

Peste des Petits Ruminants (PPR) and Sheep and Goat Pox (SGP) result in major losses in livestock productivity and also death of many small ruminants for farmers in Safèbougou, a Malian village located about 100 km north of Bamako. "Every year, there were cases of sheep pox and PPR," says Boubacar Dramane Bah, a 65 year old Fulani livestock farmer, standing in the middle of his goat herd. "PPR is a dangerous disease. We know when they are infected, the sick animals cry and, after only two days, they die," continues Bah.

PPR and SGP have been recurrent diseases, not just in the region but across Mali where it devastates the local economy which is dependent on livestock. In the Malian Bambara language, the name for PPR is *Berebla* meaning 'end of career'. This is due to the high mortality rate during an outbreak, which according to the World Organisation for Animal Health (OIE), is between 90-100%. PPR can also cause abortion in female animals. SGP has a slightly lower mortality rate of between 70-90% but also causes huge economic losses resulting from decreased milk production as well as reduced quality of hides and wool.

Vaccines for both PPR and SGP are available separately, but their use has been predominantly limited to government vaccination campaigns once an outbreak occurs, which sometimes may be too late for affected communities. Non-profit company, the Global Alliance for Livestock Veterinary Medicines (GALVmed) has been supporting Morocco-based pharmaceutical company, MCI Santé Animale, to trial vaccinations using LYOPOX-PPR™ (a combined vaccine against both diseases) along with deworming of sheep and goats. With this new combined vaccine, farmers are able to actively manage their livestock's health by vaccinating against both diseases before an outbreak occurs.

In Safèbougou, houses built of mud bricks dot the land owned by the Fulani – an ethnic pastoralist group whose livestock are passed from father to son. "We live only from the livestock that our parents bequeathed us," says Bah. Each member of his family (adult men and women) has around 80 goats and sheep. With his family comprising of 10 people, they have around 800 goats and sheep in total.

For these livestock farmers, small ruminants are a critical source of income so the impact of these diseases can be economically devastating. According to Bah, when he sells a goat or a sheep, he can earn XOF 60,000 (about US \$100), a sum that is sufficient to cover the monthly expenses of his family.

Until the introduction of this new combined vaccine against SGP and PPR, herders did not vaccinate their animals because of the cost. "For 20 years I have been working with livestock farmers from surrounding villages," says Aguibou Sylla, the Sirakorola village veterinarian. "For the first time, the farmers have taken the initiative to request this new vaccine." Sylla is one of the vets who recently took part in the vaccination and deworming project. "We received 10,000 doses of the vaccine and selected 14 surrounding villages to participate in the project, where we vaccinated all small ruminants," states Sylla.

Bah is pleased with the recent vaccinations in his village. "There are a lot of Fulani herders in the surrounding villages, but since the animals were vaccinated, no one has told me of a single case of PPR or sheep pox," Bah says. "One year I lost all my animals due to PPR, but the arrival of this new vaccine [LYOPOX-PPR™] has saved my flock so far."

The vaccinators are also confident that the new vaccine does not result in any common complications in animals, such as abortion in pregnant females. The results of laboratory analysis of blood samples taken from vaccinated animals confirm the livestock farmers' observations of the efficacy of LYOPOX-PPR™. In total, more than 95,000 small ruminants were vaccinated during the project in three regions of Mali: Kayes, Sikasso and Koulikoro.

Dr Moussa Keita, who supervised the vaccination programme in Mali, states that the vaccine is efficient and cost-effective as both diseases are controlled at the same time. The trial found that smallholder herders are willing to pay for this vaccination that was previously provided by the government for free. Further data provided by the trial (which was approved by the regulatory authorities) will also support the vaccine licensing (registration) process in the West African Economic and Monetary Union (UEMOA), which covers 14 countries including Mali. MCI Santé Animale has filed the vaccine registration of LYOPOX-PPR™ with the UEMOA and when registration is complete the vaccine will be available for all countries in the UEMOA region.



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