COMMISSION ON PHYTOSANITARY MEASURES

TWENTIETH SESSION

EPHYTO SOLUTION CHANGE MANAGEMENT AND ENHANCEMENT PROPOSALS

AGENDA ITEM 13.1.2

(*Prepared by the IPPC Secretariat*)

Introduction

[1] This paper seeks CPM-20 approval for the:

- **establishment of a new change management process,** which includes a dedicated decision-making framework and a structured change management process for the IPPC ePhyto Solution, designed to clarify roles and responsibilities and ensure transparent and inclusive decision-making. The framework establishes how changes to the global ePhyto Solution are assessed, prioritised, and approved (changes categorized as maintenance, improvement, and development), and clarifies the delegation of authority so that, depending on the type and impact of each change, the appropriate approving body is identified.

- **Development enhancements to the ePhyto Solution, which are derived from the change management process**, including one major change:

  · Harmonization of Phytosanitary Additional Declarations: the proof of concept design and development of a global system enabling countries to publish and access additional declarations in a standardized digital format.

[2] **Appendix 2** lists changes endorsed by the ePhyto Steering Group (ESG), which will be scheduled pending the availability of funds in the development budget or as part of implementation projects.

[3] **Appendix 3** lists changes under discussion and analysis, not yet endorsed by the ESG, that can also be consulted.

[4] **Appendix 4** lists changes performed during the last period.

The change management process

[5] The IPPC ePhyto Solution is currently managed through established roles, including Country Users and Country Administrators designated by each country, with centralized support provided by the IPPC Secretariat and the technical provider (UNICC). Governance oversight is ensured through the existing bodies: the ESG, the CPM Bureau, and the CPM.

[6] As part of country users' support, Country Administrators submit support requests and feedback to the centralized support, which categorizes and addresses them. Once support responds, either through

specific instructions or, in the case of a system update, through release notes, the Country Administrator informs the relevant Country Users[1].

[7]   When a change to the ePhyto Solution is identified, it is escalated to the appropriate governance body, following the main classification: **maintenance**, **improvement**, and **development**. The corresponding delegation of authority for assessing, importance ranking, and approving each type of change is detailed in Table 1 below.

Table 1. Description and delegation of authority for the change types: Maintenance, Improvement, and Development.

Change Type	Description	Delegation of Authority
Maintenance	Maintenance changes required for the correct functioning of the solution, such as: Application defects Security measures Configuration changes supporting country implementation, interoperability, and adoption	Maintenance Changes are endorsed by the ESG). They do not require further approval to be scheduled for implementation, unless requested by the ESG. Additionally, security measures and changes required to resolve an on-going incident on the platform are pre-approved and scheduled by the technical provider following the change lifecycle (see Appendix 1).
Improvement	Improvements of functionalities and technology that would not impact service delivery and usability of the solution, such as: Application functionality enrichment Data harmonization improvements New features are optional for use/adoption	Improvement Changes are endorsed by the ESG. The changes, provided the availability of funds, do not require additional approvals unless requested by the ESG.
Development	Enhancements to technology and functionalities with an impact on service delivery or usability of the solution that require countries to undertake implementation activities to adopt the changes, such as: Change in technology affecting the use of the solution New features that would require adoption, and/or potentially impact the overall service cost or delivery	As for the above change types, they are always reviewed by the ESG before being included in the CPM papers, seeking approval. Development Changes are approved by CPM. Provided the availability of funds the changes can be scheduled.

[8]   The ESG endorses the maintenance and improvement changes, confirming also the related priority and all the required details. When a change is classified as a development change, its approval falls under the responsibility of the CPM. All of them will require confirmation of budget availability before scheduling and implementation. Further details on the budget allocation are provided in the funding model document, as presented to CPM-20 under agenda item **13.1.3 IPPC ePhyto Solution funding model**.

[9]   When multiple implementation options are available for a change, the following criteria and their related weight could support the governing bodies in determining the most appropriate category, as detailed in Table 2. The IPPC Secretariat and Technical Provider (UNICC) extract and compile the results based

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[1] During 2025 the centralized support responded to an overall approx. of 500 requests, including knowledge questions and training requests, support for the different onboarding steps (ie country configuration, digital signature setup, etc.). Additionally, the technical provider executed 68 interventions, 22 of them to deal with detected incidents.

on the criteria described below and provides them to the governing bodies to support the decision-making process.

Table 2. Default Criteria and related weight to be adopted when choosing implementation options for a change.

Criteria	Weight
Cost	10%
Impact/Risks	40%
Alignment	15%
Feasibility	15%
Flexibility	15%
Timelines	5%

Scheduling of the Change

[10]   The scheduling of implementation may not occur immediately following the completion of all governance approvals, as dedicated funding and an appropriate delivery approach may be required. As part of the change-management process, the ESG will re-evaluate any modified elements to confirm the continued relevance of the change before implementation.

Review of the Change

[11]   Each improvement or development change will be reviewed in accordance with its defined characteristics and timelines to assess quality and to evaluate the extent to which the expected value and benefits have been delivered.

[12]   The additional change management process technical details are reported in Appendix 1.

Development enhancement proposed to CPM:

Harmonization of Additional Declarations

[13]   **The problem**: Additional Declarations form part of the import requirements established by importing countries and are currently published through diverse formats, channels, and country-specific narrative descriptions. While generally unstructured, these declarations typically reflect combinations of criteria such as botanical name, country of origin, plant part, and intended use, among others. National Plant Protection Organizations (NPPOs) and inspection officers require this information to be structured, accessible, and operationally usable. In practice, maintaining and converting these requirements to align with exporting countries' standards and processes requires continuous effort. Missing or incorrect additional declarations on phytosanitary certificates are frequently reported as a cause of certificate re-issuance and delays in the clearance of consignments.

[14]   **The proposed change:** In response, the IPPC Secretariat, in collaboration with countries and relevant stakeholders, is proposing to design an international schema for the publication of import requirements and develop a global solution to support their structured availability to all stakeholders. The proposed approach aims to preserve the original intent and wording of importing countries' requirements while enabling structured data representation that can be readily integrated into existing national and regional platforms, with appropriate levels of detail and localization. The initial phase is expected to deliver a proof-of-concept solution capable of immediate integration with national systems.

[15]   **Expected benefits:** Expected benefits include cost savings associated with the collection, maintenance, and interpretation of import requirements by NPPO staff; the establishment of a standardized baseline for additional declarations, definitions, and data exchange; a reduction in errors during certificate compilation; and the provision of a reusable, centralized technical solution to reduce national implementation and maintenance costs.

[16]   **Status and Roadmap**: The ESG has endorsed the initiative, highlighting the need for clearly defining the design, the expectations, the rollout, and the management approach before proceeding with full implementation. The planned involvement of specialized experts, working in coordination with the ESG, will support the provision of technical guidance and independent review, ensuring that the designed solution reflects the breadth and complexity of stakeholder requirements.

Recommendations

[17]   The CPM is invited to:

(1)   *adopt* the proposed change management process as detailed in Appendix 1; and

(2)   *determine* whether to proceed with the first proof of concept phase for the development of the enhancement on the harmonization of additional declarations.

Appendix 1: Change Management Process, additional technical details and steps

Definition of Environments

The ePhyto Solution provides users with two main environments:

1) The Live/Production, where real exchanges are performed

2) The so-called "UAT" for user acceptance testing, training, and implementation rollout activities.

Type of releases

1) Standard Release: composed of maintenance, improvement and development changes following a cautionary period of testing before the deployment in the Live environment. A single release may contain multiple changes.

2) Patch/Emergency Release: composed of single fixes for service restoration or critical activities (such as security incident response), these releases have the shortest validation and implementation cycle. For this type of release, the Technical Provider is pre-authorised to execute outside business hours.

Change Lifecycle

The change lifecycle involves the following steps:

1. The centralised support team collects feedback from contracting parties, administrators, focal points, and stakeholders, which may result in a proposed change/improvement.

2. The change is analysed and reviewed by the IPPC Secretariat with the technical provider (UNICC) and categorized (Maintenance, Improvement, Development change).

    a. The IPPC Secretariat, together with the technical provider (UNICC), analyses the related costs, timelines, feasibility, and any other technical aspects to support the decision-making.

3. The ESG reviews, integrates, and confirms the classification of each change, its priority, and the proposed plan of action. The ESG endorses maintenance and improvement changes. The ESG may request the CPM Bureau to review changes. Development changes are always reviewed first by the ESG and then by the Bureau before being included in the CPM papers for consideration and approval by the CPM.

4. For the approved changes, the IPPC Secretariat asks the technical provider (UNICC) to prepare a release plan, considering priorities

5. The Technical Provider (UNICC) designs and builds the changes and requests clarifications and early validation to the IPPC Secretariat, and then seeks approval for the release in the UAT environment[2] with a dedicated release announcement.

6. The release announcement is approved by the IPPC Secretariat, indicating:

    a. The time and duration of the maintenance (maintenance window)

    b. If downtimes are expected during the maintenance

    c. The release notes with the minimum descriptions of the implemented changes from the user perspective

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[2] The ePhyto Solution has a permanent environment, extended to the countries testing version for the User Acceptance Test (UAT) validation of changes, training, and testing.

7. The deployment of the release is performed, and a backout plan, typically rolling back to the previous version, is carried out in case of any issue in service restoration within the announced maintenance window.

8. The release, unless tagged as a patch/emergency release, for which the fix of the defect is requested to be deployed as soon as possible, will remain available for testing and collecting user feedback for a minimum of two weeks.

9. Validation feedback will be analysed by the technical team and addressed as follows:

    a. Any new defects introduced by the release will be resolved before it is promoted to the live/production environment.

    b. Feedback and defects not introduced by the release will be categorised and left for later intervention

10. By completing the validation of the UAT Release, the Technical Provider (UNICC) will prepare a new announcement for the production release, which will be approved by the IPPC Secretariat ePhyto Team, including the details as indicated above for the UAT release

11. Once the deployment is performed in the live/production environment, following the same criteria of backout plans as defined above for the release in UAT, the change can be closed and will be further monitored and supported.

Change Control & Tools

Each change, as described in the change lifecycle, is deployed for Validation on the UAT environment. The technical provider, by implementing and maintaining quality certifications on Quality Management System (ISO 9001) and Service Management (ISO 20000), provides the framework for recording and regularly auditing the execution of each technical change.

Additionally, as part of the Quality Management System, the ePhyto Solution records and tracks each change made to the system, including updates to every single line of code, release management, activities, automated build and deployment processes, and source code versioning.

Communication and Stakeholders Management

Once approval is received as outlined in the process above, the technical provider announces the standard maintenance release of the Solution to the users with a detailed Release Notes document. The Release Notes list all the interventions, highlight technical changes, and clearly describe any modifications that affect the user experience.

For releases including changes, which could require production of manual updates, the IPPC Secretariat will organise, with the support of the ESG, additional communication campaigns or webinars. All communication and stakeholder management activities are handled as part of the IPPC Secretariat work plan and the governance decisions on the ePhyto program.

Performance Measurement

Each change and its related release to the ePhyto Solution will be assigned a maintenance window (ie, 1 Hour) during which possible downtime may occur. However, these changes must not reduce the Solution's availability target.

- The ePhyto Solution service has the following availability target for both the HUB and GeNS building blocks: 99.5% Max. 44 Hours of downtime in a year calendar, no more than 6 hours (RTO[3]) and 1 hour (RPO[4]) in a single outage instance.

Additional Key Performance Indicators (KPI)

KPI	Threshold
% of failing changes (introducing regressions or with a backout plan executed)	< 20% (ie 2 out of 10 releases)
Number of emergency changes (excluding those responding to security incidents)	< 20% (ie 2 out of 10 releases)

Risk and Compliance

The ePhyto Solution is regularly assessed by the technical provider (UNICC) following the processes of ISO 27001, evaluating risks on the security aspects (confidentiality, integrity, and availability).

As part of ISO 22301 certification, the technical provider is regularly assessed and renews the disaster recovery plans and contingency measures required for operational continuity.

Additionally, as part of the DevSecOps framework adopted by the technical provider (UNICC), each single code change or proposed release of the solution undergoes a new security scan to detect and, if required, stop the deployment until security threats are resolved.

Continuous Improvement

Regular service review meetings are conducted with the technical provider to provide feedback on improvement and successful patterns, and to agree on primary objectives and criteria to be adopted for the execution of the services with the IPPC ePhyto Product Manager.

The technical service provider also implements the Continuous Improvement process as part of the service management execution and ISO 20000 certification.

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[3] Recovery Time Objective: the time required to re-establish the functioning of the service

[4] Recovery Point Objective: the maximum interval of data loss as part of the restoration of services

Appendix 2: List of Maintenance and Improvement Changes

The followings are the prioritised changes for which the endorsement of the ESG and the availability of resources are sufficient to enable their planning and implementation. These changes are presented for the CPM 20 parties to note, comment, and support.

Title	Specifications	Expected Value/Benefits	Roadmap/Status
ePhyto HUB API technology upgrade	As part of discovery sessions to support the interoperability of the ePhyto HUB with the UNCTAD Asycuda and Single Windows System, and other national systems.	Enhance the ePhyto Solution's technological support to improve interoperability between national systems, adopting ePhyto.	Estimated cost in the range of 60,000 - 70,000 USD
ePhyto Landing Page improvements	Enhancements of the public landing page to: - Provide more details on the country exchanges with more accurate indicators on the actual ePhyto sending and receiving - Include additional real-time statistics and delivered value. Enhancements of the public HUB landing to provide more accurate indicators on the unique certificates exchanged.	Enhance the current landing page to include additional data on actual exchanges and unique certificates, providing users with clearer visibility on system performance. Refine additional reporting elements to improve the reporting, to evaluate the real-time benefits produced by the system.	Would require an estimated cost of 50,000 USD for UI/UX mockups.
ePhyto Harmonisation of HS codes	Include the HS codes in the harmonization process. As done for UN/LOCODE, including the HS codes - internationally standardised product classification codes - to further standardize this field of the ePhyto, and to ensure consistent identification of goods across countries.	Strengthen interoperability with customs systems. Improve the linkage between products and import requirements, and enhance reporting for more informed decision-making	Would require an estimated cost of 50,000 USD.
ePhyto GeNS - Embedded Reporting	The enhancement aims to integrate a reporting component into the GeNS user interface and enhance the backend, providing the end users (NPPO administrators) with improved access to information and the ability to create, save, and schedule reports without impacting the current functionalities.	Improve the capabilities of NPPO to extract and analyse data. Receive and run pre-built reports. Automate administrative operations, reducing manual workload and enhancing decision-making.	The estimated cost is in the range of 100,000k-200,000 for the implementation. An annual cost of USD 20,000 for the additional infrastructure.

Appendix 3: List of changes under analysis & discussions

The following changes will require additional analysis and are reported here for the CPM 20 to note and support.

Title	Specifications	Expected Value/Benefits	Roadmap/Status
Non-compliancy notifications	The current SPSAcknowledgement in the UNCEFACT schema presents some limitations on the data required by the notification following ISPM13.	Contribute to further reducing costs associated with non-compliance notifications for shipments, whether accompanied by a phytosanitary certificate or not.	This enhancement will be further detailed in the Specifications to incorporate references to ISPM 13, building on the existing SPS Acknowledgment feature already available in the HUB. The estimated cost is to be determined.
Non-commercial certificates	Introduce the Non-Commercial/Commercial flag in the ePhyto and implement a revised workflow in the GeNS to streamline the issuance of Non-Commercial certificates. The updated workflow will build on existing functionalities and include the following key enhancements: - Consolidate all steps for creating Non-Commercial ePhytos (drafting, inspection, and issuance) in a single location under one authorising officer with a dedicated role. - Redesign certificate screens to integrate inspection and issuance into one interface, allowing a single officer to complete all actions efficiently and removing nonessential elements. - Simplify billing into a single payment-confirmation step that generates a receipt containing traveller information and standard fees. - Improve the import process for Non-Commercial ePhytos by clearly distinguishing it from commercial procedures.	Optimise the issuing and import procedures for non-commercial certificates, bringing additional savings to operational costs	This item requires further analysis to define the scope in detail and reassess the implementation costs. The estimated cost is to be determined.
Mixed Commodities	The UN/CEFCT schema for sanitary and phytosanitary certificates (SPSCertificate) does not provide a structured way to issue a certificate for mixed commodities. In particular, the current mapping document does not address the mixed, leaving a gap in the digitalisation of such exchanges.	Support the inclusion of products with mixed commodities. Currently, non-standardised attachments are used to provide the necessary details with the phytosanitary certificate.	Several options have already been analyzed, the ESG has set this enhancement on hold waiting for the changes in ISPM12. The first estimations are in the range of 100k USD.

Appendix 4 List of Changes performed during the year 2025

During 2025, the following changes have been delivered:

Title	Specifications	Expected Value/Benefits	Status
Multiple certificate of origin references	Update the ePhyto mapping and validation to allow for multiple references to the certificate of origin in the re-export statements and resolve inconsistencies with attacchments cardinality	Clarify the usage of the ePhyto schema improving the information quality	Categorized as Improvement and Implemented by Q3 2025
Packaging Codes review	Update the list of harmonized codes to include utilized by the GeNS countries. Improve the validation to provide warnings for codes not in the harmonized list	Improve ePhyto harmonization and quality feedbacks to connected countries	Categorized as Improvement and Implemented by Q3 2025

Additionally, 9 releases on the GeNS with a total of 36 maintenance changes, 3 releases on the HUB for a total of 11 maintenance changes