



TECHNICAL ITEM I

Eradication of Peste des petits ruminants (PPR): results and perspectives

Dr Henry Wamwayi
26/01/2023

TECHNICAL ITEM I

Eradication of Peste des petits ruminants: results and perspectives

Dr Henry Wamwayi
Nairobi, Kenya

Original: English

Summary: *This report briefly examines the perceptions and perspectives of the WOAHA Members of the Regional Commission for Africa, on the importance of sheep and goats and several important factors, available strategies and tools that are critical for achieving the eradication of peste des petits ruminants (PPR).*

The aim is to highlight the PPR situation in Africa and identify key factors hindering progress towards the attainment of PPR free status of Members by 2030.

National PPR strategies have been formulated in all the Members except one. Although the majority of the responding Members perceive the eradication of PPR by 2030 to be an achievable target, there are inadequate human and financial resources to effectively implement the national strategies. Among the Members, there is inadequate awareness and knowledge of the Global, pan-African and sub-regional PPR strategies and the recently launched Global Eradication Programme Blueprint to eradication. Six Members have obtained official recognition of their PPR free status by WOAHA and one Member has an official recognition of its PPR free zone. However, in the other Members, the effective use of existing tools, processes and procedures to support and assess the implementation of national PPR eradication strategies, is hindered by inadequate knowledge and human resource capacities/expertise at the national level. This includes WOAHA processes and procedures to enhance the progress of Members towards PPR eradication. There is thus a need for WOAHA and partners to enhance awareness and capacity building to maximise the use of the available tools.

At the national level, uncontrolled internal and cross-border animal movements together with the low levels of PPR vaccination coverage, present challenges to PPR control and eradication. There is need to enhance regional cooperation and collaboration in the enforcement of animal movement controls.

INTRODUCTION

This report briefly examines the perceptions and perspectives of WOAHA Members of the Regional Commission for Africa, on the importance of sheep and goats and several important factors, available strategies and tools that are critical for achieving the eradication of peste des petits ruminants (PPR).

The aim is to highlight the PPR situation in Africa and identify key factors hindering progress towards the attainment of PPR free status of Members by 2030.

The objectives are:

- To identify gaps, challenges and opportunities for appropriate interventions in order to enhance the prospects for the timely eradication of PPR from Africa in line with the FAO/WOAH target of 2030 for its global eradication.
- To reiterate the availability of technical tools and support mechanisms from WOAHA/FAO and regional/sub-regional organisations to enhance the capacities of member States for PPR eradication
- To highlight critical areas for further support to Members by WOAHA and partners

The report is based on information obtained following analysis of the responses provided to a wide range of issues in a questionnaire sent out to the 54 Members of WOAHA Africa Region. Responses to the questionnaire were received from the following 34 Members:

Algeria, Burkina Faso, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo (Republic of), Cote d'Ivoire, Djibouti, Eritrea, Ethiopia, Gabon, Gambia, Guinea, Guinea Bissau, Kenya, Madagascar, Malawi, Mali, Mauritius, Morocco, Mozambique, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, South Sudan, Tanzania, Uganda and Zambia.

The importance of sheep and goats in the Members

Sheep and goats are widely known to constitute an important part of the African livestock and represent a key element in food and nutrition security in Africa. In 2018, at global level, available data showed that 30 % of sheep and of goats worldwide were reared in Africa (1). Small ruminants are generally farmed in areas where climatic and living conditions are challenging and feed resources for livestock are scarce. In those regions, sheep and goats are mostly reared by small holder farmers under pastoral and agro-pastoral production systems. They provide milk, meat, skins and hair fibres (wool and mohair) all year-round for household use and for sale. They reproduce rapidly with a short generation time and are a valuable asset for rebuilding herds after devastating losses from natural disasters, disease and conflict. In agro-pastoral and crop production systems, they are an important source of manure for fertilizing crops and serve as insurance and source of income in case of crop failure and drought. Furthermore, in Sub-Saharan Africa, women are generally involved in small ruminant farming providing additional income, financial independence, and improvement in child nutrition and education. In some nomadic production systems in the Mediterranean region, the rearing of small ruminants has been shown to support ecologically functional systems contributing to sustain biodiversity and climate change mitigation and adaptation (2).

For purposes of this technical item, an assessment was made of the socio-economic contribution of sheep and goats through household incomes, household food and nutrition security, rebuilding of herds after disasters, national economic growth and international trade in the responding member countries.

The majority (70.6%) of the respondent Members confirmed that the contribution of sheep and goats to household incomes was very significant or significant while 23.5% considered it moderate. Only two countries (5.9%) indicated that sheep and goats had a limited role in household incomes. The role in household food and nutrition security was considered significant in 73.5% of the responding Members, with 11.8% ranking it as moderate while it was considered limited in 5 countries (14.7%). Sheep and goats were considered significant or very significant in supporting the resilience of vulnerable households to shocks/crises in a total of 27 countries (79.4%), moderate in 5 countries (14.7%) and limited in 2 countries (5.9%). A total of 19 countries (55.9 %) indicated that sheep and goats played significant to very significant roles in rebuilding lost herds while 7 (20.6%) indicated a moderate role and 8 (23.5%) considered their role as limited. The contribution to international trade was of significant importance in 44.1% of the Members, moderate in 14.7% and limited in 41.2%. The contribution to the national economic growth was considered significant by 55.9% of the Members, moderate by 26.5% and limited by 17.6%.

Overall, sheep and goats were considered to have positive socio-economic contributions in the majority of Members. The African Union Continental Free Trade (AfCFTA) became operational in January 2021. This provides opportunities for even greater contributions of sheep and goats to economic growth through enhanced intra-African trade in sheep and goat commodities. However, the effective exploitation of trade opportunities under the AfCFTA will require improved capacities and investments to enhance sanitary standards to ensure safe intra-African trade in live sheep and goats and their products.

The importance of Peste des Petits Ruminants

Peste des petits ruminants (PPR), is an acute contagious disease caused by small ruminant Morbillivirus in the family Paramyxoviridae (3). PPR susceptible animals are primarily domestic sheep and goats although cattle, camels, buffaloes and some wild ruminant species can also be infected and may act as sentinels indicating the spill over of infection from domestic small ruminants. Although some wild small ruminants can be infective, only domestic sheep and goats play a significant epidemiological role in the maintenance of PPR (4, 5). It is a transboundary disease which has severe negative socio-economic impacts on the livelihoods, incomes and food security of the vulnerable rural communities and small-holder farmers who rear sheep and goats. Women are often particularly affected as they are the primary care givers and beneficiaries of sheep and goats. This affects household nutrition, particularly children. In some countries, sheep and goats

contribute significantly to the national economies through exports of live animals, mutton, wool and mohair and the occurrence of PPR often results in export bans with negative impacts on the national economies.

PPR is a WOAHA-listed disease and countries have an obligation to report its occurrence to WOAHA in conformity with the provisions of the Terrestrial Animal Health Code (4).

The production, productivity, trade and marketing of sheep and goats in Sub-Saharan Africa are constrained by the presence of high impact transboundary animal diseases including PPR. Across Africa, 37 countries have reported PPR in their territories and the disease remains endemic in northern, western, central and eastern Africa. Outside Africa, PPR is endemic in Southern Asia, the Middle East, China and Eastern Europe. Six Members (Botswana, Eswatini, Lesotho, Madagascar, Mauritius and South Africa) in southern Africa and two non-contiguous territories (Reunion and Saint Helena) are officially recognized as PPR free by WOAHA while one Member (Namibia) has an officially recognised PPR free zone. Mozambique, Malawi, Zambia, Cabo Verde in western Africa, Sao Tome and Principe in Central Africa and Seychelles in southern Africa together with Zimbabwe have never recorded outbreaks of PPR.

Research has associated PPR with increased poverty (10%); food and nutritional insecurity; environmental degradation; school dropout and migration of households. A benefit-cost analysis of PPR eradication estimated total discounted costs of US\$2.26 billion for a 15 years' eradication programme yielding a net benefit of US\$74.2 billion (6) and a benefit cost ratio of 33.8. The eradication of PPR will therefore have positive impacts on household food and nutrition security, livelihoods, household incomes and the conservation of ecosystems.

Pastoralism is a key driver of growth that provides livelihoods for more than 20 million people in the Sahel. In 2015, WOAHA launched the Regional Project to support Pastoralism in the Sahel (PRAPS) with funding from the World Bank. The animal health component of PRAPS aims to improve access to markets, the means of production and essential services in selected areas of six Sahelian Members (Burkina Faso, Chad, Mali, Mauritania, Niger and Senegal), where more than 75% of the livestock sector is based on transhumant or nomadic pastoralism. The project targets the control of PPR among other diseases. These interventions will contribute to strengthening the resilience of the pastoral communities in the Sahel region.

Knowledge and Contribution of Members to Global, Regional, Sub-regional and National PPR Strategies/programmes

In April 2015, WOAHA and FAO jointly launched the Global strategy for the control and eradication of Peste des petits ruminants (PPR-GCES) by 2030 (7) during an international conference on PPR held in Abidjan Cote d'Ivoire. To operationalise the implementation of GCES, a PPR Global Programme for 2017 – 2021 (8) was developed by FAO and WOAHA in consultation with stakeholders. A second phase of the programme was developed after extensive consultations with stakeholders in different regions of the world and launched on 4th November 2022 (9). For Africa, AU-IBAR in consultation with partners, led the development of a pan-African PPR control and eradication strategy aligned to the GCES in December 2015 (10). Subsequently, several Regional Economic Communities in Africa (ECCAS, ECOWAS, IGAD and SADC) led the development of sub-regional PPR strategies for their respective regions.

There are thus a number of strategies and tools in place to support the PPR eradication process in Africa. There now remains only seven years to the 2030 targeted date for the global eradication of PPR. A reflection on the achievement of this target is necessary, taking into account the needs and current capacities of countries in Africa to implement the national PPR strategies.

The linkage of the Members to the different strategies and programmes was examined by assessing their knowledge, contribution and participation in the development of the strategies with the following results:

i. **Pan African PPR Strategy**

Nine countries indicated they had inadequate knowledge of the Pan-African PPR Strategy. Four countries did not contribute or participate in its development. Three countries indicated that the activities in the strategy were not relevant to the country needs. Another 6 countries had no mechanism to link with the strategy.

ii. **Sub regional RECs (IGAD, ECOWAS etc.) PPR Strategies**

Nine countries indicated they had inadequate knowledge of the respective sub-regional PPR Strategies. Four countries did not contribute or participate in their development while two indicated the activities in the strategies were not relevant to the country needs. Another 6 countries had no mechanisms to link with the strategies.

iii. PPR GEP Blueprint phase to eradication

Eleven countries had inadequate knowledge of the GEP Blueprint while 5 countries indicated they did not contribute or participate in its development. Two countries indicated the activities in the Blueprint were not relevant to the country needs and three countries had no mechanisms to link with the GEP Blueprint.

iv. Other PPR strategy-related findings

Other findings included indications by one Member that all the international, regional and sub-regional strategies serve a critical role of guidance for implementation of the national strategies. The veterinary cadres in some countries require capacity strengthening to effectively engage with the strategies. Linking with regional strategies was constrained by the low level of funding and the framework to manage the eradication programme and stakeholders involved. There was also a perception that the regional and global strategies focus more on PPR infected countries and provide little guidance to historically free countries. Some countries have accessed the strategies through the internet but have never contributed to their development. It was observed that the PPR-GEP blueprint is new and needs to be cascaded to the individual countries for ownership and adoption.

One country cited its participation in the launch of the PPR-GEP Blueprint through the intervention of the National Minister responsible for livestock at the launch event. Examples were provided of good collaboration with AU-IBAR, ECOWAS, IGAD, FAO and WOAHA for support or regional harmonisation of PPR control activities.

The Pan-African and sub-regional (RECs) PPR strategies are aligned to the GCES. The development of the PPR-GEP Blueprint to eradication resulted from the inputs of a wide range of stakeholders following extensive consultations in different regions. The gaps in knowledge highlighted by the Members could be due to frequent staff turnovers in the national Veterinary Services. There is therefore need to continuously raise awareness among the Members on these strategies in order to ensure continuity in the knowledge of the global and regional/sub-regional strategies and the appropriate alignment of national PPR eradication activities. The recently launched PPR-GEP Blueprint to eradication needs to be widely disseminated to foster greater understanding, adoption and alignment of national PPR eradication activities.

Status of National PPR eradication strategies

The status of national PPR strategies in the countries was assessed as follows:

i. Drafting and adoption of PPR Strategies by the national competent authorities;

National PPR strategies have been drafted in 33 (97%) of the 34 responding Members. The strategies have been adopted for implementation by the national competent authorities in 23 (70%) countries while 10 countries (30%) have not yet adopted the drafts. One country has not yet drafted a national PPR strategy. Only 15 (45.5%) of the national strategies have been costed up to the eradication of PPR.

ii. The level of funding for implementation of the strategies;

The strategies were funded to less than 25% of the requirement in 16 (47.06%) countries, 25-50% in 9 (26.47%) countries; 50-75% in 4 (11.76%) countries and to more than 75% in 5 (14.71%) of the countries with strategies.

iii. Sources of funding for the national strategies/control programmes;

The funding of the PPR national strategies/control programmes from external resources was less than 25% in 16 countries (47%), 25 -50% in 9 countries, 50-75% in 4 countries and more than 75% in 5 countries.

The funding of the PPR national strategies/control programmes from the national budgets was less than 25% in 21 countries (62%), 25 -50% in 5 countries, 50-75% in 2 countries and more than 75% in 6 countries

iv. The levels of technical staff available for implementation;

The levels of technical staff available for implementation of the PPR strategies varied from less than 25% in 4 countries, 25-50% in 10 countries, 50-75% in 14 countries to more than 75% in 6 countries.

v. The extent to which the resources allocated to the PPR eradication strategies cover the necessary duration;

In 12 countries, the resources allocated were sufficient for less than 25% of the expected duration and in 11 countries they were sufficient for 25-50% of the duration. The allocated resources covered more than 75 of the necessary duration in only 6 countries while in another six countries they covered 50-75% of the duration.

vi. The use of emergency funds under the PPR strategy

The vast majority of Members (25) highlighted limited financing as the reason for the lack of emergency funds under the PPR strategy. One Member attributed this to limited technical staff to activate responses. Four Members indicated that they have never had to use emergency funds. Another four highlighted the lack of political goodwill to facilitate access to emergency financing.

In summary, the majority of the respondent Members have developed national PPR strategies but only a few strategies have been costed until the eradication of PPR. In addition, the human and financial resources to implement the strategies are inadequate to achieve eradication in the majority of the countries. The limited funding also impacts negatively on the availability and use of emergency funds to effectively respond to outbreaks of PPR.

Challenges in implementing national PPR strategies.

Members identified the main challenges in implementing PPR Strategies in the following order of priority:

1. Inadequate disbursement of funds by the national government for PPR activities (24 Members)
2. Weak capacity of the national veterinary services for PPR surveillance, diagnosis and control (20 Members)
3. Lack of public private partnership initiatives on PPR strategy (13 Members)
4. Lack of an enabling national policy framework (10 Members)
5. Lack of an appropriate legal framework (9 members)
6. Insecurity and armed conflict preventing access to some areas for PPR vaccinations (4 Members)
7. PPR is not considered a priority by national stakeholders (3 Members)

Utilisation of tools developed to support the implementation of national PPR strategies.

A number of tools have been developed to support Members to implement and assess the progress in implementation of the national PPR strategies. As part of the evolution of the PVS pathway, WOAHA developed PPR specific content to provide a dedicated focus for evaluation of the capacity of national veterinary services with respect to the control and eradication of PPR (11). The PPR specific content report is annexed to the PVS mission reports. In Africa, Burundi, Cameroon, Chad, Cote d' Ivoire, Liberia, Nigeria, and Sierra Leone have so far undertaken PVS missions with PPR specific content.

In the Sahel region, the first phase of the PRAPS project (February 2016 – December 2021) enabled targeted technical support, training, and coordination towards improving animal health while ensuring better coordination and complementarity of interventions within the region. The project supported the development and monitoring of national strategic plans, acquisition of quality certified PPR vaccines, awareness campaigns, PPR vaccination campaigns and post-vaccination sero-monitoring surveys. The project also facilitated inter-laboratory testing with CIRAD and the development and deployment of epidemiological databases under the kobotoolbox (KBT) environment to facilitate disease information sharing amongst the participating countries. Technical trainings were provided to strengthen the capacities of the Members' veterinary services and support was provided for the development of technical manuals including sero-monitoring protocols. The project also supported regional consultation mechanisms to harmonise animal health plans, their implementation, monitoring and evaluation.

The second phase of PRAPS currently underway, is providing technical support to strengthen veterinary capacities and coordination mechanisms to improve animal health. Technical activities specifically include capacity building sessions on analysis and processing of sero-monitoring data, inspection of veterinary drugs and the revitalisation of epidemiological surveillance networks etc. Variable progress has been noted between the Members in the implementation of the national PPR strategic plans.

Other key tools to support the implementation of national PPR strategies include:

- i. The PPR Monitoring and assessment tool (PMAT) that was recently revised.
- ii. PPR Post Vaccination Evaluation (PVE) tool.
- iii. Training on submission of dossiers for official recognition of free status by WOAHA
- iv. Training on endorsement of PPR Official Control programmes by WOAHA
- v. Wildlife surveillance guidelines
- vi. Contingency Plans (FAO template)

- vii. WOAHP Vaccine Bank
- viii. WOAHP Reference Laboratories network

The majority of the Members do not make use of the available tools to support the implementation of the national PPR strategies. The main reasons provided in descending order for the inadequate use of these tools are:

- i. inadequate knowledge of the procedures and process for engagement with the tool/strategy
- ii. Lack of appropriately trained staff to implement the tool
- iii. Lack of national expertise on the tool/strategy to document in detail
- iv. Lack of sufficient staff to dedicate to the tasks
- v. No dedicated staff at national level to follow up the national action plan for PPR eradication.

Other reasons provided include but are not limited to:

- i. Lack of a PMAT version in French (or other languages except English)
- ii. Low awareness among policy makers
- iii. Insufficient funding and inadequate commitment from international organisations
- iv. Lack of laboratory reagents to support the testing of samples for PVE
- v. No participation in inter-laboratory proficiency testing and regional laboratory network activities by some countries
- vi. Some countries are still vaccinating and cannot apply for PPR freedom
- vii. Countries with internal PPR vaccine production capabilities with quality certification obtained from AU-PANVAC
- viii. One country has no PPR strategy or control programme

Implementation of PPR control programmes

An assessment of the responses relating to the management of the national PPR vaccinations highlighted the following:

- 25 Members implement structured PPR vaccination programmes designed by the Veterinary authorities
- 20 Members organise PPR vaccinations according to vaccination calendars
- Accredited private sector veterinarians participate in PPR vaccinations under supervision by the veterinary authorities in 21 countries
- Private veterinarians vaccinate for PPR as requested by livestock owners in 19 countries
- Donor or Non-Governmental Organisations (NGOs) support for PPR vaccination programmes in collaboration with the Veterinary Services was recorded in 17 countries
- Donor or NGO supported vaccination programmes are implemented directly with livestock owners in 19 countries
- 22 countries identified the need for the provision of a practical PPR vaccination guide to facilitate the design and follow up implementation of PPR vaccination programmes
- 7 countries are not carrying out PPR vaccination campaigns

Application of PPR vaccinations

Where PPR vaccinations are carried out, 18 Members informed that the whole population of sheep and goats in the entire country is targeted. Two Members target only certain categories of sheep and goats, and 14 Members vaccinate only in selected areas of the country. In countries where vaccinations have been carried out for more than 5 years, constraints that prevent the cessation of vaccination and forward movement with eradication of the disease include:

- The continuous introduction of PPR from neighbouring countries (7 Members)
- Vaccinations are not properly implemented (10 Members)
- No post vaccination evaluations are carried out (3 Members)

Other related constraints identified by the countries included vast territories, high numbers of sheep and goats and the provision of insufficient doses of PPR vaccine by governments and donors. Delays in procurement and distribution of PPR vaccines, insufficient cold chain facilities, drought, insecurity and insufficient funds were also cited as some of the key reasons preventing effective vaccination campaigns. In some countries, only ring vaccinations are carried out following outbreaks of PPR. The failure to reach 70% or more of the vaccination coverage and the lack of a regional strategy for

vaccination and illegal cross-border animal movements were also identified as constraints. One country highlighted insufficient political goodwill.

The Members ranked 12 outputs considered important for the successful implementation of PPR eradication strategies in order of priority. The five key outputs were:

1. Strengthened capacities to detect and eradicate PPR and prevent its re-emergence.
2. Capacity to conduct surveillance and diagnosis of PPR and other high-impact small ruminant diseases is improved
3. Veterinary services are strengthened (PPR-GCES Component II), and Public-Private-Community Partnership mechanisms and platforms are designed and implemented
4. Policy frameworks proposed to optimize efficiency, sustainability and access to public, private and community animal health services in selected countries
5. National and Regional Strategic Plans are revised in accordance with the epizootic approach.

Knowledge of WOAHPPR Vaccine Bank and vaccine procurement practices and choices

In 2021 WOAHPPR renewed its tender for a PPR Vaccine Bank, selecting companies on the basis of the quality of their product, their capacity to supply and their competitive prices (12). Information was requested from Members on their knowledge of WOAHPPR Vaccine Bank, vaccine procurement practices and choices.

Twenty-two Members were aware of WOAHPPR Vaccine Bank and seven indicated that they work with local vaccine producers or pre-identified providers. Seven Members procure vaccines on an *ad-hoc* basis that is not based on a systematic vaccination programme. One Member indicated that the preferred vaccine choices are not included in WOAHPPR Vaccine Bank. Sixteen Members highlighted the need for more information on WOAHPPR Vaccine Bank.

Challenges in obtaining WOAHPPR status recognition and endorsement of PPR official control programmes.

In 2014, WOAHPPR established a system for the official recognition of the PPR status of Members and the endorsement of official control programmes for PPR. Subsequently, many countries that were historically free from PPR met WOAHPPR standards and obtained PPR free status recognition. Therefore, a system of standards for the certification of countries or zones as verifiably free from PPR is in place. The provisions for Members to apply for PPR free status recognition are contained in WOAHPPR *Terrestrial Animal Health Code (Terrestrial Code)* Chapter 14.7 on *infection with Peste des petits ruminants virus* (4). The chapter also stipulates the provisions for Members to apply for the endorsement of official control programmes for PPR. Chapter 14.7 of the *Terrestrial Code* also provides for Members to apply for the official recognition by WOAHPPR for freedom from PPR for the whole country or zone and for the endorsement of their official control programmes.

Only seven Members in Africa have obtained WOAHPPR status recognition (13). However, a number of Members that do not report PPR and do not vaccinate for PPR have not applied for WOAHPPR PPR free status recognition. In addition, many Members are implementing official control programmes for PPR but none has applied for WOAHPPR endorsement of the programmes. Information was therefore requested from the Members to better understand the constraints preventing the respective applications to WOAHPPR.

Factors preventing the submission of applications for WOAHPPR Status Recognition

The constraints identified by most of the Members were:

- i. Non-compliance with other requirements of WOAHPPR standards (e.g., no movement control in place due to nomadic and transhumant movements, the lack of systems for border control and appropriate legislation to govern such movements)
- ii. Inadequate knowledge of the PPR epidemiological situation in the country
- iii. Neighbouring countries in the region are reporting PPR
- iv. Lack of financial resources to pay for the application
- v. Lack of national expertise to compile dossiers for the application
- vi. Only three members expressed inadequate knowledge on the procedures and process for application for PPR status recognition

One Member is already in the process of preparing a dossier for application to WOA. Other Members were still vaccinating in high risk areas and could thus not embark on dossier preparation. Inadequate and uncoordinated vaccinations were also cited as a factor preventing progress towards PPR freedom. A few Members noted the continued presence of active clinical cases of PPR as well as serological detection in some areas. One Member was emerging from a deep crisis and veterinary governance was expected to be restored with the return of the veterinary workforce to their posts.

Factors preventing submission of applications for WOA Endorsement of Official PPR Control Programmes

Seven Members were in different stages of preparation of the dossiers for submission to WOA for the endorsement of the official PPR control programmes.

For the other Members, inadequate knowledge of the procedures and process for the application for WOA endorsement of the official PPR control programme was the factor most frequently highlighted. This was followed by the lack national expertise to document in detail, the official control programme according to standards in the *Terrestrial Code*, and WOA standard operating procedures and guidelines. Closely related to this was the lack of trained staff on the preparation of the application for WOA endorsement of official control programmes. One Member expressed a lack of interest in the recognition, while it was not applicable for six Members that have no PPR control programmes that have attained WOA PPR free status recognition or have never reported PPR. One Members lacks a PPR strategy and has not initiated any PPR control programmes.

Other reasons cited included the lack of an animal identification and traceability system and the irregular testing for PPR.

Perceptions on the impacts of animal movement control on the national PPR situation

The control of the internal movement of sheep and goats was perceived to have a great impact on the national PPR situation in 31 Members while three consider it to have no impact. However, 23 Members face challenges in the control of internal movements of sheep and goats.

Cross-border movements of sheep and goats were perceived by 97% (33) of the respondent Members to have a great impact on the national PPR situation. The control of the cross-border movements of sheep and goats is highlighted as a challenge in 25 Members.

There is a need for strengthening the enforcement of legal and regulatory frameworks for the control of both internal and cross-border movement of animals. In addition, there is a need to enhance cooperation and coordination between Members in the different regions to achieve better control of cross-border animal movements.

Stakeholder engagement

An assessment of the engagement/involvement of different stakeholders in activities for the control and eradication of PPR in the Members shows that the public and private sectors are involved together with varying combinations of other stakeholders in 26 countries. The other stakeholders include Veterinary Associations, NGOs, Farmers'/pastoralists' organisations and other civil society actors, Veterinary paraprofessionals and Community animal health workers.

The involvement of only the public sector without the engagement of other stakeholders was recorded in only two Members. In five Members, there is no private sector involvement, but the public sector involves other stakeholders in PPR activities. In one country, only the public and private sectors are involved in the activities.

The engagement of all stakeholders in PPR control and eradication is critical to achieving the objective of its eradication by 2030. This should include collaboration with community-focused service providers in other sectors to leverage on their ability to access sheep and goat farming communities, to enhance the delivery of PPR control and eradication interventions.

Perceptions on PPR as a priority and its eradication by 2030:

This section examines the perceptions of different key stakeholders on the eradication of PPR as a priority and the prospects for achieving its eradication by 2030 in the different countries. The responses received indicate that Farmers in 28 Members consider the eradication of PPR as a priority while those in 6 Members do not agree that it is a priority. The veterinary

services in all the respondent Members except one, agree that PPR eradication is a priority. The responses also showed that the governments in 31 out of the 34 respondent Members perceive PPR eradication as a priority.

Eighty-two percent (82%) of Members consider eradication of PPR by 2030 to be an achievable target while 6 do not agree.

CONCLUSIONS

Sheep and goats were considered to have positive socio-economic contributions in the majority of Members.

There were gaps in the knowledge of the Global, pan-African and sub-regional PPR strategies in the Members. There is need for greater awareness creation on these strategies to enhance ownership as well as alignment and harmonisation of national PPR eradication interventions.

All the Members except one have national PPR eradication strategies. However, the strategies have not been officially adopted by the national competent authorities in a few Members. The implementation of the strategies is constrained by inadequate funding and insufficient human resources.

There is inadequate use of available tools, procedures and processes to support the effective implementation of national PPR strategies and programmes. This is due mainly to inadequate knowledge of the required procedures and processes and the lack of appropriately trained staff/national expertise to apply the tools.

The inadequate application of other WOAHP standards at the national level also erodes the confidence of some Members in their ability to meet the requirements for submission of applications for WOAHP PPR status recognition and the endorsement of official control programmes.

The majority of Members implement structured PPR programmes but these are hindered by inadequate funding for vaccine supplies and post-vaccination evaluation activities.

There are varying approaches to PPR vaccinations in the different Members and there is need for improved regional harmonisation and coordination to enhance the effectiveness of the vaccinations.

The successful implementation of PPR eradication strategies requires strengthened capacities to conduct surveillance, detect and eradicate PPR and prevent its re-emergence. This entails the strengthening of veterinary services.

The adoption and use of WOAHP PPR vaccine bank is hindered by inadequate information among the Members and existing national vaccine procurement arrangements and choices.

Uncontrolled internal and cross-border movements of sheep and goats in the majority of the countries have a great impact on the national PPR situations. There is a need for strengthening regional cooperation and the enforcement of legal and regulatory frameworks for the control of both internal and cross-border movement of animals.

There are varying levels of engagement and involvement of stakeholders in PPR control and eradication interventions. There is involvement of the private sector in the majority of Members. There is need for collaboration with community focused service providers in other sectors to enhance the reach of PPR interventions to sheep and goat farming communities.

The majority of Members consider the eradication of PPR by 2030 to be an achievable target. However, there are inadequate human and financial resources to effectively implement the national strategies and to apply available tools, procedures and processes towards attaining verifiable PPR freedom. This calls for concerted efforts by all stakeholders to bridge these gaps within the shortest time in order to achieve the timely eradication of PPR.

BIBLIOGRAPHIC REFERENCES

1. FAO STATS, 2018.
2. Pablo Manzano-Baena, P. and Concha Salguero-Herrera, C (2018). Mobile pastoralism in the Mediterranean: Arguments and evidence for policy reform and its role in combating climate change (<https://yolda.org.tr/content/Report-MobilePastoralisminMediterranean.pdf>)
3. World Organisation for Animal Health (WOAH) Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (2022)
4. World Organisation for Animal Health (WOAH). Terrestrial Animal Health (Code 2022) Terrestrial Code Online Access - WOAH - World Organisation for Animal Health.
5. Mdetele, D.P., Komba, E., Seth, M.D., Misinzo, G., Kock, R. and Jones B.A. (2021) Review of Peste des Petits Ruminants Occurrence and Spread in Tanzania. *Animals* 2021, 11, 1698. <https://doi.org/10.3390/ani11061698>
6. Jones BA, Rich KM, Mariner JC, Anderson J, Jeggo M, Thevasagayam S, Cai Y, Peters AR, Roeder P. The Economic Impact of Eradicating Peste des Petits Ruminants: A Benefit-Cost Analysis. *PLoS One*. 2016 Feb 22;11(2): e0149982. doi: 10.1371/journal.pone.0149982. PMID: 26900944; PMCID: PMC4764769.
7. Njeumi, F., Ferrari, G., Raizman E, Diallo, A. Domenech, J, Leboucq, N and Munstermann, S, (2015) Global Strategy for the Control and eradication of PPR (2015) Published by FAO, Rome, Italy. ISBN : 978-92-5-108733-6
8. FAO (2018) Peste des Petits Ruminants Global Eradication Programme for five years (2017-2021). FAO, Rome, Italy
9. FAO; WOAH (2022), Peste des Petits Ruminants Global Eradication Programme II & III: Overview of the plan of Action. FAO; World Organisation for Animal Health (WOAH) (founded as OIE), Rome, Italy
10. African Union Inter-African Bureau for Animal Resources (2015). The Pan African Strategy for Control and Eradication of Peste des Petits Ruminants. <http://repository.au-ibar.org/handle/123456789/508>
11. Münstermann, S. and Sherman, D (2022): Lessons learned from WOAH missions to evaluate Performance of Veterinary Services with special emphasis on eradication of Peste des petits ruminants. https://bulletin.woah.org/?panorama=04-1-3-2023-1_ppr#:~:text=https%3A//doi.org/10.20506/bull.2023.1.3388
12. World Organisation for Animal Health (WOAH). [Vaccine Banks - WOAH - World Organisation for Animal Health, 2023 \(Accessed 26/01/2023\)](#)
13. World Organisation for Animal Health (WOAH). [Peste des petits ruminants - WOAH - World Organisation for Animal Health. \(Accessed 26/01/2023\).](#)