

PANORAMA

Thematic portfolio

A photograph of a woman in a red dress and blue headscarf feeding a goat in a mountainous landscape. The woman is standing next to a large tree, and the goat is looking at her. In the background, there are mountains and other sheep.

↙ Pastoralism and sanitary challenges

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PERSPECTIVES

DOSSIER

AROUND THE WORLD

The OIE Reference Laboratories for peste des petits ruminants (PPR) are providing extensive support to countries across Africa, Asia and the Middle East in their efforts to control and eventually eradicate PPR.

There are currently three [OIE Reference Laboratories](#) for peste des petits ruminants (PPR); namely, [CIRAD](#) (International Cooperation Centre for Agronomic Research and Development, Montpellier, France), [the Pirbright Institute](#) (Surrey, United Kingdom), and [CAHEC](#) (China Animal Health and Epidemiology Center, Qingdao, People's Republic of China).

As part of their mandate, the OIE Reference Laboratories are involved in a wide range of activities to support the global effort to control and eradicate PPR, launched by the OIE and FAO and known as the [PPR Global Eradication Programme \(PPR-GEP\)](#).



The bulk of these activities involve training the staff of national diagnostic laboratories on PPR diagnostic methods and epidemiology. Candidate laboratories can apply under the OIE Twinning Agreement to collaborate with OIE Reference Laboratories in a one- to three-year programme to improve their capacities for PPR diagnosis and expertise. Laboratories usually undertake such a twinning programme with the aim of becoming an OIE Reference Laboratory for PPR in their own right. Twinning projects have already been completed with laboratories in Morocco, Uganda and several countries in the Asia–Pacific region such as Cambodia, Laos, Mongolia, the Philippines, Thailand and Vietnam. New programmes have started or are under evaluation in Jordan, Kazakhstan and Tanzania (Figs 1 & 2).



Fig. 1 – On-site training is a vital component of the current OIE twinning programme between Tanzania and the Pirbright Institute ©P.Rajkow-Nenow



Fig. 2 – Training laboratory technicians in Morocco (CIRAD, 2011) ©CIRAD

Intensive one-week training on PPR diagnostic methods is also offered each year in the OIE Reference Laboratories to laboratory technicians from applicant countries. In 2017, more than 30 technicians from 16 countries received training on diagnosing PPR at these laboratories (Figs 3 & 4).



Fig. 3 – Combined European Union and OIE training on PPR diagnostic methods (CIRAD, 2017)
©CIRAD



Fig. 4 – The 6th regional symposium and training on diagnosing Newcastle disease and PPR (Qingdao, China, 2017) ©TiangangXu/CAHEC

This training will not only make it easier to eradicate the disease but will also contribute to its prevention in PPR-free countries. In some cases, training can be organised in a country's own national diagnostic laboratory. Such in situ training was notably provided by CIRAD in Georgia, after the first-ever case of PPR appeared there in 2016, and in Mali, for the six countries participating in the [Regional Sahel Pastoralism Support Project \(PRAPS\)](#), financed by the World Bank (Fig. 5). The OIE Reference Laboratories also organise annual proficiency testing, which enables participating laboratories to evaluate their capacity to perform PPR diagnostic tests.



Fig. 5 – Opening ceremony of training programme on diagnostic methods, provided by CIRAD as part of the PRAPS project (Bamako, Mali, 2017)
©PRAPS

In addition, OIE Reference Laboratories offer their expertise and diagnostic services to OIE Members on request. In September 2016, ten samples from Mongolia were sent to the Reference Laboratory in China for confirmation of PPR infection. All samples tested positive for the virus at the laboratory. This was the first outbreak of PPR in Mongolia. Similarly, the 2016 PPR outbreak in Georgia was only discovered when samples originally sent to the Reference Laboratory at the Pirbright Institute to be tested for bluetongue came back negative. They were subsequently tested for PPR virus (PPRV) and this time the results were positive.

Experts from OIE Reference Laboratories have travelled to multiple countries facing PPR outbreak emergencies to

support their control efforts and assist in epidemiological investigations. These experts have also taken part in OIE and FAO meetings on the PPR–GEP to offer their expertise during discussions and decision-making processes. In April 2017, the PPR Regional Roadmap Meeting for ASEAN countries⁽¹⁾, China, Mongolia and Timor Leste, was organised in China and attended by Dr Monique Éloit, Director General of the OIE. Dr Zhiliang Wang delivered a presentation on the eradication plan for PPR in China (Fig. 6). All representatives finally reached agreement on a regional strategy to eradicate PPR. In December 2017, Dr Baron and Dr Libeau (from the Pirbright Institute and CIRAD, respectively) attended a joint OIE/FAO meeting in Rome to develop criteria for the preparation of a thermotolerant vaccine, seen as an important tool for the PPR–GEP.



Fig. 6 – Dr Zhiliang Wang during the PPR Regional Roadmap Meeting for the ASEAN countries of China, Mongolia and Timor Leste, jointly sponsored by the OIE and FAO (Qingdao, China, 2017) ©TiangangXu/CAHEC

OIE Reference Laboratories both lead and take part in research and development projects that aim to fill the gaps in our knowledge of PPR and improve methods for eliminating the disease altogether. New diagnostic kits, such as lateral flow devices and camel-adapted, competitive enzyme-linked immunosorbent assay (ELISA) methods, are being developed, validated, produced and/or distributed, to widen the scope of PPR diagnosis in non-typical hosts and in the field. A key role of the OIE Reference Laboratories is the collection of samples and virus isolates from many countries, enabling the validation of diagnostic reagents and vaccines against the broadest possible range of viruses – a task that is not feasible for national diagnostic or research laboratories. All three OIE Reference Laboratories work intensively on the development and validation of the next generation of PPR vaccines, especially vaccines that permit the differentiation of vaccinated and infected animals (DIVA vaccines). They have also entered partnerships with many African and Asian countries to collaborate on research into PPRV transmission dynamics; in particular, the role of wildlife and transboundary livestock trade in PPRV circulation.

All the activities described above are crucial in providing the resources and support required at both the national and regional levels if we are to reach our goal of worldwide control and eradication of PPR. The OIE Reference Laboratories have lost no time in showing that they are there to help, every step of the way.

(1) ASEAN: Association of Southeast Asian Nations – Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Vietnam

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AROUND THE WORLD

▶ NETWORK INITIATIVES

OIE Reference Laboratories for PPR provide support to the PPR Global Eradication Programme

KEYWORDS

#OIE Reference Laboratory, #peste des petits ruminants (PPR), #Peste des Petits Ruminants Global Eradication Programme (PPR-GEP)

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