ready by month 4	Agreement	Delays in funding Legal review requires longer than anticipated The proposed LTU is unable to meet IPPC timelines
Output 2: A GeNS for the production, sending and receipt of electronic phytosanitary certificates established	2.1 Specifications including determination of whether system is web-based, stand alone or both are finalized by month 6 2.2 ASYCER review report is prepared by month 6 2.3 Inventory and evaluation of existing systems that may be used as a GeNS completed by month 9, if needed 2.4 A functional GeNS available for use by month 12	Project progress reports UNICC development reports Dummy test reports	Delays in designing, building and implementation of the system Scarcity of trainers that understand both the IT and phytosanitary elements National decision makers do not understand the complexity of the issue Country difficulties in adapting business practices and requirements (e.g. legislation) to
Output 3: Internationally accessible hub for ePhyto exchange established	3.1 A hub protocol specified by month 6. 3.2 A functional hub available for use by month 9 3.3 A user policy framework is established by month 6		

Objectives	Performance Indicators/Deliverables	Means of Verification	Assumptions / Risks
Output 4: ePhyto Solution is fully operational	4.1 Pilot countries selected by month 6 4.2 1-3 countries have successfully exchanged ePhytos using the GeNS by month 12 4.3 ePhytos successfully exchanged by about 10 pilot countries through the hub by month12 4.4 Any required adjustments to the design of the hub and/or GeNS completed by month 15.	Project progress reports UNICC reports of exchanges Country reports Industry satisfaction surveys	adopt ePhyto
Output 5: Training, advocacy and business process reengineering tools developed and in use	5.1 Evaluation of existing available resources completed by month 9 5.2 Needs assessment and gap analysis completed by month 12 5.4 Training materials and business process reengineering tools developed by month 18. 5.5 Training on use of the GeNS delivered to at least 2-3 contracting parties by month 24 5.6 At least 1 country receives complete business process reengineering assistance by month 30. 5.7 Advocacy delivered to Contracting Parties of the IPPC by month 36	Project progress reports Survey reports RPPO reports CPM reports Country training records	

International Plant Protection Convention

Objectives	Performance Indicators/Deliverables	Means of Verification	Assumptions / Risks
Output 6: A business model for the long term operation of the ePhyto Solution is in use	6.1 Expert consultation on options for cost recovery by month 3 6.2 Report outlining options for bridge funding presented to governance committees by month 6 6.3 Bridge fund to allay operational costs between end of project funding and entry into force of cost recovery mechanism in place by month 15 6.4 Cost of the ePhyto Solution operation defined by month 12 6.5 Cost recovery framework defined and approved by governance and CPM by month 18.	Project progress reports Satisfaction surveys Post implementation project reviews	
Component 7: Monitoring and evaluation processes established	7.1 Project governance committees established by month 3. 7.2 Progress reports presented to STDF biannually and at close of project 7.3 Progress reports presented to governance committees quarterly. 7.4 Mid-term review presented to CPM-13 (2018) 7.5 Stock taking presented to CPM-14 (2019).	Project progress reports Satisfaction surveys Workshop feedback Post implementation project reviews Helpdesk reporting	

APPENDIX 2: COMPONENT TIMELINE

Year 1	Year 2	Year 3	Year 4

Component 1 – Contract

Component 2 – GeNS build

Component 3 – Hub build

Country selection	Testing	Deployment

Component 4 – Solution testing and operation

Component 5 – Training, advocacy and business tools

Expert consultation	Analysis	Implementation

Component 6 – Business model

Component 7 – Monitoring and evaluation
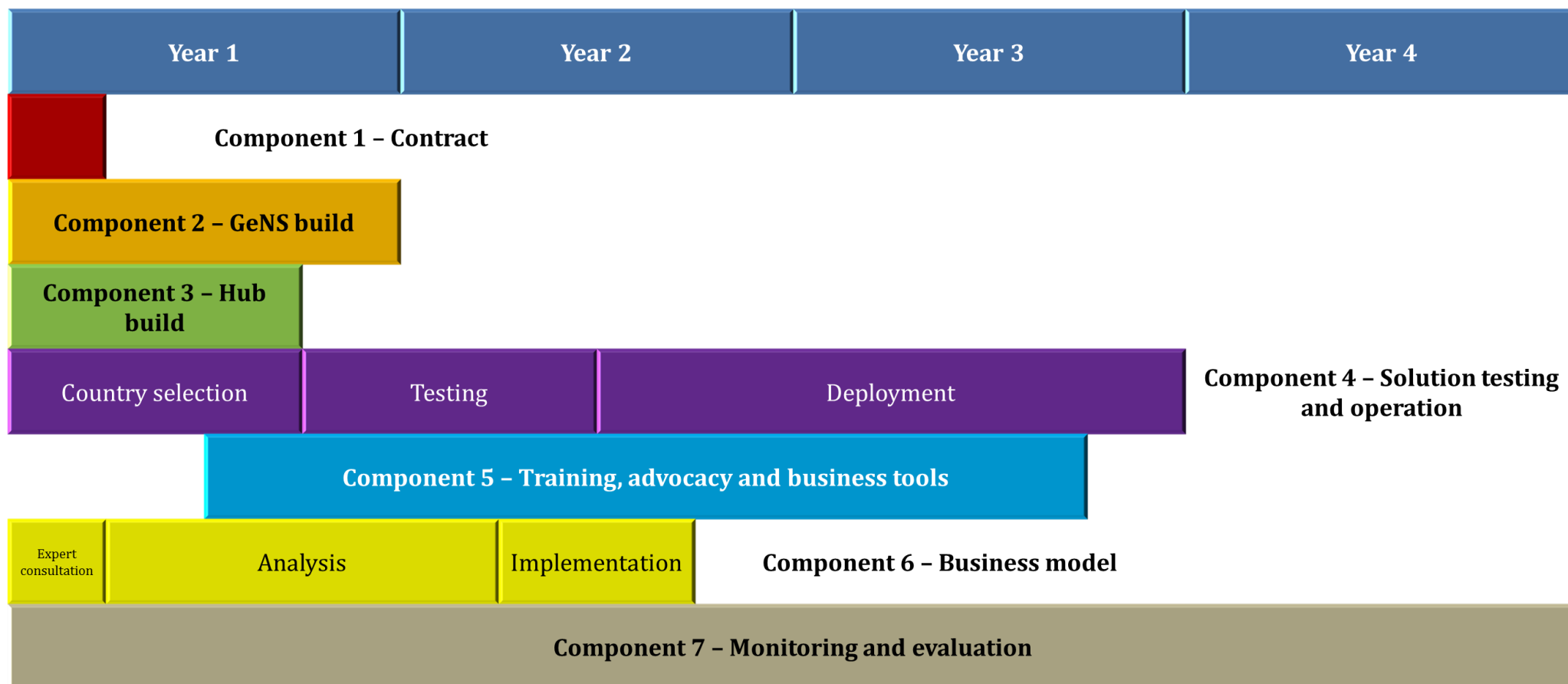
APPENDIX 3: DETAILED WORK PLAN

Activity		Responsibility	Year 1				Year 2				Year 3				Year 4			
			Q1[1]	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 1: Establishment of the contract for the ePhyto Solution			▒															
1.1	Establishment of a project agreement	IPPC Secretariat	█															
1.2	Establishment of a service agreement	IPPC Secretariat	█															
Component 2: Establishment of a GeNS for the production, sending and receipt of electronic phytosanitary certificates			▒	▒	▒	▒												
2.1	Finalization of the specification	UNICC/PTC	█															
2.2	Review of ASYCER for use as a GeNS	UNICC/IPPC Secretariat/PTC	█	█														
2.3	Evaluation of other options for use as a GeNS, if required	UNICC/IPPC Secretariat/PTC		█	█													
2.4	Reconfiguration of an existing system	UNICC		█	█	█												
Component 3: Establishment of an internationally accessible hub for ePhyto exchange			▒	▒	▒													
3.1	Finalization of the specification	UNICC/PTC	█	█														
3.2	Establishment of the hub	UNICC		█	█													
3.3	Development of a user policy framework	IPPC Secretariat	█															
Component 4: Establishment of a fully operational ePhyto Solution			▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒				
4.1	Selection of pilot countries	IPPC Secretariat/PTC	█	█	█	█												
4.2	Pilot testing of the GeNS	UNICC/PTC/ Countries					█	█										
4.3	Connection to hub	UNICC/PTC/ Countries				█	█											
4.4	Operation and evaluation of the pilot	UNICC/PTC/ Countries					█	█										
4.5	Deployment of the ePhyto Solution and uptake								█	█	█	█	█	█				

[1] Q1 commences with funding from STDF.

Activity		Responsibility	Year 1				Year 2				Year 3				Year 4			
			Q1[1]	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 5: Development and dissemination of training, advocacy and business process reengineering tools					▒	▒	▒	▒	▒	▒	▒	▒	▒	▒				
5.1	Needs assessment and evaluation of existing resources	IPPC Secretariat/PTC				█	█											
5.2	Gap analysis and priority setting	IPPC Secretariat/PTC/ Consultant					█	█										
5.3	Identification of training media	IPPC Secretariat/PTC						█	█									
5.4	Development of priority tools	IPPC Secretariat/PTC/ Consultant					█	█	█	█								
5.5	Validation of the resources	IPPC Secretariat/PTC/ Consultant									█	█	█	█				
Component 6: Establishing a business model for the long term operation of the ePhyto Solution			▒	▒	▒	▒	▒	▒	▒	▒	▒							
6.1	Key consultation on options for cost recovery	IPPC Secretariat	█															
6.2	Report on options for bridge funding	IPPC Secretariat		█	█													
6.3	Establishment of a bridge fund	IPPC Secretariat	█	█	█	█												
6.4	Development of a cost recovery mechanism options	IPPC Secretariat		█	█	█	█											
6.5	Consultation with stakeholders and implementation						█	█	█									
Component 7: Establishment of a monitoring and evaluation process			▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒
7.1	Establishment of a project governance structure	IPPC Secretariat	█															
7.2	Risk management	IPPC Secretariat	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
7.3	Reporting	IPPC Secretariat	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█

APPENDIX 4: BUDGET (US $)

Activities		STDF	IPPC	United States Department of Agriculture	Canadian Food Inspection Agency
Component 1: Establishment a contract for the ePhyto Solution		**0**	**5000**	**0**	**0**
1.1	Establish project agreement				
	Drafting, legal review, meetings, staff time		1500		
1.2	Establish service agreement with lead technical unit to establish and host the system				
	Drafting, legal review, meetings, staff time		3500		
Component 2: Establishment of a GeNS for the production, sending and receipt of electronic phytosanitary certificates		**231000**	**20000**	**62000**	**0**
2.1	Finalization of the specification				
	ESG meeting for 5 days to develop standard		20000		
	UNICC to develop detailed specifications (5 days @ $600/day)	3000			
2.2	Review of ASYCER for use as a GeNS				
	UNICC to review and provide recommendation (20 days at $600/day)			12000	
2.3	Evaluation of other options for use as a GeNS, if required				

	Activities	STDF	IPPC	United States Department of Agriculture	Canadian Food Inspection Agency
	UNICC to review and provide recommendation, if required (30 days at $600/day)	18000			
2.4	Reconfiguration of an existing system				
	UNICC to reconfigure the system	200000		50000	
	Dummy testing	10000			
Component 3: Establishment of an internationally accessible hub for ePhyto exchange		**209000**	**6000**	**26000**	**0**
3.1	Finalization of the specification				
	ESG develops standard (completed prior to project approval)		6000		
	UNICC to develop detailed specifications (5 days @ $600/day)	3000			
3.2	Establishment of the hub				
	UNICC to obtain hardware and required software for operation of the hub	200000			
	Dummy testing			26000	
3.3	Development of a user policy framework				
	Contractor to develop framework (10 days @ $600/day)	6000			

Activities		STDF	IPPC	United States Department of Agriculture	Canadian Food Inspection Agency
Component 4: Establishment of a fully operational ePhyto Solution		**118000**	**0**	**12000**	**0**
4.1	Selection of pilot countries				
	Contractor to refine assessment documents (5 days @ $600/day)	3000			
	Assessment of country preparedness to participate (travel and DSA for 2 experts to conduct assessments 3 countries)	45000			
4.2	Pilot testing of the GeNS				
	In country training in 3 countries (staff costs for 25 days @ $600/day, travel and DSA)	40000			
	Travel and DSA for developing country members to participate in in-country training sessions (total of 15 persons @ $800 per person)			12000	
	Translation of guides into FAO languages	2000			
	Editing, formatting and publishing	1000			
4.3	Connection to the hub				
	Development of technical guides	5000			
	Translation of guides into FAO languages	1000			

	Activities	STDF	IPPC	United States Department of Agriculture	Canadian Food Inspection Agency
	Editing, formatting and publishing	1000			
4.4	Operation and evaluation of the pilot	Costed in 2.2 and 3.2			
4.5	Business as usual operation	20000²			
Component 5: Development and dissemination of training, advocacy and business reengineering tools		**137000**	**0**	**0**	**0**
5.1	Evaluation of existing resources				
	Technical meeting and contractor to analyse and report on existing training resources (10 days @ $600/day)	6000			
5.2	Needs assessment, gap analysis and priority setting				
	Contractor to work with PIT in developing inventory of needs and identifying appropriate media to facilitate training (10 days @ $600/day)	6000			
5.3	Development of priority tools				

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[2] Bridge funding of approximately $US 300000 (not included within the budget) will be sought from donor countries to permit Solution operation from the time STDF funding ceases to the point that cost recovery permits ongoing operation.

Activities		STDF	IPPC	United States Department of Agriculture	Canadian Food Inspection Agency
	Contract to develop or adapt tools (100 days @ $600)	60000			
5.4	Validation of priority tools				
	Assessment of guides in 1 pilot country (staff costs 60 days @ $600/day, travel and DSA)	45000			
	Revision of guides based on testing outcome (contractor for 10 days @ $600/day)	6000			
	Translation of final guides into FAO languages	10000			
	Editing, formatting and publishing	4000			
Component 6: Establishing a business model for the long term operation of the ePhyto Solution		**50000**	**0**	**0**	**0**
6.1	Establishment of a bridge fund				
6.2	Development of a cost recovery mechanism				
	Consultant to review recommend and option for cost recovery (30 days @ $600/day)	18000			
	Expert consultation on cost recovery mechanism (cost for experts time and travel participating in 3 days meeting)	27000			
	Establishment of management structure fund	5000			

Activities		STDF	IPPC	United States Department of Agriculture	Canadian Food Inspection Agency
Component 7: Establishment of a monitoring and evaluation process		**255000**	**27000**	**0**	**450000**
7.1	Establishment of a project governance structure				
	Project manager				450000
	Travel and DSA for developing country members to participate in PTC meetings (4 participants for 6 meetings at $7500/meeting)	180000			
	Travel and DSA for PAC members participation in governance meetings (4 participants for 3 meetings at $4000/meeting)	48000			
	General meeting support (publication of reports, administration of travel, etc.)		15000		
7.2	Risk management				
7.3	Reporting				
	Consultant to report on project benefits (collection of baseline data, post implementation date and reporting) (30 days @$600)	18000			
	Independent mid-term review (15 days @ $600/day)	9000			
	Report development	Costed in 7.1			
	IT support, administration, etc.		12000		

Activities	STDF	IPPC	United States Department of Agriculture	Canadian Food Inspection Agency
Total	1000000	58000	100000	450000
Total co-funding	608000			
Servicing	120000			
Grand Total	1728000			

APPENDIX 5: LETTER OF SUPPORT FROM AN ORGANIZATION THAT ENDORSES THE PROJECT

KENYA PLANT HEALTH INSPECTORATE SERVICE (KEPHIS)
HEADQUARTERS

Oloolua Ridge, Karen P. O. Box 49592 00100 GPO Nairobi, Kenya, Tel: 3536171/2, / 882933 / 884545 / 882933, +254 0722 516221 / 8723
786779 / 0733 874274 / 8734 874141, Fax: 3536179, E-mail: director@kephis.org /Kephisinfo@kephis.org, Website: www.kephis.org

Our ref: KEPHIS/HQ/3/110/Vol.IV/58   Date: 19ᵗʰ November, 2014

The Secretary,
Standards and Trade Development Facility,
World Trade Organization,
Rue de Lausanne 154,
CH 1211, Geneva,
Switzerland.

Email Craig.Fedchock@fao.org, Orlando.Sosa@fao.org

Dear Sir/Madam

RE: **EXPRESSION OF SUPPORT FOR GLOBAL**
        ELETRONIC TRADE FACILITATION

The Kenya Plant Health Inspectorate Service (KEPHIS) wishes to express its full support for the project **"Global electronic trade facilitation: Enhancing safe trade in plants and plant products through innovation"** for STDF funding consideration. We also support its full implementation by the International Plant Protection Convention.

The project is intended to improve the capacity of countries to facilitate safe, secure and efficient trade in plants and plant products through the establishment of a Global framework for electronic Phytosanitary certification. This global framework will directly benefit developing countries by improving the management of their Phytosanitary operations through an improved capacity to facilitate trade by electronic means and thereby their capacity to safeguard agriculture, ensure market access for their export products and thereby food security.

This letter additionally affirms our intention to work with the International Plant Protection Convention and the IPPC Capacity Development Committee in the implementation of this project which will enhance and facilitate trade while improving countries' abilities to better comply with their obligations under the IPPC and the World Trade Organization's Agreement on the Application of Sanitary and Phytosanitary Measures.

Sincerely,

Esther Kimani; PhD
Ag. MANAGING DIRECTOR

APPENDIX 6: WRITTEN CONSENT

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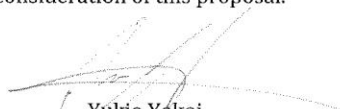Protecting the world's plant resources from pests

60 Years FAO

24 November 2014

Secretary,
Standards and Trade Development Facility
World Trade Organization
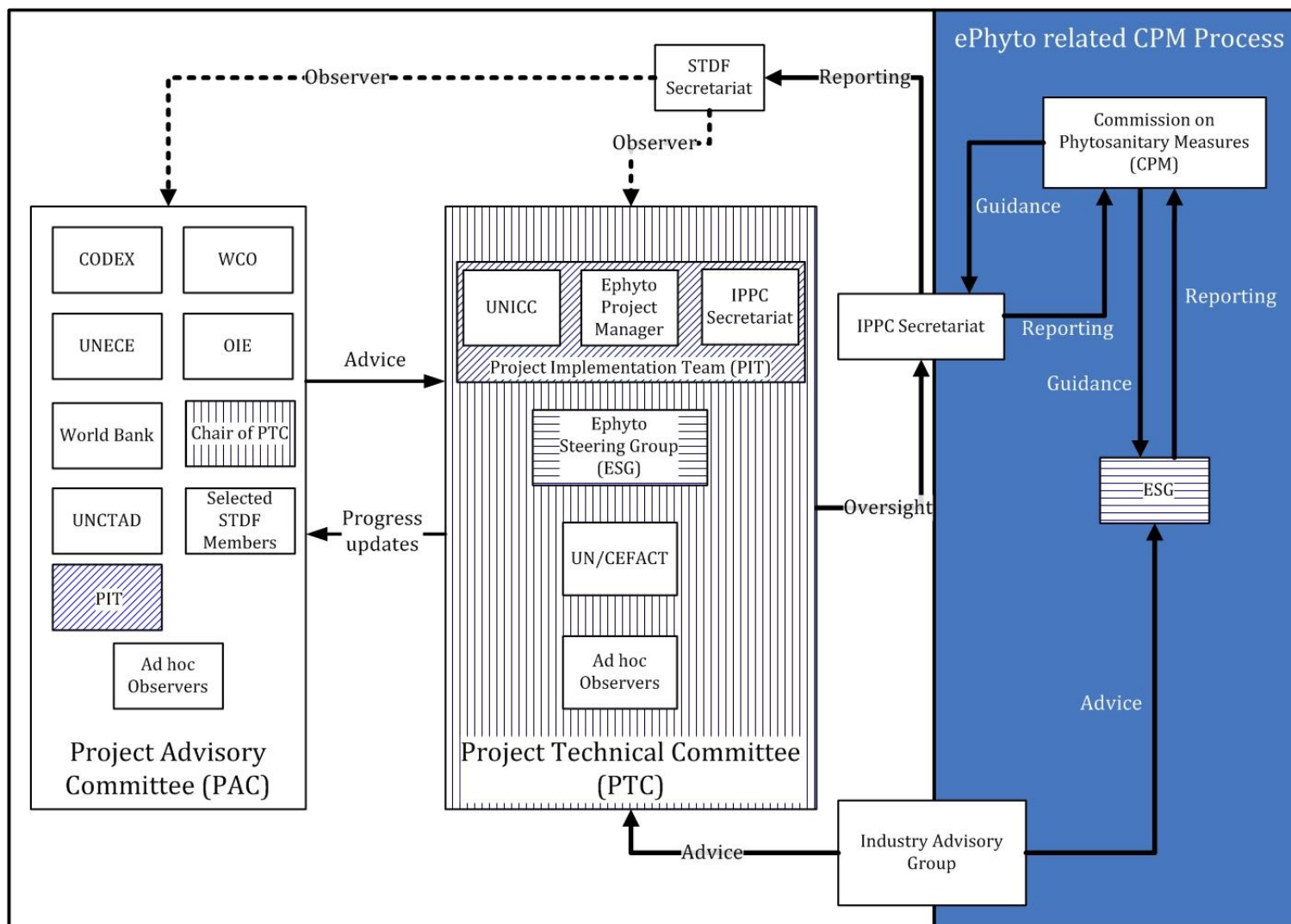Rue de Lausanne 154,
CH 1211, Geneva,
Switzerland

Dear Mr. Spreij,

The Secretariat of the International Plant Protection Convention will be pleased to implement the proposed project "**Global electronic trade facilitation: Enhancing safe trade in plants and plant products through innovation**". We believe that this project will significantly contribute to assisting developing countries facilitate trade in a way which will take advantage of the newest technologies in a cost effective and efficient way.

Thank you for your positive consideration of this proposal.

Yukio Yokoi
Secretary

International Plant Protection Convention Secretariat,
Food and Agriculture Organization of the United Nations,
AGPP, Viale delle Terme di Caracalla,
00153 Rome, Italy

Tel: +39 06 5705 4812
Fax: +39 06 5705 4819
Email: ippc@fao.org
Web: www.ippc.int

APPENDIX 7: PROJECT GOVERNANCE

APPENDIX 8: TERMS OF REFERENCE FOR THE EPHYTO PROJECT ADVISORY COMMITTEE

I. Purpose

1. The ePhyto Project Advisory Committee (PAC) provides advice to the IPPC Secretariat on the design, development and deployment of an ePhyto (electronic phytosanitary certification) Solution consisting of a global hub and GeNS to enable developing countries to exchange electronic phytosanitary information with their trading partners and increase the use of electronic phytosanitary certificates globally. The PAC also facilitates linkages and synergies with other trade facilitation initiatives aiming at the expansion of paperless trade through customs automation, Single Window operations, etc.

II. Duration

2. The PAC will remain active until the project is completed.

III. Functions

3. The PAC will:

    i.   Provide overall guidance to the Project Technical Committee (PTC) on project implementation matters to ensure a strategic, integrated and ordered approach;

    ii.   Make recommendations on specific issues brought to its attention by the PTC;

    iii. Monitor the delivery of the project based upon the performance indicators specified in the project plan logframe and measured through progress reports;

    iv.   Review project's mid-term review report and make recommendations on next steps accordingly;

    v.   Review the project's draft completion report and advise on future actions;

    vi.   Share information regarding developments occurring in other e-certification efforts that may influence project's implementation;

    vii. Identify opportunities for collaboration with international organizations undertaking similar electronic data exchange initiatives;

    viii. Identify resource needs and opportunities that may arise during project's implementation and provide guidance and assistance in fundraising effort, and;

    ix.   Other related advisory functions as required.

IV. Composition

4. Members of the PAC include:

   - The ePhyto Project Implementation Team (IPPC Secretariat, ePhyto Project Manager and UNICC)

   - The Chair of the PTC

   - One (1) representative from UN Centre for Trade and Development (UNCTAD), ASYCER

   - One (1) representative from World Customs Organization (WCO)

   - One (1) representative from the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

   - One (1) representative from World Organisation for Animal Health (OIE)

   - One (1) representative from CODEX Alimentarius

   - One (1) representative from the World Bank

   - Two (2) donor members from the Standard and Trade Development Facility (STDF)[3]

5. Observers could include:

   - One (1) member of the IPPC Capacity Development Committee (CDC)

   - One (1) representative of the UN Food and Agriculture Organization (FAO), Chief Information Office

   - One (1) representative of the STDF Secretariat

6. Ad hoc participants:

   - The PAC may invite other participants on ad hoc basis to provide guidance, information or administrative support when necessary.

7. A Chair will be selected from the membership.

8. PAC members should have extensive knowledge of global developments in e-certification, project design, monitoring & evaluation experience in the context of developing countries.

9. PAC members should have the time available to actively participate and would be requested to confirm their willingness to take part in the PAC after having read and approved the present ToRs.

V. Meetings

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[3] To avoid possible conflict of interest and inclusion if broader expertise, appointed donor member representatives should not be serving on more than one project committee

10. The PAC will meet in-person at least annually. To reduce travel costs, in-person meetings will be scheduled to coincide with other meetings of the membership, where possible. Teleconferences and other virtual meetings will be scheduled as required.

11. The IPPC Secretariat will provide the logistical support required for the meetings of the PAC.

VI. Funding

12. To undertake this work, members will be self-funded or where required extra-budgetary resources will be identified so that the IPPC Secretariat may provide funding assistance.

APPENDIX 9: TERMS OF REFERENCE FOR THE EPHYTO PROJECT TECHNICAL COMMITTEE

I. Purpose

1. The ePhyto Project Technical Committee (PTC) will oversee and provide technical guidance and advice to the Project Implementation Agency (the IPPC Secretariat) on the design, development and deployment of a cost effective ePhyto (electronic phytosanitary certification) Solution consisting of a global hub and GeNS to facilitate the international exchange of electronic phytosanitary information by developing countries.

II. Duration

2. The PTC will remain active until the project is completed.

III. Functions

3. The ePhyto Technical Committee will:

    i.   provide guidance on the development of a system for the production and receipt of ePhytos (GeNS) and an international electronic hub for the exchange of certificates;

    ii.   ensure that implementation of the above-mentioned systems is harmonized and consistent with Appendix 1 of ISPM 12 and with any proposals being discussed as part of the broader mandate of the IPPC ePhyto Steering Group;

    iii. identify any issues or challenges in design, development or deployment of the above-mentioned systems or in other aspects of project's implementation to be brought to the attention of the ePhyto Project Advisory Committee (PAC) for recommendation;

    iv.   consider recommendations made by the PAC on project matters and provide documented justification for any deviation.

    v.   contribute to a comprehensive range of initiatives to raise awareness and understanding amongst countries regarding the project's objectives and achievements;

    vi.   support the development of a toolkit that could be used by countries to facilitate the efficient and effective implementation of an ePhyto Solution nationally, as well as other capacity building resources;

    vii. identify resource needs and opportunities and assist in the development of funding proposals and options for the long term sustainability of the ePhyto Solution and;

    viii. other related technical advice functions as required

IV. Composition

4. Members of the PTC include:

    -   The ePhyto Project Implementation Team (IPPC Secretariat, Project Manager and UNICC)

    -   Members of the IPPC ePhyto steering group.

- A technical expert in UN/CEFACT

5. Observers :

- One (1) representative of the STDF Secretariat

6. Ad hoc participants:

- The PTC may invite other participants on an ad hoc basis to provide information, technical guidance and assistance as necessary.

7. A Chair will be selected from the membership.

8. PTC members should have extensive knowledge of electronic certification (e-certification) processes including regulatory and practical implementation experience in electronic phytosanitary systems, and have the time available to actively participate.

IV. Meetings

9. The PTC will meet in-person at least semi-annually. To reduce travel costs, in-person meetings will be scheduled to coincide with other scheduled meetings involving the membership, where possible. The PTC will usually meet virtually as needed to perform the functions outlined above.

10. Should the PTC be unable to reach consensus on an issue, the ePhyto project implementation manager will raise the issue to the PAC for review and recommendation.

V. Funding

11. To undertake this work, participants will either be self-funded or where required extra-budgetary resources will be identified so that the IPPC Secretariat may provide funding assistance.

APPENDIX 10: TERMS OF THE REFERENCE FOR THE EPHYTO INDUSTRY ADVISORY GROUP (IAG)

I. PURPOSE

1. The ePhyto Industry Advisory Group (IAG) will provide practical guidance and advice to the IPPC Secretariat on the design, development and deployment of an ePhyto (electronic phytosanitary certification) system consisting of a global hub and GeNS to facilitate the international exchange of electronic phytosanitary information by developing countries. The IAG will also advise the IPPC Secretariat on the feasibility of the project and its ability to facilitate efficient and effective trade flows.

II. DURATION

2. The IAG will remain active until the project is completed.

III. FUNCTIONS

3. The IAG will:

    i.   provide practical guidance on the development of a system for the production, receipt and exchange of ePhytos;

    ii. identify implementation requirements supporting trade facilitation;

    iii. identify to the ePhyto Project Technical Committee (PTC) any issues or challenges requiring input or guidance;

    iv. propose initiatives to raise awareness, understanding and the building of capacity amongst national plant protection organizations and cooperating border agencies;

    v.   assist in the development of funding proposals and options for the cost recovery of the ePhyto Solution;

    vi. other related functions as required

IV. MEMBERSHIP

4. The IAG will be composed of a maximum of ten (10) representatives, with special emphasis on a number of sectors relevant to ePhytos, as follows:

    -   ePhyto Project Manager

    -   Chair of the ePhyto Project Technical Committee

    -   One (1) representative from the grain trade

    -   One (1) representative from the cut flower sector

    -   One (1) representative from the seed trade

    -   One (1) representative from the forestry sector

    -   One (1) representative from the potato sector

    -   One (1) representative from the horticulture sector

    -   One (1) representative from the cocoa sector

    -   One (1) representative from the cotton sector

5. A Chair will be selected from the membership.

6. The members should have extensive knowledge of the electronic documentation processes, regulatory issues, be substantially computer and internet literate, and have the time available to actively participate.

7. Additional experts may be invited by IAG when necessary.

V. MEETINGS

8. The IAG will meet in-person semi-annually. Where possible, in-person meetings will be scheduled to coincide with other scheduled meetings involving the membership so as to reduce travel costs. The IAG will also meet virtually as needed to perform the functions outlined above.

9. The IAG will report to the ePhyto Project Technical Committee.

10. The IAG will be supported by the IPPC Secretariat and will maintain close liaison to the project through the ePhyto Project Manager.

VI. FUNDING

11. To undertake this work, participants will be self-funded.

APPENDIX 11: TERMS OF REFERENCE FOR PROJECT MANAGER

(Project funded)

Under the general supervision of the Secretary of the International Plant Protection Convention, and in close collaboration with the project's governance committees, the Project manager will be responsible for the delivery of the expected project results. This will be achieved through coordinating the implementation of the agreed project plan, by undertaking the following task:

1. Develop activity schedules, propose the mode of implementation and related expenditure

2. Carry out relevant project activities (provide training, participate in external meetings, communicate on the project to a wider stakeholder sphere)

3. Identify suitable collaborators (consultants and contractors) to implemented project's activities

4. Develop consultants and contractors' ToRs and supervise their work

5. Monitor the project work plan, budget, procurement plan and milestones to ensure best use of project resources, recommend actions to avoid project slippage and propose mid-term corrective action as the case necessitates

6. Provide technical expertise for the development and production of advocacy materials, training tools and other capacity building resources

7. Management of review, editing and formatting of training and advocacy materials.

8. Build partnerships and liaise with project partners (FAO units/ LTU/NPPOs and RPPOs) for the successful conduct of activities envisioned under the project.

9. Prepare project's reports and review reports of other contractors

10. Ensure the timeliness and quality of report to project governance committee and the donors

11. Undertake any necessary action to ensure the sustainability of project's results (including fundraising as required)

12. Other duties as assigned

Duty station: Victoria, Canada.

APPENDIX 12: BIBLIOGRAPHY

Bryant Christie Inc. (2014). *A GLOBAL ePHYTO FEASIBILITY STUDY* . Rome, Italy: Internatioonal Plant Protection Convention.

Union Fluers. (2015). *Europhyt Interception Report.* Brussels, Belgium: Union Fluers.

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