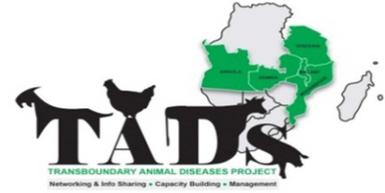




SADC *Pestes des petits ruminants* (PPR) control and eradication working group



Background

The SADC TADs Project which is funded by African Development Bank (AfDB), through two Sub-Committees of the SADC Livestock Technical Committee (LTC), namely the Epidemiology and Informatics and Laboratory and Diagnostic Sub-Committees, facilitated the formation of a *Pestes des petits ruminants* (PPR) working group (PPR WG) in July, 2011). In an endeavour to bring PPR outbreak under control and eradicate the disease from the region, the project has facilitated activities of the working group. Constituting the 5 Member States (MS) implementing the SADC TADs project (Angola, Mozambique, Malawi, Tanzania and Zambia) and DRC, the PPR WG has progressed well in coming up with a regional PPR control and eradication strategy. The strategy is already in operation and this brief based on the 4th PPR WG meeting from the 14th to the 15th of August 2012 details the activities, achievements and plans of the group. The objectives of 4th PPR working group meeting were to:

- Review progress at Member State and SADC Secretariat level since last meeting in June 2012,
- Identify cross-cutting PPR surveillance issues and discuss possible solutions,
- Finalise the PPR regional control and eradication strategy, and
- Establish a framework and identify tools for monitoring and evaluating the PPR control strategy.

Introduction

Pestes des petits ruminants, is a highly contagious disease affecting goats and sheep. It is caused by a species of the Morbillivirus genus of viruses. The disease has roughly an 80% mortality rate in acute cases. As at June 2012, PPR had caused the death of over 125,000 sheep and goats in two affected SADC Member States. The region is divided into 3 areas in the PPR control and eradication strategy:

1. **Infected** – DRC, Tanzania. (*in red*)
2. **High risk** –countries sharing a boarder with the infected (Angola, Zambia, Malawi and Mozambique). (*in yellow*)
3. **Low risk** – rest of SADC (*in green*)

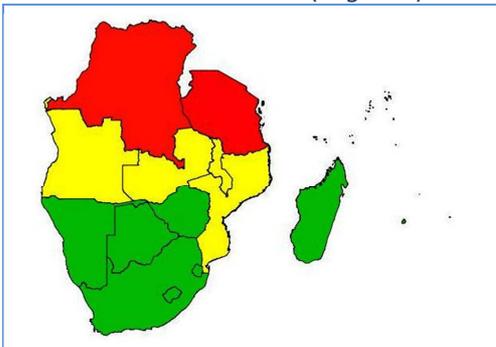


Figure 1: Sub-division of SADC MS in the PPR control strategy

Components of the PPR control and eradication strategy

1. Policy and Legislation issues
2. Early Warning and Preparedness
3. Control options
4. Diagnosis and Quality Control
5. Regional Coordination and Communication
6. Post vaccination/containment process
7. Research needs
8. Socio economic issues

Country updates: Status of PPR

1. DRC

- Disease spreading to new areas. Current active outbreak is in Boende district.
- The socio-economic impact assessment was done and report circulated to both SADC secretariat and MS.
- Government initiated wide scale vaccination is in progress.
- 500,000 doses of PPR vaccine procured from Jordan (supported from FAO) and government added 150,000 doses procured from Ethiopia. Each dose cost an estimated US\$0.03.

4th Meeting of the working group on the control and eradication of PPR in the SADC region

Compiled by SADC LIMS/AIMS in collaboration with SADC TADS project and working group on PPR control and eradication

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- Harmonized surveillance planned with Zambia along the border. Challenges having a similar collaboration with Angola.
- Samples from the 30 reported outbreaks were sent to a BSL3 laboratory in Vienna for virus characterization. Results show that the virus circulating in DRC is similar to the lineage 4 strain which is circulating in Asian and Middle East countries.

The Democratic Republic of Congo reported that since its emergence in 2010 to June 2012, PPR had caused the death of almost 120,000 small ruminants. It estimated the direct loss, i.e. value of dead sheep and goats, to be US\$5.3 million. This estimate does not take into account socio-economic impact and other benefits of goats and sheep to the smallholder farmers.

2. Malawi

- Malawi has identified the need for sensitisation of higher authorities on the merits of vaccination as control option for infected and high risk countries as priority.
- No activities implemented since last meeting.

3. Mozambique

- Mozambique has conducted PPR public awareness campaigns.
- PPR sero-surveillance has also been done

4. Tanzania

- Tanzania has planned harmonized surveillance with Malawi, Zambia and Mozambique. If funds are available this will be done in August and September 2012.
- Tanzania has vaccinated 1.2 million sheep and goats.
- PPR outbreak reported in Singida district – Central Tanzania and 100,000 doses of PPR vaccines have been dispatched for ring vaccination.
- A 50 km vaccination buffer zone will be created with neighbouring countries (Malawi, Mozambique and Zambia) and

funds have been requested from FAO through the TCP that is being implemented.

- Veterinary Department is planning to sensitise local authorities using results from the study on the socio-economic impact of PPR.

5. Zambia

- Zambia has planned to conduct surveillance 50kms from its neighbouring borders with DRC and Tanzania.
- A student was attached to do risk assessment of the introduction of the disease into the country from Tanzania.

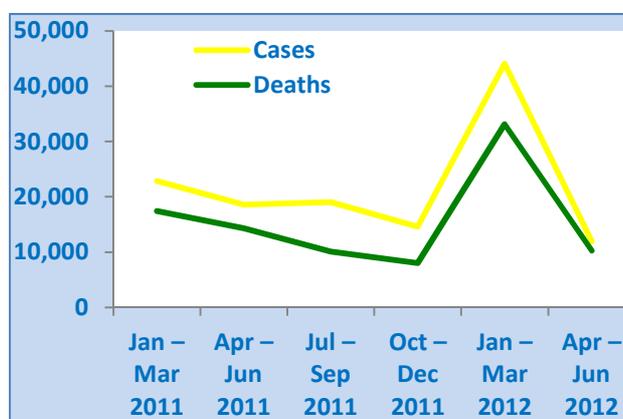


Figure 2: Temporal distribution of PPR (source: Status of Animal Health in the SADC region bulletin 2, 2012)

PPR WG progress update

The Chairperson of the working group, Dr Leopold Mulumba of DRC, presented the five year work plan for the PPR control strategy and estimated budget.

Notable issues resolved:

- All PPR vaccines to be sourced from Jordan in order for the region to achieve maximum protection based on the molecular evidence from DRC and the nature of disease spread.
- Both pre and post vaccination surveillance of the disease (sero- and clinical) should be done.
- Pre-vaccination monitoring should be done concurrently with vaccinations.
- Vaccination coverage is country dependent because of various intrinsic national factors which may vary.

- A system of animal identification is very important for post vaccination monitoring.
- First choice samples for molecular diagnosis are lung tissues from clinically infected animals. Samples may include tracheal swabs and faeces.
- It is important to have Ribonucleic acid (RNA) transport media because RNA is very difficult to preserve without preservative.
- OIE is recognizing PPR as a notifiable disease.
- Standard operation procedure (SOP) for the epidemio-surveillance is not available in the region. SADC should consider recruiting a competent consultant to prepare the SOPs.
- Livestock Information Management System use is still low in the region. Data collation, storage analysis and publishing are still big challenges for SADC MS.
- Many laboratories have developed DIVA tests but none has been validated by OIE to differentiate the Non-structural proteins (NPS) for PPR. It was therefore recommended that BVI and OVI should develop DIVA test for PPR for the SADC region to assist in the differentiation of vaccinated animals from the naturally infected ones.

PPR Vaccine and vaccinations

- Vaccination coverage is country dependent. 50km vaccination zone from the border towards the infected and the high risk countries should be the guiding principle.
- Pre-vaccination sampling should be done on vaccination day and sero-monitoring for sero-conversion should start from week 5 post vaccination.
- The cost of a single dose of vaccine alone was estimated at US\$0.05 (5 cents). After calculating the logistical costs involved in vaccinating a single animal based on the Tanzanian example, the estimated total cost of PPR vaccination is US\$0.15 per animal. The WG agreed to use US\$0.20 for planning purposes. The US\$0.20 will protect a goat or a sheep estimated to cost its entire life span.

- All small ruminants above three (3) months are eligible for vaccination.

PPR Surveillance

- SOPs for surveillance and sampling need to be harmonized. SADC Secretariat should engage a consultant to do this work.
- MS should make their national SOPs available to the Secretariat and to the consultant.
- Consultant's TORs to include formulation of PPR epidemio surveillance SOPs

Training on disease recognition, sample collection, transportation, storage and analysis

- Tanzania to host the training.
- Duration 2 weeks (10 working days)
- Laboratory and field technicians, 2 each per country.
- In country trainings should follow. Number of trainings will be determined by size of countries. To facilitate funding of trainings each Country is to prepare training budgets and submit to the National TADs Project coordinator.

Strengthening laboratory capacity

- C-ELISA is the serological test of choice while Polymerase chain reaction (PCR) is the molecular one.
- Protocols for C-ELISA were already circulated by Tanzania. There is a need to harmonize the PCR protocols. DRC and Tanzania to share their protocols and use the OIE protocol as a basis to come up with a standardized protocol for circulation.
- All test kits should be validated using local isolates (positive and negative controls) before the protocols are used. This will help in result interpretation.
- As SADC is organizing the Proficiency tests (PTs) for PPR (c-ELISA and PCR), MS are encouraged to conduct inter-lab tests as a means of quality assurance of their results.
- The WG noted a lot of short falls in sample submission to the labs from the field and it was agreed that there is a need for the two Sub-committees to come up with a system which should have the capacity to track the

two way flow of information between the lab and the field.

Regional coordination

- The WG noted serious gaps in disease reports at the SADC Secretariat. This was attributed to erratic LIMS reporting by MS. Regarding emergency disease reporting system, SADC indicated that reports can be sent directly to SADC via LIMS or otherwise.
- In an attempt to improve public awareness of PPR among all SADC MS, SADC Secretariat is planning to prepare a booklet which will contain all the necessary information regarding PPR. The booklet will also contain the PPR control strategy and the road map for the regional PPR eradication.

Research

The following possible research areas were prioritized.

- Wildlife interfaces: wildlife is a potential carrier of PPR virus. Sampling can be done in

Conclusion

The working group was commended for having done a good Job. Consequently the products it has generated will be packaged and disseminated for information sharing and awareness. The SADC PPR control and eradication strategy will be placed on the SADC website and circulated widely for the benefit of the region. The public awareness for PPR booklet, which will be produced as a result of the work of the working group, will be ready by November, 2012. As this is the last of 4 meetings that the SADC TADS Project has sponsored the group will continue with virtual discussions and prepare proposals for possible AU-IBAR funding for future meetings and activities. The working group has provided the SADC region with a strong leverage to control and eradicate PPR and should continue its good work.

liaison with the Wildlife departments as they are doing game capture activities for various reasons.

- Socio-economic dynamic studies and studies on drivers that lead to introduction of PPR into countries free of the disease. Regular submission of LIMS reports for all modules is a good starting point.
- Risk mapping and risk assessment.
- Virus characterization

Policy and Legislation

MS were encouraged by the Secretariat to review their Performance of Veterinary Services (PVS) evaluation and identify the gaps. It was noted that many policies in veterinary legislation need review in all SADC countries. Consequently the development of the SADC PPR control and eradication strategy should be followed by development of national policy and legislation reviews in MS.

Table 1: Participates to the 4th meeting of the working group on PPR control and eradication

Country	Delegate
DRC	Leopold Mulumba
Malawi	Gilson Njuga
Mozambique	Baltazar Macucule
Mozambique	Sara Juma Achá
Tanzania	Niwael Mtui-Malamsha
Zambia	Yona Sinkala
Zambia	Gerald Monga
SADC	Beedeeanan Hulman
SADC	Misheck Mulumba

