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# Lessons learned from WOAAH missions to evaluate Performance of Veterinary Services with special emphasis on eradication of Peste des petits ruminants

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**Simple Summary:** The *Performance of Veterinary Services Tool* of the World Organisation for Animal Health (WOAH, founded as OIE) has been used since 2006 to evaluate the capacity of Veterinary Services to comply with international standards of disease control and trade in animals and their products. The Tool enables a systematic assessment of 45 critical competencies deemed necessary for national Veterinary Services to effectively carry out their mandates. In support of the peste des petits ruminants (PPR) Global Control and Eradication Strategy initiated in 2015, a disease-specific component for evaluating the capacity of the national Veterinary Services to control and eradicate PPR was added to the standard Performance of Veterinary Services evaluation missions in 2017, as an option for countries. The lessons learnt from the first eight such missions carried out by five experts from 2017 to 2019, and how these assessments can support the implementation of National Control Strategies for PPR for the goal of global eradication by 2030 are described.

**Abstract:** Under the guidance of a 15-year “Peste des petits ruminants (PPR) Global Control and Eradication Strategy (GCES)” and associated 5-year Global Eradication Programmes (GEP), countries affected or at risk of PPR are implementing national strategic plans towards the goal of eradication by 2030. In support of the GCES, an additional component, developed to evaluate the capacity of national Veterinary Services to implement their PPR national strategic plans, was added to the WOAAH Performance of Veterinary Services (PVS) Tool for use during WOAAH PVS evaluation missions. The first eight evaluation missions were carried out from 2017 to 2019, six of which used the opportunity of the mission to apply and assess a second tool, the PPR Monitoring and Evaluation Tool (PMAT) which was developed under the GCES to assist national Veterinary Services to identify their current status along the stepwise pathway and challenges to successful implementation of their national strategies. The bridge between the PVS Tool and the PMAT is the assessment of clearly defined critical competencies needed by national Veterinary Services to eradicate PPR and to officially apply for country freedom to WOAAH once reaching final stage. Lessons learnt from the implementation of PVS missions with a PPR-specific component, from the application of the PVS Tool and current PMAT as well as changes under the revised PMAT 2 are described.

**Keywords:** Peste des petits ruminants (PPR), Peste des petits ruminants Monitoring and Evaluation Tool (PMAT), Performance of Veterinary Services (PVS), Global Control and Eradication Strategy (GCES)

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## 1. Introduction

Rinderpest which has killed millions of cattle, buffalo and wild species over centuries, was declared as eradicated in 2011 as the first disease in the animal kingdom [1]. The morbilliviruses that cause rinderpest and peste des petits ruminants (PPR) are closely related. For both diseases it is known that infection and vaccination can lead to long-term immunity, and vaccination was considered a crucial factor in the eradication of rinderpest. Therefore, since highly effective vaccines are available for PPR and the economic effects of PPR eradication for the rural livestock dependent communities would be enormous,

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PPR was considered a suitable candidate as the second animal disease targeted for global eradication [2].

The World Organisation for Animal Health (WOAH, founded as OIE), jointly with the Food and Agriculture Organisation of the United Nations (FAO) under the Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs), prepared a strategy to control and eradicate PPR during a period spanning 15 years with a vision for global eradication by 2030. To achieve this vision, the *PPR Global Control and Eradication Strategy* (GCES) was presented and endorsed during the International Conference held in Abidjan, Côte d'Ivoire from 30 March to 1 April 2015 [3].

The GCES describes the progressive pathway towards PPR eradication as a stepwise approach in which countries move from Stage 1 (Assessment Stage) to Stage 2 (Control) to Stage 3 (Eradication) and then to the Post-Eradication Stage (Stage 4). The pathway is flexible and allows shortening of the pathway directly from Stage 1 to Stage 3 or 4, or from Stage 2 to 4, e.g., if only a small part of the country is infected and eradication can be achieved in a short time period.

Assisted by the joint FAO–WOAH Global PPR Secretariat, this Strategy is now being implemented by affected and at-risk countries under the guidance of both Organisations through the GF-TADs mechanism and with the support from different donors under successive Global Eradication Programmes (GEP) of five years duration [4]. Under the GEP, individual countries are asked to prepare a PPR national strategic plan which is submitted to the Global PPR Secretariat. The ultimate goal is to reach Stage 4 and to submit a Control Plan for endorsement (optional) and the application for official freedom to WOA, as shown in Figure 4. One challenge for the successful implementation of the PPR national strategic plans is to be sure that the human, technical and financial resources required for effective control and ultimate eradication are actually available within each country.

One approach offered by WOA to support the implementation of their respective PPR national strategic plans was to invite its Members to assess the capacity of the national Veterinary Services to control and eradicate PPR through participation in a specialized *Performance of Veterinary Services* (PVS) evaluation, to which was added a subject matter focus on PPR, in addition to the standard comprehensive evaluation using the 7th edition of the PVS Tool [5].

This article gives a brief explanation of the PVS Tool, the *PPR Monitoring and Assessment Tool* (PMAT) and the experience from the first eight PVS missions in which the PPR module was included, and the PMAT used to establish the progress made along the stepwise progression towards PPR eradication.

## 2. Materials and Methods

### 2.1. *The Performance of Veterinary Services pathway*

The World Organisation for Animal Health (founded as OIE), a standard setting body for animal health in the context of international trade in animals and their products, developed the *Performance of Veterinary Services Pathway* in 2006 to assist its Members to strengthen their Veterinary Services (VS) (Figure 1). Participation in the PVS Pathway can assist countries to comply with the WOA's standards, implement the WOA's guidelines and recommendations, identify gaps in their national Veterinary Services' capacity to perform their required functions and develop plans and actions to address those gaps.



**Figure 1.** The PVS pathway and its different options [6]

The foundational component of the PVS Pathway is the PVS Evaluation. WOAHP Members have the possibility to request on a voluntary basis the PVS Evaluation directly from WOAHP or they can request support for an orientation training workshop to be followed by a self-evaluation by trained national evaluators. It is recommended to carry out a *PVS Evaluation Follow Up* mission after five years to assess progress through the implementation of PVS recommendations. The *PVS Gap Analysis* is a separate mission but complementary to the evaluation mission as it provides the country with a cost estimation for the implementation of the PVS evaluation recommendations. Additional targeted support missions can be requested which focus on specific areas, as shown in Figure 1.

The PVS Evaluation and PVS Evaluation Follow Up missions use a well-defined protocol, the 'PVS Tool', now in its 7th edition published in 2019 [5], to assess the *Levels of Advancement* (LoAs, categorised on a 5-point scale) of a standardised set of 45 *Critical Competencies* (CCs) which cover the whole veterinary domain and associated activities. The CCs are grouped under four *Fundamental Components* (FCs):

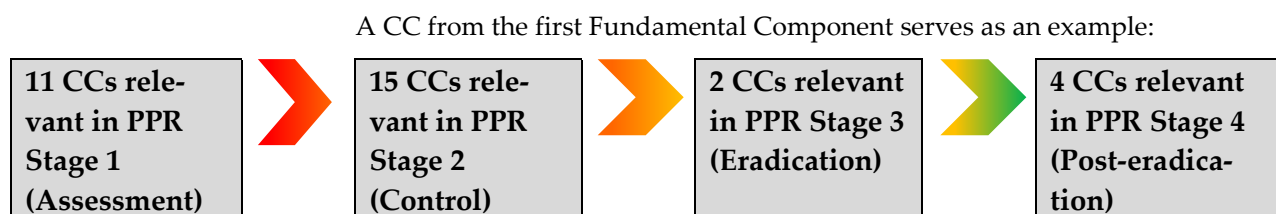
- 1) Human, Physical and Financial Resources
- 2) Technical Authority and Capability
- 3) Interaction with Stakeholders
- 4) Access to Markets

Since 2006, through September 28, 2021, 137 countries have requested and completed a PVS Evaluation, conducted by independent WOAHP PVS experts. In addition, 66 of these countries have requested and completed PVS Evaluation Follow Up missions. A Think-tank meeting on the future development of the PVS Pathway was held in 2017, marking the ten-year anniversary of the Tool [7]. One of the outcomes of this meeting was to consider adding an option for the evaluation of specific content to the standard PVS evaluation to provide added value to countries where and when appropriate. Given the emergence of global programmes for the control and eradication of PPR and rabies and the need for countries to be prepared at the national level to effectively address these diseases, special content options were developed for PPR and rabies.

A designated working group was formed at WOAHP to develop a template for conducting a PPR-specific assessment during a standard PVS Evaluation mission and this template was added as an annex to the PVS Tool. This PPR module contains a reduced set of 32 selected CCs of specific relevance to PPR control and eradication. The text of these CCs was modified to fit the PPR specific context but to still reflect the competency as given in the standard PVS Tool.

For each of the GCES Stages a certain set of CCs are relevant and for most of them, a minimum of LoA of 3 is required. Figure 2 shows this distribution of CCs to different Stages.

**Figure 2.** Number of CCs of relevance to the different Stages of the GCES.



CC II.1A in the 7th edition of the PVS Tool, “Access to veterinary laboratory diagnosis”, is worded to assess “The authority and capability of the Veterinary Services to access laboratory diagnosis in order to identify and report pathogenic and other hazardous agents that can adversely affect animals and animal products including those relevant to public health” and would be assessed accordingly as part of the standard PVS mission.

In addition, for the PVS mission with PPR specific content, a modified version of this CC would also be assessed, worded as follows, with the PPR specific section underlined here for emphasis:

The authority and capability of the Veterinary Services to access laboratory diagnosis in order to identify and report pathogenic and other hazardous agents particularly peste des petits ruminant virus (PPRV) and those which must be differentiated from it.

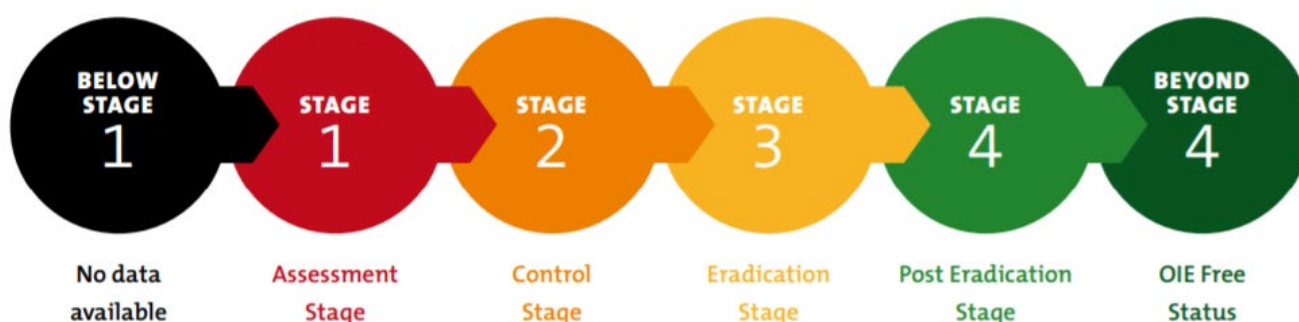
A reply at LoA 2 is required to attain Stage 1 of the GCES Stages.

That level of assessment states that “For PPR, the Veterinary Services have access to and use a laboratory to obtain a correct diagnosis.”

The working group also developed guidelines for the evaluation team and the PPR expert who would be part of the PVS mission team of WOAHA experts for a PVS PPR mission. With this new addition of the PPR module to the well-established PVS Evaluation Tool, eight missions were carried out during the period March 2017 to October 2019.

### 2.2. The PPR Monitoring and Evaluation Tool (PMAT)

The stepwise approach of the GCES and the stages involved are shown in Figure 3. Each stage is associated with a distinct set of expectations or requirements that are distributed among 5 technical elements, as discussed further below.



**Figure 3.** Stepwise approach toward PPR eradication [7]

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The GCES has three components:

Component 1: PPR control and eradication

Component 2: Strengthening Veterinary Services

Component 3: Prevention and control of other major diseases of small ruminants

While Component 1 is the core of the GCES, the effective implementation of control and eradication activities requires strong Veterinary Services, as indicated in Component 2. The PVS Evaluation Tool serves to systematically assess the strengths of the Veterinary Services as well as identify the gaps that exist.

To establish which of the GCES stages a country is in, and to monitor the progression from stage to stage over time, the “*PPR Monitoring and Assessment Tool*” or **PMAT**, was developed as a companion tool to the GCES [8]. It was published as an annex to the GCES document and the current version includes questions relating to components 1 and 2 of the GCES, while the revised PMAT 2, about to be released, contains also questions relating to Component 3.

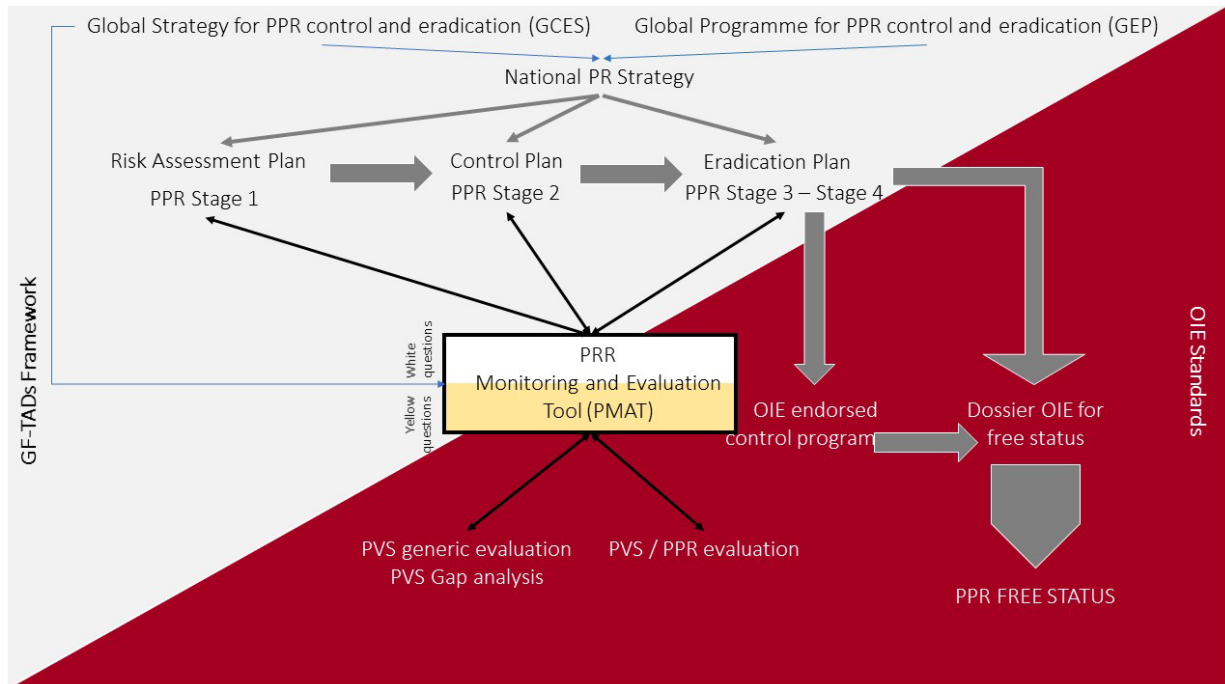
The GCES recommends that countries use the PMAT as a “self-evaluation” tool and that they use it frequently, but at least once a year and particularly before the respective Regional Roadmap meetings which are organized by the PPR Secretariat to monitor county progress and promote harmonization of control and eradication activities at the regional level. At the inception of the PPR-GCES, nine regions/sub-regions were identified for the definition of regional roadmaps, according to the distribution of the Members of the FAO and WOA regions/subregions, and the existence of relevant Regional Economic Communities (RECs).

The Regional Roadmap meetings are opportunities for the countries to discuss their particularities in the implementation of national PPR strategies, to determine in which Stage of the GCES they are and what their advances and challenges towards eradication of PPR are as a country and as a Region. All countries that attend a Roadmap meeting carry out a PMAT exercise, although the PMAT questionnaires are only filled by those attending the meeting and who may not be the experts for each technical element, as originally envisaged. Completing the PMAT exercise in-country with the country’s technical experts, offers a better opportunity for rigorous and informed analysis.

Component 2 of the GCES, performance of Veterinary Services, is the link between the PVS Tool and the PMAT, as many of the CCs and their LoAs used in the PVS Tool appear also in the PMAT, being relevant to assessing the five *Technical Elements* which characterize each stage of the GCES:

- 1) diagnostic system;
- 2) surveillance system;
- 3) prevention and control system;
- 4) legal framework;
- 5) stakeholders involvement.

Figure 4 shows the integration of the different evaluation tools and overarching systems.



**Figure 4.** The importance of the PMAT for the evaluation of technical elements and critical competencies. (GF-TADs = Global Framework for the Progressive Control of Transboundary Animal Diseases. White questions: Component 1; yellow questions: Component 2) [N.Leboucq, OIE, 2017]

The PMAT tool was reviewed in-depth in 2020/21 by a joint FAO–WOAH group of experts and the new tool (PMAT2) will soon be published. One of the major differences is that in the original PMAT, the evaluation of Component 2, the performance of Veterinary Services, contributed to the decision regarding which Stage a country is in, while the revised PMAT2 bases this decision only on the evaluation of Component 1, PPR control and eradication. Countries still need to answer questions related to Component 2 and are strongly advised to strive for attaining LoAs of level 3 as, in the last Stages (4 and beyond 4) of the GCES, countries need to comply with WOA standards, including those of the quality of Veterinary Services, to receive WOA endorsement of their PPR control programmes and official recognition of their PPR free status (Figure 4).

### 2.3. PVS–PPR missions

Eight PVS PPR missions were carried out during the period March 2017 and October 2019 in countries of the Middle East, Africa and Asia. Several other missions were planned but could not be implemented due to the COVID-19 pandemic. Five different individuals served as WOA PVS–PPR experts on these missions. These were veterinarians who were already serving as independent WOA PVS experts but who had also actively participated in the development of the PPR GCES, the GEP and/or PMAT. One of these individuals participated in three missions, a second in two missions and the other three individuals in one mission each. These individuals were added to the regular teams of PVS experts assigned to each mission.

In late 2019, these five individuals were invited to participate in a questionnaire-based survey to gather their experiences with the new PVS–PPR mission format. Key findings and recommendations from this survey, which were considered in the in-depth revision of the PMAT, are summarised hereafter.

### 3. Results

At the time of the survey, three countries that had received the PVS–PPR mission had not yet appointed a PPR coordinator to oversee the implementation of the PPR national strategic plan and none of the eight countries had done a PMAT exercise nationally to

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determine their progression along the stepwise approach independently from the exercise during the Roadmap meeting. Therefore, the PVS–PPR mission experts in six countries initiated a PMAT exercise as part of the mission and strongly advocated for it to be done with the participation of the five technical element experts and the people directly involved in PPR control in the country.

Since the inception of the GCES, the PPR Secretariat heard of numerous anecdotal reports that countries did not adopt and make much use of the PMAT tool, as it was perceived as “too difficult and complex”, and countries claimed they needed training in the use of the tool.

This observation was confirmed during PVS–PPR missions and countries appreciated the opportunity to use the tool together with the PPR expert as part of the mission. The PVS experts in turn were able to use the PMAT results to finetune the results of the PPR specific part of the PVS evaluation and to better link the evaluation of the relevant CCs to the actual control efforts in the field.

Hence the integration of the PMAT exercise into the PVS–PPR evaluation proved to be very useful as it helped to familiarise countries with the use of the PMAT and provided the opportunity to go into details of specific particularities that countries may have and that may not be explored in depth in the context of Regional Roadmap meetings. The application of the PMAT during missions also provided detailed information for a balanced evaluation of the competencies existing in the Veterinary Services that are most relevant to successful control and eradication of PPR.

Recommendations given by the five experts that carried out the first eight PVS–PPR missions to the countries are as follows:

- 1) Countries should carry out PMAT exercises regularly as they not only show the progression of the stepwise approach along the GCES Stages, but also show progression in the levels of achievement of PPR relevant critical competencies of the Veterinary Services;
- 2) Requesting WOAHP for a PVS–PPR evaluation mission will enrich the mission team by a PPR expert and be a stimulus to the ongoing PPR activities and the staff carrying them out and will raise their importance within the Veterinary Services;
- 3) Applying the PMAT with the available technical experts in-country should be an essential component of the PVS–PPR mission activities;
- 4) Improving communication between those attending Regional Roadmap meetings and the national PPR team would lead to a better understanding of the regional context by the national PPR team.

#### **4. Discussion**

The “Specific content” PVS Evaluation for PPR was piloted over eight PVS–PPR Evaluation missions. Since the last of those missions, over two years have passed and national PPR control efforts were hampered by the restrictions and impacts of the COVID-19 pandemic. Before a continuation of the PVS evaluations with PPR specific content, WOAHP should consider some of the recommendations of the PPR experts and should also integrate the changes and the new format of the revised PMAT2 tool into the guidelines for experts. All PVS–PPR experts going on such missions should be intimately familiar with the new PMAT2 tool, the GCES and the current *Global Eradication Programme* (GEP) for 2022–2027.

The PVS–PPR evaluation was considered by all PVS–PPR experts as highly relevant and useful. Countries that had asked for a PVS–PPR mission all expressed their appreciation of putting the focus on one specific disease and its national strategy; the PVS experts considered their input as a “stimulus” to the PPR control activities, raising their profile within the Veterinary Services and highlighting the importance of strengthening certain CCs to ultimately achieve PPR eradication.

The “Special content” option to the generic PVS evaluation mission should be promoted with the WOAHP Members, to be sure that they are aware of this option. The PPR



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experts on the missions should be given dedicated time (at least one day at the start of the mission and at least two days before the end of the mission) to have the opportunity to meet with the national PPR experts and control programme leadership to carry out a PMAT exercise jointly with those relevant individuals. Countries are strongly encouraged to communicate the results of these exercises to the PPR Secretariat.

## 5. Conclusions

The changes in the revised PMAT that are of relevance to the PVS–PPR evaluation will have to be integrated into the PPR module of the PVS tool. While the revised PMAT does no longer consider an attainment of a LoA of 3 as a criterion to move forward to the next Stage, for the ultimate declaration of freedom from PPR at Stage 4, compliance with critical competencies relevant to PPR will be compulsory. Therefore, countries should be made aware that ultimately Component 2 of the GCES, namely the performance of Veterinary Services, will need to be assessed and improved continuously in support of PPR control and eradication. A PVS–PPR mission can assist in this endeavor and boost capacity towards PPR eradication and support better implementation of the PPR National Strategic Plans.

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