Fighting antimicrobial resistance, a long-term commitment
editorial
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forum
OIE launches its Strategy on Antimicrobial Resistance and the Prudent Use of Antimicrobials

OIE news
new OIE publications
activities of the OIE Specialist Commissions, Working Groups and Ad hoc Groups
news from headquarters
regional activities
official acts
strengthening of Veterinary Services

the OIE and its partners
epidemiology & animal disease control programmes
The Philippines’ success story on FMD control
activities of Reference Laboratories & Collaborating Centres
Newly designated OIE Reference Centres and their areas of expertise

news from Member Countries
Self-declaration by the Republic of Korea

partnerships
The road to ‘One Health’: a new OIE and WHO platform for the development of joint national health strategies launched in Costa Rica

international news
special events
IVSA Animal Welfare Conference
4th OIE Global Conference on Veterinary Education
World Rabies Day 2016

agenda

miscellaneous
outcomes from the OIE’s questionnaire on antimicrobial use in animals in 2015
Antimicrobials are essential for the protection of human and animal health. Thanks to antimicrobials, lives are saved every day and diseases contained; in particular, animal diseases that are foodborne or directly transmissible to humans.

However, the evidence can no longer be ignored: today, the effectiveness of these invaluable tools is at risk. We must act quickly if we are to avoid losing the benefits brought by decades of medical progress in the very near future. Only the demonstration of long-term political commitment by all, and a coordinated, multi-sectoral effort to establish national control plans for antimicrobial resistance, will enable us to reach this goal. The OIE’s new dedicated strategy, set out in this issue of the Bulletin, seeks to support this international effort.

Today, the risks associated with the development of antimicrobial resistance, which simultaneously threatens both human and animal health, as well as animal welfare, have been scientifically confirmed.

Numerous scientific studies have documented the increase in treatment failure and human deaths that are directly or indirectly linked to antimicrobial resistance; with some projections providing a figure of tens of thousands of deaths per year. In the area of animal health, few studies exist, but the same trend can easily be assumed.

From an economic perspective, a recent publication from the World Bank notes that, according to the worst-case scenario, resistance to antibiotics and other antimicrobials could cause a fall of more than 5% in the gross national product of low-income countries, plunging up to 28 million people into poverty, principally in developing countries.

In addition, at the same time as the effectiveness of existing antimicrobial treatments is being undermined, too few new treatments are being developed by the pharmaceutical industry. Throughout the world, more support must be invested in research to overcome the technical and financial constraints that threaten to leave us without effective treatment in the future, in either human or veterinary medicine.

Nevertheless, in the area of animal health, as in human health, it would be a mistake to envisage simply replacing antimicrobial compounds that have become ineffective with new ones which microbes will adapt to in the future. We must now rethink our methods to ensure their sustainability and enable us
to stem the decline in our medical arsenal. Some alternative solutions have already been identified, such as further improvements in animal husbandry practices, greater use of vaccines, and the systematic introduction of improved diagnostic methods for better targeting of treatment. Others will have to be developed or improved even more.

This change of practice towards a more responsible and prudent use of antimicrobials, in addition to developing alternative solutions, can draw on current knowledge and existing tools, some of the most important of which are the OIE international standards.

Today, such questions are no longer only technical but also political and strategic. How do we modify practices in the long term, avoiding both unacceptable solutions and ‘quick fixes’? How can we help countries and production sectors to evolve without economic or social risk, and while still taking individual cases into account?

The new OIE strategy on antimicrobial resistance suggests several tools to support Member Countries as they implement these changes, which – if they are to be effective – should be based on:

- national action plans, adapted to local conditions and sector constraints through the comprehensive and harmonised collection of usage data
- a systematic, coordinated and multi-sectoral approach, based on public–private partnerships
- structural and sustainable action, through investment in health systems and within a legal framework adapted to more effectively control usage and minimise counterfeits and illegal markets
- and, finally, a strong educational campaign to ensure buy-in and cooperation from all stakeholders.

A huge amount has already been achieved at the international level, as evidenced by the agreement signed at the high-level meeting organised at the last United Nations General Assembly.

But there is still much work to be done before we see tangible results and can protect the future of generations yet to come.

I trust in the commitment of OIE Member Countries to continue these efforts and to take all necessary measures against antimicrobial resistance.

We all bear a part of the responsibility for the development of antimicrobial resistance. If, by working together, we manage to contain this threat, we will all share in the success.

Monique Éloit
Director General

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OIE launches its Strategy on Antimicrobial Resistance and the Prudent Use of Antimicrobials

‘Effective and accessible antibiotics are as vital for protecting animal health and welfare and good veterinary medicine as they are for human health’

Dr Monique Éloit, OIE Director General
UNGA 71st Session, New York, September 2016

At its 84th OIE General Session in May 2016, the 180 OIE Member Countries re-confirmed their commitment to combat antimicrobial resistance (AMR) through the adoption of Resolution No. 36, paving the way for the development of an OIE Strategy on AMR and the Prudent Use of Antimicrobials. Resolution No. 36 outlines OIE actions to combat AMR using a ‘One Health’ approach and further progresses the commitment of the OIE 2015 General Session, at which Members adopted Resolution No. 26 specifically highlighting the importance of promoting the responsible and prudent use of antimicrobial agents in animals. Having long recognised the importance of antimicrobial resistance, over a number of years the OIE has developed and updated standards for terrestrial and aquatic animals and undertaken initiatives to tackle AMR in consultation with its Members and collaborating partners. The OIE strategy is aligned with the World Health Organization (WHO) Global Action Plan on Antimicrobial Resistance, to which the OIE made a significant contribution alongside its tripartite partners, WHO and the Food and Agriculture Organization of the United Nations (FAO). Following the adoption of the Global Action Plan, world leaders acknowledged the depth and gravity of the situation by holding a High Level Meeting on AMR at the 71st Session of the United Nations General Assembly (UNGA) in New York on 21 September 2016. The OIE's contribution and the commitments of the veterinary sector were afforded visibility at the highest political level, as world leaders agreed a statement on sustainable, multi-sectorial approaches to addressing AMR.

Tripartite press release: https://goo.gl/rNTDIn
It is well acknowledged that antimicrobial agents such as antibiotics are essential for treating diseases in both humans and animals, and that their misuse and overuse can lead to the emergence and spread of resistant microorganisms that could circulate in humans, animals, food, water and the environment. The consequences of the development of resistance to antimicrobial agents are potentially severe, with a real risk of losing treatment options for both humans and animals, which would jeopardise not only human and animal health but also global food safety and food security. Therefore, achieving responsible and prudent use of antimicrobials in both people and animals is in the interest of human health and animal health and welfare. The OIE regards the role of veterinarians and veterinary paraprofessionals as crucial in reducing the demand for antibiotics by advising animal owners on animal husbandry practices and overseeing antimicrobial use. At the same time, the OIE advocates for the continuing availability of good-quality, safe and efficient antimicrobials for animals.

As in the human health sector, there are a number of challenges related to antibiotic use in animals. For the OIE and its Members, these include: developing national veterinary service capability and capacity; ensuring appropriate legislation; supporting the implementation of OIE international standards; providing education for prescribers, dispensers and users; and providing surveillance and information on resistance and use of antimicrobial agents. The OIE is well-positioned to assist its Members in meeting these challenges, and its actions to this end are in line with the OIE Strategy on AMR and the Prudent Use of Antimicrobials core objectives:

- Improve awareness and understanding
- Strengthen knowledge through surveillance and research
- Support good governance and capacity-building
- Encourage implementation of international standards

A ‘One Health’ approach is essential to preserving antimicrobial efficacy and to minimising risks associated with AMR in both human and animals. The OIE continues to work closely with its tripartite partners and other stakeholders by means of communications to improve awareness, activities to reduce AMR emergence and spread, and research into alternatives to antibiotics. This common approach strengthens the partners’ advocacy and supports successful implementation of the Global Action Plan. A key issue raised in Resolution No. 36 of 2016 is the importance of OIE support for countries in the development and implementation of national action plans in order to raise awareness of the risk posed by AMR and to
The OIE strategy on Antimicrobial Resistance (AMR) and the Prudent Use of Antimicrobials
Protecting animal health and welfare by supporting global efforts to combat antimicrobial resistance

**Improve AMR awareness and understanding**
- Targeted communication
- Advocacy materials

**Member countries**

**Strengthen knowledge through surveillance and research**
- AMR National Action Plans
- Monitoring and surveillance systems
- Report trends in antimicrobial use
- Emergence of organisms with AMR characteristics

**Veterinary Services play a critical role**

**Support good governance and capacity building**
- Well trained veterinarians
- Improve animal health and welfare
- Stewardship of antimicrobial products

**Encourage implementation of international standards**
- OIE International Standards
  - Science-based
  - & adopted by 180 Member Countries
- Improving worldwide
  - Production
  - Monitoring
  - Circulation
  - Use in animals of antimicrobials
implement OIE standards and guidelines. Recognition of the importance of such support led Member Countries and trust funds, including the Fleming Fund, to contribute significant funding to the OIE.

A strong knowledge base will be necessary to address the AMR challenge. We need surveillance data on organisms with AMR characteristics, as well as data on the current use of antimicrobials in both humans and animals. As part of its AMR strategy, the OIE is actively addressing the need for data by establishing an OIE global database to monitor the use of antimicrobial agents in animals. Supported by FAO and WHO as part of the Global Action Plan, this database will provide important information and, over time, will support the analysis of trends. This will be important not only for future decision-making on global standards but also for the development and evaluation of Members’ national action plans. Understanding this information will facilitate appropriate veterinary oversight to ensure the judicious use of antimicrobials in animals.

National Veterinary Services provide the essential governance and regulatory capability for antimicrobial stewardship to reduce and control the emergence of AMR in animals. The OIE provides guidance and assistance to its Members in strengthening their veterinary service capacity and capability for AMR control. In addition to the OIE international standards included in the Terrestrial Animal Health Code, Aquatic Animal Health Code and Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, the OIE has published a List of Antimicrobials of Veterinary Importance. The list includes recommendations on the use of antimicrobials considered to be critically important for both human and animal health, together with recommendations on those that should be used only in human medicine. The OIE provides its Members with a number of tools to help them to implement the AMR standards. Foremost among these is the OIE Performance of Veterinary Services pathway (OIE PVS pathway), which supports countries in improving the governance and regulatory and operational capability of their national veterinary service. The OIE has also: designated Collaborating Centres for veterinary medicinal products; established networks of National Focal Points on veterinary products; held AMR training and capacity-building seminars; and supported relevant country twinning projects. As the challenges posed by AMR are not static, international standards and the capability and capacity of national Veterinary Services must also continue to evolve with updated information and programmes.
Services must also continue to evolve with updated information and programmes. With ongoing support from the OIE, its Members, experts, and donors and other stakeholders, national Veterinary Services will continue to be encouraged to participate in the global fight against AMR.

The OIE has included an AMR portal on its website (www.oie.int/antimicrobialresistance/) in order to gather together technical information and communications products to support Members in raising awareness on AMR. The OIE is participating in inter-sectorial collaborations on scientific publications, and attending a wide array of technical and political meetings on AMR-related topics. The recent UNGA high-level meeting on AMR provided opportunities to achieve unprecedented political visibility for the OIE for the benefit of Members and the global community, attracting the support of donors. The OIE AMR Global Conference in late 2017 will be a further important event in continuing to raise awareness of AMR issues and how we are addressing them, as well as an opportunity to take stock of progress.

Through the action plan outlined in its strategy, the OIE will continue to be an active partner in key areas of work. It will not only collaborate with the tripartite partners but also leverage other alliances, including with the World Bank and the Organisation for Economic Co-operation and Development (OECD) to address the economic impact of AMR, with research communities and the private sector to develop alternatives to antibiotics, and with stakeholders and the media to raise awareness and visibility.

The OIE Strategy on AMR and the Prudent Use of Antimicrobials describes the important contribution of Veterinary Services to the Global Action Plan. This contribution will be key to the eventual success of this significant global ‘One Health’ challenge. The OIE Strategy on AMR and the Prudent Use of Antimicrobials supports and is fully aligned with the OIE’s strategic commitment to ‘protecting animals, preserving our future’.

http://dx.doi.org/10.20506/bull.2016.2.2557
new OIE publications

Manual of Diagnostic Tests for Aquatic Animals

The purpose of the 7th Edition of the Manual of Diagnostic Tests for Aquatic Animals (‘the Aquatic Manual’) is to provide a uniform approach to the detection of the diseases listed in the Aquatic Animal Health Code, so that the requirements for health certification in connection with trade in aquatic animals and aquatic animal products can be met. It includes bibliographical references and a list of the OIE Reference Laboratories for amphibian, crustacean, fish and mollusc diseases.

Although many publications exist on the detection and control of aquatic animal diseases, the Aquatic Manual is a key and unique document describing the methods that can be applied to the OIE-listed diseases in aquatic animal health laboratories all over the world, thus increasing efficiency and promoting improvements in aquatic animal health worldwide. The requirements published in this Aquatic Manual are recognised as international standards by the World Trade Organization.

Scientific and Technical Review, Vol. 35 (3) (plurithematic issue)

Volume 35 (3) of the Scientific and Technical Review contains 19 articles submitted by experts from around the world on a variety of issues.

This issue deals with surveillance in various regions of the world of diseases occurring in large livestock – cattle, horses and camels –, including foot and mouth disease (FMD), bluetongue, contagious bovine pleuropneumonia and zoonotic diseases like West Nile fever. Other articles discuss epidemiological issues relating to wildlife diseases, bird diseases, particularly avian influenza, and bee diseases. The issue also covers molecular epidemiology and virology, with issues like inactivating the FMD virus in pet food, and the impact of viral mutations on vaccination for infectious bursal disease (Gumboro disease). In addition, water quality on bird farms and bacteriological quality of raw cow’s milk in the dairy production chain are addressed from a food safety perspective.

The annual multi-theme issue of the Review is a unique platform for reports on the status and management of various animal diseases around the world, especially in countries whose the animal health situation is rarely covered by publications.

The OIE publishes three issues of the Scientific and Technical Review each year. The first issue of 2016 looked at the potential applications of pathogen genomics, and the second issue of the year discussed the future of pastoralism.
Manual de Procedimientos para el Análisis del Riesgo de Enfermedad en Fauna Silvestre

Edited by Richard M. Jakob-Hoff, Stuart C. MacDiarmid, Caroline Lees, Philip S. Miller, Dominic Travis & Richard Kock

Co-published by the OIE and IUCN (International Union for Conservation of Nature)

The IUCN/OIE Manual of Procedures for Wildlife Disease Risk Analysis provides a practical guide that will be useful to the growing and diverse range of professionals involved in assessment and management of wildlife-associated disease risk scenarios.

This document has been co-written by 22 specialists in the fields of wildlife disease ecology, epidemiology, risk analysis, modelling, disease surveillance, diagnostics, wildlife management, research, teaching and conservation planning. These authors have pooled their knowledge and experience to make tools and processes at the cutting edge of wildlife disease risk analysis accessible to a broad global audience in an effort to ensure healthy ecosystems through better decision-making.

Atlas of Transboundary Animal Diseases

Edited by Peter J. Fernández & William R. White

The Atlas of Transboundary Animal Diseases, the OIE’s bestseller, is intended to assist Veterinary Service field staffs involved in animal disease surveillance and diagnostics in identifying important transboundary diseases of livestock. The focus of this publication is on key images of clinical signs and post-mortem lesions associated with 29 OIE notifiable animal diseases supplemented by basic disease information from the OIE technical disease cards.

Input for this consolidated reference volume comes from OIE’s global network of veterinary epidemiologists and diagnostic experts and the support of the United States Department of Agriculture Animal and Plant Health Inspection Service (USDA-APHIS).
Foot and mouth disease vaccination and post-vaccination monitoring Guidelines

Edited by: Samia Metwally & Susanne Münstermann

The past decade has been an exciting period for the control of foot and mouth disease (FMD). The Progressive Control Pathway for FMD (PCP-FMD) was developed to provide a novel stepwise methodology for a cost-effective, risk-management approach to FMD control, and it is now the backbone for the implementation of the FAO/OIE Global Foot and Mouth Disease Control Strategy (2012)\(^1\).

The costs of vaccination, one of the most important tools for managing this devastating disease, represent 90% of the total expense of FMD control, so it is essential to plan and evaluate vaccine and vaccination effectiveness to convince decision makers to continue implementing rigorous control measures.

These guidelines provide expert advice on how to ensure the success of vaccination programmes. They are designed to guide and assess national or sub-national vaccination programmes at various stages of the PCP-FMD, and will be equally helpful for countries looking to regain FMD-free status following an incursion of FMD, in accordance with the standards in the Terrestrial Animal Health Code. They stress the importance of having up-to-date information on the virus strains circulating in a given area and highlight the importance of effective Veterinary Services in the implementation of FMD control programmes. Given that most readers and users may have a broad background in disease management and may not necessarily be FMD specialists, the contributors have sought to provide a balance of scientific background, methodology and practical examples.

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Aquatic Animal Health: ‘Riding the Wave to the Future’
Proceedings of the Third OIE Global Conference on Aquatic Animal Health, Ho Chi Minh City, Vietnam

These proceedings include 20 papers by internationally renowned experts who delivered presentations at the Third OIE Global Conference on Aquatic Animal Health.

The conference addressed the importance of aquatic animal health in aquaculture and highlighted progress in building a global framework for improving the detection, prevention and control of aquatic animal diseases. Presentations addressed OIE standards for improving aquatic animal health with a focus on good governance, surveillance including diagnostic testing, and trade facilitating concepts such as zoning and compartmentalisation. OIE capacity building activities and opportunities and challenges for the future of aquatic animal health were also addressed.

These papers will inform readers about how to implement recommendations in the OIE Aquatic Animal Health Code and Manual of Diagnostic Tests for Aquatic Animals, with the aim of improving aquatic animal health worldwide.

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1. The Global Foot and Mouth Disease Control Strategy is available on the OIE website at: www.oie.int/doc/ged/D11886.PDF
selected OIE publications on antimicrobial resistance

**Responsible and Prudent Use of Antimicrobial Agents for Animals**

*International Solidarity to fight against Antimicrobial Resistance*

The First Global Conference on the Responsible and Prudent Use of Antimicrobial Agents for Animals, held in Paris from 13 to 15 March 2013, provided an overview of the current situation, regarding antimicrobial use from different perspectives and examining antimicrobial resistance worldwide. It also provided an opportunity to present and discuss possible ways of promoting the prudent and responsible use of antimicrobial agents in animals and preventing and fighting the development of antimicrobial resistance at national, regional and international levels.

This booklet gives a summary of the presentations made at this global conference and includes the recommendations adopted by the Scientific Committee of the conference and all its participants.

**OIE Standards, Guidelines and Resolution on antimicrobial resistance and the use of antimicrobial agents**

This special publication compiles:

- a note of the OIE Director General on the risks associated with the use of antimicrobial agents in animals worldwide,
- the OIE standards and guidelines on antimicrobial resistance and the use of antimicrobial agents from the Terrestrial and Aquatic Animal Health Codes and the Manual of Diagnostic Test and Vaccines for Terrestrial Animals,
- the OIE List of antimicrobial agents of veterinary importance, and
- the Resolution No. 26 on ‘Combating Antimicrobial Resistance and Promoting the Prudent Use of Antimicrobial Agents in Animals’ adopted by the OIE World Assembly of Delegates during the 83rd General Session in 2015.

Order online: [www.oie.int/boutique](http://www.oie.int/boutique)
Antimicrobial resistance in animal and public health

Scientific and Technical Review, Vol. 31 (1)

Coordinators and editors: J. F. Acar & G. Moulin

Bacterial strains resistant to one or more antibiotics are now found everywhere and antimicrobial resistance is a complex and evolving phenomenon that has the potential to cause serious animal and public health problems at international level. Containment of bacterial resistance is becoming an important goal in human medicine, considering the nosocomial infections and resistant pathogens acquired in the community. Since 1997, the OIE has recognised the need to work on curtailing antimicrobial resistance, to find an appropriate balance between the need to use antimicrobials to promote animal health, production and welfare and the risk of antimicrobial resistance. It is important to work towards this goal. It is also important to consider the responsibilities of the regulatory authorities and international organisations that work in this area. In addition, risk management measures and strategies for the prudent use of antimicrobials have now been introduced and it is crucial to understand the impact that they have had.

The focus of this issue of the Review is to address the various factors that must be taken into account when trying to understand the antimicrobial resistance problem, with a particular focus on the use of antimicrobials in animals.

Activities of experts

Activities of the OIE

Non-Tsetse-Transmitted Animal Trypanosomoses Network

Trypanosoma evansi

The goal of the OIE Non-Tsetse-Transmitted Animal Trypanosomoses Network (the OIE NTTAT Network) is to establish a global strategy for the control of NTTAT. It brings together OIE Reference Laboratories, other laboratories, research institutes, not-for-profit organisations, international organisations, and OIE and affiliated experts.

On 2 June 2016 the OIE NTTAT Network held its second annual meeting. During this meeting, progress reports were presented on research priority areas, including diagnosis and case definition, in vivo and in vitro models, treatment, case management, and socio-economic impacts.

The OIE NTTAT Network also organised the First International Conference on NTTAT, in Maisons-Alfort, France, on 15–16 December 2016.
Activities of the Ad hoc Group on equine trypanosomoses

The Ad hoc Group on equine trypanosomoses met to continue the work initiated in 2015 to revise the Terrestrial Animal Health Code (the Terrestrial Code) chapter on dourine (Chapter 12.3.) and to draft a Terrestrial Code chapter on surra.

The Group reviewed recent studies on the infection of equids with parasites of the subgenus Trypanozoon (T. evansi, T. equiperdum and T. brucei) and concluded that:

- there is little genetic distinction between T. evansi, T. equiperdum and T. brucei,
- classification of individual cases as either surra or dourine on the basis of clinical signs alone is not possible,
- differential laboratory diagnosis of the infections is complex.

The Group therefore recommended combining infections of equids with parasites of the subgenus Trypanozoon into a single Terrestrial Code chapter, leading to the revision of the current Terrestrial Code Chapter 12.3. to encompass all infections with Trypanozoon in equids. For consistency, a Terrestrial Code chapter on surra dedicated to the infection of susceptible species other than equids with T. evansi (non-equine surra) was drafted.

In addition, the Group recommended the revision of Chapters 2.1.21. (Trypanosoma evansi infections [including surra]) and 2.5.3. (Dourine) of the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, and highlighted the need for validation of assays for the detection of T. evansi in different host species, determination of the characteristics of the polymerase chain reaction (PCR) assays and definition of reference strains and diagnostic pathways.

Meeting of an Ad hoc Group on foot and mouth disease

Although Chapter 8.8. of the Terrestrial Code was last revised and adopted in May 2015, the Ad hoc Group on foot and mouth disease (FMD) was convened from 14 to 16 June 2016 to address the remaining comments and to explore new concepts that could not be developed during the previous revision.

Following-up the discussion of a previous Ad hoc Group meeting in December 2015, the Group drafted provisions to amend the concept of the containment zone to cover circumstances where outbreaks continue to occur within an infected zone, as long as a protection zone, in which no outbreaks have occurred, is established within and along the perimeters of the larger containment zone.

Provisions were also drafted for an FMD-free country or zone without vaccination to conduct emergency vaccination in response to an increased risk of FMD virus incursion, without losing its free status. This proposed concept of ‘preventive emergency zoning’ was largely developed on the basis of the existing concept of the containment zone.

The Group also discussed the conditions that would be needed for an FMD-free country or zone without vaccination to conduct routine vaccination and revert to a status of FMD-free with vaccination, without a period of suspension of status.

The Group considered that FMD-free countries or zones neighbouring areas with infected African buffalo (Syncerus caffer) should not be penalised in cases involving escape of a small group of potentially infected African buffalo, provided that the Veterinary Authority takes appropriate measures to prevent the spread of the disease and provides documented evidence that a comprehensive investigation has been conducted to rule out virus transmission.
With regard to trade recommendations, conditions to allow the movement of vaccinated animals into a country or zone free without vaccination were developed. The Group also supported the existing draft article offering provisions for an FMD-free compartment where vaccination is practised (Article 8.8.4. bis) that had been specifically circulated for Member Countries’ comments in February 2016, and addressed the comments received from Member Countries.

Finally, the Group discussed the situation related to FMDV serotype C and suggested that the OIE should follow the situation closely and encourage its Member Countries to take action.

Activities of the Ad hoc Group on classical swine fever

The Ad hoc Group on classical swine fever (CSF) was tasked to address the scientific comments received since the last adoption of Chapter 15.2. of the Terrestrial Code on CSF in May 2013, when the procedure for official recognition was expanded to include CSF. The Group also updated the chapter to provide further harmonisation, on the basis of the recommendations made by the Ad hoc Group tasked with the evaluation of Member Countries’ dossiers for CSF official status recognition, and by the African swine fever and the foot and mouth disease Ad hoc Groups.

During the comprehensive review of the chapter, the Group discussed different concepts, including a larger containment zone where outbreaks could continue to occur and recommendations for importation of fresh meat derived from domestic and captive wild pigs from countries or zones infected with CSF virus. In response to a Member Country’s request, the Group also reviewed a draft article on the requirements for direct transfer of pigs from an infected zone for slaughter in a free zone within a country. Finally, the current situation regarding differentiation of infected from vaccinated animals (DIVA) vaccines and validated tests was also discussed, for further review by the relevant OIE Specialist Commissions.

Activities of the Ad hoc Group on bovine spongiform encephalopathy

The Ad hoc Group on bovine spongiform encephalopathy (BSE) met to continue the revision of Chapter 11.4. of the Terrestrial Code on BSE, on the basis of the latest scientific information. Scientific comments received from Member Countries were also taken into account and addressed.

Case definitions for atypical and classical BSE were drafted and the distinction between ‘classical’ and ‘atypical’ BSE was strengthened throughout the chapter.

The Group also recommended that risk mitigation measures be applied for the trade of commodities originating from countries of negligible BSE risk, to take into account the risk posed by atypical BSE.

Finally, the Group extensively discussed the need to update the provisions for BSE surveillance. The Group considered different scenarios for the calculation of surveillance points by age classes and surveillance streams. Several models are being adjusted and, once they have been finalised, the potential impact of such revisions on the BSE risk status of Member Countries will have to be assessed.

Activities of the Ad hoc Group on Animal Welfare and Pig Production Systems

The development of animal welfare guidelines for terrestrial animal production systems was defined as a priority when the decision was made to include animal welfare in the strategic mandate of the OIE.

In 2009, the OIE began work on drafting standards for animal welfare in animal production systems. As a consequence, in May 2012, the OIE also adopted a new Article in Chapter 7.1. of the Terrestrial Animal Health Code: Article 7.1.4., ‘General principles for the welfare of animals in livestock production systems’.

As part of the process to develop chapters on animal welfare and livestock production systems, the OIE convened an Ad hoc Group on Animal Welfare and Pig Production Systems, which met at OIE Headquarters from 22 to 24 March 2016. The OIE Ad hoc Group agreed that this topic is of significant importance to OIE Member Countries and many organisations associated with the OIE.
The International Organization for Standardization (ISO), for example, has an interest in the development of this chapter, as one of the last chapters needed to complete the trade standards applicable to livestock species.

During the meeting, the Ad hoc Group developed a draft chapter on animal welfare and pig production systems which included housing conditions, feeding and watering animals, environmental considerations, management practices, personnel training, etc. The draft chapter was submitted to the OIE Animal Welfare Working Group as well as to the Code Commission, which will request comments from OIE Member Countries, to be addressed by the Ad hoc Group at its next meeting.

**Activities of the Ad hoc Group on Susceptibility of Crustacean Species to Infection with OIE-listed Diseases**

In 2014, a new Chapter 1.5. – ‘Criteria for listing species as susceptible to infection with a specific pathogen’ – was introduced into the Aquatic Animal Health Code (Aquatic Code). The purpose of this chapter is to provide criteria to determine which host species should be listed as susceptible in Article X.X.2. of each disease-specific chapter of the Aquatic Code. For species where there is some evidence of susceptibility but insufficient evidence to demonstrate this through the approach described in Article 1.5.3., the meeting proposed that information should be included in the relevant disease-specific chapter in the Manual of Diagnostic Tests for Aquatic Animals.

The criteria will be applied progressively to each disease-specific chapter of the Aquatic Code. To date, this Ad hoc Group has undertaken assessments on the susceptibility of crustacean species to eight of the OIE-listed crustacean diseases (acute hepatopancreatic necrosis disease, crayfish plague, infection with yellowhead virus, infectious hypodermal and haematopoietic necrosis, infectious myonecrosis, necrotising hepatopancreatitis, Taura syndrome and white tail disease).

The purpose of this meeting, held from 1 to 3 June 2016 at OIE Headquarters, was to undertake the assessment for white spot disease. The assessments were reviewed by the Aquatic Animals Commission at its September 2016 meeting.

**Reports of OIE meetings**

**Animal Welfare Working Group:**
The report of the meeting held from 30 May to 1 June 2016 is available at: [www.oie.int/en/animal-welfare/en-reports/](http://www.oie.int/en/animal-welfare/en-reports/)

**Terrestrial Animal Health Standards Commission (Code Commission):**
The report of the meeting held from 5 to 16 September 2016 is available at: [www.oie.int/en/international-standard-setting/specialists-commissions-groups/code-commission-reports/meetings-reports/](http://www.oie.int/en/international-standard-setting/specialists-commissions-groups/code-commission-reports/meetings-reports/)

**Aquatic Animal Health Standards Commission (Aquatic Animals Commission):**
The report of the meeting held from 12 to 16 September 2016 is available at: [www.oie.int/en/international-standard-setting/specialists-commissions-groups/aquatic-animal-commission-reports/meeting-reports/](http://www.oie.int/en/international-standard-setting/specialists-commissions-groups/aquatic-animal-commission-reports/meeting-reports/)
Regional Activities Department

**John Stratton**  
Deputy Head of Department

Dr John Stratton took up his post as Deputy Head within the Regional Activities Department on 18 July 2016. John will contribute to management of the staff and activities of the Regional Activities Department and to the strategic planning, promotion, coordination and follow-up of the implementation of OIE regional activities by the Regional and Sub-Regional Representations. He will also assist with the management of OIE PVS Pathway activities for strengthening Veterinary Services’ compliance with OIE international standards and contribute to the development of the Pathway, based on Member Countries needs and expectations. John will participate in the design, implementation, and follow-up of activities of specific national and regional programmes, including global animal disease control and eradication programmes, particularly for foot and mouth disease, peste des petits ruminants and rabies.

A veterinarian by training, John graduated from Sydney University (Australia) and has a post-graduate qualification in Biotechnology from Monash University (Australia). He has worked extensively in South-East Asia, first based in Phnom Penh (Cambodia) on a research project on field animal health services and foot and mouth disease control, and then for the OIE Sub-Regional Representation for South-East Asia based in Bangkok (Thailand) as Programme Manager, focusing on the establishment and optimum use of the PVS Pathway in the sub-region. He has been a certified, active PVS expert since 2009, having undertaken a dozen PVS Evaluation and Gap Analysis missions in Asia, Africa and the Pacific.

John has also worked in several senior roles with the Office of the Chief Veterinary Officer, Australian Department of Agriculture, Fisheries and Forestry. Before moving to Paris to take up his new position with the OIE he acted as a national contact point for coordinating Australia’s recent OIE PVS Evaluation.

Events Coordination Unit

**Paola Pino Unti**  
Bilingual assistant

Ms Paola Pino Unti is a bilingual assistant within the OIE Events Coordination Unit. She provides administrative support to the Head of the Unit for the organisation of seminars, conferences and technical meetings. Her main tasks include drafting and maintaining regular correspondence with the staff of regional and sub-regional offices, as well as with the technical staff of the OIE Headquarters, to ensure the coordination of events.
Discover the Annual Report of the OIE!

In 2015, the OIE continued its activities based on the four pillars of standard-setting, transparency, scientific expertise and solidarity. These activities included revising nearly 60 international standards on animal health and welfare, publishing a guide on animal disease surveillance, organising world conferences, publishing disease prevention strategies and carrying out missions to improve national Veterinary Services.

The OIE Annual Report looks back on the events of 2015, a year that also saw the reconstitution of all OIE governing bodies and the adoption of the Organisation’s Sixth Strategic Plan.

Meeting the animal health challenges of tomorrow

In the words of Dr Monique Éloit, Director General of the OIE, who succeeded Dr Vallat on 1 January 2016: *Today, more than ever, the OIE’s missions — and those of the Veterinary Services of each of its 180 Member Countries — are crucial. Thanks to its commitment to improving veterinary public health and its contribution to human health, the Organisation plays a key role in the social and economic development of human communities. Accordingly, we will make sure that we build on our past achievements to meet the health challenges of tomorrow.*
This year, the OIE Annual Report is available in various formats to suit different purposes:

**Conventional printed version** (26 pages)

**Video** [2:38]
An exciting presentation of key milestones in 2015 and the objectives of the OIE Sixth Strategic Plan.
YouTube: OIEVideo
https://www.youtube.com/watch?v=25IUFNCu6NA

**Interactive version** featuring links to many OIE documents and videos.
www.oie.int/Report2015

**Summary**
This version, presented in the form of a poster, provides a brief and succinct summary of OIE activities in 2015. It includes an easy-to-read map of regional activities.
www.oie.int/en/for-the-media/
Controlling animal diseases to preserve our future

Rinderpest, the first and only animal disease to have been eradicated from the face of the earth, shows the path to success in the struggle against major animal diseases which are still rife today. To mark World Animal Day, which was held on 4 October 2016, the OIE launched a new web portal that retraces the steps which enabled us to eliminate this disease and the new challenges that confront us if we are to avoid any re-appearance.

The world was officially declared free of rinderpest in 2011. This disease, which had been a scourge of society in Asia, Europe and Africa, is only the second disease (after smallpox) to have been completely eradicated, after decades of concerted national and international effort.

Before 2011, rinderpest was the single most dangerous cattle disease, because of its high mortality rate and extremely contagious nature. In addition to the devastation it wrought on animal health, it had very serious consequences for human populations, causing large-scale famines in Europe and Africa and hampering agricultural development in Asia.

The new OIE rinderpest portal brings together a wealth of information to provide a more comprehensive understanding of this issue and of how the OIE and its partners co-ordinated the global eradication of this disease. In particular, it describes the tools developed in collaboration with FAO within the framework of their joint global strategy against the disease. Furthermore, this platform assembles communication tools tailored to a variety of audiences, to facilitate a better understanding of the challenges involved in the post-eradication phase of the disease.

The OIE and its partners still base their current global strategies on the eradication of rinderpest, for example, the global strategy for the control and elimination of both peste des petits ruminants and foot and mouth disease.

Although this disease is now considered to have been eradicated from the world, future generations must remain vigilant to guard against any possible recurrence.
Aquatic Animal Health in WAHIS: Reporting information, improving trade!

Aquaculture is recognised as the fastest growing food animal producing sector in the world. Furthermore, international trade in aquatic animals (from fisheries and aquaculture) accounts for 10% of total global agricultural exports. However, this brings with it new health risks and aquatic animal disease outbreaks continue to cause significant losses.

**Transparency** in aquatic animal health information builds trust and facilitates safe trade in aquatic animals and products. Sixty-four percent (64%) of OIE Member Countries notify their aquatic animal health information through the OIE World Animal Health Information System – WAHIS.

This new infographic outlines a decision-making process for veterinarians and aquatic animal health professionals involved in aquatic animal disease notification. The absence of disease and the control measures in place are among the parameters notifiable to the OIE and are steps towards achieving freedom from diseases.

This infographic is available on the OIE website: [www.oie.int/Info/EN](http://www.oie.int/Info/EN)
Free from disease?
Spread the news worldwide!

Official disease-status recognition

The OIE was created in 1924 to prevent the spread of animal diseases. Following a request from its Member Countries in 1994, the OIE developed a procedure for the official recognition of disease status for a country, or for a zone inside a country.

Nowadays the procedure applies to six animal diseases:
- African horse sickness (AHS)
- bovine spongiform encephalopathy (BSE)
- classical swine fever (CSF)
- contagious bovine pleuropneumonia (CBPP)
- foot and mouth disease (FMD)
- peste des petits ruminants (PPR).

In 2016, 103 OIE Member Countries were officially recognised as being free, or as having at least one zone officially recognised as free, from at least one of these six diseases.

The science-based, impartial and democratically agreed-upon process of recognition, suspension and recovery of official disease status is governed by standard operating procedures, based on resolutions unanimously adopted by the OIE World Assembly of Delegates.

Benefits of official recognition

By acquiring and maintaining an official disease status, a Member Country demonstrates transparency and helps to promote animal health and public health worldwide, thereby gaining the trust of its partners and of the international community. Official recognition of disease status supports Member Countries by demonstrating the quality of their Veterinary Services, increasing the economic potential of their livestock sector and promoting access to regional and international markets.

Having an officially recognised status by the OIE is also an important incentive to convince governments and donors to invest in credible global control and
eradication programmes for animal diseases.

**Self-declaration**

However, this procedure for official recognition only covers the six diseases previously mentioned. An alternative procedure, based on self-declaration, exists for the other terrestrial and aquatic diseases listed by the OIE. In order to self-declare freedom, a Member Country must demonstrate compliance with the provisions of the relevant articles of the Terrestrial Animal Health Code and Aquatic Animal Health Code. Self-declarations are the sole responsibility of the Member Country concerned. On request, the OIE may publish, without endorsing, the claim of freedom from disease or infection.

This new infographic highlights the main steps and different factors that apply when an OIE Member Country prepares and submits to the OIE a dossier for official recognition of, or a self-declaration of freedom from, an OIE-listed disease.

This infographic is available on the OIE website: [www.oie.int/Info/EN](http://www.oie.int/Info/EN)

Follow the OIE news on LinkedIn

The OIE is now on LinkedIn, the largest online professional network, which connects more than 400 million people throughout 200 countries worldwide.

The World Organisation for Animal Health is responsible for improving animal health and welfare worldwide.

Created in 1924 as the “Office International des Epizooties” of which it has kept its historical acronym “OIE”, it is one of the oldest and, with its 180 Member Countries, among the most representative intergovernmental organisations.

Present on all five continents with a network of 201 Reference Laboratories and Collaborating Centres and 10 Regional and Sub-regional Offices, the OIE manages the world animal health surveillance and alert system and plays a key role in veterinary scientific research and information.

We also invite you to stay informed via the following platforms:

- @OIEAnimalHealth
- World Organisation for Animal Health - OIE
- OIEVideo
- World Organisation for Animal Health
WAHIS Alerts application

To increase the ease and speed with which the available animal health data can be accessed, the OIE has launched the WAHIS Alerts application.

The application delivers alerts and animal health information from the World Animal Health Information System (WAHIS) direct to the user’s mobile phone or tablet. Users can choose to receive only notifications and reports related to the regions and diseases that interest them, enabling them to keep up to date with the latest health news.

The application is free to download from the Android, Apple and Windows application stores.

Staff movements

Arrivals

OIE Regional Representation for Asia and the Pacific

Caitlin Holley
Regional Veterinary Officer

Dr Caitlin Holley, who joined the OIE Regional Representation for Asia and the Pacific on 8 April 2016, is graduated from the University of Sydney, Australia, in 2005 with a bachelor degree in Veterinary Science with major studies in bovine and wildlife diseases. She worked in animal production practices with special interest in dairy and beef cattle production systems in Australia and the United Kingdom for several years before joining the Australian Government Department of Agriculture as a veterinary officer, where she worked across Northern Australia with a focus on livestock trade and biosecurity. She is close to completing a master degree in Veterinary Public Health and Management through the University of Sydney, still focusing her studies on epidemiology and cattle and wildlife diseases, as well as emergency disease preparedness.

She will be in charge of regional GF-TADs-related activities and animal welfare for the OIE Regional Representation for Asia and the Pacific.
Fania Dwi
Regional Veterinary Officer

Fania is a veterinarian from Indonesia. Fania joined the OIE Regional Representation for Asia and the Pacific on 22 April 2016 as regional veterinary officer to work on Aquatic Animal Health issues, in addition to technical collaboration with partner organisations and OIE Collaborating Centres in the region.

She graduated as a veterinarian in 2007 from Bogor Agricultural University, Indonesia, and in 2014 she earned her master degree in Preventive Veterinary Medicine from the School of Veterinary Medicine, University of California, Davis, United States of America.

She started her career with the FAO Highly Pathogenic Avian Influenza Control Programme in Indonesia in 2007–2012 and working with local government to design and implement its animal health and disease control programme in 2008–2012.

She pursued her education in preventive veterinary medicine and conducted her thesis research on paratuberculosis (Johne's disease) in Tulare, California. Upon completion of her master degree, she joined FAO-ECTAD1 Indonesia as National Technical Advisor-Disease Control in January 2016 until March 2016. Her main responsibility was to assist and implement a rabies control program in Flores and Bali islands, as well as assisting the Indonesian government to design and complete the national roadmap for rabies elimination in Indonesia.

Departures

OIE Regional Representation for Asia and the Pacific

Batsukh Basan

Dr Batsukh Basan, who has been working at the OIE Regional Representation for Asia and the Pacific as a Regional Project Coordinator, left the OIE at the end of April 2016, having completed 14 months of duty at the OIE Regional Representation for Asia and the Pacific.

Dr Batsukh Basan was responsible for the OIE/Japan Trust Fund Project on Foot and Mouth Disease Control in Asia, a project which established the FMD Roadmap for East Asia, and for implementing FMD control activities in the region.

Following his time at the OIE, he has returned to Mongolia to resume his position in the national Veterinary Services of Mongolia. We wish Dr Batsukh Basan every success in his career and hope we can work together with him again in the near future.

OIE Sub-Regional Representation for South-East Asia

Phillip Widders

Dr Phil Widders completed his term with the OIE Sub-Regional Representation for South-East Asia in June 2016, and has returned to his former position with the Australian Department of Agriculture and Water Resources.

Dr Widders joined the OIE Sub-Regional Representation for South-East Asia

1 FAO: Food and Agriculture Organization of the United Nations; ECTAD: Emergency Centre for Transboundary Animal Diseases
Blesilda Verin

Dr Blesilda C. Verin joined the OIE Sub-Regional Representation for South-East Asia in January 2015 as Project Officer of the Northern Laos Foot and Mouth Disease (FMD) Project under the OIE STANDZ programme, which was funded by the Australian Department of Foreign Affairs and Trade. She left the OIE in June 2016 on completion of the Northern Laos FMD project.

During her one and half year tenure as OIE Project Officer, she provided technical and management support to the government authorities in implementing and monitoring the Northern Laos FMD project. She also assisted in the design and coordinated the implementation of post-vaccination monitoring (PVM) studies under the project and participated in the in-depth epidemiological investigation of FMD in the country. In support of Laos and Myanmar national FMD control projects, she conducted national training courses on FMD diagnosis in both countries. Similarly, she provided technical backstopping in Laos and Myanmar national FMD laboratories for their PVM serosurveillance studies.

The OIE wishes her all the best in her new endeavours.

Karanvir Kukreja

Dr Karanvir Kukreja completed his term as a Project Officer at the OIE Sub-Regional Representation for South-East Asia on June 2016.

Dr Kukreja’s four-year tenure focused on developing and implementing activities under the ‘Stop Transboundary Animal Diseases and Zoonoses’ (STANDZ) Initiative, largely concentrating on the SEACFMD Campaign. In addition, he worked as a WAHIS Focal Person for the Asian and Pacific region, helping OIE National Focal Points for Animal Disease Notification in this region.

In June 2016, he moved to a position at a large international animal welfare organisation. We wish Dr Karanvir Kukreja every success in his new duties.

Asia in November 2014, and assumed responsibility for the South-East Asia and China Foot and Mouth Disease Campaign (SEACFMD) as Campaign Coordinator. During his time with the Representation, Dr Widders' principal focus included oversight of vaccination campaigns and post-vaccination monitoring in northern Laos and central Myanmar, the study and management of animal movement in the region, and assisting Member Countries in FMD surveillance and the development of national FMD control plans. He also coordinated the production and publication of the third edition of the SEACFMD Roadmap, which will guide regional activities during Phase 5 of the SEACFMD Campaign from 2016 to 2020.

The OIE wishes Dr Widders every success in his future endeavours.

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Meetings

Workshop on the OIE procedure for official recognition of country status for FMD and PPR

Gaborone, Botswana, 22–24 March 2016

The OIE organised a Sub-Regional Workshop on the OIE procedure for official recognition of Member Countries’ disease status and for the endorsement of national official control programmes with regard to foot and mouth disease (FMD) and peste des petits ruminants (PPR). Financial support came from the government of Italy and logistical support from the government of Botswana.

The workshop was held in Gaborone from 22 to 24 March 2016 and was attended by 45 participants, among them 10 OIE Delegates, 26 veterinary epidemiologists and focal points from all Southern African Development Community (SADC) Member Countries – namely, Angola, Botswana, the Democratic Republic of the Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. Resource personnel came from a global pool of OIE experts and comprised Dr Gideon Bruckner, President of the OIE Scientific Commission on Animal Diseases; Dr Misheck Mulumba, member of the OIE Ad hoc Group on PPR; and Drs Laure Weber-Vintzel and Simona Forcella from OIE Headquarters. International and regional organisations dealing with livestock, such as SADC, AU–IBAR1 and FAO2, attended as observers, as well as representatives from CIRAD3 and the Botswana Vaccine Institute.

The objectives of the workshop were:

− to provide participants with information on the OIE standards and procedure for official recognition of FMD and PPR status, as well as for the endorsement of national control programmes
− to enable Member Countries to prepare dossiers for the official recognition of their disease status with regard to FMD and PPR and for endorsing their official national control programmes
− to strengthen the sub-regional network of veterinarians working on FMD and PPR.

General presentations were also given on the current FMD and PPR situation and on perspectives of and cooperative strategies for these diseases in the SADC region. More specific presentations were given on the requirements of the Terrestrial Animal Health Code, in particular those chapters dealing with FMD and PPR, including surveillance, zoning, and questionnaires for Member Countries applying for endorsement of their official control programme and recognition of official status.

1. AU–IBAR: African Union–Interafrican Bureau for Animal Resources
2. FAO: Food and Agriculture Organization of the United Nations
3. CIRAD: French Agricultural Research Centre for International Development
Participants took part in quizzes covering the most important points from the topics presented and studied fictitious dossiers to gain an increased understanding of the information needed by the OIE to evaluate an application.

Given the current epidemiology and disease status of FMD and PPR in the region, particular emphasis was placed on the requirements for: applications for historical freedom from PPR; the maintenance of FMD-free status and endorsement of official control programmes for FMD and PPR.

On the second day, participants took part in a field trip to the Botswana Vaccine Institute, where they toured the vaccine manufacturing plant and the OIE Reference Laboratory.

Those who attended were asked to self-assess their knowledge of the principal topics covered during the workshop (i.e. the requirements for official recognition of disease status for FMD and PPR and endorsement of national control programmes) both before the meeting and on its last day. An analysis of the answers showed a significant increase in the perceived knowledge of the participants on this very important subject.

The 22nd Meeting of the OIE Sub-Commission for FMD Control in South-East Asia and China was held in Chiang Rai, Thailand, from 8 to 11 March 2016, and attended by around 90 participants, including representatives from SEACFMD Member Countries, key partners, OIE Reference Laboratories and OIE staff.

The meeting was opened by Mr Prachon Pratsakul, Vice-Governor of Chiang Rai Province; Dr Monique Éloit, Director General of the OIE; Dr Gardner Murray, President of the Sub-Commission; and Dr Ayuth Harintharanon, Director General of the Department of Livestock Development (DLD), representing the Minister for Agriculture and Cooperatives of Thailand.

An update was given on the most recent achievements of the SEACFMD Campaign and the launch of Phase 5 of the campaign, as well as on the current global and regional FMD situation. The presentations highlighted recent cross-region transmissions of FMD viruses (FMDVs) and Member Countries were asked to continue to collect and submit field samples to aid early detection of exotic viruses and prompt implementation of risk-based control measures.

In the next session, SEACFMD Member Countries and Mongolia gave presentations about their national FMD surveillance activities; their coordination and governance of, and advocacy for, the FMD control strategy; challenges encountered; and future plans for FMD prevention and control. The discussion focused on the incursion of new FMDV strains into Myanmar and Laos and the relationship between FMD dispersal and the movement of animals and animal products. An explanation was given of the nature and scope of OIE-managed FMD projects funded by STANDZ and New Zealand, and the objectives, roles and responsibilities of the third edition of the SEACFMD 2020 Roadmap were presented. These discussions confirmed the FMD Progressive Control Pathway (PCP–FMD) as a key tool for regional FMD control and noted that it should be implemented in specific countries and/or zones, to ensure the optimal distribution and use of resources.

1. SEACFMD: South-East Asia and China Foot and Mouth Disease Campaign
2. STANDZ: Stop Transboundary Animal Diseases and Zoonoses Initiative
Opening remarks

From left: Mr Prachon Pratsakul, Vice-Governor of Chiang Rai Province; Dr Ayuth Harintharanon, Delegate of Thailand to the OIE; Dr Monique Éloit, Director General of the OIE; and Dr Gardner Murray, President of the OIE Sub-Commission for FMD Control in South-East Asia and China

On the second day, after a presentation from the OIE Sub-Regional Representation for South-East Asia on actions undertaken within the SEACFMD framework over the past year, participants were briefed on activities of the OIE Reference Laboratories for FMD in Pakchong and Lanzhou, and given industry reports from vaccine manufacturers and a major animal producer in Thailand. Key partners then presented their activities and future plans related to FMD, especially those with particular relevance to the SEACFMD Campaign. The discussions highlighted the importance of field sample collection, epidemiological data-gathering and analysis, information transparency and data-sharing of viral sequences, if we are to gain a better understanding of the evolutionary and epidemiological dynamics of FMD in this region. OIE Reference Laboratories were asked to provide technical guidance and advice to Member Countries on specimen collection and the handling and shipment process, where needed.

On the third day, an animal movement management session included presentations on the output of the 2015 Animal Movement Meeting and China’s plan to

3. Dr Somjai Kamolsiripachaiporn, National Institute of Animal Health, Department of Livestock Development, Pakchong, Nakhonratchasima 30130, Thailand

4. Dr Xiangtao Liu, Lanzhou Veterinary Research Institute, Chinese Academy of Agricultural Sciences, Xujiaping No.1, Yanchangpu, Lanzhou, Gansu Province 730046, People’s Republic of China

Dr Sith Premashithira (Thailand), newly elected Vice-President of the Sub-Commission, chairs Session 5 to discuss regional FMD control initiatives taken by partners
Dr Song Junxia (China), who has been re-elected Vice-President of the Sub-Commission for another three years, presents progress on the development and implementation of animal movement management.

establish animal movement control zones along its borders with South-East Asia. The discussions highlighted a combination of vaccination, quarantine, animal identification and animal movement management for transboundary FMD control. In the next session, Dr Laure Weber-Vintzel gave an update on the latest OIE FMD standards and discussed the implementation of the PCP–FMD and Global FMD Control Strategy. National Coordinators and observers reviewed major points and issues for SEACFMD and identified key actions to be considered in the coming year. These included the need for continued outbreak investigations and further optimisation of the vaccination strategy, as well as involvement with other initiatives in the region in line with the SEACFMD Roadmap.

The importance of implementing the Roadmap on a national level and regular reports from Member Countries on their progress along the PCP–FMD was also emphasised.

On the fourth day, the SEACFMD implementation plan and action plan were reviewed. The meeting concluded with key recommendations which will serve as guidelines for the SEACFMD Campaign’s work in 2017.

Field trip: Participants of the 22nd Meeting of the OIE Sub-Commission for FMD Control in South-East Asia and China with villagers in Baan Dong Charoen

The South-East Asia and China Foot and Mouth Disease (SEACFMD) Campaign:

www.rr-asia.oie.int/activities/sub-regional-programme/stanz/seacfmd/
A follow-up workshop on relevant international standards for dog rabies was jointly organised in Bangkok by the OIE Regional Representation for Asia and the Pacific (RR–AP) and the Sub-Regional Representation for South-East Asia (SRR–SEA), from 17 to 19 May 2016. Two previous workshops had been organised by these OIE offices: one in Chiang Mai, Thailand, by SRR–SEA in June 2014 and the other in Tokyo, Japan, by RR–AP in August 20141.

Some 40 participants attended the workshop, including representatives from 18 Member Countries, partner organisations (FAO2, GARC3, SAARC4 and World Animal Protection), donors (DFAT5 and JTF6), the OIE Reference Laboratories and OIE staff.

Since the two regions most heavily engaged in the fight against rabies at present are Africa and Asia, it would make sense to learn from each other’s experiences for future rabies activities. For this reason, the workshop was attended by OIE staff from North and East Africa, who came as observers to learn about the situation in Asia, for possible application in Africa (with appropriate modifications).

This joint, follow-up workshop focused on updating the animal rabies situation in the region and briefing participants on progress made in the following areas in regard to the international standards on eliminating canine rabies:

- the role of national Veterinary Services in rabies elimination (Terrestrial Animal Health Code [Terrestrial Code], Chapters 3.1., 3.3. and 3.4.),
- rabies vaccines and vaccination (Manual of Diagnostic Tests and Vaccines for Terrestrial Animals [Terrestrial Manual], Chapter 2.1.17.),
- rabies diagnosis (Terrestrial Manual, Chapter 2.1.17.),
- rabies surveillance (Terrestrial Code, Chapter 1.1.),
- animal welfare – in particular, stray dog population management (Terrestrial Code, Chapter 7.7.),
- achieving and maintaining rabies freedom (Terrestrial Code, Chapter 8.13.), and

The first technical session began by reviewing the rabies situation in Asia and the Pacific. This presentation was

1. See additional information on rabies control in Asia in the OIE Bulletin, No. 2014-3, pp. 32-33
2. FAO: Food and Agriculture Organization of the United Nations
3. GARC: Global Alliance for Rabies Control
4. SAARC: South-Asian Association for Regional Cooperation
5. DFAT: Australian Government Department of Foreign Affairs and Trade
6. JTF: Japan Trust Fund
The meeting’s objectives were to:
1) provide updates on the animal rabies situation in the Asia–Pacific region
2) review the progress made by countries in their compliance with international standards relevant to eliminating dog rabies
3) share experiences, challenges and achievements in carrying out rabies-related initiatives
4) prepare countries for improved consistency and compliance with international standards related to the elimination of canine rabies, including the process for self-declaration of freedom from rabies, and
5) discuss the Global Framework for the Elimination of Dog-Mediated Human Rabies and other outcomes from the Rabies Global Conference (Geneva, 10–11 December 2015) and decide on regional actions that can promote and support these.

followed by a review of various posters submitted by participating countries and territories.

During technical sessions 4–9, the international standards that were relevant to dog rabies elimination were discussed. Each session consisted of an introduction to the relevant chapter(s); a brief summary of Member Country responses to questionnaires which had been distributed before the workshop, and an open panel discussion to identify common issues and highlight examples of these in the region.

Partners and donors working on rabies in the region (FAO, GARC, SAARC, World Animal Protection, the OIE Sub-Regional Representations for North and East Africa, DFAT and JTF) presented their continuing activities and initiatives during the partner forum.

Over all, positive progress has been made in rabies elimination activities since the two rabies workshops in 2014. However, gaps remain. While these are being addressed, rabies elimination remains a complex and long-term undertaking, requiring scientific and technical expertise, political support and a multi-sectoral approach. The application of OIE standards is also a key component of rabies management.

A comprehensive technical document summarising the main issues considered at the workshop, as well as a detailed analysis of the questionnaire results, will provide a valuable benchmark for assessing the implementation of OIE standards in the future.

9th FAO/OIE Regional Steering Committee Meeting of GF-TADs for Asia and the Pacific
Tokyo, Japan, 20–21 July 2016

The Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs) is a joint FAO/OIE initiative that combines the strengths of both organisations to carry out GF-TADs objectives on the ground. The framework facilitates collective action to support the control and eradication of transboundary animal diseases and has yielded several important institutional and operational advances.

Regional Steering Committee (RSC) Meetings of GF-TADs for Asia and the Pacific have been organised nine times since 2005. Members of the RSC make use of these meetings to share information, strengthen partnerships and cooperate on activities to prevent and control priority TADs.

This year, the RSC met on 20 and 21 July in Tokyo. Representatives from the sub-regions of Asia and the Pacific came to brief participants on sub-regional activities and discuss future collaboration and improved coordination in tackling priority transboundary diseases.

The GF-TADs Global Secretariat gave an update on the global situation and a summary of proceedings at the Global Steering Committee Meeting in October 2015, as well as presenting the standard operating procedure for labelling GF-TADs activities.

Special topics covered in 2016 included arboviral diseases and aquatic animal diseases. New and emerging
The Seventh Foot and Mouth Disease (FMD) Roadmap Meeting for West Eurasia was held in Bishkek, Kyrgyzstan, from 6 to 8 April 2016. It was organised by the OIE Sub-Regional FMD Coordination Unit Office in Astana (Kazakhstan), as Secretariat of the Roadmap, in collaboration with the Veterinary Services of Kyrgyzstan and the European Commission for the Control of FMD (EuFMD), under the umbrella of the FAO/OIE Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs) FMD Working Group. The meeting aimed to facilitate the regional sharing of information on FMD virus circulation and to review the progress made in implementing the Global FMD Control Strategy. It was attended by 72 participants, from 12 countries (Armenia, Azerbaijan,
Armenia and Azerbaijan were both confirmed as being at Stage 2, after the Regional Advisory Group agreed that their risk-based strategic plan would help them to make further progress. It was also agreed that particular attention should be paid to the four countries remaining in Stage 1 (Afghanistan, Tajikistan, Turkmenistan and Uzbekistan), and to Kyrgyzstan, which is provisionally at Stage 2. Kyrgyzstan, Tajikistan and Turkmenistan made a specific request for help in preparing their Risk-Based Strategic Plan (RBSP) for FMD.

It was gratifying that three countries put themselves forward as candidates to host the Eighth FMD Roadmap Meeting for West Eurasia. Discussions will be held with Georgia and Turkmenistan to decide on the location of the 2017 meeting. It was agreed that the 2018 meeting would be organised in Iran, to celebrate the tenth anniversary of the Roadmap, the first meeting having been held in Shiraz, Iran, in 2008.
14 March 2016
Venezuela
Dr Wilmer José Alcázar Guerra
Director Nacional de Salud Animal Integral

15 May 2016
Ethiopia
Dr Mesrak Mokonnen Yetneberk
State Minister, Ministry of Livestock and Fisheries

5 June 2016
Qatar
Eng. Farhoud Hadi Al-Hajri
CVO and Director of Animal Resources Department, Animal Production Section, Ministry of Municipality and Environment

22 June 2016
Madagascar
Dr Andriamainty Fils Bienvenu
Directeur des Services vétérinaires, Ministère de l’élevage et de la protection animale

7 July 2016
Portugal
Prof. Dr Fernando Bernardo
Director General, Direção Geral de Alimentação e Veterinária, Ministro da Agricultura, Florestas e Desenvolvimento Rural

15 July 2016
Guatemala
Dr Byron Guillermo Thomae Estrada
Director a. i. de Sanidad Animal, Viceministerio de Sanidad Agropecuaria y Regulaciones, Ministerio de Agricultura, Ganadería y Pesca

25 July 2016
Benin
Dr Yao Akpo
Directeur de l’élevage, Ministère de l’agriculture, de l’élevage et de la pêche

31 August 2016
New Zealand
Dr Tony Zohrab
Chief Market Access Officer, Policy and Trade Branch, Ministry for Primary Industries

22 August 2016
Ukraine
Ms Olga Shevchenko
Chief of Directorate, International Cooperation of the State Service of Ukraine on Food Safety and Consumer Protection, Ministry of Agrarian Policy and Food

8 August 2016
Singapore
Dr Him Hoo Yap
Chief Veterinary Officer, Director General, Deputy CEO, Regulatory Programmes and Operations, Ministry of National Development, Agri-Food & Veterinary Authority

1 September 2016
New Caledonia
Dr Valérie Campos
Chef du Service, Inspection vétérinaire, alimentaire et phytosanitaire, Direction des affaires vétérinaires, alimentaires et rurales
strengthening of Veterinary Services

OIE PVS Pathway for efficient Veterinary Services

PVS Evaluation missions
State of Play – as at 15 November 2016

<table>
<thead>
<tr>
<th>OIE Region</th>
<th>OIE Members</th>
<th>Requests received</th>
<th>Missions completed</th>
<th>Reports available for distribution to donors and partners</th>
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PVS Evaluation mission requests

- **Africa (53)**

- **Americas (26)**
  Argentina, Barbados, Belize, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Dominican Rep., Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, Venezuela.

- **Asia-Pacific (25)**

- **Europe (19)**
  Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Georgia, Iceland, Israel, Kazakhstan, Kyrgyzstan, Former Yug. Rep. of Macedonia, Romania, Serbia, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan.

- **Middle East (13)**
  Afghanistan, Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Palestinian N.A. (observer), Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen.

In red: completed missions
Legislation missions

State of Play – as at 15 November 2016

<table>
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<th>OIE Region</th>
<th>OIE Members</th>
<th>Requests received</th>
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Legislation mission requests

- **Africa** (41)

- **Americas** (8)
  Barbados, Belize, Bolivia, Dominican Rep., Guatemala, Haiti, Honduras, Paraguay.

- **Asia/Pacific** (7)
  Bhutan, Cambodia, Fiji, Laos, Mongolia, Papua New Guinea, Vietnam.

- **Europe** (5)
  Armenia, Georgia, Israel, Kazakhstan, Kyrgyzstan.

- **Middle East** (5)
  Afghanistan, Kuwait, Lebanon, Saudi Arabia, United Arab Emirates.

In red: completed missions

PVS Gap Analysis missions

State of Play – as at 15 November 2016

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<th>OIE Region</th>
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<th>Requests received</th>
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PVS Gap Analysis mission requests

- **Africa** (52)

- **Asi-Pacific** (21)

- **Europe** (9)
  Armenia, Azerbaijan, Bosnia and Herzegovina, Israel, Kazakhstan, Kyrgyzstan, Serbia, Tajikistan, Turkey.

- **Middle East** (10)
  Afghanistan, Jordan, Kuwait, Lebanon, Oman, Palestinian N.A. (observer), Saudi Arabia, Syria, United Arab Emirates, Yemen.

In red: completed missions

*Including second Gap Analysis missions and Aquatic Gap Analysis mission
Training Seminar on the OIE PVS Tool for East Asia

Seoul, Republic of Korea, 26–28 April 2016

A Training Seminar on the OIE PVS Tool for East Asia was held in Seoul from 26 to 28 April 2016. This seminar was attended by 26 participants from four OIE Member Countries, two PVS trainers and five OIE staff.

The meeting began with presentations from participating countries, who provided general background information on their Veterinary Services and the challenges they face in their own countries when implementing the OIE standards on the quality of Veterinary Services.

The seminar provided:
- general information on the OIE,
- a better understanding of the OIE PVS Pathway and its use,
- presentations on the *Fundamental Components and Critical Competencies* of the PVS Tool,
- the preparations needed before undertaking a PVS Evaluation Mission (including documentation), and
- the opportunity to share and discuss experiences and challenges in their own country/territory.

Examples of several Critical Competencies and their assessment were delivered by the trainers, as well as a comprehensive interactive working session that modelled the evaluation of a hypothetical country, ‘Tryland’.

Participants also had a chance to gain experience with:
- how the PVS Tool could be linked to disease control, using, as an example, the step-by-step approach to the control and eradication of peste des petits ruminants,
- how to manage an OIE PVS Evaluation Mission – before, during and after the mission,
- how to assess Critical Competencies as an evaluator in a PVS Evaluation team.

The meeting went fairly smoothly. Although it took some time to have a collective discussion, feedback indicated that the participants gained a lot of useful information and a much better understanding of the PVS Tool and its use in PVS Evaluation. They were very appreciative of the OIE and host country the Republic of Korea for the learning opportunities provided by the seminar.

The OIE PVS Pathway:
https://goo.gl/mfVZfV
Sub-Regional Workshop on Veterinary Legislation

Bangkok, Thailand, 27–28 June 2016

The OIE Sub-Regional Representation for South-East Asia (SRR–SEA) organised an OIE Sub-Regional Workshop on Veterinary Legislation in Bangkok, on 27 and 28 June 2016.

Thirty-five participants attended the workshop, including 24 veterinarians and jurists from the Veterinary Authorities of nine ASEAN Member States, and 11 speakers and participants from the private sector, the OIE and the Thai National Bureau of Agricultural Commodity and Food Standards.

The first day of the workshop dealt with the importance of veterinary legislation, and presentations included the OIE standards on veterinary legislation, the OIE Veterinary Legislation Support Programme (VLSP), analysing PVS Evaluation Mission reports of AMS in relation to veterinary legislation and veterinary legislation for trade facilitation.

Participants also provided updates on their own national veterinary legislation:
- three countries had already undergone VLSP Missions,
- five countries had undertaken PVS Evaluation/Gap Analysis Missions but had not yet applied for a VLSP Mission, and
- one country had undertaken a PVS self-evaluation.

The countries in the first group spoke about the development of their new veterinary legislation, as a result of the VLSP Mission. The others shared their progress in strengthening their veterinary legislation, following the recommendations of their PVS Evaluation/Gap Analysis Mission or, in one case, their PVS self-evaluation. They showed that stakeholders had been consulted and jurists involved in the process of developing and amending their legislation.

The second day concentrated on ways forward for the harmonisation of veterinary legislation. Presentations included: regulatory harmonisation in the context of the ASEAN Economic Community, the private sector’s perspective on veterinary legislation harmonisation and the OIE experience of legislative harmonisation in other regions. Participants then were divided into four groups to discuss:
- the strengthening of regional animal disease prevention and control, and trade facilitation,
- the delegation of powers by Veterinary Authorities to other body(ies).

It was clear from the workshop that significant progress has been made in veterinary legislation in AMS during recent years, although some weaknesses remain to be addressed. Chapter 3.4. of the Terrestrial Animal Health Code, ‘Veterinary legislation’, provides an invaluable resource of legislative requirements for effective regulation of the veterinary domain. OIE PVS Evaluation, Gap Analysis and VLSP Missions all contribute to the development of veterinary legislation, and its compliance with OIE standards, and the strengthening of Veterinary Services. Harmonisation of veterinary legislation in AMS will make a positive contribution to regional animal disease prevention, control and eradication efforts, as well as help to promote trade in animals and animal products within the ASEAN Economic Community.

1. ASEAN: Association of Southeast Asian Nations
One area of special interest was identified: the harmonisation of cattle identification to facilitate cattle movement for trade, as well as for FMD control. The workshop recommended that AMS Veterinary Services should carry out a veterinary legislation mapping exercise, using the VLSP, to support further legislation reform in accordance with OIE standards. A second recommendation was that AMS should also consider developing national policies to promote the harmonisation of veterinary legislation. In addition, AMS should consider delegating the official tasks of Veterinary Services to other body(ies), including the private sector, although the importance of having a legal basis for such delegation/accreditation should be considered. It was felt that this would increase the capacity of Veterinary Services to perform activities for the public good. The OIE SRR–SEA will present the workshop’s report and recommendations to the ASEAN Sectoral Working Group on Livestock (ASWGL), as key matters to consider when developing a step-by-step approach to the harmonisation of veterinary legislation in ASEAN Member Countries.

The national Veterinary Services must at the very least be able to ensure:
- early detection of disease incursions and animal health transparency through reporting;
- a rapid response to animal disease outbreaks and implementation of biosecurity and bio-containment measures;
- compensation policies to indemnify animal owners hit by outbreaks;
- implementation of vaccination programmes where appropriate.

The OIE PVS Pathway – helping Veterinary Services in West Africa to mobilise resources, strengthen capacities and achieve sustainability

C. Nersy (1), D. Bourzat (2) & K. Tounkara (3)

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Keywords
OIE PVS Pathway – Veterinary Services – West Africa.

Background
For over 90 years, the primary mission of the OIE has been to protect animal health, by improving the transparency, sharing and use of animal disease information worldwide and better sanitary regulation of trade in animals and animal products. To this end, the OIE develops science-based standards, which are then established and adopted by consensus by its Member Countries. These standards are recognised by the World Trade Organization (WTO) as reference international sanitary rules. Furthermore, the increasing number of health crises, the risks associated with globalisation of trade and environmental issues have also placed Veterinary Services at the centre of very important economic, strategic, political and even diplomatic issues.
It was against this background that the OIE embarked on a new approach, placing support for national Veterinary Services at the forefront of its intervention strategies by raising animal health to the level of a global public good. To this end, during the past ten years the OIE has gradually been developing a specific, comprehensive methodology for evaluating the performance of Veterinary Services, namely the PVS Pathway (Fig. 1).

The methodology involves several stages, the first of which – the ‘initial’ PVS Evaluation – consists of qualitative evaluation of the performance of Veterinary Services with respect to 47 critical competencies, grouped together in the four fundamental components of the OIE PVS Tool (Tool for the Evaluation of Performance of Veterinary Services), namely:

1) human, physical and financial resources
2) technical authority and capability
3) interaction with interested parties
4) access to markets.

This set of critical competencies is directly based on the OIE’s standards and recommendations on quality of Veterinary Services, as presented in the Codes and Manuals, which together comprise the Organisation’s normative arsenal.

The subsequent phases of this methodology serve to fine-tune the initial PVS Evaluation, develop a detailed strategy for strengthening Veterinary Services and make a quantified assessment of needs, including the calculation of an indicative five-year operating budget, taking into account the budgetary implications of achieving the level of performance desired or envisaged by the national decision-makers with respect to the initial situation (PVS Gap Analysis). Countries are also encouraged to undergo PVS Follow-up Evaluations to measure the impact of the programme and the work carried out.

The OIE is the custodian of this methodology, and only OIE-certified experts are allowed to carry out an independent external PVS Evaluation of a country’s Veterinary Services and any subsequent PVS Gap Analysis. These experts have undergone training sessions organised by the OIE and financed by the OIE World Animal Health and Welfare fund. All certified PVS experts use standard procedures and evaluation indicators, which are compiled in Experts’ Manuals. These documents, along with model reports, are prepared and published by the OIE and are regularly updated. The PVS Pathway can therefore be considered a global programme for the sustainable improvement of the compliance of national Veterinary Services with OIE standards, within the framework of the SPS Agreement.

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1 SPS Agreement: Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) of WTO
Support for the PVS Pathway has been particularly high on the African continent, with all countries already engaged in the procedure, and some are at an advanced stage (PVS Follow-up Evaluations). Although the PVS Pathway is undertaken on a voluntary basis and the PVS Pathway mission reports remain the property of the country concerned, all the documentation available following these missions provides a unique database on the current state and situation of Veterinary Services around the world. These data can be readily accessed during the preparation of development projects or programmes relating to public health, veterinary public health or animal production.

In this context, the World Bank recently made use of the OIE’s expertise and tools when appraising two new regional programmes with components or sections on ‘animal health’:

A. the Regional Sahel Pastoralism Support Project (Projet régional d’appui au pastoralisme au Sahel – PRAPS), which is already operational;

B. the Regional Disease Surveillance Systems Enhancement (REDISSE) Project, which is still at the design stage.

A. Regional Sahel Pastoralism Support Project (PRAPS)
Component 1. Animal Health Improvement

Pastoralism, in its two main forms – transhumance and nomadism – is a way of life associated with a particular way of exploiting natural resources that is still quite common in arid and semi-arid areas, where practically any agricultural activity other than raising ruminants would be hard to envisage. With their own way of managing space and time, based on mobility and inherited ‘ancestral’ knowledge, which is both a strategy for managing risks and a means of optimising the use of forage resources temporarily available according to the season, pastoral communities have succeeded in making best advantage of vast, practically desert areas poorly conducive to the development of agriculture. In doing so, they have managed to develop and sustain an economic potential and a unique ecological system in these areas. In certain regions such as the Sahara and the Sahel, pastoralism thus remains the only economically viable option for development, thereby allowing the occupation of the land.

However, despite their economic importance, pastoralism and its actors – nomadic and semi-nomadic pastoralists Berkeley are still very often socially stigmatised, institutionally marginalised and, consequently, politically neglected. In the Sahel, especially, this situation, which has gone on for decades, has its historical roots in the choices made by public administrations, which in a large majority of cases promoted the development of the Sudanian zones with a rich potential for agriculture, and especially cotton production, to the detriment of more arid zones suited to pastoralism. Within these arid zones, the mobility of people and their animals was regarded as a problem rather than as a way of exploiting vast but virtually desert regions. Furthermore, given the recent security developments in these regions, there is a need to rapidly take into account the aspirations of these pastoralist communities, with the aim of improving their living conditions. Substantial investments in livestock farming are therefore needed in these regions and this requires the mobilisation of international partners. Among the priorities to be addressed, the sustainable control of infectious animal diseases is crucial, not only to reduce health risks and safeguard the capital, consisting of often quite large herds, but also to allow access to external markets for animals and animal products and reassure potential investors. However, currently only 1.7% of international aid for agriculture goes to livestock development programmes and Veterinary Services.

This is the context in which the Regional Sahel Pastoralism Support Project (Projet régional d’appui au pastoralisme au Sahel – PRAPS) was developed. PRAPS can be seen as one of the direct consequences of the Nouakchott Declaration 2 adopted in October 2013 by the Heads of State and heads of government of six Sahel–Saharan countries and regional and international actors. This project, which is mainly funded by USD 248 million from the World Bank, aims to improve access to markets, means of production and essential services in selected transboundary areas and along transhumance routes in six countries of the Sahel (Burkina Faso, Chad, Mali, Mauritania, Niger and Senegal), where more than 75% of the livestock sector is based on transhumant or nomadic pastoralism. The project will also enhance the capacity of these countries to respond to pastoral crises and other emergencies in a timely and effective manner. The aim is to increase

2 Nouakchott Declaration on Pastoralism: OIE. Bulletin, No. 2014–1, pp. 82–84
the gross output of livestock production by at least 30% over
the next five years with a view to significantly increasing the
incomes of pastoralists within a period of five to ten years.

To take into account all the issues relating to the
protection and development of pastoralism, PRAPS consists
of five separate components to be implemented at national
level, with overall coordination at regional level being
provided by the Permanent Interstate Committee for Drought
Control in the Sahel (Comité permanent inter-États de lutte
dans la sécheresse dans le Sahel – CILSS):

Component 1: Animal Health Improvement
Component 2: Natural Resource Management
Enhancement
Component 3: Market Access Facilitation
Component 4: Pastoral Crisis Management
Component 5: Project Management
and Institutional Support.

Component 1 focuses on animal health improvement,
one of the priorities for the populations involved.
A special feature of this Component is that it was
planned following a feasibility study for a programme to
improve veterinary governance and the control of priority
transboundary animal diseases in West Africa (a study,
financed by the French Development Agency [Agence
française de développement – AFD], that was itself based on
a regional analysis of available PVS Evaluation and Gap
Analysis reports for countries in this region), and following
joint preparatory missions between the OIE and the World
Bank. The aforementioned study and missions were based
on the results and recommendations of the PVS Pathway
missions (PVS Evaluations, PVS Gap Analyses) conducted by
the OIE in the countries concerned.

In general, all the missions and studies carried out within
this framework have highlighted substantial deficiencies in
terms of funding of activities in the majority of countries,
reflected in the following:

- depletion of human resources, in terms of both quantity
  and quality (e.g. the ageing of senior staff in many
countries);
- a quantitatively inadequate and moreover ageing
  infrastructure, at both central and decentralised levels
  (veterinary units, border inspection posts, vaccination
  stations, etc.);
- a chronic shortage of various types of equipment
  (logistical resources, technical equipment, computer
  equipment, laboratory equipment, etc.);
- poor and in some cases non-existent allocation of
  operating resources (miscellaneous consumables,
  mission expenses, etc.).

This leads to:

- a weakened capacity for planning (programmes
  and projects, sectoral policies, contingency plans,
  legislation);
- inadequate operational capacities, especially in
terms of field operations (vaccination campaigns,
veterinary care, emergency response capabilities,
active or passive surveillance, etc.);
- malfunctioning (or even disappearance) of
epidemiological surveillance systems;
- difficulties at the level of disease detection and
  confirmation capabilities;
- little and frequently no food safety control capability;
- a weak or totally absent control system for veterinary
  medicinal products;
- a considerable lack of mutual trust between field
  officers and livestock owners.

The major consequence of this set of factors is the
persistence, and even development, of several major
animal diseases, including peste des petits ruminants
(PPR), contagious bovine pleuropneumonia (CBPP),
foot and mouth disease (FMD) and canine rabies.

As with the remainder of the project, the Animal
Health Improvement component, which accounts for
20.4% of the total amount of the project (i.e. USD
51.38 million), will be coordinated at regional level and
implemented at national level.

To take into account the needs identified through the
PVS Pathway, the following two groups of activities are
to be implemented at national level:

a) Upgrading infrastructure and strengthening the
capacity of national Veterinary Services by:

- building and rehabilitating infrastructure in the
  central Veterinary Services and decentralised
Veterinary Services (veterinary units, border
inspection posts, vaccination stations);
- providing various types of equipment to the
  central Veterinary Services and decentralised
Veterinary Services (logistical equipment,
equipment for maintaining the cold chain, veterinary equipment, computer equipment, communication equipment, etc.); developing and implementing contingency plans; supporting veterinarians for setting up in private practice in certain countries (infrastructure and equipment); providing initial and continuing training of Veterinary Service staff (supervisory staff, technical staff, support staff and even auxiliary staff).

b) Support for the surveillance and harmonised control of priority animal diseases (PPR and CBPP) and for control of veterinary medicines by:

- supporting the implementation of vaccination campaigns, focusing on two priority diseases (PPR and CBPP);
- relaunching epidemiological surveillance systems (active and passive surveillance);
- strengthening the capacity of certain laboratories;
- establishing veterinary drug control systems.

Table I provides a breakdown of the budget for PRAPS Component 1, by country and by group of activities.

Lastly, at regional level, coordination of PRAPS Component 1 activities has been delegated to the OIE, through the Regional Animal Health Centre (RAHC) in Bamako. A partnership agreement between CILSS and the OIE was signed on 23 October 2015 to provide the framework for this delegation of responsibility. The partnership agreement, totalling USD 3.14 million (a grant of USD 0.9 million from the IDA [World Bank] and USD 2.24 million in retrocession from the countries concerned), focuses primarily on three groups of actions – coordination of national animal health programmes, provision of targeted methodological support (vaccination campaigns, epidemiological surveillance systems, contingency plans, supply of vaccines) and implementation of a continuing education programme for senior staff of the Veterinary Services in the six countries involved. These three groups of actions help to strengthen the capacities of the RAHC of the Economic Community of West African States (ECOWAS).

B. Regional Disease Surveillance Systems Enhancement (REDISSE) Project

West Africa is a region where emerging and re-emerging diseases at the human/animal interface are occurring with increased frequency. The recent Ebola virus disease epidemic in Guinea, Sierra Leone and Liberia serves as a painful reminder of this.
In this region, these highly contagious and rapidly infective diseases can very easily migrate from one country to another and at any moment may reach pandemic proportions. This situation is due to the structural weakness of health systems which, for the most part, lack the capacity to fulfil one of their basic missions, namely providing effective surveillance to enable early detection and a rapid response in the event of outbreaks of infectious diseases. The recent and unprecedented Ebola virus epidemic revealed the extent of the gaps in the affected countries in terms of their preparedness for a health event of this kind and in particular their capacity for detection and response.

In terms of lost production, the devastating Ebola epidemic cost the affected countries about USD 1.6 billion. The estimated loss in gross domestic product (GDP) for the whole of the ECOWAS region in 2015 was USD 3.6 billion.

In response to the alarming increase in the risk of regional pandemics, the World Bank, through the REDISSE Project, is proposing to strengthen the disease surveillance and control capacities of countries in the ECOWAS area, taking into account the ‘One Health’ approach, in which Public Health Services and Veterinary Services will work together in seeking to involve the populations concerned. The project will initially cover ten countries (divided into two groups: Guinea, Liberia, Nigeria, Senegal and Sierra Leone for the first group, and Benin, Côte d’Ivoire, Ghana, Guinea-Bissau and Togo for the second group). Subsequently, the project will be extended to the other five ECOWAS countries: Burkina Faso, Cabo Verde, Gambia, Mali and Niger.

As a result, the countries will have a health system that is more coherent and more robust. They will be better prepared and consequently better able to detect diseases earlier and to respond swiftly and effectively to infection threats and risks in the region. Such a system is a global public good of the utmost importance for the countries of West Africa, the continent and the world.

In the context of the appraisal of this programme, the OIE, by making available its expertise and deploying its PVS Pathway tools, has already helped the Nigerian, Senegalese and Guinean Veterinary Services to identify and budget their priority actions within this programme. During their missions, OIE experts have also contributed to the various meetings organised by the World Bank with the Ministries of Health and financial and technical partners on the operational planning of REDISSE Project activities. This project is in the process of validation and will be described in greater detail in a future article.

Conclusion

The PVS Pathway has played a key role in informing the ‘animal health’ component of these two regional programmes. Decision-makers at national level and those of the World Bank had access to a range of PVS evaluation documents and, in the case of the PRAPS project, a summary of their findings based on a regional analysis, all of which helped to identify and prioritise the activities to be implemented in the context of these programmes.

In view of the multiplication of livestock development programmes and projects we are currently witnessing, and especially those relating to the improvement of animal health, it appears crucial to make available, or even institutionalise, a mechanism designed to ensure complementarity and synergy between these projects or programmes, with respect to a framework of predefined and politically validated priority actions. In this respect, the OIE recommends that funding agencies place particular reliance on PVS Evaluation reports and available PVS Gap Analysis reports, as well as on regional analyses of these reports, to ensure that the priority activities in the field of animal health systems for the countries concerned are fully covered. It would be strategically very beneficial for this approach using the set of tools developed by the OIE to be in widespread use by the main funding agencies – including multilateral agencies, as well as by the national decision-makers who negotiate with these agencies. As a result, the various programmes on animal health or, more generally, livestock, could be placed within a framework that would ensure the necessary synergies and complementarities and optimal use of available resources.
Regional Seminar for OIE National Focal Points for Veterinary Products

Dakar, Senegal, 21–23 March 2016

A Regional Seminar for OIE National Focal Points for Veterinary Products, organised by the OIE Regional Representation for Africa, was held in Dakar from 21 to 23 March 2016 under the responsibility and with the technical assistance of the OIE Scientific and Technical Department (Dr Elisabeth Erlacher-Vindel and Dr Mária Szabó). It falls within the framework of the missions of the OIE Regional Representation for Africa, and more specifically that of strengthening the capacities of Veterinary Services, which since 2003 have been recognised as a global public good.

This fourth cycle seminar follows on from the second cycle seminars held in Johannesburg (2010), Dakar (2011), Casablanca (2011) and Mombasa (2012) and the third cycle seminars held in Algiers (2013) and Maputo (2013). The fourth cycle began in December 2015 with the seminar in Entebbe for English-speaking countries in Africa.

The National Focal Points for Veterinary Products of 27 French-speaking countries of the OIE Regional Commission for Africa were invited to the seminar; of these, 23 countries were represented: Algeria, Benin, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Comoros, Republic of the Congo, Democratic Republic of the Congo, Côte d’Ivoire, Djibouti, Guinea, Guinea-Bissau, Madagascar, Mali, Mauritania, Morocco, Niger, Sao Tomé and Principe, Senegal, Togo and Tunisia.

The seminar was conducted by staff members of the OIE Scientific and Technical Department, the OIE Regional Representation for Africa and the OIE Sub-Regional Representation for North Africa, as well as Dr Catherine Lambert (OIE Collaborating Centre for Veterinary Medicinal Products), Dr Sanne-Charles Bodjo (OIE Collaborating Centre for the Quality Control of Veterinary Vaccines), Dr Assiongbon Téko-Agbo (LACOMEV¹), Dr Amina Benyahia Chaieb (WHO²), Mr Philippe Vorreux (WCO³), Mr Olivier Espesisse (HealthforAnimals), Prof. Rianatou Bada Alambedji (EISMV⁴) and Prof. Amy Gassama Sow (Pasteur Institute in Dakar).

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¹ LACOMEV: Veterinary Drug Control Laboratory of the Inter-State School of Veterinary Science and Medicine in Dakar
² WHO: World Health Organization
³ WCO: World Customs Organization
⁴ EISMV: Inter-State School of Veterinary Science and Medicine in Dakar
The objectives of the seminar were:
1) to inform participants of the rights, commitments and responsibilities of OIE National Focal Points in the standard-setting process and in compliance with OIE international standards;
2) to provide participants with information on the role and responsibilities of Veterinary Services, of regional or international structures relevant to veterinary products, and on the specific tasks of National Focal Points in this area;
3) to give participants an opportunity to discuss the other topics of the seminar:
– antimicrobial resistance, including the Global Action Plan on Antimicrobial Resistance developed by WHO with the support of the OIE and FAO and other Tripartite activities,
– the OIE database on the use of antimicrobial agents in animals,
– quality of veterinary medicines, including the problem of counterfeit drugs; an overview of the registration/marketing authorisation system in the region and the implementation of VICH guidelines,
– antiparasitic drugs and the challenges ahead.

During the seminar, participants were divided into three working groups to discuss the OIE questionnaire on antimicrobial use in animals sent to OIE Member Countries in October 2015.

This working group session on the collection of quantitative data on the use of antimicrobial agents in animals proved very useful. The response rate among French-speaking African countries after the seminar was 81%, a very encouraging result.

The participants visited the OIE Reference Laboratory for Control of Veterinary Medicinal Products in Sub-Saharan Africa, the Veterinary Drug Control Laboratory (LACOMEV) of the Inter-State School of Veterinary Science and Medicine in Dakar.

5. VICH: International Cooperation on Harmonisation of Technical Requirements for Registration of Veterinary Medicinal Products
6. See article on pp. 82-85
Workshop on the World Animal Health Information System (WAHIS) for National Focal Points for Animal Disease Notification to the OIE
Tunis, Tunisia, 12–14 July 2016

The OIE’s World Animal Health Information and Analysis Department, in collaboration with the OIE’s Sub-Regional Representation for North Africa, organised an advanced regional training workshop on the OIE’s World Animal Health Information System (WAHIS) for the national Focal Points in charge of notifying animal diseases to the OIE. The workshop, run for French-speaking countries in Africa, took place in Tunis, from 12 to 14 July 2016.

The workshop was opened by Tunisia’s Minister for Agriculture, Water Resources and Fisheries, Mr Saâd Seddik, the Chief Veterinary Officer of Tunisia, Dr Malek Zrelli, and the OIE Sub-Regional Representative for North Africa, Dr Rachid Bougedour. The training workshop on using WAHIS and its public interface was run and delivered by a delegation from OIE Headquarters, led by the Head of the World Animal Health Information and Analysis Department, Dr Paula Cáceres. The workshop was attended by 25 participants from 23 countries (Algeria, Benin, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Republic of Congo, Democratic Republic of Congo, Cote d’Ivoire, Djibouti, Gabon, Guinea, Guinea-Bissau, Mali, Mauritania, Morocco, Sao Tome and Principe, Senegal, Togo and Tunisia).

The training programme was designed using a new, more practical approach, with presentations and scenario-based exercises, and group discussions between the Focal Points on critical aspects of animal disease notification to the OIE. Each day began with a presentation of the structure of a report, highlighting the most important points. That was followed by group exercises to encourage discussion of the concepts of notification and practical exercises to consolidate the learning objectives. Each day ended with an exercise to identify the most common errors and inconsistencies encountered in notification reports.

Bilateral meetings were arranged between Focal Points and the staff from the World Animal Health Information and Analysis Department to discuss critical points in the reports from each of the countries represented. The participants from Cameroon and Tunisia gave presentations on their national animal disease notification chains, from the field to the central administration.

The participants liked the new approach, and all of the components of the programme were evaluated qualitatively, with an average score of 4.7.
A Regional Seminar for OIE National Focal Points for Veterinary Laboratories was held from 28 to 30 June 2016 in Buenos Aires, with the financial and logistical support of the Government of Argentina. This was the second seminar to take place in the Americas, since the nomination of National Focal Points for Veterinary Laboratories began as a pilot project in this region, and the very first seminar was held in Mexico in 2012.

The meeting was attended by 56 participants, including National Focal Points from 22 Member Countries, local participants, OIE experts, various speakers and OIE staff. Dr Jorge Dillon, Delegate of Argentina to the OIE, opened the session, and the Delegate of Suriname, Dr Gianna Karg, participated as well as an OIE National Focal Point.

Newly appointed Focal Points had been given the chance to undergo Web-based training before the seminar, consisting of a basic introduction to the OIE’s objectives and missions, as well as their own terms of reference as their country’s National Focal Point for Veterinary Laboratories.

At the seminar, participants were given the opportunity to discuss the role of laboratories in Veterinary Services; specifically, their part in outbreak investigation, risk analysis, disease surveillance and international trade, review of case studies, and identifying the role of their national laboratory network, as well as current limitations and opportunities for improvement. This discussion was followed by a debate on future opportunities and activities for increasing networking in the region.

Regional Seminar for OIE National Focal Points for Veterinary Laboratories

Buenos Aires, Argentina, 28–30 June 2016

As the terms of reference for these Focal Points include their participation in the OIE standard-setting process with their National Delegates, a session was devoted to the OIE Manuals of Diagnostic Tests and the adoption of standards. The Focal Points took part in a working-group session, focusing on the preparation of comments for their OIE Delegates on draft OIE standards.

National Focal Points for Veterinary Laboratories are also expected to provide updated information in the form of an Annual Report, through the World Animal Health Information System (WAHIS), in collaboration with their National Focal Point for Animal Disease Notification. Participants reviewed the information that must be included, sharing information on their activities and capabilities with other OIE Members in order to request support or assist other Members with their expertise.

OIE capacity-building activities were also presented, including the OIE PVS Laboratory Missions, as well as the OIE Laboratory Twinning Programme. A PVS Laboratory Expert, who has participated in several PVS Laboratory Missions, shared her experiences, as did the designated expert of an OIE Reference Laboratory which gained its OIE Reference status after taking part in the Twinning Programme.

Participants were also able to visit the Central Laboratory of the National Agrifood Health and Quality Service (SENASA), which holds the position as OIE Reference Laboratory for several diseases. The visit was hosted by.

1. See details on pp. 62-63
Dr Carlos Zenobi, General Director for Laboratories and Technical Control, as well as by the laboratory’s expert team, who explained the different departments and their duties, followed by a tour of various parts of the laboratory.

In conclusion, those who attended the seminar seemed to feel that it had been a valuable experience. Their comments on any strengths and weaknesses will be taken into account when planning the second cycle of seminars.

Training in wildlife disease surveillance in Argentina
Replication at national level of regional workshops for OIE Focal Points

Andrea Marcos

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The OIE held workshops for OIE National Focal Points for Wildlife in the Americas region in Panama in 2009 and in Argentina in 2011. The 2009 workshop focused on the importance of wildlife pathogens, notification and evaluation of the presence/absence of wildlife diseases. The 2011 workshop focused on the development of systems for epidemiological surveillance, both general and targeted at wildlife diseases.

Two of the tasks listed in the terms of reference for OIE National Focal Points for Wildlife are to establish a network of wildlife experts within their country and to establish and maintain a dialogue with their country’s competent authority for wildlife. At the 2009 and 2011 workshops, it was therefore proposed to replicate the OIE regional workshop subjects at national level. To accomplish this and facilitate and improve cooperation and communication among the various authorities involved in wildlife health and conservation in Argentina, in 2013 special courses were scheduled for implementation in 2013 and 2014.

In Argentina, the authority responsible for animal health is the National Health and Agrifood Quality Service (SENASA). The authority responsible for the conservation of wildlife species nationwide is the Wildlife and Biodiversity Conservation Directorate, while the authorities responsible in each province are the provincial wildlife directorates. There is also a National Parks Administration whose role is to conserve and manage national parks, natural monuments and national reserves.

Curriculum design and subsequent teaching were coordinated by Dr Andrea Marcos, OIE National Focal Point for Wildlife in Argentina, with the participation of Dr Marcela Uhart from the University of California, Davis, who had taught the previous OIE workshops. The content of the workshops consisted of an introduction first to the ‘One Health’ concept, then to the concepts of general and targeted surveillance, including the definition, components and objectives of each concept. This involved replicating a practice exercise set at the OIE Focal Points’ workshops, where participants were required to analyse animal health information from a fictitious country and use it to establish...
a general surveillance programme and a surveillance programme targeted at a specific disease (in this case, rabies). The workshops closed with a brief introduction to animal health interventions involving wildlife. As the workshop content was based on the material provided at the OIE Focal Points' workshops, prior authorisation was requested from the OIE Regional Representation for the Americas and the Canadian Cooperative Wildlife Health Centre (CCWHC).

Five workshops were scheduled in different regions of Argentina, which addressed region specific issues and characteristics. Recognising the value of personal contact among participants, the courses were designed as two-day face-to-face workshops. The first workshop was held in Comodoro Rivadavia (Chubut province) for the benefit of professionals from SENASA and from provincial wildlife directorates and National Parks directorates in the Patagonia region (four provinces). Despite the enthusiasm and interest expressed by the wildlife and national parks agencies, in the end the workshop was attended by 22 participants, all from SENASA.

Based on this experience and to publicise the workshop more widely and attract staff from other wildlife-

The course objectives were to:

- Ascertain some of the pathogens associated with wildlife, both present and absent from Argentina, highlighting the potential impact of these diseases on the health of domestic populations, human health, biodiversity and the disease status of wildlife populations.
- Learn the basics about epidemiological surveillance in wildlife species (validity of diagnostic tests, types of sampling, types of surveillance).
- Assess the benefits of general surveillance systems in the early detection of new pathogens, unusual epidemiological events and emerging infectious diseases.
- Ascertain the minimum information to be recorded in a programme for the general surveillance of wildlife diseases.
- Identify the characteristics of targeted surveillance to detect changes in patterns of known diseases.
- Ascertain which health interventions can be used for wild or domestic animals to reduce the risk of a disease spreading or to bring it under control.
- Strengthen networking with wildlife experts and wildlife focal points in the Veterinary Services.
related institutions in order to promote inter-agency and interdisciplinary collaboration and exchanges, the face-to-face course was switched to an online one, with the same curriculum content.

The first online course was held from 3 August 2015 to 6 September 2015 using the SENASA virtual platform for external courses. The online course was attended by 27 officials from SENASA and 27 officials from other institutions, including the Ministry of Health, National Parks Administration, provincial wildlife directorates, National Wildlife Directorate, zoo personnel and non-governmental organisations. Participants came from a total of 18 of Argentina’s 23 provinces and were divided into two groups according to geographical region, making sure that each group contained officials from different institutions to encourage exchanges. The course consisted of four one-week modules and, in each module, student learning was assessed on the basis of exchanges and discussions in participatory forums and answers to the practice exercises.

The success of this first online course led to a second course being conducted from 21 June 2016 to

A number of conclusions were drawn from these face-to-face and online experiences.

– The first was that it is essential to continue training veterinarians from the national animal health system on wildlife health issues, as it is a subject to which they have little exposure.

– It is also imperative to extend such training to other professionals and technicians working with wildlife, many of whom are unaware of the implications of wildlife diseases for production, public health and conservation.

– This type of training, where participants come from a variety of organisations and disciplines, also leads to an exchange of opinions and points of view and contributes to the development of collaborative inter-agency and interdisciplinary networks, which are so vital to disease surveillance in wildlife populations.

18 July 2016. In this case, the enrolment quota was extended to include Dr Felix Capellino from the SENASA Directorate for Epidemiology and Risk Analysis as tutor, leading to the participation of 36 officials from SENASA and 34 officials from other institutions. This course was also attended by university professors, researchers and ecological reserve personnel. Although online courses do not allow as much contact among participants as face-to-face courses, they can be publicised more widely, reaching more people and institutions. As a way of offsetting this lack of interaction, tutors maintained constant contact with students to encourage participation in course forums and reinforced their theoretical knowledge by fostering critical thinking through problem-solving.

Participants’ comments upon completion of the course have all been positive and, thanks to their recommendations to colleagues, demand already exists for a further online course in 2017.

The links generated by these workshops have led to a number of joint activities between the official Veterinary Service and other participating institutions. Examples include the organisation of activities to monitor birds of prey with Mendoza Zoo and wild boar with staff from the Quebrada del Condorito National Park (Cordoba Province), as well as possible collaboration with provincial directorates for wildlife and reserves to start working on health monitoring of captive wild populations. All these activities focus on the detection of a number of diseases that could affect the species under study, increasing the sensitivity of the passive surveillance system. This initiative has sparked interest in the subject, encouraging information-sharing among agencies and generating requests for further, more targeted, training on such matters as the proper collection and submission of samples from wild species.

This experience confirms that training workshops for OIE National Focal Points not only provide an excellent means for promoting the Organisation’s objectives, they also convey key concepts that can be replicated successfully in member countries, with a positive impact on the activities of Veterinary Services at country level. Use of an online training platform makes it easy to reach a wider audience at relatively low cost.

We wish to thank the OIE and CCWHC for allowing us to replicate these courses in Argentina and gratefully acknowledge the generosity of Dr Ted Leighton.

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Regional Seminar for OIE National Focal Points for Veterinary Laboratories

Jeju, Republic of Korea, 5–7 April 2016

Forty-one participants attended the Regional Seminar for OIE National Focal Points for Veterinary Laboratories (first cycle – Asia and the Pacific) in Jeju, the Republic of Korea, from 5 to 7 April 2016. They included 25 representatives from 24 countries (21 Focal Points, three proxies and one observer), five speakers (including experts from AAHL1, the OIE Biological Standards Commission, the OIE Ad hoc Group on Biosafety, FAO and WHO), two officials from the host country, four interns and five OIE staff. This was the first time that a seminar for OIE National Focal Points for Veterinary Laboratories had been held in Asia.

The seminar provided:

a) knowledge of the rights, commitments and responsibilities of the OIE National Focal Points for Veterinary Laboratories in the standard-setting process and compliance with OIE International Standards

b) information on the role and responsibilities of Veterinary Services or other relevant competent authorities in the national veterinary laboratory network, and

c) the opportunity to share and discuss experiences with other countries of the region.

The first day of the seminar focused on the work of the OIE in relation to veterinary laboratories, including an overview of the OIE, the OIE international standards and standard-setting process, and the WAHIS Interface. Laboratory networking and terms of reference for National Focal Points, as well as related mapping, were other topics highlighted during Day One.

Day Two focused in more detail on the OIE Manuals of Diagnostic Tests and the relevant OIE standards that apply to laboratories (e.g. biosafety and biosecurity, transporting specimens, validation of diagnostic tests and quality management systems). OIE Reference Centres and the Network of Expertise were also introduced.

Day Three focused on laboratory capacity-building activities, such as the OIE PVS Pathway and the PVS Laboratory Tool, the OIE Laboratory Twinning Programme, regional laboratory networking and networking with OIE reference centres.

Three group-work sessions and one interactive session were held to explore:

− implementing a national laboratory network,
− mapping laboratory network capacity and defining needs,
− preparing comments on OIE draft standards for the OIE Delegate, and
− countries’ experiences of implementing the OIE standards.

This seminar was a chance to get to know the role and duties of the OIE Focal Point for Veterinary Laboratories as well as the OIE’s role, mandate and activities. Participants were able to discuss all issues related to veterinary laboratories, including the standard-setting process and their existing capacity and needs, with other OIE Member Countries. It was also a chance for the OIE to gather feedback on Member Countries’ needs for potential future OIE projects. Participants warmly thanked their host country, Korea, and the OIE for organising the meeting.

1. AAHL: Australian Animal Health Laboratory
epidemiology & animal disease control programmes

The Philippines’ success story on FMD control

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Keywords
Disease-free status – foot and mouth disease (FMD) control – the Philippines.

Introduction
In May 2015, the Philippines, an archipelago with three main island groupings, was recognised by the OIE World Assembly as a country free from foot and mouth disease (FMD) where vaccination is not practised.

Prior to receiving recognition as an FMD-free country, the Philippines had progressively applied for, and been granted, official recognition of FMD free zones, starting with the zone of Mindanao in 2001, the zone of Visayas, Palawan and Masbate in 2002, North and South Luzon in 2010, and Central Luzon in 2011. Since May 2011, the five separate FMD-free zones have covered the entire territory.

Progressing towards zonal freedom from FMD
In 1993, FMD was reported in three provinces on the island of Luzon and, by 1994, had spread throughout the entire island. This major FMD epizootic prompted the government of the Philippines to prioritise the FMD control and eradication programme. A Presidential Executive Order declared Luzon Island under a state of calamity due to FMD and designated the Bureau of Animal Industry (BAI) to oversee the control efforts and fund allocation.

The National FMD Task Force was established by the BAI of the Philippine Department of Agriculture, to implement and oversee the FMD control and eradication programme and coordinate the actions of stakeholders from the different offices, departments and levels. The National FMD Task Force is a network of regional field offices under the Department of Agriculture, local government unit veterinarians, other government agencies (such as the police and education) and the private sector. The task force model brought these agencies together to work towards a common goal. Coordination was also ensured with the FMD project funded by the Food and Agriculture Organization of the United Nations (FAO) and Australian Agency for International Development.
The outbreaks in 1994, the order of importance of the technical components was: vaccination, surveillance, awareness and animal movement management. The progression to FMD freedom in the Philippines resulted in the local declaration of FMD freedom (with or without vaccination) by the Secretary of Agriculture. This became a tool and leverage for provincial veterinarians to lobby their local chief executives to ratify local ordinances and policies to protect their respective areas from FMD. Trade in susceptible animals from infected areas to FMD-free areas is strictly prohibited. Stringent measures on trade between FMD endemic areas must be followed, such as twice-yearly vaccination.

Initially, the areas of Mindanao, Visayas, province of Palawan and Masbate (which have traditionally been FMD-free) were declared locally as FMD-free zones without vaccination. As such, restrictive policies were implemented to restrict the movement of susceptible animals, products and by-products. Shipment of live susceptible animals from FMD endemic areas (Luzon) was prohibited during that time and only accredited companies for meat and meat products were allowed to ship them. These local declarations paved the way for the international application of freedom for Mindanao in 2001 and for Visayas, Palawan and Masbate in 2002 (Fig. 1).

The island of Luzon, which was then FMD-endemic, gained freedom through the progressive zoning approach (AusAID), as well as with other initiatives by partners such as OIE, FAO and AusAID. The Head of the National FMD Task Force was accountable directly to the BAI Director. The Head oversaw the day-to-day operation of the programme, as the driving force behind FMD control and prevention.

The initiative to control FMD in the Philippines was anchored in an approach of compartmentalising or zoning different regions in the country based on their FMD status. Such an approach was greatly facilitated by the fact that the Philippines is an archipelagic state composed mostly of island provinces and bounded by mountain ranges, so providing a natural barrier to the spread of the disease from one island to another. The basic idea of compartmentalisation was to arrest the FMD situation of a given area and protect the gains in this area by upgrading its status from infected to protected, and eventually to free zone, while building up measures to prevent re-infection.

**Fig. 1**

*Philippines: OIE official recognition of zones free from foot and mouth disease*

A national strategy was developed and anchored in the following four technical components:
- surveillance
- public awareness
- animal movement management
- vaccination.

The order of importance of the technical components depended on the zone's stage of eradication. At the peak of the outbreaks in 1994, the order of importance of the technical components was: vaccination, surveillance, awareness and animal movement management. The progression to FMD freedom in the Philippines resulted in the local declaration of FMD freedom (with or without vaccination) by the Secretary of Agriculture. This became a tool and leverage for provincial veterinarians to lobby their local chief executives to ratify local ordinances and policies to protect their respective areas from FMD. Trade in susceptible animals from infected areas to FMD-free areas is strictly prohibited. Stringent measures on trade between FMD endemic areas must be followed, such as twice-yearly vaccination.

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The island of Luzon, which was then FMD-endemic, gained freedom through the progressive zoning approach...
and international recognition of Luzon Zones 1 and 3 in May 2010. Regions and provinces implemented local ordinances to protect their gains and prevent the entry of disease into their areas.

**Cessation of vaccination in the Philippines**

In line with the progressive zoning approach, vaccination was withdrawn in phases:

- With the declaration of FMD freedom in Mindanao in 2001 and Visayas, Masbate and Palawan in 2002, vaccination in the southern part of the Philippines ceased back in 2000.
- In Zone 1 (North Luzon) (last outbreak: April 2005), there has been no vaccination in most parts since 2003, with the remaining provinces ceasing vaccination altogether in 2006.
- In Zone 3 (South Luzon) (last outbreak: April 2003), the last vaccination was in 2004.
- In Zone 2 (Central Luzon) (last outbreak: December 2005), vaccination activities were tapered off as from 2007, with less than 10% of the total population vaccinated.

In line with BAI Memorandum No. 4 issued on July 2008, vaccination of ruminants was officially halted because no type A field strains had been isolated since 1975 and no type C field strains had been isolated since 1995. With limited vaccination coverage (less than 1%) of the total susceptible swine population, on 30 June 2009, the government issued Administrative Order No. 12 Series of 2009 ordering total withdrawal of vaccination in swine.

As the country neared eradication, with different zones receiving official OIE recognition of FMD freedom without vaccination, surveillance became the priority, followed by awareness, animal movement management and vaccination. When the Philippines was recognised as an FMD-free country without vaccination, the critical components shifted to awareness and surveillance.

**Maintaining nationwide freedom from FMD**

Efforts to strengthen emergency preparedness and response are the main focus of the government today. The programme has now been renamed National FMD Prevention and Preparedness Program aimed at sustaining FMD freedom. Bi-annual serological surveillance in all provinces is mandatory, with samples submitted to the BAI National FMD Laboratory for non-structural protein enzyme-linked immunosorbent assay (NSP-ELISA). For clinical surveillance, there had been negative monitoring (record of no disease) for FMD in the barangays (villages) all over the country. The monitoring reports are submitted monthly to the BAI-Philippine Animal Health Information System Center.

Biosecurity measures are continuously implemented and include: disinfection at veterinary quarantine checkpoints of livestock transportation (any motorised vehicle engaged in handling and transporting livestock,
poultry, egg, milk, hides, skin, game fowls, manure or dung); installation of footbaths and wheel baths at major ports; and regular cleaning and disinfection and an all-in, all-out policy at slaughterhouses.

Animal movement management remains a major component of FMD prevention in the Philippines. Local movement of FMD-susceptible animals is subject to licensing of livestock traders and their transport vehicles, farm accreditation, and securing a veterinary health certificate, authority to ship, and a shipping permit. For meat and meat products, a certificate from the National Meat Inspection Services is required prior to issuance of a shipping permit.

The Philippines does not allow importation of live FMD-susceptible animals from countries not included in the OIE’s list of FMD-free Member Countries. Other import regulations include inspection of quarantine sites, border control measures at ports of entry, 30-day quarantine of imported animals, and inspection and laboratory analysis of imported meat and meat products.

Although FMD vaccination ceased in the Philippines in 2009, a buffer stock of 100,000 vaccine doses is maintained to respond to an emergency.

As new and young FMD coordinators have never actually encountered FMD, FMD coordinators have been issued with a FMD Coordinators’ Card. The card contains guidelines in case of an FMD suspicion or outbreak and contains the names and contact numbers of the regional and provincial FMD coordinators for each region.

To enhance the responsiveness of the country’s frontline staff to disease emergencies, capacity-building exercises are conducted for government veterinarians each year. In 2015, a series of FMD table top simulation exercises was staged. In 2016, a series of FMD risk and crisis communication workshops was also held.

An FMD coordinators meeting is conducted annually to review the FMD prevention activities carried out by the FMD coordinators in their respective areas and to discuss pressing issues and concerns. At the 2015 meeting, a poster-making contest was launched under the theme ‘Maintenance of FMD Freedom’, with the aim of using the winning pieces to develop new information, education and communication materials.

The FMD Preparedness Programme has been included in the BAI five-year strategic plan (2016–2020) and is in the pipeline for approval and funding for the period 2017–2020. Its goal is to maintain FMD-free country status and its components include disease surveillance, animal movement management, an education and public awareness campaign, vaccination, capacity-building, and strengthening of linkages with government counterparts. The above-mentioned activities are implemented to maintain stakeholder awareness of FMD.

Conclusion

The eradication of FMD from the Philippines convinced Veterinary Services officials that disease eradication is possible provided that a structural implementation mechanism is in place and stakeholder participation is promoted. It also led to the development of skill sets in negotiation and compliance and in monitoring compliance with the procedures in place. Other measures, such as farm accreditation, were institutionalised and such accreditation is now a gauge of good production practice.

Experience gained in the process of FMD eradication enabled the National FMD Task Force to lay the foundations for proper implementation of disease control efforts, with the result that the task force model has been applied to other disease control programmes in the country.

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Official recognition of foot and mouth disease status:
activities of Reference Laboratories & Collaborating Centres

Newly designated OIE Reference Centres and their areas of expertise

**OIE Collaborating Centres**

**Collaborating Centre for Day-One Veterinary Competencies and Continuing Education**

Center for Food Security and Public Health (CFSPH)
2160 College of Veterinary Medicine
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Tel. +1-515 294.71.89 / 84.59
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Website: www.cfsph.iastate.edu

The Center for Food Security and Public Health (CFSPH) has been developing educational materials for veterinary students and veterinarians since 2001. A major focus is the development and delivery of online courses including ‘Emerging and Exotic Diseases of Animals’ (available in English and Spanish), ‘Zoonoses: Protecting People and Their Pets’, and the United States Department of Agriculture supplemental training for the National Veterinary Accreditation Program (NVAP). The CFSPH is working with OIE to develop and deliver online training for OIE focal points. In the future, the CFSPH plans to work with partners to develop and deliver online resources for veterinary educational institutions to enhance student training in relation to the OIE recommendations on the competencies of graduating veterinarians (‘Day-1 graduates’).

**Collaborating Centre for Infectious Reproductive Diseases in Europe**

Laboratoire national de contrôle des reproducteurs (LNCR)
13 rue Jouet, 94704 Maisons-Alfort cedex, France
Tel. +33-(0)1 43.53.51.00 / 51.16
E-mail: edith.authie@lncr.org
Website: www.lncr.org

The LNCR has long-standing expertise on the laboratory diagnosis of reproductive diseases and the assessment of semen quality and safety in livestock species. The laboratory performs regulatory as well as non-regulatory tests that are related to diseases of breeding stock, especially in the context of the trade in germplasm or live animals. It will contribute to the harmonising of diagnostic methods and protocols and can also provide support and training on the assessment and management of infectious disease risks associated with reproduction and breeding animals.
Bovine spongiform encephalopathy and scrapie

Centro di referenza per le encefalopatie animali (CEA)
Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d’Aosta
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Tel. +39 011 2686296
E-mail: cea@izsto.it
Designated reference expert: Dr Cristina Casalone

The Centre of Reference for Animal Encephalopathies (CEA) pursues all scientific and technical issues related to animal transmissible spongiform encephalopathies, in particular typical and atypical bovine spongiform encephalopathy (BSE) and scrapie. It is requested to provide high quality disease diagnostic services, quality assessment, expertise, consultancy and training in the diagnostic and epidemiological fields, and to confirm results obtained by official diagnostic laboratories.

Moreover, the Reference Laboratory provides scientific and technical training to personnel from Member Countries, and participates in collaborative scientific and technical studies with other laboratories and organisations.

Collaborating Centre for Veterinary Services Capacity Building (Asia, the Far East and Oceania)

This OIE Collaborating Centre comprises the Veterinary Public Health Centre for Asia Pacific (VPHCAP) and the Department of Livestock Development (DLD), Thailand. Its aim is to be a centre for developing and increasing the capacity of veterinarians at the national and international levels, to the benefit of the Veterinary Services in countries in the region.

OIE Reference Laboratories

Bovine spongiform encephalopathy and scrapie

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Department of Livestock Development
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Tel. +66-2 653-44.44 ext 4273
E-mail: inter_trade@dld.go.th
Website: www.dld.go.th
Brucellosis (*Brucella abortus, B. melitensis*)

National Institute of Animal Health (NIAH)
Department of Livestock Development (DLD)
50/2 Phahonyothin Road, Kasetklang-Bangkhen, Ladyao, Jatuchak
Bangkok 10900, Thailand
Tel. +66 (0)2 579 8908 to 14. Website: www.niah.dld.go.th
E-mail: monayae@dld.go.th, monayae@gmail.com
Designated reference expert: Dr Monaya Ekgatat

The National Institute of Animal Health, Department of Livestock Development (NIAH-DLD) is a national service centre for the diagnosis and control of brucellosis (*Brucella abortus* and *B. melitensis*). The laboratory engages in all scientific and technical problems relating to brucellosis. The NIAH laboratory provides scientific and technical training, assistance and advice to OIE Member Countries on topics related to brucellosis. The laboratory’s activities also include scientific coordination and technical studies with other collaborative laboratories and organisations through the OIE mechanism. Additionally, NIAH-DLD promotes and strengthens the brucellosis laboratory network in the Asia-Pacific region by performing inter-laboratory proficiency tests.

Avian chlamydiosis and Enzootic abortion of ewes (ovine chlamydiosis)

Agence nationale de sécurité sanitaire de l’alimentation, de l’environnement et du travail (ANSES)
Laboratoire de santé animale de Maisons-Alfort
14 rue Pierre et Marie Curie, 94701 Maisons-Alfort Cedex, France
Tel. +33 (0)1 49 77 13 00
E-mail: karine.laroucau@anses.fr
Designated reference expert: Dr Karine Laroucau

The Animal Health Laboratory at Maisons-Alfort specialises in chlamydiosis (diagnosis, surveillance, research). Multiple tools are applied to disease diagnosis or surveillance, including serological methods, culture (egg and cell culture) and different molecular methods. It provides technical and scientific support for the diagnosis of the disease at national and international levels. The laboratory’s activities are subjected to quality assurance and it is accredited under ISO/IEC 17025 by the French Committee for Accreditation, Cofrac.

Foot and mouth disease

Laboratory for diagnosis of foot and mouth disease
Division of FMD, Animal and Plant Quarantine Agency (QIA)
Ministry of Agriculture, Food and Rural Affairs (MAFRA)
177, Hyeoksin 8-ro, Gimcheon-si
Gyeongsangbuk-do, 39660
Republic of Korea
Tel. +82 54 912 0906
E-mail: parkjhvet@korea.kr
Designated reference expert: Dr Jong-Hyeon Park

The laboratory for the diagnosis of foot and mouth disease (FMD) also serves as the Korean national reference laboratory for FMD and conducts confirmatory diagnoses of emergency suspected cases. It specialises in diagnosis, surveillance and personnel training. In addition, it also provides technical and scientific support for the control of FMD at national and international levels, and performs research projects aimed at improving diagnostic assays, developing monitoring tools, characterising isolated viruses and evaluating surveillance programmes. It has an authorised biosecurity level 3 facility and is accredited under ISO/IEC 17025 by the Korean Laboratory Accreditation Scheme (KOLAS).
Infection with *Hepatobacter penaei* (necrotising hepatopancreatitis)

Aquaculture Pathology Laboratory  
School of Animal and Comparative Biomedical Sciences  
University of Arizona,  
Tucson, AZ 85721  
United States of America  
Tel. +1-520 621 44.38  
E-mail: fengjyu@email.arizona.edu;  
fengjyu@u.arizona.edu  
Designated reference expert:  
Dr Kathy Tang-Nelson

This OIE Reference Laboratory specialises in research and in diagnosis of diseases of cultured penaeid shrimp and other crustaceans, focusing on the development of molecular diagnostic protocols and pathogen characterisation, as well as aspects of treatment and prevention.

The laboratory provides consultation services and training in the diagnosis of shrimp pathogens using the polymerase chain reaction method and histology, and in the biosecurity of production facilities. Dr Tang-Nelson collaborates with international researchers and with OIE Twinning Programme partners in developing, implementing and evaluating diagnostic methods for pathogens that affect aquaculture species.

Highly pathogenic avian influenza and low pathogenic avian influenza (poultry) and Newcastle disease

Laboratório Nacional Agropecuário em Campinas (LANAGRO-SP)  
Unidade de Sanidade Aviária  
Rua Raul Ferrari, s/n°, Jardim Santa Marcelina,  
CEP 13100-105, Campinas SP, Brazil  
Tel. +55-19 32.52.31.74  
E-mail: dilmara.reischak@agricultura.gov.br  
Designated reference expert:  
Dr Dilmara Reischak

Brazil’s National Agricultural Laboratory in Campinas (LANAGRO-SP) belongs to the network of official agricultural laboratories of the Ministry of Agriculture, Livestock and Food Supply (MAPA) and also serves as Brazil’s national reference laboratory for avian influenza and Newcastle disease. As an official laboratory, LANAGRO-SP is responsible for the laboratory diagnosis of avian influenza, Newcastle disease and other diseases notifiable to MAPA. LANAGRO-SP provides technical and scientific support for all MAPA Animal Health Department activities, in addition to developing the skills of official and private veterinarians and training laboratory technicians from South American countries in laboratory diagnosis as part of its contribution to the South American network of diagnostic laboratories for avian influenza and Newcastle disease (RESUDIA).

Additional information on OIE reference centres:  
www.oie.int/en/our-scientific-expertise/overview/
Porcine reproductive and respiratory syndrome

Veterinary Diagnostic Laboratory (VDL)
China Animal Disease Control Center (CADC),
#17, Tiangui Street
Biomedical Base, Daxing District
Beijing 102618
People's Rep. of China
Tel. 86-10-59198896
E-mail: tiankg@263.net
Designated reference expert:
Dr Kegong Tian

The Veterinary Diagnostic Laboratory of the China Animal Disease Control Center (VDL-CADC) takes responsibility for diagnosing cases of porcine reproductive and respiratory disease virus (PRRSV) using techniques such as virus isolation, real-time reverse-transcription polymerase chain reaction, enzyme-linked immunosorbent assay, immunofluorescent assay and immunohistochemical assay. The Veterinary Diagnostic Laboratory also performs epidemiological surveillance and molecular epidemiological investigation of PRRSV. The laboratory provides diagnostic reagents, technical support and training opportunities at national and international levels.

Research conducted at VDL-CADC covers ecology, pathogenic mechanisms, molecular epidemiology, diagnostic techniques and vaccines, all for PRRSV.

Q fever

National Veterinary Research Institute
Zakład Chorób Bydła i Owiec
(Département des maladies bovines et ovines)
Aleja Partyzantów 57
24-100 Pulawy
Poland
Tel. +48 81 889 32 64
E-mail: kniem@piwet.pulawy.pl
Designated reference expert:
Dr Krzysztof Niemczuk

This laboratory specialises in diagnosis, surveillance and research related to Q fever (Coxiella burnetii infection). Different techniques such as serological tests (enzyme-linked immunosorbent assay and the complement fixation test), culture and molecular methods (polymerase chain reaction, genotyping) are applied to Q fever diagnosis. The laboratory is subjected to quality assurance and is accredited under ISO/IEC 17025 by the Polish standards association. The laboratory offers support in controlling Q fever at the national and international levels as well as organising inter-laboratory proficiency testing.

Full list of OIE Collaborating Centres:
www.oie.int/collaboratingcentre

Full list of OIE Reference Laboratories:
www.oie.int/referencelab
At the First International Conference of OIE Reference Laboratories and Collaborating Centres, held in Florianopolis, Brazil, in 2006, the Brazilian Ministry of Agriculture, Livestock and Food Supply (MAPA) proposed the candidature of the National Agricultural Laboratory in Campinas (LANAGRO-SP) to become an OIE Reference Laboratory for Avian Influenza and Newcastle Disease.

While the OIE acknowledged the technical and scientific expertise of LANAGRO-SP staff, it recommended that the laboratory become part of the OIE T winning Programme, to increase its participation in international activities and improve its reagent production, virus characterisation and molecular typing processes, in addition to ensuring the laboratory’s biosafety level.

LANAGRO-SP, Brazil, designated as an OIE Reference Laboratory after capacity-building through the OIE Laboratory Twinning Programme

In 2007, during a training course at LANAGRO-SP on basic laboratory diagnosis of highly pathogenic avian influenza, held by FAO and USDA-APHIS, LANAGRO-SP and the USDA-APHIS National Veterinary Services Laboratories (NVSL), began to discuss a twinning collaboration, with USDA-APHIS-NVSL as the parent laboratory. The project was prepared and submitted to the OIE in April 2008 and the contract was signed in October the same year. The main objective of twinning LANAGRO-SP with the USDA-APHIS-NVSL Reference Laboratory was to improve and carry out methods for the conventional and molecular diagnosis of avian influenza and Newcastle disease and for the production of reagents.

This led to an ongoing exchange of technical information between USDA-APHIS-NVSL and LANAGRO-SP over three years. In addition, the Reference Laboratory provided the LANAGRO-SP team with reference materials and training.

LANAGRO-SP’s achievements as a result of twinning with USDA-APHIS-NVSL were numerous. They included:
- implementing new methodologies, such as neuraminidase inhibition (NI) assay for virus subtyping;
- the establishment of genetic sequencing for H5 and H7 subtypes;
- the production of reference antigens and antiserum for haemagglutination inhibition (HI) and agar gel immunodiffusion (AGID) assays;
- testing the team’s technical expertise and boosting its self-confidence to perform routine diagnostic tests.

1. LANAGRO-SP: Laboratório Nacional Agropecuário (Campinas, state of São Paulo, Brazil)
2. FAO: Food and Agriculture Organization of the United Nations
3. USDA: United States Department of Agriculture; APHIS: Animal and Plant Health Inspection Service
The twinning project also resulted in cultural exchanges among the participants and helped to update their scientific knowledge. Despite the project's successes, a number of difficulties were encountered along the way, including problems at Customs, the language barrier, a budget shortfall, tight deadlines for meeting goals and the need to purchase equipment and reagents.

In spite of these challenges, the participation of LANAGRO-SP in the OIE Twinning Programme established a relationship of trust between these two laboratories which has continued to this day. Moreover, it was instrumental to LANAGRO-SP securing accreditation as an OIE Reference Laboratory for Avian Influenza and Newcastle Disease in May 2016 at the 84th General Session of the World Assembly of OIE Delegates.

The key to success included the definition of a strategic plan well in advance; establishing priorities; excellent support from the Department of Animal Health, MAPA; the confidence and commitment of the technical staff; an awareness of LANAGRO-SP's role in the Brazilian and South American context; and the humility, perseverance and endurance to deal with any obstacles.

The main benefits of the project included:
- technical improvements,
- the recognition of LANAGRO-SP at the national and international level, and
- improvements in all quality management system procedures.

More information on laboratory twinning:
www.oie.int/en/support-to-oie-members/laboratory-twinning/

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news from Member Countries

Self-declarations

Other than for African horse sickness, bovine spongiform encephalopathy, classical swine fever, contagious bovine pleuropneumonia, foot and mouth disease and peste des petits ruminants, for which the OIE currently has a procedure of official recognition of status, the self-declaration of freedom of a country or a territory from a given OIE-listed disease is under the responsibility of the Member concerned. The OIE is not responsible for inaccuracies in the publication of self-declarations concerning the status of a country or zone with regard to a disease.

Self-declaration by the Republic of Korea of freedom from highly pathogenic avian influenza

Self-declaration submitted to the OIE on 18 August 2016 by Dr Oh Soon-Min, Delegate of the Republic of Korea to the OIE and Director of the General Animal Health Division, Ministry of Agriculture, Food and Rural Affairs (MAFRA), Sejong-Si

There were four epizootiological events of H5N1 highly pathogenic avian influenza (HPAI) and three events of H5N8 HPAI between 2003 and 2016 in the Republic of Korea. The Korean government successfully implemented control and eradication measures during these seven events and declared the Republic of Korea to be free from HPAI, in accordance with the Terrestrial Animal Health Code.

HPAI outbreak status

H5N8 HPAI broke out from 16 January 2014 to 15 November 2015. Korea eliminated the outbreak and regained freedom from HPAI as of 28 February 2016. However, another outbreak of H5N8 HPAI occurred on 23 March 2016 at a breeder-duck farm located in Icheon, Gyeonggi Province. Since then, there have been no further outbreaks of HPAI in Korea except for an outbreak that occurred at a garden restaurant1 (small farm), located in Gwangju, Gyeonggi Province, on 5 April 2016.

It turned out that the H5N8 HPAI viruses found on 23 March 2016 and 5 April 2016 were genetically identical to the HPAI virus that had broken out in May 2015.

The following is how HPAI H5N8 was detected.

Surveillance is conducted in the Republic of Korea at all times. After Korea submitted a self-declaration of freedom from HPAI on 28 February 2016, HPAI virus was detected at a duck farm located in Icheon, Gyeonggi Province, on 23 March under the surveillance system. A further outbreak of HPAI was detected on 5 April 2016 at a garden restaurant when the authority was inspecting 4,660 small duck or wild goose farms across the nation from 5 April 2016. Since 5 April, no outbreak and no case of HPAI has been detected.

As Korea stated in its self-declaration of freedom from HPAI, released on 28 February 2016, when 38 cases of H5N8 HPAI (based on suspected cases reported) were detected at poultry farms from 16 January 2014 to 15 November 2015, the authorities identified

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1. Garden restaurant: a restaurant that keeps and raises backyard poultry on the premises to serve cooked poultry meat after on-site slaughter. It is generally located in the countryside or in a remote area. Since it has a front or back garden as a rule, this type of restaurant is called a ‘garden restaurant’ in Korea.
Table I
HPAI (H5N8) outbreak status in 2016 (unit: place)

<table>
<thead>
<tr>
<th>No.</th>
<th>Date (sampling)</th>
<th>Area</th>
<th>Place</th>
<th>Type</th>
<th>Livestock</th>
<th>Type</th>
<th>No. of</th>
<th>Livestock</th>
<th>Confirmation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>23 March</td>
<td>Icheon, Gyeonggi</td>
<td>Farm</td>
<td>Breeding duck</td>
<td>11,604</td>
<td>HP</td>
<td>(26 March)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>5 April</td>
<td>Gwangju, Gyeonggi</td>
<td>Garden</td>
<td>Restaurant</td>
<td>Meat duck, chicken</td>
<td>49</td>
<td>HP</td>
<td>(9 April)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2 cities</td>
<td>in 1 province</td>
<td>1 farm,</td>
<td>1 garden</td>
<td>restaurant</td>
<td>11,853</td>
<td>2</td>
<td>HP outbreaks</td>
<td></td>
</tr>
</tbody>
</table>

Table II
Details on HPAI (H5N8) positive cases by detection system (unit: place)

<table>
<thead>
<tr>
<th>Period</th>
<th>Suspicious cases reported</th>
<th>Epidemiologically identified</th>
<th>Pre-emptive slaughter</th>
<th>Disease diagnosis</th>
<th>Surveillance</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>23 March 2016 – 5 April 2016</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

the antigens either by conducting an epidemiological investigation and surveillance after the occurrence of the disease, or by implementing control measures, including pre-emptive slaughter, and identifying the antigen. As a result, HPAI virus was confirmed positive in 393 outbreaks on farms, and 82 cases of H5 antibody were detected. Among wild birds, 58 cases of H5N8 HPAI, 330 cases of H5 antibody and one case of H7 antibody were detected and rigorous control measures were taken at epidemiologically related livestock facilities and in transportation vehicles to prevent transmission.

Control (prevention, control and eradication) measures
When H5 or H7 antigen (virus) is detected at poultry farms or live bird markets (any facility that sells live poultry), control measures such as depopulation and burial are carried out, in accordance with the relevant rules or regulations (standard operating procedures for avian influenza, etc.). In addition, when the HPAI virus is diagnosed, rigorous control measures such as stamping-out are carried out on poultry at farms that are epidemiologically related to the affected farm after determining the risk level, which demonstrates the Republic of Korea’s strong willingness to carry out thorough preventive measures.

The same rigorous measures are applied, even when HPAI antibodies or H5, H7-type low pathogenic avian influenza (antigen, antibody), which are likely to turn into HPAI, are detected during surveillance on poultry farms (relevant facilities included).

After applying the control measures described above, Korea declared its HPAI-free status on 28 February 2016. However, HPAI broke out at a breeding duck farm on 23 March 2016, which led authorities to presume that the virus remained on small-scale poultry farms (dealers’ premises, garden restaurants) and was transmitted after circulating in these farms.

For this reason, after HPAI virus was detected on 23 March 2016, additional targeted surveillance was conducted at 4,660 small-scale poultry farms, such as dealers’ premises and garden restaurants, and the virus was detected at a garden restaurant in Gwangju on 5 April. As two
outbreaks of HPAI virus were detected, 12,014 poultry were destroyed on five farms (Table III).

The total numbers of people and equipment (excavator, etc.) involved in the actions taken above were 68 and 10, respectively (Table IV).

Movement control restrictions on the affected area are maintained for 30 days from the last day of depopulation and disposal (including disinfection) on the infected premises.

In addition, Korea demonstrated that there were no more outbreaks nor cases of HPAI through three-month surveillance, or other measures in accordance with the Terrestrial Animal Health Code.

The following are the control measures applied to the first HPAI-positive breeder-duck farm, confirmed on 23 March 2016.

- Because a drastic increase in bird carcasses was found on the farm during the surveillance sampling carried out by Gyeonggi Province, samples were submitted to the Animal and Plant Quarantine Agency (QIA) for HPAI confirmation on 23 March.
- H5N8 antigen was detected on 25 March and H5N8 HPAI was confirmed on 26 March.
- Quarantine measures including movement restrictions were taken (25 March) on the affected farm and in the neighbouring area, where an HPAI control area (management/
<table>
<thead>
<tr>
<th>City</th>
<th>Workforce (people)</th>
<th>Machines</th>
<th>Total Excavator</th>
<th>Skid-steer loader</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Icheon</td>
<td>8</td>
<td>43</td>
<td>51</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Gwangiu</td>
<td>8</td>
<td>4</td>
<td>12</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Hanam</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>50</td>
<td>68</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>

− 11,604 breeder ducks were stamped out (26 March) and the affected farm was disinfected.
− A standstill was implemented on 115 duck farms and related premises (two slaughter plants and 12 feed factories and storage places), and 6,298 vehicles.
− One movement-control post and five disinfection posts were established to disinfect livestock-related vehicles.
− The transport of live ducks and duck eggs out of Gyeonggi Province was restricted from 27 March to 2 April.
− An ‘all-in, all-out’ system was introduced at duck farms during the specific period for countermeasures (until the end of May).
− The management/protection zone (within a radius of 3 km) in Icheon City of Gyeonggi Province was re-designated as a surveillance zone on 16 April.
− Movement restrictions were lifted on 27 April. No positive case was detected from clinical and laboratory examinations on 43 farms (34 in Icheon City, and 9 farms in Yongin City) in the control area (within a radius of 10 km) surrounding the HPAI-affected farm until 26 April.

The following are the control measures applied to the garden restaurant where the second HPAI outbreak was confirmed on 5 April 2016.
− Clinical and laboratory examinations were carried out on small-volume duck-breeding facilities, starting from 4 April 2016.
− Antigen and antibody tests were conducted on 13 small-volume duck farms in Gwangju City of Gyeonggi Province from 5 to 6 April.
− Stamping-out and disinfection measures were conducted on poultry (26 ducks, 4 chickens) at the H5-confirmed premises (garden restaurant) by the authorised agency in Gyeonggi Province (Livestock and Veterinary Service).
− Stamping-out was applied to 361 poultry on one small-scale farm that supplied poultry meat to the affected garden restaurant and 19 poultry of two garden restaurants in the neighbouring area (Gwangju City in Gyeonggi Province). The restaurants tested negative for avian influenza on examination.
− The measures of shutting down premises that were confirmed positive for HPAI and movement restrictions on poultry and poultry products into and out of the premises were implemented on 9 April.
− Since the garden restaurant confirmed as testing positive for the virus in Gwangju City, Gyeonggi Province, was located near the downtown area and the outbreak occurred on premises other than farms, an HPAI control area (3 km to 10 km) was not established. Control measures were taken instead, in accordance with the relevant rules and regulations (standard operating procedures for avian influenza).
− Small farms and areas near to the garden restaurant were disinfected by disinfecting trucks.
− Laboratory examinations and control measures including disinfection were conducted simultaneously on 17 epidemiologically linked poultry farms in Gyeonggi Province (14 in Gwangju City, 1 in Hanam City, 2 in Pocheon City) until 26 April.
− Testing was undertaken on 108 small poultry farms in eight cities and counties of Gyeonggi Province from 4 to 26 April. A total of 118 small poultry farms in 23 cities and counties were tested and no additional case has been confirmed.
− The affected premises (garden restaurant) tested negative in the environmental test conducted before movement restrictions were removed. The neighbouring areas of the affected premises were disinfected several times.

The following are the strengthened control measures by local governments, mainly in Gyeonggi Province where the affected farm was located, during the period of the second HPAI outbreak (23 March to 5 April 2016).
1) Avian influenza control centres were established at central government agencies (MAFRA2, QIA) and local governments (county, city and province – si/do and si/gun/gu) to gain accurate understanding and control of the outbreak situation until the movement restrictions were lifted (27 April 2016).

2. MAFRA: Ministry of Agriculture, Food and Rural Affairs
2) Epidemiological investigations, along with other related analyses, were carried out on farms that had tested positive for HPAI antigens and control measures were strengthened for farms with a high risk of infection.

3) All vehicles carrying poultry, feed and veterinary medicines were required to be cleaned and disinfected at movement-control posts when entering/exiting the affected area or its neighbouring areas.

4) Disinfection measures were strengthened, not only for poultry farms but for all livestock-related premises, such as slaughter plants, live bird markets and feed storage places.

5) Movement control measures were applied to the faeces of poultry such as chickens and ducks in Gyeonggi Province.

6) Based on avian influenza transmission risk analysis, using a large amount of data, biosecurity measures against avian influenza were imposed in cities, counties and provinces (si/gun/gu) with a high risk of infection.

7) The movements of migratory birds were constantly monitored and reported to farms close to these birds’ habitats to encourage good biosecurity practices.

8) Targeted surveillance was conducted, in addition to annual surveillance activities, to detect HPAI virus on small poultry farms (including garden restaurants) nationwide (from 5 April 2016 to 20 June 2016).

**Epidemiological investigations**

According to genetic analysis, the viruses detected in Icheon and Gwangju Cities of Gyeonggi Province are from the same genetic group, and are assumed to be the remaining virus from the HPAI outbreak of 16 January 2014 to 15 November 2015.

The recently detected viruses from the breeder-duck farm (23 March 2016) and the garden restaurant (5 April 2016) were found to be most similar to the virus detected on two duck farms in Yang-ju City in Gyeonggi Province from 21 to 23 May 2015. The viruses showed 99.37% homology rates.

Viruses that had not been detected since June 2015 were detected at the breeder-duck farm (23 March 2016) and the garden restaurant (5 April 2016), but the difference in homology between these two viruses was as high as 1.26%, presenting no direct epidemiological linkage. Based on this evidence, it is assumed that transmission occurred among the hosts (poultry).

In addition, the viruses from the two recently confirmed outbreaks shared similarities with the H5N8 virus from the outbreak of 16 January 2014 to 15 November 2015, proving there was no genetic mutation of the virus to cause human infection. As yet, there has been no confirmed case of human infection of H5N8 avian influenza globally.

Epidemiological investigations were carried out to identify possible transmission from livestock-related facilities (poultry farm, hatchery, feed storage place, etc.), live bird markets, or garden restaurants to the affected farms, and mechanical factors of transmission, such as the movement of people or vehicles. Possible origins or reservoirs and transmission routes were analysed by examining information such as the results of genetic analysis, etc.

It is assumed that the infectious agent from the HPAI outbreak on 23 March 2016 is most likely to have been introduced onto the affected breeder-duck farm as the virus was carried into the area neighbouring the affected farm by dealers at a live bird market who had business relationships with small-scale poultry farms in the previously affected area.

There is a possibility that the outbreak at the garden restaurant, confirmed on 5 April 2016, was caused by the viruses circulating on dealers’ premises or small farms (garden restaurants), which might have been in contact with chickens and ducks.
from previously affected areas or their epidemiologically linked areas. It is also possible that the infectious agent spread from the previously affected area into the neighbouring area via poultry dealers.

**Surveillance**

The Republic of Korea designated HPAI as a notifiable infectious animal disease on 1 April 1982 and has contained the disease accordingly. HPAI occurred in the winters of 2003 and 2006, which led Korea to intensify and expand the scope of surveillance, especially in winter. When HPAI was identified in the spring of 2008, Korea eradicated the disease and the avian influenza surveillance scheme was then revised into year-round constant surveillance.

The major monitoring tests carried out in the surveillance programme are as follows:

1. regular pre-slaughter screening and tests on duck carcasses (six times a year)
2. monthly antigen tests and semi-annual antibody tests on breeder ducks
3. semi-annual tests on poultry other than chickens and ducks
4. an annual antibody test on chickens
5. a semi-annual test on poultry distributed in live bird markets
6. when avian influenza is detected in poultry stores at live bird markets, tests are conducted on the vehicles that deliver poultry to the store, on dealers’ premises, and on the poultry farms that supply poultry to the store
7. quarterly tests on live-bird-market dealers’ vehicles and premises
8. regular tests on wild birds; tests on faeces and carcasses in January–May and September–December
9. when necessary, targeted surveillance is conducted on poultry farms and in habitats for migratory birds with a high risk of avian influenza infection.

Apart from these routine surveillance measures, no H5N8-type HPAI antigens or related antibodies were detected during the three-month surveillance period from 7 April 2016, the last day of stamping out, to 6 July 2016.

**Conclusion**

The Republic of Korea has maintained a non-vaccination and stamping-out policy since HPAI was designated as a notifiable animal disease as of 1 April 1982. The same policy was implemented in the latest outbreak of H5N8 HPAI.

The country recovered its HPAI-free country status on 28 February 2016 by taking strong control measures after the first outbreak of H5N8 HPAI in Korea. However, two additional outbreaks occurred on 23 March and 5 April.

After HPAI virus was found in the samples collected from a parent duck farm for routine surveillance activities, targeted surveillance was conducted on 4,660 small poultry farms nationwide (including dealers’ premises and garden restaurants) from 5 April. HPAI virus was detected in the samples collected from a garden restaurant in Gwangju City of Gyeonggi Province.

After the detection of these two HPAI outbreaks through surveillance activities, control measures, including stamping-out, were implemented on 12,014 poultry in five facilities.

The H5N8 HPAI virus from the recent event was genetically identical to that from the HPAI event in May 2015. This virus has never caused human infection.

The stamping-out and disinfection of the last affected farm were completed on 7 April 2016. There has not been another outbreak of HPAI in the Republic of Korea, or any evidence of HPAI infection through nationwide surveillance in accordance with Articles 10.4.27. to 10.4.33. of the *Terrestrial Animal Health Code* in Korea so
The Delegate of the Republic of Korea to the OIE declares that this country has met the requirements for recognition as a country free from highly pathogenic avian influenza as of 18 August 2016, in accordance with Article 10.4.4. of the Terrestrial Animal Health Code (2016).

far. During the three months from 7 April 2016 to 6 July 2016, no additional antigen was detected from avian influenza surveillance on 11,738 farms (600,784 samples), from 395 live bird markets (20,861 samples), or from 345 captured wild birds and faeces (4,392 samples) (Table V).

<table>
<thead>
<tr>
<th>Category</th>
<th>Tested subject</th>
<th>Total</th>
<th>Result</th>
<th>Number of poultry establishments where HPAI tests were conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ducks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breeder ducks</td>
<td>Antigen</td>
<td>478</td>
<td>48,356</td>
<td>Negative</td>
</tr>
<tr>
<td></td>
<td>Antibody</td>
<td>64</td>
<td>5,532</td>
<td>Negative</td>
</tr>
<tr>
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<tr>
<td></td>
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The Delegate of the Republic of Korea to the OIE and its partners
The road to ‘One Health’: a new OIE and WHO platform for the development of joint national health strategies launched in Costa Rica

Protecting and improving global health is currently a major international priority, and there is growing acknowledgement of the important contribution of good animal health to improved human health and livelihoods. Indeed, a multi-sectoral, ‘One Health’ approach is paramount in order to ensure that resources and activities are well aligned to improve and protect the collective health of humans, animals and the environment, to the greatest extent possible. However, the key to global health relies heavily upon national preparedness, and national preparedness arrangements, which incorporate a well-planned joint national health strategy with the capacity for implementation, are essential requirements to protect both national and global health. The starting-point on the road to a joint plan is to determine the extent to which a country is capable of meeting international standards, and to assess the critical strengths and weaknesses of each sector. Further to this, there must be a joint exploration of how best to address outstanding gaps, and also to ensure that any shared strengths are maximised, both strategically and financially. Finally, to create a truly sustainable joint national plan, there must be political commitment – and action – at the highest level.

The OIE and WHO are the two main international organisations responsible for setting standards and guidelines for the animal health and public health sectors respectively, and each has developed frameworks and tools to assess and strengthen capacities at the national, regional and global level.

- International Health Regulations (IHR) Core Capacities of WHO Member States are measured through its IHR Monitoring Framework and independently assessed through WHO-led Joint External Evaluations (JEEs).
- The OIE has developed the Performance of Veterinary Services (PVS) Pathway, an external expert-led programme undertaken at the request of Member Countries to assist them to independently assess their national Veterinary Services’ compliance with OIE standards, and to address needs to achieve their sustainable improvement.
The World Organisation for Animal Health (OIE) and the World Health Organization (WHO) consider that the joint use and/or refinement of the WHO IHR monitoring tools and evaluation and the OIE PVS Pathway is highly valuable in providing a detailed, country-level assessment of existing strengths and gaps, and to better align national capacity-building strategies between the human and animal health sectors.

An initial WHO/OIE collaboration in 2014 resulted in the development of an operational guide to encourage and facilitate a ‘One Health’ approach to managing animal and zoonotic diseases. Entitled WHO/OIE Operational Framework for Good Governance at the human/animal interface – Bridging WHO and OIE tools for the assessment of national capacities, it is available on the websites of both organisations.

Following this publication, the OIE and WHO further developed a practical ‘One Health’ approach in the form of Joint National Bridging Workshops, offered to Member Countries wishing to strengthen ties between their human and animal health sectors, and to facilitate the roadmap to plan their joint national health strategies. Once countries have clear joint national health strategies, they are well placed to ask for assistance – for example, technical assistance from WHO, the OIE and FAO; or funding from donors and financial institutions which are thus better able to consider offering support to these pro-active countries.

Initially piloted in Azerbaijan and Thailand, the programme was officially initiated in March 2016 in Costa Rica, which was selected as a national workshop candidate due to its strong involvement with the OIE PVS Pathway.

The WHO-PAHO/OIE Joint National Bridging Workshop on IHR and the OIE PVS Pathway, held in San José, Costa Rica, from 8 to 10 March 2016, provided a valuable opportunity for Costa Rica’s animal health services (SENASA) and human health services (MINSA) to share their views and outputs resulting from the country assessments conducted in the animal health (PVS Pathway missions) and human health (IHR Monitoring Framework) sectors, respectively, and to discuss ways to use these outputs and develop strategic plans for joint action.

Funded by the Government of Canada, the workshop was attended by high-level representatives of MINSA and SENASA, including Dr William Barrantes, Director General of Health, and Ms Ivania Quesada Villalobos, Vice-Minister of Agriculture and Livestock. Dr Martine Dubuc, Vice-President of the Science Branch at the Canadian Food Inspection Agency, made opening remarks on behalf of the donor.

The intensive three-day programme provided an opportunity for 60 high-level participants to review the outcomes of their IHR and PVS Pathway assessments, and to work closely together on case studies of
diseases relevant to Costa Rica, and thus explore their sectoral and collective capacities to adequately address critical health issues. It was notable that both the IHR and PVS assessment results and the case study discussions highlighted the same specific gaps, which needed to be jointly addressed by both sectors. When aligned with the ‘One Health’ approach, this important insight stimulated some very rich and interactive discussion about strategies to jointly address major gaps and more effectively coordinate mutual activities.

During the closing session of the workshop, both MINSA and SENASA stated their firm intention to take ownership of the outcomes of the workshop and to jointly address the gaps identified in their collaboration at the human/animal interface. It was commendable that Costa Rica has not only recognised the need for joint commitment at the highest political level, but has also embraced a strategy for joint action. The OIE and WHO look forward to supporting Costa Rica and other Member Countries in their ‘One Health’ efforts to protect and improve national health and, ultimately, global health.
The International Veterinary Students’ Association (IVSA) is a non-profit organisation representing approximately 30,000 veterinary students in more than 60 countries. Among its core objectives are: raising the overall standards of veterinary education, supporting measures to improve the standard of animal welfare worldwide and encouraging cooperation between members, veterinary student associations and international organisations. On 27 May 2014, IVSA and the OIE signed a cooperation agreement to promote collaboration in areas of common interest, such as veterinary education, animal welfare and the work of the IVSA Standing Committee on ‘One Health’. In addition, both organisations have agreed to invite each other to their conferences and to consult on subjects of mutual concern.

With the support of the OIE, IVSA organised its first Animal Welfare Conference. This three-day event was aimed at students from all over the world with a special interest in this area. The conference was an opportunity to learn about current projects and research in the field, as well as to understand the role played by various organisations whose aims include raising welfare standards, improving animal housing and transportation conditions, etc. The conference also enabled students to meet representatives from many international organisations, veterinary and other federations and associations, academia, policy-makers and colleagues in general.

The event was attended by around 150 students and recent graduates, representing all five continents, and hosted presentations from 22 speakers. The OIE was represented by Dr Alex Thiermann (former President of the OIE Code Commission), who presented a lecture on the implementation of OIE welfare standards worldwide. Dr Thiermann talked about the pioneering role of the OIE in organising Global Animal Welfare Conferences, the evolution of the issues addressed in each conference and the inclusion of aquatic animal welfare. The role of each Specialist Commission was also explained, with special emphasis on the Aquatic Animal Health Standards Commission and the broad spectrum of topics that it addresses. Dr Sirah Abdul Rahman (chairman of the OIE Working Group on Animal Welfare) also represented the OIE, providing a particular perspective on animal welfare and religious practices.

The conference was generally agreed to be a success; in particular because it introduced speakers from a wide variety of backgrounds, not just veterinarians. Other cultural perspectives and animal welfare realities were opened up for debate, which, in turn, has the potential to open doors for future cooperation.

Agreement between the OIE and the International Veterinary Students’ Association (IVSA):

www.oie.int/fileadmin/Home/eng/About_us/docs/pdf/accords/A_IVSA.pdf
Learning today, preserving our future
Bangkok (Thailand) 22-24 June 2016
4th OIE Global Conference on Veterinary Education
Implementing OIE guidelines to ensure the excellence of the veterinary profession

With a call for ‘Learning today, preserving our future’, nearly 350 people gathered in Bangkok from 22 to 24 June 2016, including OIE National Delegates, Deans and other professional educators from Veterinary Education Establishments (VEEs), and representatives of veterinary statutory bodies and international and national public- and private-sector organisations from 94 countries around the world.

Nearly three years have passed since the previous Global Conference on Veterinary Education, held in Brazil in 2013, shortly after the start of the OIE Veterinary Education Twinning Programme. This programme supports the implementation of the key OIE guidance documents which had been published not long before: the OIE Recommendations on the Competencies of Graduating Veterinarians (‘Day 1 graduates’) to Assure National Veterinary Services of Quality, as well as the OIE Guidelines on Veterinary Education Core Curriculum.

The presentations in Bangkok reviewed the current situation in various regions and confirmed a generally high level of awareness among VEEs, along with a strong will to implement the OIE guidelines and recommendations. The participants’ interest then moved to the issues of ensuring and accelerating this implementation worldwide. The focus was on the challenges involved and where there may be a chance for a breakthrough.

Networking among VEEs was identified as a key area of importance. A panel discussion at which representatives of all the existing twinning projects shared their experiences proved thought-provoking for other participating educators. It was noted that the promotion of cooperation among neighbouring VEEs – for example, through course/material sharing and joint workshops – yielded mutual benefits and will be expanded beyond national and regional borders.

Fortunately, rapidly advancing information technology is making this easier to accomplish than a decade ago.

Another issue of key concern to participants was how to objectively monitor improvements in curricula and in the eventual development of competencies required by Veterinary Services. The on-going attempts to develop competencies presented by some twinning projects were stimulating, with participants eager for information about the future progress of such attempts. Meanwhile, the involvement of stakeholders – notably, veterinary statutory bodies, veterinary authorities and veterinary associations – was considered indispensable in monitoring the development of competencies. These stakeholders represent the demand side for well-educated veterinary graduates (‘Day 1 graduates’). But what should
not be forgotten in these attempts is the contribution made by the students.

Another key objective is to move beyond the sphere of 'veterinary science', as traditionally conceived. The participants shared the observation that society's expectations for the veterinary profession have been evolving. In the contemporary era, these expectations are very wide-ranging and are not confined to terrestrial and aquatic animal health, nor even to animal welfare, food safety and veterinary public health. Thus, for example, discussions about biodiversity and biological threats often involve the veterinary profession. Society appreciates scientific integrity, but also cares about economic consequences and requires a sense of reassurance. The veterinary profession, on its side, must respond to such expectations. The participants reinforced the importance of adopting non-traditional subjects and interdisciplinary approaches to effectively develop well-rounded skills. For this reason, continuing education becomes even more important.

Expanding on the discussion of veterinary education, the Conference also referred to the contributions made by veterinary para-professionals. While noting that their role and involvement vary widely by country and region, the participants agreed that high-quality veterinary para-professionals are an important partner in achieving robust national Veterinary Services. Both the OIE and Member Countries should make efforts towards ensuring the provision of high-quality veterinary para-professionals.

In addition to the plenary session with oral presentations, the Conference featured a poster session with
18 selected presentations. The poster area was the site of active discussion among participants and no doubt gave a boost to networking among VEEs.

The Conference saw excellent presentations by experts, including many leading educators from around the world, which contributed to the active discussions among participants. The recommendations derived from such discussions will undoubtedly push forward the harmonisation of veterinary education, the updating of veterinary curricula to reflect society’s new expectations, and networking among VEEs globally, all contributing to the quality of Veterinary Services. The OIE will continue to support Member Countries and their VEEs through existing mechanisms, including by facilitating the exchange of information.

All presentations (including poster presentations), with summary abstracts, and all recommendations are available at: www.oie.int/eng/vet-education-conf2016/introduction.html
World Rabies Day 2016

The 10th World Rabies Day was celebrated on 28 September, around the theme of Educate, Vaccinate, Eliminate. To mark the occasion, numerous events were organised by countries throughout the world.

A look back at some of the initiatives taken by OIE Member Countries

**Tunisia**

**Free vaccinations for cats and dogs**

The General Directorate of Veterinary Services and animal production districts, in collaboration with the OIE, FAO, veterinary student associations (IVSA, ASSEV), veterinary associations (SSTMVA), animal protection societies (PAT) and the Red Crescent, organised several events between 1 and 2 October 2016, including:

- Free vaccination sessions for dogs and cats, given by veterinarians during open days at regional offices for agricultural development throughout Tunisia.
- Activities in the street and shopping centres to promote awareness of the importance of rabies vaccination for dogs.

**Chinese Taipei**

**Mass dog-vaccination campaign**

Chinese Taipei had been free from rabies for several decades. However, in 2013 the disease was detected for the first time since the 1960s in ferret-badgers. Currently, the majority of confirmed rabies cases are in ferret-badgers; recently a case was diagnosed in a dog bitten by a rabid ferret-badger. To prevent the wildlife rabies virus from being introduced into the dog and cat population, the competent authority conducts compulsory mass rabies vaccination. On the occasion of World Rabies Day, the competent authority, the Bureau of Animal and Plant Health Inspection and Quarantine (BAPHIQ), invited local governments to co-host a vaccination campaign. Members of veterinarian associations and doctors from veterinary clinics took part in the event.

More than 500 quizzes and many brochures on rabies have been distributed

Owners patiently waiting for dog vaccination
Mali
Delivery of rabies vaccine doses

World Rabies Day was celebrated from 27 to 29 September 2016, with material and financial support from the OIE, the West African Economic and Monetary Union (UEMOA) and the National Association of Veterinary Doctors of Mali (ANDVM).

The day was marked by the official reception of rabies vaccine doses, provided by the OIE Vaccine Bank to vaccinate dogs throughout the country, free of charge.

Various activities to raise public awareness were also organised.

Kenya
First seminar of OIE national Focal Points on communication in Africa focuses on risk communication and awareness campaigns

The first regional seminar for OIE national Focal Points for communication was conducted in Mombasa from 27 to 29 September 2016, including a half-day celebration of World Rabies Day, the theme of which was integrated into the training programme.

The general objective of the seminar was to provide the national Focal Points in charge of communication with all necessary information to enable them to support their national OIE Delegates in the field of communication, in line with their Terms of Reference and chapter 3.3 of the OIE Terrestrial Animal Health Code. This capacity-building programme is key to ensuring that countries can effectively raise awareness concerning diseases such as rabies in their territory.

To mark World Rabies Day 2016, the OIE released a video and an infographic to explain the operation of the OIE rabies vaccine bank. Since it was established in 2012 by the OIE, the bank has helped to eliminate the disease by supplying high-quality rabies vaccines at an affordable price, when required. These vaccines are used to trigger the implementation of mass vaccination campaigns, an essential part of any effective strategy to eliminate rabies at national level.

1. The countries represented at the training seminar were Botswana, Egypt, Ethiopia, Gambia, Ghana, Kenya, Lesotho, Liberia, Libya, Malawi, Mozambique, Namibia, Nigeria, South Africa, South Sudan, Sudan, Swaziland, Tanzania, Uganda and Zimbabwe.
The needs of OIE Member Countries are not restricted to doses of vaccine; countries also need support during the implementation of vaccination campaigns. In addition to its leading role in operating the vaccine bank, the OIE World Animal Health and Welfare Fund contributes to activities such as: recruiting and training staff to vaccinate dogs, producing educational material and carrying out communication campaigns to encourage dog owners to be more responsible, through training OIE Focal Points for Communication.
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Outcomes from the OIE’s questionnaire on antimicrobial use in animals in 2015

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Keywords
Antimicrobial class – antimicrobial use – database – surveillance.

Introduction
For over a decade, the OIE has engaged in combating resistance to antimicrobial agents and has endorsed the ‘One Health’ concept. The topic of antimicrobial resistance (AMR) is crucial because it concerns both human and animal health.

In 2012, the OIE developed a questionnaire with the following objectives:

a) to enhance the OIE’s engagement in the initiative to prevent AMR;
b) to conduct a questionnaire survey of the implementation by OIE Member Countries of the Terrestrial Animal Health Code (Terrestrial Code), Chapter 6.8 ‘Monitoring of the quantities and usage patterns of antimicrobial agents used in food producing animals’ [1] and Aquatic Animal Health Code (Aquatic Code), Chapter 6.3 ‘Monitoring of the quantities and usage patterns of antimicrobial agents used in aquatic animals’ [2];
c) to improve awareness and provide an overview of antimicrobial use in animals by OIE Member Countries; and
d) to determine what actions are needed and to help the OIE to develop its strategy in this field.

A total of 152 out of 178 (85%) OIE Member Countries completed the questionnaire. The answers received showed that, in 2012, 27% of responding countries had an official system in place for collecting quantitative data on antimicrobial agents used in animals.

Surveillance of AMR in animal pathogens is another important element in assessing the level and the evolution of AMR in animals. Currently, very little information is available worldwide on animal pathogens.

The OIE standards published in the Terrestrial Code, Chapter 6.7 ‘Harmonisation of national antimicrobial resistance surveillance and monitoring programmes’ [1]; the Aquatic Code, Chapter 6.4 ‘Harmonisation of national antimicrobial resistance surveillance and monitoring programmes for aquatic animals’ [2]; and the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Chapter 3.1 ‘Laboratory methodologies for bacterial antimicrobial susceptibility testing’ [3] provide a basis for such surveillance and monitoring. Future work is needed to find the indicator bacteria relevant to the most commonly raised animal species and to refine recommendations for harmonisation of susceptibility testing in veterinary laboratories.

In the framework of the Global Action Plan on Antimicrobial Resistance, developed by the...
World Health Organization (WHO) with the active contributions of the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE) in the spirit of ‘One Health’, the OIE is tasked with the construction and maintenance of a global database on the use of antimicrobial agents in animals. In this endeavour, the OIE is supported by FAO and WHO through their tripartite collaboration.

Towards this goal, the OIE was mandated by its Member Countries, during the 83rd OIE General Session of the World Assembly of Delegates (May 2015) to establish a global database to monitor the use of antimicrobial agents in animals through Resolution No. 26: ‘Combatting antimicrobial resistance and promoting the prudent use of antimicrobial agents in animals’.

In the last trimester of 2015, the OIE launched an annual collection of data on the use of antimicrobial agents in animals in OIE Member Countries. The template and the guidance documents used to complete this template were developed by the OIE Ad hoc Group on Antimicrobial Resistance, endorsed by the Scientific Commission for Animal Diseases and tested by Member Countries through regional training seminars for OIE National Focal Points for Veterinary Products.

The questionnaire for the first annual collection of data on the use of antimicrobial agents was sent to all OIE Member Countries in October–November 2015.

Materials and methods

The OIE Ad hoc Group on Antimicrobial Resistance developed a template for harmonised data collection, as well as guidance for its completion. This template was translated into the three official OIE languages (English, French and Spanish) and was sent to all 180 OIE Member Countries in October 2015. An annex to the Guidance was also developed to give more detailed instructions on the mathematical calculations used to obtain quantities of active ingredients from antimicrobial products sold. All antimicrobial agents destined for use in animals and contained in the OIE List of Antimicrobial Agents of Veterinary Importance [4], in addition to certain antimicrobial agents only used for growth promotion, were reportable.

For this first phase of the project, data were collected in worksheets using predefined conditional formulas and analytical tools available in Microsoft Excel.

The responses, endorsed by OIE Delegates, were compiled and the results were analysed at the OIE Headquarters.

For clarification and validation purposes, questions were addressed to the respondents, mainly OIE Focal Points for Veterinary Products, when needed.

Results

From mid-December 2015 to May 2016, 130 of the 180 OIE Member Countries (72%) submitted the completed template to the OIE Headquarters (Table I).

<table>
<thead>
<tr>
<th>OIE Region</th>
<th>Number of submitted questionnaires, by Region</th>
<th>Number of OIE Member Countries</th>
<th>Proportion of submitted questionnaires, by Region</th>
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<td>5</td>
<td>12</td>
<td>42%</td>
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</table>
The response rate within OIE Regions varied between 42% and 81%.

Within the 74 low- and middle-income1 Member Countries of the OIE, 54 (73%) responded to the questionnaire. In future the OIE will work more closely with these countries to support them in establishing accurate collection of data.

Global analysis of baseline information

For the 2015 OIE Questionnaire, the Focal Point for Veterinary Products was most often responsible for responding to the template (85/130). This information supports OIE efforts to conduct regular training of OIE National Focal Points for Veterinary Products and to establish a regional and global network (Fig. 1).

In 2015, a total of 96 out of 130 (74%) OIE Member Countries did not authorise antimicrobial agents for growth promotion in animals in their countries (Fig. 2). This demonstrates an important decrease in the percentage of countries authorising the use of antimicrobials as growth promoters: in 2012, 49% of the countries declared usage of antimicrobial agents as growth promoters.

The OIE also asked its Member Countries which antimicrobial agents were authorised as growth promoters. The most frequently quoted antimicrobial substances for this purpose were tylosin and bacitracin. Colistin was mentioned by 10 countries.

The 2015 OIE questionnaire was prepared to allow all Member Countries to contribute, even if quantitative data on antimicrobial agents used in animals were not yet available. The first part of the template aimed at collecting relevant administrative information and received responses from 130 Member Countries. Detailed information was provided by 89 of the 130 responding Member Countries (68%).

1. According to the World Bank, low-income economies have gross national income per capita = USD 1,045 or less and lower-middle-income economies have gross national income per capita = USD 1,046 to USD 4,125


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Fig. 1
Distribution of the different types of contact point (at the global level)

Fig. 2
Authorisation of antimicrobial growth promoters in OIE Member Countries in the 2015 questionnaire
Discussion

This questionnaire survey shows that a number of countries have started to collect data on the use of antimicrobial agents in animals. It also shows the need to provide additional support to Member Countries to improve their national data collection systems. Detailed interpretation of the data requires further development and the future OIE database should allow Member Countries to provide their information annually through an electronic form. Regarding low- and middle-income countries (LMICs), one of the greatest challenges is to provide accurate quantitative data on the use of antimicrobial agents in animals. Although 55.6% (30/54) of LMICs that responded were able to provide quantitative data on the use of antimicrobial agents in animals, most of these countries cannot indicate the quantities of antimicrobial agents used by animal groups, or the routes of administration, and cannot distinguish therapeutic use from use in growth promotion.

In order to enable accurate comparisons among countries, it is important to take into account the animal population of the country that is susceptible to treatment. Development of a suitable denominator (animal biomass) is underway and this will facilitate the interpretation of data in the future.

Conclusions

The first phase of the annual questionnaire survey on sales of antimicrobial agents in animals was successful and had a rate of high participation from OIE Member Countries.

Seminars for the Focal Points for Veterinary Products in the OIE regions proved to be very useful in strengthening collaboration, increasing understanding and engaging Member Countries in this challenging project.

Based on feedback after the first year of data collection, the OIE Ad hoc Group on Antimicrobial Resistance refined the template and guidance in order to clarify the information requested.

It is expected that the collection of data will increase over time, given the seminars for Focal Points for Veterinary Products in the OIE regions and the commitment of Member Countries to contribute to the global effort.

Further goals include the refining of the information collected, continued development of meaningful data, and the development of calculations to define a denominator in order to work on comparable data.

Acknowledgements

The authors are grateful to the OIE Ad hoc Group on Antimicrobial Resistance for all their effort and also to all OIE Member Countries that contributed to this first annual collection of data on the use of antimicrobial agents in animals.

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References

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2016 OIE photo competition: Animal welfare beyond the cliché

‘A special bond between a student and a teaching animal’
Ginger Hobgood
AMERICAS

‘Antibodies in milk form’
Filipa Trigo da Roza
EUROPE

‘Stray. Non-stop bleeding. Saved him and gave him a chance’
Chayada Piantham
ASIA AND OCEANIA

Take part in the 2017 OIE photo competition: www.oie.int/photocompetition
The aim of the OIE Terrestrial Animal Health Code and Aquatic Animal Health Code is to contribute to the improvement of the health and welfare of animals worldwide and to assure the sanitary safety of international trade in animals and their products. The standards in the OIE Codes are based on the most recent scientific and technical information and have been formally adopted by the World Assembly of OIE Delegates. They are also recognised as the international standard for animal health within the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures. The OIE Codes should be used by the Competent Authorities of importing and exporting countries for early detection, reporting and control of agents pathogenic to animals, and, in the case of zoonoses, for humans, and to prevent their transfer via international trade in animals and their products, while avoiding unjustified sanitary barriers to trade. The 2016 edition of the Codes incorporates modifications to the Codes agreed at the 84th General Session in May 2016.
The purpose of the 7th Edition of the **Manual of Diagnostic Tests for Aquatic Animals** (‘the Aquatic Manual’) is to provide a uniform approach to the detection of the diseases listed in the *Aquatic Animal Health Code*, so that the requirements for health certification in connection with trade in aquatic animals and aquatic animal products can be met. It includes bibliographical references and a list of the OIE Reference Laboratories for amphibian, crustacean, fish and mollusc diseases.

Although many publications exist on the detection and control of aquatic animal diseases, the Aquatic Manual is a key and unique document describing the methods that can be applied to the OIE-listed diseases in aquatic animal health laboratories all over the world, thus increasing efficiency and promoting improvements in aquatic animal health world-wide. The requirements published in this *Aquatic Manual* are recognised as international standards by the World Trade Organization.
2016 OIE photo competition

‘First step’
Ulaankhuu Ankhanbaatar
ASIA AND OCEANIA

‘Disease surveillance’
Christo Labuschagne
AFRICA

‘Complicity and mutual affection’
Jorge Bacelar
EUROPE

‘No comment’
Mozafar Sarmasti
MIDDLE EAST

‘Thank you for travelling with us, it was a pleasure serving you’
Miguel Espinosa
AMERICAS

More photos on page 87!

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