



## COMMISSION ON PHYTOSANITARY MEASURES

### SEVENTEENTH SESSION

## UPDATE FROM CPM FOCUS GROUP ON SUSTAINABLE FUNDING OF THE IPPC EPHYTO SOLUTION

### AGENDA ITEM 12.2

*(Prepared by the CPM Focus Group on Sustainable Funding for the IPPC ePhyto Solution)*

#### Introduction

- [1] This paper seeks CPM-17 (2023) adoption of a sustainable funding mechanism for the IPPC ePhyto solution. It recommends a sustainable funding mechanism selected from a set of options tested with the Strategic Planning Group (SPG) in October 2022. It is anticipated that following CPM adoption of a sustainable funding mechanism, it will take at least two years to implement. Until implemented, donor contributions to the Multi-Donor Trust Fund (MDTF) will be necessary to support the operation and maintenance of the ePhyto Solution. Following implementation, donor contributions will continue to be welcomed to provide a cushion in the event of a funding shortfall and to provide for unforeseen enhancements and improvements of the ePhyto solution.
- [2] The IPPC ePhyto solution enables countries to produce, send, and receive harmonized electronic phytosanitary certificates with other participating NPPOs through the ePhyto Hub in a secure, low cost, timely, and efficient manner. The ePhyto Solution has become part of the core international infrastructure that facilitates safe global trade in plants and plant products. At CPM-16 (2022) several contracting parties shared their experience of the ePhyto Solution, commenting on how it reduces the incidence of fraudulent phytosanitary certificates, saves time, facilitates data management and decision-making, and how beneficial it has been during the COVID-19 pandemic. It was also acknowledged that some NPPOs can experience difficulties implementing ePhyto because of inadequate internal infrastructure.
- [3] Uptake of the ePhyto Solution continues to rise in terms of both countries connected to the Hub (as at December 2022, 72 countries were in full production and 42 countries in a preparatory stage) and also the number of electronic certificates being exchanged (see Figure 1 for usage data)

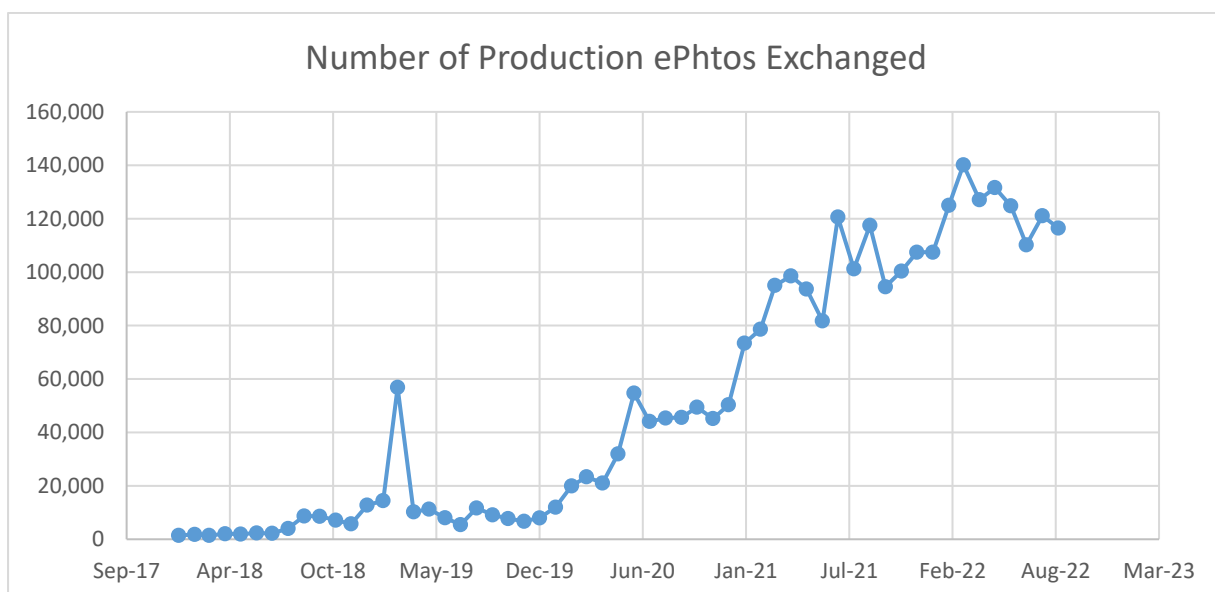


Figure 1: Monthly exchange of ePhytos Sept 2017 to Sept 2022

Source: IPPC ePhyto Hub Service – [www.ePhytoexchange.org](http://www.ePhytoexchange.org) 6 December 2022

- [4] The initial stages of the ePhyto Solution project were supported by the Standards and Trade Development Facility (STDF)<sup>1</sup> and a number of donor countries. The ePhyto Solution still relies on donors to operate, maintain and improve the core components of the system. In addition, donors including the World Bank and the Global Alliance for Trade Facilitation provide substantial capacity development to support countries' uptake of ePhyto.
- [5] It is untenable in the long-term for countries to rely on a system for provision of trade-related official assurances (the ePhyto Solution) that is solely funded by voluntary donations. This puts international trade at risk, makes long-term planning difficult and results in efforts mainly being focussed on securing donor funding rather than maintaining, developing, and implementing ePhyto. Current donor funding is secured until mid-2024. A robust and sustainable funding mechanism will provide a financially secure base and enhance confidence in the system.
- [6] To ensure the continued viability of the IPPC ePhyto Solution, CPM has, over some years, discussed several proposals<sup>2</sup> to financially sustain it but has not agreed a sustainable funding mechanism. At CPM-15 (2021), the Secretariat presented a paper that introduced seven options for financially sustaining the ePhyto solution. The options were discussed but none of the options were approved or ruled out. CPM-16 (2022) agreed to establish a focus group to prepare a proposal for a sustainable long-term funding mechanism for CPM consideration at CPM-17 (2023). The Focus Group formed in April 2022 and has met eight times.

### Developing a sustainable funding mechanism

- [7] The Focus Group examined the following matters as it developed the proposed funding mechanism:
- Uptake and usage of the ePhyto Solution
  - Scope of costs and activities to include in the funding mechanism
  - Principles that should be applied to funding mechanism options
  - How to allocate costs in a way consistent with the principles
  - How to receive expected contributions from contracting parties or donors.

### Scope of the sustainable funding mechanism

- [8] It is important to be clear on which costs are within scope of a sustainable funding mechanism and which are out of scope. The IPPC ePhyto Solution has two core components:
- The Hub: this facilitates the global exchange of electronic certificates between participating NPPOs.
  - A centralized web-based Generic ePhyto National System (GeNS): this allows NPPOs without the necessary infrastructure to create, send and receive electronic certificates.
- [9] The scope of the sustainable funding mechanism is set out in Table 1.

**Table 1:** Scope of sustainable funding mechanism

<b>In Scope for the funding mechanism:</b>	<b>Out of Scope for the funding mechanism</b>
For the global operation of the ePhyto Solution (the Hub and GeNS), the following costs are essential: <ul style="list-style-type: none"> <li>• hosting</li> <li>• operations</li> <li>• application management and support</li> </ul>	How countries seek payment from industry (if they do so) to cover the costs of phytosanitary procedures prior to issuing a phytosanitary certificate.
	How countries using the ePhyto Solution fund the infrastructure (other than GeNS) to send or receive ePhytos

<sup>1</sup> The STDF contributed USD 1.2 million to build the IPPC ePhyto solution (2016-2020), see <https://standardsfacility.org/PG-504>. This project is undergoing external impact evaluation; the report is due in the second quarter of 2023.

<sup>2</sup> <https://www.ippc.int/en/publications/89434/>

<ul style="list-style-type: none"> <li>• on-going development and enhancement</li> <li>• programme management and support.</li> </ul>	<p>How countries obtain funds from their government, industry or other sources to pay any expected contribution to the ePhyto Solution sustainable funding mechanism.</p>
<p>The following implementation support functions and costs <u>may</u> be in scope subject to CPM approval (see section VIII. below):</p> <ul style="list-style-type: none"> <li>• Onboarding developing countries to the GeNS system.</li> <li>• An ePhyto Solution Conference (one every two years)</li> <li>• Webinars, on-line seminars and other activities to promote use and train users etc</li> </ul>	<p>Donor-funded capacity building projects at a contracting party level to assist countries to do any of the above activities, e.g. strengthening export certification systems, establishing an NPPO infrastructure, etc.</p>

[10] The costs and activities in the right-hand, out-of-scope column are the responsibility of contracting parties. While the IPPC is implementing a sustainable funding mechanism, contracting parties should consider how to manage and fund in-country activities associated with providing electronic phytosanitary assurances to trading partners. The IPPC Secretariat may be able to provide guidance on these matters, but the responsibility sits with the contracting party.

### **Estimating total costs for the sustainable funding mechanism**

[11] The IPPC ePhyto Solution requires relatively modest funding to sustain it. By 2026 the estimated annual cost will reach USD 1,263,000 (inflation adjusted) to support, maintain, and enhance the core elements (IPPC ePhyto Hub, the Generic National System, programme management and support from the IPPC Secretariat) and to implement activities that support NPPO uptake (see Table 2). Appendix 1 provides full cost estimates and considerations.

[12] The estimates have been developed through discussions with the United Nations International Computing Centre, the IPPC Secretariat, and an external consultant. The Focus Group considers the costs in this paper are reasonable estimates to use when considering approval of a sustainable funding mechanism. CPM-17 (2023) is not being asked to approve the estimates as a budget. Each year, as part of the IPPC Secretariat work planning and budgeting process, expected costs for the year will be developed and presented as part of the annual plan for CPM approval.

**Table 2:** Costs of operating the IPPC ePhyto Solution

Type of Cost*	2023	2024	2025	2026
<b>UNICC Operations – including Management and Support (Hub and GeNS)</b>				
i. UNICC Hub Operations	177,400	180,000	181,800	181,800
ii. UNICC GeNS Operations	267,300	329,300	332,500	332,500
iii. Further enhancements and development	96,300	97,700	98,700	98,700
<b>Sub-Total (USD)</b>	<b>541,000</b>	<b>607,000</b>	<b>613,000</b>	<b>613,000</b>
<b>ePhyto Program Management and Support (IPPC)</b>				
iv. ePhyto Program Manager	100,000	100,000	200,000	200,000
v. ePhyto Program Assistant	50,000	50,000	50,000	50,000
vi. Travel costs	50,000	60,000	70,000	70,000
<b>Sub-Total (USD)</b>	<b>200,000</b>	<b>210,000</b>	<b>320,000</b>	<b>320,000</b>
<b>IPPC ePhyto Solution Uptake</b>				
vii. Onboarding developing countries to the GeNS system (10 countries per year)	200,000	200,000	200,000	200,000
viii. An IPPC ePhyto Solution Conference (one every 2 years)		100,000		100,000
ix. Webinars, On-line seminars, and other activities to promote use and train users, etc	30,000	30,000	30,000	30,000
<b>Sub-Total (USD)</b>	<b>230,000</b>	<b>330,000</b>	<b>230,000</b>	<b>330,000</b>
<b>Total Operational Costs in USD</b>	<b>971,000</b>	<b>1,147,000</b>	<b>1,163,000</b>	<b>1,263,000</b>

Source:

IPPC

Secretariat

Note 1: 2022 funding comes from voluntary contributions from Canada, Republic of Korea, Ireland and USA.

Note 2: The increase in annual costs for the ePhyto Manager from 2024 to 2025 (\$100,000 to \$200,000) is due to the movement to a formal post for this position compared to the current consultancy arrangement. This position is a proposal and has not been formally approved by FAO.

Note 3: Job Descriptions for both the ePhyto Program Manager and the ePhyto Program Assistant are provided in Annex 1. See Section 2.1 for details.

\* Inflation is estimated at 10% per year

[13] The CPM is invited to:

- (1) Note the expected long-term annual cost of the ePhyto solution is approximately USD 1,263,000 but could be as low as USD 933,000 depending on the scope of costs agreed.

## Principles to guide development of a sustainable funding mechanism

[14] CPM-15 (2021) noted some fundamental characteristics for consideration in developing a sustainable funding mechanism for the ePhyto Solution including fee exemptions for countries with low usage, payments being based on usage, and that any funding mechanism should not be used to support other IPPC activities. These considerations are acknowledged. The Focus Group developed four principles to guide its work as it identified and evaluated options for the funding mechanism.

### Principle One: Accessible

[15] The sustainable funding mechanism must ensure that all participating NPPOs who wish to access the ePhyto solution are able to do so. The mechanism must not present or create unreasonable barriers to entry and should enable maximum participation by NPPOs.

### Principle Two: Transparent

[16] All costs, cost components and summarised usage information must be available to all participating NPPOs and reported on regularly (at least annually). Any calculations used to determine contributions must be transparent to maintain trust and confidence in the sustainable funding mechanism. The mechanism and how it is applied must be auditable.

### Principle Three: Efficient

[17] The sustainable funding mechanism must aim to provide the maximum benefit at a low administrative cost to those managing and applying the mechanism and to the contracting parties contributing funds under the mechanism. The mechanism needs to be clear, simple to understand and administer, and facilitate funds transfer / collection.

### Principle Four: User pays

[18] Only those who benefit from the IPPC ePhyto solution should bear the cost associated with it. Note that this principle may not always be applied to all users in favour of other principles, e.g. Accessible or Efficient.

## Fundamental features for any sustainable funding mechanism

[19] In addition to the principles that helped guide the Focus Group during its evaluation and selection of options, there are fundamental features that need to be a part of any approved sustainable funding mechanism. The Focus Group recommends the following four features be included in any funding mechanism approved by CPM.

[20] **Transparency:** To ensure transparency, CPM should receive a report each year summarising the:

- activities carried out in the past year
- activities planned for the coming year
- costs for the reporting year
- budget forecast for the coming year
- total usage by country including sent and received transactions
- revenue received from all sources, and
- if the funding mechanism includes an expected contribution from a contracting party using the ePhyto Solution, the report should include the level of contribution expected and whether the contribution has been received into the MDTF.

[21] **Regular review:** the funding mechanism should be reviewed regularly, initially every two years and then every five years. The review would examine whether the expected revenue from users (contracting parties) aligns with the costs of the ePhyto Solution and to test whether the funding mechanism is working as intended. The Focus Group recommends that for the first one or two review cycles, there is a small over-recovery of costs from users to build up small reserve as a contingency. The contingency

reserve would protect against unexpected shocks or costs without the need to urgently seeking additional funding from NPPOs.

[22] **Additional contributions to the MDTF:** Some contracting parties and other organisations may have a desire to make voluntary contributions to the MDTF in support of the ePhyto Solution. Whatever the funding mechanism decided, contracting parties and other donors who wish to should be able to continue to provide voluntary contributions to the ePhyto Solution via the MDTF. Such contributions could be directly applied to costs in scope of the funding mechanism, thereby reducing the overall amount to be covered by the funding mechanism, or they could be applied to capacity development or other costs that sit outside the scope of the funding mechanism. This is particularly important while the funding mechanism and a sufficient reserve are being established. Using the MDTF also ensures transparency regarding what organisations are making voluntary contributions and how much is being contributed.

[23] **Specified purposes:** Funds collected for the ePhyto Solution should only be used for that purpose. Costs will only include ePhyto Solution related costs. Funding for the ePhyto Solution will not be used to subsidise other aspects of the IPPC work programme.

[24] The CPM is invited to:

- (2) *Agree* that, as part of the funding mechanism, the IPPC Secretariat will provide an annual report for the IPPC ePhyto Solution containing the:
  - activities carried out in the past year
  - activities planned for the coming year
  - costs for the reporting year
  - budget forecast for the coming year
  - total usage by country including sent and received transactions
  - revenue received from all sources, and
  - if the funding mechanism includes an expected contribution from a contracting party using the ePhyto Solution, the report should include the level of contribution expected and whether the contribution has been received into the multi-donor trust fund (MDTF).
- (3) *Agree* that the funding mechanism should be reviewed two years after it becomes operational and then every five years.
- (4) *Note* the need for continuing contributions from donors to the MDTF until the funding mechanism is fully implemented
- (5) *Agree* that, if voluntary contributions for the ePhyto Solution are received into the MDTF after the funding mechanism is fully implemented, these will be used to contribute to a contingency reserve for the ePhyto Solution or be used to reduce the overall costs to be covered by expected contributions from participating contracting parties.
- (6) *Agree* that the funding mechanism will not be used to subsidise any IPPC costs outside the scope of the ePhyto Solution.

### **FAO regular programme funding**

[25] The Focus Group was asked to examine the feasibility of seeking an increase in FAO regular programme funding allocated to the IPPC. At the SPG meeting in October 2022 there was a lengthy discussion on this topic. It can be argued that the ePhyto Solution delivers positive benefits to the FAO. Facilitating safe trade and minimising the spread of pests is recognised as important to achieving many of the FAO development goals. Therefore, the FAO should have an interest in its success and be willing to provide additional funds to the IPPC to support this successful programme.

[26] For the FAO Council to recognise the benefits of the ePhyto Solution and then agree to pay for them requires active lobbying by Contracting Parties through their FAO representative as well as lobbying in individual countries to ensure alignment with national goals and objectives regarding FAO operations.

- [27] Having the FAO agree to fund the ePhyto Solution would have the following advantages:
- it eliminates the need for IPPC Contracting Parties to provide resources directly and we would not need a sustainable funding mechanism
  - it maintains impartiality, non-biased, non-preferential access to the ePhyto Solution in line with the accessibility principle
  - it would be a simple mechanism and aligns with the efficiency principle
  - if it were a fixed item in the FAO operating budget, it may provide long term certainty to users
  - the FAO would be seen to be using FAO funds for something that is delivering significant benefit to developing countries.
- [28] Having the FAO agree to fund the ePhyto Solution could have the following disadvantages:
- it could be a less flexible funding option as the amount of funding available would most likely be constrained and fixed over the long-term,
  - it could be a less certain funding option as the budget amount allocated to ePhyto could be changed by FAO budget processes each biennium as FAO responds to wider organisational priorities,
  - making the request may result in FAO directing the IPPC to prioritise existing FAO regular funding to pay for all or some (e.g. staff costs) of the ePhyto Solution, which could impact on the viability of other IPPC activities and put pressure on the overall IPPC budget. This is a particular risk given the relatively recent and substantial increase in IPPC regular programme funding.
- [29] Past experiences and initial discussions on this option suggest the likelihood of this approach succeeding would be extremely low. FAO has been working under constrained budgets for many years, with increasing demands from across their mandate to do more. The IPPC ePhyto Solution could be seen as another deserving cause for which there is not enough money.
- [30] At the SPG 2022 meeting, the Secretariat was asked to initiate discussions at senior levels in the FAO to test the viability of the option, including whether FAO could part fund ePhyto cost, e.g. staff costs. At CPM17 (2023), the Secretariat will be in a position to report back. The Focus Group recommends that the CPM proceed to develop a sustainable funding mechanism. If at some future date the FAO can be convinced and agrees to fund the IPPC ePhyto solution in full, or in part, then the sustainable funding mechanism can be adjusted or put on hold. Perhaps when both phytosanitary and sanitary electronic certificates are flowing through the ePhyto Solution, FAO funding may be a more viable proposition.
- [31] The CPM is invited to:
- (7) *Note* that, in parallel with establishing a sustainable funding mechanism, the Bureau and Secretariat will continue to explore the viability of FAO regular programme funding to cover all or part of the ePhyto Solution costs.

### **Three critical considerations for the sustainable funding mechanism**

- [32] To aid development of an ePhyto Solution sustainable funding mechanism, three critical considerations were identified. Each is described below and, for two of the considerations, options are presented for how it could be implemented in the mechanism. Several other options were evaluated by the Focus Group but have not been included either because they were not viable or did not sufficiently satisfy the principles identified above. Note that of the seven funding options presented at CPM-15 (2021), none were identified by CPM as warranting further development or consideration. However, for completeness, these seven options are presented in Appendix 2 with a comment on how they were considered by the Focus Group.
- [33] The three considerations are:
- Scope: What costs to include or exclude
  - Allocation: How to share costs across users (contracting parties)

- Receiving: How to receive funds allocated to each contracting party using the system

[34] In the sections below the Focus Group provides information to help CPM-17 (2023) identify its preferred option for each of the considerations.

### **Scope: Agree which costs to include or exclude**

[35] CPM needs to choose the types of costs to include within the scope of the funding mechanism. The Focus Group identified two options for the scope of costs that could be covered by the sustainable funding mechanism. The key difference between the two options is the inclusion/exclusion of costs associated with onboarding and training of some NPPOs when they first join the ePhyto Solution and costs associated with ongoing promotion, training and implementation.

#### ***Scope 1: All costs***

[36] For the ePhyto Solution (the Hub and GeNS) at the international level, the following costs are included in this option:

- hosting
- operation
- application management and support
- on-going development
- programme management and support
- onboarding developing economies to the GeNS system
- an ePhyto Solution Conference
- webinars, on-line seminars, and other activities to promote use and train users, etc

[37] Costings for each of the activities is described in Table 1 (earlier in the paper and Append 1). Note that over time the level of funding required to support onboarding developing countries will decrease as more NPPOs join and use the ePhyto Solution. More substantial capacity building to strengthen export certification systems or to establish NPPO infrastructure are excluded from this option. The Focus Group considered that these activities are more appropriately funded by donor agencies engaging directly with the contracting party.

[38] *Advantages:*

- This option ensures that funding is available for on-going maintenance and enhancements as well as management and operational costs.
- By including some costs that may be considered more discretionary, this option will increase the update and implementation of the ePhyto Solution. It acknowledges that when more NPPOs are using the ePhyto Solution the benefit to current users increases; costs per user decrease and trade benefits increase.
- This option assists developing economies that may otherwise be unable to participate by funding basic onboarding and initial NPPO training. It therefore helps achieve the accessibility principle.
- Like comparable global systems, the ePhyto Solution has semi-regular conferences to bring users together to share enhancements, experiences and provide training updates. This would benefit current and potential users. A biennial conference would also provide an avenue to promote the ePhyto Solution and the tangible benefits the IPPC delivers to contracting parties. Every fourth year, the conference could be held in conjunction with the International Plant Health Conference.

[39] *Disadvantages:*

- This option results in a higher overall cost of the sustainable funding mechanism than *Scope 2: Limited Costs*.
- Increasing the overall cost increases the cost to each contributing contracting party.
- Onboarding, training and promotion costs are not essential to support the core functionality of the ePhyto Solution. However, they do impact access and overall implementation of the system.



- Some developing economies may not need assistance to on-board but may use it if offered.
- Some contracting parties may not wish to contribute indirectly to supporting other NPPOs to adopt the system.

### **Scope 2: Limited Costs**

[40] This option excludes the following costs from Scope 1:

- onboarding developing countries to the GeNS system
- an ePhyto Solution Conference
- webinars, online seminars, and other activities to promote use and train users, etc

[41] All other costs (as per Scope 1) to operate and manage the ePhyto Solution at an international level are included.

[42] Advantages:

- This option keeps the costs contained to direct costs of providing the ePhyto Solution. It ensures that funding is available for ongoing maintenance and enhancement e.g. security updates, addition of languages) as well as operational costs.
- Keeping the overall cost lower by USD 330,000 per annum may make the ePhyto Solution more affordable for contributing contracting parties
- IPPC may be seen as keeping costs under-control by focusing on providing only essential services.

[43] Disadvantages:

- Uptake of the ePhyto solution among developing economies may be slower if some initial onboarding assistance is not provided.
- IPPC may be criticised as not recognising or supporting developing economies.
- Relying on donor countries and other organisations to assist developing economies to onboard to ePhyto is uncertain and could potentially exclude some contracting parties from ePhyto.
- The profile of the ePhyto solution may be lower and the accrual of benefits slower.

[44] CPM is invited to:

(8) *agree* to one of the following:

- (a) Scope 1: All Costs, *or*
- (b) Scope 2: Limited Costs, *or*
- (c) develop and agree an alternate option for the scope of costs to be included in the sustainable funding mechanism.

### Allocation: Agree how to share costs across users (contracting parties)

- [45] If FAO does not fund the ePhyto Solution through an increase in regular programme funding, the costs will need to be shared across users (contracting parties). CPM has already concluded that simply relying on a few countries to make voluntary contributions will be insufficient and that a sustainable funding mechanism is needed.
- [46] All four principles for the funding mechanism apply to the question of how to allocate costs across users. The mechanism should not create a barrier to accessibility, the allocation of costs must be simple and efficient to administer, only users should pay (and as more users come onboard cost per user will fall), and the allocation mechanism must be transparent. Feedback from SPG in Oct 2022 strongly suggested that contracting parties also need their expected contributions to be relatively consistent and predictable so that they have budget certainty from year to year.
- [47] Two options have been developed and evaluated by the Focus Group. The first apportions cost according to development status, the second apportions costs based on level of use (number of Hub transactions).

#### Allocation 1: Development status

- [48] All contracting parties that use the ePhyto Solution would be expected to contribute to the sustainable funding of the ePhyto Solution based on their recognised developed status, except for low-income countries. The Focus Group explored three internationally used indices prior to making a recommendation (UN Assessment Criteria, World Bank, and OECD criteria). The Focus Group concluded that the IPPC should use one of these existing indices in the interests of efficiency and simplicity – some international development status indices are highly complex to calculate and use.
- [49] The Focus Group recommends the use of the World Bank<sup>3</sup> criteria to determine countries' development status as this system is simple, credible, reliable and is already used by the IPPC when determining travel assistance to meetings. As noted above, to meet the accessibility principle, the lowest income economies would not be expected to contribute to the costs of the ePhyto Solution.
- [50] Table 3 uses the World Bank criteria to allocate costs of ePhyto Solution to NPPOs currently exchanging through the Hub. The expected contribution provides sufficient funding to operate, maintain and develop the ePhyto Solution under *Scope 1: All costs*.<sup>4</sup>

**Table 3:** ePhyto Solution costs (Scope 1) by World Bank development status

Development Level	Countries using ePhyto Solution	Expected contribution	Total contributions
Low-income economies	2	\$ -	\$ -
Lower middle-income economies	14	\$ 6,315	\$ 88,400
Upper middle-income economies	19	\$ 12,630	\$ 239,970
High-income economies	37	\$ 25,260	\$ 934,620
<b>Total Revenue</b>			<b>\$ 1,263,000</b>

- [51] The Focus Group proposes that expected contributions be kept stable for three-four years, after which the costs, development status and expected contributions would be reviewed and adjusted as part of the regular review recommended in Section V. When new users start exchanging certificates through the Hub, they would be expected to contribute in-line with their development status. As more users join, it is anticipated that at the first review the expected contributions would be revised down.

<sup>3</sup> <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>

<sup>4</sup> Note that following CPM approval, funds would not be collected until at least 2024/2025.

[52] If *Scope 2: Limited costs* is preferred by CPM, Table 4 shows the expected contribution required to sustain the ePhyto Solution.

**Table 4:** ePhyto Solution costs (Scope 2) by World Bank development status

Development Level	Countries using ePhyto Solution	Expected contribution	Total contributions
Low-income economies	2	\$ -	\$ -
Lower middle-income economies	14	\$ 4,665	\$ 65,310
Upper middle-income economies	19	\$ 9,330	\$ 177,270
High-income economies	37	\$ 18,660	\$ 690,420
<b>Total Revenue</b>			<b>\$ 933,000</b>

[53] Advantages to this option:

- Reduces barriers to participation and promotes accessibility.
- Acknowledges NPPOs development status but also applies the user pays principle so that users contribute to the cost of ePhyto Solution.
- Provides an expected contribution that is not so large as to present a significant disincentive to participation.
- Acknowledges that as more users come on board, the costs per user (contracting party) *decrease* (the more users, the lower the overall cost per user)

[54] Disadvantages:

- Basing the contribution on a contracting party's development status means that some users would be indirectly assisting / supporting other users. Such indirect support to low-income countries may not be acceptable to all contracting parties.
- Changes in country development status would only be reviewed every three-four years.

#### **Allocation 2: Transaction volume**

[55] This option would assign to users (contracting parties), an expected contribution according to their annual number of ePhyto certificates sent and received (i.e. total transactions) via the Hub. Contracting parties would contribute in direct proportion to their total annual transactions through of the Hub. For example, in a year where the Hub has 2 million transactions, a contracting party that has a total of 50,000 transactions would contribute 2.5% of the estimated cost of the ePhyto Solution for that year (for a total cost of USD 1,263,000, this would be approximately \$31,575). A country with 2,000 transactions would contribute 0.1% of the estimated cost of the ePhyto Solution (for a total cost of USD 1,263,000 this would be approximately \$1,263).

[56] To provide contracting parties with predictable expected contributions, the expected contributions would be calculated ahead of each budget year based on usage in the previous one, two, or three years, depending on how long the contracting party has been using the ePhyto Solution. New users would not contribute in their first year.

[57] ePhyto transactions for Least Developed economies (accessibility principle) and contracting parties with a very low level of transactions (efficiency principle) would be exempt from the calculation of total transactions and would therefore not make a financial contribution.

[58] Advantages:

- This is based on a 'beneficiary contributes' model – those who benefit contribute in proportion to their use.
- The accessibility and efficiency principles are supported by exempting contracting parties with very low transaction levels.
- The more contracting parties that get onboard with the ePhyto Solution, the lower the cost for all users.

[59] Disadvantages:

- It may not fully support the accessibility principle if the annual cost for any contracting party is considered unaffordable or unreasonably high.
- Some high-income countries with low usage may pay very little and conversely some low-income countries with high usage may pay a relatively high proportion of the costs.
- It may not provide sufficient certainty or stability of the level of contribution expected from year to year.
- There may be some administrative complexities involved in calculating changing usage rates and charges.

[60] CPM is invited to:

(9) *agree* to one of the following:

- (a) Allocation 1: Development status, or
- (b) Allocation 2: Transaction volume, or
- (c) Develop and agree an alternate option for how to allocate costs in the funding mechanism.

## Payment mechanism

- [61] Having considered the scope of costs to include and a method to apportion the costs among users, what remains is to determine a method for contracting parties to make their financial contribution. Some challenges and risks exist. The IPPC Convention makes no provision to impose mandatory financial contributions. For this to be done, the Convention would need to be amended and then ratified by two-thirds of contracting parties. Even if supported by a CPM decision, it could take many years for sufficient contracting parties to ratify before the amendment would come into force.
- [62] The IPPC, as part of the FAO, is unable to invoice contracting parties. This has been overcome in the past (e.g. protection of the ISPM 15 mark) by informing countries of the costs that apply to them and requesting that the appropriate contribution be made. In this way, although an invoice is not issued, a clear expectation of a financial contribution and the size of that contribution is set with the contracting party.
- [63] Only one option has been identified for a payment mechanism. The Focus Group proposes that annually, the Secretariat sends a letter to every contracting party exchanging through the Hub. The letter will state the expected ePhyto Solution contribution and payment details for the IPPC multi-donor trust fund.
- [64] To support the transparency principle, at each CPM meeting a paper will be included listing countries, expected contributions, and whether the contribution has been made to the MDTF. This would be transparent and may also encourage contributions to be made. When contracting parties indicate they wish to start using the ePhyto Solution they will be informed of the sustainable funding mechanism and the expectation that they will make the expected contributions as notified each year.
- [65] Over time, this approach may be able to be strengthened by developing a supplementary agreement under article XVI of the International Plant Protection Convention. The supplementary agreement could commit contracting parties to making the expected contributions as per the sustainable funding mechanism adopted by the CPM. As contracting parties start using the ePhyto Solution, they would be asked to accept the supplementary agreement. Additional legal advice is required before the use of supplementary agreements can be confirmed as suitable for this purpose. Because of the effort required to establish a supplementary agreement, it should not be developed until a few years after the sustainable funding mechanism is implemented (after at least one review) to be sure that the mechanism is delivering what was intended.
- [66] As previously noted, the principle of accessibility is important for a successful sustainable funding model. To achieve this, the Focus Group proposes that no contracting party be excluded from using the ePhyto system as a result of not making their expected contribution.
- [67] Advantages:
- highly transparent,
  - simple to implement,
  - avoids the FAO issue with invoicing,
  - avoids a complex invoicing system
  - would somewhat formalise commitments and stabilise the revenue stream.
- [68] Disadvantages:
- it is not a legally enforceable mechanism
  - relies on NPPOs making their contribution
  - funding shortfalls may arise if too many contracting parties do not make their expected contribution.
  - users who do make their expected contributions would be subsidising those who do not.

[69] The CPM is invited to:

(10) *agree* to one of the following:

- (a) The proposed payment mechanism; or
- (b) To develop and agree an alternate option for contracting parties to be informed of their expected contribution and for payments to be made.

### **Conclusion from the Focus Group**

[70] The Focus Group was tasked by the CPM with developing a sustainable funding mechanism. Principles have been developed to guide selection of suitable options. Fundamental aspects required of any sustainable funding mechanism for the ePhyto Solution have been developed. Three critical considerations for a funding mechanism have been identified and options for these have been developed.

[71] The Focus Group is mindful that adopting any sustainable funding mechanism is not easy. It requires contracting parties to accept the need to provide funding for an activity which, for most contracting parties, is currently provided at no charge (thanks to the generosity of a few donor countries). It requires contracting parties to explicitly recognise the value of the ePhyto Solution and be willing to make a financial contribution towards its on-going success. However, if a sustainable funding mechanism is not implemented, the ePhyto Solution will run out of funds in **mid-2024** and considerable effort will be required to secure additional donor funding, which is uncertain. This uncertainty may result in contracting parties remaining hesitant to use ePhyto and could lead to contracting parties exploring alternative ways to exchange certificates.

[72] CPM demonstrated considerable foresight and courage when it committed to building the ePhyto Solution. Just a few years on we are approaching the point where 40% of all contracting parties are using and benefiting from the ePhyto Solution and many other countries are preparing to come on-board. We have seen first-hand the benefit of electronic certificate exchange during the COVID-19 pandemic disruptions and are now directly realising significant cost savings and other benefits from implementing ePhyto. CPM now needs to ensure that these gains are not put at risk by ensuring there is a sustainable funding mechanism in place.

[73] We are grateful to contracting parties and international donors who have provided financial support to the ePhyto Solution thus far and hope they will continue to do so until the funding mechanism is in place and receiving the first contributions.

[74] Assuming a funding mechanism is agreed at CPM-17 (2023), the Bureau and Secretariat will work together to establish the funding mechanism. The first letters requesting contributions will go out in the year following CPM adoption (2024). This will give contracting parties time to make budget provisions

## Summary of recommendations

[75] The Focus Group invites CPM to:

- (1) *Note* the expected long-term annual cost of the ePhyto solution is approximately USD 1,263,000 but could be as low as USD 933,000 depending on the scope of costs agreed.
- (2) *Agree* that, as part of the funding mechanism, the IPPC Secretariat will provide an annual report for the IPPC ePhyto Solution containing the:
  - activities carried out in the past year
  - activities planned for the coming year
  - costs for the reporting year
  - budget forecast for the coming year
  - total usage by country including sent and received transactions
  - revenue received from all sources, and
  - if the funding mechanism includes an expected contribution from a contracting party using the ePhyto Solution, the report should include the level of contribution expected and whether the contribution has been received into the multi-donor trust fund (MDTF).
- (3) *Agree* that the funding mechanism should be reviewed two years after it becomes operational and then every five years.
- (4) *Note* the need for continuing contributions from donors to the MDTF until the funding mechanism is fully implemented
- (5) *Agree* that, if voluntary contributions for the ePhyto Solution are received into the MDTF after the funding mechanism is fully implemented, these will be used to contribute to a contingency reserve for the ePhyto Solution or be used to reduce the overall costs to be covered by expected contributions from participating contracting parties.
- (6) *Agree* that the funding mechanism will not be used to subsidise any IPPC costs outside the scope of the ePhyto Solution.
- (7) *Note* that, in parallel with establishing a sustainable funding mechanism, the Bureau and Secretariat will continue to explore the viability of FAO regular programme funding to cover all or part of the ePhyto Solution costs.
- (8) *Agree*, regarding the scope of costs for the funding model:
  - (a) Scope 1: All Costs, *or*
  - (b) Scope 2: Limited Costs, *or*
  - (c) develop and agree an alternate option for the scope of costs to be included in the sustainable funding mechanism.
- (9) *Agree*, regarding the method to allocate costs to determine expected contributions:
  - (a) Allocation 1: Development status, *or*
  - (b) Allocation 2: Transaction volume, *or*
  - (c) Develop and agree an alternate option for how to allocate costs in the funding mechanism.
- (10) *Agree*, regarding the proposed payment mechanism:
  - (a) The proposed payment mechanism; *or*
  - (b) To develop and agree an alternate option for contracting parties to be informed of their expected contribution and for payments to be made.
- (11) *Agree* that the Secretariat and Bureau will work together to develop a detailed procedure for the funding mechanism and begin implementation.

**Appendix 1: Background paper of ePhyto Solution costs**

**CPM Focus Group on Sustainable Funding  
for the IPPC ePhyto Solution**

**8 December 2022**



## 1. Introduction and Purpose

As part of the work of the CPM Focus Group on Sustainable Funding for the IPPC ePhyto Solution (the Focus Group), this paper presents the latest estimates for the full operational cost of the International Plant Protection Convention (IPPC) ePhyto Solution up to 2026, based on the current figures provided by the IPPC secretariat. This paper also draws on information contained in the 2018 IPPC ePhyto Solution Business Model “Options and Recommendations, 20 June 2018, Final Formatted”, hereafter referred to as “the 2018 Report”.

## 2. Costs Associated with Operating the ePhyto Solution (excluding capacity building)

The following are assumed costs of supporting and maintaining the ePhyto Solution. This paper will focus on the following:

- United Nations Information Computing Centre (UNICC) operations:
- IPPC ePhyto Hub
- Generic National System (GeNS)
- Further Enhancements and Developments
- ePhyto Solution Program Management and Support from IPPC

Capacity Building (CB) costs are not included in the above. CB estimates are provided in Section 4 of the paper.

Estimates provided by the IPPC Secretariat in July 2022 indicate the following breakdown for these costs:

**Table 1:** Costs association with operating the IPPC ePhyto Solution

Type of Cost	2023	2024	2025	2026
<b>UNICC Operations – including Management and Support (Hub and GeNS)</b>				
x. UNICC Hub Operations	177,400	180,000	181,800	181,800
xi. UNICC GeNS Operations	267,300	329,300	332,500	332,500
xii. Further enhancements and development	96,300	97,700	98,700	98,700
<b>Sub-Total</b>	<b>541,000</b>	<b>607,000</b>	<b>613,000</b>	<b>613,000</b>
<b>ePhyto Program Management and Support (IPPC)</b>				
xiii. ePhyto Program Manager	100,000	100,000	200,000	200,000
xiv. ePhyto Program Assistant	50,000	50,000	50,000	50,000
xv. Travel costs	50,000	60,000	70,000	70,000
<b>Sub-Total</b>	<b>200,000</b>	<b>210,000</b>	<b>320,000</b>	<b>320,000</b>
<b>Total Operational Costs (excluding capacity building) in USD</b>	<b>741,000</b>	<b>817,000</b>	<b>933,000</b>	<b>933,000</b>

Source: IPPC Secretariat

Note 1: The increase in annual costs for the ePhyto Manager from 2024 to 2025 (\$100,000 to \$200,000) is due to the movement to a formal post for this position as compared to the current consultancy arrangement.

Note 2: Job Descriptions for both the ePhyto Program Manager and the ePhyto Program Assistant are provided in Annex A . See Section 2.1 for further details

## **2.1 Assumptions and Comments on IPPC Estimates**

The level of the position for the ePhyto Programme Manager position should be determined by the FAO Administration, based on a detailed job description (See Annex A). For the purpose of this paper, at least a middle management level position is assumed in order to properly manage the service. Within the UN system, a middle level management position is termed a Professional Level 4 position (P4). This Post is currently filled under a consultancy arrangement.

Similarly, the level of the position for the ePhyto Programme Assistant position should be determined by the FAO Administration, based on a detailed job description (see Annex A). For the purpose of this paper, a junior professional level position is assumed in order to properly support the service. Within the UN system, a junior level management position is termed a Professional Level 2 position (P2).

Both the ePhyto Program Manager and the ePhyto Program Assistant positions would be fully dedicated to supporting the ePhyto program.

The IPPC indicated that the Travel Budget includes limited travel of IPPC staff for work related meetings and for the occasional travel of external experts to provide training and support to new implementing countries (approximately USD 5,000 per trip per expert).

The staffing levels for the ePhyto secretariat should be reviewed overtime to determine if they are adequate to provide optimum service and support to the programme

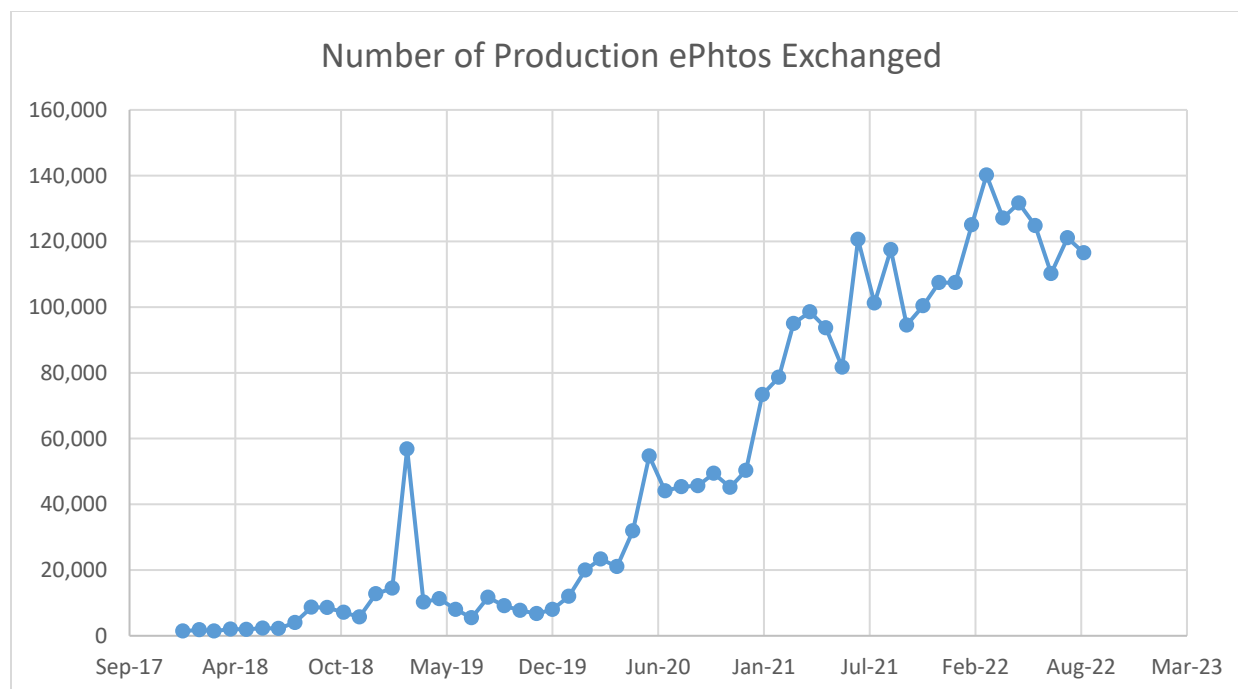
IPPC indicated that the above cost estimates for the Hub are accurate up to 2026. The cost estimates noted in the 2018 report were based on a Hub capacity of up to 7 million ePhytos per year – significantly above the current total usage of approximately 1.5 million ePhytos per year, so the Hub still has considerable capacity for an increased volume of ePhyto exchanges.

Regarding the estimates for GeNS costs (\$ 267,300) per year in 2023), the 2018 paper indicated that such estimates were based on 9 countries using the GeNS with 1,400 users, and the capacity to absorb up to 11 countries with 1,700 users. However, there are already 21 GeNS countries in production exchanges, and this is likely to increase significantly over the next 5 years. On this basis, the IPPC Secretariat increased the estimates for 2024 through 2026 (\$332,500 by 2026).

The overall operating costs of the ePhyto solution should be reviewed regularly.

## **3. Estimate of Operational Costs per ePhyto**

Latest figures from UNICC indicate that 1.4 million ePhytos were exchanged through the Hub in the past 12 months to September 2022. This is equivalent to an average of 113,000 ePhytos per month. As can be seen from the graph below, the number of ePhytos exchanged per month is steadily increasing.



Assuming a total operational cost of USD 741,000 in 2023 as detailed in Table 1 above and taking the estimate of 1.4 million ePhytos exchanged in the past 12 months, the current average IPPC/UNICC operational cost of exchanging an ePhyto is USD 53 cents. Clearly, as the total operational costs and the volume of ePhytos exchange increases, this average cost per ePhyto will change, and will most likely decline, especially if countries such as China and India start exchanging through the Hub.

This is only one part of the puzzle and there are, of course, additional ePhyto operational costs at both the NPPO and business operator level. There are also many other ways of presenting costs, so this is just one example for illustrative purposes.

#### **4. ePhyto Requirements Related to Capacity Building for Onboarding Developing Countries**

##### **4.1 Background**

Out of the 183 IPPC member countries, 72 are currently (December 2022) exchanging ePhytos through the IPPC Hub. 51 of these connect their National Systems (NS) to the Hub, while the remaining 21 use the Generic ePhyto National System (GeNS) to connect to the Hub. A further 42 countries are in the process of joining the Hub, while the remaining 69 members are still not registered with the system.

At least some of the countries currently in the process of joining the Hub or not yet registered will require capacity building (CB) support in implementing and using the ePhyto Solution. The provision of such support will be critical to the continued expansion and success of the ePhyto Solution project. It is noted that the lack of technical skills and experience was emphasised by NPPOs as a key potential obstacle in implementing the ePhyto Solution.

The extent of CB support required, and the nature and delivery of such support, will vary enormously from one country to the next, depending on the requirements of individual NPPOs and their level of maturity regarding IT infrastructure and expertise. For some countries, implementing GeNS has proven to be quite straight forward, while others required considerable support both from a business process and IT equipment perspective, along with related training and change management support.

In a similar vein, some countries with existing National Systems for Phytosanitary Certificate management have been able to interface their system relatively easily to the Hub, while others have required considerable support and technical modifications to achieve this connection.

To date, the IPPC and the UNICC have provided limited support and training to countries implementing ePhyto. This has been complemented in some countries by more comprehensive technical assistance and capacity building projects undertaken by organizations such as the Global Alliance for Trade Facilitation<sup>5</sup> and the World Bank. It is noted that the Alliance now has a partnership agreement with IPPC to provide such support<sup>6</sup> and is currently assisting nine countries implementing ePhyto<sup>7</sup>.

## 4.2 Proposed Capacity Building Approach for IPPC

In order to maximise the use of the ePhyto solution, an agreed sustainable funding model needs to be accompanied by a separately funded capacity development programme.

The cost of Capacity Building to support a country to implement the ePhyto solution depends primarily on the amount of effort required and the type of solution to be implemented (GeNS, NS Interface, or full development of a NS). Such costs could vary anywhere from around \$20,000 for very basic GeNS training and support to over \$2 million for implementation of a full NS. Experience to date indicates that the average cost of ePhyto capacity building ranges from around \$20,000 for basic GeNS training and initial support to over \$300,000 for more comprehensive GeNS implementation (including items such as IT equipment, training, Business Process Analysis and redesign, legal reform, implementation of sSignature, change management, etc).

Given the potential range of costs and resource requirements of a full capacity building programme for ePhyto implementation, the Focus Group recommends that the IPPC Secretariat should focus on the provision of basic technical support and training to requesting NPPOs, and should establish a limited facility for this. A per-country support package is suggested, consisting of an initial assessment, evaluation and training mission of up to 5 days on-site, followed by up to 15 days training and support (on-site and off-site as required). This would cost approximately \$20,000 per country (expert fees, Daily Sustenance Allowance (DSA), and travel) based on current FAO consultancy rates and normal travel and accommodation arrangements<sup>8</sup>. It is suggested that this programme be established to support up to 10 countries per year, for a total annual cost of \$200,000 from 2023 through 2026. This requirement may diminish over time, but it is unlikely to be eliminated completely. Therefore, post 2026, an ongoing longer-term capacity building programme of around \$100,000 per annum is recommended as a core component of the overall ePhyto Solution programme.

The Sustainability Group suggest that the provision of more comprehensive capacity building should be the role of other agencies, assisted by and closely coordinated with the IPPC and UNICC.

## 4.3 Other Capacity Building and Outreach Support

In addition to the above capacity building, the Sustainability Group recommends that the IPPC develop training webinars, on-line videos and other training material in at least English, French and Spanish, describing the ePhyto Solution, introducing new ePhyto enhancements, and profiling the experiences of

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<sup>5</sup> <https://www.tradefacilitation.org/who-we-are/who-we-are/>

<sup>6</sup> <https://www.tradefacilitation.org/article/international-organisations-formalise-trade-facilitation-partnership/>

<sup>7</sup> <https://www.tradefacilitation.org/projects-modernising-agricultural-trade/>

<sup>8</sup> 20 days at FAO Consultancy Rate of \$600 per day, plus two return flights estimated at an average of \$2,000 each, plus 20 days DSA estimated at \$ 200 per day. Total \$20,000

NPPOs in implementing the ePhyto Solution. The IPPC secretariat have estimated that an annual allocation of \$30,000 would be needed for this activity.

Further, in order for NPPOs to share experience and build a network of experience in implementing ePhyto, and to encourage countries that have not already started the process, it is recommended that the IPPC Secretariat continue the ePhyto Symposium series and organize a global seminar or workshop, at least one every 2 years. The IPPC secretariat has estimated that a full international Symposium is likely to cost up to \$200,000, so an allocation of \$1000,000 per year would be needed for this activity.

#### 4.4 Capacity Building Cost Estimates

As detailed in Table 2 below, the total cost of the above capacity development activities would be around \$320,000 per annum.

**Table 2: Estimated Capacity Building Annual Costs**

IPPC ePhyto Solution Uptake				
Type of Cost	2023	2024	2025	2026
xvi. Onboarding developing countries to the GeNS system (10 countries per year)	200,000	200,000	200,000	200,000
xvii. An IPPC ePhyto Solution Conference (one every 2 years)		100,000		100,000
xviii. Webinars, On-line seminars, and other activities to promote use and train users, etc	30,000	30,000	30,000	30,000
<b>Sub-Total</b>	<b>230,000</b>	<b>330,000</b>	<b>230,000</b>	<b>330,000</b>

#### 5. Combined Total Operational and Capacity Building Costs

The combined annual Total Operation Cost plus Capacity Building is detailed in the summary table below.

Type of Cost	2023	2024	2025	2026
<b>Total Operational Costs in USD</b>	<b>741,000</b>	<b>817,000</b>	<b>933,000</b>	<b>933,000</b>
<b>Onboarding Costs in USD</b>	<b>330,000</b>	<b>330,000</b>	<b>330,000</b>	<b>330,000</b>
<b>Total Operational Costs in USD</b>	<b>1,071,000</b>	<b>1,147,000</b>	<b>1,263,000</b>	<b>1,263,000</b>

## **Annex A**

### **Job Descriptions**

#### **ePhyto Program Manager:**

The ePhyto Program Manager (ePM) is responsible for ensuring the smooth functioning of the IPPC ePhyto Solution, the IPPC “face” of the ePhyto Solution and problem solver for any issues, both technical and political, that may come up. In this capacity, the ePM interacts with a variety of ePhyto stakeholders. These stakeholders include: 1) FAO and the IPPC contracting parties, 2) the ePhyto Steering Group (eSG) made up of seven FAO regional representatives with expertise in both plant health and electronic certification matters, 3) the United Nations International Computing Center which is the technical provider for the system, 4) the ePhyto Industry Advisory Group, an independent body of global industry organizations that provides support for the implementation of the system in various countries through webinars and workshops, among other things, 5) the Global Alliance for Trade Facilitation, the key implementation partner for the web-based GeNS part of the ePhyto Solution and proponent for the adoption of ePhyto in many countries around the world, 6) the World Bank, which provides support in connecting to various digital Customs systems in some developing countries around the world, and 7) the Electronic Certification Advisory Committee hosted by the WTO and STDF which serves to bring the many different certification bodies (SPS and others) together to discuss current activities and future outlooks.

The position requires a high level of tact, a forward-looking attitude for the digitalization of SPS certificates in general, an ability to be flexible and innovative, and a thorough knowledge of the abilities of the ePhyto system.

#### **ePhyto Program Assistant:**

The ePhyto Program Assistant supports the program manager in the above activities through helping to draft meeting reports, setting up and keeping track of meetings, having a thorough knowledge of program activities and acting as a de facto deputy when needed in the absence of the ePhyto Program Manager.

## Appendix 2: Other funding options from CPM-15 (2021) considered by the Focus Group

At CPM-15 (2021), the Secretariat presented a paper that introduced seven options for financially sustaining the IPPC ePhyto solution. The options were discussed but none of the options were approved or ruled out. The Focus Group assessed these options. They have not been included for further consideration because the Focus Group considered they were not viable options, or they did not sufficiently satisfy the principles identified discussed above.

**Option 1: Fixed charge** per phytosanitary certificate payable to the IPPC Secretariat by the contracting party for the maintenance and options of the system (from USD0.05 to USD1.00 per ePhyto)

**ePhyto FG comment:** Does not meet accessibility or efficiency principles. Not considered further.

**Option 2: Monthly fee** charged to contracting parties using the ePhyto Solution based on a number of factors such as country development status, gross national income, population, volume of use and the overall capacity to pay

**ePhyto FG comment:** Very administratively complex with a high transaction cost. Does not meet the efficiency principle. Was discussed but not included as a final option.

**Option 3: Annual fee** charged to contracting parties using the ePhyto Solution based on a number of factors such as country development status, gross national income, population, volume of use and the overall capacity to pay

**ePhyto FG comment:** Very administratively complex with a high transaction cost. Does not meet the efficiency principle. Was discussed but not included as a final option.

**Option 4: Multiyear voluntary contribution agreements** from national governments, donor organisations and industry organisations (not individual firms).

**ePhyto FG comment:** Very administratively complex. Would require significant effort to ensure donations keep coming ie may not be sustainable. Does not meet the beneficiary and efficiency principles and concern that could reduce the independence of the ePhyto Solution. Variations of this option were discussed but not included as a final option.

**Option 5: FAO** to cover all operation costs as a component of business as usual operations for the organisation.

**ePhyto FG comment:** See comment in paper.

**Option 6: Access fee charges** for blockchain companies and/or private industry to access the ePhyto channel services:

**ePhyto FG comment:** This did not seem to be a viable option and was not discussed further by the Focus Group.

**Option 7: Establishment of a government / private sector consortium** (including other international organisations interested in and/or participating in the Hub for exchanging their certificates) which manages and develops a unique funding mechanism.

**ePhyto FG comment:** This did not seem to be a viable option and was not discussed further by the Focus Group.