Concept Note – OIE wildlife[1] health management framework

Background and rationale

The majority of recent emerging infectious diseases have wildlife origins, among them Lassa fever, monkeypox, Marburg and Ebola virus diseases, Nipah, severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS), the novel COVID-19 and numerous other viral diseases. Disease spread between wildlife, livestock and humans follows complex transmission pathways at the human-animal-environment interface, often with collateral impacts on biodiversity and the sustainability of food systems. In our interconnected and mobile societies, these diseases can have devastating consequences on human and animal health and can greatly affect local and global economies. The risk of zoonotic disease emergence has been amplified by a constant increase in human/wildlife/livestock interactions. This is exacerbated by growing and changing human activities, including intensified agriculture and livestock production, deforestation and other land use change, illegal and under-regulated wildlife trade, climate change, antimicrobial resistance, and the potential for accidents during research with pathogens of wildlife origin. The ability of OIE Member Countries to assess risk and detect threats early - through solid wildlife health management systems - to better anticipate, prevent, and prepare for such events is a key element of multisectoral risk management at the human-animal-environment interface.

The trade and use of wildlife (as working animals, in collections, transportation, relocation, capture, handling, farming, marketing, and consumption of wild animals) poses threats to animal health and welfare, causes impoverishment of biodiversity, and may result in serious public health problems. The trade has severe detrimental effects on biodiversity, species conservation and has depleted Member Country's natural resources. While the wildlife trade is an important source of protein, income and livelihoods for many local or rural communities, there is a need to support legal, sustainable and responsible wildlife usage by providing sound guidance, standards, risk assessment and risk management tools to improve the health management of wildlife trade.

National and regional epidemiological surveillance systems integrating wildlife are often lacking appropriate financial and political support and suffer from a lack of a multisectoral approach. This makes them neither functional nor sustainable and therefore not efficient for early detection of spill over events involving wildlife. Strengthening these systems by developing awareness and appropriate behaviour change strategies at all levels of the system, by engaging key stakeholders, is essential, as well as ensuring that guidelines, surveillance protocols and standards integrate wildlife.

Veterinary Services, being responsible for animal health and being at the forefront of zoonotic disease management have a key role to play in reducing disease risks from emerging pathogens at the human-animal-environment interface. However, many Veterinary Services currently lack the capacity, regulatory and multisectoral collaboration frameworks to support a global effort to prevent spill over events involving wildlife and to implement risk management measures supported by solid and sustainable surveillance systems and health monitoring of wildlife trade. Therefore, there is a need to support knowledge and awareness of Veterinary Services' role in reducing spill over events, to reinforce Member Country's capacity for early threat detection, integrated wildlife disease surveillance, information management, risk assessment, implementation of mitigation measures and to provide an enabling environment allowing close collaboration wildlife management authorities and other relevant partners.

The lack of scientific knowledge about the mechanisms of transmission of most of these pathogens, between wildlife, livestock and humans, which follow complex pathways at the ever changing human-animal-environment interface, weakens the ability of both animal and human health authorities to better anticipate and prepare for these dramatic events. Therefore, support

[1] ***Wildlife*** *means feral animals, captive wild animals and wild animals.* ***Feral animal*** *is an animal of a domesticated species that now lives without direct human supervision or control.* ***Captive wild animal*** *is an animal that has a phenotype not significantly affected by human selection but that is captive or otherwise lives under direct human supervision or control, including zoo animals and pets.* ***Wild animal*** *is an animal that has a phenotype unaffected by human selection and lives independent of direct human supervision or control.*

is needed for holistic multidisciplinary scientific investigations to properly understand the virus cycle mechanisms to better inform integrated epidemiological surveillance protocols, “One Health” approaches to risk mitigation strategies, and to allow stakeholders to be properly informed and take appropriate mitigation measures.

All evidence suggests that the risks posed to Member Countries by emerging diseases will become greater with changing land use and climate change, and as societal attitudes bring wildlife, livestock, and people into closer contact.

Now, more than ever, there is the need for coordinated global action on strengthening integrated surveillance systems, wildlife health, disease emergence and pathogen spill over within a One Health framework to ensure a healthy environment for all. This must build on successes of past decades, but also openly address and learn from inadequacies.

In recent decades, the economic and societal impacts of spill over events at the human-livestock-wildlife interface have been devastating (for example HIV, EBOV, SARS, MERS, RVF, Lassa fever, plague, avian influenza, and, possibly, SARS-CoV-2). In terms of cost-benefit, the opportunities of investing in better wildlife health management to reduce the likelihood and impact of future spill over events is enormous.

The following framework is a proposal for an ambitious programme of work for the OIE to address threats from disease spill over events working in partnership with key international actors such as WHO, UNEP and FAO. It promotes and reinforces the central role that Veterinary Services play in One Health. This is a dual opportunity to 1. ensure that the risks of future devastating spill over events are reduced and 2. to ensure that Veterinary Services remain relevant at national, regional, and international level (.

The framework is consistent with the mandate of OIE and aligns closely with objectives of OIE’s 6th and 7th strategic plans. It proposes to use and refine the OIE’s existing toolset (networks, partnerships, programmes) and builds on lessons learned from nearly 100 years of working at the human-animal-environment interface.

Overall Objective

To anticipate, reduce and manage the risk of spill over events of pathogens between wildlife, livestock, and humans at the animal-human-environment interface

Objective 1 Member Countries implement good practices in health and welfare management of wildlife trade and use

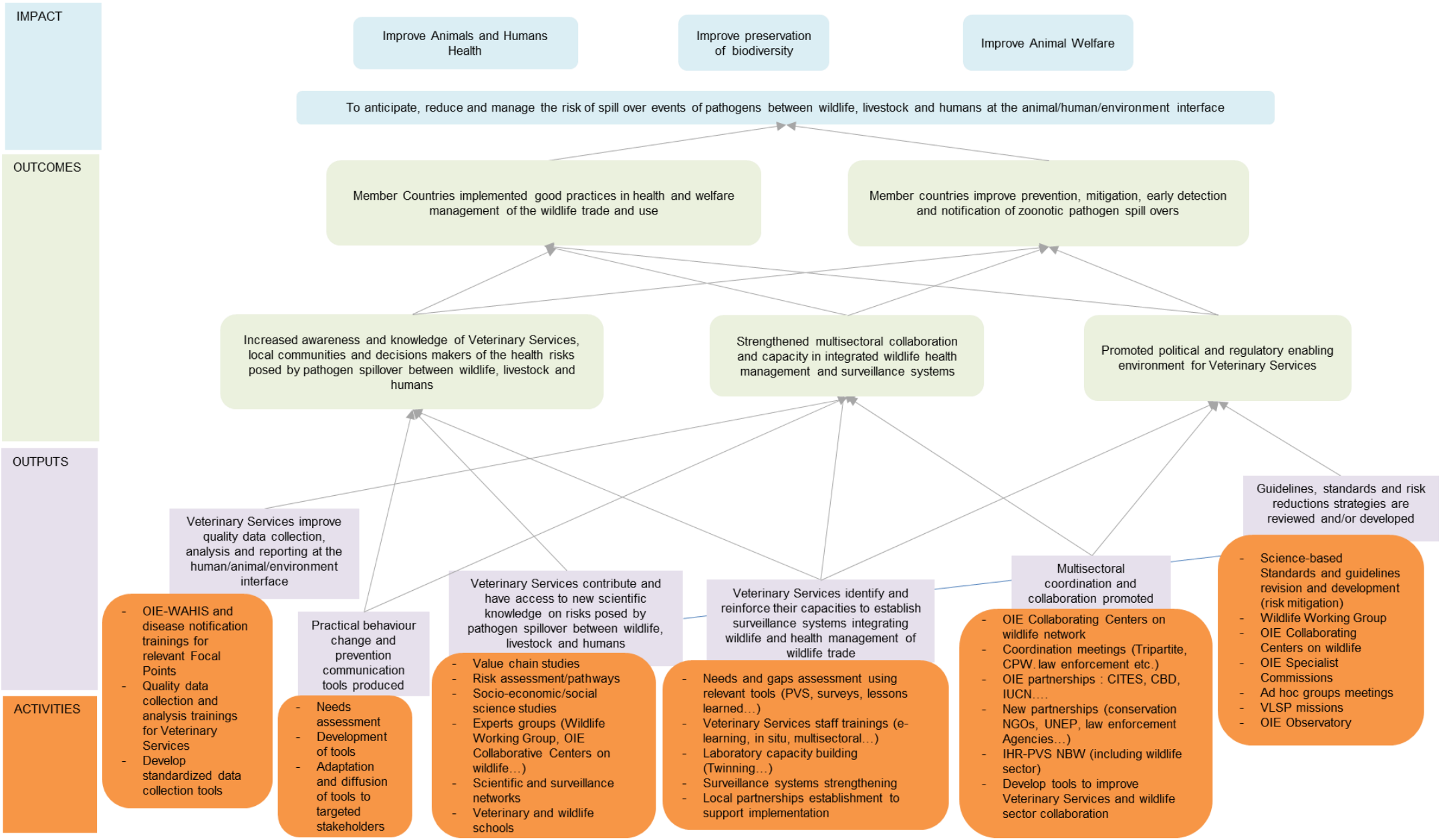
Objective 2 Member countries improve prevention, mitigation, early detection, and notification of zoonotic pathogen spill overs

Sub-objective 1: Increase awareness and knowledge of Veterinary Services, local communities and decisions makers of the health risks posed by pathogen spill over between wildlife, livestock, and humans

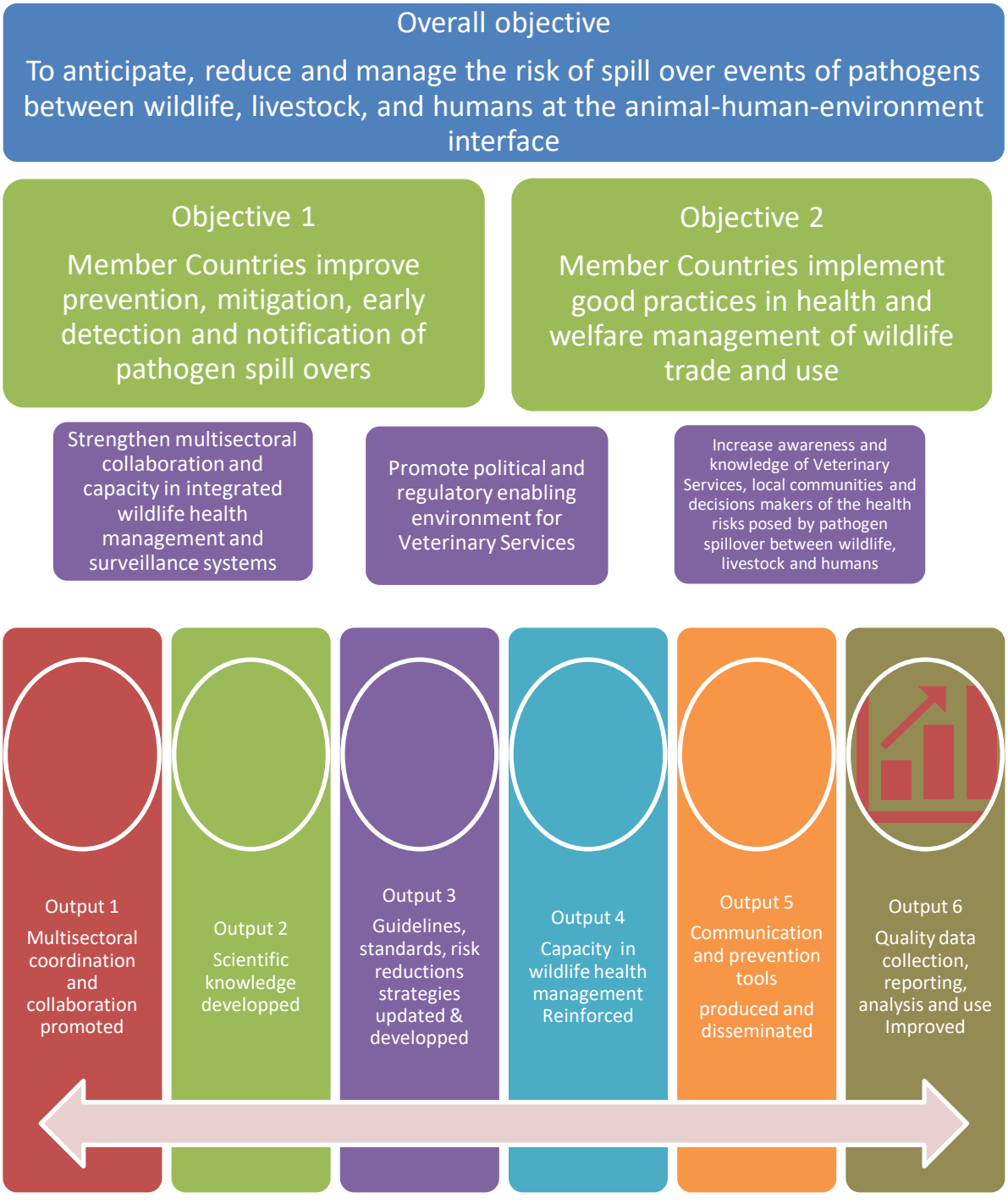
Sub-objective 2: Promote a political and regulatory enabling environment for Veterinary Services

Sub-objective 3: Strengthen multisectoral collaboration and capacity in integrated wildlife health management and surveillance systems

Theory of change: OIE wildlife health management framework



OIE wildlife health management framework



PROBLEM STATEMENT

Emerging diseases from animal sources can have severe negative impacts on health and socio-economic systems. Disease spread between wildlife, livestock and humans follows complex transmission pathways at the human-animal-environment interface, often with collateral impacts on biodiversity and the sustainability of food systems. The risk of emergences of emerging zoonoses has been amplified due to a constant increase of human-wildlife-livestock interactions. This situation is exacerbated by growing and changing human activities, including intensified agriculture and livestock production, deforestation and other land use change, illegal and under-regulated wildlife trade, climate change, and antimicrobial resistance.

Detailed Framework

OVERALL OBJECTIVE

To anticipate, reduce and manage the risk of spill over events of pathogens between wildlife, livestock, and humans at the animal/human/environment interface

Objective 1: Member Countries improve prevention, mitigation, early detection, and notification of pathogen spill overs

Outcomes	Outputs	Activities
• Strengthened multisectoral collaboration and capacity in integrated wildlife health management and surveillance systems	• Output 1 Multisectoral coordination and collaboration promoted	• Conduct stakeholder analysis and needs assessment, analyse gaps and strengths of current OIE Reference Centres focusing on emerging zoonosis and epidemiological surveillance of wildlife
		• Strengthen the OIE Reference Centres on emerging zoonosis/ wildlife surveillance through the establishment of a global and dynamic Reference Centre network to monitor, analyse, and report information about trends and alerts in emerging zoonoses events and science, in coordination with the Wildlife Working Group
		• Leverage current OIE partnerships with organisations working on wildlife and biodiversity conservation sectors (CBD, IUCN, CPW, WCP…) in being actively engaged in joint activities involving wildlife health surveillance systems strengthening
		• Identify and engage in new partnerships (WDA, FAO-Forestry, UNEP, conservation NGOs…) to enhance synergies and collaboration in the strengthening of wildlife health surveillance systems
		• Coordinate within the Tripartite the development of current and future strategies to sustain and strengthen integrated epidemiological surveillance systems including wildlife
		• Develop and adapt specific mechanisms or tools (such as IHR-PVS Bridging workshops) to promote and engage collaboration between Veterinary Services and the wildlife sector in developing integrated surveillance protocols
		• Collaborate at regional level with targeted partners (regional economic communities, regional health organisation etc…) to support the development and/or the sustainable implementation of integrated surveillance systems at national and regional level
		• *Promote public private partnerships to support the establishment of sustainable integrated surveillance systems through the development of specific guidelines/ national/regional workshops*

Objective 1: Member Countries improve prevention, mitigation, early detection, and notification of pathogen spill overs

Outcomes	Outputs	Activities
	• Output 4 Veterinary Services identify and reinforce their capacities to establish surveillance systems integrating wildlife and health management of wildlife trade	• Review PVS framework core competencies and integrate wildlife surveillance systems as relevant in existing PVS Evaluation Framework and subsequent toolset
		• Conduct assessment of Veterinary Services training needs, including for: advocacy, community awareness and engagement, multisectoral and community-based surveillance, emerging diseases, disease notification, One Health approach, through review of PVS reports, targeted questionnaires and other relevant sources of data at regional level
		• Conduct needs assessment for relevant training methodologies on targeted topics using One Health approach, participatory approach, community engagement, adult learning methodologies, including serious games, simulations, practical exercises…at regional level
		• Develop e-learning modules/training manuals on targeted topics in collaboration with OIE Reference Centres on education/wildlife, education partners targeting professional veterinarian, veterinary paraprofessional, wildlife schools, veterinarian school curriculum while diffusing them on the OIE e-learning platform
		• Conduct multisectoral regional and national workshops in community-based surveillance in wildlife and integrated protocols of surveillance development using participative approaches and simulations exercises
		• Assess Veterinary laboratory capacity to integrate wildlife health management through PVS laboratory missions and/or other assessment tools (Laboratory Mapping Tool…)
		• Reinforce Veterinary laboratory capacity on transversal thematic on wildlife surveillance, risk management and mitigations measures using the OIE Laboratory Twinning projects
		• Reinforce Veterinary laboratory capacity on specific emerging diseases involving wildlife to develop diagnostic capacity using the OIE Laboratory Twinning project
		• Identify and engage into local/regional partnerships to support implementation of acquired capacity of wildlife health surveillance
	• Output 6 Veterinary Services improved quality data collection, analysis and reporting at the human/animal/environment interface	• *Identify and address lack of reporting for OIE non-listed voluntary diseases in wildlife*
		• *Wildlife Working Group and OIE RC network and National Focal Points review wildlife disease data collected by OIE and the subsequent analyses to ensure maximal utility for OIE Member Countries in risk assessment and risk management*
		• *Advocacy/communication campaign to incentivise reporting and de-stigmatise wildlife disease in context of livestock trade*
		• *Engage Wildlife and Disease Notification National Focal Points in an interactive and dynamic network, in between regular OIE seminars (e.g. through creation of WhatsApp group, sharing relevant information and documents), involve focal points in review and analysis of wildlife disease data*
		• *Conduct OIE-WAHIS quality data reporting, analysis and use trainings for Disease Notification and Wildlife Focal Points*

Objective 1: Member Countries improve prevention, mitigation, early detection, and notification of pathogen spill overs

Outcomes	Outputs	Activities
		• *Develop specific e-learning module to encourage reporting in the OIE-WAHIS system*
		• *Conduct data collection training using standardized methodology to improve data quality for relevant Veterinary Services staff*
		• *Conduct analysis of data transmitted by Member Countries and provide regular feedback to Member countries about analysis outputs in coordination with the Wildlife Working Group to inform wildlife surveillance systems*
• Promote political and regulatory enabling environment for Veterinary Services	• Output 3 Guidelines, standards and risk reduction strategies are reviewed and/or developed	• Review and take stock of existing standards and guidelines on integrated and multisectoral wildlife surveillance systems to identify gaps and needs in collaboration with the OIE Specialist Commissions and Wildlife Working Group, in coordination with other international standard setting bodies
		• Develop/update practical guidelines on integrated wildlife epidemiological surveillance through a multisectoral (conservation NGOs, socio-economist, IUCN experts…) ad hoc Group
		• Develop/update standards on integrated wildlife epidemiological surveillance through a multisectoral (conservation NGOs, socio-economist, IUCN experts...) ad hoc Group
		• Support new guidelines and standards knowledge dissemination and implementation by Veterinary Services through e-learning modules and sub-regional multisectoral workshops
		• Support Veterinary Services in integrating wildlife health surveillance in their regulatory activities using a One Health approach and synergize with other relevant stakeholders (human health, wildlife/environment, law enforcement, education, and research sectors through relevant PVS Pathway missions (Legislations)
		• Monitor the implementation of guidelines and standards by using OIE Observatory tool and to collect subsequent data sets linked to standards implementation, obstacles and mitigations strategies
• Increase awareness and knowledge of Veterinary Services, local communities and decisions makers of the health risks posed by pathogen spillover between wildlife, livestock and humans	• Output 2 Veterinary Services contribute and have access to new scientific knowledge on risks posed by pathogen spillover between wildlife, livestock and humans	• Review comprehensive knowledge base and case studies on emerging zoonoses affecting wildlife with high impact on human health and generating socioeconomic burden and socio-economic at-risk behaviours, wildlife surveillance network, using existing databases (IUCN, FAO-forestry….), current and past project lessons learned (PREDICT, EBO-SURSY…) OIE Reference Centress on wildlife, NFP, and OIE Wildlife Working Group expertise
		• Identify and update risks maps, including risk pathways, and potential emerging diseases spill over hot spots to better target intervention areas at the regional and national level.
		• Support scientific studies to identify emerging zoonosis reservoirs and understand mechanisms of transmission at the human-animal-environment interface through the support of scientific partners, Reference Centres on wildlife and surveillance networks

Objective 1: Member Countries improve prevention, mitigation, early detection, and notification of pathogen spill overs

Outcomes	Outputs	Activities
		• Support socio economic behaviour studies on wildlife interactions and perceptions by at risk communities living at the wildlife-human-livestock interface
		• Engage young veterinarian in PhD training in wildlife health management specialisation through a grant mechanism or joint funding with Reference Centres
		• Disseminate knowledge to veterinary and wildlife management schools via the OIE e-learning platform or Reference Centres expertise to strengthen curriculum
	• Output 5 Practical behaviour change and prevention communication tools to prevent pathogen spill over between wildlife, livestock and humans at the animal-human-wildlife interface produced and disseminated to targeted audiences	• Conduct needs assessment at regional level of practical behaviour change and prevention communication tools targeting Veterinary Services, at risk local communities, wildlife surveillance networks stakeholders, veterinary and para-veterinary schools/training curriculum, One Health platforms and governments
		• Identify innovative behaviour change, based on alternative practical solutions, and prevention communication tools, including gender consideration, to raise awareness or lobby targeted stakeholders
		• Production at regional level of practical behaviour change and prevention communication tools integrating One Health concept to engage in wildlife surveillance systems
		• Support the Veterinary Services and their partners in the local adaptation of the behaviour change and prevention communication tools to raise awareness amongst local communities and to engage them in wildlife surveillance systems
		• Support the dissemination of the behaviour change and prevention communication tools by Veterinary Services to targeted stakeholders in collaboration with relevant local or regional partnerships as needed
		• Support Veterinary Services in lobbying decision makers, including their governments, regional economic communities, One Health platforms, in securing sustainable funding and political support to implement integrated and multisectoral wildlife surveillance systems and risks mitigations strategies

Objective 2: Member Countries implement good practices in health and welfare management of wildlife trade and use

Outcomes	Outputs	Activities
• Strengthened multisectoral collaboration and capacity in integrated wildlife health management and enhanced surveillance systems	• Output 1 Multisectoral coordination and collaboration promoted	• Conduct stakeholder analysis and needs assessment, analyse gaps and strengths of current Reference Centres focusing on wildlife trade and use
		• Strengthen the OIE Reference Centres on wildlife trade and use through the establishment of a global and dynamic Reference Centre network to monitor and report on trends and alerts in wildlife trade issues and science in coordination with the Wildlife Working Group
		• Leverage OIE partnerships with organisations working on wildlife trade (CITES, FAO-Forestry, Animal welfare organisations, Interpol…) in being actively engaged in joint activities involving health management of wildlife trade and use
		• Identify key new partners and engage into relevant collaboration (law enforcement, NGOs…) on the health management of wildlife trade and use
		• Coordinate within the Tripartite the development of current and future strategies to strengthen good practices in wildlife trade, including, transportation, relocation, farming, handling, usage (food, medicine, labour) and risk management in wildlife supply chains
		• Develop or improve specific mechanisms, such as using law enforcement/Veterinary Services simulation workshops, to increase collaboration between Veterinary Services and key stakeholders on health management of wildlife trade and use
		• Collaborate at Regional level with targeted partners (regional economic communities, regional health organisation etc…) to support the sustainable implementation of good practices in wildlife trade and use
	• Output 4 Veterinary Services identify and reinforce their capacities to establish surveillance systems integrating wildlife and health management of wildlife trade	• Review PVS core competencies and integrate health management of wildlife trade and use as relevant in existing PVS Evaluation Framework and subsequent toolset
		• Support Veterinary Services in integrating health (including animal welfare) management related to wildlife trade and use in their regulatory activities using a One Health approach and synergize with other relevant stakeholders (human health, wildlife/environment, law enforcement, education and research sector through relevant PVS Pathway missions (legislation…)
		• Conduct needs assessment for Veterinary Services in trainings needs in risk communication, risks assessment, risks pathway and mitigations strategies, health management of wildlife trade and use, trough review of PVS reports, targeted questionnaires and other relevant sources of data at regional level
		• Conduct needs assessment for relevant training methodologies on targeted topics using One Health approach, participatory approach, community engagement, adult learning methodologies, including serious games, simulations, practical exercises…at regional level

Objective 2: Member Countries implement good practices in health and welfare management of wildlife trade and use

Outcomes	Outputs	Activities
		• Develop e-learning modules/training manuals on targeted topics in collaboration with OIE Reference Centres on education/wildlife, education partners targeting professional veterinarian, veterinary paraprofessional, wildlife schools, veterinarian school curriculum
		• Conduct multi-sectoral simulation exercises in risk communication, risks assessment, risks pathways and mitigations strategies on pathogen spill over between wildlife, livestock and human at the animal/human/environment interface
		• Conduct multisectoral regional and national workshops on wildlife value chain, health management of wildlife trade and use, using participative approaches and simulations exercises
	• Output 6 Veterinary Services improve quality data collection, analysis and reporting at the human/animal/environment interface	• *Engage wildlife and disease notification FP, with partner organisations national FP (CITES…) to encourage data sharing, streamlined communication and enhanced local collaboration*
		• *Support the streamlining and compatibility of multisectoral disease notification tools to avoid report duplications, increase access to quality data and decrease reporting fatigue*
• Promote political and regulatory enabling environment for Veterinary Services	• Output 3 Guidelines, standards and risk reductions strategies are reviewed and/or developed	• Review and take stock of existing standards and guidelines on wildlife health management, including trade, game farming, transportation, animal welfare etc…. to identify gaps and needs, in collaboration with the OIE Standards Commissions and Wildlife Working Group, in coordination with other international standard setting bodies
		• Develop/update practical guidelines in health management of wildlife trade including wet markets practices, capture and handling, relocation, transportation, game farming, trade and consumption, animal welfare, through the support of a multisectoral (law enforcement, socio-economist, CITES experts, Veterinary Services...) ad hoc Group
		• Develop/update standards in health management of wildlife trade including wet markets practices, capture and handling, game farming, trade and consumption, animal welfare, through the support of a multisectoral (law enforcement, socio-economist, CITES, Veterinary Services..) ad hoc Group
		• Development of sample legislation to support the implementation of the health management of wildlife trade including wet markets practices, capture and handling, game farming, trade and consumption, animal welfare, through the expertise of an ad hoc group.
		• Support new guidelines and standards knowledge dissemination and implementation by Veterinary Services through e-learning modules and sub-regional multisectoral workshops

Objective 2: Member Countries implement good practices in health and welfare management of wildlife trade and use

Outcomes	Outputs	Activities
		• Monitor the actual implementation of new guidelines and standards by using OIE Observatory tool and to collect subsequent datasets linked to standards implementation, obstacles and mitigations strategies
• Increase awareness and knowledge of Veterinary Services, local communities and decisions makers of the health risks posed by pathogen spillover between wildlife, livestock and humans	• Output 2 Veterinary Services contribute and have access to new scientific knowledge on risks posed by pathogen spillover between wildlife, livestock, and humans	• Review comprehensive knowledge base and case studies on at-risk behaviours and current practices in wildlife trade and usage activities, wildlife value chains, using existing databases (CITES, UICN….), and lessons learned from past projects (e.g. EBOSURSY, EPT programme), Reference Centres on wildlife/trade and Wildlife Working Group expertise
		• Develop risk assessment in health management of wildlife trade and use including, wildlife wet markets, capture, relocation, handling, transportation, animal welfare, farming, working animals and consumption, and identify risks pathways through the creation of an ad hoc Group
		• Support socio economic behaviour studies in wildlife wet markets, capture and handling, transportation, animal welfare, farming, trade and consumption through the support of scientific partners and Reference Centres on wildlife
	• Output 6 Practical behaviour change and prevention communication tools to prevent pathogen spill over between wildlife, livestock and humans at the animal/human/wildlife interface produced and disseminated to targeted audiences	• Conduct needs assessment of practical behaviour change and prevention communication tools targeting Veterinary Services, at risk local communities, wildlife health management stakeholders, veterinary and para-veterinary schools/training curriculum, One Health platforms and governments on good practices in the health management of the wildlife trade and use
		• Identify innovative behaviour change and prevention communication tools, including gender consideration, to raise awareness or lobby targeted stakeholders involved in the wildlife trade
		• Production at regional level of practical behaviour change and prevention communication tools integrating One Health concept to support good practices in wildlife health management of wildlife trade and usage (wildlife wet markets, capture and handling, game farming, relocation, welfare and consumption)
		• Support the Veterinary Services and partners in the local adaptation of the behaviour change and prevention communication tools to raise awareness amongst wildlife trade stakeholders and engage them in good practices in wildlife trade (wildlife wet markets, capture and handling, game farming, relocation, consumption, animal welfare)
		• Support the dissemination of the behaviour change and prevention communication tools by Veterinary Services to targeted stakeholders through or in collaboration with relevant local or regional partnerships as needed
		• Support Veterinary Services in lobbying decision makers, including their governments, regional economic communities, One Health platforms, in securing sustainable funding and political support to implement good practices in health management of wildlife trade and use and risk mitigations strategies