International Plant Protection Convention

*Laboratory Diagnostic Networking*

VM01\_05\_TC-RPPO\_2021\_Oct

*Agenda item 4.5*

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

(Prepared by IPPC Secretariat)

## Background

Introduction

1. The current COVID-19 pandemic is demonstrating to the world that we need to be ready to tackle such emergencies. Plant pests are no different from viruses, nor pests or diseases carry passports when moving from one country to another. We also need to be conscious of the increase in trade and travel as plant pests move across borders with consignments and travelers and spread unintentionally at alarming rates.
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 appropriate phytosanitary measures. The IPPC Strategic Framework 2020-2030[[1]](#footnote-1), with its eight key development agenda items, identifies new priority work areas that are aligned to the IPPC’s vision, mission, and strategic objectives. One of the identified development agendas is to establish a network of diagnostic laboratory services and diagnostic protocols to help countries identify pests in a more reliable and timely manner. It is expected that by 2030 an international network of diagnostic laboratory services is functioning, and national laboratories have 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.
3. Extract from the adopted text of the Strategic Framework and the IPPC 2020-2024 investment plan are provided in Attachment 2 of this paper.

From Standards Committee (SC) and CPM Bureau discussions

1. The Standards Committee (SC) in May 2019 had agreed to discuss the impact of the IPPC Strategic Framework 2020-2030 on standard setting at its meeting in November 2019. In preparation for this, the SC had invited the technical panels to comment on the potential impact of the IPPC Strategic Framework 2020-2030 on their work. The Technical Panel on Diagnostic Protocols (TPDP), in their August 2019 meeting[[2]](#footnote-2), focused some discussions on three development agenda items in which diagnostic protocols (DPs) are mainly concerned, and these are: a) commodity- and pathway-specific ISPMs, b) diagnostic laboratory networking, and c) strengthening pest outbreak alert and response systems. The TPDP also mentioned that the global phytosanitary research coordination development agenda may also influence the TPDP work, and that they could provide contributions in the future.
2. Regarding diagnostic laboratory networking, the TPDP noted the strong linkage with the work of the panel and acknowledged the need for many contracting parties to be supported in their diagnostic capacity, particularly in the face of occurrence of emerging pests, and that this could be achieved through a network of diagnostic laboratories. A series of recommendations and suggestions were agreed to be presented to the SC.
3. **SC 2020.** The SC discussed the recommendations from the TPDP 2019-08 meeting via e-forum. Although the majority of the SC members agreed in principle with the TPDP recommendations, one SC member pointed out the need to have a broader debate on this topic, not only at the SC level but also at the IC and even the Bureau or CPM levels. It was mentioned that the issue goes beyond standard setting work and means that the TPDP would be directly involved in implementation issues. Even though it was agreed conceptually, it was thought that the topic required further discussion, as for example the involvement of the TPDP members in other activities not solely to draft international diagnostic protocols, but for example also to review guides and other implementation materials as to support the work of the IC.
4. The SC, in its September 2020 meeting, did not have sufficient time to engage in such discussions. Thus it was deferred to the November meeting.
5. In November 2020, the SC discussed the paper present in which it was highlighted that it had been difficult for the Secretariat to know how to address these development agenda items, given the lack of guidance on this development agenda. Some suggestions were made, for example, if the TPDP could be allowed to explore and provide suggestions for this development agenda if an IRSS survey would be the best way to start.
6. To recall that in the IRSS list of topics, there is a topic to perform a survey on diagnostic protocols, with priority 1. The intent of the Secretariat was to streamline and to incorporating into this existing topic within the IRSS sub-group, some information on laboratories networking (e.g. are there any existing ones, how, laboratories capacities, reference laboratories). Hence the survey would go out to NPPOs and RPPOs therefore, a streamlined and reduced number of surveys being asked to our contracting parties. Although in the IRSS work programme, it would require adjusting the scope as from the last IRSS sub-group meeting, but in any case, the survey work may just initiate late 2021 or early 2022.
7. **CPM Bureau 2021.** The [CPM Bureau in May 2021](https://www.ippc.int/en/publications/89901/) approved the allocation of 40K (USD) from the IPPC Secretariat 2020 budget savings to start some work on this development agenda that will feed into the CPM focus group on the strategic framework and the Secretariat work plan. The first intent is to have someone in the IPPC Secretariat that can focus and dedicate time to start this. Hence, it is intended to have a consultant expert in the subject matter to gather data on the topic, do a literature search, make a project proposal and provide suggestions, actions, or indicators to help with the implementation of this development agenda. Comments from the Bureau, TPDP and the SC was sought on the draft Terms of Reference (ToR) of such consultant (see below). It is important to highlight that this, not the project proposal and that outlines for a ToR together with FAO, may be different from 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-term and long-term to implement the Strategic Framework.
8. **SC September 2021 focused meeting.** The SC discussed this agenda item in its September meeting, aiming to get more elements how the committee could contribute to the implementation of this DA. The SC had agreed that a small working group should discuss some elements prior to the meeting and a document to engage in discussions was prepared by the Secretariat. The main points to start the discussions are provided below:

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| **SC General points posed to the SC:**1. What is your understanding of laboratory diagnostic networking?
2. Do you have / know 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, it would necessary a “system” 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’s 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. At this meeting, the SC considered the discussion paper produced by the SC small group. The group had provided two examples of countries or regions using laboratory networks: in Brazil, there is a large network of laboratories, but it has been identified that one of the challenges is the time that it takes to send a live sample from one laboratory to another; and in the African region, there are some reference laboratories, including the one run by the Kenya Plant Health Inspectorate Services. 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 is sufficient, the accreditation of laboratories or methods, and the role of DPs adopted by the IPPC.
2. **Recognition.** Referring to the part of the paper 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 is not a common understanding of what is meant by “diagnostic laboratory networking” and suggested that it is simply referring to linking laboratories together, not recognizing them. The SC Chairperson pointed out that the Strategic Framework itself talks about having a network of recognized diagnostic laboratory services, but commented that this does not necessarily mean that the recognition is by IPPC bodies nor that it is individual laboratories that are recognized, as it could be the network that is recognized. One SC member suggested that perhaps one of the best uses of a diagnostic laboratory network would be to facilitate communication. A further 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 item 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 concerned the possible development of guidance or standards on 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 has reported back, the SC is not in a position to provide any guidance.
4. **Existing DPs.** The SC champion suggested that strengthening existing DPs could perhaps be considered as part of this development agenda item.
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.

**Regarding finances:**

1. There is an estimated budget of USD 40K from regular program (IPPC Secretariat 2020 budget savings) to cover staff cost for the work related to this SF DA item on Laboratory Diagnostic Networking for a one year period (2021 to 2022). CPM Bureau approved this in June 2021.

Recommendations to the TC-RPPO:

1. The TC-RPPO is invited to:
2. *Consider and discuss* the issues identified so far for delivering the development agenda on Diagnostic laboratory networking to meet the objectives of the IPPC Strategic Framework 2020-2030, *considering the potential role of the RPPOs* on the implementation of this development agenda.
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 (see Attachment 1).

ATTACHMENT 1. DRAFT Terms of Reference (ToR) – International consultant

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| **DRAFT Terms of Reference (ToR) – International consultant (up to 6 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 systems (assuming there is some literature)
* Gather information on diagnostic laboratories including operational expertise (including reference, national or general laboratories)
* Make analysis and best practices and success of established laboratory networks (e.g. OIE model, GTI of the CBD, Euphresco, FAO (soils, *Puccinia graminis*) and others)
* 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 the diagnostic laboratories 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
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ATTACHMENT 2. IPPC Strategic Framework 2020-2030 – Laboratory diagnostic networking and IPPC 2020-2024 Investment plan

Desired 2030 outcome:

1. An international network of diagnostic laboratory services 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.

**Description:**

1. 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.
2. 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 on 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.
3. 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).
4. 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.

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 discusses only the first 5 year of the 10-year lifespan of the Strategic Framework and should be re-visited once a detailed set of activities are agreed.

|  **Action** | **Funding****Source** | **Estimated budget (USD)** |
| --- | --- | --- |
| **2020** | **2021** | **2022** | **2023** | **2024** |
| 1. Coordinate and publish a list of diagnostic laboratories including 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-1)
2. 2019-08 TPDP Meeting Report (Melbourne, Australia): <https://www.ippc.int/en/publications/88295/> [↑](#footnote-ref-2)