



WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

22nd Conference of the OIE Regional
Commission for Africa, Swakopmund, Namibia
20 - 24 February 2017

FINAL REPORT

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List of Abbreviations

AMR:	Antimicrobial Resistance
AU-IBAR:	African Union Interafrican Bureau for Animal Resource
AU-PANVAC:	African Union Panafrican Veterinary Vaccine Centre
CAADP:	Comprehensive Africa Agriculture Development Programme
CBPP:	Contagious Bovine Pleuropneumonia
CFTA:	Continental Free Trade Area
CIRAD:	French agricultural research and international cooperation organization
EC:	European Commission
ECOWAS:	Economic Community of West African States
FAO:	Food and Agriculture Organization of the United Nations
FMD:	Foot and mouth disease
HQ:	Headquarters
KAP:	Knowledge, attitudes and practices
LIDESAS:	The livestock development strategy for Africa
OIE:	World Organisation for Animal Health
PPR:	peste des petits ruminants
PRAPS:	Regional Support Project for Pastoralism in the Sahel
PVS:	OIE Tool for the Evaluation of Performance of Veterinary Services
RECs:	Regional Economic Communities
REMESA:	Mediterranean Animal Health Network
RP-PCP:	Research Platform - Production and Conservation in Partnership
RR/SRRs:	Regional and Sub Regional Representations
RVF:	Rift Valley fever
SADC:	Southern African Development Community
SPS:	Sanitary and Phytosanitary
VS:	Veterinary Services
WAHIS:	World Animal Health Information System
WHO:	World Health Organization

Introduction

1. Following the kind invitation of the Government of Namibia, the 22nd Conference of the OIE Regional Commission for Africa was held in Swakopmund from 20 to 24 February 2017.
2. A total of 78 participants, comprising OIE Delegates and/or representatives of 21 Member Countries and senior officers from 4 regional and international organisations, attended the Conference. In addition, representatives of the private sector as well as private veterinary organisations from the region and from the host country were present. (List of participants available in Annex 1).

Members of the Commission: Angola, Botswana, Cameroon, Eritrea, Ghana, Kenya, Liberia, Morocco, Mozambique, Namibia, Niger, Nigeria, Senegal, Somalia, South Africa, Sudan, Swaziland, Togo, Tunisia, Uganda, Zimbabwe.

International/regional organisations: AU-IBAR¹, AU-PANVAC², EC³, FAO⁴.

3. Honourable John Mutorwa, Minister of Agriculture, Water and Forestry of Namibia, Honourable Cleopas Mutjavikwa, Governor of Erongo Region, Dr Adrianatus Florentius Maseke, OIE Delegate of Namibia, Dr Botlhe Michael Modisane, President of the OIE World Assembly of Delegates and Delegate of South Africa, Dr Monique Eloit, OIE Director General, Dr Batassé Batawui, President of the OIE Regional Commission for Africa and Delegate of Togo, Dr Gideon Brückner, President of the OIE Scientific Commission for Animal Diseases, Dr Karim Tounkara, OIE Regional Representative for Africa, Dr Moetapele Letshwenyo, OIE Sub-Regional Representative for Southern Africa, Dr Rachid Bouguedour, OIE Sub-Regional Representative for North Africa, Dr Samuel Wakhusama, OIE Sub-Regional Representative for Eastern Africa and the Horn of Africa, Dr François Caya, Head of the OIE Regional Activities Department, and Dr Laure Weber-Vintzel, Head of the OIE Status Department also participated in the Conference. The speakers presenting Technical Items, namely Prof. Oumar Alfaroukh Idriss, Regional Coordinator of the Animal Health Component of the Regional Support Project for Pastoralism in the Sahel (PRAPS), for Technical Item I, and Dr Abdenacer Bakkouri, former official veterinarian from the official Veterinary Services of Morocco, for Technical Item II, honoured the Conference with their presence.

MONDAY 20 FEBRUARY 2017

Opening Ceremony

4. The opening ceremony was chaired by Dr Albertina Shilongo, Deputy Chief Veterinary Officer of Namibia, accompanied by the following authorities:
 - Dr Adrianatus Florentius Maseke, Chief Veterinary Officer and Delegate of Namibia;
 - Honourable Cleophas Mutjavikwa, Regional Governor for Erongo Region;
 - Dr Karim Tounkara, OIE Regional Representative for Africa;
 - Dr Batassé Batawui, President of the OIE Regional Commission for Africa;
 - Dr Botlhe Michael Modisane, President of the OIE;
 - Dr Monique Eloit, Director General of the OIE;
 - Honorable John Mutorwa, Minister of Agriculture, Water and Forestry of Namibia.

¹ AU-IBAR : African Union Interafrican Bureau for Animal Resource

² AU-PANVAC : African Union Panafrican Veterinary Vaccine Centre

³ EC : European Commission

⁴ FAO: Food and Agriculture Organization of the United Nations

The role of the Regional Commissions and Council in supporting the mandate of the OIE

5. Subsequent to the presentation of Dr Monique Eloit, OIE Director General, on the role of the Regional Commissions and the Council in supporting the OIE mandate and their interconnection with the OIE Headquarters (HQ) and the OIE Regional and Sub Regional Representations (RR/SRRs), participants were invited to contribute to a panel discussion regarding the actions in which the Council and the Regional Commission's members should be involved in order to better support the activities related to the implementation of the OIE Sixth Strategic Plan and its related roadmap.
6. The OIE Regional Commission for Africa concludes that:
 - Members of the Bureaus of the Regional Commissions should clearly understand and apply their role and prerogatives as per stated in the OIE Basic Text;
 - The OIE should consider providing training to the newly elected Members of the Bureau and the Council;
 - The members of the Bureaus of the Regional Commissions are key actors in the work of the OIE, thus, they should act as a bridge between the OIE and the countries of the region in order to support the implementation of OIE's activities at national level, and to collaborate to the improvement of the technical and/or financial contribution of the countries to the OIE activities;
 - The relationship between the Council, the Members of the Bureaus, the OIE HQ and the OIE RR/SRRs is of paramount importance for the success of OIE activities and it should be reinforced through better communication using available technology ;
 - Member Countries of the region should clearly communicate their concerns to the Members of the Bureau and the Council so for them to be able to provide a better advice to the OIE;
 - When a key topic is to be addressed in the agenda of the Council meeting, a previous discussion between the Council and the Members of the Bureaus should be considered;
 - Communication between members of the five OIE Regional Commissions should be reinforced for a better understanding of the context in the different OIE regions and also for sharing, when appropriate, useful information and initiatives that could be of help to other regions. To this end, a meeting involving the Presidents of the five Regional Commission and the Council during the General Session could be organised;
 - The Council and the Members of the Bureaus of the Regional Commissions should actively participate in the preparatory activities of the Regional Conferences (selection of Technical Items and speakers, development of the agenda), during the Conference itself (drafting of the report and recommendations, participation in working groups and discussions), as well as after the Conference (follow up of recommendations);
 - The Council and the Bureaus of the Regional Commissions should actively contribute to the preparation of the OIE General Session within the region: strategic discussion regarding the OIE *Codes* (e.g. revision in a Chapter); determining common positions within the region; discussing on how to improve the scientific support to the OIE; proposing quality candidates for institutional elections; involvement on the development of the agenda of the meeting of the Regional Commission during the General Session;
 - The Regional Commissions and the Council should take advantage of the meetings already scheduled (Regional Conferences, and the meetings of the Regional Commission during the General Session) to discuss topics of mutual interest. When needed, videoconferencing or conference calls should be considered as options to facilitate the communication;
 - Regional and Sub-Regional Representations are key players in reinforcing the communication and collaboration within the region (e.g. between countries and the Bureau of the Regional Commission and the Council).

- Member Countries in the region should be conscious of the full meaning of OIE membership, not only to understand and fulfil any obligations this may entail but also to realise their prerogatives.
- The example of the OIE Region of Asia, the Far East and Oceania, where regular meetings between the Bureau of the Regional Commission and the Council's regional members are organised, could be explored by the Region of Africa as a way to improve the relationship between these institutional bodies at regional level.

**Regional and Sub Regional Representations' Roadmap:
Regional ownership of the OIE Sixth Strategic Plan**

7. Dr Karim Tounkara, OIE Regional Representative for Africa, on behalf of the OIE Regional and Sub Regional offices, explained to participants the thinking process preceding discussions and preparation activities in which the region was involved, together with the OIE Headquarters, for securing regional ownership of the OIE Sixth Strategic Plan through drafting its roadmap. He explained that the roadmap is being developed in line with the objectives of the Strategic Plan and sought to support the Headquarters roadmap and to ensure that all the region's specific characteristics and priority activities were taken into account.
8. Following the presentation it can be concluded that it is important to plan measurable, realistic and time-adjusted activities in order to allow Member Countries :
 - To develop their national control/eradication plan such as PPR and Rabies as their contribution to the global and regional disease control efforts. These plans should be well aligned to the Global and Regional Strategies;
 - To actively participate in the OIE standards setting process;
 - To promote the implementation of OIE strategies on Antimicrobial Resistance, and nationally work closely with public (human) health authorities as well as the Tripartite Alliance (OIE/WHO/FAO) under the One Health approach to reduce AMR;
 - To improve the region reporting rate by providing timely the mandatory animal health reports on terrestrial (including wildlife) and aquatic animals diseases using efficiently WAHIS;
 - To comply with the OIE standards on Veterinary Services and to implement the recommendations of the OIE PVS Pathway missions;
 - To take the necessary actions to sensitise the authorities on the importance to comply with their obligations as OIE Member Countries, starting with the mandatory contributions and active participation to the Conferences of the OIE Regional Commission and General Session of the World Assembly of Delegates.

TUESDAY 21 FEBRUARY 2017

Appointment of the Conference Committee

9. The Conference Committee was elected by participants as follows:

Chairperson:	Dr Adrianatus Florentius Maseke (Namibia)
Vice-Chairperson:	Dr Abderrahman El Abrak (Morocco)
Rapporteur General:	Dr Gbeddy Kenneth Mike Komla (Ghana)

Appointment of Session Chairpersons and Rapporteurs

10. Chairpersons and Rapporteurs were designated for the Technical Items and the Animal Health Situation as follows:

Item I:	Dr Elsheikh Kamal (Sudan), (Chairperson) Dr Bangana Ibrahim (Niger), (Rapporteur)
Item II:	Dr Batassé Batawui (Togo), (Chairperson) Dr Mshelbwala Gideon (Nigeria), (Rapporteur)
Animal Health Situation:	Dr Zrelli Malek (Tunisia), (Chairperson) Dr Modisa Letlhogile (Botswana), (Rapporteur)

Approval of the Agenda and Programme

11. The Provisional Agenda and Timetable were adopted (Programme available in Annex 2).

Analysis of the Animal Health Situation

12. Following the presentation on the analysis of the animal health situation in the region by Dr Lina Awada, Veterinary Epidemiologist at the OIE World Animal Health Information and Analysis Department (report available in Annex 3);
13. The OIE Regional Commission for Africa concluded that:
- With regard to anthrax, pursuing efforts to ensure optimum control through livestock vaccination is seen as a need in the Region from an animal and public health point of view. Moreover, Member Countries should share details of their epidemiological situation over time through WAHIS, to determine disease patterns and enable the establishment of control strategies targeting high risk geographical areas and periods of time within the Region;
 - With regard to infection with peste des petits ruminants, pursuing efforts to implement the Global Strategy for the Eradication of the disease by 2030 including improving communication between Member Countries through rapid reporting to the OIE and progressing stable vaccination programmes with high rates of coverage;
 - With regard to infection with rabies virus, Member Countries should apply the strategy developed at the OIE-WHO Global Elimination of Dog-mediated Human Rabies Conference in Geneva in December 2015. To do so, they have the support of the OIE, especially through the Rabies vaccine bank, with the support of donors such as the EU, France and Germany, and applying the OIE Code Chapter 7.7 on stray dog population control;
 - With regard to infection with foot and mouth disease virus, the regional situation has been worsening over the last 10 years. Member Countries should share detailed epidemiological information through WAHIS, to allow sub-regional approaches to be implemented, in accordance with the situation relating to circulating strains and viral dynamics;
 - With regard to avian influenza, all countries in the region have a role to play in preventing avian influenza because of their direct exposure to it as a result of the migratory routes of birds and live poultry movements. African Member Countries expressed the need to share experiences in strengthening disease surveillance and emergency response. There is a need to ensure access to rapid, efficient and high quality diagnostic services in the region. Initiating OIE Twinning projects is a mechanism that could improve access to timely avian influenza diagnosis in the medium term;

- With regard to infection with *Aphanomyces invadans*, several African countries are currently at risk. The risk is increased by the lack of surveillance and diagnostic capabilities in the Region. Member Countries should use the network of OIE Reference Centres for capacity building or in case of incursion of such an exotic disease for which regional resources are not available. Given environmental risk factors including flooding, Member Countries were advised to protect their aquaculture systems at risk by encouraging the development of higher biosecurity closed farming systems;
- Member Countries should enhance surveillance and control efforts and observe the principle of transparency, including timely and detailed reporting to WAHIS, in order to successfully manage diseases in the Region.

**OIE Scientific Commission for Animal Diseases and
OIE Terrestrial Animal Health Standards Commission
Challenges and priorities**

14. Following the presentation by Dr Gideon Brückner, President of the OIE Scientific Commission for Animal Diseases, regarding the challenges and priorities of the OIE Scientific Commission and the OIE Code Commission, it can be concluded that:
- African Delegates should always bear in mind their obligations regarding the SPS Agreement when it comes to trade. The OIE *Terrestrial Code* provides clear guidelines to respect these obligations;
 - When it comes to trade standards for aquatic animals and their products, the implementation of the standards can be sometimes not as clear as for the terrestrial animals. Delegates are thus invited to contact directly the OIE Standards Department to obtain clear guidance, if needed;
 - African Delegates should continue and even improve their much appreciated written inputs in the OIE standard developing process as well as their most valuable verbal interventions each year during the meeting of the General Session of the OIE World Assembly of Delegates;
 - African Delegates should continue and even improve liaison with continental organisations such as AU-IBAR, the Regional Economic Communities (RECs) (such as SADC, ECOWAS) and other relevant regional organisations to harmonise and submit consensus submissions to propose or amend OIE standards;
 - African Delegates should recognise that there are animal health and animal welfare challenges that are often unique to the African Continent that should be considered and accommodated in submissions to the Specialist Commissions to develop or amend OIE standards.

OIE Procedure for official recognition versus self-declaration

15. Following the presentation of Dr Laure Weber-Vintzel, Head of the OIE Status Department, on the OIE Procedure for official recognition versus self-declaration, providing details on current OIE work in reviewing the procedures for official recognition of disease status, endorsement of official control programme and self-declaration, increasing the visibility of self-declarations and strengthening the procedure for maintaining official status and endorsed programmes;
16. The OIE Regional Commission for the Africa concluded that:
- Member Countries should consider whether and when they could apply for the endorsement of their official control programme for PPR, FMD and/or CBPP, as well as for official recognition of disease free status, particularly when the disease has been historically absent from the country;

- Member Countries having an officially recognised status or an endorsed official control programme should provide the relevant information supporting annual reconfirmation in November each year, including any supporting information deemed necessary, as prescribed in the *Terrestrial Animal Health Code*;
- Member Countries should identify the terrestrial and aquatic diseases for which their country could benefit from self-declaration of freedom at compartment, zone or country level. Regional approaches could be considered, always bearing in mind that self-declaration is the direct responsibility of the Delegate;
- Regarding the application of the zoning concept, Member Countries willing to better understand and apply zoning were invited to exchange experiences with other countries within or outside the region where zoning is being applied with success (such as the SADC sub-region, or the South America region);
- Regarding the application of the compartment concept, Delegates were reminded that its application depends on biosecurity measures (to contain an animal subpopulation in one or more establishments) and bilateral negotiations with trade partners;
- Member Countries were reminded that self-declaration is a tool to facilitate bilateral agreement for trade. The OIE offers countries to publish their self-declarations. However, this does not provide any additional guarantee on the self-declared status. Member Countries highlighted that self-declaration would also be an excellent starting point to gain trade partners' trust and to be prepared to apply for an official status recognition;
- Member Countries were reminded that commodities can also be safely traded from infected countries and that the Terrestrial Code provides appropriate recommendations for this;
- The OIE Regional and Sub-Regional Representations should identify the countries that could apply for endorsement of official control programme, official recognition and/or self-declaration and explore whether support for the procedure is needed, including training requirements;
- Member Countries have pointed out that global recognition of official disease status adopted by the World Assembly, following consultation of OIE Member Countries, is not automatically endorsed by all trading partners and that this concern must be addressed in order to ensure the compliance of trading partners with official health status;
- Political will and commitment are key to support disease control and eradication. Thus, the Regional Commission for Africa should sensitise high level authorities to support Veterinary Services in preparing their official control programmes and reaching and maintaining disease free status;
- Member Countries in the region appreciate the work initiated by the OIE to improve transparency, clarity and acceptance of OIE standards.

**Climate change and emerging vector-borne diseases:
the example of Rift Valley fever in West Africa and Madagascar**

17. Dr Alexandre Caron, Researcher, Coordinator RP-PCP at the CIRAD, made a presentation regarding climate change and emerging vector-borne diseases providing the example of Rift Valley fever;
18. The OIE Regional Commission for the Africa concluded that:
 - Climate change involve complex processes, are difficult to predict and are compounded by simultaneously occurring other global changes (ecological, social and economic);
 - Vector-borne diseases also involve complex interactions between pathogen, vector and host (including, sometimes, man) and environmental interferences which can affect one, or all of the disease-components, making them hard to predict as well;

- Whereas robust predictive models exist to forecast RVF outbreaks in East Africa, models in West Africa and the Indian Ocean (Madagascar) have been shown to be less reliable;
- In hindsight, some RVF outbreaks are clearly linked to exceptional meteorological events, such as some of the outbreaks recorded in Mauritania, but others are not and would appear to be linked to important movements of ruminants, cross-border, or within countries, through trade and/or for religious festivals such as the Tabaski festival. Whilst exceptional meteorological events are by their nature, difficult to predict, trade patterns and annual spikes in harvesting of animals show more potential for forecasting;
- This also explains in part why RVF occurrences are not always correlated to the (rural) production areas of ruminants, but rather the urban areas where they are traded towards and eventually slaughtered and consumed, as evidence from West Africa and Madagascar has clearly demonstrated. The same pattern applies to human African trypanosomiasis (sleeping sickness) on the continent and tick-borne encephalitis in East Europe, after the collapse of the Soviet Union;
- As the climate change impacts on RVF and other vector borne disease will remain difficult to forecast, early detection of epidemiological events and rapid response remain of paramount importance. The improvement in surveillance and control is highlighted using innovative technologies and the new global health approaches (One Health);
- Applied research, exploring new hypotheses and testing new methods and approaches will contribute to a better understanding of the new dynamics in order for surveillance and control to follow changes in the patho-system process.

**Technical item I (with questionnaire):
Pastoralism: opportunities for livestock and
challenges for Veterinary Services**

19. Prof. Oumar Alfaroukh Idriss, Regional Coordinator of the Animal Health Component of the Regional Support Project for Pastoralism in the Sahel (PRAPS), presented the Technical Item I on "*Pastoralism: opportunities for livestock and challenges for Veterinary Services*". The presentation was followed by an animated discussion among participants that enabled the OIE Regional Commission for Africa to draft a recommendation in accordance with OIE General Rules. (Recommendation available in Annex 4).

**The OIE Strategy on Antimicrobial Resistance:
Contribution of Africa**

20. Following the presentation of Dr Unesu Ushewokunze-Obatolu, OIE Delegate of Zimbabwe, regarding the vision and contribution of the region to the OIE Strategy on Antimicrobial Resistance (AMR);
21. The OIE Regional Commission for the Africa concluded that:
- Antimicrobials remain essential to animal production so, Africa needs to join the action against AMR considering the following:
 - In the context of the CAADP and the LIDES, Antimicrobial Use (AMU)/AMR are key issues impacting sustainable productivity, public health and biodiversity;
 - Given the importance placed on livestock development in connection with regional Continental Free Trade Area (CFTA) and international trade.
 - There is need to strengthen regulatory frameworks on AMU as well as to ensure appropriate legislation and systems for regulating prescribing practices and to collect data on antimicrobial resistance;

- Member Countries of the region were reminded that there are already clear mechanisms and guidelines established by the Tripartite Alliance (FAO/OIE/WHO) in order to well address antimicrobial resistance. The Tripartite Alliance is the most appropriate platform for implementing AMR actions, with each partner organisation required to comply with its own scope and related responsibilities;
- It is important and appropriate to elaborate a national and potentially regional action plan, based on the “One Health” approach, which would be in line with the Global Action Plan on Antimicrobial Resistance and activities under the Tripartite;
- Without waiting for alternatives to the use of antimicrobial agents, such as vaccines and probiotics, for which the development is not guaranteed, countries should start to simply consider the implementation of good farming practices as the first step to reduce the use of these agents.

WEDNESDAY 22 FEBRUARY 2017

Technical item II (without questionnaire): Unfolding the Global Strategy for the Control and Eradication of peste des petits ruminants (PPR) in Africa

22. Technical Item II on “*Unfolding the Global Strategy for the Control and Eradication of peste des petits ruminants (PPR) in Africa*”, presented by Dr Abdenacer Bakkouri, former official veterinarian from the official Veterinary Services of Morocco, prompted stimulating discussions among participants that enabled the OIE Regional Commission for Africa to draft a recommendation in accordance with OIE General Rules. (Recommendation available in Annex 5).

Rabies control Project in Namibia

23. Dr Athingo Rauna, Chief Veterinarian, Disease control North West subdivision, presented the Rabies control Project in Namibia and provided details on the Namibia’s highly successful rabies eradication regional pilot phase which was launched in March 2016. It has incorporated knowledge, attitudes and practices (KAP) survey, a pet census, staff training, communications and awareness, schools education and very high levels of coverage during community vaccination rounds, with the support of the OIE Rabies vaccine bank, and thanks to the German government support.
24. Following the presentation of Dr Athingo Rauna, the Regional Commission highlighted Namibia’s excellent progress and the lessons learnt with its pilot, which has provided a solid base for expansion to other regions of the country and eventual rabies freedom in Namibia.

The epidemic of foot-and-mouth disease in North Africa in 2014-2015: Example of regional cooperation

25. Dr Malek Zrelli, OIE Delegate of Tunisia, presented on the reappearance, between 2014 and 2015, of foot-and-mouth disease in North Africa (Tunisia, Algeria, and Morocco), after 15 years of absence. This presentation provided a great example of regional cooperation, in this case, under the leadership of REMESA (Mediterranean Animal Health Network) which has provided the necessary support to control the spread of the disease.

26. The OIE Regional Commission for Africa concluded that:
- The regional cooperation and solidarity are key for disease control as well as to avoid animal disease spreading beyond national frontiers;
 - Veterinary Services and their partners play a key role in protecting animal health, thus, it is of paramount importance to ensure the effective performance of the Veterinary Services in the region by taking advantage of the OIE proposed tools such as the PVS Pathway;
 - When it comes to disease control, whenever possible and relevant, vaccination should be the preferred control method compared to depopulation;
 - Vaccines banks enable countries to have quickly and efficiently access to high quality vaccines.

Uptake of OIE PVS Pathway mission recommendations by a selection of African countries

27. Following the presentation of Dr Patrick Bastiaensen, Programme Officer from the OIE Sub-Regional Representation for Eastern and the Horn of Africa, regarding the uptake of the OIE PVS Pathway mission recommendations by a selection of African countries;
28. The OIE Regional Commission for Africa concluded that:
- Interpreting the genuine uptake of PVS Pathway missions recommendations is a complex undertaking;
 - Despite the limited, non-representative sample of countries (10), it would seem that many countries focus on the improvement of fundamental components 1 and 3 mostly, much less the technical capabilities and capacities (2);
 - Recurring Critical Competencies that are the focus of improvements are the competencies of veterinary staff, continuing education, veterinary medicines and biologicals, communication, and the preparation of legislation and regulations;
 - Where countries reach higher levels of advancement, other Critical Competencies that are being addressed include operational funding, animal identification and traceability and international certification;
 - Future research on this topic will also have to focus on Critical Competencies that are not being addressed and the reasons why, as well to critically examine claims of improvements in budgeting made in light of annual inflation figures.

The OIE PVS Pathway: evolving beyond the myths

29. Following the joint presentation of Dr François Caya, Head of the OIE Regional Activities Department, and Dr John Stratton, Deputy Head of the OIE Regional Activities Department, entitled "*The OIE PVS Pathway: evolving beyond the myths*" which countered four PVS Pathway myths, outlined the emerging PVS Pathway governance framework and described four options for PVS Pathway evolution to enhance its value to Member Countries, and following the working group sessions and open discussion by the Commission on the four potential options for PVS Pathway evolution;
30. The OIE Regional Commission for Africa concludes that:
- OIE should continue to further develop and consult on the four specific options for PVS Pathway evolution as presented and discussed at the meeting and take into account the following outcomes of the working group discussion:

- *Option 1: PVS Pathway training with a view to PVS Self-Evaluation*
 - PVS Self-evaluation can be a very good low-cost expert assessment process for monitoring, at both national and sub-national level, the quality of the Veterinary Services according to OIE international standards as an internal quality control system in between OIE missions.
 - National experts from different national Veterinary Services' entities and stakeholders could be involved in PVS Self-Evaluation to stimulate a better national ownership of PVS Pathway missions' outcomes.
 - Although it would be preferable that PVS Self-evaluations address all the Critical Competencies, using the PVS Tool to monitor the improvement of specific Critical Competencies, requiring more attention, could be envisaged.
 - The OIE should provide training and guidance to countries wishing to undertake PVS Self-Evaluation.
 - As it is a self-evaluation that has not been endorsed by the OIE, it could present a problem of credibility, objectivity, acceptance and participation.
 - Undertaking evaluation at regional level using peers from neighbouring countries could be an option to favour a better understanding of each other's' Veterinary Services and plan for regional harmonisation when relevant.
- *Option 2: formal integration of the PVS Pathway into national strategic planning cycles*
 - A long-term approach, whereby countries commit themselves to a multi-year PVS Pathway "package" in which they themselves take responsibility for part of the pathway sections, provides added value (compared to the current system) in that it may overcome political changes (government changes, appointments) and will allow for better long-term budgeting (but not necessarily budget allocation). At the same time, such long-term commitments may require buy-in at higher administrative level(s), including ministerial approval because of the extended financial commitments such agreements might entail. This may present itself as a risk, but may also offer an opportunity for better visibility. Whilst many country's VS already work according to multi-year planning cycles, more can be done and the PVS Pathway can be helpful in achieving this, also to avoid that annual work plans are drained by dealing with unforeseen events and emergencies.
 - It is critical that PVS Pathway reports, under such an enhanced system, do not only feed into national strategic plans for VS, but also into higher level strategic plans, for example at ministerial level (Agriculture, Rural Development) and eventually transpire in national development plans for example, so that animal health issues do not become forgotten or compromised amidst other animal production and food security issues, as well as amidst other public health issues, where applicable.
 - Multi-annual strategic plans should be based on sound technical grounds (PVS Pathway), irrespective of whether these (reasonable) ambitions can be met by financial means, for which no multi-annual planning framework is available in any case; budgets will still be approved on an annual basis.
 - Linking PVS Pathway mission's reports to strategic planning frameworks also ensures that the African Union's Maputo targets in respect of livestock are met by national governments for example.
 - Several countries have indicated that they are open to the suggestion to experiment with such integrated multi-annual approach on a pilot basis, either to feed into their already existing planning system or to accompany the development of such planning systems.

- The advantages of such an approach outweigh the constraints in that the momentum is kept by regular backstopping missions, the country is regularly provided with a situational analysis, facilitating prioritisation, long-term planning for human resources' needs becomes attractive and the regular "presence" of OIE may raise the profile of the animal health institutions, whether private or public, amongst high-level decision-makers. Constraints include the above-mentioned buy-in at higher political level, the disconnection between long term technical priorities and short-term (annual) financial allocations and an insecure enabling environment in some countries, where long-term forecasting is compromised.
- *Option 3: dedicated content on priority topics within future PVS Pathway missions*
 - Member Countries had a mixed response to the fundamental question of whether the OIE should develop methods to incorporate specific content for priority issues within OIE PVS Pathway missions.
 - Member Countries in favour of developing this form of PVS Pathway mission argued that specific content allowed regional or global veterinary priorities such as PPR eradication or AMR management to receive a strong and harmonised emphasis from the OIE. They also suggested that the impacts of the PVS Pathway might be more readily tangible and funding easier to obtain nationally or with donors if specific issues and their evaluation (in terms of VS capacity) were more visible in the PVS Pathway process or outputs (e.g. the relevance of a PVS Pathway mission's report to AMR). Finally, from the OIE perspective making some use of valuable PVS Pathway mission time to target its major global or regional priorities was appealing.
 - Member Countries not in favour of developing this form of PVS Pathway mission argued that a real strength and unique feature of the PVS Pathway was its whole of systems focus and this shouldn't be put at risk, that a strong system should result in the capacity to deal with all priority issues, and that other groups and NGOs were already dealing directly with such veterinary priority issues or diseases. Some thought it should be considered only after an initial PVS Evaluation and as part of a more specific focus on priorities during a subsequent PVS Evaluation Follow-up mission.
 - It was suggested that OIE continue to explore and pilot this approach, such as with PPR, as long as: the selection of priority issues was done carefully with Member Country input (e.g. at regional level), the undertaking of such missions was an option at the discretion of the country, and that the full integrity of the PVS Pathway mission covering all areas of the veterinary domain be preserved, with specific content only as a supplement (e.g. an additional annex), and as a minor focus of the mission (e.g. one day or one expert only involved).
- *Option 4: a PVS Pathway capacity-building programme coordinated by national PVS Focal Points*
 - The majority of Member Countries had organised follow up activities after PVS Pathway missions with a positive impact on budgets, human resources, infrastructure, laboratories development and legislation, among others.
 - However, a national PVS Pathway Focal Point, including permanent incorporation within a VS staff job description was seen as a highly valuable approach to ensure better and more consistent follow up of recommendations after PVS Pathway missions. The position would play a coordination role under the leadership of the OIE Delegate, with dedicated tasks based on needs and demands.
 - The organisation of regional or sub-regional PVS Pathway Focal Point workshops to share experiences and ideas on PVS Pathway mission preparations, conduct and especially follow-up of recommendations was strongly supported by the Member Countries, noting that for greatest value it would require countries to be open on the findings of their reports.

31. The Member Countries support the OIE continuing to lead exploration of options to reinvigorate and evolve the OIE PVS Pathway, including as part of preparations for an OIE PVS Pathway 'Think Tank' Forum to be held from 4 to 6 April 2017, where selected Delegates were already requested to contribute.

Discussion of recommendations

32. Draft Recommendations 1 and 2 on the two Technical Items of the Conference were presented to participants and put forward for discussion. Both draft Recommendations will be submitted for adoption at the Friday session with amendments as per participants' suggestions and discussions.
33. Following adoption by the Regional Commission, the recommendations will be submitted for endorsement by the World Assembly of OIE Delegates in May 2017. Once endorsed by the Assembly, they will serve as an important guideline for Member Countries of the OIE Regional Commission for Africa, as well as for the Organisation as a whole.

Proposal of date and venue of the 23rd Conference of the OIE Regional Commission for Africa

34. The President of the Commission informed Delegates that the host country of the 23rd Conference of the OIE Regional Commission for Africa would be decided during the next meeting of the Regional Commission to take place during the General Session in Paris (May 2017).
35. He invited all Member Countries to consider a potential venue for the next Regional Conference and to seek for ministerial approval before the General Session in order to be in the position to officially propose the venue.

THURSDAY 23 FEBRUARY 2017

Cultural visit

36. Participants greatly appreciated the cultural visit organised for the day by the host country. Sincere thanks were extended to the organisers for their kind hospitality.

FRIDAY 24 FEBRUARY 2017

Proposed system for elections to the OIE Specialist Commissions

37. Dr Monique Eloit, OIE Director General, stressed the importance of the Specialist Commissions, saying that they played a key role in the OIE's mandate for international standard-setting and official recognition of animal disease status, making it vital to have highly effective Specialist Commissions. To this end, she explained to the Regional Commission the proposal for elections to the OIE Specialist Commissions, as presented to the OIE Council in September 2016. The Director General said that the new selection process had been developed with a view to achieving a better and fairer selection of experts, aligning the selection process with the objectives of the OIE Sixth Strategic Plan and assessing the credentials of experts more fully. She added that it was a transparent process, with clear criteria for candidates, a clearly established timetable for nominations and an effective management process.

38. The OIE Regional Commission for the Africa concluded that the proposed new expert selection process was a major step forward because it would ensure transparency and achievement of the objectives of the Sixth Strategic Plan.

**“Addressing the challenges of international trade of animals and products of animal origin:
how to engage all interested parties?”**

Statements and panel discussion with international and regional organisations

39. A panel discussion involving the African Union - Interafrican Bureau for Animal Resources (AU – IBAR), the European Commission (EC), the Food and Agriculture Organization of the United Nations (FAO) and the Meat Board of Namibia facilitated a debate regarding the challenges of international trade of animals and products of animal origin, including international trade activities as they relate to the OIE (and its standards), the challenges faced and the opportunities for improved cooperation between the OIE and its partners.
40. Following the discussions and comments from panellists and participants, the OIE Regional Commission for Africa took note of the following:
- The Africa region faces major barriers to trade, both within Africa and in terms of access to other international markets, especially the European (EU) market. Countries in the region are losing opportunities to trade goods, services and investments across borders;
 - The application of OIE standards, guidelines and recommendations, helps Member Countries to facilitate safe trade and to avoid the imposition of unnecessary trade barriers;
 - There is a need to engage all interested parties, including national Veterinary Services and industry, in order to ensure compliance with OIE standards and thereby create value for consumers;
 - Having a formalised and structured industry that upholds the relevant OIE standards is key to protect the export industry by ensuring a proper trading environment;
 - Ensuring a positive application of trade standards, including commodity-based trade, is key to facilitate market access for African countries;
 - To make a single market efficient and viable, it is important to think from a regional point of view, to ensure the implementation of OIE standards and to strengthen the capacity of Veterinary Services, including their capacity to conduct risk assessment and management;
 - Implementing standards requires effort, money and constant rigour on the part of producers;
 - It is of paramount importance for the OIE and its partners to work in close collaboration to target the universal recognition and application of the OIE’s standards, adopted by the World Assembly of Delegates of the OIE, so as to ensure a common understanding of OIE standards and their link with the SPS Agreement and thus avoid their being used as an unfair barrier to trade;
 - Unanimous recognition of official disease status is a real difficulty faced by the OIE, which is currently working along two lines to improve the situation: firstly, to adjust the procedures for official recognition and self-declaration; secondly, based on an analysis of various panels on animal health topics within the WTO, the OIE is working on the recognition of all standards, guidelines, resolutions and recommendations adopted or endorsed by the OIE World Assembly, as a single block named “OIE standards”;
 - The OIE has initiated a project aimed at improving the transparency, clarity and acceptance of OIE standards through the establishment of an Observatory to assess and improve the implementation of OIE standards by Member Countries;
 - The OIE and its partners have a key role in supporting national Veterinary Services by facilitating access to technical assistance to deal with outbreaks, but also by helping to ensure that there are efficient identification and traceability systems in place to facilitate market access, food safety and disease control;

- The OIE is requested to provide frequent training sessions for its Delegates on the practical application of standards and how to avoid hampering trade;
- The OIE PVS Pathway is the best mechanism for ensuring Veterinary Services' compliance with international standards and hence ensuring that countries are able to meet the challenges of international trade;
- While it is clear that intergovernmental collaboration must be strengthened, it is also important to keep in mind that the ultimate responsibility for compliance with sanitary requirements for international trade lies with producers and value chain operators; these groups are sometimes extremely fragmented and weakly organised, and there is therefore a need to engage and work more closely with the private and non-governmental sectors in order to strengthen producer and value chain organisations;
- Regional Economic Communities (RECs) need to enhance regional coordination and collaboration in the prevention and control of transboundary animal diseases (TADs) and to develop initiatives to expand opportunities for regional trade of animals and animal products as a progressive step towards improved access to international markets;
- Ensuring good relations between industry, its customers, and the national Veterinary Services is crucial for enhancing and maintaining the animal health status of countries;
- It is also of paramount importance to facilitate public-private partnerships to strengthen the implementation of all relevant standards. To achieve this, the OIE needs the support and cooperation of its partners;
- The region of Africa faces huge challenges to build the capacity of Member Countries to conduct trade. There is a need for cooperation between the OIE regions and for the development of negotiation skills;
- Despite most smallholders are belonging to a meat board, they often feel left alone and lacking support and information;
- There is a need to clarify the reasons why, in some countries of the region, there are differences in interpretation of the OIE *Codes*, why standards that have been unanimously adopted are not being implemented and why some national legislations are not in compliance with international standards.

Introducing the Public-Private Progress project and how Delegates can contribute

41. Dr François Caya, Head of the Regional Activities Department, briefly introduced to participants the Public-Private Progress project, highlighting that this 3-year-project funded by the Bill & Melinda Gates Foundation had started in November 2016 and was designed to stimulate the development of Public-Private Partnerships (PPPs) to sustainably improve Veterinary Services.
42. He then explained how Delegates could contribute to the project, such as by sharing information on any examples of PPPs in their countries, providing details of their benefits and limitations from a public perspective as well as an appropriate local contact person for further analysis. He stated that a short questionnaire was due to be sent to Member Countries in March 2017 to gather input on how to improve Veterinary Services through PPPs.
43. Lastly, Dr Caya informed Delegates that for any queries or offers of support regarding the Public-Private Progress project, they should contact Dr Isabelle Dieuzy-Labaye at OIE Headquarters.

Adoption of the draft Final Report and Recommendations

44. Dr Monique Eloit, OIE Director General, explained the procedures for adopting the Final Report and Recommendations of the Conference. Delegates could submit comments or suggestions for consideration during the session dedicated to the adoption of the Report. Further comments on the Report received at the OIE Headquarters by 15 March 2017 would also be taken into consideration in the final version of the Report. However, the Recommendations had to be adopted during the current session and could not be changed subsequently.
45. The draft Final Report was adopted with minor additional modifications.
46. The two draft Recommendations were also adopted, with minor amendments taking into account participants' suggestions and discussions.

Closing ceremony

47. The President and Members of the OIE Regional Commission for Africa, the President of the World Assembly of OIE Delegates, the OIE Director General and delegation members, country representatives, representatives of regional and international organisations and observers expressed their deep gratitude to the Namibian authorities for the warm welcome, for all the support provided to participants during their stay in Swakopmund, and for the excellent organisation of the Conference.
48. The OIE Director General, Dr Monique Eloit, expressed her gratitude to the Minister of Agriculture, Water and Forestry of Namibia for all the support provided to the OIE to facilitate the organisation and success of such an important event for the region. She also expressed her gratitude and the gratitude of all participants, who were honoured by the presence of the Minister and his address at the Opening Ceremony. She congratulated and thanked Dr Adrianatus Florentius Maseke, Delegate of Namibia, and Dr Albertina Shilongo, Deputy Chief Veterinary Officer of Namibia, as well as all the staff of the Directorate of Veterinary Services for the excellent work done to ensure the success of the Conference.
49. Finally, Dr Eloit expressed her appreciation of all the Delegates who had attended the Conference of the Regional Commission and reminded participants that Conferences of OIE Regional Commissions are statutory events and that attendance at these conferences is not only part of the obligations of OIE Delegates of Member Countries in the region but is also of paramount importance as it allows countries to participate in the discussions on the recommendations that will be proposed for adoption to the World Assembly of Delegates. These recommendations will provide an important guideline for the 54 Member Countries of the OIE Regional Commission for Africa as well as for the whole of the Organisation.
50. Dr Botlhe Michael Modisane, President of the World Assembly of OIE Delegates, reiterated his thanks and congratulations to the Government of Namibia for the excellent organisation of the Conference and the warm welcome and hospitality extended to participants. He also thanked all Delegates for their active participation during the week.
51. Dr Maseke, Delegate of Namibia to the OIE, expressed gratitude on behalf of his government and on his own behalf to all participants for their active participation in all the Conference activities. He expressed special thanks to the OIE Director General, for having honoured the Conference with her presence during the whole week of activities. He also thanked his colleagues of the Namibian Veterinary Services and the OIE staff for their excellent work in ensuring the success of the Conference. He wished everyone a safe journey home.
52. Dr Maseke declared the 22nd Conference of the OIE Regional Commission for Africa officially closed at 12:00 a.m.

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PROGRAMME

MONDAY 20 FEBRUARY 2017

10: 00 a.m. – 2:00 p.m.	Registration of participants and document distribution
2:00 p.m.	Opening ceremony
2:40 p.m.	Group Photo / Break
3:15 p.m.	The role of the Regional Commissions and Council in supporting the mandate of the OIE (Dr Monique Eloit, OIE Director General)
3:45 p.m.	Panel discussion on the role of the Regional Commissions and Council (OIE Director General and Members of the Bureau and the Council)
4:15 p.m.	Regional and Sub Regional Representations' Roadmap: Regional ownership of the OIE Sixth Strategic Plan (Dr Karim Tounkara, OIE Regional Representative for Africa)
4:45 p.m.	Introduction to the Posters Session
5:00 p.m. – 6:30 p.m.	Posters Session
7:00 p.m.	Welcome cocktail offered by Namibia

TUESDAY 21 FEBRUARY 2017

9:00 a.m.	<ul style="list-style-type: none"> - Appointment of the Conference Committee (Chairperson, Vice-Chairperson and General Rapporteur) - Appointment of session chairpersons and rapporteurs (Technical Items and Animal Health Situation) - Approval of the Agenda and Programme
9:15 a.m.	Analysis of the Animal Health Situation (Dr Lina Awada, OIE World Animal Health Information and Analysis Department)
10:00 a.m.	Discussion
10:30 a.m.	Break
11:00 a.m.	OIE Scientific Commission for Animal Diseases and OIE Terrestrial Animal Health Standards Commission – Challenges and priorities (Dr Gideon Brückner, President of the OIE Scientific Commission for Animal Diseases)
11:30 a.m.	Discussion
12:00 p.m.	OIE Procedure for official recognition versus self-declaration (Dr Laure Weber-Vintzel, Head of the OIE Status Department)
12:30 p.m.	Discussion
1:00 p.m.	Lunch

- 2:15 p.m. Climate change and emerging vector-borne diseases: the example of Rift Valley fever in West Africa and Madagascar (Dr Alexandre Caron, CIRAD)
- 2:45 p.m. Discussion
- 3:15 p.m. Technical item I (with questionnaire): Pastoralism: opportunities for livestock and challenges for Veterinary Services (Dr Oumar Alfaroukh Idriss, OIE Regional Representation for Africa)
- 4:00 p.m. Discussion
- 4:30 p.m. Break
(Preparation of Recommendation No. 1 by designated small group)
- 5:00 p.m. The OIE Strategy on Antimicrobial Resistance: Contribution of Africa (Dr Unesu Ushewokunze-Obatolu, OIE Delegate of Zimbabwe)
- 5:30 p.m. Discussion
- 6:00 p.m. End of the session

WEDNESDAY 22 FEBRUARY 2017

- 9:00 a.m. Technical item II (without questionnaire): Unfolding the Global Strategy for the Control and Eradication of peste des petits ruminants (PPR) in Africa (Dr Abdenacer Bakkouri, Moroccan expert)
- 09:45 a.m. Discussion
- 10:15 a.m. Break
(Preparation of Recommendation No. 2 by designated small group)
- 10:45 a.m. Rabies control Project in Namibia
- 11:15 a.m. Discussion
- 11:45 p.m. The epidemic of foot-and-mouth disease in North Africa in 2014-2015: Example of regional cooperation (Dr Malek Zrelli, OIE Delegate of Tunisia)
- 12:15 p.m. Discussion
- 12:45 p.m. Lunch
- 2:00 p.m. Uptake of OIE PVS Pathway mission recommendations by a selection of African countries (Dr Patrick Bastiaensen, Programme Officer, OIE Sub-Regional Representation for Eastern and the Horn of Africa)
- 2:30 p.m. The OIE PVS Pathway: evolving beyond the myths (Dr François Caya, Head of the OIE Regional Activities Department and Dr John Stratton, Deputy Head of the OIE Regional Activities Department)
- 3:15 p.m. Working group Session on the PVS Pathway
- 4:15 p.m. Feedback of the working group session and discussion
- 4:45 p.m. Break
- 5:15 p.m. Discussion of recommendations

- 6:15 p.m. Proposal of date and venue of the 23rd Conference of the OIE Regional Commission for Africa
- 6:30 p.m. End of the meeting
- 7:30 p.m. Dinner hosted by the OIE

THURSDAY 23 FEBRUARY 2017

- 10:30 a.m. – 2:00 p.m. Cultural visit
- 2:00 p.m. – 6:00 p.m. Free time
- 6:00 p.m. – 10:00 p.m. Reception hosted by Namibia

FRIDAY 24 FEBRUARY 2017

- 09:00 a.m. Proposed system for elections to the OIE Specialist Commissions (Dr Monique Eloit)
- 09:15 a.m. Discussion
- 09:30 a.m. “Addressing the challenges of international trade of animals and products of animal origin: how to engage all interested parties?”- Statements and panel discussion with international and regional organisations (previously selected)
- 11:00 a.m. Break
- 11:30 a.m. Introducing the Public-Private Progress project and how Delegates can contribute
- 12:00 pm Adoption of the draft Final Report and Recommendations
- 12:30 a.m. Closing ceremony

**ANALYSIS OF THE ANIMAL HEALTH SITUATION
IN MEMBER COUNTRIES IN THE REGION DURING 2015 AND 2016**
(Update 15 December 2016)

This report is based on information obtained from six-monthly reports, annual reports and immediate notifications and follow-up reports submitted to the OIE by Member Countries of the Regional Commission for Africa up to 15 December 2016. Special attention is given to the 2015 and 2016 reporting period.

The report reviews the situation in Africa regarding some specific diseases notified during this period: anthrax, infection with peste des petits ruminants virus, infection with rabies virus, infection with foot and mouth disease virus, infection with influenza A viruses of high pathogenicity, and infection with *Aphanomyces invadans* (epizootic ulcerative syndrome).

1) Anthrax

The disease most commonly affects wild and domestic mammals. Humans are secondarily infected through contact with infected animals and contaminated animal products or directly by exposure to *Bacillus anthracis* spores. This infection is still endemic in both animals and humans in many countries of Africa^{5,6}.

The recent geographical distribution of anthrax in animals in Africa, during the period 1 January 2015 to 15 December 2016, is shown in Figure 1. During this period, a total of 47 countries/territories provided information on the disease, which was reported present or suspected by 57% of them (27/47).

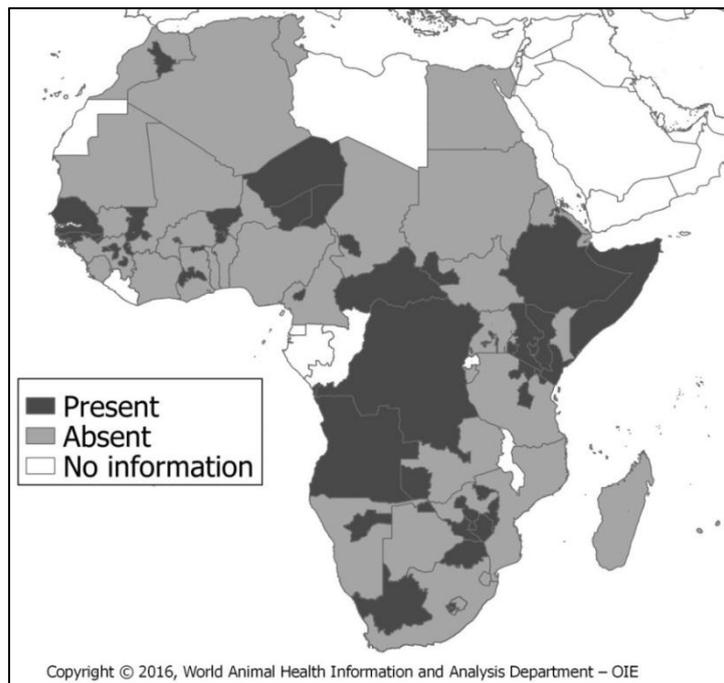
During this period, anthrax was reported by means of immediate notifications by four countries. In 2015, Botswana reported two reoccurrences of anthrax in wildlife in the area of Chobe, in January and August. Botswana reported another reoccurrence of anthrax in the same area in February 2016. In August 2015, Kenya reported an unexpected change in mortality in Lake Nakuru National Park, when 300 buffaloes died among 4500. In October 2016, Zambia reported a reoccurrence in the Eastern area, and in November 2016, Tanzania reported a reoccurrence in the area of Arusha; the Veterinary Authorities indicated that ingestion of *Bacillus* spores from the soil was closely linked to the drought that has persisted in the area.

⁵ Doganay M, Demiraslan H. Human anthrax as a re-emerging disease. Recent Pat Antiinfect Drug Discov. 2015;10(1):10–29.

⁶ Bahiru G, et al. Human and animal anthrax in Ethiopia: A retrospective record review 2009-2013. Ethiopian Veterinary Journal 2016;20(2): 75-85.

⁷ Angola, Benin, Botswana, Burkina Faso, Cameroon, Central African Republic, Chad, Congo (Dem. Rep. of), Eritrea, Ethiopia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Mali, Morocco, Namibia, Niger, Senegal, Somalia, South Africa, South Sudan (Rep. of), Tanzania, Uganda, Zambia and Zimbabwe.

Figure 1. Distribution of anthrax in Africa in 2015 and 2016 (up to 15 December 2016)



A total of 57% (27/47) of the countries/territories reported information to the OIE on anthrax in humans in 2015 through their annual report. Among them, 14 countries⁸ reported anthrax absent, three countries⁹ reported anthrax present without details of the number of cases, and 10 countries¹⁰ reported details of the number of human cases registered by official authorities, with a median of 9 human cases (range: 1 to 186).

Humans can be protected by preventing disease in animals¹¹, and contamination of pasture is the source of most animal cases in endemic countries. In animals, the disease is almost always fatal, and vaccination forms the only basis for effective control¹². Vaccination is therefore an essential tool to limit the impact of anthrax on both animal and public health.

The aim of the following analysis is to describe the vaccination strategies implemented in the 47 countries/territories in the Region that provided information on the disease for 2015 and 2016. For this period, the highest number of livestock cases was reported in cattle (with more than 2000 cases vs. 800 for other species). The analysis therefore focuses on cattle, which is also the most commonly vaccinated species in the Region.

In total, 44 countries/territories provided vaccination figures for 2015 and 2016, either for official vaccination or vaccination in response to the outbreaks. For each country, the average number of cattle vaccinated per year during this period was divided by the total cattle population, to get an estimate of the proportion of cattle vaccinated against anthrax at national level.

⁸ Algeria, Angola, Burundi, Cabo Verde, Central African Republic, Madagascar, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Togo, Tunisia and Uganda

⁹ Chad, Ethiopia and Nigeria

¹⁰ Benin, Burkina Faso, Ghana, Guinea, Kenya, Lesotho, Morocco, Somalia, Tanzania and Zimbabwe

¹¹ <http://www.cfsph.iastate.edu/Factsheets/pdfs/anthrax.pdf>

¹² Welburn SC et al. The neglected zoonoses—the case for integrated control and advocacy. *Clin Microbiol Infect.* 2015 21(5):433–43. doi: 10.1016/j.cmi.2015.04.011. Epub 2015 Apr 23.

The great majority of countries/territories (a total of 30) did not apply any kind of vaccination during this period. Ten countries reported a yearly vaccination rate of between 2% and 10%, while Chad, Madagascar, Mozambique and Sudan reported higher vaccination rates, on average between 24% and 70% of the national cattle population each year. Sudan and Chad are among the countries with the highest cattle population in the Region (30 million and 25 million, respectively).

These results show that despite the regional importance of the disease, very few countries implement vaccination strategies with a significant coverage of the cattle population. However, vaccination constitutes the main control tool in endemic areas and, to support countries in disease control, the OIE spells out the requirements for the manufacture and quality control of animal vaccines in the *OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*.

Livestock are usually vaccinated annually, before the season in which outbreaks generally occur¹¹. Anthrax is known to be a seasonal disease in animals and humans^{13,14,15}. The seasonal variations may be associated with exposure to hot weather, which may modify the resistance of the mucous membranes or skin of grazing animals to the pathogen, assist entry of the spores into the body of the animal, and reduce the host's innate resistance to infection by increasing the infectivity of low doses of spores¹⁶. Furthermore, humans would be at an increased risk of exposure to sick livestock or contaminated soil during these hot months¹⁷. Cattle should be vaccinated at least two to four weeks before the season in which outbreaks may be expected¹⁸. Therefore, the OIE recommends that countries report anthrax incidence using the monthly template in the monitoring system, so that seasonal patterns can be established and control strategies targeting high risk periods can be implemented in each climatic zone accordingly. However, only four countries in the Region consistently used this template between 2005 and 2015 to report information to the OIE. More detailed information would allow better preparedness coordination at regional level.

2) Infection with peste des petits ruminants virus

Peste de petits ruminants (PPR) is one of the priority diseases indicated in the Global Framework for the Progressive Control of Transboundary Diseases (GF-TADs) and the Global Strategy for the eradication of PPR by 2030 was adopted in March 2015¹⁹. PPR has been reported present for many years in all of Africa except some parts of southern Africa, and in the Middle East and South-West Asia.

¹³ Chen WJ et al. Mapping the Distribution of Anthrax in Mainland China, 2005-2013. *PLoS Negl Trop Dis*. 2016;10(4):e0004637

¹⁴ Zhang WY et al. Spatiotemporal Clustering Analysis and Risk Assessments of Human Cutaneous Anthrax in China, 2005-2012. *PLoS One*. 2015;10(7):e0133736

¹⁵ Ashkenazi-Hoffnung L. Seasonality of *Bacillus* species isolated from blood cultures and its potential implications. *Am J Infect Control*. 2009;37(6):495-9.

¹⁶ Clegg SB, Turnbull PC, Foggin CM, Lindeque PM. Massive outbreak of anthrax in wildlife in the Malilangwe Wildlife Reserve, Zimbabwe. *Vet Rec*. 2007;160(4):113-8.

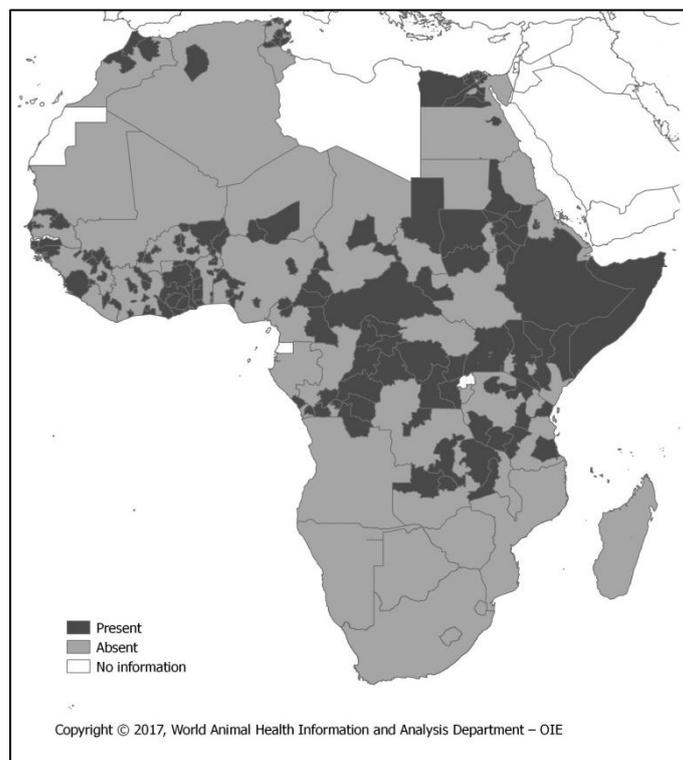
¹⁷ Chikerema SM, Pfukenyi DM, Matope G, Bhebhe E. Temporal and spatial distribution of cattle anthrax outbreaks in Zimbabwe between 1967 and 2006. *Trop Anim Health Prod*. 2012;44(1):63-70.

¹⁸ Porter, RS, and Kaplan, JL. 2011. *The Merck Manual of Diagnosis and Therapy*. Whitehouse Station, N.J.: Merck Sharp & Dohme Corp.

¹⁹ Global Strategy for the Control and Eradication of PPR. OIE and FAO. 2015. <http://www.oie.int/eng/ppr2015/doc/PPR-Global-Strategy-2015-03-28.pdf>

The recent geographical distribution of PPR in Africa, during the period from 1 January 2015 to 15 December 2016, is shown in Figure 2. During this period, a total of 51 countries/territories provided information on the disease, which was reported present by 67% of them (34²⁰/51). During the same period, five immediate notifications were sent by five countries²¹. In particular, PPR was reported as the first occurrence in the country by Liberia in April 2015 and as a reoccurrence in the country by Zambia (May 2015), Morocco (June 2015), Algeria (February 2016) and Tunisia (July 2016).

Figure 2. Distribution of PPR in Africa in 2015 and 2016 (up to 15 December 2016)



For the effective implementation of the Global Strategy, a better understanding of the factors affecting the occurrence of the disease is required, in order to maximise the efficacy of the eradication strategy. In particular, it is important to have an accurate knowledge of the distribution of the susceptible animals inside the country and the effects of a national vaccination programme.

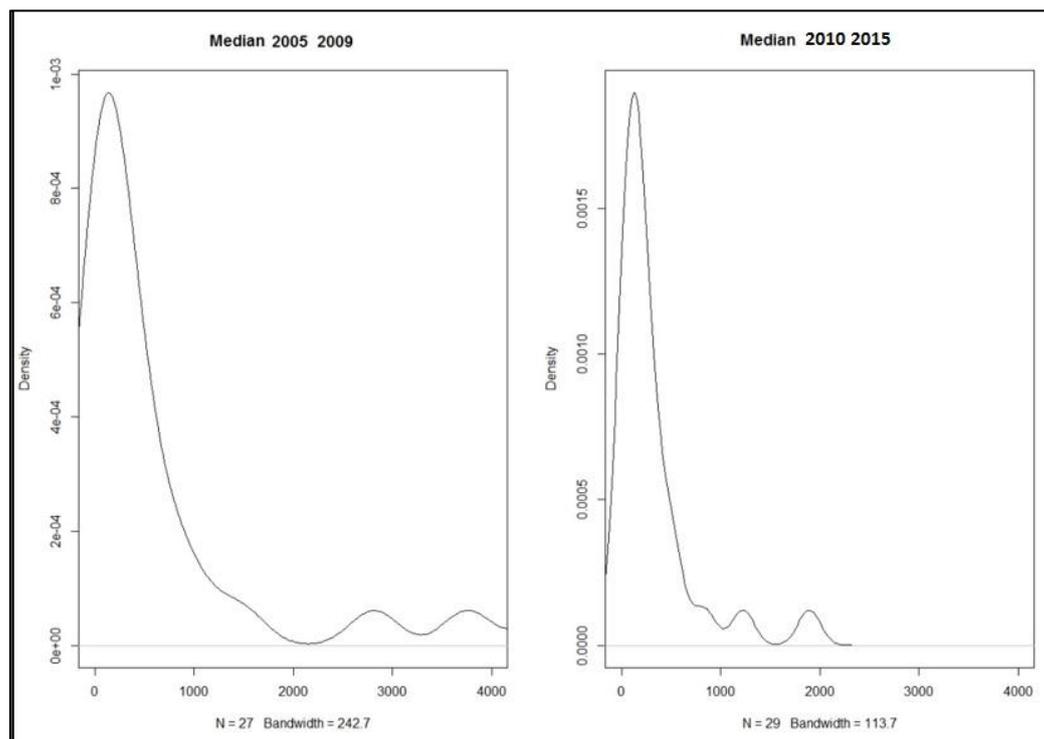
To evaluate the relationship between the epidemiological situation of the disease in the period 2005 – 2015 (dependent variable) and some selected risk factors a generalised linear model (GLM) with binomial family distribution was used. Only the countries having reported the occurrence of PPR at least once during the entire study period (29 Member Countries) were included in the analysis.

The distribution of median values of cases at country level is shown in figure 3. Data were analysed splitting the time series in two periods (2005 – 2009 and 2010 – 2015). No differences were found in the epidemiological situation between the two periods (Wilcoxon rank sum test - $W = 404$, p -value = 0.8).

²⁰ Algeria, Angola, Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Congo (Dem. Rep. of the), Congo (Rep. of the), Cote D'Ivoire, Egypt, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Mauritania, Morocco, Niger, Nigeria, Senegal, Sierra Leone, Somalia, South Sudan (Rep. of), Sudan, Tanzania, Togo, Tunisia, Uganda and Zambia

²¹ Algeria, Liberia, Morocco, Tunisia and Zambia

Figure 3. Density distribution of PPR median cases per country in the period 2005-2009 (on the left) and 2010-2015 (on the right)



To better evaluate the presence of significant changes along the period and to remove possible bias due to the quality of the information reported, each country was classified according to its epidemiological situation as either “improved” or “not improved” (binomial variable: 1 or 0). A country was considered as “improved” if the median number of cases reported in the period 2005 – 2009 was higher than the median number of cases reported in the period 2010 – 2015. According to this classification, 48% of the countries (14/29) reported an improved epidemiological situation.

The following risk factors potentially affecting the epidemiological situation of the countries were considered: vaccination frequency (number of years with vaccination declared/number of years for which the countries submitted information), vaccination variability (number of changes in the official vaccination strategy during the period), proxy for vaccination coverage (percentage of animal vaccinated/susceptible animal population), and the population of susceptible animals in the country. Model selection was performed using a backward elimination process, the model chosen being the one with the lowest Akaike information criterion (AIC) value²². Based on this criterion, the population of susceptible animals was not included in the selected model. Details of the odds ratio values of the selected variables are presented in Table 1. As shown in the table, vaccination frequency²³ and vaccination coverage were positively associated with an improved epidemiological situation (the more frequent the vaccination and the better its coverage, the greater the improvement in the epidemiological situation), while vaccination variability was negatively linked (the greater the variability in the application of vaccination, the smaller the improvement in the epidemiological situation).

²² Akaike, H. (1973). “Information theory and an extension of the maximum likelihood principle”, in Petrov, BN and Csáki, F (eds) 2nd International Symposium on Information Theory, Tsahkadsor, Armenia, USSR, 2-8 September 1971, Budapest: Akadémiai Kiadó, pp. 267-281.

²³ Even if vaccination frequency confidence interval includes the zero, the AIC criterion included it as a good predictor in the model.

Table 1. Risk factors influencing improvement in the PPR epidemiological situation: odds ratio (OR) values of the selected variables, with confidence intervals (CI)

	OR	2.5%	97.5%
Vaccination frequency	8.55	0.46	433.71
Vaccination variability	0.30	0.04	0.86
Vaccination coverage	3.1E+20	2.7E+01	9.5E+68

The result of the GLM highlighted the importance of the implementation of a national vaccination programme in order to eradicate the disease. A long term vaccination strategy is of paramount important (OR = 8.55) to control the disease, covering a significant percentage of the susceptible population (OR = 3.1E+20). These key factors have to be combined with a regular yearly administration of the vaccine (OR = 0.30 for variability).

These results confirm the analysis of the PPR epidemiological situation in Africa presented at the 84th General Session in May 2016, showing that, after the extensive spread of the disease in the past, the situation in the Region has now stabilised, due to the application of effective preventive and control measures such as vaccination.

The OIE recommends that Member Countries continue to implement the Global Strategy for the Eradication of PPR to achieve eradication of the disease by 2030. A quick and definitive global eradication of the disease will need better collaboration and communication between Members for early detection and rapid reporting to the OIE. For these reasons, even if the quality of the information reported to the OIE has significantly increased in the last few years, it is crucial to continue these efforts as some Members are still providing incomplete and/or insufficiently detailed information.

3) Infection with rabies virus

The rabies virus situation in the Region is presented in relation to the global goal for elimination of dog-mediated human rabies, which was agreed at the Global Elimination of Dog-mediated Human Rabies Conference organised in conjunction with the World Health Organization (WHO and OIE in December 2015²⁴).

Although there is evidence that some wild canid populations can support rabies cycles in Africa, most outbreaks in wild canids are triggered by epidemics in domestic dogs rather than the converse²⁵. The first phylogenetic study of rabies viruses from sub-Saharan Africa established three genetically distinct lineages (Africa 1, 2, and 3)²⁶. Africa 1 and 2 lineages have been detected in a range of domestic and wild carnivore species. While domestic dogs appear to be the only population essential for maintenance of canid variants in some parts of Africa^{27,28}, wild canids have been suggested to contribute to

²⁴ Global Elimination of Dog-mediated Human Rabies, WHO/OIE Conference on rabies, December 2015 - <http://www.oie.int/eng/RABIES2015/index.html>

²⁵ Randall DA, Williams SD, Kuzmin IV, Rupprecht CE, Tallents LA, Tefera Z, et al. Rabies in endangered Ethiopian wolves. *Emerg Infect Dis.* 2004;10(12):2214–7.

²⁶ Kissi B, Tordo N, Bourhy H. Genetic polymorphism in the rabies virus nucleoprotein gene. *Virology.* 1995;209:526–537.

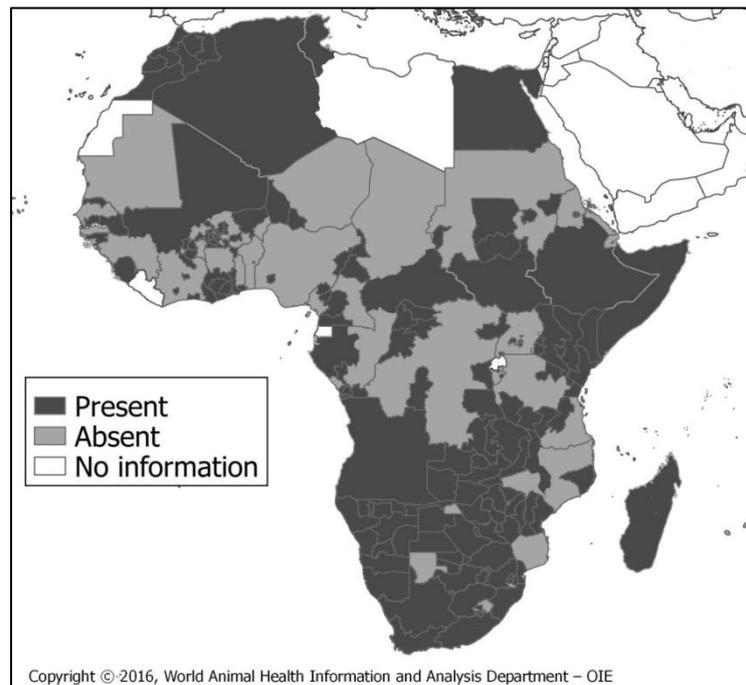
²⁷ Cleaveland S, Dye C. Maintenance of a microparasite infecting several host species: rabies in the Serengeti. *Parasitology.* 1995;111(Suppl):S33–47.

²⁸ Lembo T, Haydon DT, Velasco-Villa A, Rupprecht CE, Packer C, et al. Molecular epidemiology identifies only a single rabies virus variant circulating in complex carnivore communities of the Serengeti. *Proceedings of the Royal Society B.* 2007;274:2123–30.

sustaining canine rabies cycles in specific geographic loci in South Africa and Zimbabwe^{29,30}. A third lineage (Africa 3) is thought to be maintained within species of the family Viverridae in southern Africa^{31,32}. More recently, another distinct lineage, Africa 4, was identified in northern Africa³³.

The recent geographical distribution of infection with rabies virus in animals in Africa, during the period 1 January 2015 to 15 December 2016, is shown in Figure 4. During this period, a total of 50 countries/territories provided information on the disease, which was reported present or suspected by 82% of them (41³⁴/50).

Figure 4. Distribution of infection with rabies virus in Africa in 2015 and 2016 (up to 15 December 2016)



²⁹ Nel L, Jacobs J, Jaftha J, Meredith C. Natural spillover of a distinctly Canidae-associated biotype of rabies virus into an expanded wildlife host range in southern Africa. *Virus Genes*. 1997;15:79–82.

³⁰ Pfukenyi DM, Pawandiwa D, Makaya PV, Ushewokunze-Obatolu U. A retrospective study of wildlife rabies in Zimbabwe, between 1992 and 2003. *Trop Anim Health Prod*. 2009;41:565–72.

³¹ Nel LH, Sabeta CT, von Teichman B, Jaftha JB, Rupprecht CE, et al. Mongoose rabies in southern Africa: a re-evaluation based on molecular epidemiology. *Virus Res*. 2005;109:165–73.

³² Johnson N, Letshwenyo M, Baipoledi EK, Thobokwe G, Fooks AR. Molecular epidemiology of rabies in Botswana: a comparison between antibody typing and nucleotide sequence phylogeny. *Vet Microbiol*. 2004;101:31–8.

³³ David D, Hughes GJ, Yakobson BA, Davidson I, Un H, et al. Identification of novel canine rabies virus clades in the Middle East and North Africa. *J Gen Virol*. 2007;88:967–80.

³⁴ Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Congo (Dem. Rep. of the), Congo (Rep. of the), Côte d’Ivoire, Egypt, Eritrea, Ethiopia, Gabon, Ghana, Guinea-Bissau, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Morocco, Mozambique, Namibia, Niger, Nigeria, Senegal, Sierra Leone, Somalia, South Africa, South Sudan (Rep. of), Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia and Zimbabwe.

A total of 64% (32/50) of the countries/territories that reported information to the OIE on rabies in humans in 2015 did so through their annual report. Among them, four countries³⁵ reported rabies absent, eight countries³⁶ reported rabies present without details of the number of cases, and 20 countries³⁷ reported details of the number of human cases registered by official authorities, with a median of 17 human cases (range: 1 to 120). It is estimated that Africa currently has the highest per capita death rate from rabies of any continent^{38,39}. To decrease the impact on humans, the strategy highlighted in the conclusions of the Conference relies on the following:

- the application of mass vaccination to cover 70% of the dog population targeted;
- an active communication campaign targeting dog owners;
- promotion of responsible dog ownership and control of dog populations in accordance with intergovernmental OIE standards, as detailed in Chapter 7.7. of the OIE *Terrestrial Animal Health Code*;
- raising awareness to prevent dog bites; and
- the treatment of human victims and the use of appropriate post-exposure prophylaxis⁴⁰.

Dog vaccination is essential and 68% (34⁴¹/50) of countries/territories in the Region reported the implementation of official vaccination through their six-monthly reports for 2015 and 2016. The OIE Rabies Vaccine Bank supports the delivery of injectable rabies vaccines for dogs to eligible countries in Africa and Asia as a priority (and in other regions of the world on a case-by-case basis). As of December 2016, over 15.8 million doses had been delivered to eligible countries, including 935 500 doses in Africa, and a further almost 3 million doses were in the process of delivery, including 275 000 doses in Africa.

The objective of the following analysis was to quantify the relationship between the occurrence of rabies in humans and the occurrence of rabies in dogs in the Region, using WAHIS data. The analysis also aimed to evaluate the association between implementation of stable dog vaccination strategies and the decrease in rabies occurrence in humans and in dogs.

To this end, a focused principal component analysis⁴² was performed to evaluate the correlation between the occurrence of rabies in humans during the study period and the occurrence of rabies in dogs on the one hand and the implementation of a stable dog vaccination strategy on the other hand. The number of semesters during which dog vaccination was reported between 2005 and 2015 was used as an index measure of the stability of the dog vaccination strategy. The occurrences of rabies in humans and in animals at country level were used as binary variables.

³⁵ Cabo Verde, Congo (Rep. of the), Mauritius and Uganda

³⁶ Cameroon, Central African Republic, Chad, Côte d'Ivoire, Ethiopia, Kenya, Madagascar and Swaziland

³⁷ Algeria, Angola, Benin, Burkina Faso, Burundi, Congo (Dem. Rep. of the), Ghana, Guinea-Bissau, Lesotho, Mali, Morocco, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Togo, Tunisia and Zimbabwe

³⁸ Louis Nel, Progress in Africa, presented during the WHO/OIE Conference on Rabies in December 2015 - http://www.oie.int/eng/RABIES2015/presentation/Session_3.5_Louis_Nel_Progress_in_AFRICA.pdf

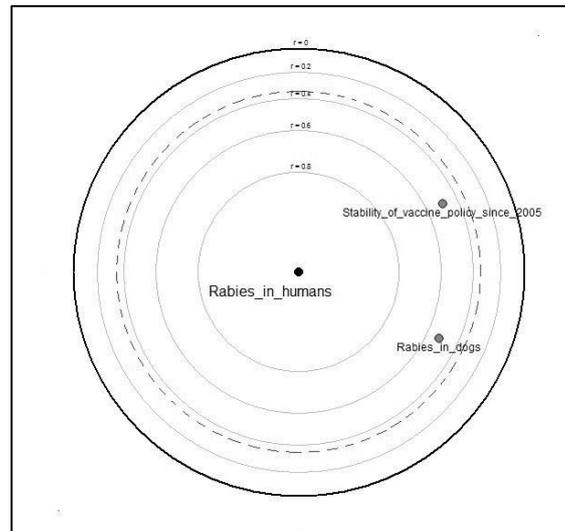
³⁹ Scott TP et al., The Pan-African Rabies Control Network (PARACON): A unified approach to eliminating canine rabies in Africa. *Antiviral Res.* 2015;124:93-100.

⁴⁰ Conclusions of the WHO/OIE Conference on Rabies held in December 2015 - Global Elimination of Dog-mediated human rabies - http://www.oie.int/eng/RABIES2015/conclusion/conferencerabies_conclusion_final.pdf

⁴¹ Algeria, Benin, Botswana, Burkina Faso, Central African Republic, Chad, Congo (Rep. of the), Côte d'Ivoire, Egypt, Eritrea, Ethiopia, Guinea, Guinea-Bissau, Kenya, Lesotho, Madagascar, Malawi, Mali, Morocco, Mozambique, Namibia, Nigeria, Senegal, Sierra Leone, Somalia, South Sudan (Rep. of), Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe

⁴² Canuto R, Camey S, Gigante DP, Menezes AM, Olinto MT., Focused Principal Component Analysis: a graphical method for exploring dietary patterns, *Cad Saude Publica.* 2010 Nov;26(11):2149-56.

Figure 5. Focused principal component analysis showing relationships between the occurrence of rabies in humans during the study period, the occurrence of rabies in dogs and the implementation of a stable dog vaccination strategy*



**The points falling within the dashed circle are significantly associated with the occurrence of rabies in humans.*

Figure 5 shows the relationship between rabies in humans and two other factors: stability of the dog vaccination policy and the occurrence of rabies in dogs. The association between each of these two factors with rabies in humans was positive (light grey dots). The correlations were significant and quite strong; i.e. the correlation dots were plotted in concentric circles representing correlation coefficient values between 0.4 and 0.6. There was no correlation observed between the stability of the dog vaccination policy and the occurrence of rabies in dogs.

The correlation between the occurrence of rabies in dogs and the occurrence rabies in humans highlights the importance of dog-mediated rabies in the Region. However, the tests did not show significant correlation between the stability of the dog vaccination policy and the occurrence of rabies in dogs. This therefore raises questions about the efficiency of the implementation of vaccine strategies in the Region, including vaccination coverage and vaccine management. Indeed, in a recent publication, Hampson⁴³ emphasised that dog vaccination in the continent was estimated to cover only 14% of the canine population (a long way from the recommended threshold of 70%), despite the number of African countries/territories reporting the implementation of national vaccine policies to the OIE.

An effective rabies control strategy can only be achieved through the effective coordination of partners applying the same strategies. The OIE is directly supporting the national dog-mediated rabies elimination programmes in several countries in the region by supporting their implementation (e.g. Namibia, Kenya, Tunisia) and by facilitating access to high quality vaccines through the OIE vaccine bank (Burkina Faso, Chad, Gambia, Kenya, Mali, Namibia, South Africa, Tanzania, Togo, Tunisia). The goal is to demonstrate the feasibility of rabies elimination following the One Health approach and then to extend the experience thus gained to other countries in the Region.

⁴³ Hampson K. et al. Estimating the global burden of endemic canine rabies. PLoS Negl Trop Dis. 2015;9(4) e0003786. doi: 10.1371/journal.pntd.0003786

During the 2015 WHO/OIE Conference on Elimination of Dog-mediated Human Rabies, the importance of regional strategies, including surveillance and reporting, was also highlighted, to take into consideration both regional and local contexts. Therefore, Member Countries are encouraged to continue their efforts, with the aim of decreasing the impact of dog-mediated rabies in the Region. This is essential if the goal of total elimination of dog-mediated human rabies by 2030 is to be achieved.

4) Infection with foot and mouth disease virus

Although foot and mouth disease (FMD) is a disease of low mortality, its impact is very important, including direct losses due to reduced production and indirect losses caused by the cost of FMD control and lack of access to markets. No country can be considered to be at no risk from the introduction or reintroduction of the disease, as demonstrated by the sudden occurrence of FMD in Algeria, Morocco and Tunisia (period 2014 – 2015). Some areas of the world (Central and North America and Oceania) have succeeded in avoiding or eradicating FMD, while in others (Europe, South America, some countries of South-East Asia), FMD prevalence has decreased markedly. In Sub-Saharan Africa, FMD is endemic in most countries and is the most frequently reported transboundary animal disease; moreover, it was the disease for which countries submitted the highest number of immediate notifications during the period of analysis.

The recent geographical distribution of FMD in Africa, during the period between 1 January 2015 and 15 December 2016, is shown in Figure 6. During this period, a total of 52 countries/territories provided information on the disease, which was reported present by 62% of them (32⁴⁴/52). In the same period, 21 immediate notifications were sent by 12 countries⁴⁵ (serotypes SAT1, SAT2, SAT3 and O). In particular, the first occurrence of FMD was reported in Mauritius, which consequently lost its official free status, in October 2016 (serotype O) and in the area of Ohangwena in Namibia in May 2015 (serotype SAT2).

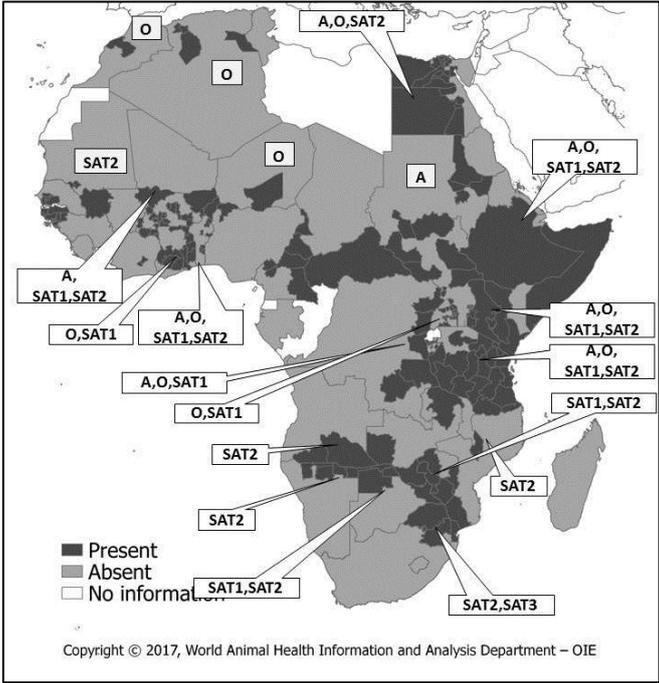
Seven⁴⁶ countries/territories have an officially recognised FMD status (free country or country with one or more free zones).

⁴⁴ Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Congo (Dem. Rep. of the), Cote D'Ivoire, Egypt, Ethiopia, Ghana, Guinea-Bissau, Kenya, Mali, Mauritania, Morocco, Mozambique, Namibia, Niger, Nigeria, Senegal, Somalia, South Africa, South Sudan (Rep. of), Sudan, Tanzania, Togo, Uganda, Zambia and Zimbabwe.

⁴⁵ Algeria, Angola, Botswana, Guinea-Bissau, Malawi, Mauritania, Mauritius, Morocco, Mozambique, Namibia, South Africa and Zambia

⁴⁶ Botswana, Lesotho, Madagascar, Namibia, Reunion (France), South Africa and Swaziland

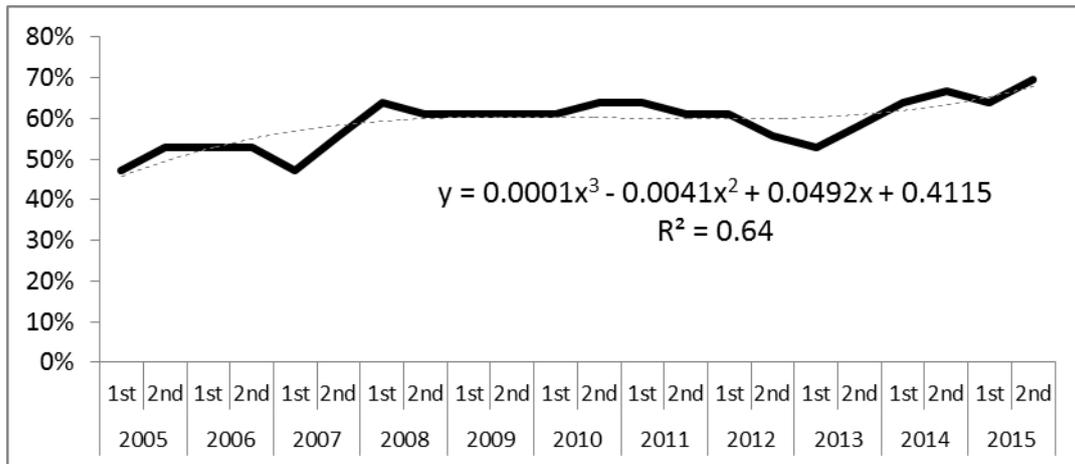
Figure 6. Distribution of infection with foot and mouth disease virus in Africa in 2015 and 2016 (up to 15 December 2016)



To evaluate the evolution of the epidemiological status of the disease in the Region, a retrospective analysis on its occurrence since 2005 was carried out. Only the 36 countries/territories for which complete and continuous information was available for the whole period were considered. Fragmented or no information was provided by the 17 remaining countries. The percentage of countries reporting the presence of the disease increased from 47% in the first semester 2005 (17/36) to 69% in the second semester 2015 (25/36) (median value during the whole period was 61%). To show in details the pattern followed by the trend, and how it moves in time we used a cubic regression model, as shown in Figure 7 (R-squared: 0.6; p-value < 0.001). The increase of the percentage of affected countries during the period was statistically significant (Spearman's rank correlation test, S = 586.38, p-value < 0.001, rho = 0.67), showing a deterioration of the epidemiological situation in the Region. Only 20% of the reporting countries/territories (7⁴⁷/36) did not notify the presence of FMD during the entire period 2005 – 2015.

⁴⁷ Cabo Verde, Djibouti, Lesotho, Madagascar, Mauritius, Reunion and Swaziland

Figure 7. Trend of the percentage of reporting countries/territories notifying the presence of FMD in the period 2005 – 2015, by semester

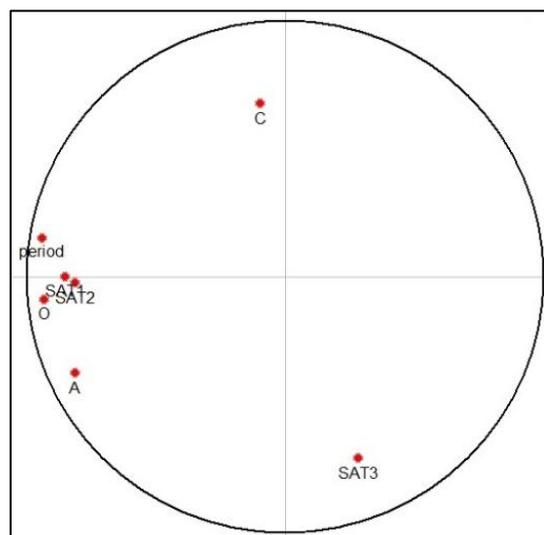


Serotypes O and SAT2 were the most prevalent during the period, as they were reported at least once by respectively 25% and 24% of the countries; the next most prevalent were SAT1 (22%), A (16%) and SAT3 (2%). Very few countries reported serotype C (1%). The last report of serotype C, dated 2nd semester 2014, was submitted by South Sudan and was based only on serological evidence.

To better understand the disease dynamics in the Region, a multidimensional descriptive analysis was applied (principal component analysis [PCA]). This technique allows several continuous variables to be considered and represents their mutual relationship by means of a spatial representation: the closer the variables on the graph, the higher their correlation indexes.

The results of the PCA show a correlation between the dynamics of a group of selected serotypes and time. In particular, the occurrences of serotypes SAT1, SAT2 and O significantly increased during the whole period and their dynamics were completely different from those of the other serotypes reported in the Region (Figure 8). The increase in the number of different serotypes reported through the years is influenced from one side by the improved diagnostic capabilities of the Member Countries in some endemic areas of the Region, and from another by a real spread of the virus in free areas.

Figure 8. Principal component analysis on the prevalence of the main FMD serotypes during the period 2005 – 2015



In conclusion, FMD has been widespread in the Region for many years, with six circulating serotypes, and only few countries have remained FMD free during the past 11 years. Considering the progressive deterioration of the epidemiological situation in Africa, more efforts have to be made to improve monitoring and control of the disease.

Only a few African countries and territories are currently officially recognised by the OIE as being FMD free or having FMD-free zones. The recent incursion of FMD virus into an officially recognised FMD-free country (Mauritius) highlights the fact that all countries remain under threat and must be fully prepared. In particular, the OIE encourages countries/territories of the Region to share timely and accurate information on FMD distribution and control. Sharing this information with neighbouring countries and trade partners is a necessary condition for improving national control programmes and preparedness. Currently, several countries have huge gaps in their historical data while others have not yet provided information on the FMD situation for 2015 and 2016 (23 countries/territories).

The control of FMD in Africa requires a sub-regional approach, since a variety of epidemiological situations co-exist in the Region (involving wildlife reservoirs or more related to domestic animals only).

Finally, more attention needs to be given to FMD and further studies are required to better understand the epidemiology and the dynamics of the serotypes playing a main role in the Region (A, O, SAT1 and SAT2).

5) Infection with influenza A viruses of high pathogenicity

The situation regarding infection with influenza A viruses of high pathogenicity (HPAI) is presented in relation to the significant spread of several subtypes of the disease in 2015 and 2016 in the Region. The recent geographical distribution of infection with HPAI in Africa, during the period 1 January 2015 to 15 December 2016, is shown in Figure 9. During this period, a total of 49 countries/territories provided information on the disease, which was reported present or suspected by 22% of them (11⁴⁸/49).

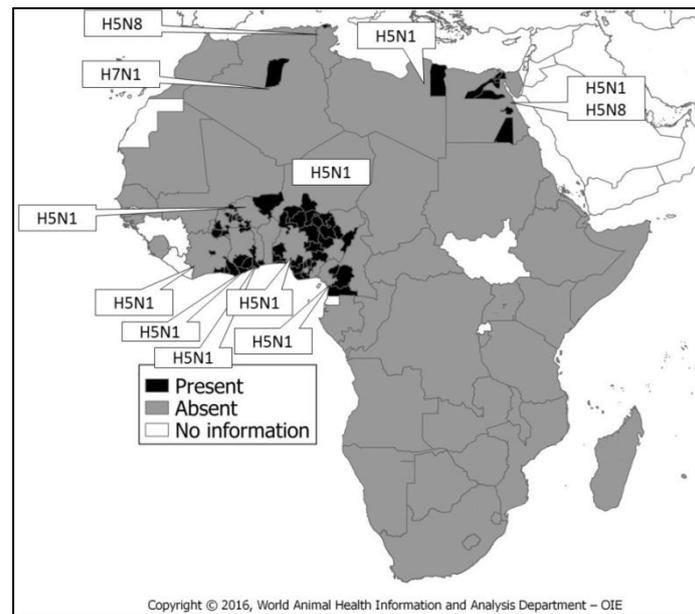
During this period, HPAI was reported by means of immediate notifications by 11 countries. Eight were affected by subtype H5N1, all in domestic birds. In 2015, Nigeria reported two reoccurrences, both in January; these were followed by single reoccurrences in each of the following: Libya in February, Burkina Faso and Niger in April and Cote d'Ivoire and Ghana in May. In 2016, Cameroon reported a reoccurrence in May and Niger and Togo each reported a reoccurrence in June. Cote d'Ivoire, Libya and Niger emphasised that these events were very likely to have been due to animal movements.

In November 2016, Algeria reported the first occurrence of HPAI in the country and subtype H7N1 was confirmed. Only wild birds were affected.

The same month, Egypt reported subtype H5N8 as a new strain in the country. The same virus subtype caused the first occurrence of HPAI in Tunisia, reported in December 2016. Only wild birds were affected. Tunisia emphasised in its reports that the country was located in the main migratory corridor for wild birds coming into Africa from Europe during the winter migration, and that the event was very likely to have been due to migrating birds.

⁴⁸ Algeria, Burkina Faso, Cameroon, Côte d'Ivoire, Egypt, Ghana, Libya, Niger, Nigeria, Togo and Tunisia

Figure 9. Distribution of infection with HPAI in Africa in 2015 and 2016 (up to 15 December 2016)



As shown in Figure 9, seven countries did not report to the OIE information of their national HPAI situation, although they were located near infected areas. Implementing surveillance for this disease and sharing timely information with neighbouring countries and trade partners through WAHIS is essential.

The notable spread of HPAI in Africa since early 2015 raises questions about the routes of spread of the viruses. The objective of the following analysis was to evaluate the impact of international trade and the main migratory bird flyways on the observed spread of the disease in the Region. Live poultry trade was suspected to be the main risk factor for the spread of HPAI in domestic birds in West Africa in 2015⁴⁹. To better understand the structure of the live poultry trade network of countries of the Region and the West Africa sub-region, data on legal trade in live poultry were extracted from the UN Comtrade International Trade Statistics Database⁵⁰ for 2015 (2016 data not yet available). A trade matrix was then built and the monetary value of trade exchanges was used as a proxy for the amount of live poultry traded. Data were analysed using social network analysis (SNA) techniques. SNA is the process of investigating structures through the use of network and graph theories⁵¹. The African live poultry trade network was plotted using the “statnet” package on R software. Trade links between countries were weighted accordingly (using monetary values) and directed (exporting to importing countries). African countries imported live poultry from one to 17 different partners (median of 3 partners). In terms of monetary value, the national imports were between USD 500 and USD 31 million (median of USD 600 000). The African countries with the highest number of trading partners for imports were Tanzania (17 partners), Uganda (12 partners), Egypt, Ethiopia and Senegal (10 partners each). Figure 10 shows the live poultry trade network between African countries and a focus on live poultry trade between West African countries where HPAI H5N1 was reported in 2015.

⁴⁹ Asante I. et al. Highly Pathogenic Avian Influenza A(H5N1) Virus among Poultry, Ghana, 2015. *Emerg Infect Dis.* 2016;22(12):2209–11.

⁵⁰ <https://comtrade.un.org/data/>

⁵¹ Otte, E. et al.. Social network analysis: a powerful strategy, also for the information sciences. *Journal of Information Science* 2002;28:441–53.

According to UN Comtrade, Burkina Faso imported live poultry from three other countries in the sub-region (value of more than USD 16 000), while Cote d'Ivoire, Guinea, Liberia, Mali, Mauritania, Nigeria and Togo imported live poultry from one other country in the sub-region (value of USD 250 to 29 000). Senegal exported live poultry to three other countries in the sub-region (value of USD 34 000), Cote d'Ivoire to two (value of USD 9500) and Benin, Burkina Faso, Ghana, Mali and Niger each exported live poultry to one other country in the sub-region (value of USD 250 to 8700).

Figure 10. Network of live poultry trade in Africa and focus on West Africa in 2015

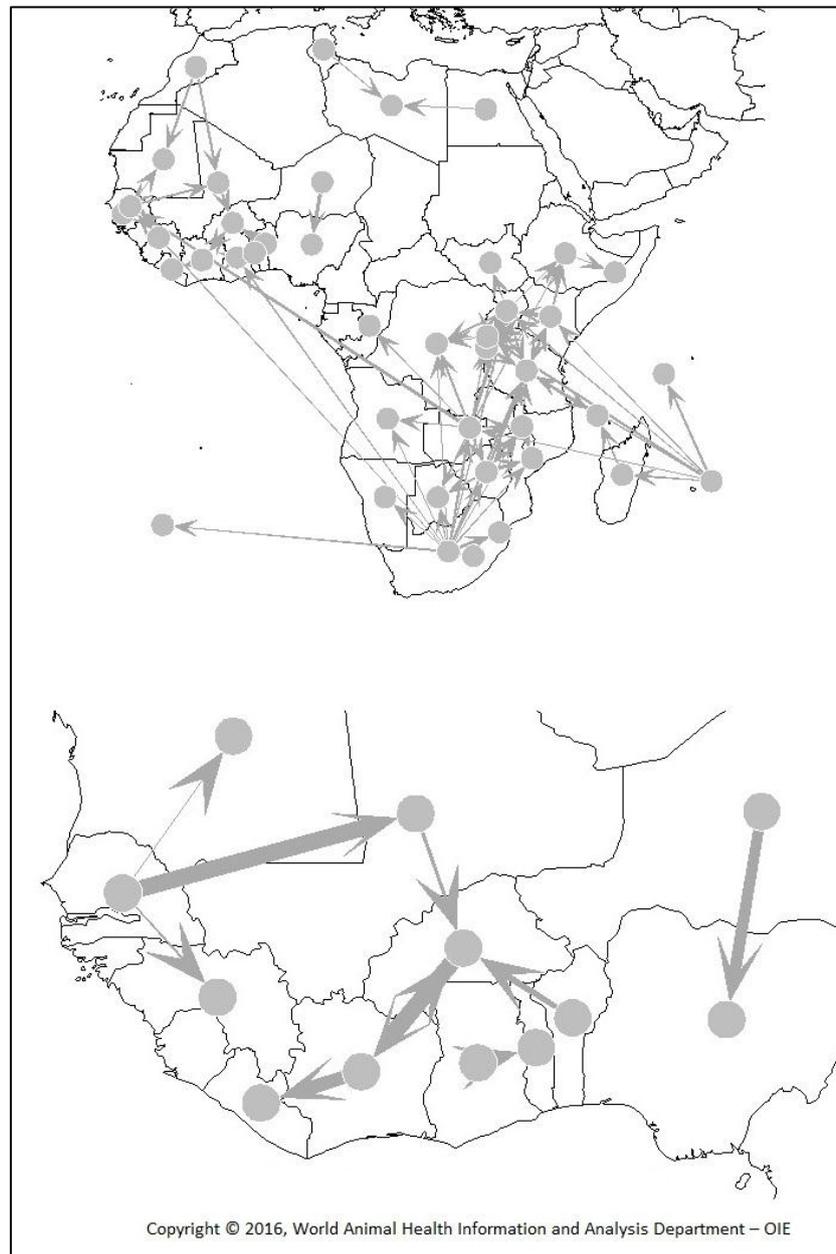
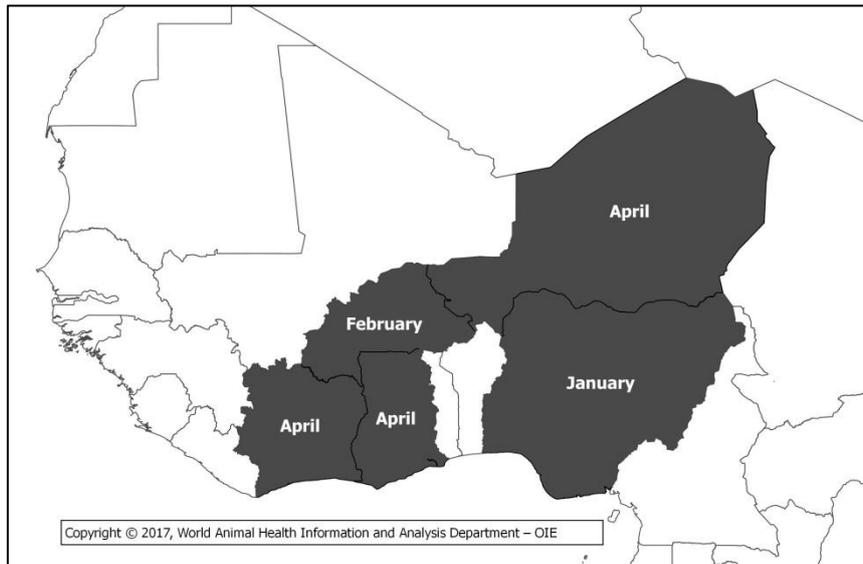


Figure 11 shows the spread of HPAI H5N1 in West Africa in 2015, based on outbreaks reported to the OIE through immediate notifications and follow-up reports.

Figure 11. Countries affected by HPAI H5N1 in 2015 in West Africa and date of start reported to the OIE



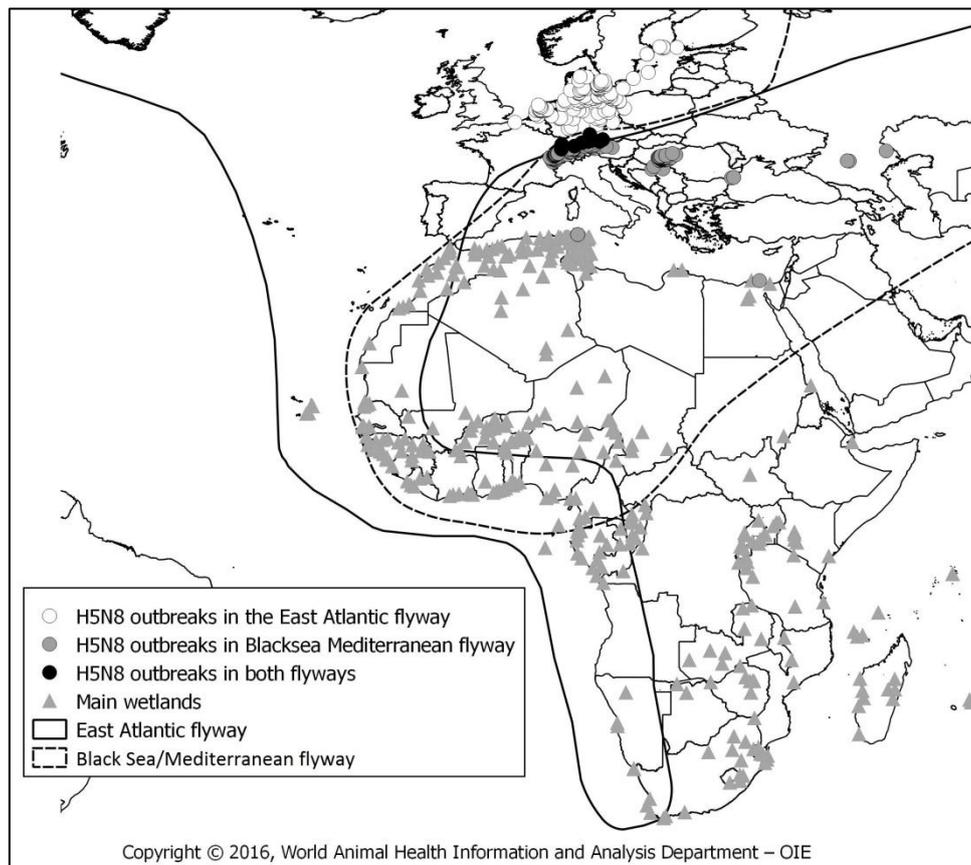
A comparison of the trade map in 2015 and the map of HPAI H5N1 spread in West Africa the same year shows that some of the trade routes between affected countries coincide with the spread of HPAI H5N1 in the sub-region, even though the legal poultry trade as reported to UN Comtrade cannot fully explain this spread. This raises the question of the risk posed by unregulated trade in the Region^{52,53} and the importance of implementation of precautions at borders.

Another known main route of HPAI spread is via wild birds. The importance of this route was demonstrated this year with the first occurrence of HPAI in Tunisia and the occurrence of a new strain in Egypt, H5N8 in both cases. This subtype affected North Africa after its spread to several European countries via wild bird migration. Figure 12 shows the African countries within the wild bird migration flyways shared with European countries and the main wetlands in this area.

⁵² Fasina FO. et al. Molecular characterization and epidemiology of the highly pathogenic avian influenza H5N1 in Nigeria, *Epidemiol Infect.* 2009;137(4):456-63.

⁵³ Bensassi S. et al., Informal Trade and the Price of Import Bans: Evidence from Nigeria. African Growth and Development Policy (AGRODEP) Modeling Consortium. AGRODEP Working Paper 0026, May 2016.

Figure 12. HPAI H5N8 outbreaks in 2016, bird migration flyways shared with European countries and main wetlands



Tunisia and Egypt, the two affected countries in Africa, are located on the Black Sea/Mediterranean flyway. H5N8 outbreaks occurred during winter migration, after the subtype was detected in several countries in Europe located on the same flyway (southern part of Europe). Other African countries located on the Black Sea/Mediterranean flyway can also be considered at risk for occurrence of HPAI H5N8 in wild birds, including those located below the Sahara, as large numbers of Eurasian breeding water birds overwinter in the Sub-Saharan region of the African continent⁵⁴. The African continent, in particular its Sub-Saharan region, constitutes a seasonal shelter for a large number of Eurasian water birds, including an estimated 5.4 million ducks that gather in western and eastern Africa during the northern winter⁵⁵.

Another migratory flyway should be considered in risk analysis: the East Atlantic flyway also includes countries in Europe (northern part) and Africa (western part). Although several of these European countries were affected by HPAI H5N8 in 2016, no African country located on the flyway had reported this subtype to the OIE, as of 15 December 2016. As shown in Figure 12, it is interesting to note that, in 2016, HPAI H5N8 occurred in European countries located on both these flyways, a situation that increases the number of countries at risk for spread through migratory birds.

⁵⁴ Del Hoyo J, Elliot A, Sargatal J. Handbook of the Birds of the World. Vols. 1 and 3. Barcelona: Lynx Editions; 1996.

⁵⁵ Dodman T. Waterbird family estimates in Africa. Waterbird population estimates. 4th edition. Wageningen (the Netherlands): Wetlands International; 2006.

Finally, Figure 12 also shows that outbreaks occurred in main wetland areas. Proximity to wetlands is a known risk factor for occurrence of HPAI^{56,57,58}, as they constitute a key habitat and resource for wild waterfowl⁵⁹. This is an additional risk factor to be considered for countries' preparedness.

In conclusion, 2015 and 2016 were marked by a dramatic spread of HPAI in the Region of Africa, with the occurrence of three different subtypes. The two different routes of spread (animal movements and migratory birds) should be taken into account in risk analysis and countries' preparedness. HPAI is a disease for which regional cooperation is essential, firstly because regional trade is dense and non-regulated movements have been reported as having caused HPAI events (for example, by Libya in 2015⁶⁰), and secondly because disease occurrence after wild bird migration is difficult to prevent. Therefore, proper surveillance and timely reporting to the OIE are essential, to allow countries to implement a rapid and appropriate response.

6) Infection with *Aphanomyces invadans* (epizootic ulcerative syndrome)

Infection with *Aphanomyces invadans*, commonly known as epizootic ulcerative syndrome (EUS), is a seasonal epizootic disease of great importance in wild and farmed freshwater fish. The infection was first reported in Asia and Oceania (Japan in 1971⁶¹, Australia in 1972^{62,63}, followed by Papua New Guinea, South-East and South Asia as well as West Asia, where it has reached Pakistan^{64,65}).

The recent geographical distribution of EUS in Africa, during the period between 1 January 2015 and 15 December 2016, is shown in Figure 13. During this period, a total of 31 countries/territories provided information on the disease, which was reported present by 13% of them (4⁶⁶/31). During this period, five immediate notifications were sent by South Africa (for reoccurrences of the disease) and Zimbabwe (for the first occurrence of the disease in the country).

⁵⁶ Jourdain E et al. Bird Migration Routes and Risk for Pathogen Dispersion into Western Mediterranean Wetlands. *Emerg Infect Dis.* 2007;13(3):365–72.

⁵⁷ Gaidet N. Ecology of Avian Influenza Virus in Wild Birds in Tropical Africa, *Avian Dis.* 2016;60(1 Suppl):296–301.

⁵⁸ Caron A. et al. Bridge hosts for avian influenza viruses at the wildlife/domestic interface: an eco-epidemiological framework implemented in southern Africa. *Prev Vet Med.* 2014;117(3-4):590–600.

⁵⁹ Gaidet N. et al. Understanding the ecological drivers of avian influenza virus infection in wildfowl: a continental-scale study across Africa. *Proc Biol Sci.* 2012; 279(1731): 1131–41.

⁶⁰ Ministry of Agriculture, Animal & Marine Wealth, Libya. Immediate notification received by the OIE on 16 February 2015, http://www.oie.int/wahis_2/public/wahid.php/Reviewreport/Review?page_refer=MapFullEventReport&reportid=17361

⁶¹ Egusa S & Masuda N. A new fungal disease of *Plecoglossus altivelis*. *Fish Pathol.* 1971;6:41–6.

⁶² Fraser GC, Callinan RB & Calder LM. *Aphanomyces* species associated with red spot disease: an ulcerative disease of estuarine fish from eastern Australia. *J. Fish Dis.*, 1992;15:173–81.

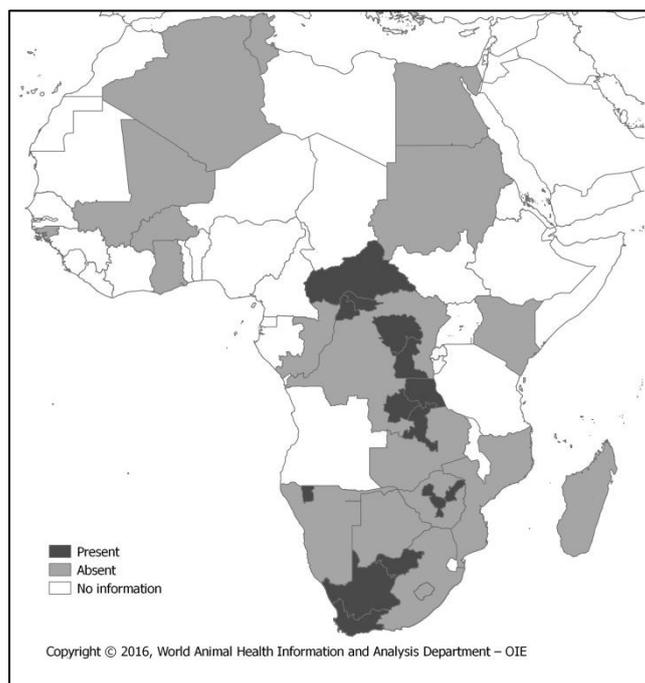
⁶³ McKenzie RA & Hall WTK. Dermal ulceration of mullet (*Mugil cephalus*). *Aust. Vet. J.* 1976;52:230–1.

⁶⁴ Lilley JH, Callinan RB, Chinabut S, Kanchanakhon S, MacRae IH & Phillips MJ. Epizootic ulcerative syndrome (EUS) technical handbook. Aquatic Animal Health Research Institute, Bangkok, Thailand; 1998 88 pp

⁶⁵ Tonguthai K. A preliminary account of ulcerative fish diseases in the Indo-Pacific region (a comprehensive study based on Thai experiences). National Inland Fisheries Institute, Bangkok, Thailand; 1985 39 pp

⁶⁶ Congo (Dem. Rep. of the), Namibia, South Africa and Zimbabwe

Figure 13. Distribution of Infection with *Aphanomyces invadans* (epizootic ulcerative syndrome) in Africa in 2015 and 2016 (up to 15 December 2016)



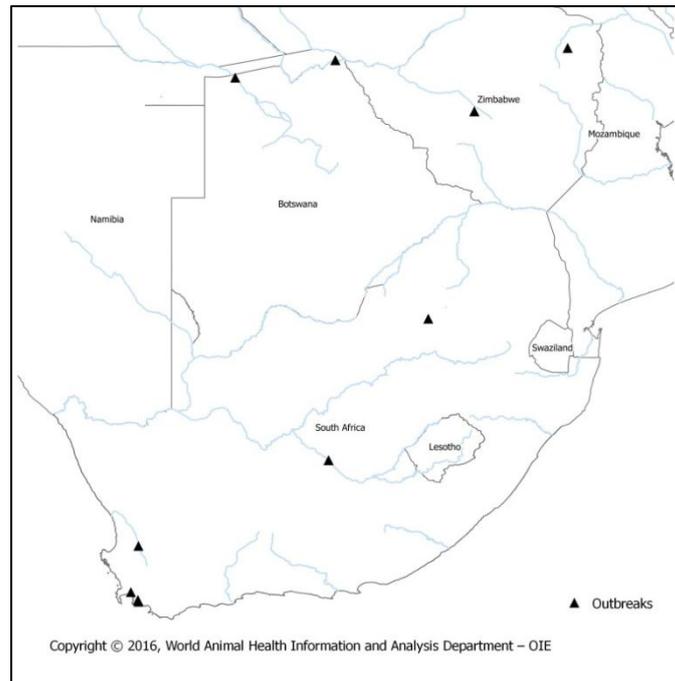
The first confirmed outbreaks of EUS on the African continent occurred in 2007 in Botswana and Namibia, and were connected to the Zambezi-Chobe river system. In 2010 and 2011, EUS appeared in Western Cape Province, South Africa. Most recently, the infection was reported in Zimbabwe in August 2016. The geographical distribution of outbreaks of EUS reported to the OIE by Member Countries in Africa in the period 2007 – 2016 (up to 15 December 2016) through immediate notifications are presented in Figure 14. All the reported outbreaks mainly involved capture fish and, as shown on the map, the disease has occurred in several river networks of the region. It remains unclear how EUS was introduced into the Region and how it spread from one river system to another. It has been suggested that international spread may occur by movement of fish for aquaculture or ornamental purposes⁶⁷. During this period the disease was also reported through the six-monthly reports in Central African Republic, Congo (Dem. Rep. of the) and Namibia.

EUS is of great concern to the Region, considering that Africa has a unique aquatic biodiversity (e.g. the Zambezi river supports at least 134 species of freshwater fish⁶⁸), that forms the basis of important subsistence fisheries.

⁶⁷ Lilley, JH, Hart, D, Richards, RH, Roberts, RJ, Cerenius, L & Sóderäll, K, 1997, Pan-Asian spread of single fungal clone results in large scale fish kills. *Veterinary Record* 1997;140:653–4.

⁶⁸ Skelton, PH. *A Complete Guide to the Freshwater Fishes of Southern Africa*. Southern Book Publishers, Halfway House; 1993.

Figure 14. Distribution of outbreaks of Infection with *Aphanomyces invadans* (epizootic ulcerative syndrome) reported to the OIE through immediate notifications in the period 2007 - 2016 (up to 15 December 2016)



Considering the epidemiological situation, several African countries currently present a high risk for outbreaks of the disease. However, in the period 2015/2016, 56% of the countries/territories (32/57) in Africa did not provide any information about EUS. This situation highlights some issues relating to aquatic animal disease surveillance, control and reporting in Africa, such as i) underreporting of aquatic animal diseases: 47% of the countries/territories (27/57) did not submit any report for aquatic animal diseases for this period; and ii) lack of laboratory and diagnostic capacity: there are no OIE Reference Laboratories for EUS in the Region and Botswana and South Africa are the only countries to have developed specific diagnostic capacities within their national Veterinary Services as notified in the countries annual reports and via alert messages.

In continuing its efforts to improve aquatic animal disease reporting, the OIE organises specific training for Focal Points for Disease Notification and for Focal Points for Aquatic Animals, aimed at increasing the quality of reports. Sharing information about laboratory and diagnostic capacity through WAHIS and the network of OIE Reference Laboratories could also help to increase the diagnostic capability and monitoring and surveillance networks of our Members.

Recommendation No. 1

Pastoralism: opportunities for livestock and challenges for Veterinary Services

CONSIDERING THAT:

1. Pastoralism in Africa remains a fundamentally important cultural and socio-economic activity for the continent, particularly in terms of survival of communities, creation of livelihoods, diversification of income, and cultural integrity of socio-ecosystems, but also in terms of food security and sovereignty;
2. Pastoral livestock systems present major strengths and potential benefits in giving governments and their people very real prospects for sustainable development and elaborating sound land use planning policies;
3. These production systems are faced with increasingly greater challenges, including from climate change, which will have to be addressed if we are to avoid that pastoralism and all its potential benefits disappear in the very near future;
4. Access to basic public services, notably targeting public health and animal health (Veterinary Services), is one of the main priorities for pastoralist communities;
5. Movements of animals are one of the essential components of pastoral livestock management practices to ensure resilience to drought, among others;
6. The animal health situation in Africa is characterised by the persistence of major infectious transboundary animal diseases such as Peste des petits ruminants (PPR) and Contagious Bovine Pleuropneumonia (CBPP), and this is having significant repercussions on livestock productivity and, consequently, on the living conditions of human populations;
7. There is a very great disparity in African countries between the contribution that the livestock sector in general, and pastoralism in particular, makes to national Gross Domestic Product (GDP), and the share of the national budget that is allocated to it;
8. The Veterinary Services in African countries have for some thirty years been suffering from chronic and virtually generalised underinvestment, resulting in a very significant reduction in the capacity of these Services;
9. Border controls and the establishment of disease surveillance and control systems have a crucial role to play in limiting the spread of animal diseases; and
10. The demand for animal protein in Africa is set to grow at least as fast as the population, which is expected to double by 2050.

THE OIE REGIONAL COMMISSION FOR AFRICA

RECOMMENDS THAT:

1. Member Countries' Delegates advocate at the highest level for livestock production and animal health in general, and especially for pastoralism in arid and semi-arid zones, to redress the imbalance between the budget allocated to the livestock sector, including Veterinary Services, and the sector's socio-economic importance;
2. Member Countries be committed to strengthening the capacity and accessibility of Veterinary Services to all livestock populations, including those involved in pastoral systems, as a national priority, including by taking advantage of the OIE PVS Pathway as an independent mechanism based on international standards to prioritise and advocate for improving Veterinary Services with national decision-makers and donors;
3. Member Countries, with the support of the African Union Inter-African Bureau for Animal Resources (AU-IBAR) and the Food and Agriculture Organization of the United Nations (FAO), and in collaboration with the Regional Economic Communities, mobilise resources to increase the effectiveness of national border animal health controls and epidemiological surveillance systems and explore regional approaches that would make a significant contribution to controlling the major transboundary animal diseases in Africa, including zoonoses;
4. Member Countries' Veterinary Services sensitise and directly engage their pastoralist communities in the implementation of the Global Strategy for the Control and Eradication of Peste des Petits Ruminants (PPR-GCES) and its Peste des Petits Ruminants Global Eradication Programme (PPR GEP) (2017-2021), developed jointly by the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE);
5. Member Countries strengthen relevant stakeholders' knowledge and awareness of the "One Health" concept and explore ways to develop synergies between animal health and human health systems to improve both human and animal health in pastoralist communities;
6. Member Countries encourage the identification of a centre of excellence in understanding and managing pastoralism, particularly its intersection with animal and veterinary public health, that could eventually be proposed as an OIE Collaborating Centre on Pastoralism in Africa;
7. The Regional Steering Committee of the Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs) for Africa, once reactivated, consider the inclusion of pastoralism as a priority topic in its Five-Year Action Plan;
8. The OIE organise a multiregional conference on pastoralism in Africa in 2019 in order for countries to share their experiences and explore solutions to address animal health issues of pastoral livestock systems;
9. The OIE consider convening an *ad hoc* group on pastoralism to explore the possibility to develop guidelines on animal and veterinary public health in pastoral systems;
10. The OIE improve the understanding of its Member Countries of the 'One Health' approach, including its operational aspects, by providing, to requesting countries, workshops on bridging the World Health Organization (WHO) International Health Regulations (IHR) and the OIE PVS Pathway ; and
11. The OIE continue to secure proper resourcing of the PVS Pathway in order to provide Member Countries with missions to guide and advocate for strengthening their Veterinary Services in a timely manner.

Recommendation 2

**Unfolding the Global Strategy for the Control and Eradication of
peste des petits ruminants (PPR) in Africa**

CONSIDERING THAT:

1. The region of Africa accounts for 32% of the global population of small ruminants (sheep and goats);
2. The transboundary spread of peste des petits ruminants (PPR) in Africa over the past decade continues to cause a severe animal health impact and heavy economic losses in infected countries, and poses a threat to countries historically free from PPR and potentially to wild ruminant populations;
3. The Global Strategy for the Control and Eradication of Peste des Petits Ruminants (PPR-GCES) and its Peste des Petits Ruminants Global Eradication Programme (PPR-GEP) (2017-2021), developed jointly by the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE), in collaboration with key partners, provide the framework, approach, tools and provisions for investment needed to meet the challenge of global PPR eradication;
4. The eradication of PPR by 2030 will contribute significantly to food security, poverty reduction, enhanced resilience of smallholder farmers and herders especially, the creation of animal production opportunities and the economic development of countries where the small ruminant sector is important;
5. The PPR-GCES and PPR-GEP combine three core synergistic components:
 - a progressive, step-wise approach to PPR control leading to eradication;
 - strengthening of Veterinary Services;
 - control of other priority small ruminant diseases.
6. The FAO and the OIE, under the auspices of the Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs), have established the PPR Global Secretariat which is responsible for the overall coordination of the PPR-GCES and PPR-GEP's implementation;
7. The successful implementation of the PPR-GCES and PPR-GEP, particularly in Africa, requires:
 - political will and ongoing commitment at continental, regional and national levels;
 - a coordinated and harmonised regional and sub-regional approach that takes into consideration all national and regional specificities;
 - strengthening of the activities of regional laboratory networks and regional epidemiology networks, which are considered to be key fora for information exchange, the transfer of knowledge, technology and skills at regional and national level, and the harmonisation of national strategic plans;
 - ongoing support to countries for the implementation of planned activities;
 - the engagement and involvement of all stakeholders and all actors in the small ruminant sector at all levels – national, regional and continental.

8. The OIE provides Member Countries with international standards, support programmes for strengthening Veterinary Services including the OIE PVS Pathway, procedures for the endorsement of official national PPR control programmes and for official recognition of PPR free status, and the voluntary supply of high quality vaccine via OIE global and regional vaccine bank arrangements;
9. The PPR Monitoring and Assessment Tool (PMAT) is the established process to formally identify a country's PPR stage and plan for its progression towards PPR eradication, and it has clear provision for OIE PVS Evaluation report results to be formally integrated into every PMAT process;
10. The OIE is developing and piloting OIE PVS Pathway missions which, while continuing to evaluate the whole national animal health system and veterinary domain, will also be supplemented by a specific focus and content on national PPR eradication, with pilot missions taking place in the Europe and Asia, the Far East and Oceania in the first half of 2017; and
11. Early official notification of animal health events to the OIE through the World Animal Health Information System (WAHIS) is essential to improve the transparency, efficiency and speed with which global animal health information is disseminated.

THE OIE REGIONAL COMMISSION FOR AFRICA

RECOMMENDS THAT:

1. Member Countries take full ownership of the PPR-GCES and PPR-GEP by ensuring that their Veterinary Services have the required authority, capacity and resources to implement the related activities;
2. Member Countries, that are not free of the disease, appoint a dedicated PPR national coordinator, establish a PPR national committee, develop a PPR national strategic plan specifying the required resources , and actively participate to all the activities supporting the implementation of the PPR-GCES and PPR-GEP;
3. Member Countries agree that their existing OIE PVS Pathway reports, where available and not outdated, should be utilised to assist in national PPR eradication evaluation and planning, as aligned with the PPR-GEP component relating to strengthening Veterinary Services, and as formally linked to the PPR Monitoring and Assessment Tool (PMAT);
4. Member Countries take advantage of the OIE PVS Pathway for strengthening their Veterinary Services by requesting OIE PVS Pathway missions, including considering the new availability of PVS Pathway missions with specific PPR content, which will continue to be developed and refined subsequent to initial piloting in the first half of 2017;
5. Member Countries submit their dossier for endorsement of official control programme and free status as relevant to their stage of progression;
6. The African Union- through the African Union Inter-African Bureau for Animal Resources (AU-IBAR)- and Regional Economic Communities continue their work to align their existing strategies and/or programmes for the control and eradication of PPR with the PPR-GCES approach and with PPR-GEP activities, particularly the use of PMAT and the OIE PVS Pathway;
7. The AU-IBAR, the African Union Pan African Veterinary Vaccine Centre (AU-PANVAC), Regional Economic Communities, and development partners:
 - support the performance of regional roadmap activities and the implementation of regional strategies;
 - support countries in adopting a harmonised and coordinated regional vision when preparing national PPR plans and implementing national activities planned to achieve PPR eradication;

- continue to strengthen regional epidemiology networks and regional laboratory networks and their role in the exchange of information and expertise on the surveillance, diagnosis and control of transboundary animal diseases, including in wildlife;
 - assist countries and regions in developing communication and awareness strategies to consolidate an effective public-private partnership and secure the effective involvement of all livestock sector actors in the implementation of national and regional strategies to control and eradicate PPR;
 - support countries in the production and/or use of PPR vaccines that meet OIE standards.
8. The OIE and FAO reactivate the GF-TADs for Africa by proposing a new governance leading to an active participation of all interested parties to be adopted during the 10th meeting of the Regional Steering Committee to be held in 2017;
 9. The OIE continue to support Member Countries in strengthening their Veterinary Services through the OIE PVS Pathway and develop, refine and offer PPR dedicated content as part of PVS Pathway missions in Africa;
 10. The OIE continue to maintain the OIE Regional PPR Vaccine Bank for interested countries with an ongoing or sudden demand for external sources of readily available high quality PPR vaccine;
 11. The OIE staff its Representations in Africa with PPR dedicated officers; and
 12. The OIE organise training seminars to support Member Countries to:
 - prepare their application for endorsement of their official control programme for PPR or for official recognition of PPR free status;
 - comply with their obligation to submit quality animal disease notifications and information.