International Plant Protection Convention

*Laboratory Diagnostic Networking*

VM01\_05(rev)\_TC-RPPO\_2021\_Oct

*Agenda item 4.3*

Laboratory Diagnostic Networking: Development agenda of the IPPC 2020-2030 Strategic Framework

(*Prepared by IPPC Secretariat*)

*Note:* this paper is a revised paper from VM01\_05\_ TC-RPPO\_2021\_Oct.

## Introduction

1. The current COVID-19 pandemic had demonstrated the interconnected nature of our world and that we need to be ready to tackle such emergencies. Plant pests are no different. Neither plant pests nor diseases carry passports when moving from one country to another. The increase in trade and travel has increased pest outbreaks as plant pests move across borders with consignments and travelers. The unintentional spread of plant pests is at an alarming rate.
2. It is known that early detection and accurate diagnosis can minimize the likelihood of a pest outbreak. Accurate and rapid pest diagnosis underpins phytosanitary certification, import inspections, surveillance activities, and the application of phytosanitary measures. The IPPC Strategic Framework 2020-2030[[1]](#footnote-2), with its eight key development agenda items, identifies new priority work areas that align with the vision, mission, and strategic objectives of the IPPC community. One of the development agenda items in the IPPC Strategic Framework is to establish a network of diagnostic laboratory services and protocols to help contracting parties identify pests in a more reliable and timely manner. It is expected that by 2030, an international network of diagnostic laboratory services will have been established, and national laboratories will be officially recognized and capable of performing reliable diagnostic services at regional or global levels, thereby reducing the need for all countries to develop duplicated or redundant diagnostics capacity.
3. Extracts from the text of the IPPC Strategic Framework 2020-2030 and the IPPC 2020-2024 investment plan are provided in Attachment 1 of this paper.
4. It is to point out that the CPM-15 (2021) agreed to create a CPM Focus Group to draft a work plan on the implementation of the IPPC Strategic Framework 2020-2030.

Recommendations to the TC-RPPO:

1. The TC-RPPO is invited to:
2. *Consider and discuss* the potential role of RPPOs in the implementation of this development agenda of the IPPC Strategic Framework 2020-2030.
3. *Provide any comments* on the potential scope of the IPPC Laboratory Diagnostic Networking.
4. *Provide any comments* on the “recognition” of the IPPC Laboratory Diagnostic Networking.
5. *Provide any comments* to the draft ToR for an international consultant.

Background

1. This development agenda of the IPPC Strategic Framework 2020-2030 did not commence yet. It is important to clarify the scope, what is intended with an IPPC laboratory diagnostic networking and any type of recognition for its implementation. For example, in the moment that the IPPC Secretariat publishes any list of laboratories or experts, it may be perceived as some sort of recognition.
2. Discussions have been made in several fora within the IPPC community, and it is important to highlight that it had been difficult for the IPPC Secretariat to know how to address this development agenda item, given the lack of guidance. For example, the IPPC has the Technical Panel on Diagnostic Protocols (TPDP) and, it is acknowledged that there are strong linkages with the work of the panel and the need for many contracting parties to be supported in their diagnostic capacity, particularly in the face of emerging pests, and that this could be achieved through a network of diagnostic laboratories. However, it is not clear if the TPDP would have a direct role and if they could provide any contribution in the implementation of this development agenda itemas the TPDP works under the remit of the Standards Committee (SC). The TPDP was asked how they could be part of the process and responded that they could review the report produced by the consultant and provide feedback.[[2]](#footnote-3)
3. The SC had initial discussions and pointed out the need to have a broader debate on this topic, not only at the SC level but also at the Implementation and Capacity Development Committee (IC) and even the Bureau or the Commission on Phytosanitary Measures (CPM) levels.
4. The SC in its September 2021 focused meeting[[3]](#footnote-4) had further discussions on this development agenda item, aiming to get more elements on how the committee could contribute to the implementation. A small working group of the SC met prior to the SC September meeting and together with the Secretariat identified some main points that need clarity.
5. Two members of the SC small working group had provided examples of the laboratory networks in their countries or regions. One of the challenges identified was the time it took to send a live sample from one laboratory to another. The group had considered what a diagnostic laboratory network would look like, including whether it would be at a national, regional or global level, whether it would incorporate an element of IPPC recognition, and whether it would include reference laboratories. Finally, the group had listed various questions for the SC to consider, including whether new standards or guidelines would be needed, issues concerning reference materials and reference collections, whether existing information on the concept of equivalence was sufficient, the accreditation of laboratories or methods, and the role of IPPC DPs adopted by the CPM.
6. The set of questions that were posed as “brainstorming questions” are provided below for information, which may be useful to any other group that will discuss this subject.

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| **General points:**1. What is your understanding of laboratory diagnostic networking?
2. Do you have / or know of a laboratory diagnostic network? If so, please give some examples. If not, why do you think this is?
3. If there is to be a laboratory diagnostic networking, what would you like to see?
	* E.g.: a network at a global, regional or national level?
	* IPPC recognition?
	* Reference laboratories?
	* Different types of recognitions? For example, IPPC recognized labs, IPPC references labs and IPPC references diagnosticians.

**From the SC perspective:**1. If moving to IPPC recognized, IPPC reference laboratories, or IPPC reference human expertise, would it be necessary to develop standards or guidelines? Or, would a system be necessary to ensure this recognition (either “recognized” or “reference”)?
2. What about reference materials (noting the ISPM 20 and the last draft annex)?
3. What about reference collections (a standard or an “IPPC initiative”)?
4. What about the concept of “equivalence”? An ISPM on this or the current available documents are sufficient?
5. What about the idea of accreditation of labs, accreditation of methods/tests or human expertise?
6. What is the role of IPPC diagnostic protocols (DPs) (annexes to ISPM 27)?
	1. Could the IPPC DPs have more specific information about the hosts/commodities?
	2. Could the IPPC DPs change its format?
	3. Could a DP on training lab personnel be a topic? Or a topic on “setting a laboratory”? Any other potential “horizontal DP”?
7. Do you see the Technical Panel on Diagnostic Protocols (TPDP’s) involved in this development agenda? If so, how? If no, why not?
8. How would the collaboration with the Implementation and Capacity Development (IC) be?
9. Resources and capacity:how do you think this network could work on these points?
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1. **The SC September 2021 meeting discussions:**
2. **Recognition.** Referring to the part of the IPPC Strategic Framework that mentioned IPPC recognition of laboratories, including reference laboratories, the SC noted that such recognition would be outside the scope of IPPC bodies: it would be both inappropriate and unachievable. The SC could ask the TPDP to provide certain services within their scope as a technical panel, but no more. One SC member commented that it was clear from the paper that there was no common understanding of what was meant by “diagnostic laboratory networking” and suggested that it was simply referring to linking laboratories together, not recognizing them. The SC Chairperson pointed out that the Strategic Framework itself mentioned about having a network of recognized diagnostic laboratory services, but commented that this did not necessarily mean that the recognition was given by IPPC bodies nor that it was individual laboratories that were recognized, as it could be the network that was recognized. One SC member suggested that perhaps one of the best uses of a diagnostic laboratory network would be to facilitate communication. Another SC member suggested that clarification on this issue could be sought from those countries who had proposed the diagnostic networks. The Secretariat suggested that the small group of SC members assigned to this development agenda could perhaps adjust the paper (if preparing it for the focus group) to highlight the need to define the scope of diagnostic laboratory networking.
3. **Standards and guidance.** The SC Chairperson noted that one of the questions identified in the paper was concerned with the possible development of guidance or standards for laboratories, but he suggested that the focus should be on how to build the network rather than on providing standards or guidance for the laboratories themselves. One SC member commented that until the consultant reported back, the SC is not in a position to provide any guidance.
4. **Existing DPs.** One SC member suggested that strengthening existing DPs could perhaps be considered as part of this development agenda.
5. The SC agreed that the small group of SC members would revise the paper and share it with the CPM Focus Group on Implementation of the Strategic Framework.

**TC-RPPOs 2021**

1. A paper was presented to the TC-RPPOs 2021 first meeting, with the aim to get the TC-RPPOs main ideas, comments and how they see an IPPC laboratory diagnostic networking. Due to time constraints at the first meeting, an e-forum was open for their comments.
2. Three RPPOs provided comments. The comments were to improve the document readability and some ideas were raised, as it follows:
* The objectives should be made clear, what would the IPPC community like to achieve with diagnostic networking and what is realistic?
* Recognition at IPPC level seems very ambitious and is it really needed? First of all, NPPOs will recognize laboratories and it could be very useful to develop guidance for the NPPOs to do so.
* A first step could be to make an inventory of the diagnostic network already in place or the networking already being done between diagnostic laboratories (many more are existing than the few mentioned). This could be part of the ToR of the consultant, she remarks in ToR.
* A stepwise approach may be more useful, starting with listing of available expertise in different laboratories, develop a platform to exchange information, develop networks in which laboratories can share work (these two elements have already been done by EPPO, reference in the document to the EPPO Database on diagnostic expertise would be very useful as example, this also illustrates the use of a regional approach). Depending on the needs of a region, all or only part of the steps are needed. RPPOs could play a role in this.
1. Further comments were incorporated in the document, as for example to the draft ToR of an international consultant (see below).
2. The paper was revised and a new version is being presented to the TC-RPPOs meeting for an initial brainstorming session.

**Regarding finances:**

1. The [CPM Bureau in May 2021](https://www.ippc.int/en/publications/89901/) approved the allocation of 40K (USD) from the IPPC Secretariat 2020 regular budget savings to begin work on this development agenda that would feed into the CPM Focus Group on Implementation of the Strategic Framework and the Secretariat’s work plan. The intent was to cover staff cost for the work related to this development agenda to focus and dedicate time to start gathering information.
2. The initial tasks agreed by the Bureau included: gathering initial information on the subject, do a literature search, develop a project proposal and provide suggestions, action plan, or indicators to help with the implementation of this development agenda. Comments from the Bureau, TPDP and the SC were sought on the draft Terms of Reference (ToR) of the consultant (see below). It is important to highlight that this is not the project proposal and the outline for a ToR may be different, in view of the understanding of such document for other situations or occasions. There is still a need to develop an action plan for this development agenda item (and for the other ones) to define the activities that would be needed in the short and long term to implement the Strategic Framework.

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| **DRAFT Terms of Reference (ToR) – International consultant (up to 8 months (?))**Under the general supervision of the IPPC Secretariat, the consultant will perform the following tasks:1. **Gather data on diagnostic laboratories**
* Do a literature review on the topic: on diagnostic networks or recognized laboratory
* Identify existing laboratory networks (national, regional, international) and gather information on their technical work
* Gather information on the administrative work of existing laboratory networks (national, regional, international)
* Gather information on the legal procedures for existing laboratory networks
* Gather information on the resources needed for existing laboratory networks (regional, international)
* Gather information on the countries/regions interested to benefits from/contribute to such a network
* Gather information on diagnostic laboratories including operational expertise (including reference, national or general laboratories)
* Make analysis and best practices and successes of established laboratory networks (e.g. OIE model, GTI of the CBD, Euphresco, FAO (soils, *Puccinia graminis*), CGIAR, CABI, NPDN, IPDN, PIPE, PHA and others)
* Also, access information of laboratory facilities that exist in the research and teaching institutes in the country
* Discuss with a cross section of NPPOs to evaluate conditions/expectations for a network or recognized lab arrangement
* Draft a preliminary report on data collected
* Develop a questionnaire or questionnaires (as needed) based on the preliminary report and data collected targeted to specific NPPOs across all FAO regions and RPPOs.
1. **Draft a first concept for the implementation of diagnostic laboratory networks**
* Produce a final report including detailed findings and proposals:
	+ What might an IPPC recognized lab network might look like?
	+ Purpose/scope
	+ Benefits and challenges
	+ A plan and what resources it would take to progress
* Present the results to the IPPC Secretariat and relevant groups and IPPC bodies for future development plans
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ATTACHMENT 1. IPPC Strategic Framework 2020-2030 (adopted text)

**Diagnostic laboratory networking**

1. Establishing a network of diagnostic laboratory services and diagnostic protocols to help countries identify pests in a more reliable and timely manner.
2. **Desired 2030 outcome:**
3. An international network of diagnostic laboratory services e provides reliable and timely pest identifications. National laboratories with strong diagnostic functions are officially recognized as capable of offering reliable services within regions or globally, reducing the need for all countries to develop duplicated capacity.
4. **Description:**
5. Diagnostic expertise is one of the major capabilities for the proper functioning of any NPPO. For many countries, however, the availability of diagnostic expertise or services is severely restricted because of limited structural capacity and know-how. Any country wishing to take part in the trade of agricultural commodities must be able to demonstrate that its products are free from pests. To do that, access to diagnostic services is essential. In addition, importing countries need proper access to diagnostic expertise to be able to detect pests in imported commodities and therefore prevent the entry of regulated pests that may cause considerable damage to agriculture or the environment.
6. Establishing world-class diagnostic laboratories and keeping up with advances in diagnostic technology is extremely costly. It is becoming apparent that, for many countries, the only viable option to access high-end diagnostic services will be through cooperation across countries to remotely access diagnostic capacity at an international, regional or sub-regional level. For example, a diagnostic laboratory established at a sub-regional level could effectively and efficiently serve the needs of several countries in the region. Country A in the region may have a laboratory for entomology while country B may specialize in plant pathogens and country C nematodes, and so on. In the near future, joint diagnostic centres and laboratories may be the only way for many countries to access state-of-the-art diagnostic services.
7. The Commission could help address the lack of access to diagnostic capacity in many countries by establishing a voluntary network of diagnostic laboratories. Existing generic laboratory standards could also be applied more widely. In addition, the IPPC could develop a project model for sub-regional diagnostic centres, which could serve as a blueprint for donors when providing technical assistance to developing countries (e.g. via the Standards and Trade Development Facility).
8. Activities to be carried out during 2020–2030 could include the following:
* Conceive a model for the establishment of sub-regional joint diagnostic laboratories and proficiency testing.
* Adopt required standards and diagnostic protocols.
* Facilitate the establishment of an international laboratory network.
* Establish and communicate a listing of available diagnostic laboratories and their expertise.

FINANCES: IPPC INVESTMENT PLAN 2020-2024 (noted by CPM-14)

1. The following budget is proposed in the IPPC Investment plan which was noted by CPM-14 (2019). It is to note that the investment plan covers only the first 5 years of the 10-year lifespan of the Strategic Framework and should be re-visited once a detailed set of activities are agreed upon.

|  **Action** | **Funding****Source** | **Estimated budget (USD)** |
| --- | --- | --- |
| **2020** | **2021** | **2022** | **2023** | **2024** |
| 1. Coordinate and publish a list of diagnostic laboratories including data on their operational expertise
 | 1. ExtP
 | 30K |  | 10K |  |  |
| 1. Develop a model for networked or shared diagnostic laboratories
 | 1. ExtP
 |  | 100K | 60K |  |  |
| 1. Draft standards and protocols
 | 1. ExtP
 |  |  | 60K | 15K | 15K |
| 1. Coordinate a pilot laboratory network
 | 1. ExtP
 |  |  | 15K | 30K |  |
| **Total**  | 1. ExtP
 | **30 K**  | **100 K**  | **145 K**  | **45 K**  | **15 K**  |
| FTE (estimate)  | 1. ExtP
 | 0.25  | 0.5  | 1.25  | 0.5  | 0.1  |

1. Link to the IPPC Strategic Framework 2020-2030, as to be presented to CPM-15 (CPM 2020/08): <https://www.ippc.int/en/publications/88125/> [↑](#footnote-ref-2)
2. 2021-07 TPDP Virtual Meeting Report: <https://www.ippc.int/en/publications/90129/> [↑](#footnote-ref-3)
3. 2021-09 Report of the SC September focused meeting: https://www.ippc.int/en/publications/90346/ [↑](#footnote-ref-4)