World Organisation for Animal Health

Vinayagamurthy Balamurugan - - INDIA

WOAH Reference Laboratory Reports Activities 2025

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LABORATORY INFORMATION

***Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:**	Peste des petits ruminants
***Address of laboratory:**	ICAR-NIVEDI, Yelahanka, Bengaluru, India
***Tel:**	+9108023093136
***E-mail address:**	b.vinayagamurthy@icar.org.in
Website:	https://www.nivedi.res.in/
***Name (including Title) of Head of Laboratory (Responsible Official):**	Dr. BALAMURUGAN VINAYAGAMURTHY
***Name (including Title and Position) of WOAH Reference Expert:**	Dr BALAMURUGAN VINAYAGAMURTHY, PRINCIPAL SCIENTIST
***Which of the following defines your laboratory? Check all that apply:**	Governmental

TOR1: DIAGNOSTIC METHODS

1. Did your laboratory perform diagnostic tests for the specified disease/topic for purposes such as disease diagnosis, screening of animals for export, surveillance, etc.? (Not for quality control, proficiency testing or staff training)

Yes

Diagnostic Test	Indicated in WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
PPR Competitive ELISA for Diagnosis	Yes	573	0
PPR Competitive ELISA for Surveillance	Yes	55529	0
Virus Neutralization Test for Surveillance	Yes	129	0
Direct diagnostic tests		Nationally	Internationally
RT-PCR- Clinical Samples for Diagnosis	Yes	51	0
RT-PCR- Clinical Samples for Surveillance	Yes	73	0
RT-qPCR- Clinical Samples for Diagnosis	Yes	26	0
RT-qPCR- Trade leather/skin/Spur/proceesed /semi-processed hide imported samples for surveillance	Yes	152	0
PPR Sandwich ELISA (Antigen or immunocapture ELISA) for Diagnosis	Yes	722	0
PPR Sandwich ELISA (Antigen or immunocapture ELISA) for Surveillance	Yes	2114	0

TOR2: REFERENCE MATERIAL

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by WOAH?

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOAH Members?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient WOAH Member Countries	Country of recipients
Hyperimmune Serum to PPRV	Serology test	Produced and supplied	2ML	NA	1	INDIA,

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOAH Members?

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

Yes

7. Did your laboratory validate diagnostic methods according to WOAH Standards for the designated pathogen or disease?

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
Validation of Native PPR competitive ELISA Kit for the detection of PPRV antibodies in cattle and buffaloes for its application in sentinel surveillance of PPR in bovine species. So far 3774 serum samples from cattle and buffaloes were screened.	1. Prajakta P. Bokade, Deekshitha G, Asha A, Shweta Priya, Annett Helcita Dsouza, Archana Pal, K Vinod Kumar, G Shanmugam, Rajeswari Shome, M. Nagalingam, S. ChandraSekar, B. R. Gulati and V. Balamurugan (2024). Validation of native peste des petits ruminants ELISA Kits for specific antibody detection and cattle sentinel surveillance in India. (Abstract submitted at 7th PPR-GREN 2024, 20-22 January 2025, Abu Dhabi). 2. Prajakta P. Bokade, Deekshitha G, Asha A, Shweta Priya, Annett Helcita Dsouza, Archana Pal, K Vinod Kumar, Rakshit Ojha, G Shanmugam, Rajeswari Shome, M. Nagalingam, S. ChandraSekar, M Rout, S. Subramaniam, J.K. Mohapatra, R.P. Singh, B. R. Gulati and V. Balamurugan (2025). Sentinel Surveillance of PPR in cattle and buffaloes: Insights into PPRV Persistence in Vaccinated Regions of India. (Abstract submitted at VIROCON 2025 Changing Landscapes in Human, Animal and Plant Viruses: Bridging Basic Science, Innovation and Public Health, 8-10 December 2025, ICMR-NIV, Pune. Abstract Book P75. Janata Enterprises, Pune).

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

9. Did your laboratory validate vaccines according to WOAH Standards for the designated pathogen or disease?

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOAH Members?

No

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOAH Member?

Yes

Name of the WOAH Member Country receiving a technical consultancy	Purpose	How the advice was provided
BANGLADESH	Discussed and provided input on sample size estimation for post-vaccination sero-monitoring of PPR, as per WOAH/FAO GCES guidelines.	Through email communication with the concerned requesting officers, Dr. Moh. Hassan and Dr. Faisol Talukdar, Upazilla Livestock Officers, Department of Livestock Services, Dhaka, Bangladesh.
INDIA	Diagnostics and surveillance of PPR under NSP-2030, in accordance with GCES and WOAH/FAO guidelines.	As an expert, serving as a core committee member for the National Strategic Plan (NSP) for PPR Eradication 2030, constituted by the Animal Husbandry Commissioner (CVO), DAHD, Government of India.

SRI LANKA	Provided information on the types of samples required for PPR diagnosis and assisted with guidance on the safe transport of biological samples.	Through email communication addressed to the concerned officer, Dr. Sumathy Puvanendiran, Principal Scientist and Head of the Animal Virus Laboratory, Polgolla 20250, Sri Lanka.

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOAH Members other than the own?

No

13. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?

No

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

Yes

If the answer is yes, please provide details of the data collected:

1) Collection of outbreak data – Collection of passive PPR outbreak data, including attack rate, mortality, susceptible population, month and year of occurrence, and GPS location of epi-units (villages).
2) Seroprevalence study – Data collection related to host factors, including GPS location of epi-units (villages), species, age, sex, breed, rearing status under the animal husbandry system, vaccination status, and disease status of animals.
3) Seromonitoring study for vaccine efficacy – Data collection related to host factors, including GPS location of epi-units (villages), species, age, sex, breed, rearing status under the animal husbandry system, nature of vaccine, date of vaccination, vaccine batch number, and vaccine manufacturer.
4) Population immunity study – Data collection related to host factors, including GPS location of epi-units (villages), species, age, sex, breed, rearing status under the animal husbandry system, vaccination status (annual round of vaccination), nature of vaccine, date of vaccination, vaccine batch number, and vaccine manufacturer.
5) Risk assessment of PPR – Conducted in five livestock markets in Kolar and Chikkaballapura districts of Karnataka, India, where 118 traders and 45 farmers were interviewed.
6) Syndromic surveillance of PPR – A total of 70 respondents, comprising 43 farmers and 27 traders, were surveyed in livestock markets in Kolar and Chikkaballapura districts of Karnataka, India.
7) Sentinel surveillance study of PPR in cattle and buffaloes – Data collection related to host factors, including GPS location of epi-units (villages), species, age, sex, and breed.

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

Yes

If the answer is yes, please provide details of the data collected:

1. Assessment of Population Immunity in Goats and Sheep in India following the Second Annual Mass Vaccination under the National PPR Eradication Programme

A cross-sectional PVE was conducted during 2024–2025 to assess vaccine effectiveness and herd immunity under field conditions, in alignment with the WOAH/FAO GCES of the PPR GEP, which targets eradication by 2030. A total of 41,498 serum samples were collected within 90 days post-vaccination from sheep and goats across 1,273 epidemiological units (villages). Samples were tested using a c-ELISA kit, revealing an overall population immunity of 76%.

2. Molecular Characterization of PPR Virus in India: Genetic Insights from Field Outbreaks

A PPR outbreak was confirmed through passive surveillance in goat flocks from Betul district, Madhya Pradesh, in February 2025, resulting in high morbidity and considerable mortality. Clinical samples from affected animals were tested using ELISA, RT-PCR, and qRT-PCR, confirming the presence of the PPRV genome. The virus was successfully isolated, and the findings reaffirm the circulation of lineage IV

3. Sentinel Surveillance of PPR in Cattle and Buffaloes: By testing 3,341 serum samples from cattle and buffaloes using a validated c-ELISA to detect PPRV antibodies in bovines. An overall seropositivity of 6.5% was observed, indicating ongoing silent virus circulation, although this represents a decline compared to the previously reported level of 20%.

16. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category and list the details in the box)

a) Articles published in peer-reviewed journals:

3

1. Anand A, Mahadevappa S, Ojha R, Pal A, Priya S, Dsouza AH, Bokade PP, Kumar KV, Hemadri D, Gulati BR & Balamurugan V (2025). Molecular insights from 2023 and 2024 outbreaks reveal exclusive circulation of peste des petits ruminants virus lineage IV in India. Arch Virol, 170, 73. https://doi.org/10.1007/s00705-025-06254-0
2. Gurrappanaidu G, Subbanna NKG, Wanyoike F, Bahta S, Reddy YR, Bardhan D, Vinayagamurthy B, Vijayalakshmy K & Habibur R (2025). Assessment of vaccination impact in PPR-control program implemented in southern states of India: a system dynamics model approach. Viruses, 17, 23. https://doi.org/10.3390/v17010023
3. Ramesh V, Suresh KP, Mambully S, Rani S, Patil AV, Anand J, Sri SY, Balamurugan V (2025). Comparative transcriptomic and machine learning analysis identifies key genes and immune dysregulation in goats exposed to peste des petits ruminants virus. Virus Genes. https://doi.org/10.1007/s11262-025-02188-6

b) International conferences:

6

1. Kumar, K.V., D'Souza, A.H., Shivasharanappa, N., Manjunatha, V. & Balamurugan, V. (2025). Initiative on PPR surveillance through archived opportunistic samples at Bannerghatta Biological Park, Karnataka, India. Seventh Annual PPR Global Research and Experts Network (GREN) Meeting, FAO–WOAH, Abu Dhabi, UAE, 20–22 January 2025.
2. Kumar, K.V., D'Souza, A.H., Asha, A., Pal, A., Ojha, R., Suresh, K.P., Chandrasekar, S., Govindaraj, G., Shreesha, G., Praveen, K.V., Hemadri, D., Njeumi, F., Gulati, B.R., Parida, S. & Balamurugan, V. (2025). Post-vaccination seromonitoring of PPR mass vaccination campaigns in sheep and goats under India's national strategic eradication plan. Seventh Annual PPR GREN Meeting, FAO–WOAH, Abu Dhabi, UAE, 20–22 January 2025.
3. Bokade, P.P., Deekshitha, G., Asha, A., Priya, S., D'Souza, A.H., Pal, A., Kumar, K.V., Shanmugam, G., Shome, R., Nagalingam, M., Chandrasekar, S., Gulati, B.R. & Balamurugan, V. (2025). Validation of native PPR ELISA kits for specific antibody detection and cattle sentinel surveillance in India. Seventh Annual PPR GREN Meeting, FAO–WOAH, Abu Dhabi, UAE, 20–22 January 2025.
4. Ojha, R., Mahadevappa, S., Anand, A., Kumar, K.V., Hemadri, D., Gulati, B.R. & Balamurugan, V. (2025). Whole genome sequencing of PPR virus to uncover epidemiological insights from the Eastern Himalayan (Northeastern) episystem of India. Seventh Annual PPR GREN Meeting, FAO–WOAH, Abu Dhabi, UAE, 20–22 January 2025.
5. Balamurugan, V., Kumar, K.V., Ojha, R., Suresh, K.P., Govindaraj, G., Chandrasekar, S., Hemadri, D. & Gulati, B.R. (2025). Field efficacy of the PPR lineage IV (Sungri-96 strain) vaccine for achieving population immunity for eradication of PPR in India. Seventh Annual PPR GREN Meeting, FAO–WOAH, Abu Dhabi, UAE, 20–22 January 2025.
6. Naidu, G.G., Pujar, S.S., Gajendran, N., Premkishor, S.N., Puneethraja, R., Kumar, V.K., Shivasharanappa, N., Gulati, B.R. & Balamurugan, V. (2025). Syndromic surveillance of PPR through participatory epidemiology at the wildlife–livestock interface in Karnataka, India. Seventh Annual PPR GREN Meeting, FAO–WOAH, Abu Dhabi, UAE, 20–22 January 2025.

c) National conferences:

8

1. Poojitha, B., Swathi, M., Asha, A., Deekshitha, G., Ojha, R. & Balamurugan, V. (2025). Multiplex PCR detection and genetic characterization of Peste des petits ruminants virus in goats and sheep. VIROCON 2025: Changing Landscapes in Human, Animal and Plant Viruses – Bridging Basic Science, Innovation and Public Health, jointly organised by ICMR–NIV, Pune and IVS, New Delhi, Conrad Hotel, Pune, India, 8–10 December 2025, pp. 35–36.
2. Bokade, P.P., Deekshitha, G., Asha, A., Priya, S., D'Souza, A.H., Pal, A., Kumar, K.V., Shanmugam, G., Shome, R., Nagalingam, M., Chandrasekar, S., Rout, M., Subramaniam, S., Mohapatra, J.K., Singh, R.P., Gulati, B.R. & Balamurugan, V. (2025). Sentinel surveillance of PPR in cattle and buffaloes: Insights into PPRV persistence in vaccinated regions of India. VIROCON 2025, Conrad Hotel, Pune, India, 8–10 December 2025.
3. Ojha, R., Asha, A., Swathi, M., Deekshitha, G., Kumar, K.V., Patel, A.K., Mistry, H., Gulati, B.R. & Balamurugan, V. (2025). Whole genome sequencing of Peste des petits ruminants virus to uncover epidemiological insights from different episystems in India. VIROCON 2025, Conrad Hotel, Pune, India, 8–10 December 2025.
4. Singh, A.K., Gupta, V., Yadav, A.K., Singh, S.K., Balamurugan, V., Singh, R.P., Malik, Y.S., Mishra, A., Nayak, S., Singh, R.K. & Malik, P. (2025). Initiatives and strategies for the eradication plan for Peste des petits ruminants in India by 2030: A comprehensive approach. VIBCON 2025 – XXX Annual Convention of ISVIB and International Conference on "Envisioning Livestock Production and Protection under the One Health Landscape", ICAR–IVRI, Mukteswar Campus, Nainital, Uttarakhand, India, 6–8 November 2025, p. 76.
5. Balamurugan, V., Ojha, R., Kumar, K.V., Swathi, M., Suresh, K.P., Govindaraj, G., Chandrasekar, S. & Gulati, B.R. (2025). Eradication of Peste des petits ruminants in India: Current status, insights and future roadmap. VIBCON 2025, ICAR–IVRI, Mukteswar Campus, Nainital, Uttarakhand, India, 6–8 November 2025.
6. Ojha, R., Kumar, K.V., Chandrasekar, S., Suresh, K.P., Govindaraj, G., Behara, P., Behara, S.S., Shivasharanappa, N., Krishnamoorthy, P., Gulati, B.R. & Balamurugan, V. (2025). Assessment of vaccine efficacy and population immunity in goats and sheep in Odisha: Advancing towards PPR eradication in India. VIBCON 2025, ICAR–IVRI, Mukteswar Campus, Nainital, Uttarakhand, India, 6–8 November 2025, p. 72.
7. Asha, A., Poojitha, B., Swathi, M., Ojha, R., Deekshitha, G., Priya, S. & Balamurugan, V. (2025).
Molecular characterization of PPRV in India: Genetic insights from field outbreaks. National Scientific Convention XXII (NAVS), Veterinary College, Bengaluru, India, 8–9 March 2025.
8. Balamurugan, V., Kumar, K.V., Ojha, R., Chandrasekar, S., Suresh, K.P., Govindaraj, G., Hemadri, D., Shivasharanappa, N. & Gulati, B.R. (2025). Assessment of vaccine efficacy and population immunity in goats and sheep in Odisha: Advancing towards PPR eradication in India. National Scientific Convention XXII (NAVS), Veterinary College, Bengaluru, India, 8–9 March 2025

d) Other (Provide website address or link to appropriate information):

11

1. Dr. V. Balamurugan participated and presented Field efficacy of the PPR lineage IV (Sungri-96 strain) vaccine for achieving population immunity for eradication of PPR in India in the Seventh Annual Peste des Petits Ruminants (PPR) Global Research and Experts Network (GREN) Meeting, organized by FAO and WOAH and hosted by ADAFSA, Abu Dhabi, United Arab Emirates, from 20–22 January 2025.
2. Dr. G. Govindaraj participated and presented Syndromic surveillance of PPR through participatory epidemiology at the wildlife–livestock interface in Karnataka, India in the Seventh Annual Peste des Petits Ruminants (PPR) Global Research and Experts Network (GREN) Meeting, organized by FAO and WOAH and hosted by ADAFSA, Abu Dhabi, United Arab Emirates, from 20–22 January 2025.
3. Dr. K. Vinod Kumar participated and presented a poster entitled "Post-vaccination sero-monitoring of PPR mass vaccination campaigns in sheep and goats under India's National Strategic Eradication Plan" at the Seventh Annual PPR GREN Meeting, organized by FAO and WOAH and hosted by ADAFSA, Abu Dhabi, United Arab Emirates, from 20–22 January 2025.
4. Dr. Rakshit Ojha participated and delivered an oral presentation entitled "Whole genome sequencing of Peste des petits ruminants virus to uncover epidemiological insights of disease in the Eastern Himalayan region (Northeastern episystem) of India" at the Seventh Annual PPR GREN Meeting, organized by FAO and WOAH and hosted by ADAFSA, Abu Dhabi, United Arab Emirates, from 20–22 January 2025.
5. Dr. V. Balamurugan participated and contributed to discussions on the PPR WOAH Reference Laboratory Network at the Global Laboratory and Epidemiology Networking Workshop on Transboundary Animal Diseases (GLENW 2025), organized by FAO/IAEA, Vienna, Austria, from 17–19 June 2025.
6. Dr. V. Balamurugan participated and delivered a guest lecture entitled "Regional roadmap for progressive control and eradication of Peste des petits ruminants (PC-PPR) in South Asian countries" at a regional workshop conducted in Nepal (via video conference) in July 2025.
7. Dr. V. Balamurugan participated and delivered a lecture entitled "Systematic literature review on PPRV diagnostics" at the Eighth Peste des Petits Ruminants (PPR) Global Research and Expertise Network (GREN) Annual Meeting, organized by FAO and WOAH and hosted by CAHEC, Qingdao, China, from 25–27 November 2025.
8. Dr. G. Govindaraj participated and delivered a lecture on progress of Socio-economic thematic group activities in the Eighth PPR GREN Annual Meeting, organized by FAO and WOAH and hosted by CAHEC, Qingdao, China, from 25–27 November 2025.
9. Dr. V. Balamurugan participated and delivered a lecture entitled "A pilot study on active surveillance for detecting mild PPRV infections in small ruminants across selected Indian states" at the WOAH Reference Laboratory Network Workshop (via video conference) on 17 December 2025.
10. Dr. V. Balamurugan participated in a webinar series on PPR diagnostics and control, with each webinar focusing on different regions and a variety of topics, organized by the WOAH Network of Reference Laboratories for PPR, on 18 March 2025 (via video conference).
11. Dr. V. Balamurugan participated in a PPR proficiency testing discussion organized by the WOAH Network for PPR on 23 May 2025 (via video conference).

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAH Members?

No

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 17025:2017	PDF	NABL Accreditation certificates NIVEDI.pdf
ISO 9001:2015	PDF	ISO9001 CERTIFICATE NIVEDI.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Detection of PPRV antibodies by PPR c-ELISA	National Accreditation Board for Testing and Calibration Laboratories (NABL), India
Detection of PPRV antigen by PPR s-ELISA	National Accreditation Board for Testing and Calibration Laboratories (NABL), India
Detection of PPRV genomic RNA by RT-PCR	National Accreditation Board for Testing and Calibration Laboratories (NABL), India
Detection of PPRV genomic RNA by RT-qPCR	National Accreditation Board for Testing and Calibration Laboratories (NABL), India
Detection of PPRV antibodies in the serum to neutralize the infectivity of the virus by Virus Neutralization Test (VNT)	National Accreditation Board for Testing and Calibration Laboratories (NABL), India

20. Does your laboratory maintain a "biorisk management system" for the pathogen and the disease concerned?

Yes

ICAR–NIVEDI's facilities are NABL-accredited for the storage and handling of selected agents, including Peste des Petits Ruminants Virus (PPRV). All laboratory activities are conducted under Biosafety Level 2 (BSL-2) biocontainment conditions.

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOAH?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAH?

Yes

Title of event	Date	location	Role (speaker, presenting poster, short communications)	Title of the work presented
Webinar series on PPR diagnostic and control with each webinar focusing on different regions and a variety of topics, organised by WOAH network of reference laboratories for PPR (Dr. V.Balamurugan participated)	2025-03-17	Virtual -VC	Participant	NA
Seventh Annual Peste Des Petits Ruminants (PPR) Global Research and Experts Network (GREN) meeting organized by FAO and WOAH and Hosted by ADAFSA , Abu Dhabi, United Arab Emirates from 20-22nd January, 2025 (Dr, V. Balamurugan, Dr. Govindaraj, Dr. Vinod Kumar, Dr. Raksit Ojha participated)	2025-01-19	Abu Dhabi, United ADAFSA, Arab Emirates	Presentation	Field efficacy of the PPR lineage IV (Sungri-96 strain) vaccine for achieving population immunity for eradication of PPR in India.
8th Peste Des Petits Ruminants Global Research and Experts Network (PPR-GREN) Annual meeting organized by FAO and WOAH and hosted by CAHEC, China from 25-27 November, 2025 (Dr. V.Balamurugan and Dr. Govindaraj, participated)	2025-11-24	CAHEC, Qingdao, China	Presentation	review on PPRV Diagnostics
5th Annual Workshop by WOAH Reference Laboratory Network on 17th December 2025 (Dr. V.Balamurugan participated)	2025-12-16	Virtual, VC	Presentation	A pilot study on active surveillance for detecting mild PPRV infections in small ruminants across selected Indian states

TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES

23. Did your laboratory exchange information with other WOAH Reference Laboratories designated for the same pathogen or disease?

Yes

24. Are you a member of a network of WOAH Reference Laboratories designated for the same pathogen?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAH REF. LABS
WOAH Reference Laboratory Network for PPR	PARTICIPANT	21	CIRAD, FRANCE The Pirbright, UK, CAHEC, Qingdae, China, AUPANVAC, Ethiopia, FAO/IAEA Joint Laboratory, Austria

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen during the past 2 years?

Yes

Purpose of the proficiency test:	Role of your Reference Laboratory (organiser/ participant)	No. participating Laboratories	Participating WOAH Ref. Labs/ organising WOAH Ref Lab
Validation and to achieve competency of			WOAH/FAO Reference Laboratory for

the tests performed	PARTICIPANT	16	PPR, CIRAD, FRANCE
Validation and to achieve competency of the tests performed	PARTICIPANT	7	WOAH Collaboration Centre for Camel Diseases & WOAH Collaborating Centre for Quality Management Systems at Abu Dhabi Agriculture & Food Safety Authority (ADAFSA), Biosecurity Affairs Division (BSAD), Abu Dhabi, United Arab Emirates

26. Did your laboratory collaborate with other WOAH Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

No

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAH Reference Laboratories for the same pathogen during the past 2 years?

Yes

Purpose for inter-laboratory test comparisons1	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
Validation and intra-laboratory comparison performed (for PPR competitive ELISA (c-ELISA), RT-PCR conducted by FAO/IAEA Laboratory, Vienna, Austria)	PARTICIPANT	65	Serological test- ELISA and Molecular Assay RT-PCR	BANGLADESH, BOTSWANA, CAMEROON, COTE D'IVOIRE, ETHIOPIA, GEORGIA, GHANA, INDIA, JORDAN, MONGOLIA, SENEGAL, TANZANIA, TUNISIA,

TOR12: EXPERT CONSULTANTS

28. Did your laboratory place expert consultants at the disposal of WOAH?

Yes

Kind of consultancy	Location	Subject (facultative)
As WOAH PPR EXPERT for specific technical queries from WOAH for standards	Online	Thermotolerant PPR vaccine -SOP

29. Additional comments regarding your report:

Yes

1. Dr. V. Balamurugan is a member of the PPR Global Research and Expert Network (GREN) Bureau, FAO PPR Secretariat, Rome, Italy, since 1 December 2023, with an extension for two additional years from 1 December 2025 to 31 November 2027.
2. Dr. G. Govindaraj serves as the Socio-Economics Thematic Group Focal Point of the GREN Bureau, FAO PPR Secretariat, Rome, Italy, since 1 December 2023.
3. Dr. K. Vinod Kumar serves as the Wildlife Thematic Group Focal Point of the GREN Bureau, FAO PPR Secretariat, Rome, Italy, since 1 December 2023.
4. ICAR–NIVEDI has been designated as the PPR Reference Laboratory Network (South India) since 2021.
5. As a designated WOAH Reference Laboratory for PPR, ICAR–NIVEDI is fully equipped to undertake sample screening for both WOAH member and non-member countries. Assistance from WOAH and/or FAO is requested to streamline the receipt of samples from Asian, SAARC, or other regional countries.
6. ICAR–NIVEDI has received official permission from the Department of Animal Husbandry and Dairying (DAHD), Government of India, to receive samples from WOAH member countries, in accordance with the prescribed guidelines, for PPR diagnostic testing.
7. Laboratory Information Management System (LIMS): The offline, customized LIMS has been developed according to the existing framework for the testing and diagnosis of samples for PPR.
8. ICAR–NIVEDI plans to organize international training programs—both virtual and hands-on—for WOAH member and non-member countries in the upcoming reporting year (2026). Support is requested from WOAH and/or FAO in terms of organization and funding for these trainings.
9. ICAR–NIVEDI's WOAH Reference Laboratories actively participate in online meetings, seminars, and conferences organized by FAO, WOAH, and the PPR Secretariat, as required, to enhance expertise, facilitate global collaboration, and share technical knowledge.