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Evaluation of the Performance of the Veterinary Services

Report

World Organisation for Animal Health | PVS Pathway

WOAH PVS EVALUATION FOLLOW-UP

MISSION REPORT OF THE

VETERINARY SERVICES OF

NEPAL

18 - 29 September 2023

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List of acronyms, abbreviations and/or special terms

Term	Definition
ADICD	Animal Diseases Investigation and Control Division
AMR	Antimicrobial Resistance
AMU	Antimicrobial use
ASF	African Swine Fever
AQD	Animal Quarantine Division
AW	Animal Welfare
BIPs	Border Inspection Posts
BQ	Black Quarter
BSE	Bovine Spongiform Encephalopathy
BSL	Biosecurity Level
BT	Blue Tongue
BVSc & AH	Bachelor of Veterinary Science and Animal Husbandry
CAHWs	Community Animal Health Workers
CAs	Competent Authorities
CCs	Critical Competencies
CE	Continuing Education
CRVH	Central Referral Veterinary Hospital
CSF	Classical Swine Fever
CTEVT	Council for Technical Education and Vocational Training
CVL	Central Veterinary Laboratory
CVO	Chief Veterinary Officer
DDA	Department of Drug Administration (MoHP)
DDG	Deputy Director General
DFTQC	Department of Food Technology and Quality Control (MoALD)
DNPWC	Department of National Parks and Wildlife Conservation

DLS	Department of Livestock Services
ELISA	Enzyme Linked Immunosorbent Assay
FAO	Food and Agriculture Organization of the United Nations
FBOs	Food Business operators
FIARCC	Federalism Implementation and Administration Restructuring Coordination Committee
FMD	Foot and Mouth Disease
FMD/TADs IL	Foot & Mouth Disease & TADS Investigation Laboratory
GCES	FAO WOAH PPR Global Control and Eradication Strategy
GDP	Gross Domestic Product
GF-TADs	Global Frame for TADs
HACCP	Hazard Analysis and Control of Critical Points
HPAI	Highly Pathogenic Avian influenza
HS	Haemorrhagic Septicaemia
IBD	Infectious Bursal Disease
IFAD	International Fund for Agricultural Development
IHR	International Health Regulation
ISO/IEC	International Organization for Standardization/ International Electrotechnical Commission
IT	Information Technology
JEE	Joint External Evaluation of the World Health Organization
JT / JTA	Junior Technicians / Junior Technical Assistants
LIMS	Laboratory Information Management System
LMS	Learning Management System
LSD	Lumpy Skin Disease
LSTCs	Livestock Service Training Centres
MoALD	Ministry of Agriculture and Livestock Development
MoALM	Ministry of Agriculture and Land Management

MoF	Ministry of Finance
MoFE	Ministry of Forestry and Environment
MoHP	Ministry of Health and Population
MRL	Maximum Residue Level
NADIL	National Avian Diseases Investigation Laboratory
NAFLQML	National Animal Feed and Livestock Quality Management Laboratory
NAHIS	National Animal Health Information System
NASA	Nepal Animal Science Association
ND	Newcastle disease
NFFRL	National Food and Feed Reference Laboratory
NGOs	Non-government organizations
NLEV	Nepal Veterinary Council Licensure Examination
NLSIP	Nepal Livestock Sector Innovation Project
NNSW	Nepal National Single Window
NRs	Nepalese Rupee
NVC	Nepal Veterinary Council
QMS	Quality Management System
PAT	Plate agglutination test
PCU	Project Coordination Unit
PCR	Polymerase Chain Reaction
PMAT	PPR Monitoring and Assessment Tool
PPP	Public Private Partnership.
PPR GEP	PPR Global Eradication Programme
PPR	Peste des Petits Ruminants
PPR RAG	PPR Regional Advisory Group
PRRS	Porcine Reproductive and Respiratory Syndrome,
PT	Proficiency test

PVM	Post vaccination monitoring
RAC	Risk Analysis Committee
RA	Risk Analysis
RTI	Right to Information Act
rRT PCR	Real Time Reverse Transcriptase Polymerase Chain Reaction
RT-PCR	Real Time Transcriptase Polymerase Chain Reaction
SAARC	South Asian Association for Regional Cooperation
SOPs	Standard Operating Procedures
SPS	Sanitary and Phyto Sanitary agreement of the WTO
TADs	Transboundary Animal Diseases
TAHC	Terrestrial Animal Health Code of the WOAH
TB	Bovine Tuberculosis
VA	Veterinary Authority
VEEs	Veterinary Educational Establishments
VHLSEC	Veterinary Hospital and Livestock Services Expert Centre
VLs	Veterinary laboratories
VPH	Veterinary Public Health
VS	Veterinary Service(s)
VPP	Veterinary para-professional
VSB	Veterinary Statutory Body (see WOAH Code definition)
VSDAO	Veterinary Standards and Drug Administration Office
VSDRL	Veterinary Standards and Drug Regulatory Laboratory
WAHIS	World Animal Health Information System of WOAH,

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PART I: EXECUTIVE SUMMARY

I.1 Introduction

Following a request to WOAH from the Government of Nepal, a follow-up evaluation of the Veterinary Services with specific content for Peste des petits ruminants (PPR) control based on the *WOAH PVS (Performance of Veterinary Services)* methodology was conducted on 18-29 September 2023 by a team of four independent WOAH-certified PVS evaluators.

The mission started with a courtesy visit and interaction with Dr Rewati Raman Poudel Secretary (Livestock Development) of the Federal Ministry of Agriculture and Livestock Development.

The evaluation began with meetings with Dr Umesh Dahal, Chief Veterinary Officer and Director General of the DLS. DLS organized a formal opening meeting with invited stakeholders, which included a few provincial Directors of Livestock Services and Fisheries Development, representatives of Nepal Agricultural Research Council (NARC), FAO-ECTAD and WHO (Team Lead of Health Emergencies). The PVS Team visited related institutions, such as the Department of Food Technology and Quality Control (DFTQC) and the Epidemiology and Disease Control (EDCD) Division of the Department of Health Services.

The WOAH PVS Team visited sites and institutions (public and private sector) in Nepal's cities and rural areas covering all three tiers of government and discussed relevant matters with government officials, public and private sector veterinarians, paraprofessionals, livestock producers, traders, consumers, and other stakeholders. The field visits ensured interaction with the Nepal Veterinary Council, academicians at a Veterinary Educational Establishment and wildlife veterinarians associated with the Department of National Parks and Wildlife Conservation (DNPWC).

The DLS facilitated the mission's interaction with several animal welfare NGOs and representative organizations of farmers, traders, professionals and paraprofessionals. The mission concluded in Kathmandu with a closing meeting involving various stakeholders, including representatives of FAO-ECTAD, WHO, and Fleming Fund Country Grant for Nepal, at which the overall findings of the evaluation were discussed.

For those unfamiliar with Nepal, background information is available in summary in Appendix 3, which includes a country map, geographical and climate information, human demographic data, livestock demographic data, animal and animal product trade data and general economic data.

I.2 Key findings of the evaluation

1.2.A Human, physical, and financial resources

Nepal has competent veterinarians and professionals in leadership positions in federal, provincial, and private sectors. However, there are varied vacancy rates in professional and technical staffing. The veterinary authority is implementing a programme to employ one veterinarian for each local government contractually, but there are insufficient local veterinarians and outmigration of contractual veterinarians. The civil services provision permits experienced paraprofessionals to occupy veterinary service positions more suitable for qualified veterinarians. The number of regularly employed staff at the National Veterinary Authority and all its offices is inadequate. Livestock technicians are an integral part of the veterinary authority but are not authorized and regulated by the Nepal Veterinary Council. The newly enacted Animal Health and Livestock Service Professional Act 2022 aims to register animal health technicians, livestock service technician and village animal health workers. The veterinary authority can create policies, strategies, and programmes, but the capability to sustain them is challenged by an insufficient budget and the capacity of the province and local-level veterinary service to implement them.

1.2.B Technical authority and capability

The Department of Livestock Services (DLS) has a stable laboratory network for diagnosing animal diseases. However, except for food safety there is no ISO 17025 accredited laboratory in animal health side. A dedicated risk analysis committee and section are in place, but has limited expertise and shows an important gap in the data generation system for both animal health and food safety sides. Nepal does not recognize regionalization established in accordance with WOAH standards, and risk assessment with neighboring countries is not occurring. Animal quarantine is under the DLS' direct control, and importations are subject to pre-importation authorization using a dedicated national information system the Nepal National Single Window System. DLS is using this system but only for trade. Passive surveillance and notification system are in place but limited in efficiency due to financial resources. There is no compensation for losses due to listed diseases except for HPAI. Consequently, a weak level of awareness is observed that challenge the early detection and control of listed diseases.

The DLS designs and plans active surveillance programmes, but active surveillance is limited due to resources and a field veterinary network weakened by division of responsibilities between three tiers of government. The DLS is responsible for primary production at farms and slaughterhouses, while the DFTQC is accountable for food safety after processing. DLS doesn’t perform any ante- and post-mortem inspections. There is no comprehensive national residue monitoring programme, and enforcement resources for animal welfare standards are limited. Limited risk-based inspection for food processing establishments and a lack of veterinary inspections for slaughterhouse infrastructure and slaughtered animals pose significant challenges.

1.2.C Interaction with stakeholders

The Right to Information Act mandates the veterinary authority (VA) in Nepal to designate an information officer and publish proactive disclosures. The VA participates in the Nepal Government's grievance redressal mechanism and maintains a dedicated unit for collaboration. However, there are no clear Standard Operating Procedures for multiagency communication. The VA maintains a website for external communication, however, most of the contents are in national language. Private sector stakeholders are organized, and the VA consults with farmer/industry associations. Some delegation of VS missions to private sector for vaccination campaigns and animal movements control are in place but still to be improved. The VA collaborates with private insurance companies to facilitate subsidy in insurance premium of livestock, but there is no evidence of formal joint implementation of official veterinary service programmes.

1.2.D Access to markets

Nepal's new constitution in 2015 has created three tiers of government (three independent governments), with no distinct clarity in the veterinary service chain of command. The country's regulatory framework needs amendments, including the Animal Health and Livestock Services Act, 1999, the Animal Slaughterhouse and Meat Inspection Act, 1999, and a new food safety and quality Act. The Nepal Veterinary Council has adopted an updated regulatory framework, but a new act, Animal Health and Livestock Service Professional Council Act, 2022, aims to create a new statutory body independent of the Nepal Veterinary Council (NVC). Nepal try to follow the international trends for VS functioning but limited opportunities for export and resources are challenging the full VS compliance with required standards. Limited risk-based inspections is a real gap.

Table 1: Summary of WOAH PVS evaluation results

PVS summary results of Nepalese VS	PVS Evaluation 2008	PVS Gap analysis 2011	PVS Result 2023
I. HUMAN, PHYSICAL AND FINANCIAL RESOURCES			
I.1.A. Staffing: Veterinarians and other professionals	2	3	**2**
I.1.B. Staffing: Veterinary para-professionals	2	3	**2**
I.2.A. Competency and education of veterinarians	2	3	**2**
I.2.B. Competency and education of veterinary paraprofessionals	2	4	**2**
I-3. Continuing education	2	3	**2**
I-4. Technical independence	2	3	**3**
I-5. Planning, sustainability and management of policies and programmes	2	3	**2**
I-6.A. Internal coordination (chain of command)	2	4	**2**
I-6.B. External coordination (including the One Health approach)	NA	3	**3**
I-7. Physical resources and capital investment	2/1	3	**3**
I-8. Operational funding	2	3	**2**
I-9. Emergency funding	2	3	**3**
II. TECHNICAL AUTHORITY AND CAPABILITY			
II-1.A. Access to veterinary laboratory diagnosis	2	3	**3**
II-1.B. Suitability of the national laboratory system	NA	NA	**2**
II-1.C. Laboratory quality management systems	1	2	**3**
II-2. Risk analysis and epidemiology	2	3	**2**
II-3. Quarantine and border security	2	3	**2**
II-4.A. Passive surveillance, early detection and epidemiological outbreak investigation	2	3	**2**
II-4.B. Active surveillance and monitoring	2	3	**2**
II-5. Emergency preparedness and response	2	3	**2**
II-6. Disease prevention, control and eradication	2	3	**3**
II-7.A. Regulation, inspection (including audits), authorisation and supervision of establishments for production and processing of food of animal origin	1	2	**2**
II-7.B. Ante- and post mortem inspection at slaughter facilities and associated premises	NA	3	**1**
II-8. Veterinary medicines and biologicals	2	3	**2**
II-9. Antimicrobial Resistance and Antimicrobial Use			**3**
II-10. Residue testing, monitoring and management	1	3	**2**
II-11. Animal feed safety			**2**
II-12.A. Premises, herd, batch and animal identification, tracing and movement control	1	3	**1**
II-12.B. Identification, traceability and control of products of animal origin	1	3	**1**
II-13. Animal welfare	NA	2	**2**
III. INTERACTION WITH STAKEHOLDERS			
III-1. Communication	2	3	**3**
III-2. Consultation with stakeholders	2	4	**2**
III-3. Official representation and international collaboration	2	3	**2**
III-4. Accreditation/authorisation/delegation	1	3	**2**
III-5. Regulation of the profession by the Veterinary Statutory Body (VSB)	2	4	**3**
III-6. Participation of producers and other stakeholders in joint programmes	1	4	**2**
III-7. Veterinary clinical services	NA	NA	**3**
IV. ACCESS TO MARKETS			
IV-1.A. Veterinary Legislation: Legal quality and coverage	2	4	**2**
IV-1.B. Veterinary Legislation: Implementation and compliance	2	3	**2**
IV-2. International harmonisation	2	3	**2**
IV-3. International certification	2	3	**2**
IV-4. Equivalence and other types of sanitary agreements	1	2	**2**
IV-5. Transparency	3	4	**3**
IV-6. Zoning	1	2	**2**
IV-7. Compartmentalisation	1	2	**2**

NA: Not Applicable

I.3 Key recommendations

I.3.A Human, physical and financial resources

Strengthening the veterinary network HR, infrastructure, coordination, and funding

Nepal needs targeted investments to ensure the availability of veterinary personnel with a mix of skills and competencies. A systematic assessment of the current workforce situation is necessary to plan investments and prepare a justified proposal for enhanced professional staffing and capacity building. The government should evaluate and promote the practice of engaging private veterinarians to implement selected official veterinary functions with required accountability. Legislative provisions should be in place for additional veterinary workforce engagement during emergencies. The federal structure of Nepal and devolved responsibilities related to official veterinary services require the creation of a cadre of personnel in all government tiers with prominent official veterinary service functions. A balanced workload and incentive framework are necessary to engage and retain the best available professionals.

Support a legal and policy environment that enables livestock technicians to provide quality veterinary service, ensuring adherence to animal welfare standards and the protection of Public Health.

Nepal should consider designating Livestock Technicians as Veterinary Paraprofessionals (VPPs) for both public and private sectors. VPPs should be clearly defined and receive supervision and mentorship from registered veterinarians. One Veterinary Statutory Body is suggested for both veterinarians and VPPs. Engaging with stakeholders and addressing potential overlaps and inconsistencies in regulation is crucial for quality service delivery. The Competent Authorities should assess VPPs' requirements, conduct competency assessments, and invest in bridging the competency gap. VPPs should be recognized as a regulated, skilled occupation and included in the Nepal Standard Classification of Occupation (NSCO). Designated VPPs should also be provided with career opportunities, occupational safety and health support and assigned with skilled veterinarians as mentors. Technology-based options can help capture health events attended by VPPs and support entrepreneurial initiatives by veterinarians with designated VPPs as team members.

Invest in the improvement of initial and continuing education (CE) of the workforce.

The mission recommends investments in education, training, and pedagogy for veterinarians and paraprofessionals and suggests using regional networks for sharing resources and learning platforms. The Nepal Veterinary Council should self-evaluate the existing veterinary curriculum to align with national requirements and WOAH Day-1 competency recommendations. The Veterinary Authority should collaborate with the Council for Technical Education and Vocational Training (CTEVT) to develop a competency-based curriculum for Veterinary Paraprofessionals (VPPs). An updated version of the National Occupational Skill Standards for paraprofessionals (various categories of livestock technicians and CAHWs) can improve training. The NVC should lead in evaluating and registering Continuing Education (CE) opportunities, making CE mandatory for all personnel contributing to Veterinary Services. A national online Learning Management System can be commissioned to address competency gaps and facilitate nationwide CE delivery.

Ensure technical independence and improve planning and management of policies supporting sustainability.

The Veterinary Services should standardize decision-making processes, maintain a scientifically-based database, and regularly motivate staffs with additional benefits. The VS should prevent conflicts of interest when delegating tasks to the private sector and ensure comprehensive reporting on programme implementation. An information system should be developed to manage veterinary service programmes and activities efficiently.

Ensure better internal and external coordination.

The Department of Livestock Services (DLS) needs to coordinate the implementation of the WOAH Codes at the provincial and local levels. This involves analysing the current list of powers and developing an amendment proposal to ensure mutual understanding of roles and responsibilities. Efficient coordination mechanisms should be developed from the central level to the field level to ensure surveillance, disease control, food safety, emergency preparedness, and response are implemented uniformly. Multisectoral operational mechanisms are needed to share information and coordinate responses to zoonotic disease outbreaks.

Standardize decision making procedures and review and align VS staff salaries with comparable professions and responsibilities to strengthen technical independence.

To support technical independence, the VS should extend standardized procedures for decision-making processes and maintain an up-to-date database of technical decisions based on scientific evidence. The salaries and other benefits of the veterinary services staff who are at risk of exposure to external influence on their decision-making process should be regularly reviewed and aligned in comparison to the professions with comparable levels of education and responsibilities.

When delegating official tasks to the private sector, such as animal health certification for internal movement, the VS should implement mechanisms to prevent conflicts of interest, in particular to avoid direct payment to the official service provider.

Good planning and management of programmes requires effective mechanisms to ensure comprehensive and reliable reporting on implementation of programmes from provincial and local level and periodical reviewing to evolve them. A comprehensive information system should be developed for efficient management of the VS programmes and activities.

Develop efficient coordination mechanisms with provincial and local level VS to ensure implementation of all the activities relevant to the WOAH Codes.

Since the province and local level VS are not directly subordinated to the DLS their chain of command, action is needed to ensure DLS can act in full capacity as the VA for coordinating the implementation of the standards of the WOAH Codes. First analyse in depth current list of exclusive and concurrent powers and then, in collaboration with provincial and local levels, develop regulations or other legal documentation to have clear mutual understanding of the roles and responsibilities of all levels of VS. Following the clear mutual understanding of roles and responsibilities efficient coordination mechanisms should be developed to ensure implementation of all the activities relevant to the WOAH Codes.

One Health Strategy is adopted but a National Action Plan still needs to be endorsed. Multisectoral operational mechanisms are needed to share information and coordinate responses to outbreaks of endemic, emerging or re-emerging zoonotic diseases with the public health and wildlife Ministries.

Ensure availability of physical and financial resources

The Veterinary Authority should define minimum physical resources needed to perform official activities. In collaboration with province and local level authorities the mechanisms should be developed to ensure availability of needed physical resources, their regular maintenance and replacement. In case of financial constraints, the possibilities of Public-Private Partnerships (PPP) could be explored to ensure adequate physical resources for the VS to perform official activities.

Good performance of the VS requires adequate funding which should be planned based on adopted national strategies in line with national priorities. For the performance of official controls and other official activities, opportunities for sustainable sources of funding should be explored, such as collection of fees for the official activities and charges for provided clinical services.

In order to have the capacity to quickly and effectively respond to emergency situations or newly emerging issues, contingency and related funding should be made rapidly available when required. For that purpose, it is important to develop efficient operational mechanisms for quick access to extra financial resources.

The provincial and local veterinary service must define minimum physical resources needed for official activities, such as disease control and public health programmes. Collaboration with other authorities is crucial for regular maintenance and replacement of resources. Adequate funding is essential for good performance, and sustainable sources like fees, cost-recovery, and PPPs can be explored. Rapid contingency and funding for producers are crucial for emergency response, and the Veterinary Authorities should adopt a legislative framework and operational mechanisms to provide compensation for all relevant diseases.

In collaboration with relevant stakeholders and in line with national priorities, strengthen strategic planning endorsed by the Government of Nepal to ensure physical and financial resources for sustainable implementation of official programmes. Consider possibilities of introducing fees and charges to cover the costs of official controls and certain services provided.

I.3.B Technical authority and capability

Improve the quality of the laboratories to reach ISO 17025 accreditation.

The DLS should establish a business plan for accreditation of veterinary laboratories, prioritizing locations and tasks. A WOAH PVS Pathway Sustainable Laboratories mission could help align testing programmes with animal health, welfare, and food safety priorities. Improving the field veterinary workforce network will improve the laboratory's access to remote regions. The PPP framework could help in improving the laboratory network. An action plan should be developed to improve resources and performance. A Quality Management System (QMS) should be developed and LIMS should be implemented.

Improve disease notification and preparedness with One Health and PPP approaches.

The notification system for notifiable diseases needs a compensation mechanisms and links to livestock insurance programmes. Implementing the One Health approach can improve zoonotic disease surveillance and control. Joint programmes with the Ministry of Forestry and Environment (MoFE) can enhance wildlife surveillance. Regular contingency plans and simulation exercises can improve preparedness. Strong oversight and mandatory veterinary supervision of VPPs can enhance trust in veterinary services.

Improved animal health programmes require an updated regulatory framework, including the Infectious Animal Disease Control Act approval, and a formalised PPP regulatory framework. A single direct chain of command is needed within the Veterinary Service. Communication and awareness among private sector stakeholders and public partners are crucial. An efficient field veterinary workforce network is needed, especially in strategic areas and infrastructures. The public and private sector of veterinary paraprofessional service providers for VS should be regulated by the Veterinary Statutory Body. Improved coordination at the national level and on the risk-based approach of animal health programmes and activities, including surveillance, require identification and traceability for epidemiological units.

Explore the possibility of strengthening access to clinical services by gradually focusing public VS to remote areas with no or insufficient numbers of private veterinary service providers and developing exit strategy from providing clinical services in areas where the private service is sufficiently developed.

The DLS should strengthen border security by reorganizing controls of foods of animal origin per WOAH international standards. They should promote risk-based control programmes based on traded items, optimize resources, and improve quarantine capacity. A quality management system can help the animal quarantine division (AQD), and cooperation with customs and police can help prevent illegal animal trade.

Regulate slaughterhouse establishments and implement ante- and post-mortem inspection at the animal slaughtering.

The VS urgently need to regulate animal slaughtering as a critical point for food safety of meat and meat products but also valuable source of information for animal health. In collaboration with province and local authorities the DLS should develop a strategy for the authorization and inspection of slaughter establishments and to gradually introduce food safety management systems in all FBOs. Licensing procedures should be extended to all FBOs. Operational mechanisms for close coordination and collaboration of the DLS and DFTQC is needed to efficiently utilize existing resources. Introduction of food safety management systems, risk categorization of FBOs and development and implementation of risk-based inspection plan to increase compliance with relevant standards and better utilization of human resources. There might be a need for a review of existing organizational structure, function, and human resources of DLS and DFTQC to ensure adequate administrative capacities for the regulation and inspection and for acting in case of food safety incidents

National plan for gradual implementation of ante- and post-mortem inspection should be developed and implemented. This will require review of current legislative framework (Slaughterhouse and Meat Inspection Act) to increase compliance with international standards, and development of secondary legislation and guidelines needed to implement above mentioned national strategy.

Review and amend legislative framework to properly regulate veterinary medicines, in particular to ensure their responsible and prudent use. Develop and implement risk based national residue monitoring programme.

Drug Act should be urgently reviewed and amended to address current gaps related to veterinary medicines, prescription provisions in particular. This could be a part of the comprehensive strategy to regulate production, sale and usage of veterinary drugs in line with international standards, which the VS should, in collaboration with stakeholders, develop and implement. Considering the poorly regulated sale and usage of veterinary drugs, Nepal is in high risk of AMR, and therefore need to strengthen the regulatory system and the capacity to monitor and enforce rational prescription, consumption, quality and sales of antimicrobials.

Developed Good Husbandry Practices (GHP) should also have in place documented protocols for preventing residue risks (eg. withholding periods for veterinary drugs, on the farm records, documented guarantees for slaughtering). Development and implementation of comprehensive risk-based residue monitoring programmes is important from the aspect of food safety and AMR but also as a requirement for the international market access for the export of products of animal origin.

Regulation and inspection of feed should be strengthened and extended to on-farm produced animal feed and feed ingredients to ensure compliance with feed safety standards. Further development of capacities and programmes is needed to manage the risks of use of antimicrobials in feed, as well as risks of microbial, physical and toxin contamination.

Review and update strategy and activities for the establishment of animal identification and registration system and, in collaboration with all tiers of government, ensure resources and start implementation.

Nepalese VS should review and update the strategy and activities for the establishment of animal identification and registration system and, in collaboration with all tiers of government, ensure resources and start implementation. Following the adoption of an adequate legislative framework, in collaboration with all relevant stakeholders, appropriate traceability system for the products of animal origin should be developed and gradually implemented. To achieve whole-of-chain traceability system, implementation of animal traceability system, WOAH animal welfare standards and official controls in slaughterhouses is needed.

1.3.C Interaction with stakeholders

The veterinary authority should conduct a stakeholder analysis and gather opinions on the Veterinary Services policies and programmes. Acknowledging contributions from stakeholders and investing in producer organizations can incentivize participation. Support programmes can improve farmers' and industry governance, increasing scope for partnership.

Support good governance through transparency, fast grievance redressal, and regular consultation.

The Veterinary Authority should enhance transparency and public trust by improving disclosure content, making information officers accessible, promoting citizen charters, and actively participating in systems to redress citizen grievances. Record-keeping should be Right to Information Act (RTI)-friendly. The data culture within veterinary institutions and the use of information technology can improve governance. Periodic policy consultations across government tiers should be facilitated and documented for quality participation.

Delegate for optimal resource utilization in delivering official veterinary service

The Veterinary Authority is delegating certain services to private individuals to improve resource utilization and service quality. A situation review should guide the recruitment of private players and assess potential risks. The VS should explore strengthening access to clinical services by focusing on remote areas with limited private providers and developing exit strategies from providing clinical services in areas where private services are developed.

Uphold technical standards of the veterinary profession.

Nepal's Veterinary Statutory Body (VSB) and educational infrastructures are crucial for maintaining technical standards in the veterinary profession. The government should empower the VSB to function independently and mobilize resources. Periodic renewal of veterinarian registration and collaboration with academia and the private sector are

necessary. Outsourcing a Learning Management System can improve CE programme delivery and capacity building. Veterinarian-VPP team building is essential for maintaining the profession's standard.

I.3.D Access to markets

Improve the quality and implementation of a harmonized body of regulatory texts for a sustainable veterinary service and field veterinary network.

The DLS should support regulatory text amendments and promote global harmonization through the "One Health approach". They should participate in preparing and revising food safety regulations for animal products and veterinary drugs. Explore public private partnership and involve all stakeholders for needed amendments. Nepal needs to protect and support small producers during the food safety modernization process, A request for a WOAH Veterinary Legislation Support Programme could help analyse the legislative framework relative to international standards.

Improve international trust in Nepalese Veterinary Services in the trade of animal commodities.

Nepal should continue investment in the National Animal Health Information System (NAHIS) and link national data systems to improve Veterinary Service risk-based management and official field network.

DLS should explore the possibilities of interlinking relevant components of NNSW, NAHIS and LIMS to improve the data-sharing process between the local, provincial, and federal levels for evidence-based decision making to improve border controls. Simultaneously, DLS should also improve the current data generation system to fulfill the requirements of risk assessment and improve risk-based inspections of DLS.

The Veterinary Services should actively participate in improving the system and integrating it with other technical IT systems. Communication with stakeholders should be strengthened to inform them about international trade and equivalence procedures. Human resources and the capacity of veterinary inspections should be strengthened, and a feasibility study should be conducted to establish a disease-free zone with vaccination if suggested by any province.

PART II: CONDUCT OF THE EVALUATION

At the request of the Government of Nepal, the Director General of WOAH appointed an independent WOAH PVS Team consisting of Dr Hichem BOUZGHAIA (Team Leader), Dr Niksa BARISIC (Technical expert), Dr Miftahul BARBARUAH (Trainee Expert) and Dr Mereke TAITUBAYEV (Observer) to undertake an evaluation of the veterinary services of Nepal. The evaluation was carried out on 18-29 September 2023.

The evaluation was carried out with close reference to the WOAH standards contained in Chapters 3.1., 3.2., 3.3. and 3.4., and in other chapters as relevant, of the WOAH *Terrestrial Animal Health Code* (the Terrestrial Code), using the WOAH *PVS Tool* (7th edition, 2019) to guide the process. Relevant Terrestrial Code references are referenced for each Critical Competency in Appendix .

This report identifies the strengths and weaknesses of the veterinary services of the Federal Democratic Republic of Nepal as referenced to the WOAH standards. The report also makes some general recommendations for actions to improve performance.

II.1 WOAH PVS Tool: method, objectives, and scope of the evaluation

To assist countries to establish their current level of performance, form a shared vision, establish priorities and carry out strategic initiatives, WOAH provides an evaluation tool called the WOAH Tool for the Evaluation of Performance of Veterinary Services (WOAH PVS Tool[1]) which comprises four fundamental components:

- Human, physical, and financial resources
- Technical authority and capability
- Interaction with stakeholders
- Access to markets

These four fundamental components encompass 45 Critical Competencies, for each of which five qualitative levels of advancement are described. For each Critical Competency, a list of suggested sources of verification was used by the WOAH PVS Team to help determine the level of advancement.

A glossary of terms is provided in Appendix 2.

The report follows the structure of the WOAH PVS Tool incorporating the descriptions and levels of advancement for each Critical Competency.

The objective and scope of the WOAH PVS Evaluation includes all aspects of the veterinary domain relevant to the WOAH Terrestrial Animal Health Code and the quality of Veterinary Services.

[1] Available at v17419-PVSTool.indd (woah.org)

II.2 Context of the evaluation

II.2.A Availability of data relevant to the evaluation

A list of documents received by the WOAH PVS Team before and during the PVS Evaluation mission is provided in Appendix 6. All documents and pictures listed in Appendix 6 are referenced to relevant Critical Competencies and provide material evidence for the levels of advancement and related findings.

Table 2 provides an overview of the availability of the main categories of documents or data needed for the evaluation, considering the requirements set out in the WOAH Terrestrial Code.

Table 2: Summary of data available for evaluation

Main document categories	Data available in the public domain	Data accessible only on site or on request	Data not available
→ **Animal census:**			
○ at 1st administrative level	X		
○ at 2nd administrative level	X		
○ at 3rd administrative level	X		
○ per animal species	X		
○ per production systems			X
→ **Organisations charts**			
○ Central level of the VS	X		
○ 2nd level of the VS	X		
○ 3rd level of the VS		X	
→ **Job descriptions in the VS**			
○ Central levels of the VS		X	
○ 2nd level of the VS		X	
○ 3rd level of the VS		X	
→ **Legislations, regulations, decrees …**			
○ Animal health and public health	X		
○ Veterinary practice	X		
○ Veterinary statutory body	X		
○ Veterinary medicines and biologicals	X		
○ Official delegation		X	
→ **Veterinary census**			
○ Global (public, private, veterinary, para-professional)		X	
○ Per level		X	
○ Per function		X	
→ **Census of logistics and infrastructure**		X	
→ **Strategic plan(s)**		X	
→ **Operational plan(s)**		X	
→ **Activity reports**	X		
→ **Financial reports**	X		
→ **Animal health status reports**		X	
→ **Evaluation reports**		X	
→ **Procedures, registers, records, letters**		X	

II.2.B General organisation of the Veterinary Services

Appendix 3 presents the general organisation of the Nepalese VS.

II.2.C Animal disease occurrence

Information on animal disease occurrence from the WOAH website (see **Table 3**)

Table 3: Disease status of the Nepal

Table 3.a: Disease present in Nepal

WOAH-listed diseases	Peste des petits ruminants virus (Inf. with)
Anthrax	African swine fever virus (Inf. with)
Brucella abortus (Inf. with)	Classical swine fever virus (Inf. with)
Echinococcus granulosus (Inf. with) (2014-)	Porcine reproductive and respiratory syndrome virus (Inf. with)
Foot and mouth disease virus (Inf. with)	Burkholderia mallei (Inf. with) (Glanders)
Mycobacterium tuberculosis complex (Inf. with) (2019-)	Avian infectious bronchitis
Rabies virus (Inf. with)	Fowl typhoid
Surra (Trypanosoma evansi)	High pathogenicity avian influenza viruses (poultry) (Inf. with)
Bovine anaplasmosis	Infectious bursal disease (Gumboro disease)
Bovine babesiosis	Influenza A viruses of high 'Pathogenicity (Inf. with) (non-poultry including wild birds) (2017-)
Haemorrhagic septicemia (Pasteurella multocida serotypes 6:b and 6:e)	Mycoplasma gallisepticum (Avian mycoplasmosis) (Inf.with)
Lumpy skin disease virus (Inf. with)	Newcastle disease virus (Inf.with)
Theileria annulata, Theileria orientalis and Theileria parva (Inf. with) (2023-)	Pullorum disease

Table 3.b: WOAH-listed diseases absent from Nepal

WOAH-listed diseases	Last occurrence	WOAH-listed diseases	Last occurrence
Aujeszky's disease virus (Inf. with)	31/12/1990	Contagious caprine pleuropneumonia	Unknown
Bluetongue virus (Inf. with)	31/12/2006	Sheep pox and goat pox	31/12/2011
Brucella abortus (Inf. with)	Unknown	Taenia solium (Inf. with) (Porcine cysticercosis)	31/12/2011
Brucella melitensis (Inf. with)	31/12/2013	Burkholderia mallei (Inf. with) (Glanders)	Unknown
Brucella suis (Inf. with)	Unknown	Equine piroplasmosis	Unknown
Japanese encephalitis	Unknown	Contagious caprine pleuropneumonia	Unknown
Infectious bovine rhinotracheitis/infectious pustular vulvovaginitis	Unknown	Burkholderia mallei (Inf. with) (Glanders)	Unknown
Rinderpest virus (Inf. with)	31/12/1990	Avian infectious laryngotracheitis	31/12/2009
Paratuberculosis	31/12/2008	Sheep pox and goat pox	31/12/2011
Trichomonosis	Unknown		

Table 3.c: WOAH-listed diseases never reported from Nepal

WOAH-listed diseases	Scrapie
Crimean Congo haemorrhagic fever (2006-)	Nipah virus encephalitis
Epizootic hemorrhagic disease virus (Inf. with)	Transmissible gastroenteritis
Equine encephalomyelitis (Eastern)(2006-)	African horse sickness virus (Inf. with)
Heartwater	Contagious equine metritis
New world screwworm (Cochliomyia hominivorax)	Dourine
Old world screwworm (Chrysomya bezziana)	Equid herpesvirus-1 (Inf. with) (Equine rhinopneumonitis) (2014-)
Rift Valley fever virus (Inf. with)	Equine arteritis virus (Inf. with)
West Nile Fever	Equine encephalomyelitis (Western)(2006-)
Bovine spongiform encephalopathy	Venezuelan equine encephalomyelitis
Bovine viral diarrhoea (2006-)	Myxomatosis
Enzootic bovine leukosis	Duck virus hepatitis
Mycoplasma mycoides subsp. mycoides SC (Inf. with) (Contagious bovine pleuropneumonia)	Turkey rhinotracheitis (2006-)
Caprine arthritis/encephalitis	Paenibacillus larvae (Inf. of honey bees with) (American foulbrood)
Contagious agalactia	Tropilaelaps spp. (Inf. of honey bees with)
Maedi-visna	Camelpox (2006-)
Nairobi sheep disease	

Table 3.d: WOAH-listed diseases without information during first semester 2023 in Nepal

Multiple species	Cattle
Anthrax	Bovine anaplasmosis
Bluetongue virus (Inf. with)	Bovine babesiosis
Brucella melitensis (Inf. with)	Bovine genital campylobacteriosis
Brucella suis (Inf. with)	Haemorrhagic septicaemia (Pasteurella multocida serotypes 6:b and 6:e)
Echinococcus granulosus (Inf. with) (2014-)	Infectious bovine rhinotracheitis/infectious pustular vulvovaginitis
Echinococcus multilocularis (Inf. with) (2014-)	Lumpy skin disease virus (Inf. with)
Foot and mouth disease virus (Inf. with)	Trichomonosis
Japanese encephalitis	**Sheep/Goats**
Mycobacterium tuberculosis complex (Inf. with)(2019-)	Chlamydia abortus (Inf. with) (Enzootic abortion of ewes, ovine chlamydiosis)
Paratuberculosis	Contagious caprine pleuropneumonia
Q fever	Ovine epididymitis (Brucella ovis)
Surra (Trypanosoma evansi)	Peste des petits ruminants virus (Inf. with)
Trichinella spp. (Inf. with)	Salmonellosis (S. abortusovis)
Trypanosoma Brucei, T. Congolense, T. Simiae and T. Vivax (Inf. with) (2022-)	Sheep pox and goat pox

Lagomorphs	Swine
Tularemia	Classical swine fever virus (Inf. with)
Rabbit haemorrhagic disease	Taenia solium (Inf. with) (Porcine cysticercosis)
Equidae	**Birds**
Equine infectious anaemia	Avian chlamydiosis
Equine influenza virus (Inf. with)	Avian infectious bronchitis
Equine piroplasmosis	Avian infectious laryngotracheitis
Bees	Fowl typhoid
Acarapis woodi (Inf. of honey bees with)	Infectious bursal disease (Gumboro disease)
Aethina tumida (Inf. with) (Small hive beetle)(2006-)	Low pathogenicity avian influenza viruses transmissible to humans (Inf. with) (2022-)
Melissococcus plutonius (Inf. of honey bees with) (European foulbrood)	Mycoplasma gallisepticum (Avian mycoplasmosis) (Inf. with)
Varroa spp. (Inf. of honey bees with) (Varroosis)	Mycoplasma synoviae (Avian mycoplasmosis) (Inf. with) (2006-)
Other diseases and infections	Pullorum disease
Middle East respiratory syndrome coronavirus (inf. with) (2022-)	

II.3 Organisation of the evaluation

II.3.A Timetable of the mission

Appendix 4 provides a list of key persons met; the timetable and a map of the mission and details of the facilities and locations visited by the WOAH PVS Team and Appendix 5 provides the air travel itinerary of PVS Team members.

II.3.B Categories of sites and sampling for the evaluation

Table **4** lists the categories of sites relevant to the evaluation and the number of each category of sites in the country. It indicates how many of the sites were visited, in comparison with the suggested sampling framework ("ideal" sampling) recommended in WOAH PVS Manual.

Table 4: Site sampling

	Terminology or names used in the country	Number of sites	"Ideal" sampling	Actual sampling
GEOGRAPHICAL ZONES OF THE COUNTRY				
Agro-ecological zone	Mountain	16 districts	2	0
	Hill	41 districts	4	9
	Terai	20 districts	2	7
ADMINISTRATIVE ORGANISATION OF THE COUNTRY				
1st administrative level	Central	3	3	2
2nd administrative level	Provinces	7	1	4
3rd administrative level	District	77	8	13

4th administrative level	Local level (Municipal)	753	75	4
Urban entities	Urban Metropolis	6	1	5
VETERINARY SERVICES ORGANISATION AND STRUCTURE				
Central (Federal/National) VS	DLS, DFTQC	2	2	2
The internal division of the central VS	ADICD, AQD, PCU	3	3	3
1st level of the VS	Provincial Directorate	7	1	4
	Animal Quarantine Office	8	1	4
2nd level of the VS	Provincial District Hospitals (VHLSEC)	75	8	6
3rd level of the VS	Municipal Livestock Service Facility	753	75	4
Veterinary organisations (VSB, unions…)	Nepal Veterinary Council, Nepal Veterinary Association, Veterinary Practitioner's Association Nepal, Veterinary Public Health Association, Nepal Para-veterinary and Livestock Association, Nepal Livestock Health Service Technician Association, Nepal Animal Science Association (NASA),	7	2	7
FIELD ANIMAL HEALTH NETWORK				
Field level of animal health network	CRVH + Veterinary Hospital and Livestock Service Expert Centre (VHLSEC)	76	8	7
	Municipal Livestock Service Facility	753	75	2
Private veterinary sector	Private Veterinarians and Livestock technicians	NA	NA	3
Other sites (dip tanks, crush pens….)	NA	NA	NA	0
VETERINARY MEDICINES & BIOLOGICALS				
Production sector	Vaccine and veterinary medicines production	5	1	1
Import and wholesale sector	Wholesaler	NA	NA	0
Retail sector	Agro Vet	NA	NA	1
Other partners involved				
VETERINARY LABORATORIES				
National, Regional, and local labs	Central Vet Lab with Satellite in Country Labs Other National Labs, e.g., National Avian Disease Investigation Laboratory, FAD&TADs Investigation Laboratory, Veterinary Standards and Drug Regulatory Laboratory, National Animal Feed & Livestock Quality Management Laboratory. BIPs labs DFTQC National Food & Feed Reference Laboratory	20	2	7
Associated, accredited, and other labs.				
ANIMAL AND ANIMAL PRODUCTS MOVEMENT CONTROL				
Bordering countries	India, China			
Airports and seaport border posts	Kathmandu	1	0	0

Main terrestrial border posts	International check post	8	1	2
Minor terrestrial border posts	Temporary Check post	15	2	2
Quarantine stations for import or export	NA			
Internal checkpoints	Internal Check Post	4	0	0
Live animal markets	NA			
Zones, compartments	NA			
PUBLIC HEALTH INSPECTION OF ANIMALS AND ANIMAL PRODUCTS				
Export slaughterhouses	NA	NA	NA	0
National market slaughterhouses	NA	NA	NA	0
Local market slaughterhouses	NA	NA	NA	1
Slaughter areas/slabs/points	NA	NA	NA	0
On-farm or butcher's slaughtering sites	NA	NA	NA	0
Processing sites (milk, meat, eggs, etc.)	NA	NA	NA	4
Retail outlets (butchers, shops, rest.)	NA	NA	NA	0
TRAINING AND RESEARCH ORGANISATIONS				
Veterinary college/university	Nepal Polytechnic Institute, Tribhuvan University, Agriculture and Forestry University, Himalayan College of Agricultural Science and Technology	4	1	1
Training centre for service providers and farmers (publicly funded)	Livestock Service Training Centre (one federal, seven provincial)	8	1	2
Veterinary paraprofessional schools	Affiliated colleges under the Council of Technical Education and Vocational Training (CTEVT)	83 (Diploma in Animal Science) 89 (Pre-diploma)	Any resource organization	1 (TITI, CTEVT)
Veterinary research organizations	Nepal Agricultural Research Council	1	1	0
STAKEHOLDERS' ORGANISATIONS				
Agricultural Chamber/ Organization				
National livestock farmers organizations	Pig Entrepreneurs Association Nepal, Federation of Commercial Goat Farming Association Nepal) Nepal Poultry Federation	NA	NA	3
Local livestock farmers' organizations	NA	NA	NA	0
Other stakeholder/ consumer organizations	Federation of Animal Welfare Organizations National Livestock Resource Management and Promotion Office (NLRMPO) Nepal Veterinary Chemists and Druggists Association	1	1	3

PART III: RESULTS OF THE EVALUATION & GENERAL RECOMMENDATIONS

This evaluation identifies the strengths and weaknesses of the veterinary services, and makes general recommendations, across the four main fundamental components of the PVS tool:

FUNDAMENTAL COMPONENTS	
1.	HUMAN PHYSICAL AND FINANCIAL RESOURCES
2.	TECHNICAL AUTHORITY AND CAPABILITY
3	INTERACTION WITH STAKEHOLDERS
4.	ACCESS TO MARKETS

The activities of the Veterinary Services are recognised by the international community and by WOAH Members as a 'global public good'. Accordingly, it is essential that each country acknowledges the importance of the role and responsibilities of its Veterinary Services and gives them the human and financial resources needed to fulfil their responsibilities.

This WOAH PVS Evaluation examined each Critical Competency under the 4 fundamental components, listed strengths and weaknesses where applicable, and established a current level of advancement for each Critical Competency. Evidence supporting this level included interviews and field observations associated with the mission, and also documentary evidence, as listed in Appendix 6. General recommendations are provided where relevant.

The current level of advancement for each Critical Competency is shown in cells shadowed in grey (15%) in the table and indicated in the line LEVELS OF ADVANCEMENT - x. The Level of Advancement obtained by the country during the previous PVS missions is shown in the table preceding Findings in each critical competency.

III.1Fundamental component I: Human, physical and financial resources

This component of the evaluation concerns the institutional effectiveness and sustainability of the VS as demonstrated by the levels of human, physical and financial resources available and their efficient application. It comprises fourteen Critical Competencies:

Critical Competencies:

Section I-1Professional and technical staffing of the Veterinary Services (VS)
A. Veterinary and other professionals (university qualified)
B. Veterinary paraprofessionals
Section I-2 Competency and education of veterinarians and veterinary paraprofessionals
A. Veterinarians
B. Veterinary paraprofessionals
Section I-3Continuing education (CE)
Section I-4Technical independence
Section I-5Planning, sustainability and management of policies and programmes
Section I-6Coordination capability of the Veterinary Services
A. Internal coordination (chain of command)
B. External coordination (including the One Health approach)
Section I-7Physical resources and capital investment
Section I-8Operational funding
Section I-9Emergency funding

Terrestrial Code References:
Points 1-7, 9 and 14 of Article 3.1.2. on Fundamental principles of quality: Professional judgement/Independence/ Impartiality/Integrity/Objectivity/Veterinary legislation/General organisation/Procedures and standards/Human and financial resources.
Point 4 of Article 3.2.1. on General considerations.
Point 1 of Article 3.2.2. on Scope.
Points 1 and 2 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services.
Point 2 of Article 3.2.4. on Evaluation criteria for quality system.
Article 3.2.5. on Evaluation criteria for human resources.
Points 1-3 of Article 3.2.6. on Evaluation criteria for material resources: Financial/Administrative/Technical.
Points 3 and Sub-point d) of Point 4 of Article 3.2.10. on Performance assessment and audit programmes: Compliance/In-Service training and development programme for staff.
Article 3.2.12. on Evaluation of the veterinary statutory body.
Points 1-5 and 10 of Article 3.2.14. on Organisation and structure of Veterinary Services/National information on human resources/Financial management information/Administration details/Laboratories engaged in diagnosis/Performance assessment and audit programmes.

I-1. PROFESSIONAL AND TECHNICAL STAFFING OF THE VETERINARY SERVICES (VS)

DEFINITION
The appropriate level of staffing of the VS to allow for veterinary and technical functions to be undertaken efficiently and effectively.
A. Veterinary and other professionals (university qualified)
The appropriate level of staffing of the VS to allow for veterinary and other professional functions to be undertaken efficiently and effectively.
LEVELS OF ADVANCEMENT - 2
1. The majority of positions requiring veterinary or other professional skills are not occupied by appropriately qualified professionals.
2. The majority of positions requiring veterinary or other professional skills are occupied by appropriately qualified professionals at central and state/provincial levels.
3. The majority of positions requiring veterinary or other professional skills are occupied by appropriately qualified professionals at local (field) levels.
4. There is a systematic approach to defining job descriptions and formal, merit-based appointment and promotion procedures for *veterinarians* and other professionals.
5. There are effective procedures for formal performance assessment and performance management of *veterinarians* and other professionals.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011:	3

Findings:

The Ministry of Agriculture and Livestock Development (MoALD) – the parent ministry of VS is aware and proactive about handling the challenges related to human resource development in a structured way in the changed context of governance after the federalization of Nepal. Evidence indicated the Ministry's engagement with the Nepal Administrative Staff College (NASC) in this context.

The country has competent veterinarians and other professionals. The number of registered veterinarians as of 2023 is 1814. The Nepal Veterinary Council (NVC) registered 239 specialist veterinarians and 33 foreign veterinarians between 1999-2023. Most of these veterinarians still work in Nepal's public and private sectors. However, discussions during the mission indicated a high outmigration of veterinarians. A paper published in 2018 also concluded that brain drain is becoming an important issue in Nepal's agriculture and veterinary sector. More than half of the students from this sector intend to go abroad.

The VA in Nepal also receives services from university-qualified animal science professionals. Discussions with the Nepal Animal Science Association (NASA) indicated a membership of around 500 professionals.

Veterinarians and other professionals are in leadership positions at the federal and provincial levels and in the private sector. As per the Central Bureau of Statistics (2021) data shared during interactions at Nepal Veterinary Council, there is one veterinarian per 1808 livestock

households and 38612 domestic animals. The NVC has a programme to estimate the human resources requirement for veterinary services. An analysis included in appendix 3 indicates uneven distribution of veterinarians across the country.

While the organizational structures are generally uniform across various levels of administration, interactions at various provincial and local institutions indicated varied vacancy rates in the context of professional and technical staffing. Civil services provision permits experienced veterinary paraprofessionals and other professionals to occupy VS positions more suitable for qualified veterinarians.

The relatively new federal structure of Nepal resulted in devolved responsibilities related to official veterinary services to provincial and local authorities. The job description of personnel under the provincial and local authority contains official VS functions. However, the reporting structure for official VS functions assigned to subnational staff is not clear and does not ensure management control of workforces on the part of federal DLS. The number of regularly employed staff in DLS at the central level and in all its offices is inadequate considering current control plans (eg. inspections, outbreak investigations). The federal VA envisage at least one assigned inspector in each district for official inspections. Currently in some regions one inspector is responsible for the activities of more than one district. DLS is yet to consider the opportunities of private sector partnerships to address staff constraints. There are, however, instances of limited delegation to private veterinarians to perform VS jobs like health certification of livestock for internal movement.

DLS, in collaboration with provincial and local VS, is already implementing a programme to contractually employ one veterinarian for each local government. The federal government is funding the programme. With inadequate data related to programme implementation, the PVS Team could not assess the programme's coverage. The PVS Team, however, interacted with a few contract veterinarians at the local government level. They are mostly recent graduates, and the discussion indicated a high turnover of people employed under the programme. The contract veterinarian does not have the authority of permanent staff and often needs to work under the supervision of regular employees, including paraprofessionals. The job description includes official VS functions, but clinical service commitments limit their involvement in official VS.

In recent years, the VA has been going through employee adjustment within three tiers of government based on the logic that with the devolved power structure of the federal constitution, much of the workload has gone to the subnational levels. Discussions indicated that financing resource and ability disparities exist across subnational governments, which has resulted in significant differences within provinces for the engagement of required professionals.

As evident from various discussions, the VA is now more sensitive to the importance of qualified and competent veterinarians and other professionals to address the need for the One Health agenda, required laboratory support for emerging disease control, and to meet the country's aspirations for international livestock trade.

Nepal is slowly adjusting to the new federal arrangements, and there is a high possibility of government prioritization of reform and rationalization of civil services, including institutional restructuring of VA in Nepal in the immediate future. Such restructuring will greatly influence professional workforce engagement within VS.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- The federalization of Nepal since 2015 has necessitated organizational restructuring and realignment of VS positions at the provincial and local levels. The VS is negotiating with the changed governance structure to ensure the right people are at the right place and time. The presence of veterinarians and other professionals at the field / local government level has improved marginally. The engagement of contract

veterinarians is a relatively new initiative; however, the interviews indicate a high turnover of contract veterinarians at the local level who are looking for a better work environment and career progression.

Strengths:

- A respectable number of veterinarians (around 2,000) and other university-trained animal science professionals contribute to VS in Nepal.
- Most positions within VS at the federal and provincial levels have qualified professionals.
- The government is implementing a policy and earmarking budget provision of ensuring a minimum of one veterinarian in each local government.
- Some private veterinarians already contribute to functions like issuing health certificates for internal animal movements.

Weaknesses:

- Data related to the distribution of veterinarians and other professionals in all three tiers of government (central, provincial, and local) are inadequate and are not updated
- Insufficient number of inspectors at the district level
- Discussion with stakeholders during the field visits indicated an insufficient number of veterinarians at the local level (municipalities)
- Animal production, animal health care and husbandry services and related assignments constraints availability of veterinarians for official VS

Recommendations:

- Ensure up-to-date data and analytics of current professional human resources availability, adequacy, and access at all levels of VS are available with the VA. The analysis will help VS immediately assess the impact and justify its workforce requirements and distribution in light of any forthcoming institutional restructuring of the VA.
- Continue investment in improving the field network of veterinarians and other professionals to ensure the proper implementation of all the VS official programmes and activities.
- The number of inspectors could be proportionally increased based on the above considerations (VS mission and programmes' needs) to ensure at least one inspector in each district.
- Review the job profile of positions critical for implementing official VS. Ensure a balanced workload and incentive framework to engage and retain the best available professional talents in such posts. The job description and reporting structure should consider potential conflicts of interest, needed accountability, and supervision.
- Evaluate and strategically promote the limited practice of engaging private veterinarians to perform specific official activities.
- For the performance of public and private veterinary services, it is essential to ensure the appropriate number and mix of professionals with competencies aligned with the assigned job/task at different levels. VS should prepare a case for enhanced professional staffing with the required skill mix (including associated professionals like social and data scientists, economists, etc.) to deliver official veterinary services highlighting animal disease threats, public health challenges, and the opportunity for and the aspiration of Nepal to tap the international livestock market. The estimation of the workload of VS (current and future) is essential to project the workforce requirement.

- According to the above, the PVS Team recommends considering a second PVS Gap analysis mission or targeted help to develop a strategic plan and action plan for veterinary workforce development. In coordination with the university and the NVC, promote the dissemination of VS missions' culture (role of the veterinarians in promoting all health in the country and the world) and, initiate national programmes to attract talented youths to join the veterinary profession and endeavor to provide in-country post-qualification opportunities to them.
- It is also essential to publish gazette notification related to legislative provisions for additional workforce engagement during emergencies.

Evidence (as listed in Appendix 6):

E-2, E-3, E-38, E-40, E-56, E-64, E-65, E-66, E-73, E-110, P-3,

I-1. PROFESSIONAL AND TECHNICAL STAFFING OF THE VETERINARY SERVICES (VS)

DEFINITION
The appropriate level of staffing of the VS to allow for veterinary and technical functions to be undertaken efficiently and effectively.
B. Veterinary paraprofessionals
The appropriate level of staffing of the VS to allow for *veterinary paraprofessional* (according to the WOAH definition) functions to be undertaken efficiently and effectively. This covers WOAH *veterinary para-professional* categories having trained at dedicated educational institutions with formal qualifications which are recognised by the government or the VSB.
LEVELS OF ADVANCEMENT - 2
1. The majority of positions requiring *veterinary paraprofessional* skills are not occupied by personnel holding appropriate qualifications.
2. Some positions requiring *veterinary paraprofessional* skills are occupied by personnel holding appropriate qualifications. There is little or no veterinary supervision.
3. The majority of positions requiring *veterinary paraprofessional* skills are occupied by personnel holding appropriate qualifications. There is a variable level of veterinary supervision.
4. The majority of *veterinary paraprofessional* positions are effectively supervised on a regular basis by *veterinarians*.
5. There are effective management procedures for formal appointment and promotion, as well as performance assessment and performance management of *veterinary paraprofessionals*.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011:	3

Findings:

Nepal's Agriculture Development Strategy (2015 -2035) emphasizes service delivery at the Village Development Committee (VDC) level. The strategy proposed establishing Community Agricultural Extension Service Centres (CAESC) under each VDC, engaging agriculture and livestock technicians. For the fiscal year 2023-24, the government budget also announced a sum of NRs 470 million under the programme "Technical services on spot, support to production" to ensure agricultural and livestock husbandry technicians at every local level. The DLS at the federal level is already implementing a programme to assist local government in recruiting a minimum of one livestock technician per municipality. Evidence provided during the PVS mission indicated established positions for such technicians in most local government facilities.

Livestock technicians are an integral part of VS. Secondary regulation based on the Civil Service Act specifies qualifications, roles and responsibilities, performance measurements and promotion, salary, rewards, punishments, and capacity development opportunities for Livestock Technicians employed in the government sector.

Though the Livestock Technicians are assigned to perform animal health and public health-related tasks within VS, they are not authorized and regulated by the Nepal Veterinary Council, and no legal framework exists for them to receive the supervision of a registered veterinarian. Nepal Veterinary Council Act and regulations do not mention/specify Livestock Technicians as

Veterinary Paraprofessionals (VPPs). However, Livestock Technicians in Nepal are considered as equivalent to VPPs when they contribute to veterinary services. Job positions like JT /JTA (Veterinary) exist within VA, and Livestock Technicians are members of organizations like the Nepal Para-veterinary and Livestock Association. Discussion at the Nepal Veterinary Council indicated regulatory provisions that list specific animal / public health functions that can be permitted for delivery by Livestock Technicians with or without the supervision of registered veterinarians. However, no evidence for this was provided to the PVS Team.

The newly enacted Animal Health and Livestock Professional Act (2022) envisages a new regulatory body that will register Livestock technicians. The same regulatory body will also register professionals with university qualifications in animal science. The rules under the new Act are at the formative stage, and there is no clarity regarding means to mitigate the public health risks and animal welfare challenges associated with unsupervised animal and public health activities of livestock technicians, particularly in the private sector. Around 4,000 qualified Livestock technicians are working with the VA. Unconfirmed data indicates that an additional 30,000 qualified livestock technicians work with the private sector as employees or independent private service providers. Approximately 25,000 Community Animal Health Workers (CAHWs) were certified by CTEVT or VA under various funded projects. Currently the VA is not certifying CAHWs. Discussion during the PVS mission indicated that the country has a sufficient number of livestock technicians to replace CAHWs, at least in the Terai and hill region.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of the current mission):*

- There has been a marked improvement in the availability and distribution of Livestock technicians since 2008.
- The Government of Nepal enacted the Animal Health and Livestock Service Professional Act of 2022 to provide professional registration and regulation of animal science graduates (other than veterinarians) certified by universities and Livestock technicians certified by CTEVT and Ministry of Education, Science and Technology.

Strengths:

- The strong and well distributed public and private workforce of livestock technicians
- Job descriptions and qualification requirements for the engagement of livestock technicians are defined within the public service.
- Many livestock technician training schools provide an assured supply of required human resources.

Weaknesses:

- Inadequate legal provision to authorize livestock technicians as VPPs with assigned VS-related tasks and measures like supervision by registered veterinarians for risk mitigation.
- Limited role of NVC (Veterinary Statutory Body) to guide the engagement of livestock technicians as VPPs
- Inadequate engagement of VA with CTEVT to ensure quality initial training of Livestock technicians and their appropriate utilization as VPPs for implementation activities within VS.

Recommendations:

- Explore legislative possibilities to designate interested and competent livestock technicians as Veterinary Paraprofessionals (VPPs). Clearly define designated VPPs as an occupational group with the permitted sphere of work (Role clarity),

accountability, prerogatives, and disciplinary provisions. Ensure they receive the required supervision and mentorship from registered veterinarians while delivering animal health / public health services. It is advisable to have one legislation regulating veterinarians and designated livestock technicians serving as VPPs, i.e., One Veterinary Statutory Body, to regulating both Veterinarians and VPPs.

- Engage with stakeholders so that there is a general appreciation of the fact that veterinarians and VPPs job functions in the context of animal health and public health service delivery are interlinked, and proper field-level team building is necessary for quality service delivery and to address public health risks.
- Seek legal assistance to review and help mitigate possible problems related to overlaps, inconsistencies in regulation, and Veterinarian-VPP team building arising from the future implementation of the newly enacted Animal Health and Livestock Professional Act 2022, as it also intends to regulate Livestock technicians who can be designated as VPP.
- Assess the requirement of VPPs in the public/private sector and conduct VS-related competency assessment of select interested livestock technicians (with the potential to be designated as VPP) and invest in bridging the competency gap.
- Promote VPPs as a regulated, skilled occupation in both public and private sectors. Create space for them within official VS and private clinical services market by prohibiting people other than designated VPPs from performing animal health/ public health related functions. This should be done on an incremental basis, ensuring the availability of sufficient numbers of designated VPPs. Ensure necessary public awareness about the sphere of activities of VPPs and their association with the registered mentors / supervising veterinarians.
- Ensure smooth career progression for designated VPPs and provide a better work environment, including occupational safety and health support. Engage with appropriate authorities to include designated VPPs as an occupational classification under the Nepal Standard Classification of Occupation (NSCO). This is needed to attract talented Livestock technicians to contribute as VPPs.
- Assign select skilled veterinarians as mentors of designated VPPs and incentivize the supervision and mentoring activities by such mentor veterinarians.
- Engage with stakeholders to develop a supervision and mentoring framework focusing on Vet-VPP team building for better outreach of services. Explore technology-based options to capture health events attended by VPPs and share them with the nearest supervising/mentor veterinarians.
- Develop schemes to promote and support organized independent private practice by veterinarians with designated VPPs as team members.
- Collaborate with CTEVT to ensure initial training orients and attract future Livestock technicians for more specialized careers as VPP with add-on continuous training.
- Conduct an assessment of the role and contribution of CAHWs, primarily focusing on interior and less developed areas, to make fact-based decision on possible engagement of CAHWs.

Evidence (as listed in Appendix 6):

E-2, E-3, E-40, E-67, E-73,

I-2. COMPETENCY AND EDUCATION OF VETERINARIANS AND VETERINARY PARAPROFESSIONALS

DEFINITION
The capability of the VS to effectively carry out their veterinary and technical functions, as indicated by the level and quality of the qualifications of their personnel in veterinary and veterinary paraprofessional positions.
A . Veterinary and other professionals (university qualified)
This references the WOAH re-commendations on the Competencies of graduating veterinarians ('Day 1 graduates') to assure National Veterinary Services of quality, and WOAH guidelines on Veterinary Education Core Curriculum.
LEVELS OF ADVANCEMENT – 2
1. The veterinarians' knowledge, skills and practices, are of a variable standard that allow only for elementary clinical and administrative activities of the VS.
2. The veterinarians' knowledge, skills and practices are of a uniform standard sufficient for accurate and appropriate clinical and administrative activities of the VS.
3. The veterinarians' knowledge, skills and practices are sufficient for all professional/technical activities of the VS (e.g. surveillance, treatment and control of animal disease, including conditions of public health significance).
4. The veterinarians' knowledge, skills and practices are sufficient for specialised technical activities (e.g. higher level epidemiological analysis, disease modelling, animal welfare science) as may be needed by the VS, supported by post-graduate level training.
5. The veterinarians' knowledge, skills and practices are subject to regular updating, and are internationally recognised such as through formal evaluation and/or the granting of international equivalence with other recognised veterinary qualifications.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

The veterinarians' knowledge, skills, and practices are of a uniform standard. Four (4) numbers of Veterinary Educational Establishments (VEEs) in Nepal affiliated with three universities provide a 5-year duration of Bachelor of Veterinary Science and Animal Husbandry (BVSc & AH) course. The VEEs also offer opportunities for higher education. The graduates of various colleges appear for a licensure examination to register as veterinarians, and the average pass percentage of this examination is 56.1%.

Veterinarians within the country receive harmonized initial education, and the Nepal Veterinary Council describes minimum standard requirements for graduate qualification and regularly coordinates with (VEEs) affiliated with universities to ensure the quality of education.

Between 2014 and 2017, Nepal benefited from Massey University's One Health capacity-building programme, "Integrating Education and Action for One Health", funded by the European Commission under the One Health Programme in Asia.

The PVS Team collected evidence of recent communication from the Nepal Veterinary Council to selected experts engaged in curriculum revision to follow "WOAH recommendations on the competencies of graduating veterinarians (Day 1 graduates). However, the council has not

used the WOAH Excel-based tool to compare the national curriculum with WOAH recommendations. Discussion conducted at the veterinary faculty of Nepal's Agriculture and Forestry University (AFU) indicated an ongoing (2022-2027) USAID Agriculture Higher Education project that aims to work with Nepal's AFU to introduce student-centred curricula, innovative course materials, and experiential learning opportunities.

The findings demonstrate efforts aimed at producing competent veterinarians to serve the VS. As per civil services regulation, veterinarians within VS get the opportunity to upskill themselves in administrative and managerial domains.

Standard civil service rules govern veterinarians and other professionals occupying gazetted positions within the VA. The civil services rules make it mandatory to enforce the job description and qualification/experience requirements for any position, and veterinarians working with VA operate within the given job description. There is, however, scope to improve job descriptions and qualification requirements based on the competency needed for the jobs.

Discussion during the PVS mission indicated that professionals associated with official VS functions must operate with numerous other responsibilities, prioritizing primarily clinical and production services.

Nepal civil services rules has provision related to expert posts. The VA has been trying for expert subgroups under broad expert classification to meet the need for specialist positions within the VA.

In 2016, Nepal Civil Services introduced the practice of signing performance contracts to improve the performance of government executives and service delivery, and the class-I officers of the VA sign performance contracts. Discussion during the PVS mission indicated ample opportunities to improve human resources management. VS should advocate for competent professionals to lead technical and specialized VS functions.

The PVS Team interacted with many knowledgeable veterinarians and acquired a positive impression of general competency both in the technical and organizational aspects.

The interaction during the PVS mission indicated the leadership role of veterinarians in implementing VS activities related to animal quarantine, risk analysis, surveillance, treatment, and control of animal disease. Veterinarians have recently led initiatives within the VA related to One Health and AMR. However, the current priorities of the VA do not provide opportunities for veterinarians to contribute to food safety issues and specialized technical services like disease modelling, etc. The NVC specialist database shows seven registered epidemiologists, 11 microbiologists, and 11 specialists in Veterinary Public Health.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of the current mission):*

- Nepal Veterinary Council enforced the Minimum Standard Requirements for BVSc. & AH. Degree Regulation, 2006. There is also the adoption of the Nepal Veterinary Council Licensure Examination (NLEV) for Veterinarian By-laws, 2016, ensuring uniform competency assessment of day-1 graduates before registration.
- The adoption of Nepal Veterinary Council specialist registration by- law in 2020 further strengthened the provision of registration of specialist veterinarians, thus encouraging competency acquisition by professionals.

Strengths:

- The established legal framework, infrastructure and systems to ensure the production and registration of competent veterinarians

Weaknesses:

- Job descriptions of veterinarians are broad and often do not prioritize official VS functions.
- Limited practice of awarding performance based on objective assessment
- Frequent shuffling of staff in the public services hinders specialized services
- A general absence of inspection in slaughterhouses in Nepal most likely affects the competencies and skills to perform related activities, such as ante- and post-mortem and meat inspection and verification of GHP and HACCP.

Recommendations:

- Build on existing strengths by investing in appropriate training and exposure of educators, improving teaching pedagogy, and adopting simulation tools in colleges for skilling. Investment in improving the teaching-learning system at VEEs will help address the relatively low average pass percentage of the Nepal Veterinary Council Licensure Examination.
- Encourage VEEs to join regional networks to exchange faculties, students, and shared learning resources.
- Conduct a detailed functional analysis of the official VS to identify the required competencies to share with NVC / VEEs during the periodic curriculum review process. Conduct a self-evaluation of the existing veterinary curriculum and continue aligning the curriculum to VS requirements and WOAH recommendations.
- Strengthen data systems focusing on the distribution of workforce and develop strategic action plans for veterinary workforce development to ensure the availability of a competent mix of professionals at the right time and place.
- Expand the performance contract system within the VA, promote engagement, and ensure a mechanism to 'reward' the better performers and 'punish' the laggards.
- An urgent revision of the current inspection guidelines towards a risk-based approach is highly recommended to target the existing resources on risks. Topics related to the introduction to principles of risk assessment, risk-based categorization of food Industries, import risk assessment (both qualitative and quantitative), outbreak investigation, inspection data analysis, critical control point in the value chain, conflict management, advanced level Training of Trainers programme on SPS and risk analysis, risk-based inspection should be prioritized for competency development. Similarly, competencies related to slaughterhouse and meat inspections are also necessary.
- Implement capacity building activities using various formats, including traditional training formats, but also E-learning modules and simulations (i.e., outbreak simulation exercises) as well as in-field training and mentoring.

Evidence (as listed in Appendix 6):

H-2, E-3, E-60, E-68, E-69, E-98, E-110, P-11, P-57,

I-2. COMPETENCY AND EDUCATION OF VETERINARIANS AND VETERINARY PARAPROFESSIONALS

DEFINITION
The capability of the VS to effectively carry out their veterinary and technical functions, as indicated by the level and quality of the qualifications of their personnel in veterinary and *veterinary paraprofessional* positions.
B. Veterinary paraprofessionals
This references the WOAH Competency Guidelines for Veterinary Para-professionals and WOAH Curricula Guidelines for *Veterinary Para-professionals*.
LEVELS OF ADVANCEMENT - 2
1. Positions requiring *veterinary paraprofessional* skills are generally occupied by those having no formal training or qualifications from dedicated educational institutions.
2. The training and qualifications of those in positions requiring *veterinary paraprofessional* skills is of a variable standard and allows for the development of only basic competencies.
3. The training and qualifications of *veterinary paraprofessionals* is of a fairly uniform standard that allows the development of some specific competencies (e.g. vaccination on farms, *meat* hygiene control, basic *laboratory* tests).
4. The training and qualifications of *veterinary paraprofessionals* is of a uniform standard that allows the development of more advanced competencies (e.g. blood and tissue sample collection on farms, supervised *meat* inspection, more complex *laboratory* testing).
5. The training and qualifications of *veterinary paraprofessionals* is of a uniform standard and is subject to regular evaluation and/or updating.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	4

Findings:

Livestock technicians working with VA and in private practice have two kinds of formal qualifications, viz. Junior Technical Assistants (JTA) and Junior Technicians (JT). The training duration is at least 18 months (pre-diploma) to enter the workforce with a JTA qualification. One can choose career progression and complete one more year of JT coursework. Nepal's vocational education system also trains students from 9-12 grade with animal science electives, and such students automatically qualify for pre-diploma after completing grade 10. They can decide to enter the workforce as JTA or continue the course and complete grade 12 to become a diploma holder JT. The training contains up to 390 hours of internship and is certified by a national agency in the technical and vocational education sector, viz. Council for Technical Education and Vocational Training (CTEVT). The curriculum document approved by the CTEVT states that the training courses are designed for lower-level human resources in Livestock Production and Animal Health.

Besides livestock production and extension-related objectives, the structured curriculum of Junior Technicians (3-year diploma after grade 10) focuses on producing human resources capable of diagnosing symptoms of different animal diseases and health conditions of livestock species and pets. It envisages that students of the course will provide preventive and curative services to domesticated animal farmers and deliver animal management, first aid, and referral services. The core VS-related subjects include Basic Livestock Health Management (13 credit

hours), Introduction to One Health, Zoonosis, and Food Safety (4 credit hours), Introductory Veterinary Laboratory Techniques (4 credit hours), Introductory Animal Welfare and Jurisprudence (3 credit hours), Basic of farm housing & Biosecurity (4 credit hours). A further review of various unit objectives and course details indicates that the course expects students to be able to explain drug action on multiple body systems, calculation of doses of drugs, drug prescriptions, vaccines, and vaccinations. It also expects students to be able to evaluate the quality of meat. The practical training's cover blood collection, usual laboratory examinations, and conduct of post-mortem, meat inspection, etc.

Discussion during the PVS mission indicates that veterinarians (including official veterinarians) are involved in conducting the functional analysis and designing of the curriculum; however, there is no evidence of formal engagement of the VA in the initial training of livestock technicians. There is no evidence of any reference to WOAH competency guidelines and curriculum for livestock technicians.

The curriculum is traditional, and there is no evidence of an attempt to make it competency-based or outcome-based. The PVS Team felt that the current curriculum is overloaded and imbalanced. There is a need to review the curriculums to ensure the breadth and depth of learning are achievable within the time allocated in the curriculum.

Interaction of the PVS Team with a few livestock technicians during field visits indicated general lack of awareness of AMR and prudent use of antimicrobials.

Discussion during the PVS mission indicated that Nepal has an impressive network of training institutes that provide JTA / JT courses. Besides this, several secondary schools provide animal science electives from grades 9 to 12, and students completing grade 12 can directly enter the workforce as JT. The PVS Team could not collect sufficient evidence of regular assessment and monitoring of the performance of training schools offering relevant courses and the competency of day-1 students completing JTA / JT courses.

Several funded projects promoted the training of CAHWs in Nepal over a considerable period. The discussion during the PVS mission indicated that CAHWs have essential competencies and can support VS in inaccessible rural areas. However, it was beyond the scope of the PVS mission to assess the sustainability and adequacy of CAHWs in light of the enhanced supply of livestock technicians.

The Nepal Skill Testing Board (NSTB)-operating under the umbrella of CTEVT, has developed National Occupational Skill Standards (NOSS) for Livestock Junior Technicians (JT), Livestock Junior Technical Assistants (JTAs) and Veterinary Junior Technical Assistants. The board also published standards for Village Animal Health Worker and occupational profile of community livestock technicians. The PVS Team could not conduct a more detailed review of existing standards and their actual field use.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of the current mission):*

- *The revision of the curriculum was made at periodic intervals. For example, the One-year JT curriculum, which was developed in 2002, was revised in 2014 and 2021*
- *CTEVT is in the process of aligning its JTA (equivalent to National Technician Certificate) and JT (Equivalent to National Diploma) courses to Levels 4 and 5 of the National Qualification Framework (NQF), respectively.*

Strengths:

- Established network of training schools to support quality initial training
- Strong institutional framework and established procedures for developing occupational skill standards and curriculum.

Weaknesses:

- Inadequate formal communication between CTEVT, the DLS and the NVC to define the day-1 competency requirement of livestock technicians in general and for those contributing to official and private veterinary services (development of occupational standards related to AH and VPH is needed).

Recommendations:

- Define day-1 livestock / veterinary technicians' competency to be designated as Veterinary Paraprofessionals (VPPs) in alignment with WOAH VPPs competency guidelines.
- Conduct a competency assessment of existing personnel showing interest in designation as VPPs and invest in retraining to bridge the gap. It is also vital to recognize the skills of existing personnel with years of experience in Animal Health and Veterinary Public Health but have limited education and training.
- Collaborate with CTEVT to jointly evaluate the current curriculum of livestock technicians and its delivery, possibly exploring the scope for developing a revised balanced and less crowded curriculum with a competency-based approach. The WOAH VPPs curriculum guidelines can be a reference point for the curriculum of JT/JTAs interested in being designated as VPPs.
- Collaborate with CTEVT to fix the qualification framework level for JT/JTAs in general and designated VPPs in particular.
- Develop updated versions of National Occupational Skill Standards for various categories of JT/JTA with specific skill standards for those interested in a career as designated VPPs.
- Refer to the forthcoming WOAH competency guidelines for CAHWs to improve available skill standards and training of CAHWs in select pockets of the country where availability and access to veterinary services remain a challenge.

Evidence (as listed in Appendix 6):

E-46, E-47, E-48, E-57, E-58, E-59, E-74, E-75

I-3. CONTINUING EDUCATION (CE)

DEFINITION
The capability of the VS to maintain, update and improve the knowledge, attitudes and skills of their personnel, through an ongoing staff training and development programme assessed on a regular basis for relevance and targeted skills development.
LEVELS OF ADVANCEMENT - 2
1. The VS have no access to veterinary or paraprofessional CE.
2. The VS have access to CE (internal and/or external training) on an irregular basis but it does not take into account needs, or new information or understanding.
3. The VS have access to CE that is reviewed and sometimes updated, but it is implemented only for some categories of veterinary professionals and paraprofessionals.
4. The VS have access to a CE programme that is reviewed annually and updated as necessary, and is implemented for all categories of veterinary professionals and paraprofessionals.
5. The VS have up-to-date CE that is implemented or is a requirement for all relevant veterinary professionals and paraprofessionals and is subject to dedicated planning and regular evaluation of effectiveness.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

One of the vital prerequisites for the official VS is the competency-based continuous capacity building of personnel.

Continuing Education (CE) is one of the seven priorities of the Nepal Veterinary Council's (NVC's) long-term master plan (2023-2033). For 2023, in collaboration with provinces, the NVC targets 280 veterinarians to attend CEs of 3 to 15 days duration. Currently, registration by NVC is one-time only, and CE credit is not mandatory for the renewal or maintenance of the license. The NVC is already doing an online survey to list desired CE areas of registered members. The council has recently constructed and operationalised a library, which will likely aid in implementing CE.

The Project Coordination Unit (PCU) of the VA regularly nominates staff for training, observational tours, seminars, etc. In recent years, participants from official VS have attended workshops and trainings on epidemiology, GIS, Laboratory diagnostics, One Health, AMR/AMU, Rabies zero by 30, PPR eradication, Emergency management, etc.

The Veterinary Practitioner's Association and Veterinary Public Health Association and Nepal Veterinary Association have declared a mandate to provide CE opportunities to its members and has conducted several programmes in recent years. Several donor agencies / funded projects in the country support projects linked to capacity building of personnel.

The relevant Acts do not require mandatory continuing education for livestock technicians working in animal health. They, however, get access to occasional refresher courses at Livestock Service Training Centres (LSTCs) under the provincial livestock directorate. LSTCs prepare annual training plans. Interaction during the PVS mission indicated ample scope for LSTC to improve its training plans based on proper training needs assessment.

Discussion during the PVS mission inadequate coordination amongst key stakeholders, (e.g., VA, Provincial Training Centres, NVC, VEEs, and the private sector) to provide quality and regular CE opportunities to veterinarians and livestock technicians active in specialized VS areas was indicated.

The CE programmes made available are usually not based on designed needs assessment and inadequately refer to job-related competency gaps of personnel. Training completion reports are generally available for CE programmes funded by donor agencies. Discussions indicated that programmes generally do not have designed assessment components for targeted competencies.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Prioritization of CE as an issue both within the VA and Nepal Veterinary Council
- Improved access to the CE programmes for different categories of VS personnel

Strengths:

- Existing institutional framework and potential faculty support from VEEs
- LSTC infrastructure (seven public training centres) at the province level is dedicated exclusively to training and capacity building at sub-national level for veterinarians, livestock technicians and farmers.

Weaknesses:

- The absence of a legal framework for mandatory CE credit requirements and an inadequate system to incentivize people to participate in CE programmes because CE is not yet mandatory for maintaining veterinary licences as issued by the NVC.
- Weak coordination between key stakeholders (training centres and DLS) to ensure for the continuing professional development of staff performing official policies and programmes of the VS. There is inadequate private sector participation.
- Irregular availability of CE opportunities targeted at various levels of the workforce.

Recommendations:

- Competent institutions within VA should evaluate and register all available CE opportunities (public/private) and develop an annual training programme based on VS official mission targeting all workforce categories to be implemented by the training centres.
- Create demand for CE programmes. Enact rules to make CE credit mandatory for all personnel contributing to VS.
- Ensure CE programmes are based on planned needs assessment and delivered with accountability focusing on targeted competency.
- Ensure record keeping and transparent credit delivery/certification for CE programmes based on evaluation.
- VA, with support from statutory organizations at the national level, can promote a consortium of stakeholders (including the VEEs and private sector) to explore the commissioning of a National online Learning Management System (LMS) tailored to the needs of jobs within VS (Public and Private). The LMS design should transparently allow for the geographical and institutional level mapping of the competency acquisition of workforces. The LMS should permit VS to intelligently use open resource content for Veterinarians and VPPs.

- Conduct regular skill/competency gap analysis benchmarked to WOAH day-1 competency for veterinarians and VPPs and support the development of technology-enriched e-content in local languages for delivery through the LMS.

Evidence (as listed in Appendix 6):

E-30, E-31, E-32, E-33, P-9, P-12, H-1

I-4. TECHNICAL INDEPENDENCE

DEFINITION
The capability of the VS to carry out their duties with autonomy and without undue commercial, financial, hierarchical and political influences that may affect technical decisions in a manner contrary to the provisions of WOAH (and of the WTO SPS Agreement where applicable).
LEVELS OF ADVANCEMENT - 3
1. The technical decisions made by the VS are generally not based on scientific considerations.
2. The technical decisions consider scientific evidence, but are routinely modified based on non-scientific considerations.
3. The technical decisions are based on scientific evidence but are subject to review and occasional modification based on non-scientific considerations.
4. The technical decisions are made and generally implemented in accordance with scientific evidence and the country's WOAH obligations (and with the country's WTO SPS Agreement obligations where applicable).
5. The technical decisions are based on a high level of scientific evidence, which is both nationally relevant and internationally respected, and are not unduly changed to meet non-scientific considerations.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

The major technical decisions related to plans and programmes of the DLS (Veterinary Authority), taken under the leadership of a veterinarian Director General, require approval of the Ministry of Agriculture and Livestock Development (MoALD), led by the Secretary of Livestock Development. Nepal follows a cluster system for the appointment of secretaries. This system ensures that individuals with relevant technical knowledge and experience in broader areas of Agriculture are appointed to lead the MoALD. The cluster system for the appointment of secretaries is part of broader efforts to strengthen governance and enhance the technical competence of leadership within the Nepalese government.

There are independent research and advisory bodies, such as the Nepal Agricultural Research Council (NARC), responsible for conducting relevant research and providing evidence-based recommendations to the government.

DLS collaborates with international organizations and development partners to access technical expertise and identify best practices. This collaboration has the potential to help ensure that global standards and technical knowledge are used to inform decisions.

Professional technical positions in federal and provincial government have job descriptions. Discipline within the government VS is maintained through civil service rules and to a lesser extent through enforcement of the NVC Code of Conduct for Registered Veterinarians By-Law (2020)

The VS has developed specific mechanisms and practices to enhance technical independence such as standardized procedures for import risk analysis; standard operating procedures for the documentary, identification and physical checks of importing commodities and manual for disease reporting. Since the scope of inspection programmes is limited, there is also less exposure to external pressures, be they financial, political, or hierarchical.

Discussion during the PVS mission indicated low salaries as a nominal risk to the technical independence of professionals. Few people interviewed during the PVS mission indicated that there are occasional instances where policy decisions are not fully aligned with scientific recommendations due to various factors such as political, economic, or social considerations.

New organisational structure which has been adopted following the new Constitution, created challenges in chain of command from the central level to the local level of the VS. Division of responsibilities between the three tiers of government, whereby the 753 local governments are autonomously responsible for animal health services, present certain risks for technical independence of the veterinarians and livestock technicians employed at Livestock Service Section under the Office of Municipal Executive. This situation requires additional effort from the VS to develop effective mechanisms for the verification of performance of the staff at all levels in execution of official programmes, in order to ensure their technical independence is respected.

Official services are delivered by the public sector, however, issuance of internal veterinary certificates for the movement between districts is performed by private veterinarians which are paid for this service directly by the farmers. As the internal veterinary certificate is mandatory to be obtained for the transport of animals between the districts of Nepal, this is to be considered as an official activity and fundamental operating principles as defined by the Art. 3.2.2. of WOAH TAHC applied.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Following the new Constitution adopted in 2015 and division of power between three tiers of government, the VS has been restructured with significant level of autonomy of provincial and local VS.
- Introduction of standardized risk-based approach for decisions on import, strategic planning, standard operating procedures and manuals
- International veterinary certificate introduced as a requirement for import of live animals.

Strengths:

- Development and implementation of import risk analysis procedure for the import of new commodities from new exporting countries.
- Development and implementation of standard operating procedure for the veterinary checks (documentary, identity and physical checks) at import.
- Manual for epidemiological reporting and disease recognition adopted and distributed.
- Standard Operating Procedure to ensure impartiality at CVL developed and implemented.
- Standard Operating Procedure for Control and Containment of Notifiable Avian Influenza in Nepal 2017 adopted.
- There is an independent research and advisory body, the Nepal Agricultural Research Council (NARC), which is responsible for conducting relevant research and providing evidence-based recommendations to the government.

Weaknesses:

- Within the new organisational structure, DLS has no mandate to perform supervision or audit of the staff at the provincial and local level, neither the provincial level has the mandate to perform supervision or audit of the staff at the local level
- There was no evidence of supervision / audit system in place within the provincial and local level

- No procedures in place relevant to motivation, performance and initiative of staff at any level of the VS
- Low salaries in the public VS and low remuneration for the temporary contracted staff do not have positive impact on motivation to perform official activities.
- Private veterinarians are paid directly by the persons to whom they issue official document (internal movement veterinary certificate).

Recommendations:

- Continue to develop and implement standardized procedures for decision making process and maintain up to date database of technical decisions based on scientific evidence.
- Establish and implement efficient mechanisms for supervision of all staff performing official activities at all the levels of VS.
- Establish mechanisms to prevent conflict of interest of private veterinarians that perform official tasks.
- Regularly review and align the salaries of the VS staff in risk of exposure to external pressure in comparison to the professions with comparable level of education and responsibilities.
- Invest in data systems and in building the technical and leadership ability of officials so that there is a data culture within VA and officials' practice and augment evidence-based decision-making.

Evidence (as listed in Appendix 6):

E-24, E-27, E-35, E-45, E-86, E-89, P-3,

I-5. PLANNING, SUSTAINABILITY AND MANAGEMENT OF POLICIES AND PROGRAMMES

DEFINITION
The capability of the VS leadership and organisation to develop, document and sustain strategic policies and programmes, and also to report on, review and evolve them, as appropriate over time.
LEVELS OF ADVANCEMENT - 2
1. Policies and programmes are insufficiently developed and documented. Substantial changes to the organisational structure and/or leadership of the VS frequently occur (e.g. annually) resulting in a lack of sustainability of policies and programmes.
2. Some basic policy and programme development and documentation exists, with some reporting on implementation. Sustainability of policies and programmes is negatively impacted by changes in the political leadership or other changes affecting the structure and leadership of the VS.
3. There is well developed and stable policy and programme documentation. Reports on programme implementation are available. Sustainability of policies and programmes is generally maintained during changes in the political leadership and/or changes to the structure and leadership of the VS.
4. Policies or programmes are sustained, but also reviewed (using data collection and analysis) and updated appropriately over time through formal national strategic planning cycles to improve effectiveness and address emerging concerns. Planning cycles continue despite changes in the political leadership and/or changes to the structure and leadership of the VS.
5. Effective policies and programmes are sustained over time and the structure and leadership of the VS is strong and stable. Modification to strategic and operational planning is based on a robust evaluation or audit process using evidence, to support the continual improvement of policies and programmes over time.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

- PVS Evaluation (2008) - Level 2 (PVS Tool 2008 - Stability of structures and sustainability of policies
- PVS Gap Analysis (2011) – Level 3 (5 years target) (PVS Gap Tool 2011 – additional CC - Management of resources and operations)

Findings:

The VA has the capacity and has created certain policies, strategies, programmes, and plans, some already adopted and some in the adoption procedure. The capability to sustain them is challenged with insufficient DLS budget for the VS programmes and compromised chain of command that came with new VS structure.

Programmes on some areas are supported by international funding and once the project is finalized the VA has difficulty to ensure continuation of programmes based on state budget only. AI active surveillance programme has not been implemented after the completion of FAO funding and AMR programme would hardly continue next year if the Fleming fund project would have not been extended.

The VA policies and programmes are now very much dependent on the capacity of province and local level VS to implement it and their priorities, considering the level of autonomy they have and unclear division of responsibilities in some cases.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- The overall VS structure has changed following the new Constitution by establishing 7 Provincial and 753 Local Government VS
- The DLS organizational structure and mandate has been changed
- Agriculture Development Strategy (ADS) 2015 - 2035 adopted

Strengths:

- Planning and Monitoring Section and Project Coordination Unit has been established under the new DLS organizational structure
- Animal Health Policy adopted 2022; One Health Strategy adopted in 2019;
- Annual provision for workplan documented

Weaknesses:

- With the establishment of new VS structure, the DLS has lost the mandate to supervise/audit the performance of the Provincial VS and Local Government VS which is responsible for the implementation of national policies and programmes
- With the establishment of new DLS structure, Veterinary Public Health unit has disappeared.
- There is a slight increase in DLS budget for the past three years but the funding of animal health programmes is not sufficient to ensure sustainability of policies and programmes.
- No comprehensive information system in place for the management of the VS programmes and activities

Recommendations:

- Establish effective mechanisms to ensure comprehensive and reliable reporting on implementation of programmes at provincial and local level and periodic review to evolve them.
- Build the capacity of DLS to develop, document and sustain strategic policies and programmes related to food safety within their mandate, in particular regulation of abattoirs and ante and post-mortem inspections.
- Establish indicators and develop comprehensive information system for the management of the VS programmes and activities.
- Improve engagement with the National Planning Commission, various development partners, and research organizations for quality planning and programme evaluation support.
- Ensure regular nomination of officials for external training programmes related to planning, monitoring, and evaluation

Evidence (as listed in Appendix 6):

E-23, E-67, E-85, E-101

I-6. COORDINATION CAPABILITY OF THE VETERINARY SERVICES

DEFINITION
A. Internal coordination (chain of command)
The capability of the *Veterinary Authority* to coordinate their mandated activities with a clear chain of command, from the central level (the Chief Veterinary Officer or equivalent), to the field level of the VS, as relevant to the WOAH *Codes* (e.g. *surveillance*, disease control, food safety, emergency preparedness and response).
LEVELS OF ADVANCEMENT - 2
1. There is no formal internal coordination and the chain of command is not clear.
2. There are internal coordination mechanisms for some activities but the chain of command is not clear.
3. There are internal coordination mechanisms and a clear and effective chain of command for some activities, such as for export certification, border control and/or emergency response.
4. There are formal, documented internal coordination mechanisms and a clear and effective chain of command for most activities, including *surveillance* (and reporting) and disease control programmes.
5. There are formal and fully documented internal coordination mechanisms and a clear and effective chain of command for all activities, and these are periodically reviewed/audited and updated to re-define roles and optimise efficiency as necessary.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	4

Findings:

Following the adoption of new Constitution, Federalism Implementation and Administration Restructuring Coordination Committee (FIARCC) has published the list of exclusive and concurrent powers of the Federal, Province, and Local Government. Based on this distribution of powers, the terms of reference for the public VS at the provincial and local level have been established with high degree of autonomy and no subordination to the DLS as the Veterinary Authority. Regarding the responsibilities relevant to the WOAH Codes, the DLS has summarized the current distribution of powers between three levels as follows:

- DLS - regulation, quarantine, disease control and vaccine production;
- Province - service delivery, disease control and guidance to the local level;
- Local - animal health service, vaccination, extension and disease reporting.

The DLS still has clear chain of command for the border control and export certification as the staff who performs these activities at the field belong within the DLS structure (Animal Quarantine Division).

VS missions' definition is still not focused to the VS core activities (implementation of the WOAH standards). Animal health care for individuals is still considered as official mission. At field level this is perceived as high priority mission and performed as well.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Establishment of public VS at the province and local level with high degree of autonomy.

Strengths:

- The DLS have clear chain of command for border inspection and certification as those activities are performed by the DLS staff.
- There is a public VS structure in each province and each municipality.
- The local level is obliged to report on disease suspicious and outbreaks.
- DLS provides financial support to the local level to perform vaccinations within national disease control programmes.

Weaknesses:

- Despite the published list of exclusive and concurrent powers of the Federal, Province, and Local Government, distribution of powers is not clear.
- Chain of command has been disrupted with new organizational structure and effective coordination mechanisms have not yet been established.
- No legal authority established for the DLS for having the primary responsibility as a VA in the whole territory for coordinating the implementation of the official policies and programmes and standards of the Terrestrial Code
- There seem to be no legal provision for DLS to ensure supervision/audit of the public VS at province and local level.
- Reporting from the local level is not regular and DLS have no legal power to enforce it.
- Discussion in various organizations indicated inadequate coordination between the three tiers of Government being one of the main challenges after the reorganization of the VS.

Recommendations:

- Analyse in depth the current list of exclusive and concurrent powers published by the FIARCC and in collaboration with province and local level develop a proposal to ensure DLS can act in full capacity of Veterinary Authority for coordinating the implementation of the standards of the Terrestrial Code and to have clear mutual understanding of the roles and responsibilities of province and local level VS.
- Following the establishment of a clear mutual understanding of roles and responsibilities of all three levels of the public VS, develop efficient coordination mechanisms from the central level, all the way to the field level, to ensure implementation of all the activities relevant to the WOAH Codes, primarily for surveillance, disease control, food safety, emergency preparedness and response.
- Consider the possibility for leaders of VS at all three tiers of government to meet periodically. Such meetings should continuously explore and decide on service delivery issues arising primarily from inadequate role clarity and accountability. The arrangements should permit discussion of potential administrative innovations, ways to strengthen formal communication channels, and experience sharing, keeping in mind specific local contexts
- Invest in internal strengthening of DLS at the federal level to help it deliver vital public good functions of Official Veterinary Services with the needed institutions such as

regulatory and disease control-related laboratories placed strategically across the country.

- Explore creating a cadre of personnel within VS active in all three tiers of government with exclusive VS functions in their job description. The administrative provision should allow the cadre to operate under the overall control of the federal DLS authority. The official VS cadre's job description and reporting structure should consider potential conflicts of interest, needed accountability, and supervision.

Evidence (as listed in Appendix 6):

E-8, E-101, E-102, E-103

I-6. COORDINATION CAPABILITY OF THE VETERINARY SERVICES

DEFINITION
B. External coordination (including the One Health approach)
The capability of the *Veterinary Authority* to coordinate its resources and activities at all levels with other government authorities with responsibilities within the veterinary domain, in order to implement all national activities relevant to the WOAH *Codes*, especially those not under the direct line authority of the Chief Veterinary Officer (or equivalent). Relevant authorities include other ministries and *Competent Authorities*, such as government partners in public health (e.g. zoonoses, food safety, drug regulation and anti-microbial resistance), environment (e.g. *wildlife* health), customs and border police (e.g. border security), defence/intelligence (e.g. bio-threats), or municipalities/local councils (e.g. local slaughterhouses, dog control).
LEVELS OF ADVANCEMENT - 3
1. There is no external coordination with other government authorities.
2. There are informal external coordination mechanisms for some activities at national level, but the procedures are not clear and/or external coordination occurs irregularly.
3. There are formal external coordination mechanisms with clearly described procedures or agreements (e.g. Memoranda of Understanding) for some activities and/or sectors at the national level.
4. There are formal external coordination mechanisms with clearly described procedures or agreements at the national level for most activities (such as for One Health), and these are uniformly implemented throughout the country, including at state/provincial level.
5. There are external coordination mechanisms for all activities, from national to field, and these are periodically reviewed and updated to re-clarify roles and optimise efficiency.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	NA
PVS Gap Analysis in 2011.:	3

Findings:

In close collaboration with other authorities, the DLS has developed certain formal and informal coordination mechanisms for some activities such as prevention of cross border illegal trade of animals and products of animal origin or activities related to One Health concept (zoonotic diseases, AMR, food safety). One Health Strategy was developed and adopted in 2019, which covers the actions of human, animal and environmental health-related agencies. There have been some joint responses to outbreaks (including outbreaks of rabies and avian influenza) involving both the animal and public health sectors. The DLS presented examples of coordination with Customs and Police in taking measures in case of illegal cross border trade of animals and products of animal origin.

WHO Joint External Evaluation mission conducted 28 November – 2 December 2022, revealed certain strengths and weaknesses related to coordination with public health and wildlife agencies, which during this PVS mission are confirmed to be still valid.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- New federal constitution adopted since 2015
- One Health Strategy is adopted in 2019.

Strengths:

- The One Health Strategy (2019) was endorsed by the government to provide a general framework for collaboration and coordination of the public, animal and environmental health sectors and institutions.
- The strategy envisages a steering committee chaired by Minister for Health and Population, and Minister for Agriculture and Livestock Development on a rotational basis. There is also a provision for Federal One Health Technical Co-ordination.
- Prioritized list of the zoonotic diseases of greatest national public health concern was adopted. The prioritisation was done by a multisectoral experts' group.
- Nepal has conducted some joint responses to outbreaks (including outbreaks of rabies and avian influenza) involving both the animal and public health sectors.
- Establishment of the Committee for the Prevention of Cruel Treatment of Animals in 2022, which involves representatives from other relevant ministries.
- The WOAH focal point for wildlife is working at the Chitwan National Park under the Department of National Park and Wildlife Conservation (DNPWC). CVL collaborates with DNPWC for wildlife disease diagnosis.

Weaknesses:

- There are no formal structured mechanisms (except to HPAI) in place to coordinate and share information with public health agencies.
- There is no formal structured mechanism for sharing laboratory reports or alerts between veterinary and public health laboratories.
- One Health Action plan, as recommended by the WHO JEE mission report has not been endorsed yet.

Recommendations:

- Develop multisectoral operational mechanisms to share information and coordinate responses to outbreaks of endemic, emerging or re-emerging zoonotic diseases with the public health and wildlife agency.
- Following the presented examples of good practice in collaboration with Customs and Police, formalize this collaboration and coordination by adopting agreement with relevant authorities and operational procedures for joint activities aimed to prevent illegal cross border trade of animals and products of animal origin.

Evidence (as listed in Appendix 6):

E-23, E-44, E-87, E-88, P-4, P-5,

I-7. PHYSICAL RESOURCES AND CAPITAL INVESTMENT

DEFINITION
The access of the VS to functional and well-maintained physical resources including buildings, transport, information technology (e.g. internet access), cold chain, and other necessary equipment or structures. This includes whether major capital investment is available.
LEVELS OF ADVANCEMENT - 3
1. The VS have no or unsuitable physical resources at almost all levels and maintenance of existing infrastructure is poor or non-existent.
2. The VS have suitable physical resources at national (central) level and at some state/provincial levels, but maintenance, as well as replacement of obsolete items, occurs rarely.
3. The VS have suitable physical resources at national, state/provincial and some local levels but maintenance, as well as replacement of obsolete items, occurs irregularly.
4. The VS have suitable physical resources at all levels and these are regularly maintained. Major capital investments occur occasionally to improve the VS operational infrastructure over time.
5. The VS have suitable physical resources at all levels (national, state/provincial and local levels) and these are regularly maintained and updated as more advanced items become available. Major capital investments occur regularly to improve the VS operational capability and infrastructure.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

- PVS Evaluation (2008) - Level 2 (In PVS Tool used in 2008 Capital investment was separate CC and assessed as Level 1)
- PVS Gap Analysis (2011) – Level 3 (5 year target)

Findings:

Following the new organizational structure of the VS, apart from veterinary laboratories and quarantine offices, the DLS has no direct responsibility for the infrastructure of the public VS at the province and local level. This responsibility lies now with the province and local government. The VS have the access to physical resources but of variable functionality and maintenance. In comparison with situation during the initial PVS Evaluation in 2008, the PVS Team has witnessed some new and some renovated buildings and also construction activities at the central and province level which shows occasional access of the VS to the capital investments to ensure adequate facilities for the performance of their activities.

Regarding the transport vehicles, experience gained from the field visits indicated deficiencies and need for further investment in new vehicles and regular maintenance and replacement of old ones at all levels. Some interviews with local level veterinarians also showed insufficient provision of fuel for daily operations, which affect access to veterinary services and in particular might have negative impact on early disease detection and consequently lead to higher economic losses.

In all of the visited offices, there was an access to internet and most of the staff use chat applications such as “WhatsApp” to communicate and some livestock technicians use it also to consult veterinarians for advice, when signal coverage allows it, which is not always the case, especially in remote mountain areas.

The DLS is providing cool boxes to the local level through the network of regional laboratories for the vaccination campaigns, however, to maintain the cold chain, vaccinators at the local level are often improvising (e.g. home or hotel fridge) as in most cases there is no office with refrigerator available to keep the vaccine.

An overview of the current physical resources used by the VS, is presented in Table 2 of the Appendix 3, provided by the DLS. Offices and transport vehicles are shared with livestock services.

The PVS Team was informed about the current examples of investment in physical resources, like an ongoing land procurement for internal animal quarantine check post in Pathlaiya, Bara district and animal quarantine office building construction in Kakarvita (Jhapa) and Gaddachauki (Kanchanpur). There is also ongoing construction of Livestock Service Centres in 28 local levels across the country, although there was no detailed information at the central level on current status of physical resources in all of 753 local levels.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Provincial and local authorities have the responsibility for the physical resources at the province and local level.
- The PVS Team noted the DLS occasional access to capital investment through the renovation of the CVL, FMD and TAD's and regional laboratory in Janakpur and new buildings for Central Referral Veterinary Hospital in Kathmandu, Quarantine Office in Birganj and Regional Laboratory in Biratnagar.
- During the field visits to Bagmati, Madhesh and Koshi Province, the PVS Team had the opportunity to see new buildings of Veterinary Hospitals and Livestock Experts Centres and some under constructions, and the discussion with some province authorities (Koshi) indicated plans to continue with investments in the VS infrastructure in remaining districts.

Strengths:

- The DLS occasionally have access to capital investment and uses it to renovate and build facilities for laboratory network and quarantine offices.
- Some province authorities are investing in the VS infrastructure at the province and district level.

Weaknesses:

- Some buildings inadequately maintained, deficiencies in transport vehicles and provision of fuel for daily operations, especially at the local level.
- Insufficient infrastructure at the local level to maintain the cold chain for the vaccination campaigns.
- Insufficient data at the central level on the availability of minimum physical resources in the province and local level needed to perform official activities and its impact on national animal health and veterinary public health programmes.

Recommendations:

- List critical physical resources nationwide for the smooth delivery of official veterinary services and ensure their management under the federal Veterinary Authority in coordination with provincial and local government.
- In collaboration with province and local level authorities develop mechanisms to ensure and periodically monitor minimum physical resources needed to perform official activities (eg. national disease control programmes; veterinary public health programmes).
- Ensure regular maintenance and replacement of physical resources.
- Consider the possibility to reorganize border veterinary inspection to focus physical (and human) resources according to the type, frequency and quantity of imported consignments, risk profile and type of commodities.

- Explore using IT-based tools with central dashboards to monitor the progress of investments in physical resources at different levels.
- Explore the possibilities of PPP to ensure adequate physical resources for the VS to perform official activities.

Evidence (as listed in Appendix 6):

E-97, P-4, P-18, P-19, P-20, P-21, P-22, P-23, P-24, P-25, P-26, P-27, P-28, P-29, P-30, P-34, P-35, P-36, P-37,

I-8. OPERATIONAL FUNDING

DEFINITION
The ability of the VS to access operational resources adequate for their planned and continued activities (e.g. salaries, contracts, fuel, vaccines, diagnostic reagents, personal protective equipment, per diem or allowances for field work).
LEVELS OF ADVANCEMENT - 2
1. Operational funding for the VS is neither stable nor clearly defined and depends on irregular allocation of resources.
2. Operational funding for the VS is clearly defined and regular, but is inadequate for their required baseline operations (e.g. basic disease *surveillance*, disease control and/or veterinary public health).
3. Operational funding for the VS is clearly defined and regular, and is adequate for their baseline operations, but there is no provision for new or expanded operations.
4. Operational funding for new or expanded operations is on a case-by-case basis, and not always based on *risk analysis* and/or benefit-cost analysis.
5. Operational funding for all aspects of VS activities is generally adequate; all funding, including for new or expanded operations, is provided via a transparent process that allows for technical independence, based on *risk analysis* and/or cost-benefit analysis.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

The State Budget of the Government of Nepal and international donors (such as FAO and WB) are two main sources of funding of the DLS activities. Legal framework of the State Budget consists of Fiscal Procedures and Financial Accountability Act (2020) and Intergovernmental Fiscal Arrangement Act (2018). Offices under DLS propose annual programmes and budgets through Line Ministry Budget Information System (LMBIS) according to the budget ceiling provided to them. The Planning and Monitoring and Evaluation Section of DLS reviews the proposals and forwards them to the MoALD. MoALD further reviews the proposals and forwards them to Ministry of Finance (MoF). MoALD further proposes conditional grant activities for local levels and forwards them to MoF. MoF reviews the proposals and finalize the budget which will be presented in parliament for approval.

The VS budget follows the organizational structure of the VS, so there is federal, province and local authority budget. Each of the three tiers of government have their own rights and assignments for formulating budgets, expenditure and mobilizing certain taxes, however, lack of clarity on some concurrent and shared responsibilities and procedures creates challenges in budget planning. On top of province and local government budget, DLS provide conditional grants to provinces and local authorities for the implementation of the disease control programmes and reporting.

The government has allocated the highest-ever budget for the development of agriculture and livestock for the fiscal year 2023/2024 (58.98 billion NRs), a significant increase from FY 2021/22 (45.05 billion NRs).

Although contribution of livestock sector to national GDP is more than 6%, financial allocation to this sector is 3.4% of the overall budget for agriculture. In the organizational structure, all three levels of the VS are combined with livestock development services and most of the

budget is allocated to the livestock development programmes such as livestock insurance premium subsidy. Discussion with some representatives of the provincial governments indicates around 10% of the operational budget for the livestock sector at province level is allocated to the VS programmes.

Currently, the VS charges only minor fees for some of its activities, but these funds are deposited in the central government account and VA is not allowed to use it, so it does not have any significant contribution to the actual costs of services.

Discussion with VS personnel indicated that allocated financial resources are not sufficient to fund existing disease control programmes. Some activities were put on hold this fiscal year (such as active surveillance of AI). Activities including programmes for prioritized diseases and veterinary public health programmes were not implemented, the Slaughterhouse and Meat Inspection Act is an important example. This corresponds with the findings of the evaluation of the financial resources conducted by the staff of the World Bank Group in 2021. "*The financial resources allocated for training and ongoing capacity development of control staff is low, those required to purchase, renew, and maintain essential infrastructure and equipment and funding to undertake dedicated stakeholder's outreach actions also rated low. Funding for attendance at international scientific and policymakers' meetings and conferences was considered poor*."

The DLS budget is dependent on the external (international) funding which pose a challenge for sustainability of programmes. For example, HPAI active surveillance programme was not implemented in 2023 due to lack of funding and AMR surveillance programme will continue in 2024 only based on continuation of Fleming fund project funding.

Nepal Livestock Sector Innovation Project (NLSIP) is a significant part of the DLS budget since 2018 and funds some of operational expenditures related to the VS activities (eg. PPR and FMD vaccination, purchase of cold chain equipment, trainings) and purchase of laboratory equipment and vaccine production equipment. NLSIP is a project conducted by the MoALD with the support of the World Bank with the aim of increasing productivity in selected livestock value chains, increasing the value of livestock products and strengthening the livestock sector of Nepal, started in 2018 and finishing in 2023. The end of NLSIP will require additional allocation from the state budget to the DLS to ensure sustainability of vaccination programmes and diagnostic capacities previously supported with the project funds.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Public VS at the province and local level is funded by province/local authorities.
- The DLS is supporting the local level by providing conditional grants for the implementation of disease control programmes and reporting.

Strengths:

- All three tiers of the VS have regular funding.

Weaknesses:

- Insufficient budget for the implementation of existing programmes and to expand operations, capacity building, participation in relevant international meetings and conferences, maintenance and renewal of the physical resources.
- There is no reliable funding mechanism to ensure sustainability of the programmes.

Recommendations:

- Introduce financial planning based on national strategies to ensure appropriate funding of all prioritized programmes in line with national priorities.
- Explore opportunities for sustainable source of funding such as collection of fees for the official activities (eg. licensing, inspection, certification) and ensure its allocation

specifically for funding of official controls (salaries and education of veterinary inspectors, material and administrative costs).

- Consider the possibility to charge for the clinical services on cost recovery basis and to gradually focus on official activities only (eg. surveillance, disease control, official controls).
- Consider the opportunities for Public Private Partnership to attract resources from the private sector for sustainable funding of official programmes.

Evidence (as listed in Appendix 6):

E-50, E-94, E-95, E-97, E-104

I-9. EMERGENCY FUNDING

DEFINITION
The capability of the VS to access extraordinary financial resources in order to respond to emergency situations or newly emerging issues, as measured by the ease with which contingency and related funding (i.e. arrangements for compensation of producers in emergency situations) can be made rapidly available when required.
LEVELS OF ADVANCEMENT – 3
1. No emergency funding arrangements exist.
2. Emergency funding arrangements with limited resources have been established, but these are inadequate for likely emergency situations (including newly emerging issues).
3. Emergency funding arrangements with limited resources have been established; additional resources may be approved but approval is through a political process.
4. Emergency funding arrangements with adequate resources have been established; their provision must be agreed through a non-political process on a case-by-case basis.
5. Emergency funding arrangements with adequate resources have been established and their rules of operation documented and agreed with interested parties.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

In the event of a national animal health related emergency, there is financial allocation secured in the budgets to support the mobilization of a national emergency plan.

For the emergency disease management, funds are allocated for all three levels of the VS. In 2023, there were 1.5 million NRs allocated in the federal level while 2-3 million NRs has been allocated in each province and 0.1 million NRs has been allocated in each local level.

There is legislative provision available for the compensation of culled birds during control and containment of HPAI and SOP for control and containment of notifiable Avian Influenza with defined responsibilities for financial arrangements. Currently there is no special provision for compensation for other diseases.

***Key Changes from 2008 to 2023** (year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- With restructuring of the VS, certain emergency funds are allocated to all 3 levels of the VS.

Strengths:

- There is compensation mechanism and funds available for birds culled for the purpose of control and containment of HPAI.
- There is certain financial allocation for all three levels of the VS to respond to emergency situations.
- Standard Operating Procedure for Control and Containment of Notifiable Avian Influenza in Nepal adopted in 2017 with procedure for the financial arrangements.

Weaknesses:

- There are no compensation mechanisms for diseases other than HPAI.
- There were technical difficulties in providing timely compensation for poultry culled during the outbreak of avian influenza.
- Outbreaks of LSD and ASF showed weaknesses in timely access to additional funds for respond to emerging diseases.

Recommendations:

- Develop efficient operational mechanisms for quick access to extraordinary financial resources in order to respond to emergency situations.
- Develop legislative framework and operational mechanisms for the compensation for relevant diseases other than HPAI.

Evidence (as listed in Appendix 6):

E-89, E-97, E-104,

III.2 Fundamental component II: Technical authority and capability

This component of the evaluation concerns the authority and capability of the VS to develop and apply sanitary measures and science-based procedures supporting those measures. It comprises eighteen Critical Competencies.

For all sections of this chapter, the Critical Competency includes collaboration with relevant authorities, including other ministries and Competent Authorities, national agencies and decentralised institutions that share authority or have mutual interest in relevant areas.

Critical Competencies:

Section II-1	**Veterinary laboratory diagnosis**
	A. Access to veterinary laboratory diagnosis
	B. Suitability of the national laboratory system
	C. Laboratory quality management systems (QMS)
Section II-2	**Risk analysis and epidemiology**
Section II-3	**Quarantine and border security**
Section II-4	**Surveillance and early detection**
	A. Passive surveillance, early detection and epidemiological outbreak investigation
	B. Active surveillance and monitoring
Section II-5	**Emergency preparedness and response**
Section II-6	**Disease prevention, control and eradication**
Section II-7	**Animal production food safety**
	A. Regulation, inspection (including audits), authorisation and supervision of establishments for production and processing of food of animal origin
	B. Ante- and post-mortem inspection at slaughter facilities and associated premises
Section II-8	**Veterinary medicines and biologicals**
Section II-9	**Antimicrobial Resistance (AMR) and Antimicrobial Use (AMU)**
Section II-10	**Residue testing, monitoring and management**
Section II-11	**Animal feed safety**
Section II-12	**Identification, traceability and movement control**
	A. Premises, herd, batch and animal identification, tracing and movement control
	B. Identification, traceability and control of products of animal origin
Section II-13	**Animal welfare**

Terrestrial Code References:
Chapter 1.4. on Animal health surveillance.
Chapter 1.5. on Surveillance for arthropod vectors of animal diseases.
Chapter 2.1. on Import risk analysis.
Chapter 6.11. on Risk analysis for antimicrobial resistance arising from the use of antimicrobial agents in animals
Points 6, 7 and 9 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation/General Organisation/Procedures and standards.
Point 1 of Article 3.2.4. on Evaluation criteria for quality systems.
Point 3 of Article 3.2.6. on Evaluation criteria for material resources: Technical.
Points 1 and 2 of Article 3.2.7. on Legislation and functional capabilities: Animal health, animal welfare and veterinary public health/Export/import inspection.
Points 1-3 of Article 3.2.8. on Animal health controls: Animal health status/Animal health control/National animal disease reporting systems.
Points 1-5 of Article 3.2.9. on Veterinary public health controls: Food hygiene/Zoonoses/Chemical residue testing programmes/Veterinary medicines/Integration between animal health controls and veterinary public health.
Sub-point f) of Point 4 of Article 3.2.10. on Veterinary Services administration: Formal linkages with sources of independent scientific expertise.
Points 2, 5, 7 and 8 of Article 3.2.14. on National information on human resources/Laboratories engaged in diagnosis/Veterinary legislation, regulations and functional capabilities/Animal health, animal welfare and veterinary public health controls.
Article 3.4.12. on Human food production chain.
Chapter 4.1. on General principles on identification and traceability of live animals.
Chapter 4.2. on Design and implementation of identification systems to achieve animal traceability.
Chapter 4.12. on Disposal of dead animals.

Chapter 6.3. on Control of biological hazards of animal health and public health importance through ante- and post-mortem meat inspection.
Chapter 6.4. on Control of hazards of animal health and public health importance in animal feed.
Chapters 6.7. to 6.11. on Antimicrobial resistance.
Chapter 7.1. on Introduction to the recommendations for animal welfare.
Chapter 7.2. on Transport of animals by sea.
Chapter 7.3. on Transport of animals by land.
Chapter 7.4. on Transport of animals by air.
Chapter 7.5. on Slaughter of animals.
Chapter 7.6. on Killing of animals for disease control purposes.

References to Codex Alimentarius Commission standards:
Code of Hygienic practice for meat (CAC/RCP 58-2005).
Code of Hygienic practice for milk and milk products (CAC/RCP/ 57-2004).
General Principles of Food Hygiene (CAC/RCP 1-1969; amended 1999. Revisions 1997 and 2003).
Guidelines for Risk Analysis of Foodborne Antimicrobial Resistance (CAC/GL 77-2011).
Code of Practice to Minimize and Contain Antimicrobial Resistance (CAC/RCP 61-2005).

II-1. VETERINARY LABORATORY DIAGNOSIS

DEFINITION
The authority and capability of the VS to effectively and efficiently use accurate *laboratory* diagnosis to support their animal health and veterinary public activities.
A. Access to veterinary laboratory diagnosis
The authority and capability of the VS to access *laboratory* diagnosis in order to identify and report pathogenic and other hazardous agents that can adversely affect *animals* and animal products, including those relevant to public health.
LEVELS OF ADVANCEMENT - 3
1. Disease diagnosis is almost always conducted by clinical means only, with no access to or little use of a *laboratory* to obtain a correct diagnosis.
2. For major animal diseases and zoonoses of national importance, and for the food safety of animal products, the VS have access to and use a l*aboratory* to obtain a correct diagnosis.
3. For animal *diseases* and z*oonoses* present in the country, and for animal *feed* safety and veterinary AMR surveillance, the VS have access to and use a laboratory to obtain a correct diagnosis.
4. For animal *diseases* of zoonotic or economic importance not present in the country, but that exist in the region and/or that could enter the country, the VS have access to and use a *laboratory* to obtain a correct diagnosis.
5. In the case of new and *emerging diseases* in the region or worldwide, the VS have access to and use a network of national or international reference l*aboratories* (e.g. an WOAH or FAO Reference *Laboratory*) to obtain a correct diagnosis.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

The laboratory network in Nepal is under the DLS responsibility and composed of the Central Veterinary Laboratory (CVL) in Kathmandu and the five Veterinary laboratories (VL) under CVL located in Pokhara, Biratnagar, Janakpurdham, Surkhet and Kailali.

CVL works as a reference veterinary laboratory in Nepal. CVL provides diagnostic services throughout the country, it works through its five peripheral Veterinary Laboratories (VLs), located in different provinces of the nation. Bagmati (Kathmandu's province) and Lumbini Provinces do not have VLs.

The CVL has the diagnostic capability for Rabies, AI, and other prevalent zoonotic diseases. The public health section of CVL conducts surveillance for prevalent zoonotic diseases such as Toxoplasmosis, Brucellosis, Tuberculosis, Cysticercosis, Leptospirosis, Glanders, and Q fever. This section also conducts drug residue testing, and the PVS mission was provided with the results of surveillance conducted. CVL has a facility for competitive ELISA, Fluorescent Antibody Test, Plate Agglutination Test and rapid antigen detection test.

The regional VLs mainly use rapid antigen detection tests for the initial diagnosis of Avian Influenza, Newcastle Disease, Infectious Bursal Disease, Infectious Bronchitis, PPR, ASF and Rabies. For the further confirmative diagnosis of Avian Influenza, the samples are sent to the CVL. Likewise, for rabies the confirmative diagnosis is done through Fluorescent Antibody Test (FAT) at CVL.

CVL and its VLs performed for 2022-23 a total of 61,153 diagnostic tests, 6316 tests for diseases surveillance, 950 drug residue tests and 15,639 seromonitoring tests.

The Foot & Mouth Disease & TADS Investigation Laboratory (FMD/TADs IL) is located in Kathmandu and serves as the National Reference Veterinary Laboratory for FMD/TADs IL in Nepal. It refers to Pirbright laboratory for FMD virus sequencing.

CVL and FMD/TADs IL assist DLS for all its missions, conduct epidemiological disease investigation and laboratory diagnosis, support the national disease control and surveillance programmes. They assist DLS in animal health policy development and formulation of animal disease control and eradication programmes.

Some diagnostic services are covered by other laboratories in Nepal. Most Veterinary Hospitals and Livestock Service Expert Centres (VHLSEC) under provincial governments have basic laboratory facilities and access to some point-of-care diagnostics. VHLSECs regularly send samples to VLs and to CVL. Specimens that cannot be processed in the VLs due to insufficient facilities and expertise or samples that need further testing for confirmation are referred to the CVL as well as to the FMD/TADs IL.

The National Avian Diagnostic and Investigation Laboratory (NADIL) in Bharatpur, Chitwan district in Bagmati province, provides diagnostic services for avian diseases. The NADIL works within the DLS framework but not directly under the CVL.

In collaboration with the National Public Health Laboratory within the MoHP, the microbiology section of CVL is performing active (only for poultry) and passive AMR surveillance with funding support from Fleming fund. Sister laboratories, namely NADIL and the VLs at Kaski and Morang are also involved in AMR surveillance. The PVS Team was presented with the report of ongoing surveillance.

The surveillance for AMR, drug residue, and some of the zoonotic diseases (eg. AI, Glanders, COVID-19) receive external funding (Fleming fund, FAO). None of this surveillance is risk-based.

The Veterinary Standards and Drug Regulation Laboratory (VSDRL) in Budhanilkantha - Kathmandu, is the national reference laboratory for livestock and poultry vaccine testing VSDRL provides testing and regulation of the livestock and poultry vaccines, biologicals, disinfectants, and veterinary drugs.

Under the DLS, National Animal Feed and Livestock Quality Management Laboratory (NAFLQML) in Hariharbhawan – Lalitpur serves as the laboratory for quality control and laboratory analysis of feed, feed supplements and other feeding materials.

There are 10 basic laboratory facilities in Nepal, located at the check posts under the supervision of 8 Animal Quarantine Offices. These basic laboratories perform sampling, do the screening tests, and then send the samples to the respective central laboratories for confirmatory diagnosis.

All reference laboratories are connected to international reference laboratories and can provide expertise abroad for the analytical purposes (diagnostic, sequencing, etc.).

Laboratory analysis services provided by the Department of Food Technology and Quality Control (DFTQC) are performed at the National Food and Feed Reference Laboratory (NFFRL) within the MoHP. NFFRL is mandated for (i) analysis of food and feed, (ii) compliance with the Food and Feed to Act/ Regulations, (iii) standardization, (iv) licensing food and feed producers (issues and renewal), (v) certification and, (vi) requested and complaint samples analyses.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- With the restructuring of the VS under federalization, the district VLs are no longer under the direct authority of the DLS and now fall under the responsibility of the provincial VS structure.

Strengths:

- Regulatory framework exists for technical activities of the VS.
- Laboratory staff provides support to epidemiological investigations (sero-surveillance, sero-monitoring, outbreak investigations, post-mortem and sampling, etc.).
- Laboratory network is established to provide diagnostic support for all current VS activities (eg. AH, food safety)
- Developed diagnostic capacities for AMR and E-coli surveillance in poultry

Weaknesses:

- Weak funding for core activities and no fee recovery for services to users
- Weak/lack of co-ordination and communication with public health and food safety laboratories under Department of Health Services and DFTQC
- After the federalization, there is difficulties for coordination of the three tiers of governance related to the implementation of some field activities

Recommendations:

- Improve operational coordination of laboratory network.
- Regular refresher/continuous education (CE) and capacity building trainings should be considered.
- Improve income of the laboratory network through cost recovery from regular diagnostic activities, especially for services for private enterprises.
- For optimum resource utilization and service delivery, develop a clear business plan built on needs and services and conduct in-depth prioritization for locations and tasks of the veterinary laboratories network. A WOAH PVS Pathway Sustainable Laboratories mission could help answer the above.

Evidence (as listed in Appendix 6):

E-28, E-29, E-42, E-43, E-44, E-49, E-50, E-51, E-52, E-53, E-54, P-7, E-73, E-105; E-108, E-109, E-111, E-113, E-116; E-117; P-19, P-23, P-27, P-30, P-31,

II-1. VETERINARY LABORATORY DIAGNOSIS

DEFINITION
The authority and capability of the VS to effectively and efficiently use accurate *laboratory* diagnosis to support their animal health and veterinary public activities.
B. Suitability of the national laboratory system
The sustainability, effectiveness, safety and efficiency of the national (public and private) *laboratory* system (or network), including infrastructure, equipment, maintenance, consumables, personnel and sample throughput, to service the needs of the VS.
LEVELS OF ADVANCEMENT - 2
1. The national *laboratory* system does not meet the needs of the VS.
2. The national *laboratory* system partially meets the needs of the VS, but it is not sustainable, as the management and maintenance of resources and infrastructure is ineffective and/or inefficient. *Laboratory* biosafety and *biosecurity* measures do not exist or are very limited.
3. The national *laboratory* system generally meets the needs of the VS. Resources and organisation are managed effectively and efficiently, but funding is insufficient for a sustainable system, and limits throughput. Some *laboratory* biosafety and *biosecurity* measures are in place.
4. The national *laboratory* system generally meets the needs of the VS, including for *laboratory* biosafety and *biosecurity*. There is sufficient sample throughput across the range of *laboratory* testing requirements. Occasionally, it is limited by delayed investment in certain aspects (e.g. personnel, maintenance or consumables).
5. The national *laboratory* system meets all the needs of the VS, has appropropriate levels of *laboratory* biosafety and *biosecurity*, and is efficient and sustainable with a good throughput of samples. The *laboratory* system is regularly reviewed, audited and updated as necessary.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	Not evaluated
PVS Gap Analysis in 2011.:	

Findings:

The work of DLS and its laboratory network is implemented according to an annual plan prepared every fiscal year based on the priorities and timeframe for implementation of DLS control activities. The plan is a key document for DLS for epidemic investigation as well as surveillance and investigation on various diseases. This plan is agreed and shared with farmers groups and other stakeholders when prepared. An annual budget is available for laboratories to implement priority activities under their annual workplan.

Necropsies are performed in most laboratories. The laboratories do not regularly collect or receives samples from slaughter houses. Sample management is not totally in compliance with biosafety and biosecurity requirements.

There are no major limitations with regards to basic supplies and internet connection at central and regional level, but some laboratories might benefit from a more stable internet connection. For CVL and the regional VLs, there is sufficient staff in place according to their actual needs. The overall technical capacity is acceptable but there is an indication from the laboratories that the current capacities in terms of access to material, financial resources, and skilled workforce need to be strengthened.

CVL has SOPs for a staff training plan but resource availability is often a constraint.

The CVL is the only laboratory with a Laboratory Information Management System (LIMS) in place. The LIMS system was developed and customized specifically to the DLS requirements with FAO support. A plan exists to upgrade the data management system at the regional level to connect to the LIMS system at central level, but it has not been implemented.

Therefore, the CVL LIMS system is not connected to the databases of the peripheral veterinary laboratories or to any other databases in other units/departments or to the Nepal National Single Window (NNSW). NAFLQML, FMD/TADs IL and all veterinary laboratories run basic electronic databases (i.e., Excel) but are not connected to databases at peripheral or central laboratories. At VLs record books are still commonly used to register all data before transferring into Excel datasets. Reports of disease occurrence are then extrapolated from the Excel spreadsheets and shared with central laboratories via mail.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Buildings of the CVL, FMD/TADs IL and peripheral Veterinary Laboratories at Janakpur and Pokhara have been renovated. New building has been built for the Veterinary Laboratory at Biratnagar and part of the laboratory has moved to this new building.
- CVL has a LIMS in place.

Strengths:

- A control plan specifying priorities with timeframes for implementation of DLS control activities is available in Nepal
- The laboratories under the DLS have in place effective mechanisms to exchange information related to execution of planned activities.
- In general, laboratory network has the analytical capabilities to support DLS programmes
- Joint projects with international partners such as FAO for disease preparedness and response capacity improvement and with the Fleming Fund (FHI360) for AMR-related activities.

Weaknesses:

- Limited resources for laboratory diagnosis
- Limited demand for laboratory testing
- Weak training dedicated for the improvement of the capabilities of the technical staff
- Weak biosecurity/biosafety measures
- The lack of a modern IT and integrated management system in place
- Lack of regular assessment of the laboratories' needs

Recommendations:

- Move towards a risk-based approach in development of programmes, whereby laboratory capacities should be aligned with animal health, welfare and food safety priorities.
- The 2022 WB study highlighted various training topics important for future development of personnel working in the units' testing samples from live animals and samples of animal products for import/export purposes in both central and regional laboratories. This list can help to identify and prioritize training topics customized to the needs of each laboratory.

- Improve biosecurity and biosafety measures in all laboratories
- Review/define a laboratory network strategy with a strategic action plan to best address DLS and other stakeholders' future needs. A WOAH PVS Sustainable Laboratories mission could help pave the way for the improvement of laboratory capabilities.
- Strengthen resources to improve laboratory access for underserved remote regions
- Extend the use of LIMS to the whole laboratory network and consider integration with other related database/systems (NAHIS, NNSW, etc.) for more efficient coordination within the three tiers of government.

Evidence (as listed in Appendix 6):

E-28, E-29, E-42, E-43, E-44, E-49, E-50, E-51, E-52, E-53, E-54, E-73, E-105; E-108, E-109, E-113, E-115, E-116; P-28, P-31, P-33, P-34, P-43, P-44,

II-1. VETERINARY LABORATORY DIAGNOSIS

DEFINITION
The authority and capability of the VS to effectively and efficiently use accurate *laboratory* diagnosis to support their animal health and veterinary public activities.
C. Laboratory quality management systems (QMS)
The authority and capability of the VS to access *laboratory* diagnosis in order to identify and report pathogenic and other hazardous agents that can adversely affect *animals* and animal products, including those relevant to public health.
LEVELS OF ADVANCEMENT- 3
1. No *laboratories* servicing the public sector VS are using formal QMS.
2. One or more *laboratories* servicing the public sector VS, including the major national animal health reference *laboratory*, are using formal QMS.
3. Most major *laboratories* servicing the public sector VS are using formal QMS. There is occasional use of multi-laboratory proficiency testing programmes.
4. Most of the *laboratories* servicing the public sector VS are using formal QMS, with regular use of multi-laboratory proficiency testing programmes.
5. All the *laboratories* servicing the public sector VS are using formal QMS which are regularly assessed via national, regional or international proficiency testing programmes.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	1
PVS Gap Analysis in 2011.:	2

Findings:

Services provided by laboratories at central and regional level under DLS (and none of the units within the five VLs) are not accredited (ISO 17025-2017), which is a clear limitation in terms of test results reliability of the country. The CVL has a strategy in place to first concentrate their efforts on accreditation of the CVL and of the regulatory laboratories and then progress with the upgrading of the regional veterinary laboratories.

Only NADIL (avian diseases) has a person in charge of the quality system in the laboratory and except for the CVL none of the laboratories has a quality manual to help implementing minimum requirements for quality assurance. The peripheral laboratories occasionally participated in proficiency testing activities.

A GAP analysis was performed in 2019 by the World Bank in the VSDRL to identify the accreditation needs according to ISO 17025 and use the results from that effort to inform the current request for accreditation. The FMD/TADs IL building is too obsolete to fulfil all the accreditation requirements.

Since the FMD/TADs IL and VSDRL play an important role in import and export of livestock and related items (vaccines, drugs etc.), a request to improve the infrastructure and capacity of these laboratories was put forward by the DLS. The request focused on the establishment of a separate BSL+2 unit for FMD/TADs IL while for VSDRL proposal focused on the upgrading the existing laboratory to BSL + 2.

At central laboratories, SOPs are available to guide the implementation of laboratory practices. CVL, VSDRL and FMD/TADs IL have in place a Quality System with either a Quality Manager

or a senior staff member responsible for quality aspects. A quality manual for the implementation of quality requirements is available in CVL and VSDRL laboratories but not in the FMD/TADs IL.

NAFLQML has a poor level of implementation of a quality system and there is no quality manual available despite a person being in charge.

CVL and the FMD/TADs IL regularly participates in Proficiency Testing for PPR-(PCR-ELISA) and LSD - IAEA, Austria, AI/Swine disease-(PCR) - Australian Animal Health Laboratories, Australia, AMR-(culture-isolates-AST) - Mahidol University/ Chulalongkorn University, Thailand, Brucella (PAT) - Animal Health Laboratory, Thailand and, FMD - Pirbright Institute, UK. VSDRL and NAFLQML do not regularly participate in proficiency testing activities.

The National Food and Feed Reference Laboratory (NFFRL) used by DFTQC has a Programme of Laboratory Accreditation (Methodology development, ILC Programmes, Proficiency Test participation and Sample Preparation, Extension of accreditation scope, Internal audit and, Research and Development programmes).

NFFRL is accredited as per ISO/IEC 17025:2017 for 286 Parameters (245 Chemical Parameters and 41 Microbiological Parameters) within its scope of Accreditation according to the following Food Groups: Fats & oils, Fruits & vegetables, Cereals products, Tea and coffee, Milk & dairy products, Honey and Sweeteners, Meat products, Spices & condiments, Processed drinking water and, Dietary supplement

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- CVL, VSDRL, FMD/TADs IL and NADIL have developed and implemented laboratory quality manual, protocols and SOPs.
- CVL and the FMD/TADs IL regularly participates in Proficiency Testing. CVL has organised some proficiency testing with regional Veterinary Laboratories.

Strengths:

- Several SOPs are available for all laboratories activities
- Some central laboratories have a quality manual and dedicated personal to QMS
- QMS initiated at CVL and Feed laboratory to reach ISO 17025 accreditation
- CVL and the FMD and TADs laboratory, at central level, are active in proficiency testing activities.

Weaknesses:

- Weak regular maintenance, calibration of equipment
- Inadequate technical capacity of personnel.
- VSDRL and NAFLQML have not regularly participated in proficiency testing.
- Inadequate physical resources (poor infrastructure in some lab lacking BSL-2) are available for the implementation of quality management system (primarily ISO 17025)
- Lack of laboratories accredited ISO-IEC 17025-2017 which is a clear gap for improving the overall performance of the laboratories.

Recommendations:

- Conduct a gap analysis (with a focus on quality aspects and overall performance) should be performed in the NAFLQML, FMD/TADs IL and in the veterinary laboratories in the course of preparation to the accreditation process.

- Develop an action plan to be undertaken to improve the overall performance of the selected laboratories/units (diagnostic and control) resources to reach ISO 17025 accreditation process
- In collaboration with the national accreditation bodies for equipment calibration, establish a system whereby the maintenance and calibration of the equipment is performed regularly according to clear SOPs. When not available, those SOPs should be developed
- Prioritise accreditation schedule in accordance with the VS AH and VPH plans and programmes.
- Develop the action plan for the accreditation of prioritized laboratories
- Design a plan for participation in proficiency testing activities or interlaboratory comparison programs to be implemented regularly by all laboratories. Proficiency testing at regional level can be organized by Nepal's central laboratories to test the performance of regional laboratories.
- Where lacking, assign a person in charge of quality system implementation and develop a quality manual as priority steps towards the modernization and enhanced competencies of the laboratories.
- Consider what investment in infrastructure is needed to establish BSL +2 at the "FMD and TADs Lab" and VSDRL.
- Consider international standards for reference laboratories designation and functioning.

Evidence (as listed in Appendix 6):

E-28, E-29, E-42, E-43, E-44, E-49, E-50, E-51, E-52, E-53, E-54, E-73, E-105; E-108, E-109, E-113, E-115, E-116; P-17, P-29, P-32, P-36, P-38, P-39,

II-2. RISK ANALYSIS AND EPIDEMIOLOGY

DEFINITION
The authority and capability of the VS to base its *risk management* and *risk communication* measures on *risk assessment*, incorporating sound epidemiological principles.
LEVELS OF ADVANCEMENT - 2
1. *Risk management* and *risk communication* measures are not usually supported by risk assessment.
2. The VS compile and maintain data but do not have the capability to carry out *risk analysis*. Some *risk management* and *risk communication* measures are based on *risk assessment* and some epidemiological principles.
3. The VS compile and maintain data and have the policy and capability to carry out *risk analysis,* incorporating epidemiological principles. The majority of *risk management* and *risk communication* measures are based on *risk assessment*.
4. The VS conduct *risk analysis* in compliance with relevant WOAH standards and sound epidemiological principles, and base their *risk management* and *risk communication* measures on the outcomes of *risk assessment*. There is a legislative basis that supports the use of *risk analysis*.
5. The VS are consistent and transparent in basing animal health and *sanitary measures* on *risk assessment* and best practice epidemiology, and in communicating and/or publishing their scientific procedures and outcomes internationally.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

“The SPS Agreement requires that all sanitary measures be based on a technical assessment of the risks that takes into consideration risk assessment techniques. The risk management measures should be adapted to the appropriate level of risk ascertained by risk assessment and taking into consideration social, and environmental factors. “

The World Bank conducted an assessment of the Department of Livestock Services and its laboratory network (published in June 2022). Most of the findings are confirmed during the PVS assessment mission in Nepal (2023).

Import risk assessments are carried out by a multisectoral multidisciplinary committee with invited experts. Department of Livestock Services has been issuing different standards based on the legal power given by the Animal Health and Livestock Services Act (1998) and regulations and (1999). In this regard, Veterinary Standards and Drug Administration Office (VSDAO) has compiled the standards approved by Department of Livestock Services and published a booklet. The booklet provides the standards for import risk analysis for live animals, animal products and veterinary biologicals, national microbial standard for meat, milk, egg and MRL of veterinary drugs, standards for the transfer and biocontainment of hazardous animal pathogens. A biosecurity manual for commercial poultry production has been compiled; however, some revisions of this document are currently underway.

Under section 6 of VSDAO (2012) it is noted that the DLS should utilize a “Risk Analysis Core Group” of specialists which is currently present and utilized in Nepal.

Import Risk Analysis has been performed since 2014 by the Risk Analysis Committee (RAC) in the Department of Livestock Service. The committee is formed based on the provisions of

Animal Health and Livestock Services Act (1999) and composed of technical and scientific experts' teams in animal quarantine system and relevant fields with consultation of stakeholders at various levels during the process. It is composed from designated members belonging to the Epidemiology section of DLS, the Central Veterinary Laboratory, the National Agricultural Research Council, the Veterinary Standards and Drug Regulatory Laboratory and other agencies depending on need for specific competency. This committee can meet every 15 days to conduct a qualitative risk analysis for each commodity newly as requested by importers.

The recommendations from the Risk Analysis Committee are provided in a report signed by the members of the committee and endorsed by the Director General of DLS, which is responsible for making the formal decision as to whether or not the trade will occur, and under what conditions.

A dedicated Risk Assessment section is established under the Animal Quarantine Division of the DLS. It consists of a senior veterinary officer, one veterinary officer and one livestock officer, who are responsible for tasks related to risk assessment. The main function of this section includes assessing qualitative risk before the issuance of an import permit for a particular consignment. DLS conducts an Import Risk Analysis when there is a request for import permit from countries from which Nepal never imported before; for example, for the import of certain products from animal origin from Mongolia.

The current framework in Nepal allows independence of risk assessment from risk management functions, which is a key milestone in the definition of modern control systems whose implementation is based on a risk approach. Risk assessors provide independent scientific advice on potential threats in the production chain and risk managers use this advice as a basis for making decisions to address these issues.

The implementation of risk assessment practices was reported by the DLS to be only basic and based on a qualitative approach due to lack of expertise.

According to the DLS there is not sufficient capacity (in terms of scientific expertise and number of experts) to fulfil the current requests of risk assessment in the sphere of food safety of animal origin or animal health. No trainings were received in 2020 and 2021 on topics related to risk assessment by DLS personnel (working in the food safety or animal health data analysis and risk assessment areas), but about 26 personnel benefited from a training on Import Risk Analysis in 2019. FAO and the WB support the DLS for training the DLS staff members of the RA committee. However, it seems unlikely that all this trained staff will consistently undertake assessments.

Risk assessment is a science-based discipline that requires a comprehensive framework of data collection, data sharing and data analysis enabling the committee to effectively evaluate risks. Some data generating activities are in place (i.e. surveillance system of animal diseases) are at some extent in place in Nepal while others (i.e., inspection, control procedures) are not.

Gaps identified could jeopardize the capacity of risk assessment to effectively identify the risks and therefore efforts should be dedicated to developing a stronger framework for data generation to fulfil the requirement of risk assessment practices.

In relation to the surveillance system for animal diseases, the DLS reported various mechanisms under which data is being generated and the DLS surveillance programme in Nepal is based on a priority list of animal diseases for mandatory reporting. In addition to the surveillance system, outbreak data and data generated through epidemiological investigations are also available.

There are limitations especially in the flow of data from the field to central level due to the gap in communication and data sharing between the three tiers of government. According to the DLS, data generated through the national surveillance system and other field activities (eg. outbreak investigation) are being used by the DLS and the risk analysis section to generate

recommendations for risk management strategies. In addition to the regular data originating from the animal health surveillance system on the priority diseases, additional data is being generated through epidemiological and outbreaks investigations. Recent examples of epidemiological investigations implemented are related to HPAI, FMD, and Rabies.

The WAHIS database was mentioned as the only international databases on animal health and related issues routinely accessed by DLS in Nepal. The data is being used to inform new or current risk assessment activities.

There is a recognized gap in Nepal in the establishment of proper data management systems for the relevant data categories (i.e., inspection, surveillance, laboratory). The management of any type of data requires, as a precondition, the existence of a functioning electronic data management system that would enable ease of data gathering and storage, fast exchange, security in maintaining the data, etc. which does not currently exist in Nepal.

Modern food control governance requires food business operators (FBOs) to take full legal responsibility for the safety of the food they produce or place on the market. The registration and identification of FBOs is a key element of a modern food control system. The current legislation in Nepal does not include any provisions for prioritizing FBOs based on sound evidence or a basic qualitative risk categorization framework (eg. high, medium, or low risk), and consequently, no risk categorization of FBOs is applied in Nepal to perform risk-based inspection practices.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Risk Analysis Section has been established within the Animal Quarantine Division and Risk Analysis Committee (RAC) has been formed under the Department of Livestock Service (DLS)
- Standards for Import Risk Analysis of live animals, animal products, and veterinary biologicals have been developed and implemented.

Strengths:

- Dedicated section for epidemiology and import risk analysis within the DLS
- Import Risk Analysis procedures are documented. The Standard for Import Risk Analysis of Live Animals, Animal Products and Veterinary Biologicals (VSDAO, 2012) is a policy document that is publicly available.
- Technical and scientific vigilance for health threats is conducted by the epidemiology and risk analysis section of the DLS. Epidemiological surveillance and priority TADs mapping are performed allowing some qualitative risk assessment.
- 26 officers from DLS received 15 days training on RA implemented by the FAO.
- Import Risk Analysis is independent from risk management

Weaknesses:

- Lack of specific skills for risk analysis/assessment in DLS and could interest other national agencies in charge of the implementation of the SPS agreement (DFTQC).
- Training only on an occasion basis
- Necessary data for implementation of risk assessments practices not routinely generated by specific operational activities especially for official AH / Food and Feed safety programmes.
- Lack of DLS access to data on inspection at the local level
- The lack of a proper electronic information management system to manage the inspection data

- Nepal does not have the possibility to recognize regionalization established in accordance with WOAH standards, banning the import from the whole exporting country
- Lack of risk assessment with neighbouring countries China and India

Recommendations:

- Improve the capabilities of VS to undertake risk assessment with documented procedures for official VS programmes implementation and evaluation (eg. improve HR and data generation system).
- Consider identifying broad topic categories for future trainings for personnel working in the sphere of animal health data analysis and risk assessment in DLS.
- Contextualize the training content to the current situation in Nepal with regards to the trade exchange with various countries and based on real risk questions and scenarios.
- Improve the actual framework for data generation to fulfil the requirement of risk assessment practices especially f inspection control.
- Build a well-structured IT data management system to improve the process of sharing data between the local, provincial and federal levels

Evidence (as listed in Appendix 6):

E-22, E-23, E-24, E-25, E-28, E-29, E-30, E-31, E-32, E-33, E-42, E-43, E-44, E-45, E-49, E-50, E-51, E-52, E-53, E-54, E-69, E-73, E-98, E-105; E-113, E-116; P-3, P-19, P-23, P-58,

II-3. QUARANTINE AND BORDER SECURITY

DEFINITION
The authority and capability of the VS to operate to prevent the entry of *diseases* and other *hazards* of *animals* and *animal* and veterinary products into their country.
LEVELS OF ADVANCEMENT - 2
1. The VS cannot apply any type of quarantine or border security procedures for the entry of *animals*, animal products and veterinary products with their neighbouring countries or trading partners.
2. The VS can establish and apply minimal quarantine and border security procedures, or the VS only apply quarantine and border security procedures effectively at some official entry points via *border posts*.
3. The VS can establish and apply quarantine and border security procedures based on import protocols and international standards at all official entry points via *border posts*, but the procedures do not systematically address illegal activities relating to the import of *animals*, animal products and veterinary products.
4. The VS can establish and apply effective quarantine and border security procedures which systematically address legal pathways and illegal activities (e.g. through effective partnerships with national customs and border police).
5. The VS can establish, apply and audit quarantine and border security procedures which systematically address all risks identified, including through collaboration with their neighbouring countries and trading partners.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

The DLS is authorised to conducti its quarantine missions according to the Animal Health and Livestock Services Act, 1998, its regulation 1999, and the “Standard for Import Risk Analysis of Live Animal, Animal Product and Veterinary Biologicals, 2012” approved by DLS on 2069/4 /24 Nepal.

Animal Quarantine Division (AQD), within the DLS is the national technical authority in charge of animal quarantine services. It provides import permits does pre-quarantine procedures as part of its responsibilities for the quarantine and border security. AQD performs import risk assessments, applies post-quarantine monitoring (sample collection from market, test sample, and act according to the prevailing laws) and, regulates the import and export of live animals, animal products and animal production materials.

AQD central office has a total of twelve staff: one director (veterinarian), three senior veterinary officers, four veterinary officers, one technician, one driver and two messengers.

Total Human Resources for the AQD (including check posts) covering 8 Animal Quarantine Offices and 28 BIPS is 149 persons. This includes: 8 senior veterinary officers, 33 veterinary officers, 16 administrative staffs, 55 technicians, 8 drivers and 40 messengers. One veterinary officer, 2 technicians and 1 office messenger are fielded in each animal quarantine check post.

New appointed officers are trained on the job. A WhatsApp group is created to ensure contact and advise between borders officers.

A total of 28 check posts (BIPs) are currently active in Nepal; 24 international and four internal. These BIPs are subordinated to eight Animal Quarantine Offices and are directly subordinated to the Head of AQD. They are considered of appropriate design, layout, and capacity even though some deficiencies in the check posts infrastructure, equipment and supplies were also reported. Out of this, 24 BIPs are located at international borders; including 23 land crossings (21 with India and 2 with China) and 1 airport (Kathmandu).

Some BIPs are in general more active than others and, depending on the trade flow, the number of inspectors is not sufficient. One day old chicks and vaccines, for instance, are only allowed to be imported via flights and not by road. So, the workload in the check-post at the Kathmandu airport can be, at times, very high and the current number of inspectors at the airport is considered very insufficient.

Animal Quarantine Offices implement the programmes and legal provisions related to quarantine services, file cases for violating the laws and/or provide the verdict related to such issues. AQ Offices coordinate with other relevant stakeholders for the implementation of quarantine programmes.

Importations of all commodities are subject to pre-importation authorisation “import permit”. The import permit is delivered according to an initial risk analysis of exporters’ countries.

The import permit specifies the health requirements for each commodity from each country to be certified using an international health certificate issued by the official veterinary authority of those countries. For some countries and commodities, a format of health certificate is prior agreed and checked for at point of entry (BIP).

The application for import permit is performed online using a digitalised platform, the Nepal National Single Window (https://nnsw.gov.np/trade/), operated by Department of Customs. Import permit approval is performed online through this single window system, whereby importers can see what documents are required, fill the application and monitor the status of their application. Import of each consignment is subject to import permit issued by the AQD through the NNSW system.

DLS has procedures in place for the border inspection (documentary, identity, and physical checks) for all types of commodities (live animals, products of animal origin, germinal products, vaccines). SOP manuals specify the conduct of borders’ checks for commodities and the final decision (clearance of the goods, rejection, destruction) which specify the customs as primary border authority in line with the national laws and regulations. There was a training organized by DLS with technical support from FAO.

Article 26 of the Animal Health and Livestock Services Act gives the responsibility to senior staff for imported commodities control and clearance. There is a procedure to allow the clearance of imported commodities by some skilled staff at borders according to their work experience.

The main activities of the quarantine offices relate to quarantine inspection, certification, sample collection and dispatch, screening tests, monitoring/patrolling, awareness programmes, stakeholder consultations and border surveillance. The total number of samples taken from quarantine places in 2019 was 2693 and in 2020 was 1070

The inspection of imported items is based on risk categories, therefore fulfilling a risk-based inspection approach. Risk profiles of the following items (considered of high-risk) are being used to plan inspection of imported consignments: “live animals including poultry and fish” and “unprocessed animal products”.

The major imported commodities are: parent stock chicks, fish fry/fingerlings, table fish, feed supplements/additives, disinfectants/water sanitizers, veterinary biologicals, live animals for breeding purposes. Day-old chicks and biologicals are allowed to enter Nepal only at the airport. Nepal notified certain restricted items for import and export which includes beef.

Holding facilities for live animal are only present in three provinces of various sizes ranging from very small (5 animals) to large (250 animals). However, neither the capacity and size nor the total number and geographical locations of these holding facilities are considered adequate considering the current workload and trade patterns. Specifically, the holding places (Internal Control Posts at Biratnagar, Birgunj ICPs, Bhairahawa and Krishnagar seem to be insufficient.

If needed to proceed with the quarantine of imported animals, the lack of sufficient holding facilities requires that quarantine officers apply on-farm quarantines. A Quarantine Station belonging or designated by importer should be agreed by the AQD based on standards and specific procedures. On farm quarantine was reported to be less strict and to increase the risk of introduction of disease through the import of livestock although the number of live animals crossing the border through formal channels is small.

Commodities are checked at BIPs using sometimes the zoom video application. The focus of border operations is on documentary clearances. This is due to a number of reasons including lack of space in the customs control areas to hold vehicles, lack of resources to undertake intensive checks and lack of equipment and facilities to undertake routine testing locally. The factors combined create lengthy delays in the clearances of commercial vehicles.

The main focus is on verifying documents rather than on regular and structured sampling activities targeting commodities based upon a prioritized approach to managing risk. Samples could be taken and sent to the authorised laboratories. Importers are paying for laboratory testing. Since most imports come with health certificates, sampling of imports is usually not carried out. The health certificate confers compliance. Some random samples are however collected.

Animal Welfare related to animal transport is also checked at BIPs according to the procedure edited by the AW committee under the DLS.

For wildlife cooperation is in place with the Ministry of Environment which ask the DLS for an import permit. At BIPs, both health requirements and CITES are checked.

Entry permit is cleared under the provision of Article 26 of the Animal Health and Livestock Services Act by official veterinarians of the Quarantine section or by other delegated professional or paraprofessionals. BIPs provide a quarantine certificate after inspection of the consignments imported.

Some jurisdictional debate was reported over the inspection responsibility for certain commodities that overlap with DFTQC (e.g., milk and powdered milk) and Plant Quarantine and Pesticide Management Centre (PQPMC) (soya meal and vegetable protein used for feeds). The need for enhanced coordination at the border was stressed by the DFTQC as well.

While there is provision in Nepal for risk-based inspection for imported items, this approach is not widely used and not entirely based on a sound methodology for risk categorization. Food importers are currently being identified through a registration system (NNSW). Pre-border controls to increase confidence in the safety and quality of the products being traded with the profiling of exporters and of imported products should provide a strong framework to build risk-based inspection practices.

Internal Animal Quarantine Check Posts has the responsibilities to: inspect quarantine certificates and provide permits for further movement of animals, animal products and animal production materials; inspect domestic movement certificates for live animals, animal products and animal production materials; apply quarantine or isolation needed; and implement of Animal Transportation Standard 2064 and Animal Welfare and Animal Welfare Directive 2073. AQO Birgunj performs disease surveillance at borders' farms and monitors smuggling of animals.

The border with India is long and porous with no natural barriers exposing Nepal to high risk of illegal trade. Illegal introduction is addressed by the AQD at terrestrial border mainly with

India and BIPs are solicited to cooperate sometimes by patrolling along the borders. Annual reports kept records of such illegal operations.

The Birgunj AQD office has an informal *ad hoc* committee dedicated to illegal trade control and composed of AQ Officer, Nepali Police, Border security, Customs and local government.

The committee meets monthly and decision applied immediately. The local government allocates one hundred (100) Rps monthly to young patrollers to inform about the illegal movements.

When informed by the Police the *ad hoc* committee refers to the district inspector for smuggling of veterinary medicines. Police alert the Animal Quarantine Check Posts (internal check posts belonging to AQO) to check clinically and manage the smuggled animals according to the requirements set by the *ad hoc* committee.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Import risk analysis regularly performed by the DLS Risk Analysis Section.
- Standard operating procedure for the veterinary checks (documentary, identity and physical checks) at import are developed and implemented.
- The DLS has introduced veterinary certificates as a mandatory requirement for the import of live animals.
- Animal Quarantine officers are using Single Window System (NNSW) for the management of official controls of import consignments.

Strengths:

- Animal quarantine is under direct control of DLS (direct and unique chain of command) according to the new constitution.
- Standardised and published procedure for import risk analysis of live animals, animal products and veterinary biologicals
- RA committee includes trained specialised members
- Digitalized import permit application and delivery
- Internal movements of live animals and other animal commodities including post-import controls at markets are controlled by AQD.
- Risk based importation procedure for animal commodities
- Some oversight of functional BIPs/internal check posts with documented procedures
- Coordination and cooperation for illegal importation between AQD, customs and police.

Weaknesses:

- Import permit for the commodities from animal origin intended for human consumption is co-established both by DLS and DFTQC but only under the authority of DFTQC for the clearance of the consignments.
- Insufficient resources at borders (staff, transportation, quarantine stations, cold chain, etc.) for comprehensive implementation of quarantine activities.
- Timely coordination with Customs is compromised due to the insufficient human resources that doesn't allow a 24/7 working system (Customs works 24/7, but not BIPs).
- Porous borders with neighbouring countries allow illegal trade of animals and commodities and jeopardize official quarantine controls at borders and internally.

- Rare internal check posts in place and weak risk assessment and risk-based management for activities under AQD related to animal health controls inside Nepal.

Recommendations:

- Based on the actual and future trade patterns and the extent and geographical location of the holding grounds in relation to trade, consider the construction of new holding grounds, or the renovation of the current ones.
- Design a quality management system for AQD to improve the oversight of AQ Offices, BIPs and internal check posts.
- Review the actual organisation of border controls of food from animal origin to align with international standards.
- Promote further application of a risk-based control programme in Nepal based on risk profiles for traded items and conduct a policy discussion to promote this approach. (Examples of information that should be considered includes: Information about type of product and its "inherent" risk; country of origin and reliability of export certification; importers or exporters reliability, including own-control system and/or use of certification processes for consignments; information stemming from rejection; and make use of internationally available databases such as INFOSAN and RASFF).
- Update the manual of procedures for BIPs and internal check posts and train field quarantine staff accordingly.
- Strengthen cooperation with Customs and Police to improve prevention of the illegal trade of animals and products of animal origin.

Evidence (as listed in Appendix 6):

E-7, E8, E-16, E-17, E-18, E-20, E-24, E-25, E-27, E-28, E-29, E-30, E-31, E-32, E-33, E-35, E-50, E-51, E-52, E-53, E-54, E-55, E-69, E-102, E-104, E-105; E-107, E-114, E-116; P-2, P-3, P-4, P-5, P-6, P-7, P-13, P-18, P-25, P-26, P-27, P-45, P-58

II-4. SURVEILLANCE10 AND EARLY DETECTION

DEFINITION
The authority and capability of the VS to determine, verify and report on the sanitary status of their animal populations, including *wildlife*, in a timely manner.
A. Passive surveillance, early detection and epidemiological outbreak investigation
A *surveillance* system based on a field animal health network capable of reliably detecting (by clinical or post mortem signs), diagnosing, reporting and investigating legally *notifiable diseases* (and relevant *emerging diseases*) in a timely manner.
LEVELS OF ADVANCEMENT- 2
1. The VS have very limited passive *surveillance* capacity, with no formal disease list, little training/ awareness and/or inadequate national coverage. Disease *outbreaks* are not reported or reporting is delayed.
2. The VS have basic passive *surveillance* authority and capacity. There is a formal disease list with some training/awareness and some national coverage. The speed of detection and level of investigation is variable. Disease *outbreak* reports are available for some species and diseases.
3. The VS have some passive *surveillance* capacity with some sample collection and *laboratory* testing. There is a list of *notifiable diseases* with trained field staff covering most areas. The speed of reporting and investigation is timely in most production systems. Disease *outbreak* investigation reports are available for most species and *diseases.*
4. The VS have effective passive *surveillance* with routine *laboratory* confirmation and epidemiological disease investigation (including tracing and pathogen characterisation) in most animal sectors, and covering producers, markets and slaughterhouses. There are high levels of awareness and compliance with the need for prompt reporting from all animal owners/handlers and the field VS.
5. The VS have comprehensive passive *surveillance* nationwide providing high confidence in the *notifiable disease* status in real time. The VS routinely report *surveillance* information to producers, industry and other stakeholders. Full epidemiological disease investigations are undertaken in all relevant cases with tracing and active follow up of at-risk establishments.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

Within the Animal Diseases Investigation and Control Division of the DLS, the veterinary epidemiology section is empowered by the Animal Health and Livestock Services Act (1999), the Animal Health and Livestock Service Regulations (2000), the National Animal Health Programme Implementation Procedures (2018) and the Avian Influenza Surveillance Plan (2015). The One Health section under the same Division is responsible for formulating and implementing programmes for surveillance, detection, control and eradication of zoonotic diseases related to public health and to manage a One Health-related information system.

A list of 24 notifiable diseases is defined with prioritization of 10 zoonotic diseases. For disease reporting activities, the epidemiology section developed a Manual for Epidemiological Reporting and Animal Disease Recognition. In compliance with the Animal Health and Livestock Services Rule 20 (2000), information of suspicious cases is to be given immediately to the Veterinary Officer designated by DLS. An investigation is to be conducted and the information sent to the Department (DLS) within 24 hours.

The field veterinary network (public and private) is composed of a total of 75 Veterinary Hospital and Livestock Services Expert Centres (VHLSEC) under the authority of the provincial level directorate of livestock. There are 753 livestock service section at local level belonging to municipalities for the public sector (out of 753, 150 operate through separate dedicated buildings and the remaining units operate within local government office buildings). There are no veterinary inspections at slaughterhouses under DLS.

There are 1814 registered veterinarians in Nepal. Most of the private veterinarians work in the poultry sector and pet clinics. For VHLSEC, less than 20% of the working time is dedicated to VS core missions and 80% of the time serves the animal health care and livestock development. Farms are mostly under livestock technicians' control.

In remote areas (mountains), the lack or very poor availability of veterinarians is a real gap in the notification system. Some awareness activities are held and some livestock technicians provide assistance with animal healthcare/husbandry.

The CVL, the FMD-TADs IL, the NADIL and the peripheral Veterinary Laboratories act upon report of suspicious notifiable diseases' cases or receipt of sick/dead animals with visits to the farms and sampling for testing. Laboratories are part of the notification system in Nepal. As per veterinary hospitals, laboratories undertake necropsy when needed with necropsy examination. CVL is the lead laboratory for animal disease diagnosis.

The CVL virology unit is responsible for the diagnosis of viral diseases. Most of the samples are submitted from the necropsy unit of CVL, Veterinary Laboratories in different provinces, NADIL, Central Veterinary Referral Hospital (CRVH) and Veterinary Hospital and Livestock Services Expert Centre (VHLSEC). Samples are also submitted by quarantine check posts, private clinicians, farmers, and staffs of CVL during disease outbreak investigations.

Pathology section within CVL consists of necropsy unit, histopathology, parasitology and clinical haematology and biochemistry unit. Samples are submitted either by VLs, NADIL, CRVH, VHLSEC and Local level or they are brought directly by the veterinary practitioners, livestock, and poultry farms as well as by the farmers themselves. Positive cases by necropsy examination (Enterotoxaemia, Haemorrhagic Septicaemia, PPR, PRRS: Porcine Reproductive and Respiratory Syndrome, CSF, ASF) were tested in specialised units.

Molecular biology unit at CVL was established in 2003. CVL uses RT PCR for diagnosis of avian diseases like Avian Influenza (AI), Newcastle disease (ND), and Infectious Bursal Disease (IBD). Swab samples of avian species suspected for avian influenza are also tested using Real Time Reverse Transcriptase Polymerase Chain Reaction (rRT PCR). Some of the samples were sent to an WOAH Reference laboratory in Australia.

Since 2016 CVL used multiplex RT-PCR testing for respiratory disease of small ruminant (PPR, CCPP, Capripox and Pasteurella) and swine diseases (African swine fever virus, Classical swine fever virus, Salmonella and Erysipelas) and other diseases like Porcine Reproductive and Respiratory Syndrome (PRRS-NA and PRRS-EU). Later on the capacity for diagnosis of other zoonotic and economic importance diseases like Glanders, Lumpy skin Diseases (LSD) and Enterotoxaemia was developed.

FMD/TADs IL performs Multiplex RT-PCR and diagnostics for FMD, PPR, Blue Tongue (BT) and ASF among others. The FMD/TADs IL participates to outbreak investigations of FMD, CSF and Blue Tongue and provides technical support to DLS to develop policies, strategies and program for the control of FMD and TADs.

For outbreak investigation and sampling by the FMD/TADs IL coordinates with local levels (municipalities, rural municipalities), provincial levels (provincial veterinary hospitals) and other federal laboratories within the network of CVL.

The NADIL conducts outbreak investigation of epizootic poultry diseases, collects and submits avian samples for infectious disease diagnosis by CVL which is the reference laboratory for confirmation of avian diseases.

Most wildlife veterinarians work in externally funded projects and with organizations like the National Trust for Nature Conservation (NTNC). The veterinary personnel of Department of National Parks and Wildlife Conservation (DNPWC) and NTNC mainly contribute to treatment, rescue, translocation, and wildlife conservation efforts. There is no systematic approach to capturing disease information for wildlife. The WOAH focal point within DNPWC coordinates with DLS for periodic submission of disease status. National Animal Health Information System (NAHIS), which is in the pilot stage, plans to integrate information from the wildlife sector. DLS and veterinarians under DNPWC occasionally collaborate for surveillance in buffer zones/fringe areas. DNPWC representatives are included in the One Health and Avian Influenza committees.

CVL and the Nepalese veterinary laboratory network is committed also with early detection and investigation of outbreaks with the DLS and provincial/local authorities. Following an initial diagnosis in the laboratory a team designated by the DLS (including lab specialists, epidemiologists and other official from DLS) performs field investigation of the outbreaks. In Nepal, most epidemic diseases were notifiable (AI, LSD, ASF, FMD, PPR, etc.) but reporting and notification is not prioritized by field functionaries.

The DLS undertake extension (for farmers) and training activities to improve the reporting and notification system in place on a face-to-face basis (limited impact compared to e-learning) for veterinarians and livestock technicians (public sector).

The Ministry of Forestry and Environment (MoFE) has an established network of Protected Areas including 12 national wildlife parks, 1 wildlife reserve, 1 hunting reserve and 6 conservation areas.

The ongoing project to develop and implement the National Animal Health Information System (NAHIS) to manage animal health data will allow real time consultation and management of updated information. Laboratories are allowed to enter diagnostic data of notifiable diseases.

Considering that in Nepal:

- most of the animal health care is provided by livestock technicians and performed as self-medication by farmers,
- vaccination campaigns are free of charge for farmers and mostly performed by livestock technicians,
- farmers comply with vaccination for some diseases to benefit from insurance for animals included in a programme for livestock development which pay for this insurance. Farmers are not compensated for losses due to notifiable diseases except for HPAI.
- the DLS is the central authority but not in charge of the internal coordination (chain of command) for VS AH missions in the field in the whole Nepal.

We carefully conclude that this situation seriously endangers the notification system and the effectiveness of the DLS activities.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- The DLS has developed a Manual for Epidemiological Reporting and Animal Disease Recognition for diseases reporting activities.
- The DLS is developing NAHIS to manage animal health data and produce reports.
- A list of 24 notifiable diseases is defined with prioritization of 10 zoonotic diseases.
- Since the restructuring of the VS under federalization, local level VS are no longer under the direct authority of the DLS

Strengths:

- Efficient laboratory network led by the CVL for animal diseases' diagnosis
- Notification system in place for live animals allowing early detection for epidemics diseases (eg. AI)
- Skilled laboratories' staff for outbreak investigations
- Many veterinarians under the Ministry of Forestry and Environment (MoFE) in charge of wildlife supports DLS for technical wildlife health aspects
- Investment in NAHIS is ongoing

Weaknesses:

- Limited surveillance system for priority notifiable diseases, especially in remote areas and at slaughterhouses and for wildlife
- Very limited supervision of farms by veterinarians for VS inspection purposes
- Lack of animal identification and traceability (farms/animals) leading to limited efficiency of animal movements
- Lack of compensation procedures to enhance smooth implementation of early detection, disease control and prevention programmes
- Very limited surveillance for major zoonotic diseases (eg. TB, Brucellosis, Rabies)
- Limited training activities for the effective use of the manual for reporting and notification

Recommendations:

- Advocate to speed up the approval of Infectious Animal Disease Control Act.
- Advocate for a single direct chain of command within VS from federal to local level for the effectiveness of VS activities.
- Raise awareness among farmers of early detection of notifiable diseases and strengthen capabilities for surveillance of priority notifiable diseases (especially in mountains and border areas)
- Develop legislative framework and operational mechanisms for compensation for diseases other then HPAI which should include farmers obligations, such as notifications of disease suspicion, as a compensation requirement.
- In parallel with recommendation under the CC II-7B, gradually implement ante- and post-mortem inspection and establish reporting mechanisms for passive surveillance programmes.
- Improve and formalise coordination for epidemiological surveillance on wildlife with a MoU with Ministry of Forestry and Environment
- Advance the implementation and use of the NAHIS
- Livestock technicians working for DLS, provincial and local levels of VS performing public good missions should be under direct DLS authority.

Evidence (as listed in Appendix 6):

E-7, E-8, E-10, E-11, E-22, E-28, E-30, E-31, E-32, E-33, E-35, E-38, E-45, E-50, E-51, E-52, E-53, E-54, E-73, E-104, E-107, E-111, E-113, E-116; E-117; P-3, P-19, P-23, P-37, P-47, P-58, P-59,

II-4. SURVEILLANCE10 AND EARLY DETECTION

DEFINITION
The authority and capability of the VS to determine, verify and report on the sanitary status of their animal populations, including *wildlife*, in a timely manner.
B. Active surveillance and monitoring
Surveillance targeting a specific *disease, infection* or *hazard* to determine its prevalence, measure progress in disease control or support the demonstration of disease freedom (with passive *surveillance*), most often in the form of pre-planned surveys with structured sampling and *laboratory* testing.
LEVELS OF ADVANCEMENT - 2
1. The VS have no active *surveillance* programme.
2. The VS conduct active *surveillance* for one or a few *diseases, infections* or *hazards* (of economic or zoonotic importance), but the *surveillance* is not representative of the population and the *surveillance* methodology is not revised regularly. The results are reported with limited analysis.
3. The VS conduct active *surveillance* using scientific principles and WOAH standards for some *diseases, infections* or *hazards*, but it is not representative of the susceptible populations and/or is not updated regularly. The results are analysed and reported to stakeholders.
4. The VS conduct active *surveillance* in compliance with scientific principles and WOAH standards for some *diseases, infections* or *hazards* which is representative of all susceptible populations and is updated regularly. Results are routinely analysed, reported and used to guide further *surveillance* activities, disease control priorities, etc.
5. The VS conduct ongoing active *surveillance* for most significant *diseases, infections and hazards* and apply it to all susceptible populations. The results are routinely analysed and used to guide disease control and other activities. The active *surveillance* programmes are regularly reviewed and updated to ensure they meet country needs and WOAH reporting obligations.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

Since 2015, a national surveillance programme for AI was implemented The NADIL is committed to carrying out the surveillance of Avian Influenza and other infectious diseases of poultry. CVL also receive different types of bio-surveillance samples (tracheal swab/cloacal swab/environmental swabs/ nasal swab) for avian influenza from districts.

FMD/TADs IL performs sero-surveillance for FMD, CSF and Blue Tongue. For major TADs under national control programmes such FMD, PPR and CSF, sero-monitoring for vaccination evaluation is in place.

Serology section of the CVL undertakes for awareness purpose, sporadic testing for brucellosis on ruminants using ELISA and PAT for awareness purposes.

For other major TADs and priority zoonosis some local and provincial initiatives for active surveillance are ongoing such as for LSD, TB, brucellosis, leptospirosis, ND, ASF, Rabies, etc.

In several provinces veterinary hospitals perform some rapid tests either for diagnostic or for active detection of infected animals (TB detection, rabies, leptospirosis, brucellosis, etc.).

There limited sentinel animal' programmes for threatening diseases such FMD. Goats are used as sentinels because they are generally not FMD vaccinated. Those goats are sampled during Hindus festivals in the field over a three months period to detect FMD virus circulation.

In some provinces, road control of animal movements and farms visits in border areas are performed by private veterinarians or quarantine staff to check for diseases clinical signs.

No active surveillance on wildlife populations is performed. In the Chitwan wildlife conservation park a TB problem was detected but not fully investigated.

Globally, laboratories are in charge of the active surveillance programmes. DLS with CVL and other laboratories design and do the technical planning for active surveillance programmes. DLS uses the NAHIS for data analysis and geographical monitoring of spatial distribution either for sero-monitoring data.

Other than of AI and BSE which are under specific national surveillance programmes at the national level, the provincial level is in charge of active surveillance implementation for priority diseases such as FMD, PPR, Glanders and other zoonotic diseases, depending on resource availability and epidemiological status.

For other major diseases, such for LSD, a continuous targeted surveillance is in place to monitor its spread and to adapt possible control measures.

All these activities are conducted based on the annual plan and budget of laboratories (CVL and other federal level laboratories, provincial level and less so at the local level).

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Some elements of active surveillance are performed for the evaluation of vaccination efficiency for priority TADs (FMD, PPR) under national control programmes, and for some of the priority zoonotic disease, mostly for awareness purposes.

Strengths:

- Some elements of active surveillance are performed for the evaluation of vaccination efficiency for priority TADs (FMD, PPR) under national control programmes and for awareness purposes related to One Health issues.
- Efficient laboratory network with SOPs for national surveillance plan for BSE and AI
- NAHIS which is under development allows geographical information

Weaknesses:

- Weak/lack of coordination at national level for animal health missions of the DLS
- Weak biosecurity and very limited resources for sampling (logistics, testing, etc.)

Recommendations:

- Improved international coordination is essential to control TADs.
- Implement the One Health approach for the surveillance and control of major zoonotic diseases (eg. TB, Brucellosis, Rabies)
- Coordinate at national level using a risk-based approach for animal health programmes and activities including surveillance
- Improve the field veterinary network by delegating some official activities to private veterinarians to ensure a sufficient and efficient VS workforce for the whole territory of Nepal.
- Develop a PPP approach to improve surveillance activities and address farmers/stakeholders' priority needs for new markets for animal/animal products, labels for some products, etc.

Evidence (as listed in Appendix 6):

E-22, E-23, E-28, E-38, E-51, E-52, E-53, E-54, E-73, E-80, E-92, E-104, E-107, E-111, E-112, E-113, E-116; P-3, P-19, P-23, P-47, P-58, P-59,

II-5. EMERGENCY PREPAREDNESS AND RESPONSE

DEFINITION
The authority and capability of the VS to be prepared and respond rapidly to a sanitary emergency threat (such as a significant disease *outbreak* or food safety emergency).
LEVELS OF ADVANCEMENT - 2
1. The VS have no field network or established procedure to determine whether a sanitary emergency threat exists or the authority to declare such an emergency and respond appropriately.
2. The VS have a field network and an established procedure to determine whether a sanitary emergency threat exists, but lack the legal and financial support to respond effectively. The VS may have basic emergency management planning, but this usually targets one or a few diseases and may not reflect national capacity to respond.
3. The VS have the legal framework and financial support to respond rapidly to sanitary emergency threats, but the response is not well coordinated through an effective chain of command. They have national emergency management plans for some exotic *diseases*, but they are not updated/tested.
4. The VS have the legal framework and financial support to respond rapidly to sanitary emergencies through an effective chain of command (e.g. establishment of a *containment zone*). The VS have national emergency management plans for major exotic *diseases,* linked to broader national disaster management arrangements, and these are regularly updated/tested such as through simulation exercises.
5. The VS have national emergency management plans for all diseases of concern (and possible emerging infectious diseases), incorporating coordination with national disaster agencies, relevant *Competent Authorities*, producers and other non-government stakeholders. Emergency management planning and response capacity is regularly tested, audited and updated, such as through simulation exercises that test response at all levels. Following emergency events, the VS have a formal 'After Action Review' process as part of continuous improvement.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

For most major zoonosis and threatening TADs, Nepal undertakes international and/or national surveillance and monitoring.

Infectious Disease Control and Management Section under DLS has as per its ToR: (i) Management of epidemics, outbreaks, and disaster preparedness related to animal diseases, (ii) Management of the stockpile of medicines, vaccines and equipment/materials for epidemics, disaster management, and the national disease control programme, (iii) Formulation of action plans for the prevention and control of epidemic diseases and, (iv) collection and communication of information related to epidemic diseases.

The One Health section under DLS is, among others, assigned to formulate and implement programmes for surveillance, detection and control and to eradication of zoonotic diseases.

Suspected outbreaks of FMD, PPR or LSD are to be reported to the VL for preliminary investigation. Subsequent laboratory testing at the National FMD and TADs laboratory or CVL are conducted to confirm the disease as FMD/PPR/LSD. In response, the DLS forms a multidisciplinary team for detailed epidemiological investigation of the outbreaks with participation of DLS, laboratories, Directorate of Livestock and Fisheries Development and Veterinary Hospital and Livestock Services Expert Centre of the affected provinces in

coordination with provincial and local government to thoroughly analyse the TAD situation in the involved districts and evaluate the possible routes of entry, extent and spread.

Timely diagnosis and recommendations for disease control are produced and implemented. NAHIS is being developed for geographical spread description and risk evaluation.

CVL has Standard Operating Procedure for (i) Technical Record Keeping, (ii) for Reporting Results and for, (iii) Risk Analysis at Central Veterinary Laboratory.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- The DLS has developed procedure for disease outbreak management which includes a multidisciplinary team for detailed epidemiological investigation of the outbreaks.
- The responsibility for the emergency management is shared now between the federal, province and local level VS and requires detailed operational mechanisms for coordination.

Strengths:

- DLS regularly checks WOAH WAHIS for disease occurrence in the region and countries exporting animals and animal products to Nepal for animal diseases threats.
- Reporting and notification system in place for major TADs
- Devoted multidisciplinary investigation teams available for outbreak response.
- High level of cooperation between laboratory network and Veterinary Hospital and Livestock Services Expert Centres for rapid alert
- DLS ensure efficient coordination at national level despite the three tiers of government to insure some of level of extended autonomy, (especially for programmes based on conditional grant).
- Investment in developing the NAHIS is ongoing

Weaknesses:

- Weak veterinary supervision of farms for major diseases control programmes (zoonotic diseases such TB, brucellosis, etc.)
- Limited capacity for effective emergency response due to limited budget, remote areas and porous borders
- Three tiers of government with extended independency endanger coordination of VS response nationally

Recommendations:

- Restore the chain of command from the central level (DLS) (see CC.II-4 A).
- Improve the field veterinary network for the implementation of animal health programmes and activities.
- Activate the One Health approach for the emergency preparedness and response to zoonotic diseases.
- Develop a regulatory framework for documented PPP in animal health programmes
- Design/update contingency plans for threatening diseases and formalise communication with interested stakeholders in the private sector and other public partners (eg. customs, MoICS, MoFE and MoHP).

Evidence (as listed in Appendix 6): E-23, E-28, E-38, E-39, E-42, E-43, E-44, E-49, E-51, E-52, E-53, E-54, E-73, E-89, E-92, E-98, E-104, E-115, E-116; E-117; P-8,

II-6. DISEASE PREVENTION, CONTROL AND ERADICATION

DEFINITION
The authority and capability of the VS to control or eradicate nationally important diseases present in the country, such as through a combination of vaccination, domestic movement control, establishing *containment zones*, *biosecurity* measures (including farm *biosecurity*), isolation and/or culling/stamping out.
LEVELS OF ADVANCEMENT - 3
1. The VS have no capability to implement animal disease prevention, control or eradication programmes.
2. The VS implement prevention, control or eradication programmes for some diseases and/or in some areas or populations, but with little or no epidemiological, risk-based planning or evaluation of their efficacy and efficiency.
3. The VS implement prevention, control or eradication programmes for some priority *diseases* in some areas or populations. There is variable epidemiological, risk-based planning and evaluation of efficacy and efficiency, with limited progress towards programme goals.
4. The VS implement national prevention, control or eradication programmes for priority *diseases* with a high level of epidemiological, risk-based planning, and continual evaluation of efficacy and efficiency. They have or are progressing towards WOAH official recognition of disease control programmes for relevant diseases. They can demonstrate some progress towards programme goals in reducing or eradicating disease.
5. The VS implement national prevention, control or eradication programmes for all priority *diseases* with scientific evaluation of their efficacy and efficiency consistent with relevant WOAH international standards. They can demonstrate clear progress towards programme goals in reducing or eradicating disease, including achieving or progressing towards official recognition of freedom from relevant diseases.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

The DLS as the federal authority has lost its direct subordination to province and local level VS. This has led to a great challenge for coordination of programmes that need mandatory coordination nation-wide. Consequently, the control of animal diseases or the implementation of animal health programmes requires efficient coordination at all levels to be successful.

The budget allotted to the programmes should respect the complexity of the programmes and the targeted objectives in term of health status; otherwise, the money allocated could be spent differently in each administrative level with inharmonious results and different levels of advancement of the control programmes and different disease risk levels.

If rabies is eradicated using efforts at a region and if one or more regions doesn't deploy same level of advancement, rabid stray dogs will reintroduce the virus to the healthy zone. In this way, effort should be made to consider efficient animal health programmes. Health is unique and necessitates a coordination at national level.

Currently, animal diseases control programmes are under supervision of three tiers of independent governments where each authority is free to manage its territory according to what is considered as priority. Health security should be understood and interacted as public security or borders security etc.

Within the DLS the objectives of the Animal Diseases Investigation and Control Division (ADICD) are:

- Identify the status of disease burden and possible control options
- Conduct sero-surveillance
- Control the diseases through strategic vaccination
- Increase awareness about the prevention and control of diseases

For this global scope of work, ADICD is empowered according to the Animal Health and Livestock Services Act (1999) and Animal Health and Livestock Service Regulations (2000). Within the ADICD, there are three sections: the Epidemic Disease Control and Management Section, the One Health Section and the Veterinary Epidemiology Section.

An Animal Health Programme Implementation Procedure is in place since 2018. Some specific regulations were taken for priority diseases such the Bird Flu Control Regulation of 2022. Government of Nepal has endorsed the National Animal Health Policy in 2021, the One Health Strategy in 2019 with and DLS has drafted One Health Action Plan. Nepal has a FMD Control Strategy and Control Programme Implementation Procedure for FMD and PPR. Drafts of a Risk-Based Strategic Plan for FMD control, a PPR control strategy and a Rabies control strategy have yet to be finalised.

According to the resources available, DLS uses vaccination as the most common control component and farmers are given incentives to subscribe to animal health insurance schemes that request/require vaccination to participate.

Several official National Disease Control Programmes are implemented (eg. FMD, PPR, HS, BQ, Rabies, CSF, ND) according to some form of risk assessment using epidemiological surveillance information available at the national level for existing priority diseases.

It is important to highlight that use of FMD vaccines is based on strain characterisation and matching with vaccine composition.

In some districts (Kavre and Tanahun), provincial level initiatives for zoonotic diseases control are implemented for TB and brucellosis. Some specific local vaccinations are implemented such as against Anthrax.

For commercial poultry farms biosecurity measures are implemented sometimes at very high level according to farmers education and skills (eg. Pokhara).

All animal diseases control strategies are based on raising awareness among farmers and other stakeholders to ensure their adhesion to the control programmes.

Vaccination is provided free of charge. Nepal produces 13 veterinary vaccines. Non-locally produced vaccines are imported under Veterinary Standards and Drug Regulation Laboratory (VSDRL) permit. VSDRL currently performs vacuum test, sterility, and safety tests for poultry and livestock vaccines, quality control of some vaccines is performed abroad.

DLS maintains a vaccine bank to ensure proper storage of the vaccines using a controlled and efficient cold chain in NVPL and all VLs. From NVPL, vaccines are dispatched to VLs in coordination with the DLS for distribution according to vaccination programme under National Disease Control Programme agenda.

DLS provides the provincial livestock services directorates with the operating procedures for the vaccines' storage and use. Those directorates inform the VHLSEC at district level and local level of the vaccination campaigns agenda and the operating procedures for the proper storage and use of the vaccines.

The implementation of the vaccination campaigns is under the supervision of the district (VHLSEC) and local level (Municipalities) whom are ensuring all logistical needs including

vaccines. Vaccines are delivered in cold boxes for transportation and then are placed at 2-8°C at hospitals and municipalities.

Vaccination campaigns differs in length, starting and closing dates according to local logistical and technical considerations (programmatic conditions). Usually, vaccination campaigns are annually implemented after consultation of stakeholders (eg. avoiding rainfall season).

Vaccination campaigns start according to the agenda after an awareness programme to inform farmers of the vaccination campaigns planification. Besides the engagement of public veterinarians and livestock technicians, hiring the services of private personnel against fixed payment per vaccination is also commonly practiced.

At VHLSEC of Tanahun (district hospital), there is a rabies vaccination campaign twice a year during a total length of one month using “door to door” strategy complemented with availability of vaccination at the hospital over the rest of the year. At Madi municipality hospital there is a rabies week and also vaccination is available along the year.

PPR national vaccination campaign for goat and sheep is a one-month programme in Tanahun. In the Basantapur of Madi Municipality, Chitwan the local veterinary hospital conducts a PPR vaccination campaign of two weeks duration in four hotspot areas. The Government of Gandaki Province, conducts vaccination campaigns for FMD for cattle and buffalo, PPR, CSF, Rabies and ND through respective VHLSEC in each district for period of one-month. In Kavre, the local authority is looking for the development of a scheme of focused FMD vaccination to achieve an FMD-free zone. The scheme, however, is not yet submitted for evaluation to the DLS.

The VHLSEC, Tanahun district in collaboration/coordination with municipalities performs post vaccination monitoring (sero-monitoring/detection of outbreaks) and evaluation for PPR at CVL and FMD at FMD/TADs IL. Progress of PPR and FMD vaccination control programmes is monitored nationally but the PVS Team noted that the lack of animal or herd identification jeopardises the results of such monitoring activities (no precise census for animal species is available to inform national vaccinations programmes). However, team is informed that the agriculture census was conducted by National Statistics Office and final report is yet to publish.

Some monitoring of vaccinator’s activities is carried out by provincial VS veterinarians from the District VHLSEC.

Animal movement controls in some provinces conducted primarily during festivals are in place and usually conducted by delegated private veterinarians for issuing animal health certificates. Movement control is done by the Quarantine Officers at the internal check point. But there is no control at livestock markets nor slaughterhouses.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- The responsibility for animal disease control programmes is now shared between the federal, province and local level VS and requires detailed operational mechanisms for coordination. The DLS designs programmes and guidelines and providing vaccines and cool boxes and conditional grants. The province VS organises the implementation at the district level for the local level VS to implement.
- One Health Strategy was adopted in 2019, Animal Health Policy in 2021.
- One Health Section has been established within the DLS.

Strengths:

- Documented priority TADs control programmes
- Strong and skilled veterinary laboratory network supports DLS in AH programme design, implementation, monitoring and evaluation
- Production of 13 vaccines and control of poultry vaccines in Nepal

- Documented and risk-based vaccination campaigns procedures (according to epidemiological data and viral strains matching when needed)
- Significant awareness level of farmers to strength implementation of disease control and prevention programmes
- Delegated vaccination if, and where needed
- Good planification for AH programmes
- Monitoring, evaluation and inspection of campaigns implementation and results
- Ongoing investment in NAHIS

Weaknesses:

- Inadequate national coordination of animal health programmes primarily due to lack of a single direct chain of command.
- Lack/weak animal census and precise quantitative advancement assessment of AH programmes,
- Inadequate provision for identification, traceability and movement control
- Inadequate and unsustainable budget not allowing the control of diseases of importance for reproduction and zoonosis
- Inadequate competency and supervision of support personnel at the field level
- Weak early detection and notification system
- Response to animal health problems takes longer than is desirable for effective control
- Mass vaccination and surveillance are not well coordinated
- High animal movement with very little control of animal movements
- Delay in the approval of Infectious Animal Disease Control Act

Recommendations:

- Improve coverage of official animal health programme across the nation by developing PPPs, including with producer associations (eg. delegation to private veterinary sector for vaccination campaign implementation).
- Implement strong animal health inspection services for routine VS programme activities
- Ensure the involvement of only designated VPPs under the supervision of veterinarians for the delivery of veterinary medicines and technical activities.
- Review and speed up the ongoing initiatives related to enacting the Infectious Animal Disease Control Act in line with international standards and need for empowerment of federal DLS for infectious disease prevention, control and eradication.
- Restore the Veterinary Services chain of command nation-wide (according to VS WOAH definition) (see CC.I-6 A: internal coordination).
- Improve locally produced vaccines' quality controls
- Activate the One Health approach to improve the control of priority zoonotic diseases and biosecurity measures on farms
- Livestock markets and slaughterhouses need urgent management and control under direct DLS authority and coordination.

Evidence (as listed in Appendix 6):

E-22, E-23, E-28, E-38, E-41, E-43, E-44, E-49, E-51, E-52, E-53, E-54, E-73, E-78, E-80, E-81, E-82, E-83, E-84, E-89, E-92, E-104, E-111, E-115, E-116; E-117; P-3, P-8, P-19, P-23, P-29, P-41, P-42, P-43, P-44, P-47, P-59,

II-7. ANIMAL PRODUCTION FOOD SAFETY

DEFINITION
The authority and capability of the VS to assure the safety of food of animal origin for domestic and export markets.
A . Regulation, inspection (including audits), authorisation and supervision of establishments for production and processing of food of animal origin .
The authority and capability of the VS to establish and enforce sanitary and food hygiene standards for establishments that produce and process food of animal origin, including slaughter, rendering, dairy, egg, honey and other animal product processing establishments. Includes the regulation, initial authorisation of establishments, and the ongoing inspection of establishments and processes, including the identification of and response to non-compliance, based on HACCP principles. It includes external coordination between *Competent Authorities* as may be required.
LEVELS OF ADVANCEMENT - 2
1. Regulation, authorisation, and inspection of relevant establishments and processes are generally not undertaken in conformity with international standards.
2. Regulation, authorisation and inspection of relevant establishments and processes are undertaken in conformity with international standards in some selected premises (e.g. export premises).
3. Regulation, authorisation and inspection of relevant establishments and processes are undertaken in conformity with international standards in large premises supplying major cities and/or the national market.
4. Regulation, authorisation and inspection of relevant establishments and processes are undertaken in conformity with international standards for premises supplying the national and local markets. There are some reports of dealing with non-compliance.
5. Regulation, authorisation, inspection and audit of relevant establishments and processes are undertaken in conformity with international standards at all premises. There are documented cases of the identification and effective response to non-compliance.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	Level NA (PVS Tool used in 2008 – CC Veterinary public health and food safety – Level 1)
PVS Gap Analysis in 2011.:	2

Findings:

There is division of responsibility regarding the safety of food of animal origin whereby the DLS is responsible for the primary production at farms and slaughterhouses, while the Department of Food Technology and Quality Control (DFTQC) is responsible for the food safety in processing plants, storage, distribution, retails and restaurants. Food Safety Policy 2076 has been approved by the Government of Nepal on June 23, 2019. This policy is considered by the DFTQC as an initial step to promote food safety in Nepal, but it focuses mostly on DFTQC domain. Current legislative framework consists of Food Act (1967) and the Food Regulation (1970) and it is not in line with international standards. A new draft Food Safety and Quality Act, which should replace both of current legislative acts is still being discussed at parliamentary level. The NVC specialist database shows 11 specialists in Veterinary Public Health.

DFTQC is responsible for the authorization, licensing and inspection of all food business establishments for processing and storage of food of animal origin. It has offices in each province, 22 districts and 21 border posts. After inspection of establishment and certain testing of the product, license is given for one year. Annual license renewal procedure also includes inspection of establishment and certain testing of products (chemical and microbiological). Products are tested in National Food and Feed Reference Laboratory which is accredited according to ISO 17025. Food safety management systems are not mandatory but some large establishments are implementing them and one of the DFTQC priorities is promotion and adoption of the food management systems. The DFTQC play a role of SPS National Enquiry Point, National Codex Contact Point and INFOSAN Emergency Contact Point.

Slaughterhouse and Meat Inspection Act, passed in 1998, not fully implemented and the Supreme Court had also given verdict to implement legislation throughout the country., and now, after the federalization of the country, The province and local governments are authorized to implement the act with central government's approval. However, limited initiations have been undertaken to implement this act by three tiers of concerned governments. According to the List of Exclusive and Concurrent Powers of the Federation, the Province and the Local Level, published by FIARCC, management and regulation of slaughterhouse and cold storage falls under the authority of Local Government.

The PVS Team underlines the facts that the Veterinary Public Health Association of Nepal was established recently, and the organization intends to advocate for a more active role of veterinarians in food safety of animal origin.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- The Veterinary Public Health Office no longer exists in the organizational structure of the DLS and was merged as a section in the CVL. Partial work of VPHO has been coordinated by one health section of the DLS. The province and local governments are supposed to implement the act with central government's approval. However, no evidence of initiations been undertaken to implement this act by three tiers of concerned governments, was presented to the PVS team.
- Food Safety Policy 2020 was approved by the Government of Nepal on June 23, 2019, by which DFTQC is promoted as the central food safety authority in Nepal under the MoALD.

Strengths:

- Licensing procedure in place for animal products processing establishments.
- Guidelines for production, processing and distribution of meat products published in 2016.
- DFTQC performs inspection of the animal products processing establishments at least once a year for license renewal.
- DLS is performing inspections of fresh meat in butcher shops during festivals.
- The Veterinary Public Health Association of Nepal was established recently, and the organization intends to advocate for a more active role of veterinarians in food safety of animal origin.

Weaknesses:

- There is no authorization and inspection of slaughter establishments.
- There is no unit and personnel dedicated to food safety programmes in the organizational structure of the DLS.
- DFTQC has only one position for veterinary officer in its structure and very limited or almost no collaboration with DLS when developing legislation and programmes.

- Only large establishments are licensed, and inspections performed by the DFTQC are not risk based. In the establishments visited by the PVS Team, food business operators confirmed inspection visits, however, no written evidence was presented on non-compliances found and recommendations given in the course of inspection, despite observed indications for it.
- There is a lack of an electronic information management system to manage the inspection data.

Recommendations:

- In collaboration with province and local authorities develop strategy for the authorization and inspection of slaughter establishments and to gradually introduce food safety management systems (eg. Good Hygiene Practice, HACCP) in all FBOs.
- Extend the licensing process to all FBOs.
- In cooperation with province and local authorities increase capacities to perform licensing and inspection of all FBOs.
- Establish operational mechanisms for close coordination and collaboration between DLS and DFTQC to utilize existing resources with most efficacy and efficiency and to share information relevant for the safety of animal products.
- Conduct risk analysis, categorize FBOs and develop and implement risk based inspection plan.
- Develop electronic information management system to manage the risk categorization and inspection data.
- A review of existing organizational structure, function and human resources of DLS and DFTQC is recommendable to ensure administrative capacities for the regulation, inspection (including audits), authorisation and supervision of all food business establishments for production and processing of food of animal origin. Introduction of food safety management systems in all FBOs and risk-based inspection programme will allow for more efficient utilization of human resources.

Evidence (as listed in Appendix 6):

E-10, E-11, E-14, E-20, E-37, E-90, E-36, E-101, E-105, P-48, P-49, P-50, P-51, P-52

II-7. ANIMAL PRODUCTION FOOD SAFETY

DEFINITION
The authority and capability of the VS to assure the safety of food of animal origin for domestic and export markets.
B. Ante- and post-mortem inspection at slaughter facilities and associated premises.
The authority and capability of the VS to implement and manage the *ante-mortem* inspection of *animals* destined for slaughter and the post-mortem inspection of carcasses and *meat* products at slaughter facilities and associated premises, including to ensure meat hygiene and safety, and for the collection of information relevant to livestock diseases and *zoonoses.* This includes standards relating to *veterinary* and *veterinary para-professional* supervision and inspection, and protocols applied for ante- and post-mortem inspection findings, based on HACCP principles. It includes external coordination between *Competent Authorities* as may be required.
LEVELS OF ADVANCEMENT - 1
1. Ante- and post-mortem inspection is generally not undertaken in conformity with international standards.
2. Ante- and post-mortem inspection with collection of disease information is undertaken in conformity with international standards only in selected premises (e.g. export premises).
3. Ante- and post-mortem inspection with collection of disease information is undertaken in conformity with international standards for export premises and the major abattoirs in the larger cities and/or producing *meat* for distribution throughout the national market.
4. Ante- and post-mortem inspection with collection of disease information is undertaken in conformity with international standards for all slaughter facilities producing *meat* for export, national and local markets.
5. Ante- and post-mortem inspection with collection of disease information is undertaken in conformity with international standards at all premises (including municipal, community, and on-farm slaughtering and distribution) and are subject to periodic audits.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	NA
PVS Gap Analysis in 2011.:	3

Findings:

As already mentioned under the previous CC, Slaughterhouse and Meat Inspection Act, passed in 1998, was not implemented at the time of initial PVS Evaluation mission in 2008 and till the date still not implemented. With the establishment of federal system, it is not so clear whose responsibility this should be, of the federal, province or local government. The consequence of this situation is that ante and post-mortem inspection at the animal slaughter is not mandatory and not performed, which is key gap in food safety of meat and meat products, but it also affects animal health as valuable surveillance data is missing. Some of the large establishment visited perform ante and post-mortem examination (poultry slaughterhouse) as a part of their own food safety management system but there is no official oversight of it as it is not mandatory.

The DLS occasionally performs inspection of meat at butcher shops, mostly during festivities, but with limited effect. DLS also organizes meetings with producer associations before festivities to create awareness about the importance of maintaining healthy stock during festivities.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- No change

Strengths:

- Some of the large establishment visited perform ante and post mortem examination (poultry slaughterhouse) as a part of their own food safety management system but there is no official oversight of it as it is not mandatory.
- Before festivities the DLS organizes meetings with producer associations to create awareness about the importance of maintaining healthy stock during festivities, and occasionally performs inspection of meat at butcher shops during these events.

Weaknesses:

- Slaughterhouse and Meat Inspection Act, passed in 1998, still not implemented.
- Meat can be placed on the market without ante and post mortem inspection.
- Official ante-mortem inspection of animals destined for slaughter and the post-mortem inspection of carcases and meat products at slaughter facilities and associated premises is not performed.
- There is no strategy and no plan presented at any level on introduction of mandatory ante and post mortem inspection and currently it is not clear what is division of responsibilities between federal, province and local level for the implementation.
- There is no unit and personnel dedicated to food safety or veterinary public health programmes in the organizational structure of the DLS.

Recommendations:

- In collaboration with all three tiers of government and in consultation with stakeholders, develop national strategy on gradual implementation of ante and post mortem inspection.
- Review current legislative framework (Slaughterhouse and Meat Inspection Act) to ensure it comply with international standards and develop secondary legislation and guidelines needed to implement above mentioned national strategy.
- Review curriculums of the livestock technician schools and develop training courses for veterinarians and livestock technician to ensure qualified staff for the implementation of the ante and post mortem inspection.

Evidence (as listed in Appendix 6):

E-11, E-55

II-8. VETERINARY MEDICINES AND BIOLOGICALS

DEFINITION
The authority and capability of the VS to regulate veterinary medicines, and biologicals, in order to ensure their quality and safety, as well as their responsible and prudent use, including as medicated *feed.* This includes the marketing authorisation/registration, import, manufacture, quality control, export, labelling, advertising, distribution, sale (includes dispensing) and use (includes prescribing) of these products.
LEVELS OF ADVANCEMENT- 2
1. The VS cannot regulate veterinary medicines and biologicals.
2. The VS have some capability to exercise regulatory and administrative control over the import, manufacture and market authorisation (registration) of veterinary medicines and biologicals to ensure their safety and quality, but cannot ensure their responsible and prudent use in the field.
3. The VS exercise effective regulatory and administrative control for the market authorisation of veterinary medicines and biologicals and have some capacity to regulate to ensure their responsible and prudent use in the field, including reducing the risk from illegal imports.
4. The VS exercise comprehensive and effective regulatory and administrative control of all aspects of veterinary medicines and biologicals, including market authorisation, responsible and prudent use in the field, and reducing the risks of illegal distribution and use.
5. The control systems for veterinary medicines and biologicals are regularly audited, tested and updated when necessary, including via an effective pharmacovigilance programme.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

Main legislative act regulating medicines and biologicals including veterinary drugs is still the Drug Act from 1978. The Competent Authority responsible for the implementation of objectives of this Act is the Department of Drug Administration (DDA) within the Ministry of Health and Population (MoHP). Any drug manufacturing industry has to, prior to the sale and distribution of each drug manufactured by it, including veterinary drugs, register the drug with the DDA and obtain a drug registration certificate. Detailed rules and drug registration procedures are defined by the Drugs Registration Rules.

Drugs are categorized by the Drug Category Rules. Category "a" consists of narcotic and poisonous drugs and category "b" consists of antibiotics, hormones, etc. The drugs under these categories shall be sold only on the prescription of a medical doctor. Drug Act does not recognize veterinarians to be eligible to prescribe veterinary medicines. Antimicrobials supposed to be sold by prescription only, but in reality, pharmacies (in Nepal commonly known called “agro-vets”) are selling antimicrobials freely, without prescription. These pharmacies are licensed by the DDA and this license is annually renewable.

Veterinarians, livestock technicians, and CAHWs trained under the CTEVT cannot apply for veterinary pharmacy licenses in their names based on their qualifications. The veterinary drug license for retail and dispensing is now exclusive to qualified pharmacists. The responsibility for veterinary drug inspection lies with the DDA under the MoHP in Nepal. The Animal Health and Livestock Service Act empowers the DLS to appoint or designate veterinary inspectors to inspect the quality and standard of veterinary drugs or biological products in places or

institutions as necessary. However, the authority of veterinary inspectors is limited, and cases must be forwarded to the DDA for necessary action.

The DLS has drafted a Veterinary Drugs Act to address these gaps; however, the draft has never received support from the DDA. DLS has now decided to change their approach and propose amendments to the Drug Act instead.

Biologicals are regulated by the Animal Health and Livestock Services Act and Animal Health and Livestock Services Rules whereby the DLS is defined as the Competent Authority to regulate the quality standards of biological products and to issue recommendation letter or license to the person (natural or legal) willing to produce, export, import or to sell the biological products.

Nepal has a history of animal vaccine production since 1961 and currently produce 13 different vaccines in National Vaccine Production Laboratory (NVPL) under the DLS. The quality of vaccines produced by NVPL are compliant with the standards recommended by the WOAH. NVPL is self-reliant in producing vaccines intended to use in the National Livestock Disease Control Programme (NLDCP), except for FMD vaccine. The vaccines produced by NVPL are available to the farmers mostly free of cost through the NLDCP or at nominal prices recommended by the Nepal government via stockists. There also private vaccine production companies (eg. Hester Biosciences Nepal, Biovac Nepal) which produce vaccines for poultry and large animals.

In 2018, Veterinary Standards and Drug Administration Office (VSDAO) under the DLS was transformed into the Veterinary Standards and Drug Regulatory Laboratory (VSDRL). The VSDRL was established to perform regulatory and laboratory functions under their protocols and SOPs.

Veterinary inspectors appointed by the MoALD under the Veterinary Rules are required to carry out inspections of veterinary pharmacies and the veterinary medicines and biologicals they selling. They are designated as veterinary inspectors for the whole country and they perform inspection as per the annual programme of the VSDRL.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Since the draft proposal of Veterinary Drugs Act was not accepted by the DDA, the DLS decided to propose amendments of the Drug Act to address the gaps in current regulation of veterinary medicines.

Strengths:

- The DLS is the Competent Authority for the regulation of veterinary biologicals.
- Veterinary Quality and Drug Regulation Laboratory issues import licence for the import of veterinary medicines and biologicals.
- Veterinary inspectors conduct inspections of veterinary pharmacies.
- The DLS experts participate in the process of registration of veterinary medicines lead by the DDA.

Weaknesses:

- Any veterinary medicine can be bought in veterinary pharmacies without prescription.
- According to provisions of the Drugs Act, veterinarians are not allowed to make prescriptions for veterinary medicines.
- There is no official control over the use of veterinary medicines.
- Interviews with stakeholders met during this PVS mission indicated illegal import of veterinary drugs of unknown quality due to long and porous border.

Recommendations:

- Draft amendments of Drug Act to address current gaps related to veterinary drugs, prescription provisions in particular, and advocate for urgent approval.
- In collaboration with stakeholders, develop and implement comprehensive strategy to regulate production, sale and usage of veterinary drugs in line with international standards.
- Strengthen capacity of the Veterinary Standards and Drug Regulatory Laboratory (VSDRL) to perform entrusted tasks.

Evidence (as listed in Appendix 6):

E-7, E-15, E-16, E-17, E-18. E-19, E-18, E-115

II-9. ANTIMICROBIAL RESISTANCE (AMR) AND ANTIMICROBIAL USE (AMU)

DEFINITION
The authority and capability of the VS to manage AMR and AMU, and to undertake surveillance and control of the development and spread of AMR pathogens in animal production and animal origin food products, via a One Health approach.
LEVELS OF ADVANCEMENT - 3
1. The VS cannot regulate or control AMR and AMU, and have not developed or contributed to an AMR action plan covering the veterinary domain.
2. The VS are contributing or have contributed to a national AMR action plan. The action plan has initiated some activities to collect AMU/AMR data or control AMR e.g. awareness campaigns targeting *veterinarians* or farmers on the prudent use of *antimicrobial agents (*antimicrobials*).* The use of antimicrobials for growth promotion is discouraged.
3. The VS have defined a national AMR action plan in coordination with the Public Health authorities and other stakeholders, and are implementing some AMU/AMR surveillance and regulations. The use of antimicrobials for growth promotion is prohibited.
4. The VS are implementing a comprehensive AMR action plan based on risk, including AMR surveillance of the most important pathogens for animal health or food-borne diseases, the *monitoring* of AMU, and the prudent use of antimicrobials in *animals* (especially the use of critically important antimicrobials). The use of antimicrobials for growth promotion does not occur.
5. An effective national AMR action plan covering the veterinary domain is regularly audited, reviewed and updated by the VS with the Public Health authorities and other stakeholders, using the results of AMU/AMR surveillance. The scale and type of antimicrobial usage in *animals* poses minimal risk of AMR and alternative solutions for the control of diseases in *animals* are being implemented.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	NA
PVS Gap Analysis in 2011.:	NA

Findings:

Considering poorly regulated sale and usage of antimicrobials, illegal import and sale of substandard antimicrobials, Nepal is at high risk of AMR. As already described under the CC II-8, antibiotics are prescription drugs in Nepal as per the Drug Act 1978, but not allowed to be prescribed by veterinarians and in reality, they are freely available over the counter for human or animal use.

An antimicrobial use (AMU) survey, funded by Fleming Fund, conducted in 2021 in broiler and layer populations of Kathmandu valley, showed that the critically important antibiotics identified by World Health Organization (WHO) such as neomycin, gentamicin, tylosin, amoxycillin, colistin, levofloxacin and doxycycline are in regular use in the poultry farms. The survey found that majority of farmers did not comply with the withdrawal period and were not aware of the effects of antimicrobial residues on human health. Although the sites selected for the survey were three districts of Kathmandu valley and findings could not be generalized for the whole country, the results correspond with inadequate regulation of sale and usage of antimicrobials and call for urgent action.

The National Action Plan on AMR has been developed and costed using multisectoral collaboration, however, it is still not endorsed by the Government. The plan involves five strategic priorities, each with its time-bound activities, managed by a lead agency with the help of some supporting partners. To ensure implementation considering governance mechanisms,

the Plan envisages establishment of the High-Level Multisectoral Steering Committee on AMR; a National technical working committee; and technical working committees for each specific strategic priority outlined in the Plan.

The MoALD has banned the use of growth promoters in pre-mix feeds in 2017.

CVL acts as the reference laboratory and has sufficient capacity to perform routine cultural isolation, identification, and antimicrobial resistance testing (AST) by disc diffusion from clinical specimens. Pilot project funded by Fleming Fund on active farm-based surveillance for AMR pathogens was being conducted in 300 farms with active surveillance in poultry for organisms including *E. coli*, Enterococcus, Salmonella and Campylobacter. Participating laboratories were CVL, NADIL, VL Pokhara and VL Biratnagar. The Fleming Fund Country Grant for Nepal focuses on gaps in AMR surveillance and strengthens the capacity of human resources, laboratory and surveillance systems, for AMR and AMU in humans and animals, supporting the national surveillance plans. Duration of this project was 8 Aug 2018 – 30 June 2023, but very likely to be extended for four more years.

The WOAH focal point of veterinary drugs is with the Veterinary Standards and Drug Regulatory Laboratory (VSDRL) of the DLS and is responsible for reporting AMU in animal data to WOAH. The VSDRL collected data on AMU in animals from various sources such as the Department of Customs, Department of Drug Administration, veterinary drug manufacturers in Nepal, and veterinary drug importers.

An active surveillance protocol for Antimicrobial Resistance in poultry population has been developed.

Protocols and tools have been developed for AMU surveys in animals. A livestock antibiotic treatment guideline has been drafted. Distribution pathways of antibiotics in animals have been mapped. Farmers and practitioners have received awareness training on the rational use of antimicrobials

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- National Action Plan on AMR has been developed but not endorsed.
- The MoALD banned the use of growth promoters in pre-mix feeds in 2017.
- Active surveillance programme on AMR.

Strengths:

- The National Action Plan on AMR has been developed using multisectoral collaboration.
- The MoALD banned the use of antibiotics for growth promotion in pre-mix feeds.
- Active surveillance protocol for Antimicrobial Resistance in poultry populations has been developed and programme, funded by Fleming Fund, implemented.
- The VSDRL of the DLS is reporting data on AMU in animals to WOAH.

Weaknesses:

- Antimicrobials are freely available without prescription over the counter for use in animals in spite of legal categorisation as prescription drugs,
- Conducted survey and interviews with stakeholders during the PVS mission indicated illegal import of substandard drugs, regular use of the critically important antibiotics in poultry farms, non-compliance with the withdrawal period of antimicrobial treatment and low awareness of farmers of the effects of antimicrobial residues on human health.
- National Action Plan for AMR not been endorsed yet.
- National AMR programmes depend on external funding (Fleming Fund).

- Interviews with livestock technicians of various age and different regions indicated low awareness of AMR and importance of prudent use of antimicrobials.
- The MoALD banned the use of antibiotics for growth promotion in pre-mix feeds, but a monitoring system to check and enforce the ban is not that effective.

Recommendations:

- Ensure the optimal use of antimicrobials through:
  - Amending the Drug Act, incorporating the specific aspects of veterinary medicines.
  - Strengthening the regulatory system and the capacity to monitor and enforce rational prescription, consumption, quality and sales of antimicrobials.
  - Public awareness campaign on the threat of AMR and appropriate use of antimicrobials;
- Develop, adopt and implement good husbandry practices and biosecurity guidelines
- Develop and implement SOPs to optimize the use of antimicrobials in livestock farms.
- Endorse National Action Plan for AMR, and ensure adequate allocation of resources for its implementation, beyond external funding, to secure sustainability of this plan in the long run.

Evidence (as listed in Appendix 6):

E-39, E-91, E-92, E-115,

II-10. RESIDUE TESTING, MONITORING AND MANAGEMENT

DEFINITION
The capability of the VS to undertake residue testing and *monitoring* programmes for veterinary medicines (e.g. antimicrobials and hormones), chemicals, pesticides, radionuclides, heavy metals, etc. and respond appropriately to adverse findings.
LEVELS OF ADVANCEMENT - 2
1. No residue testing for animal products is being undertaken.
2. Some residue testing is being undertaken, such as for research or pilot purposes and/or it is conducted only on specific animal products for export.
3. A comprehensive residue *monitoring* programme is conducted for all animal products for export and some for domestic consumption based on limited *risk analysis*. Documented protocols exist for preventing residue risks (e.g. withholding periods for veterinary drugs) and for responding to breaches of Maximum Residue Limits.
4. A comprehensive residue *monitoring* programme is conducted for all animal products for export and domestic consumption based on *risk analysis*. Effective protocols both reduce residue risks and respond to breaches of Maximum Residue Limits, including traceback and follow up.
5. The residue *monitoring* and *risk management* programme is subject to routine quality assurance and regular evaluation/audit.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	1
PVS Gap Analysis in 2011.:	3

Findings:

The surveillance of residues in food products such as meat, milk, and fish is the responsibility of the Department of Food Technology and Quality Control (DFTQC), which conducts residue testing for selected chemicals. DFTQC is developing its testing facility for antibiotic residues in its National Food and Feed Reference Laboratory (NFFRL). However, in the DFTQC Annual Bulletin 2021/2022, reported a total number of 56,338 samples f fresh fruits and vegetables analysed for pesticide residues but there is no data on residue testing in samples of animal origin.

National Food Safety Policy- 2076 (2019) was approved by Government of Nepal and focuses on developing contaminants standards (eg. Maximum Residue Level) for drug residues in foods of animal-origin. There are some residues testing for hormones, antibiotics and toxins conducted by CVL, VQDRL and Regional Laboratories using rapid test kits but only for awareness purposes. There is no comprehensive national residue monitoring programme in place yet.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- CVL and VSDRL have developed some capacities and conduct hormones, antibiotics and toxins residue testing but only for research and awareness purposes.

Strengths:

- CVL and VSDRL have certain capacity and conduct some residue testing in animal products.

- Poultry Feed Standards adopted and published in 2023 define maximum residues limit for contaminants.

Weaknesses:

- There is no mandatory record keeping on drugs usage on the farms.
- There are no official controls on slaughtering and no mechanisms in place to ensure farmers guarantee that animals have respected the withdrawal period regarding the usage of veterinary drugs.
- There is no comprehensive risk-based residue monitoring plan in place for animal products.

Recommendations:

- Develop standards for residues of veterinary medicines (eg. antimicrobials and hormones), chemicals, pesticides, radionuclides, mycotoxins and heavy metals in animal products in line with Codex Alimentarius.
- Develop documented protocols for preventing residue risks (eg. withholding periods for veterinary drugs, on the farm records, documented evidence on actions taken regarding animal products, documented guarantees for slaughtering, monitoring plan) and for responding to breaches of Maximum Residue Limits.
- Utilize existing laboratory capacities to test residues, in line with national priorities and additional capacity to address identified gaps.
- Develop and implement comprehensive risk-based residue monitoring programme.

Evidence (as listed in Appendix 6):

E-90, E-113, E-115,

II-11. ANIMAL FEED SAFETY

DEFINITION
The authority and capability of the VS to regulate animal *feed* safety e.g. processing, handling, storage, distribution and use of both commercial and on-farm produced animal *feed* and *feed* ingredients. This includes *feed* safety risks such as swill feeding, feeding by-products, ruminant *feed* bans, the use of antimicrobials in *feed*, as well as managing risks of microbial, physical and toxin contamination of *feed*.
LEVELS OF ADVANCEMENT - 2
1. The VS cannot regulate animal *feed* safety.
2. The VS have some capability to exercise regulatory and administrative control over animal *feed* safety.
3. The VS exercise regulatory and administrative control for most aspects of animal *feed* safety.
4. The VS exercise comprehensive and effective regulatory and administrative control of animal *feed* safety.
5. The control systems are regularly audited, tested and updated when necessary.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	NA
PVS Gap Analysis in 2011.:	NA

Findings:

Main legislative framework for the regulation of feed are Feed Act (1976) and Feed Regulations (1984).

Department of Food Technology and Quality Control (DFTQC) is the responsible government organization under the Ministry of Agriculture and Livestock Development to implement the Feed Act and related laws. All feed business establishments must acquire a license issued by DFTQC. The issued license needs to be renewed annually. According to DFTQC Annual Bulletin 2021/2022, there was 15 new licenses issued for feed establishments and 47 annual renewals.

DFTQC maintains the National Food and Feed Reference Laboratory (NFFRL). The laboratory under DLS previously named Livestock Quality Management Laboratory was renamed as “National Animal Feed and Livestock Quality Management Laboratory (NAFLQML)”. The NAFLQML acts as a regulatory laboratory responsible for monitoring quality of feed, raw materials for feed industry, feed supplement and additives but it also does the testing of contaminants in feed (aflatoxin, heavy metals). The DLS issues licences for the import of raw feed material, feed additives and medicated feed and conduct some inspections of feed.

***Key Changes from 2008 to 2023** (year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Commercial feed establishments are licensed by DFTQC.
- DLS issues import licenses for feed additives and medicated feed and conducts post import market monitoring.

Strengths:

- Commercial feed establishments are licensed.
- Import control of feed additives and medicated feed is performed

- Poultry Feed Standards are adopted and published in 2023.

Weaknesses:

- Legislative framework is not in line with current international standards and needs to be reviewed and updated.
- There is overlap between DFTQC and DLS over the regulation on feed safety and clear delineation of responsibility is lacking.
- Only commercial feed establishments are registered and inspected, on-farm production of feed is not under official controls.
- Apart from some testing on aflatoxins and heavy metals by NAFLQM, there is no comprehensive risk-based residue monitoring programme on feed and no microbiology monitoring programme.

Recommendations:

- Review and amend legislative framework on feed to bring it in line with international standards and to establish efficient official control system for the feed safety.
- Extend regulation and inspection to on-farm produced animal feed and feed ingredients to ensure compliance with feed safety standards.
- Develop capacities and programmes to manage the risks of use of antimicrobials in feed, as well as risks of microbial, physical and toxin contamination of feed.

Evidence (as listed in Appendix 6):

E-12, E-13, E-34, E-105, E-114, P-53, P-54

II-12. IDENTIFICATION, TRACEABILITY AND MOVEMENT CONTROL

DEFINITION
A. Premises, herd, batch and animal identification, tracing and movement control
The authority and capability of the VS, in coordination with producers and other stakeholders, to regulate the identification of *animal*s, to trace their history and location(s), and to control domestic movements for the purpose of animal disease control, food safety, trade or other legal requirements under the VS mandate.
LEVELS OF ADVANCEMENT - 1
1. The VS do not have the authority or the capability to regulate the identification of *animals*, either individually, by batch, or by premises, or to trace and control their movements.
2. The VS can identify some *animals* by premises or location and control some movements, using traditional methods, and can demonstrate the ability to deal with a specific problem (e.g. to trace sampled or vaccinated *animals* for follow up, or to prevent theft).
3. The VS implement a system for *animal identification, traceability* and movement control for specific animal sub-populations (e.g. for export, at borders, specified *zones* or markets) as required for traceability and/or disease control, in accordance with international standards.
4. The VS implement appropriate and effective *animal identification, traceability* and movement control procedures for some animal species at national level, in accordance with international standards.
5. The VS carry out periodic audits of the effectiveness of their identification, traceability and movement control systems. They have been demonstrated as effective in dealing with a problem (e.g. tracing a disease *outbreak*, residue or other food safety incident).

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	Level NA (PVS Tool used in 2008 – CC IV-6 Traceability (Level 1)
PVS Gap Analysis in 2011.:	3

Findings:

There was no significant progress in regards development of national animal identification and registration system. There is no legislative framework for development and implementation of the animal identification and registration and traceability system.

Vaccinators at local level are using colouring method to identify vaccinated animals, but that is not permanent and not useful for the next vaccination campaign. There is also some identification of bovines, as it is required by the insurance companies but there is no system to ensure the numbers are unique and animals are registered. Large poultry producers are registered and inspected.

DLS has introduced mandatory internal animal health certification when animals are moved between the districts and provinces. Internal animal health certificates are issued by the licenced private veterinarians which confirms animals showed no clinical signs of disease at the time of checking. The certifying veterinarian also checs e animal welfare standards in transport. DLS is aware of gaps in this certification procedure as most of the farms are not registered and animals are not identified and there is no information on disease status of the farm and vaccination status of animals, but this is considered to be the first step in movement control.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Large poultry producers are registered by the DLS.
- DLS has introduced mandatory internal animal health certification when animals are moved between the districts and provinces.

Strengths:

- The register of large poultry farms is established.
- Some legislation regulating animal identification and registration has been drafted.
- Introduction of internal animal health certification prior to movement.

Weaknesses:

- There is no legislative framework for the animal identification and registration.
- There is no official animal identification and registration system in place for any animal population.
- Apart from some large poultry farms registered, there is no farm registration.
- Gaps in the internal certification procedure exist because most of the farms are not registered and animals are not identified and there is no information on disease status of the farm and vaccination status of animals.

Recommendations:

- Review and update, as appropriate, the strategy and activities for the establishment of an animal identification and registration system as outlines in the 2011 PVS Gap Analysis report. Due to the new structure of decentralized VS, collaboration with all tiers of government will be needed to support implementation.
- Considering the huge ongoing investment in livestock insurance, explore a PPP with insurance companies to jointly develop the system of animal identification and traceability.

Evidence (as listed in Appendix 6):

E-104, P-3

II-12. IDENTIFICATION, TRACEABILITY AND MOVEMENT CONTROL

DEFINITION
B. Identification, traceability and control of products of animal origin
The capability of the *Veterinary Authority*, in coordination with *Competent Authorities* (such as food safety authorities) and other stakeholders as appropriate, to achieve whole-of-chain traceability, including the identification, tracing and control of products of animal origin for the purpose of food safety, animal health or trade.
LEVELS OF ADVANCEMENT - 1
1. The VS do not have the capability or access to information to identify or trace products of animal origin.
2. The VS can identify and trace some products of animal origin, by coordination between *Competent Authorities*, to deal with a specific problem (e.g. high risk products traced back to premises of origin).
3. The VS have implemented procedures to identify and trace some products of animal origin, in coordination with *Competent Authorities*, for food safety, animal health and trade purposes, in accordance with international standards.
4. The VS have implemented national programmes enabling them to identify and trace all products of animal origin, and respond to threats, in coordination with *Competent Authorities*, in accordance with international standards.
5. The VS periodically audit the effectiveness of their identification and traceability procedures, in coordination with *Competent Authorities*. The procedures have been demonstrated as being effective for traceback and response to a relevant food safety incident (e.g. foodborne zoonoses or residue incident).

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	Level NA (PVS Tool used in 2008 – CC IV-6 Traceability (Level 1)
PVS Gap Analysis in 2011.:	3

Findings:

There is no provision in current legislation for Competent Authority to enforce the any requirement for FBOs to keep records for traceability purposes either one step back or one step forward. However, despite this gap in the legislation, some FBOs are doing some traceability. There is no animal Identification and Registration system and the Slaughterhouse and Meat Inspection Act (1999) has not been implemented yet, which makes the slaughtering process out of official control and prevent any development and implementation of whole-of-chain traceability system for meat and meat products.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Draft proposal of Food Safety and Quality Act, which should set the requirements for the traceability of products of animal origin is prepared and submitted to adoption procedure.

Strengths:

- Legislative framework which includes provisions on traceability of products of animal origin is in the adoption procedure.
- Some FBOs already apply traceability principles in their production.

Weaknesses:

- There are no provisions in current legislation for the implementation of traceability for the products of animal origin.
- Development of comprehensive whole-of-chain traceability system will not be possible without the implementation of animal identification and registration system and official controls in abattoirs.

Recommendations:

- Following the adoption of an adequate legislative framework, in collaboration with all relevant stakeholders, develop and gradually implement an appropriate traceability system for the products of animal origin.
- To achieve whole-of-chain traceability system, ensure implementation of animal traceability system and official controls in slaughterhouses.

Evidence (as listed in Appendix 6):

E-105,

II-13. ANIMAL WELFARE

DEFINITION
The authority and capability of the VS to legislate and implement the *animal welfare* standards of WOAH as published in the *Terrestrial Code.* This requires consultation and coordination with *Competent Authorities*, non- governmental organisations and other stakeholders, as appropriate.
LEVELS OF ADVANCEMENT - 2
1. There is no national legislation or regulations on *animal welfare*.
2. There is limited national legislation or regulations on *animal welfare* covering some of the WOAH standards, with limited stakeholder or public awareness.
3. The national *veterinary legislation* (including laws and regulations) on *animal welfare* cover most WOAH standards, with some awareness programmes and implementation, but are in conformity with international standards in only some sectors (e.g. for the export sector).
4. *Animal welfare* programmes, supported by suitable *veterinary legislation*, are being implemented in conformity with relevant international standards and are applied to most sectors and species with stakeholders and public awareness. Documented compliance programmes, including consequences of non-compliance are available.
5. *Animal welfare* programmes, supported by suitable *veterinary legislation*, are being implemented in conformity with relevant international standards. Comprehensive national programmes are applied to all sectors and species with the active involvement of stakeholders. The *animal* welfare programmes, including non-compliance issues, are subject to regular audit and review, with documented cases of responding effectively to non-compliance.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	NA
PVS Gap Analysis in 2011.:	2

Findings:

With the raise of public awareness and the dedicated work of the non-government organizations (NGOs), animal welfare is becoming a more and more important issue in Nepal. Animal Transport Standards, adopted in 2008, define animal welfare in transport. Animal Welfare Directive, adopted in 2016, focuses on animal welfare of pack animals and traction animals. Animal Husbandry Good Practice (GHP) Implementation Guide was drafted in 2023 for the voluntary GHP certification scheme and will also include certain animal welfare standards for farming and transport.

Few non-government organizations in Nepal have taken initiative to prepare and submit to government model animal welfare act and animal farming welfare standards to DLS.

Committee for the Prevention of Cruel Treatment of Animals was established by the Government of Nepal in 2022. This Committee is chaired by the DLS DG and members include representatives from other Ministries and animal welfare experts. This Committee is established to provide suggestions to the MoALD in regards prevention of the cruelty to animals; to identify and implement animal welfare programmes; to coordinate between province and local level agencies to discourage cruelty; to collaborate with government and non-government organizations and civil society to increase public awareness on animal welfare; to prepare and implement code of a conduct for animal welfare NGOs.

Animal Welfare organizations in Nepal have led major advocacy campaign against mass slaughter of animals during religious *Gadhimai* festival organized every five years. The number of animals slaughtered were reduced substantially in the year 2023. The Supreme Court of Nepal gave a comprehensive order in 2019 to the Government of Nepal to systematically phase out and end all animal sacrifices in the country.

Although some animal welfare standards exist, these standards are not often followed as there are limited enforcement resources. For example, animals (buffalos) are forcefully bound with ropes from head to tail while riding in trucks, keeping them immobile for long periods. This cruelty is sanctioned by the Veterinary Officers of the Animal Quarantine Division at the Internal check points, but there are only four such check points in the whole territory of Nepal.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Animal Transport Standards adopted in 2008; Animal Welfare Directive adopted in 2016
- Establishment of the Committee for the Prevention of Cruel Treatment of Animals
- Establishment of Animal Welfare NGOs (eg. Nepal Animal Welfare and Research Centre, Animal Nepal, Sneha's Care), and also Federation of Animal Welfare Nepal (FAWN), which is a national association of organizations working in animal welfare.

Strengths:

- Animal Welfare regulation adopted (Animal Transport Standards adopted and Animal Welfare Directive)
- Committee for the Prevention of Cruel Treatment of Animals established
- Introduction of Animal Welfare checks at the internal check points.
- Collaboration with Animal Welfare NGOs (eg. Nepal Animal Welfare and Research Centre, Animal Nepal, Sneha's Care), especially on public awareness.

Weaknesses:

- Insufficient Animal Welfare legislative framework for farming, transport and slaughter for human consumption at abattoirs.
- Lack of resources, checks and enforcement results in inadequate implementation of existing animal welfare standards.

Recommendations:

- Develop legislative framework for all WOAH Animal Welfare standards and strategy for implementation in line with national priorities.
- Strengthen engagement with welfare organizations for technical expertise in drafting legislative proposals and field implementation of Animal Welfare standards.
- Strengthen the enforcement capacities to ensure implementation of legislation in force.
- Strengthen engagement with Animal Welfare organizations for technical expertise in drafting legislative proposals and field implementation of Animal Welfare standards.

Evidence (as listed in Appendix 6):

E-26, E-28, E-79, P-16

III.3 Fundamental component III: Interaction with stakeholders

This component of the evaluation concerns the capability of the VS to collaborate with and involve non-government stakeholders including the private sector, Non-Government Organisations (NGOs) and civil society organisations (including consumer organisations) in the implementation of programmes and activities. This also includes relevant state-owned enterprises, research institutions, universities and other training establishments.

Critical Competencies:

Section III-1	**Communication**
Section III-2	**Consultation with stakeholders**
Section III-3	**Official representation and international collaboration**
Section III-4	**Accreditation/ authorisation/ delegation**
Section III-5	**Regulation of the profession by the Veterinary Statutory Body (VSB)**
Section III-6	**Participation of producers and other stakeholders in joint programmes**
Section III-7	**Veterinary clinical services**

Terrestrial Code References:
Points 6, 7, 9 and 13 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation/General organisation/Procedures and standards/Communication.
Point 9 of Article 3.2.1. on General considerations.
Points 2 and 7 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services.
Sub-point b) of Point 2 of Article 3.2.6. on Administrative resources: Communications.
Article 3.2.11. on Participation on WOAH activities.
Article 3.2.12. on Evaluation of the veterinary statutory body.
Points 4, 8 and Sub-point g) of Point 10 of Article 3.2.14. on Administration details/Animal health, animal welfare and veterinary public health controls/Sources of independent scientific expertise.
Chapter 3.3. on Communication.
Point 4 of Article 3.4.3. on General principles: Consultation.
Article 3.4.5. on Competent Authorities.
Article 3.4.6. on Veterinarians and veterinary paraprofessionals.

III-1. COMMUNICATION

DEFINITION
The capability of the VS to keep non- government stakeholders aware and informed, in a transparent, effective and timely manner, of VS activities and programmes, and of developments in animal health, *animal welfare* and veterinary public health. This competency includes communication with all non-government stakeholders, including industry groups/associations (such as livestock farmer, meat sector, dairy sector and trading groups), as well as relevant NGOs and the general public, such as via communication campaigns and the media, including social media.
LEVELS OF ADVANCEMENT - 3
1. The VS do not inform stakeholders of VS activities and programmes.
2. The VS have informal communication mechanisms with some stakeholders (e.g. with the larger commercial livestock or related companies).
3. The VS maintain a dedicated and specialist communications function which communicates with stakeholders occasionally, but it is not always up-to-date or pro-active in providing information.
4. The VS contact point or unit for communication provides up-to-date information to most relevant stakeholders. This information is aligned with a well-developed communications plan, and accessible via the Internet and other appropriate channels targeted to the audience, and covers relevant events, activities and programmes, including during crises.
5. The VS have a well-developed communications plan, and regularly circulate information to all relevant stakeholders, well targeted to the audience via the full range of communications media, including social media. The VS regularly evaluate and revise their communications plan.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

Nepal is the first country in South Asia to constitutionally recognize (1990) the right to information as a fundamental right. A separate Right to Information Act (RTI Act) helps implement RTI in Nepal effectively. The National Information Commission (NIC) was established in 2008 to implement the constitutional rights and provisions of the legislation effectively. The NIC is mandated to order any public office to provide information and is also empowered to fine any official who does not follow the mandate.

Like most public bodies in Nepal, DLS and its related provincial and local institutions designate an employee as an information officer and prominently display the photo and contact information of the person for any citizen. During the field visits, the PVS Team observed the practice, including prominently displayed citizen charters in some institutions. Under the RTI Act, the DLS periodically publishes updated proactive disclosures (public concern information). Some institutions within federal and provincial veterinary authority visited during the PVS mission have shared their publications.

The DLS participates actively in the Nepal Government's grievance redressal mechanism (“Hello Sarkar”), where the general public can register complaints. The PVS Team collected evidence indicating the achievement of the DLS in the year 2017 for 100 percent redressal of grievances through the system.

The DLS maintains a dedicated Project Coordination Unit (PCU) having terms of reference that include coordination and collaboration with partners, including non-governmental

agencies. The unit has communication-related mandates such as livestock business promotion, scientific knowledge exchange, etc. DLS has assigned an officer as the WOAH communication focal point with terms of reference to establish a network with national communication experts and to facilitate communication on animal health, animal welfare, and veterinary public health-related issues among relevant stakeholders, including the media.

A separate One Health section within the DLS leads communication in the One Health context. It has established contacts in related line departments and participated in One Health strategy development, AMR action plan preparation, and national medicine policy development. The DLS actively participated during the recent (2022) Joint External Evaluation (JEE) of the IHR core capacities of Nepal. Primarily, external agencies have facilitated these engagements. However, there are no clear SOPs for multiagency communication and coordination.

Discussion conducted in local government facilities also indicated the policy of direct communication and engagement with community leaders to implement national programmes like vaccination for PPR. The referral veterinary hospital in Kathmandu maintains a teleconsultation facility to reach out to farmers.

The DLS maintains a website for external communication and mandatory disclosure of information. There is an official social media presence for the Ministry of Agriculture and Livestock Development only. Nepal National Single Window System (not under DLS) publishes a YouTube guide for applying for a permit to import live animals and livestock products. The PVS Team observed specific practices of provincial and local institutions using social media and messaging services like WhatsApp to connect with stakeholders and regularly inform them about organized field events, government support schemes, and good husbandry practices.

There are instances of formal communication from the DLS to non-government organizations for rabies control-related programmes. The PVS Team observed the practice of regular communication sharing through a mechanism of administrative coordination committee involving border veterinary quarantine officials, general administration, community leaders, and security agencies to control illegal livestock and livestock product trade.

The DLS does not have an adequate communication plan and rarely seeks formal public/stakeholder opinion on its policies and programmes. Interaction during the PVS mission indicated inadequate effort toward highlighting its public health functions and targeted communication with consumer and farmer organizations for enhanced visibility.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of the current mission):*

- Formal communication channels established

Strengths:

- DLS is assigning an officer as WOAH's focal point for communication.
- There are accessible communication tools, e.g., websites and publications.
- VS is communicating with stakeholders formally and maintaining contact points at various institutions.
- Referral Veterinary Hospitals maintain a teleconsultation facility to reach out to farmers.
- Field VS units disseminate programme/event information using social media tools.
- Mandatory implementation of the RTI Act and practice of responding to public grievances.
- A separate One Health section within DLS leads communication in the One Health context. It has established contacts in related line departments and participated in One Health strategy development and development of national medicine policy.
- Emerging participation by DLS in One Health communication

Weaknesses:

- Inadequate social media presence
- Website information is often not up to date, and not user-friendly for the international audience.
- There is no formal system with accountability to seek policy and programme feedback from stakeholders.

Recommendations:

- Maintain official social media presence for VS activities. Develop social media communication guidelines and invest in building the capacity of field personnel at the local level to use media tools as per guidelines and communicate effectively with stakeholders.
- Conduct proper stakeholder analysis. Communicate and regularly seek their opinions/suggestions on VS policies and programmes. Acknowledge and award contributions.
- Improve content and continue regular updates of proactive disclosures for transparency and enhanced public trust.
- Ensure that record-keeping is RTI-friendly and documents are more accessible to find and retrieve.
- Promote data culture and the use of information technology for improved communication and governance.
- Explore website design improvement for effective translation of content for international audiences.
- Develop a network with communication experts, prepare a plan, and engage with media, consumers, and related advocacy groups to highlight official veterinary services functions to improve VS's visibility.
- Earmark appropriate budget for formal periodic consultations nationwide with the private sector.

Evidence (as listed in Appendix 6):

P4, P8, E-21, E-23, E-70, E-71, E-72, E-73, E-106, P-13, P-14, P-40, P-47, P-56

III-2. CONSULTATION WITH STAKEHOLDERS

DEFINITION
The capability of the VS to consult effectively with non-government stakeholders on VS policies and programmes, and on developments in animal health and food safety. This competency includes consultation with all non-government stakeholders, including industry groups/associations (such as livestock farmer, meat sector, dairy sector and trading groups), as well as interested NGOs and members of the public. Unlike communication (CCIII-1), consultation is two way and should involve mechanisms that not only inform, but actively seek views of consulted parties, for consideration and response.
LEVELS OF ADVANCEMENT - 3
1. The VS have no mechanisms for consultation with non-government stakeholders.
2. The VS maintain informal channels of consultation with some non-government stakeholders (e.g. only the larger commercial livestock or related companies).
3. The VS hold formal consultations with non-government stakeholders, usually represented by industry groups or associations.
4. The VS regularly hold workshops and meetings with non-government stakeholders, who are organised to have broad representation, such as through elected, self-financed industry groups or associations. Consultation outcomes are documented and the views of stakeholders considered and occasionally incorporated.
5. The VS actively consult with all non-government stakeholders, including representatives of smaller producers, regarding current and proposed policies and programmes, developments in animal health and food safety, and proposed interventions at the WOAH, Codex Alimentarius Commission, WTO SPS Committee, etc. The consultation results in improved, better adapted activities and greater stakeholder support.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	4

Findings:

The private sector stakeholders in Nepal are relatively organized. There are professional and trade organizations like the Nepal Veterinary Association, Veterinary Practitioners Association Nepal, Veterinary Public Health Association Nepal, Nepal Veterinary Student's Association, Nepal Animal Science Association, Nepal Para-veterinary and Livestock Association, Nepal Livestock Technicians Association, National Meat Entrepreneurs Association, Nepal Egg Producers Association, Nepal Dairy Association, Nepal Poultry Farmers Association, Central Livestock Rearing Cooperative Association, Yak Chauri Farmers' Federation, Nepal Veterinary Druggist and Chemist Association, Nepal Veterinary Medicine Importers Association, etc. The Veterinary Authority at the federal and provincial levels occasionally receives policy and programme inputs from some of these associations. The PVS Team recorded recent events by the Nepal Veterinary Association and its sister organizations like the Veterinary Public Health Association, organizing conventions and conferences that allowed participating stakeholders to deliberate on VS-related issues impacting the country. Senior officials of the VA participated in these events.

In Nepal, many non-government organizations funded nationally and internationally also provide veterinary services, animal welfare support, and policy advocacy.

The existence of many associations and organizations indicates an active stakeholder interest in developing the animal health and livestock sector. The Federation of Animal Welfare in Nepal shared with the PVS Team their initiative in preparing and presenting the model Animal Welfare Act to the government in 2023. Similarly, Sneha's Care, an animal welfare organization (NGO) shared the mission of their project in 2020 to submit a draft of animal farming standards to the DLS. Interaction with the stakeholders indicates that the VS can convert these external initiatives into formal opportunities for more extensive consultations to work toward adopting and scaling up of feasible suggestions.

The DLS has a dedicated Project Coordination Unit with a mandate to coordinate and collaborate with NGOs and national and professional organizations.

The DLS conducts formal consultations with farmer/industry associations to address public concerns and requirements, and minutes of such meetings are available for follow-up.

Recent stakeholder consultation activities related to One Health and the preparation of the Livestock Master Plan indicate that the DLS mainly relies on international agencies to facilitate formal inter-institutional and stakeholder consultations.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Increased formal inter-institutional/stakeholder consultations supported/facilitated by external agencies.

Strengths:

- There are representative associations and trade organizations for effective organization of consultations.
- Regular consultations of VS to plan vaccination campaigns

Weaknesses:

- Limited formal organization of stakeholder consultations at all levels with follow-up actions.
- Inadequate prompt and transparent action following a proposal from stakeholders

Recommendations:

- Conduct regular proper stakeholder analysis and communicate/advocate in a planned manner by all three tiers of the VS.
- Engage with producer organizations/industry bodies for joint programmes under public-private partnership arrangements.
- Prepare an annual calendar of events and earmark appropriate budget for formal periodic policy and programme consultations across three tiers of government involving all stakeholders, document consultations and follow up on action taken.
- Develop a system to transparently receive, track, initiate queries, and inform decisions on proposals/action areas submitted by stakeholders.

Evidence (as listed in Appendix 6):

P-15, P-16, E-55, E-106;

III-3. OFFICIAL REPRESENTATION AND INTERNATIONAL COLLABORATION

DEFINITION
The capability of the VS to regularly and actively participate, coordinate and provide follow-up on relevant meetings and activities of regional and international organisations including WOAH, Codex Alimentarius Commission, WTO SPS Committee, WHO, FAO and Regional Economic Communities.
LEVELS OF ADVANCEMENT - 3
1. The VS do not participate in or follow up on relevant meetings or activities of regional or international organisations.
2. The VS sporadically participate in relevant meetings or activities and/or make a limited contribution.
3. The VS actively participate in the majority of relevant meetings and activities, and provide some feedback to national colleagues.
4. The VS consult with non-government stakeholders and take into consideration their opinions in developing papers and making interventions in relevant meetings and in following up on meeting outcomes at national or regional level.
5. The VS consult with non-government stakeholders to provide leadership, to ensure that strategic issues are identified, and to ensure coordination among national delegations as part of their participation in relevant meetings, and follow up on meeting outcomes at national and/or regional levels. The VS collaborate internationally by sharing information and assisting to build capacity where appropriate.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

The DLS has a dedicated Project Coordination Unit (PCU) to oversee official representation and international collaboration. The unit is under the leadership of a joint secretary-level.

The PCU provided details of various recent national and international programmes attended by nominated officials of the DLS. The country delegate has designated senior officials as WOAH communication focal points and all other suggested WOAH focal points. There is, however, inadequate evidence of regular meetings of all focal points.

The discussion indicated active participation of officials in relevant international meetings and activities with occasional contributions during discussions. There is limited evidence of any substantial written contribution during such international engagements.

The Codex Focal Point for Nepal is not within the VS. Evidence shared indicated that VS is participating in the FAO ongoing project in Nepal, 'Action to support the implementation of Codex AMR text (ACT) project.

In recent years, the livestock sector in Nepal has received project support from the World Bank, FAO, IFAD, Fleming Fund, ADB, etc, and the DLS has coordinated these collaborations. The DLS recently also collaborated with other agencies for Joint External Evaluation under the aegis of WHO and has expressed willingness to contribute to the IHR-PVS national bridging workshop.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of the current mission):*

- Increased participation of relevant officials of the DLS

- More collaborative projects funded by international agencies, including participation in the codex AMR text (ACT) project

Strengths:

- Dedicated Project Coordination Unit (PCU) to oversee official representation and international collaboration
- Regular participation of WOAH delegate and DLS officials/WOAH focal points to WOAH GS and Regional WOAH meetings
- Active participation of DLS officials in relevant international meetings and activities
- Communication channels exist with international partners for collaborative work

Weaknesses:

- There is limited capacity of VS to contribute meaningfully to regional and international meetings primarily because of inadequate resources for background work, motivation and available quality time of experienced officials.
- Limited evidence of any substantial written VS contribution during international engagements
- No evidence of regular meetings of WOAH delegate and/or officials from DLS with all WOAH focal points

Recommendations:

- Motivate and support official VS participants to prepare for international meetings to contribute effectively.
- Ensure easily accessible documentation of meetings and personal experiences of participants for improved institutional memory of events.
- Organize WOAH focal point meetings regularly and document evidence for effective contribution during international discussions.
- Ensure retention of trained persons in critical job roles for effective contribution and follow-up actions.

Evidence (as listed in Appendix 6):

E-73, E-76, E-103, E-106;

III-4. ACCREDITATION/AUTHORISATION/DELEGATION

DEFINITION
The authority and capability of the public sector of the VS to accredit/authorise/delegate to private sector or NGO expertise (e.g. private *veterinarians* and *laboratories*, *animal welfare* NGOs), to carry out official tasks on their behalf, usually via a formal agreement (i.e. public-private partnership).
LEVELS OF ADVANCEMENT – 2
1. The public sector of the VS has neither the authority nor the capability to accredit/authorise/delegate to the private sector or NGOs official tasks.
2. The public sector of the VS has the authority or capability to accredit/authorise/delegate official tasks to the private sector or NGOs, but there are currently no accreditation/authorisation/delegation activities.
3. The public sector of the VS develops accreditation/authorisation/delegation programmes for certain tasks using formal agreements, but these activities are not routinely reviewed.
4. The public sector of the VS develops and implements accreditation/authorisation/delegation programmes using formal agreements, and these activities are routinely reviewed to maintain standards and manage performance.
5. The public sector of the VS carries out audits of its accreditation/authorisation/delegation programmes, in order to maintain the trust of their trading partners and other stakeholders.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	1
PVS Gap Analysis in 2011.:	3

Findings:

The DLS established informal delegation for some animal health programmes such animal movement and welfare control in Birgunj district. Private registered veterinarians are chosen according to their experience. A logbook of health certificates for movement control is provided to the veterinarians. The breeders apply for the movement's certificate. The delegated veterinarians with the support of police who stopped the trucks, proceed with clinical examination of transported animals and deliver a complying certificate allowing the trucks to move with the animals. Fees are paid by the owner/transporter of the animals to the private veterinarians. A veterinary inspector of the district checks compliance of the activities performed with required procedure.

For vaccination campaigns and where needed, some vaccinators are delegated to proceed with animal vaccination. The procedure for the selection of vaccinators is documented and the vaccinators are paid once the campaigns are closed according to the terms of the official contract. It is important to note that some inspections and controls are undertaken to check efficient and proper implementation of the vaccination procedure starting from the reception of vaccines to the record of vaccination according to vaccination procedure designed by the DLS.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Private veterinarians issuing animal health certificates as a mandatory requirement for the movement of animals between the districts and provinces.

Strengths:

- Some delegation of official VS activities implemented

- Cooperation of law enforcement authorities

Weaknesses:

- Weak regulatory framework for delegation/accreditation of the private sector
- Lack of mapping of outsourceable activities in Nepal
- Weak inspection services within the DLS to ensure nationwide control of delegated activities

Recommendations:

- Conduct a situational review to inform ways to attract private players and address potential risks of delegation. The review should also guide mapping of outsourceable activities in the animal health, veterinary public health and international trade sectors.
- Review and complete the needed regulatory framework for delegation of official VS tasks
- Improve the VS authority for conducting inspections and implement delegated activities within the entire veterinary domain with a clear and unique chain of command and with tailored resources for priority activities within annual workplan.

Evidence (as listed in Appendix 6):

E-28, E-37, E-39, E-51, E-52, E-53, E-54, E-102; E-110, P-3, P-19, P-23, P-42,

III-5. REGULATION OF THE PROFESSION BY THE VETERINARY STATUTORY BODY (VSB)

DEFINITION
The authority and capacity of the *VSB* to effectively and independently maintain educational and professional standards for *veterinarians and veterinary paraprofessionals.* Regulation includes licensing or registration of those *veterinarians* and *veterinary paraprofessionals* that meet educational standards, and the ongoing oversight of their professional competence and conduct.
LEVELS OF ADVANCEMENT – 3
1. There is no *VSB*.
2. The *VSB* regulates *veterinarians* only within certain sectors of the veterinary profession and/or does not systematically apply educational standards or disciplinary measures.
3. The *VSB* regulates *veterinarians* in all sectors of the veterinary profession setting educational standards and applying disciplinary measures.
4. The *VSB* regulates *veterinarians* in all sectors and some *veterinary paraprofessionals* in a transparent manner. It has defined one or more specific categories of *veterinary paraprofessional* and their qualifications for initial and ongoing registration.
5. The *VSB* regulates and applies disciplinary measures to *veterinarians* and *veterinary paraprofessionals* in all sectors throughout the country. *Veterinarians* and *veterinary paraprofessionals* are required to undertake continuing education to maintain their professional registration.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

VSB Authority

- PVS Evaluation (2008) - Level 2
- PVS Gap Analysis (2011) – Level 4 (5-year target)

VSB Capacity

- PVS Evaluation (2008) - not assessed
- PVS Gap Analysis (2011) – Level 3 (5-year target)

Findings:

Nepal Veterinary Council (NVC) is the national Veterinary Statutory Body established by the Nepal Veterinary Council Act of 1999. The council comprises a President, two Vice Presidents, and eight members elected or designated from among registered veterinarians for a four-year term. Though the organization is independent, the Government of Nepal appoints the NVC president and a registrar in charge of administration. The NVC's financial resources come from the governmental grant (up to 70%), registration fees, and other income-generating council activities. Discussion during the PVS mission indicated continuous efforts on the part of NVC to improve its revenue generation for required targeted investments. The council is mobilizing resources to implement a long-term master plan (2023-2033).

Besides the Nepal Veterinary Council Regulations of 2000, several secondary legal instruments support the transparent governance of the Council.

The Council has the authority to conduct a National Licensure Examination for Veterinarians (NLEV) and register veterinarians (national and foreign) to practice legally within the country. It also records specialist veterinarians and has adopted a specialist registration by law (2020). Registration with NVC is compulsory to seek permanent and contractual appointments in VS

as a veterinarian. The council maintains an electronic database of registered veterinarians, which permits a certain degree of analytics to monitor workforce trends and provincial distribution. Discussion indicated NVC's capacity to regularly conduct the NLEV is guided by the NVC National Licensure Examination for Veterinarians by Law (2016). NLEV is helping NVC to harmonize competency assessment. NVC evaluated the average pass percentage of NLEV at 56.1%, indicating the need to conduct more detailed studies to understand the gap.

The renewal of registration based on compulsory CE credit is not mandatory per the current rules of NVC. However, the council has initiated a survey to document the interest of registered veterinarians related to CE topics. It plans to facilitate the delivery of CE courses in 2023 in collaboration with provincial governments.

To ensure professional standards, the council published the Nepal Veterinary Council (Minimum Standard Requirements for BVSc. & A.H. Degree) Regulation (2006) and the Code of Conduct for Registered Veterinarians (2020). Though the Ministry of Education approves the Veterinary Educational Establishments (VEEs) in Nepal, the NVC performs field verifications and regulates educational standards. Discussion conducted at VEE supported collaboration between VEEs and NVC. However, there is a feeling of inadequate emphasis on the part of NVC to ensure improvement in pedagogy, availability of teaching tools for skill assessment, and access to training for young educators. NVC regularly engages experts for curriculum improvement and suggests experts for reference to WOAH recommendations on the competencies of graduating veterinarians (Day 1 graduates) and Veterinary Education Core Curriculum guidelines. Discussion during the PVS mission indicated the scope of future planned collaboration between VS and NVC to list and notify national core competencies needed for veterinarians for quality delivery of official veterinary services in Nepal.

Six sub-committees, namely the Administration and Name Registration Committee, Professional Standards and Complaints Assessment Committee, Competency and Standard Assessment Committee, Specialist Registration Committee, Information and Communication Committee, and Ethical Clearance Committee, support the smooth functioning of the council. The NVC has permanent staff positions under the leadership of a full-time registrar for day-to-day operations.

The PVS Team could verify the evidence of disciplinary action taken by the council for violating the Code of Conduct. The NVC took action against 33 registered veterinarians for violating the Code of Conduct.

The Nepal Veterinary Council Act has no provision to authorize, regulate and ensure supervision of personnel with job roles similar to veterinary paraprofessionals (VPPs). The Government of Nepal initiated to amend the Act in this regard. However, stakeholders have failed to reach a consensus on non-veterinarians' representation in the NVC executive board.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of the current mission):*

- Improved physical infrastructure (new building) and governance (administrative and financial)
- Improved electronic system for delivery of services related council's mandate and quality database of registered veterinarians and specialists.
- Enhanced enforcement of disciplinary provisions

Strengths:

- A comprehensive regulatory framework for an efficient and independent NVC (VSB) exists.
- A well-functioning VSB with plans and systems to transparently perform mandated works, including disciplinary actions.

- A strong collaboration between VEEs and NVC is in place and The NVC approves *Minimum Standard Requirements for BVSc. & A.H. Degree* and performs field verifications (audits) and regulates educational standards.
- Improved NVC information system for service delivery and database of registered veterinarians and specialists.

Weaknesses:

- The NVC is financially dependency on government funding creating an organizational risk related to inadequate autonomous functioning.
- There is no system of renewal of the registration/license to ensure quality of service and maintain an updated database.
- Inadequate legal provision within NVC Act for authorizing and regulating non-veterinarian personnel contributing to the delivery of veterinary services (eg. VPPs).
- CE credit not mandatory for maintaining registration.

Recommendations:

- Empower the NVC to function independently, implement regulatory mandates and mobilize resources beyond government assistance.
- Initiate regulatory provisions to ensure periodic registration renewal based on certified and transparent documentation of competency acquisition.
- Partner with academia and the private sector for planned needs assessment and registered members' technical/managerial capacity building. Develop or outsource a Learning Management System (LMS) to deliver planned competency-based online / offline CE programmes. Ensure LMS design for transparent documentation of competency acquisition by learners.
- Ensure regular audits of VEEs against *Minimum Standard Requirements for BVSc. & A.H. Degree* to be performed by a third party
- Promote collaboration between VS and NVC to review current and future competency requirements for the effective delivery of official veterinary services in Nepal in alignment with international standards.
- Invest in building trust through targeted stakeholder engagement.
- Explore legal options for better Veterinarian and Veterinary Paraprofessional (VPPs) team building, role clarity, description of prerogative, etc.
- Ensure authorization, supervision, and mentorship of VPPs. (livestock technicians designated as VPPs)
- Continue investment in online services and databases to permit appropriate real-time analysis of veterinarian data, such as assessment of demographic profile, geographical distribution, institution/sector-wise competency profile, etc.

Evidence (as listed in Appendix 6):

E-9, E-60, E-61, E-62, E-63, E-64, E-68, E-77, E-110, P-10, P-11, P-12, P-110;

III-6. PARTICIPATION OF PRODUCERS AND OTHER STAKEHOLDERS IN JOINT PROGRAMMES

DEFINITION
The capability of the VS to develop joint programmes (public-private partnerships) with producers and non-government stakeholders to deliver animal health, veterinary public health, food safety and/or *animal welfare* outcomes.
LEVELS OF ADVANCEMENT - 2
1. Producers and other non-government stakeholders do not participate in joint programmes.
2. Producers and other non-government stakeholders are informed of programmes by the VS and informally assist the VS in programme delivery in the field (e.g. industry groups helping to communicate the programme with their membership).
3. Producers and other non-government stakeholders formally participate with the VS in the delivery of joint programmes and advise of needed changes and improvements.
4. Representatives of producers and other non-government stakeholders actively partner with the VS to plan, manage and implement joint programmes.
5. Producers and other non-government stakeholders contribute resources and may lead the development and delivery of effective joint programmes with the VS. They also actively participate in their regular review, audit and revision.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	1
PVS Gap Analysis in 2011.:	4

Findings:

Private sector stakeholders considered for collaborative actions with the official Veterinary Service may include producers, animal production companies, companies processing products of animal origin, service and product providers, producer and supplier associations, veterinarians and veterinary associations, and non-governmental organizations.

The DLS formally engages with farmer/industry associations to assist in service delivery, such as safeguarding from illegal importation and maintaining healthy market stocks during festivals. Veterinary institutions in provincial and local government work with farmer cooperatives to implement programmes. However, there is no evidence of formal joint implementation of official VS programmes with farmer/industry associations.

Livestock insurance under a regulated market started in Nepal after the Insurance Authority released Crop and Livestock Insurance Directives in January 2013. The livestock insurance programme in Nepal involves both public and private sector participation. The DLS collaborates with private insurance companies to offer farmers highly subsidized livestock insurance products. The PVS Team observed dairy cooperatives promoting insurance schemes. These insurance products cover various risks, including livestock mortality, disease outbreaks, and accidents. The insured animals receive free tagging and free livestock veterinary inspections and vaccinations.

Discussions with animal welfare-related stakeholders indicated ongoing collaboration in four provinces (Bagmati, Gandaki, Madesh and Sudurpachim) to support the government in establishing animal welfare standards on dairy farms. Similarly, the DLS is actively collaborating with NGOs to constitute a committee for formally adopting an Animal Welfare Act.

Participants from VS attended a regional training workshop on Public Private Partnerships (PPP) in the Veterinary Domain organized by WOAH in Kathmandu in October 2019 and, as such, have the expertise to guide any PPP initiatives.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Improvement in VS engagement with stakeholders to facilitate the delivery of programmes
- Collaboration with insurance companies for delivery of subsidized insurance products to livestock farmers.
- The emerging story of public-private collaboration to implement animal welfare standards.

Strengths:

- The presence of membership-based farmer organizations capable of disseminating programme-related messages from VS.
- Established active network of non-profit organizations

Weaknesses:

- Inadequate initiative to explore feasibility and build sustainable partnerships for the collaborative implementation of VS programmes

Recommendations:

- Invest in building private producer organizations' capacity for effective collaboration, including potential PPPs in the long run. Explore possible innovative design to implement support programmes to improve the leadership and governance of farmers' and industry organizations.
- Enhance collaboration with insurance companies to design and implement a national animal and farm premise identification system following a PPP structure. Ensure livestock insurance companies collect and share valuable data (including geo-location of farms) to support VS activities.
- Promote WOAH learning resources and the online database on PPP within the veterinary domain and conduct formal studies to document PPP prospects and support emerging initiatives.

Evidence (as listed in Appendix 6):

E-55, E-78, E-96

III-7. VETERINARY CLINICAL SERVICES

DEFINITION
The availability and quality of veterinary clinical services to meet the needs of animal owners, including their access to animal disease or injury diagnosis and treatment.
LEVELS OF ADVANCEMENT – 3
1. There are no/few clinical services provided from either the public or private sector.
2. Clinical services are available to animal owners in some areas but the quality and coverage (i.e. access to qualified *veterinarians* and/or *veterinary paraprofessionals)* is highly variable.
3. Clinical services are available to most animal owners via the public and/or private sector. In rural areas this is delivered mostly by *veterinary paraprofessionals* with some formal training and some veterinary supervision – but providing only basic clinical diagnosis and treatment.
4. Clinical services are available to all animal owners via an efficient network of veterinary clinics, including in rural areas, serviced by qualified *veterinarians* assisted by *veterinary paraprofessionals.* Diagnoses are generally made prior to treatment, including with supporting *laboratory* tests where appropriate and professional standards are maintained by a well-functioning VSB.
5. Clinical services are available to all animal owners through qualified *veterinarians*, with appropriate facilities, diagnostic equipment and treatments, and the opportunity for specialist referral if required.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	NA
PVS Gap Analysis in 2011.:	NA

Findings:

Veterinary clinical services in Nepal are provided by both the public and private sector. Public VS provides clinical services at federal, provincial, and local levels. At the federal level, service is provided by the Central Referral Veterinary Hospital in Kathmandu, at the province level there is a Veterinary Hospital and Livestock Service Expert Centre (VHLSEC) in each district and at the local level service is provided by the veterinarians and veterinary paraprofessionals from the Livestock Service Section. Clinical services take a significant part of working time of veterinarians and livestock technicians in the public sector and owners are charged only a small part of the actual cost of service (not cost recovery). Due to limited number of veterinarians, most of the services at the field are provided by the livestock technicians.

In the private sector, clinical services are provided by the private veterinary clinics, private veterinarians, and private livestock technicians. Private veterinarians have to a obtain license from the Nepal Veterinary Council, while the livestock technicians are not authorised or regulated by the VSB for rendering clinical services.

Access to clinical services is the most inadequate for remote rural areas in mountain region due to lack of human resources and difficulties in transportation. In these areas most service is provided by trained CAHW. The DLS does not encourage engagement of CAHW in regions like Terai, where there is sufficient number of veterinarians and livestock technicians with formal education.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- With restructuring of the VS under federalization, most of the public clinical veterinary services are provided by the province and local level VS. Only the Central Referral Veterinary Hospital in Kathmandu remained within the DLS.

Strengths:

- There is a network of public VS and private veterinarians and livestock technicians providing clinical services.
- Government has introduced the programme of minimum of one veterinarian and one livestock technician in each municipality.

Weaknesses:

- Many municipalities still not have veterinarians or only have temporarily contracted veterinarians.
- Due to insufficient number of veterinarians, most of the clinical services at field level are provided by the livestock technicians performing mostly basic diagnoses and treatment, with low accessibility to laboratory diagnosis.
- Low accessibility to clinical services in mountains region.

Recommendations:

- Explore the possibility of strengthening access to clinical services by gradually focusing public VS on remote areas with no or insufficient numbers of private veterinary service providers. VS should develop a strategy to stop providing clinical services in areas where the private service sector is sufficiently developed.

Evidence (as listed in Appendix 6):

E-101, P-19, P-20, P-21, P-22, P-23, P-24

III.4 Fundamental component IV: Access to markets

This component of the evaluation concerns the authority and capability of the VS to provide support by demonstrating the overall integrity of its animal health and veterinary public health system in order to access, expand and retain regional and international markets for animals and animal products.

Critical Competencies:

Section IV-1	**Veterinary legislation** **A. Legal quality and coverage** **B. Implementation and compliance**
Section IV-2	**International harmonisation**
Section IV-3	**International certification**
Section IV-4	**Equivalence and other types of sanitary agreements**
Section IV-5	**Transparency**
Section IV-6	**Zoning**
Section IV-7	**Compartmentalisation**

Terrestrial Code References:
Points 6, 7 and 9 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation/General organisation/Procedures and standards.
Points 1 and 2 of Article 3.2.7. on Legislation and functional capabilities: Animal health, animal welfare and veterinary public health/Export/import inspection.
Points 1 and 3 of Article 3.2.8. on Animal health controls: Animal health status/National animal disease reporting systems.
Sub-point g) of Point 4 of Article 3.2.10. on Veterinary Services administration: Trade performance history.
Article 3.2.11. on Participation in WOAH activities.
Points 7 and 11 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities/Membership of the WOAH.
Chapter 3.4. on Veterinary legislation.
Chapter 4.3. on Zoning and compartmentalisation.
Chapter 4.4. on Application of compartmentalisation.
Chapter 5.1. on General obligations related to certification.
Chapter 5.2. on Certification procedures.
Chapter 5.3. on WOAH procedures relevant to the Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization.
Chapters 5.10. to 5.13. on Model international veterinary certificates.

IV-1. VETERINARY LEGISLATION

DEFINITION
The effectiveness of *veterinary legislation* (including laws and regulations).
A. Legal quality and coverage
The authority and capability of the VS to develop and update *veterinary legislation*, to ensure its quality and coverage of the veterinary domain. This competency covers the quality of legislation considering the principles of legal drafting, its impact, and suitability for implementation. This competency includes formal collaboration with expert legal drafters and lawyers, other relevant ministries and *Competent Authorities*, national agencies and decentralised institutions that share authority or have mutual interest in relevant areas of the veterinary domain. It also includes consultation with stakeholders that may affect or be affected by the *veterinary legislation*.
LEVELS OF ADVANCEMENT - 2
1. *Veterinary legislation* is lacking, out-dated or of poor quality. The VS do not have the authority or capability to develop and update *veterinary legislation.*
2. *Veterinary legislation* covers some fields of the veterinary domain. The VS, working occasionally with expert legal drafters and lawyers, have some authority and capability to develop and update *veterinary legislation.*
3. *Veterinary legislation* covers most fields of the veterinary domain, including those fields under other Competent Authorities. The VS, working in formal partnership with expert legal drafters and lawyers, have the authority and capability to develop and update national *veterinary legislation,* including via consultation with stakeholders, to ensure its legal quality and applicability.
4. *Veterinary legislation* covers the entire veterinary domain. The VS have the authority and the capability to develop and update *veterinary legislation* at national (and sub-national where relevant) level – using a formal methodology which considers international standards, consultation with stakeholders, legal quality and applicability, and regulatory impact.
5. *Veterinary legislation* comprehensively covers the entire veterinary domain. The VS regularly evaluate and update *veterinary legislation* at national (and sub-national where relevant) level, with reference to ongoing effectiveness and changing international standards and science.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	4

Findings:

In Nepal, a comprehensive regulatory framework is available but most of the Acts pre-date the new federalism constitution.

The Animal Health and Livestock Services Act (1999), is a key legal document implemented by the DLS for live animal health and trade regulation before the new federalism constitution.

The new constitution adopted in 2015 led to three independent levels of government at federal, provincial and local level with extended independence in the veterinary domain where health issues should mandatory be managed interdependently with a clear chain of command. Surveillance, control, prevention of animal diseases should not consider any level of borders as diseases do not respect administrative borders. This led to several gaps in the

implementation of animal health programmes that should be implemented, monitored and evaluated at national level.

The Food Act (1967) and the Food Regulation (1970) represent the more important legal documents in Nepal related to food safety aspects. However, these legal items were drafted when Nepal was not a member of the WTO and, therefore, they are not aligned with modern legislation on food safety.

A new Food Act, fully aligned with and Codex principles and fulfilling the obligations of the SPS agreement (named Food Safety and Quality Act) is undergoing the approval procedure but is not yet adopted at parliamentary level. It will replace both the Food Act (1967) and the Food regulation (1970).

The Slaughterhouse and Meat Inspection Act (1999) regulates the establishment and operation of slaughterhouses, the role of meat inspectors, inspection practices and the sale of the meat. This Act is much outdated; however, it is not fully implemented and is partially amended undertaking the roles and responsibilities of provincial and local government.

The distribution of the VS authority within the new structure is not totally suitable. The Federalism Implementation and Administration Restructuring Coordination Committee (FIARCC) could help with the needed revision of the distribution of the VS authority within the three levels (federal, provincial and municipal). The VS have not yet submitted a request to this committee to ask the restoration of the chain of command in accordance with WOAH standards.

Regulatory framework for the management of veterinary medicines registration and control of use totally excludes the DLS. Medicine prescription and sale are crucial for the field veterinary network implementation, development and sustainability especially in remote area.

A comprehensive veterinary profession governance framework is in place.

The Government of Nepal enacted the Animal Health and Livestock Professional Act (2022) to provide professional registration and regulation of animal science graduates certified by Universities and Livestock Technicians certified by CTEVT. A new statutory body independent of NVC is likely to be established soon.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- The new constitution adopted in 2015 led to restructuring of the VS into central, provincial and local levels giving each level of VS a high degree of autonomy.
- Infectious Animal Disease Control Act and Food Safety Quality Act are prepared for adoption.

Strengths:

- Legislative framework for the veterinary domain is in place and implemented.
- Willingness to revise the current legal framework (animal health and food safety).
- DLS has the authority and capability to develop and initiate proposing new legislative acts
- Comprehensive regulatory framework for the governance of the veterinary profession exists with the NVC

Weaknesses:

- The Slaughterhouse and Meat Inspection Act is badly outdated but is not under revision.

- DLS has not managed to revise and amend some important legislative acts with proposals to address certain critical gaps in the existing legislation (eg. Veterinary Drugs Act, Animal Health and Livestock Services Act)
- DLS is not involved in the revision of important texts for its missions
- The Food Safety Policy Document is not focused on the full scope of DLS work domain.
- The newly enacted Animal Health and Livestock Professional Act (2022) to regulate livestock technicians active in the delivery of veterinary services is not in compliance with WOAH standards.

Recommendations:

- Consider the possibility of requesting a WOAH Veterinary Legislation Support Programme to review the legislative framework against international standards, in light of challenges that came with federalisation under the new Constitution.
- Seek legal assistance to review and help mitigate possible problems related to overlaps, inconsistencies in regulation, and Vet-VPP team building arising from the future implementation of the newly enacted Animal Health and Livestock Professional Act (2022), as it also intends to regulate livestock technicians who can be designated as VPPs.
- Consider the full participation of the DLS in the preparation or the revision of food safety legal texts related to animal products and veterinary drugs.
- Improve the participation of all stakeholders and interested parties in the development of regulations from the early stages.

Evidence (as listed in Appendix 6):

E-1, E-7, E-8, E-10, E-11, E-12, E-13, E-14, E-15, E-16, E-17, E-18, E-20, E-22, E-26, E-35, E-42, E-43, E-44, E-49, E-50, H-1, P-16, E-85, E-90, E-93

IV-1. VETERINARY LEGISLATION

DEFINITION
The effectiveness of *veterinary legislation* (including laws and regulations).
B. Implementation and compliance
The authority and capability of the VS to ensure implementation of and compliance with *veterinary legislation* across the veterinary domain through communication, compliance and inspection activities. This competency includes formal collaboration with other relevant ministries and *Competent Authorities*, national agencies and decentralised institutions that share responsibility for implementation or have mutual interest in relevant areas.
LEVELS OF ADVANCEMENT - 2
1. *Veterinary legislation* is not implemented or poorly implemented, and it is not supported by communication, compliance and inspection activities.
2. *Veterinary legislation* is implemented through some activities of communication and awareness raising on stakeholder legal obligations, but few compliance and inspection activities are conducted.
3. *Veterinary legislation* is implemented through a programme of communication and awareness raising, and through formal, documented compliance and inspection activities. The VS undertake some legal action (e.g. administrative fines or prosecution) in instances of non-compliance in most relevant fields of activity.
4. *Veterinary legislation* is implemented across the entire veterinary domain and is consistently applied. The VS work to minimise instances of non-compliance through multiple means, including through targeted communications, incentives and appropriate legal processes. They have documented reports of responding to non-compliance.
5. *Veterinary legislation* compliance programmes are regularly subjected to audit and review by the VS or external agencies.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

Veterinary inspection represents major gap in the implementation of the VS authority in Nepal. This concept of activity is hindered by the emphasis on animal production development.

Veterinary drug regulation is key for managing animal health and food safety. It allows the control of the distribution and use of veterinary medicines for both animal health and food safety. Technically veterinarians are not recognised as practitioners as per the old drug Act (1978) and cannot technically prescribe antimicrobials; however, it is generally understood/accepted in principle that veterinarians registered by the NVC can write prescriptions.

The improvement of food safety requires the design and implementation of risk-based veterinary inspection using a veterinary inspectors' network covering all related infrastructure dealing with raw animal products.

There are no veterinary inspections either of slaughterhouses infrastructure nor for ante- and post-mortem of slaughtered animals. This is a major gap in terms of control of both animal health and human food safety of products of animal origin.

The DLS reported that a large majority of food of animal origin produced in Nepal is from very small producers which are not considered in the current control strategies.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- DFTQC is implementing existing regulations.
- The cabinet has approved new food safety and quality standards prepared in alignment with WTO requirements.

Strengths:

- Limited veterinary inspection is in place
- Regulation of the veterinary profession is fully implemented and controlled by the NVC

Weaknesses:

- Meat Inspection Act has not been implemented for 24 years after adoption
- Insufficient staff to perform inspection activities
- Weak awareness among the population to improve animal health and food safety
- Drug Act poorly adapted for veterinary domain.

Recommendations:

- Strengthen the human resources and capacity for veterinary inspection and ensure their technical independence.
- Speed up the procedure for the adoption of revision of needed acts and regulations in the realm of Animal Health and Food Safety.
- Protect and support small producers during a food safety modernization process and raise awareness among all producers and consumers.

Evidence (as listed in Appendix 6):

E-7, E-8, E-22, E-26, E-27, E-34, E-35, E-50, E-51, E-52, E-53, E-54, E-93, E-96, H-1, P-4, P-5, P-16,

IV-2. INTERNATIONAL HARMONISATION

DEFINITION
The authority and capability of the VS to be active in the harmonisation of national *veterinary legislation* and *sanitary measures* to ensure they take into account international standards, and/or related regional directives or guidelines.
LEVELS OF ADVANCEMENT – 2
1. National *veterinary legislation* and *sanitary measures* under the mandate of the VS do not take into account international standards.
2. The VS are aware of gaps, inconsistencies or non-conformities in national *veterinary legislation* and *sanitary measures* as compared to international standards, but do not have the capability or authority to rectify the problems.
3. The VS monitor the establishment of new and revised international standards, and periodically review national *veterinary legislation* and *sanitary measures* in response.
4. The VS harmonise *veterinary legislation* and *sanitary measures*, and can demonstrate a level of alignment with changing international standards. The VS also review and comment on the draft standards of relevant intergovernmental organisations, and work through regional organisations, where available, to ensure better harmonisation with international standards.
5. The VS actively and regularly participate at the international level in the formulation, negotiation and adoption of international standards[25], and use the standards to regularly harmonise national *veterinary legislation* and *sanitary measures*.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

Important amendments to national legislation were proposed for adoption, such as Department of Food Technology and Quality Control (DFTQC) proposed a new food safety Act. Existing texts are no longer aligned with international standards.

The new federalism structure and organisation led to the lack of clarity in chain of command at DLS side.

The Animal health and livestock services act and the meat inspection act date from 1999 and other regulatory text are not yet proposed for revision since the new Constitution.

There is only one legal officer in the DLS. However, it is not sufficient to propose adequate formulation of legislation amendments to take into consideration the global trends in VS improvement.

Designation as reference laboratories is made on ministerial decision but not on a regulatory adopted high-level text such as Regulation.

Finally, procedure for regulatory texts adoption seems to be long.

In another perspective view, the NVC have an up-to-date comprehensive regulatory framework adopted.

In contrast to WOAH guidelines, a new statutory body independent of NVC is on the card, which intends to regulate livestock technicians in veterinary service without ensuring supervision by registered veterinarians.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Draft proposals for Infectious Animal Disease Control Act and Food Safety Quality Act which take into account international standards are prepared for adoption.

Strengths:

- A comprehensive regulatory framework is in place but not up to date.
- A satisfactory procedure for adoption of new texts or amendments exists but sometimes is longer than expected.
- NVC and livestock technicians demonstrate the possibility for acceptable delay in regulatory texts adoption

Weaknesses:

- Constraints in the legislative acts adoption procedure hinder international harmonization
- Limited resources to engage in advocacy for text amendment and/or adoption
- Limited participation of stakeholders in the discussion for new texts or amendments of existing one

Recommendations:

- Engage in the preparation of plaidoyers to support requests for amendments to regulatory texts
- Use strategic trends such the “One Health approach” to enhance awareness of politics for international harmonisation
- Formalize PPP and involve the beneficiaries and stakeholders in the discussions and proposals to be submitted for amendment.
- Adopt risk-based food safety and quality control system and promote further education and capacity building
- Request a WOAH PVS legislation identification mission and update of implementation of strategic sectors project.

Evidence (as listed in Appendix 6):

E-39, E-41, E-42, E-43, E-44, E-49, E-50, E-51, E-52, E-53, E-54, E-76, E-91, E-92, P-11,

IV-3. INTERNATIONAL CERTIFICATION

DEFINITION
The authority and capability of the VS to reliably certify *animals* and animal products, and related services and processes under their mandate, for export, in accordance with national *veterinary legislation*, international standards and importing country requirements. This refers to the country's veterinary export certification processes. Issues such as: the legislative basis, format and content of veterinary certificates; who signs certificates and the confidence they have in what they are certifying; and the outcome in terms of meeting international standards and/or importing country requirements to facilitate exportation should all be considered.
LEVELS OF ADVANCEMENT – 2
1. The VS have neither the authority nor the capability to certify *animals* and animal products for export.
2. The VS have the authority to certify certain *animals* and animal products for export, but are not always in compliance with national *veterinary legislation*, and international standards.
3. The VS develop and carry out certification for certain *animals*, animal products, services and processes for export under their mandate in compliance with international standards.
4. The VS develop and carry out all relevant certification programmes for all *animals*, animal products, services and processes for export under their mandate in compliance with international standards.
5. *The* VS carry out audits of their certification programmes, in order to maintain national and international confidence in their system.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	2
PVS Gap Analysis in 2011.:	3

Findings:

The Animal Quarantine Division (AQD) within the DLS, along with the Veterinary Standards and Drug Regulatory Laboratory (VSDRL) the National Animal Feed and Livestock Quality Management Laboratory (NAFLQML) and the Department of Customs, are the principal entities in Nepal responsible for certification related to the control of live animals/animal by-products and other items for import/export in Nepal.

The provisions for certification are mainly included in the Animal Health and Livestock Service Act 1998 and the Animal Health and Livestock service Regulation 1999. AQD also refers to Animal Transportation Standard 2007, Animal Welfare Directive 2016, WTO – SPS Measures and Technical Barriers to Trade and WOAH – TAHC.

Main export items are dog chew (Chhurpi), wet blue chrome tanned buffalo leather, wool carpet and buffalo meat. The International Animal Health/Veterinary Certificate and Sanitary Certificate for import and export for live animals, animal products, animal genetic materials, and biologicals are issued by DLS.

The DLS uses the Nepal National Single Window (NNSW) platform which aims at simplifying and speeding up border clearance and trade processes for both traders and Government authorities, in an online environment which allows all trade transactions to be processed through a single interface.

The NNSW could also assist in the certification process and prevent scenarios like the issuance of multiple conflicting certificates or fraudulent actions. However, currently the system is only used for import purposes by DLS and not for exports.

As the main purpose of the NNSW is related to trade, it is not currently linked to other IT workflow management systems including inspection tracking, sample tracking, etc. Although DLS did not favour integration of workflow management systems (i.e., LIMS).

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- None identified.

Strengths:

- DLS is the national authority for certification of animal commodities regardless of the new administrative organisation under the latest Constitution. For international certification a single and clear chain of command is in place.
- DLS has the authority and some procedure for international certification in place.
- NNSW is an opportunity to improve the certification procedure.

Weaknesses:

- NNSW not linked to other Information systems like LIMS
- Limited budget and resources

Recommendations:

- Ensure all the international certificates are issued in line with the WOAH TAHC (chapter 5.2) Certification procedures.
- Extend the NNSW for export purposes
- Interact with interested parties around the possible integration with other technical IT systems
- Request the integration of other technical IT systems with NNSW that would help the control process at customs.

Evidence (as listed in Appendix 6):

E-7, E-8, E-29, E-30, E-31, E-32, E-33, E-35, E-50, E-102; E-107, P-25, P-45, P-46,

IV-4. EQUIVALENCE AND OTHER TYPES OF SANITARY AGREEMENTS

DEFINITION
The authority and capability of the VS to apply flexibility in negotiating, implementing and maintaining equivalence and other types of sanitary agreements with trading partners. As a reference, Article 4 of the WTO SPS Agreement states: Member Countries shall accept the sanitary or phytosanitary measures of other Member Countrie as equivalent, even if these measures differ from their own or from those used by other Members trading in the same product, if the exporting Member Country objectively demonstrates to the importing Member Country that its measures achieve the importing Member Country's appropriate level of sanitary or phytosanitary protection. For this purpose, reasonable access shall be given, upon request, to the importing Member Country for inspection, testing and other relevant procedures.
LEVELS OF ADVANCEMENT - 2
1. The VS have neither the authority nor the capability to negotiate or approve equivalence or other types of sanitary agreements with other countries.
2. The VS have the authority to negotiate and approve equivalence and other types of sanitary agreements with trading partners, but no such agreements have been implemented.
3. The VS have implemented equivalence and other types of sanitary agreements with trading partners on selected *animals*, animal products and processes.
4. The VS actively pursue the development, implementation and maintenance of equivalence and other types of sanitary agreements with trading partners on matters relevant to *animals*, animal products and processes under their mandate. They publish their existing sanitary agreeements in the public domain.
5. The VS actively work with stakeholders and take into account developments in international standards, in pursuing equivalence and other types of sanitary agreements with trading partners.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	1
PVS Gap Analysis in 2011.:	2

Findings:

A Risk Analysis Committee (RAC) is in place at AQD within the DLS. Several risk assessments had led to a positive list of countries for imported commodities. Accordingly, Nepal has the capabilities to discuss equivalence or other types of sanitary agreements which is especially important with countries sharing terrestrial borders (eg. India, China). Unfortunately, currently this never took place for financial reasons.

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Risk Analysis Section has been established within the Animal Quarantine Division and Risk Analysis Committee (RAC) has been formed by the Department of Livestock Service (DLS)

Strengths:

- Functional RAC in place
- Regulatory framework in place

Weaknesses:

- Lack of documented procedure for sanitary agreements or equivalence

- Limited budget available

Recommendations:

- Document the procedure for equivalence implementation
- Improve communication with the stakeholders to raise awareness regarding trade facilitation procedures supported by advocacy to implement equivalence procedures and mechanisms.

Evidence (as listed in Appendix 6):

E-7, E-8, E-25, E-50,

IV-5. TRANSPARENCY

DEFINITION
The authority and capability of the VS to notify WOAH, WTO, trading partners and other relevant organisations of its disease status, regulations and *sanitary measures* and systems, in accordance with established procedures, as applicable to international trade.
LEVELS OF ADVANCEMENT - 3
1. The VS do not notify.
2. The VS occasionally notify.
3. The VS notify in compliance with the procedures established by these organisations.
4. The VS regularly and actively inform stakeholders of changes in disease status, regulations and *sanitary measures* and systems, as applicable to international trade.
5. The VS, in cooperation with their stakeholders, carry out reviews or audits of their notification procedures.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	3
PVS Gap Analysis in 2011.:	4

Findings:

The DLS has the authority and regularly submits the WOAH Immediate Notifications (IN) with Follow-up Reports and Six-Monthly Reports. Average time elapsed from confirmation of event to submission of IN is 5 days. The DFTQC is the WTO SPS National Enquiry Point with responsibility to provide detailed information about the provisions related to SPS and to coordinate information collection and sharing with stakeholders. The DFTQC is also Codex Contact Point and INFOSAN Emergency Contact Point.

With the restructuring of the VS due to federalization of the country, and lost direct vertical subordination within the VS, came challenges in reporting system from the field level to the central authorities. There is a need to develop effective coordination mechanisms to ensure notification obligations are done in compliance with the procedures established by the referent organizations.

***Key Changes from 2008 to 2023** (year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Federalization of the country and establishment of provincial and local governments VS.

Strengths:

- Defined Competent Authorities (CA) with responsibilities to notify to relevant international organizations (WOAH, WTO, Codex Alimentarius)
- CA have official web sites and publish some relevant information on international trade.

Weaknesses:

- Weaknesses in reporting mechanisms can affect the transparency of the VS in notification procedures.
- Interviews with stakeholders and some provincial and local authorities indicated their need for more information regarding international trade.

Recommendations:

- Strengthen reporting mechanisms from the local to federal level to ensure all the information and data relevant for reporting are collected in timely manner.
- Strengthen communication with stakeholders to actively inform them of all relevant information as applicable to international trade (eg. changes in disease status, regulations and sanitary measures and systems).

Evidence (as listed in Appendix 6):

E-105, E-106,

IV-6. ZONING

DEFINITION
The authority and capability of the VS to establish and maintain disease free *zones*, as necessary and in accordance with the criteria established by WOAH (and by the WTO SPS Agreement where applicable). Where a country has no need for or interest in developing disease free zones and has not initiated such a process, this critical competency should be assessed as 'Non-Applicable' (N/A).
LEVELS OF ADVANCEMENT - 2
1. The VS do not have the authority or capability to initiate the establishment of disease free *zones*.
2. The VS have identified a geographical animal sub-population or sub-populations as candidates to target a specific health status suitable for zoning.
3. The VS are implementing *biosecurity* and *sanitary measures* with the intention of establishing a disease free *zone* for selected *animals* and animal products.
4. The VS have established at least one disease free *zone* of selected *animals* and animal products with collaboration from producers and other stakeholders in alignment with WOAH standards.
5. The VS can demonstrate the scientific basis for any disease free *zone* and have gained recognition by WOAH and/or trading partners that they meet the criteria established by WOAH (and by the WTO SPS Agreement where applicable).

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	1
PVS Gap Analysis in 2011.:	2

Findings:

The DLS has developed and adopted Zoning and Compartmentalization Directives (2021), based on WOAH TAHC recommendations on the principles of zoning and compartmentalisation. At the time of the PVS mission, no sub-populations have been identified, but the one of the provinces (Koshi) has expressed interest to establish FMD free zone with vaccination for the purpose of export of dairy products and started consultation process with the DLS. Although initiated by the provincial authorities, the final authority over the zone or compartment, for the purposes of domestic and international trade, lies with the DLS.

Zoning and Compartmentalization Directives define the procedure for establishment of a free zone and responsibilities of the Competent Authorities and stakeholders in that process. According to the Directives, the DLS, in collaboration with the relevant agencies of the provincial government conduct an on-site technical study based on the possibility for international trade. This study includes the epidemiology of the disease, including the presence and role of vectors and susceptible wildlife and environmental factors, animal production systems and application of biosecurity and sanitary measures, including movement control.

Key Changes from 2008 to 2023*(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Development and adoption of the Zooning and Compartmentalization Directives

Strengths:

- The DLS has developed and adopted the Zoning and Compartmentalization Directives

Weaknesses:

- There is no animal identification and registration system established in the country and movement control is insufficient.

Recommendations:

- In collaboration with provincial authorities and provincial VS interested in establishing FMD free zone with vaccination, conduct feasibility study and assessment of the resources needed and available to establish and maintain a disease-free zone and then, if relevant, develop strategy for the establishment of disease-free zone.

Evidence (as listed in Appendix 6):

E-93,

IV-7. COMPARTMENTALISATION

DEFINITION
The authority and capability of the VS to establish and maintain disease free compartments in accordance with the criteria established by WOAH. Where a country or its relevant animal industries have no need for or interest in developing disease free compartments and neither party has initiated or considered such a process or partnership, this critical competency should be assessed as 'Non-Applicable' (N/A)
LEVELS OF ADVANCEMENT - 2
1. The VS do not have the authority or capability to initiate the establishment of disease free *compartments*.
2. The VS can identify animal sub-populations as candidate establishments with a specific health status suitable for compartmentalisation, in partnership with interested stakeholders.
3. The VS, working in close partnership with interested stakeholders, ensure that planned *biosecurity* measures to be implemented will enable the establishment and maintenance of disease free *compartments* for selected *animal*s and animal products.
4. The VS collaborate with producers and other stakeholders to define responsibilities and undertake actions that enable the establishment and maintenance of disease free *compartments* for selected *animals* and animal products, including a national government certification and accreditation system.
5. The VS can demonstrate the scientific basis for disease free *compartments* and have gained recognition by other countries that they meet the criteria established by WOAH (and by the WTO SPS Agreement where applicable).

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

PVS Evaluation in 2008. Level of advancement assessed at:	1
PVS Gap Analysis in 2011.:	2

Findings:

As already mentioned under the CC IV-6, the DLS has developed and adopted Zoning and Compartmentalization Directives (2021) which define the procedure for establishment of free zone and responsibilities of the Competent Authorities and stakeholders in that process. Currently, no party has initiated or considered such a process or partnership,

Key Changes from 2008 to 2023 *(year of last PVS Evaluation/Follow-up mission) to (year of current mission):*

- Development and adoption of the Zooning and Compartmentalization Directives

Strengths:

- The DLS has developed and adopted the Zoning and Compartmentalization Directives

Weaknesses:

- Lack of traceability due to lack of animal identification and farm registration

Recommendations:

- Encourage stakeholders' participation to define new markets
- Implement traceability for animals and animal products

Evidence (as listed in Appendix 6): E-93, P-19, P-23.

PART IV: APPENDICES

Appendix 1: Terrestrial Code references for Critical Competencies

Critical Competencies	Terrestrial Code references
I-1.A **I-1.B** **I-2.A** **I-2.B**	➢ Points 1-5 of Article 3.1.2. on Fundamental principles of quality: Professional judgement/Independence/Impartiality/Integrity/Objectivity. ➢ Points 7 and 14 of Article 3.1.2. on Fundamental principles of quality: General organisation/Human and financial resources. ➢ Article 3.2.5. on Evaluation criteria for human resources. ➢ Article 3.2.12. on Evaluation of the veterinary statutory body. ➢ Points 1-2 and 5 of Article 3.2.14. on Organisation and structure of Veterinary Services/National information on human resources/Laboratory services.
I-3	➢ Points 1, 7 and 14 of Article 3.1.2. on Fundamental principles of quality: Professional judgement/General organisation/Human and financial resources. ➢ Article 3.2.5. on Evaluation criteria for human resources. ➢ Sub-point d) of Point 4 of Article 3.2.10. on Veterinary Services administration: In-service training and development programme for staff. ➢ Point 10 of Article 3.2.14. on Performance assessment and audit programmes.
I-4	➢ Point 2 of Article 3.1.2. on Fundamental principles of quality: Independence.
I-5	➢ Point 1 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services. ➢ Point 10 of Article 3.2.14. on Performance assessment and audit programmes.
I-6.A **I-6.B**	➢ Points 6, 7 and 9 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation/General organisation/Procedures and standards. ➢ Article 3.2.2. on Scope. ➢ Points 1 and 2 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services. ➢ Point 4 of Article 3.2.10. on Performance assessment and audit programmes: Veterinary Services administration.
I-7	➢ Point 2 of Article 3.2.4. on Evaluation criteria for quality system: “Where the Veterinary Services undergoing evaluation… than on the resource and infrastructural components of the services”. ➢ Points 2 and 3 of Article 3.2.6. on Evaluation criteria for material resources: Administrative / Technical. ➢ Point 3 of Article 3.2.10. on Performance assessment and audit programmes: Compliance. ➢ Point 4 of Article 3.2.14. on Administration details.
I-8 **I-9**	➢ Points 6 and 14 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation / Human and financial resources. ➢ Point 1 of Article 3.2.6. on Evaluation criteria for material resources: Financial. ➢ Point 3 of Article 3.2.14. on Financial management information.
II-1.A **II-1.B** **II-1.C**	➢ Point 9 of Article 3.1.2. on Fundamental principles of quality: Procedures and standards. ➢ Point 1 of Article 3.2.4. on Evaluation criteria for quality systems. ➢ Point 3 of Article 3.2.6. on Evaluation criteria for material resources: Technical. ➢ Point 5 of Article 3.2.14. on Laboratory services.
II-2	➢ Chapter 2.1. on Import risk analysis ➢ Chapter 6.11. on Risk analysis for antimicrobial resistance arising from the use of antimicrobial agents in animals
II-3	➢ Points 6 and 9 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation / Procedures and standards. ➢ Point 2 of Article 3.2.7. on Legislation and functional capabilities: Export/import inspection. ➢ Points 7 and 8 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities / Animal health and veterinary public health controls.

II-4.A **II-4.B**	➢ Points 6, 7 and 9 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation / General organisation / Procedures and standards. ➢ Points 1-3 of Article 3.2.8. on Animal health controls: Animal health status / Animal health control / National animal disease reporting systems. ➢ Sub-points a) i), ii) and iii) of Point 8 of Article 3.2.14. on Animal health: Description of and sample data from any national animal disease reporting system controlled and operated or coordinated by the Veterinary Services / Description of and sample reference data from other national animal disease reporting systems controlled and operated by other organisations which make data and results available to Veterinary Services / Description and relevant data of current official control programmes including:… or eradication programmes for specific diseases. ➢ Chapter 1.4. on Animal health surveillance. ➢ Chapter 1.5. on Surveillance for arthropod vectors of animal diseases.
II-5	➢ Points 6, 7 and 9 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation / General organisation / Procedures and standards. ➢ Points 1-3 of Article 3.2.8. on Animal health controls: Animal health status / Animal health control / National animal disease reporting systems. ➢ Sub-point a) of Point 8 of Article 3.2.14. on Animal health, animal welfare and veterinary public health controls: Animal health.
II-6	➢ Points 6, 7 and 9 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation / General organisation / Procedures and standards. ➢ Points 1-3 of Article 3.2.8. on Animal health controls: Animal health status / Animal health control / National animal disease reporting systems. ➢ Sub-point a) of Point 8 of Article 3.2.14. on Animal health, animal welfare and veterinary public health controls: Animal health. ➢ Chapter 4.12. on Disposal of dead animal.
II-7.A **II-7.B**	➢ Points 6, 7 and 9 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation / General organisation / Procedures and standards. ➢ Article 3.4.12. on Human food production chain. ➢ Points 1-5 of Article 3.2.9. on Veterinary public health controls: Food hygiene / Zoonoses / Chemical residue testing programmes / Veterinary medicines/ Integration between animal health controls and veterinary public health. ➢ Points 2, 7 and 8 of Article 3.2.14. on National information on human resources / Veterinary legislation, regulations and functional capabilities / Animal health and veterinary public health controls. ➢ Chapter 6.2. on Control of biological hazards of animal health and public health importance through ante- and post-mortem meat inspection. ➢ Chapter 6.3. on Control of biological hazards of animal health and public health importance through ante- and post-mortem meat inspection. References to Codex Alimentarius Commission standards: ➢ Code of Hygienic practice for meat (CAC/RCP 58-2005). ➢ Code of Hygienic practice for milk and milk products (CAC/RCP/ 57-2004). ➢ General Principles of Food Hygiene (CAC/RCP 1-1969; amended 1999. Revisions 1997 and 2003).
II-8	➢ Points 6 and 9 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation/Procedures and standards. ➢ Points 3 and 4 of Article 3.2.9. on Veterinary public health controls: Chemical residue testing programmes/Veterinary medicines. ➢ Sub-point a) ii) of Point 7 of Article 3.2.14. on Animal health and animal welfare and veterinary public health: Assessment of ability of Veterinary Services to enforce legislation.
II-9	➢ Chapter 6.7. on Introduction to the recommendations for controlling antimicrobial resistance ➢ Chapter 6.8. on Harmonisation of national antimicrobial resistance surveillance and monitoring programmes ➢ Chapter 6.9. on Monitoring of the quantities and usage patterns of antimicrobial agents used in food-producing animals

	➢ Chapter 6.10. on Responsible and prudent use of antimicrobial agents in veterinary medicine ➢ Chapter 6.11. on Risk analysis for antimicrobial resistance arising from the use of antimicrobial agents in animals References to Codex Alimentarius Commission standards: ➢ Guidelines for Risk Analysis of Foodborne Antimicrobial Resistance (CAC/GL 77-2011) ➢ Code of Practice to Minimize and Contain Antimicrobial Resistance (CAC/RCP 61-2005).
II-10	➢ Points 3 and 4 of Article 3.2.9. on Veterinary public health controls: Chemical residue testing programmes / Veterinary medicines. ➢ Sub-points b) iii) and iv) of Point 8 of Article 3.2.14. on Veterinary public health: Chemical residue testing programmes / Veterinary medicines. ➢ Chapter 2.2 – Criteria applied by the WOAH for assessing the safety of commodities. References to Codex Alimentarius Commission standards: ➢ Guidelines for the Design and Implementation of National Regulatory Food Safety Assurance Programmes Associated with the Use of Veterinary Drugs in Food Producing Animals (CAC/GL 71-2009) ➢ Glossary of Terms and Definitions (Residues of Veterinary Drugs in Foods) (CAC/MISC 5-1993) ➢ Maximum Residue Limits (MRLs) and Risk Management Recommendations (RMRs) for Residues of Veterinary Drugs in Foods (CAC/MRL 2) ➢ Code of Practice to Minimize and Contain Antimicrobial Resistance (CAC/RCP 61-2005) ➢ General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193-1995) ➢ Code of Practice Concerning Source Directed Measures to Reduce Contamination of Foods with Chemicals (CAC/RCP 49-2001) ➢ Guidelines for Risk Analysis of Foodborne Antimicrobial Resistance (CAC/GL 77-2011). ➢ Code of Practice to Minimize and Contain Antimicrobial Resistance (CAC/RCP 61-2005).
II-11	➢ Chapter 6.4. on Control of hazards of animal health and public health importance in animal feed. ➢ Chapter 6.10.8 – Responsibilities of animal feed manufacturers
II-12.A **II-12.B**	➢ Point 6 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation. ➢ Chapter 4.1. on General principles on identification and traceability of live animals. ➢ Chapter 4.2. on Design and implementation of identification systems to achieve animal traceability.
II-13	➢ Section 7 on Animal Welfare ➢ Chapters 7.2., 7.3., 7.4. 7.5., 7.6., 7.9., 7.10., 7.11 and 7.13. on farm animal welfare (including humane on farm, transport and slaughter conditions). ➢ Chapter 7.8. on Use of animals in research and education. ➢ Chapter 7.7. on Stray dog population control. ➢ Chapter 7.12. on Welfare of working equids.
III-1	➢ Point 13 of Article 3.1.2. on Fundamental principles of quality: Communication. ➢ Sub-point b) of Point 2 of Article 3.2.6. on Administrative resources: Communications. ➢ Point 4 of Article 3.2.14. on Administration details. ➢ Chapter 3.3. on Communication.
III-2	➢ Point 13 of Article 3.1.2. on Fundamental principles of quality: Communication. ➢ Point 2 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services. ➢ Point 4 and Sub-point g) of Point 10 of Article 3.2.14. on Administration details and on Sources of independent scientific expertise.

	➢ Chapter 3.3. on Communication.
III-3	➢ Article 3.2.11. on Participation on WOAH activities. ➢ Point 4 of Article 3.2.14. on Administration details.
III-4	➢ Points 6, 7 and 9 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation / General organisation / Procedures and standards. ➢ Point 7 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services. ➢ Article 3.4.5. on Competent Authorities.
III-5	➢ Point 6 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation. ➢ Point 9 of Article 3.2.1. on General considerations. ➢ Article 3.2.12. on Evaluation of the veterinary statutory body. ➢ Article 3.4.6. on Veterinarians and veterinary para-professionals.
III-6	➢ Points 6 and 13 of Article 3.1.2. Fundamental principles of quality: Veterinary legislation / Communication. ➢ Points 2 and 7 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services. ➢ Point 8 of Article 3.2.14. on Animal health, animal welfare and veterinary public health controls. ➢ Point 4 of Article 3.4.3. on General principles: Consultation.
III-7	➢ Chapter 1.4. on Animal health surveillance. ➢ Chapter 1.5. on Surveillance for arthropod vectors of animal diseases. ➢ Points 6, 7 and 9 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation/Procedures and standards. ➢ Points 1-3 of Article 3.2.8. on Animal health controls: Animal health status/Animal health control/National animal disease reporting systems. ➢ Points 4 of Article 3.2.9. on Veterinary public health controls: Veterinary medicines.
IV-1.A **IV-1.B**	➢ Points 6, 7 and 9 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation / General organisation / Procedures and standards. ➢ Points 1 and 2 of Article 3.2.7. on Legislation and functional capabilities: Animal health, animal welfare and veterinary public health / Export/import inspection. ➢ Point 7 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities. ➢ Chapter 3.4. on Veterinary legislation, specifically articles 3.4.3 and 3.4.4
IV-2	➢ Point 6 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation. ➢ Article 3.2.11. on Participation in WOAH activities. ➢ Points 7 and 11 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities/Membership of the WOAH.
IV-3	➢ Points 6, 7 and 9 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation/General organisation/Procedures and standards. ➢ Point 2 of Article 3.2.7. on Legislation and functional capabilities: Export/import inspection. ➢ Sub-point b) of Point 7 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities: Export/import inspection. ➢ Chapter 5.2. on Certification procedures. ➢ Chapters 5.10. to 5.13. on Model international veterinary certificates.
IV-4	➢ Points 6 and 7 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation/General organisation. ➢ Sub-point g) of Point 4 of Article 3.2.10. on Veterinary Services administration: Trade performance history. ➢ Chapter 5.3. on WOAH procedures relevant to the Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization.
IV-5	➢ Point 6 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation. ➢ Points 1 and 3 of Article 3.2.8. on Animal health controls: Animal health status/National animal disease reporting systems.

	➢ Chapter 5.1. on General obligations related to certification.
IV-6	➢ Point 6 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation. ➢ Chapter 4.3. on Zoning and compartmentalisation.
IV-7	➢ Point 6 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation. ➢ Chapter 4.3. on Zoning and compartmentalisation. ➢ Chapter 4.4. on Application of compartmentalisation.

Appendix 2: Glossary of terms

Terms defined in the Terrestrial Code that are used in this publication are reprinted here for ease of reference.

Animal

means a mammal, reptile, bird or bee.

Animal identification

means the combination of the identification and *registration* of an *animal* individually, with a unique identifier, or collectively by its *epidemiological unit* or group, with a unique group identifier.

Animal identification system

means the inclusion and linking of components such as identification of *establishments* or owners, the person(s) responsible for the *animal(s),* movements and other records with *animal identification.*

Animal Traceability

means the ability to follow an *animal* or group of *animals* during all stages of its life.

Animal welfare

means the physical and mental state of an *animal* in relation to the conditions in which it lives and dies.

Antimicrobial agent

means a naturally occurring, semi-synthetic or synthetic substance that exhibits antimicrobial activity (kill or inhibit the growth of micro-organisms) at concentrations attainable in vivo. Anthelmintics and substances classed as disinfectants or antiseptics are excluded from this definition

Biosecurity

means a set of management and physical measures designed to reduce the risk of introduction, establishment and spread of animal diseases, infections or infestations to, from and within an animal population.

Border Post

means any airport, or any port, railway station or road check-point open to *international trade* of *commodities*, where import veterinary inspections can be performed.

Case

means an individual animal infected by a pathogenic agent, with or without clinical signs

Compartment

means an animal *subpopulation* contained in one or more *establishments* under a common *biosecurity* management system with a distinct health status with respect to a specific *disease* or specific *diseases* for which required *surveillance*, control and *biosecurity* measures have been applied for the purposes of *international trade.*

Competent Authority

means the *Veterinary Authority* or other Governmental Authority of a Member, having the responsibility and competence for ensuring or supervising the implementation of animal health and welfare measures, international veterinary certification and other standards and recommendations in the *Terrestrial Code* and the WOAH *Aquatic Animal Health Code* in the whole territory.

Containment Zone

means a defined *zone* around and including suspected or infected *establishments*, taking into account the epidemiological factors and results of investigations, where control measures to prevent the spread of the *infection* are applied.

Disease

means the clinical and/or pathological manifestation of *infection.*

Emerging disease

means a new occurrence in an animal of a disease, infection or infestation, causing a significant impact on animal or public health resulting from:

a. change of a known pathogenic agent or its spread to a new geographic area or species; or

b. previously unrecognised pathogenic agent or disease diagnosed for the first time.

Epidemiological Unit

means a group of *animals* with a defined epidemiological relationship that share approximately the same likelihood of exposure to a pathogenic agent. This may be because they share a common environment (e.g. *animals* in a pen), or because of common management practices. Usually, this is a *herd* or a *flock*. However, an *epidemiological unit* may also refer to groups such as *animals* belonging to residents of a village, or *animals* sharing a communal animal handling facility. The epidemiological relationship may differ from *disease* to *disease*, or even strain to strain of the pathogenic agent.

Establishment

means the premises in which *animals* are kept.

Feed

means any material (single or multiple), whether processed, semi-processed or raw, which is intended to be fed directly to terrestrial *animals* (except bees).

Hazard

means a biological, chemical or physical agent in, or condition of, an animal or animal product with the potential to cause an adverse health effect

International veterinary certificate

means a certificate, issued in conformity with the provisions of Chapter 5.2. of the *Terrestrial Animal Health Code*, describing the animal health and/or *public* health requirements which are fulfilled by the exported *commodities.*

Laboratory

means a properly equipped institution staffed by technically competent personnel under the control of a specialist in veterinary diagnostic methods, who is responsible for the validity of the results. The *Veterinary Authority* approves and monitors such laboratories with regard to the diagnostic tests required for *international trade.*

Meat

means all edible parts of an *animal*.

Monitoring

means the intermittent performance and analysis of routine measurements and observations, aimed at detecting changes in the environment or health status of a *population.*

Notifiable disease

means a *disease* listed by the *Veterinary Authority,* and that, as soon as detected or suspected, must be brought to the attention of this *Authority*, in accordance with national regulations.

Official Veterinarian

means a *veterinarian* authorised by the *Veterinary Authority* of the country to perform certain designated official tasks associated with animal health and/or public health and inspections of *commodities* and, when appropriate, to certify in conformity with the provisions of Chapters 5.1. and 5.2. of the *Terrestrial Code.*

Outbreak

means the occurrence of one or more cases in an epidemiological unit.

Risk analysis

means the process composed of *hazard identification*, *risk assessment*, *risk management* and *risk communication.*

Risk assessment

means the evaluation of the likelihood and the biological and economic consequences of entry, *establishment* and spread of a *hazard* within the territory of an *importing country*.

Risk communication

Means the interactive transmission and exchange of information and opinions throughout the risk analysis process concerning risk, risk-related factors and risk perceptions and risk assessors, risk managers, risk communicators, the general public and interested parties.

Risk management

means the process of identifying, selecting and implementing measures that can be applied to reduce the level of *risk*.

Sanitary measure

means a measure, such as those described in various Chapters of the *Terrestrial Code*, destined to protect animal or human health or life within the territory of the WOAH Member from *risks* arising from the entry, *establishment* and/or spread of a *hazard*.

Surveillance

means the systematic ongoing collection, collation, and analysis of information related to animal health and the timely dissemination of information so that action can be taken.***Terrestrial Code***

means the WOAH *Terrestrial Animal Health Code.*

Veterinarian

means a person with appropriate education, registered or licensed by the relevant *veterinary statutory body* of a country to practice veterinary medicine/science in that country.

Veterinary Authority

means the Governmental Authority of a Member Country, comprising veterinarians, other professionals and paraprofessionals, having the responsibility and competence for ensuring or supervising the implementation of the animal health and welfare measures, international veterinary certification and other standards and recommendations in the Terrestrial Code in the whole territory.

(Veterinary) legislation

means laws, regulations and all associated legal instruments that pertain to the veterinary domain.

Veterinary paraprofessional

means a person who, for the purposes of the *Terrestrial Code,* is authorised by the *veterinary statutory body* to carry out certain designated tasks (dependent upon the category of *veterinary paraprofessional)* in a territory, and delegated to them under the responsibility and direction of a *veterinarian.* The tasks for each category of *veterinary paraprofessional* should be defined by the *veterinary statutory body* depending on qualifications and training, and according to need.

Veterinary Services

means the governmental and non-governmental organisations that implement animal health and welfare measures and other standards and recommendations in the Terrestrial Code and the WOAH Aquatic Animal Health Code in the territory. The Veterinary Services are under the overall control and direction of the Veterinary Authority. Private sector organisations, veterinarians, veterinary paraprofessionals or aquatic animal health professionals are normally accredited or approved by the Veterinary Authority to deliver the delegated functions.

Veterinary statutory body

means an autonomous regulatory body for *veterinarians* and *veterinary paraprofessionals.*

Wildlife

means *feral animals*, *captive wild animals* and *wild animals*.

Zone

means a clearly defined part of a territory containing an animal subpopulation with a distinct health status with respect to a specific disease for which required surveillance, control and *biosecurity* measures have been applied for the purpose of international trade.

Appendix 3: Country information (geography, administration, agriculture and livestock)

Geography and physical features

Nepal is the 49th largest country by population and 93rd by area. The country is located in South Asia between 80°04′ and 88°12′ East longitude and 26° 22″ and 30° 22′ North latitude. Nepal is landlocked and shares borders with China to the north and India to the south, east, and west. (Enclosed between the Tibetan plateau and the Gangetic plains in the Central Himalayas)

Nepal's topography is characterized by extreme geographical diversity, ranging from the low-lying Terai plains in the south, which border India, to the towering Himalayan mountains, which include Mount Everest, the world's highest peak. Out of the total land area, Terai comprises only 23.1 percent, whereas the share of Mountain is 41.7 percent and Hill is 35.2 percent, respectively.

Nepal's topography includes rolling hills and deep valleys in between. Numerous rivers and lakes, including the sacred Ganges River, originate from its mountainous terrain. Nepal's geography also plays a significant role in its cultural and ethnic diversity, as different regions have their traditions and ways of life.

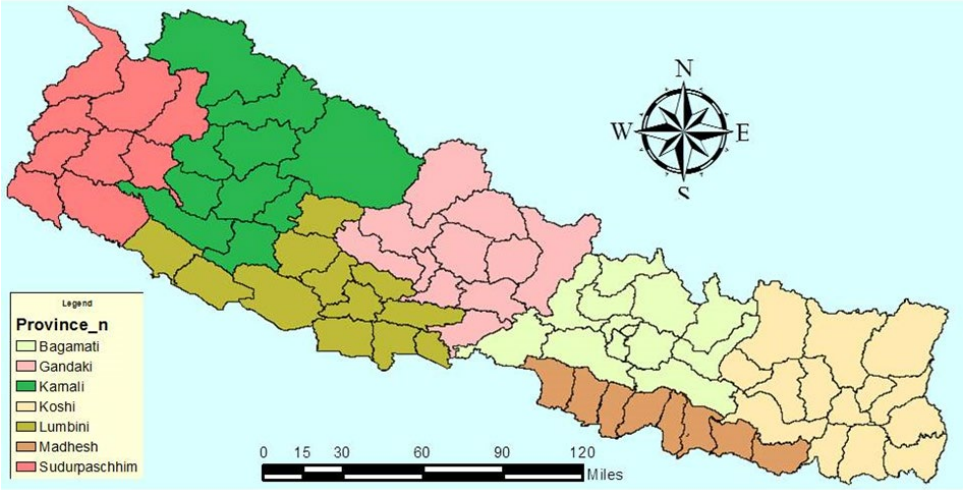
Map 1: Political and Administrative Map of Nepal

Administration

Nepal is a federal democratic republic. With the new constitution promulgated in September 2015, the Federal Government operates with seven autonomous provincial governments in Nepal (Viz. Koshi, Madhesh, Bagmati, Gandaki, Lumbini, Karnali, Sudoorpashchim). Each province is composed of 8 to 14 districts. The districts, in turn, comprise local units known as urban and rural municipalities. There are 77 districts and 753 local units (6 metropolitan cities,

11 sub-metropolitan cities, 276 municipalities, 460 sub-municipalities). Each local unit is composed of wards, the lowest administration level. There are 6743 wards within the country.

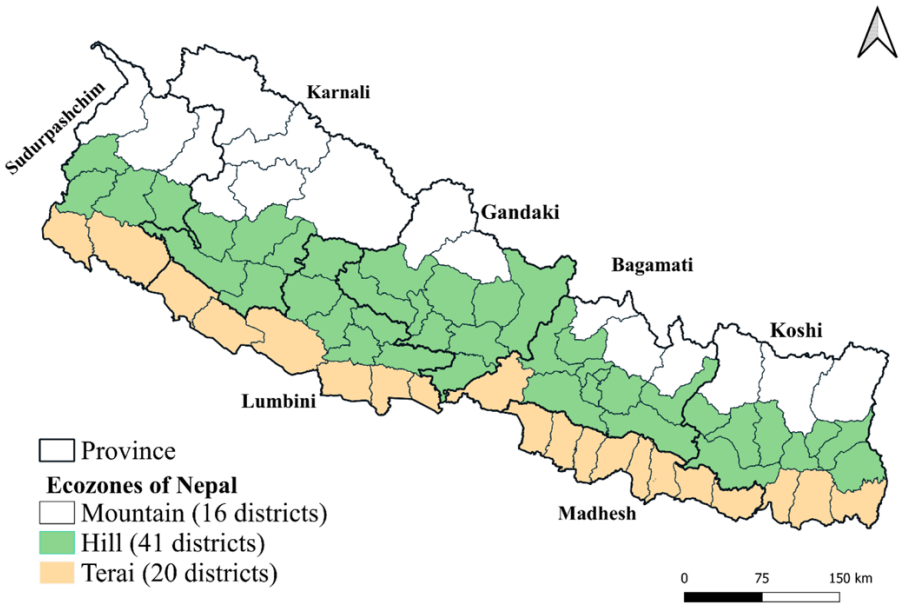
The country's governance is primarily decentralized, and provincial and local governments have powers to govern natural resources and agriculture. Section 28 (a) (3) of the Local Self Governance Act empowers the local self-government in Nepal to operate veterinary hospitals, as per necessity, to prevent and control animal diseases within the village development area, and to arrange for pasture areas, as required, for cattle grazing. [Nepal - Local Self-Governance Act 2055 (1999)]



Map 2: Administrative Divisions of Nepal

Climate

The country's geography greatly influences its climate, with distinct climatic zones ranging from subtropical in the south to alpine and arctic in the north. Nepal experiences a monsoon season from June to September, bringing heavy rainfall, especially in the southern plains and hilly areas. The country exhibits significant seasonal variations in temperature and precipitation, making it suitable for various flora and fauna.



Map 3 Different agro-ecological zones of Nepal

Agriculture and livestock

Approximately 66% of Nepal's population is directly engaged in agricultural activities. Of the population involved in agriculture, 70 percent keep livestock. Farming is mainly subsistent and integrated with livestock production (average landholding of 0.96 ha).

This diverse terrain significantly impacts the development of the agriculture and livestock sectors in the country. In the Terai plains, characterized by flat and fertile land, livestock farming primarily revolves around dairy production, poultry farming, and pig rearing. In the Hill region, which includes rolling hills and moderate elevations, mixed farming is prevalent, focusing on crop cultivation and small-scale animal husbandry, including goats and sheep. In contrast, the Mountain regions, with their steep terrain and limited pastureland, rely on traditional subsistence livestock practices, emphasizing yak herding and small numbers of cattle.

Nepal's commercial livestock sector is steadily expanding, focusing on commercial dairy farming, poultry production, and pig rearing, particularly in the Terai plains and some low-lying hill regions. The demand for livestock and livestock products, particularly milk and meat, has outstripped supply in Nepal, causing increasing reliance on imports.

Geographic features*	
Climatic and/or agroecological zones	**Rainfall (mm/year)**
Tropical	1000 to 2500
Sub-Tropical	1000 to 2500
Mild Temperate	1000 to 2500
Temperate	600 to 1500
Cold Zone	<1000
Trans-Himalayan and Rainshadow zone	<250
Source: Department of Hydrology and Meteorology (DHM) of Nepal	

Topography and lands**		
Type	**Km2**	**%**
Total area	147181	
Arable land	41210	28
Grass and Pasture lands	17660	12
Forest	42680	29
Wetlands	7435	5
Cold desert*	7000	4.74
Highlands (Mountains and Hill areas)	113182	76.9
Surface water	3830	2.6

*The cold desert region in Nepal is primarily located in the Mustang and Manang districts, which are part of the Trans-Himalayan region

Demographic data	
Human population Total number* (million)	29.164578
Average density/ Km^2	198*
Annual average population growth rate (2021)	0.92
Urban population (%) or percent population in urban municipalities	66.17
Rural population (%) Or population in rural municipalities	33.83
Economic (Real GDP Growth) (% in 2023) **	1.9
HDI (0-1), 2021 ***	0.602
Note. *Population density is highest at 460 in the Terai region and lowest at 34 in the mountain region. The density in the hill region is 192	

Economic data			
Indicator*	**Value**	**Year**	**Source**
Value added in the agricultural sector (Agriculture, Forestry, and Fishing) as % of GDP	21.1	2022	The World Bank
Agriculture, forestry, and fishing value added, billion USD. (At basic price)	8.599	2022	The World Bank
Livestock Sector contribution as % of agricultural GDP	27	2020-21	Livestock statistics of Nepal (2020/21), DLS
Livestock production index (2014-2016 = 100)*	142.2	2021	The World Bank

Source: National Population and Housing Census 2021, National Report, National Statistics Office, Government of Nepal

*** World Bank*

**** UNDP*

Livestock Population, Nepal		
Livestock Species	**Million (2008)**	**Million (2021-22)**
Cattle	7.17	7.413
Buffaloes	4.68	5.133
Sheep	0.80	0.771
Goats	8.47	13.991
Pigs	1.04	1.505
Fowl	24.48	66.803
Duck	0.38	0.606

Livestock Production (2021-22)	
Animal Commodity	**Units (Mt)**
Red meat (Buff, Mutton, Chevon and Pork)	307270
White meat (Chicken and Duck)	205519
Milk	2566614
Eggs	1330602
Wool	567412

Source: Statistical Information on Nepalese Agriculture, Ministry of Agriculture and Livestock Development (2023)

Note:

The total number (estimated, 2013) of Yak and Yak hybrids in Nepal is 65980, and the population is decreasing.

Veterinary Services – Organization

The Department of Livestock Services (DLS) is Nepal's Veterinary Services (VS) authority. The official Veterinary Services at the federal level is supported primarily by two divisions under DLS: Animal Diseases Investigation and Control Division (ADICD) and Animal Quarantine Division (AQD).

Federal laboratories directly supporting VS include the Central Veterinary Laboratory (CVL), - Foot & Mouth Disease & Other TADS Investigation Laboratory, National Vaccine Production Laboratory, Veterinary Standards and Drug Regulation Laboratory (VSDRL), National Avian Diagnostic and Investigation Laboratory (NADIL), and Veterinary Laboratories (VLs) located at Biratnagar, Janakpur, Pokhara, Surkhet and Dhangadi. Fig 1 and 2 show the organizational

network of CVL and the nationwide distribution of various laboratories under federal VS authorities.

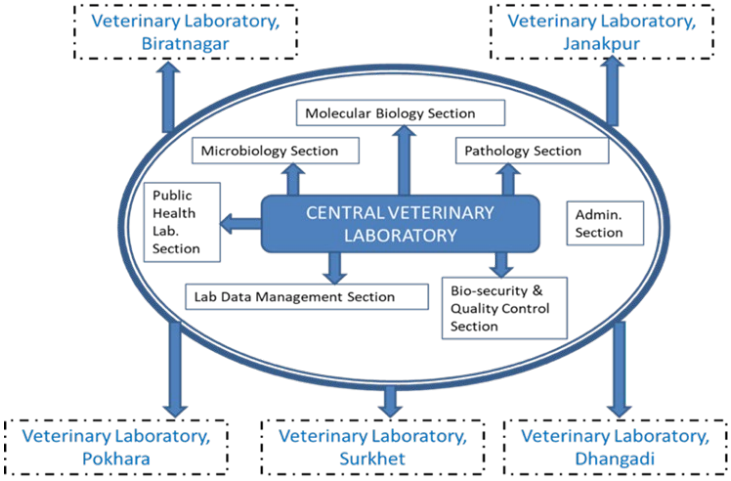
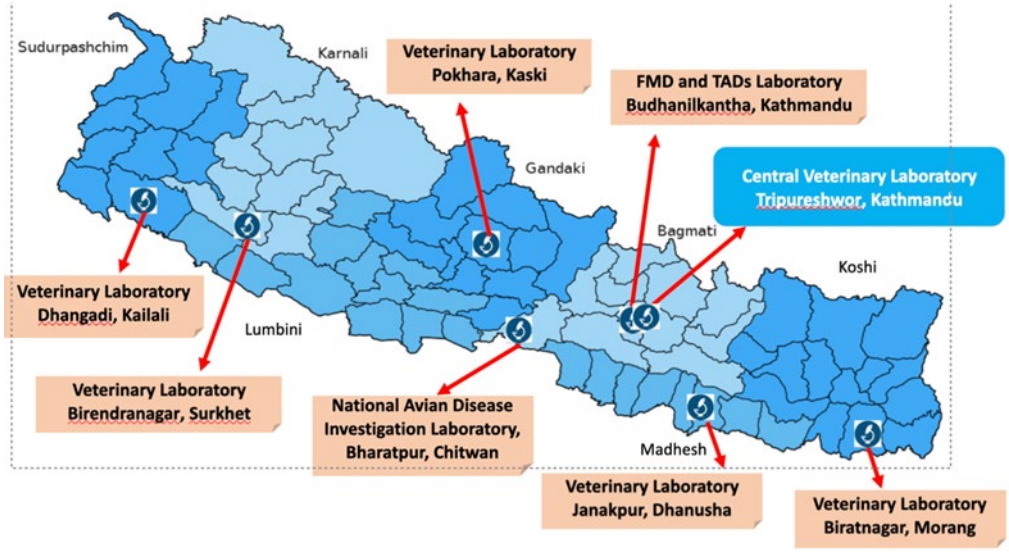


Figure 1 Organization of laboratories under Central Veterinary Laboratory (CVL)



Map 4 Nationwide distribution of laboratories under federal DLS

The Federal VS collaborates with seven provincial Directorates of Livestock and Fisheries Development to implement VS nationwide. Seventy-seven Veterinary Hospital and Livestock Services Expert Centres (VHLSEC) under the provincial Directorate of Livestock and Fisheries and 753 livestock service facilities at the local government level have the mandate to support the implementation of the national VS, in addition to their other responsibilities related to the clinical services provision, animal husbandry related support, and livestock extension.

Central Referral Veterinary Hospital under DLS supports VS in animal disease surveillance and rabies control programmes.

Picture 1 Department of Livestock Services Federal Office

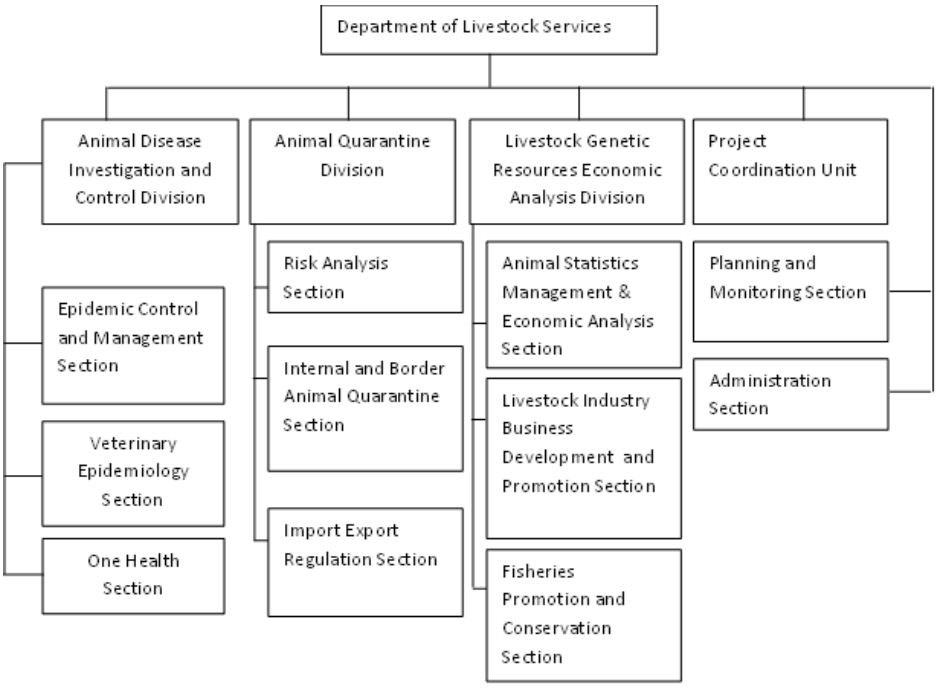


Figure 2 Organizational structure of the Federal Veterinary Authority in Nepal

The national VS also collaborates with the Department of Food Technology and Quality Control (DFTQC) to implement the VS mandate related to food safety of foods of animal origin. Similarly, it collaborates with the Department of National Parks and Wildlife Conservation (DNPWC) for disease reporting and surveillance related to wildlife.

For drug licensing and pharmacovigilance, the VS collaborates with the Department of Drug Administration (DDA) under the administrative control of the Ministry of Health and Populations (MoHP).

As per the Nepal Veterinary Council (NVC), the number of registered veterinarians (Public and Private) in Nepal as of 2023 is 1814, of which 239 have registered as specialist veterinarians. Fig 4 shows the distribution of registered veterinarians across various districts.

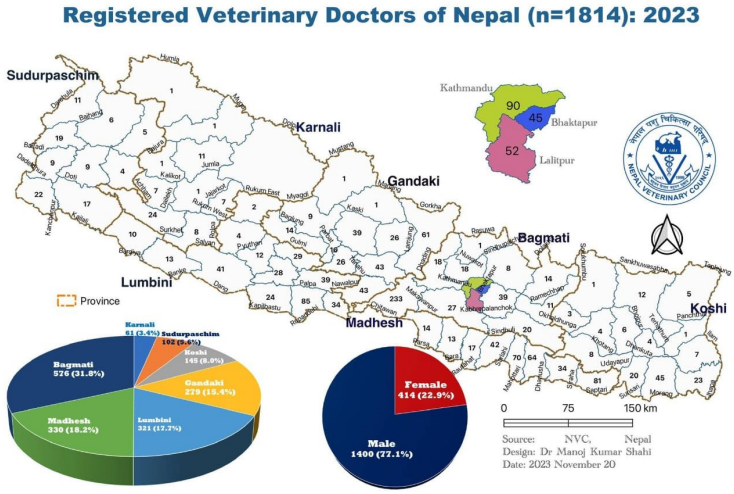


Figure 4 Distribution of registered Veterinarians (2023)

Private veterinarians and animal health technicians working in the field also play their part in implementing national VS. They are involved in treatment, vaccination, collection and dispatch of samples, and disease reporting.

Table 1: Professional staff strength of the Federal official VS (2023)

Animal disease investigation and control division	
Veterinarian	12 (2 vacant)
Livestock Technician	2
Animal Quarantine Division	
DDG (Class-I) + Sr Veterinary officer (Class-II)	12
Veterinary Officer (Class III)	37
Technician	56
Admin Staff	16

Table 2: VS Physical resources (2023)

Federal		Sub-national	
Type	**Number**	**Type**	**Number**
Federal Veterinary offices (including labs, quarantine offices, Farms, and the National Livestock Breedi	36	Provincial District Hospital Buildings	75

Driver	9	
Messenger	42	
Various Laboratories **		
CVO and Sr Veterinary Officer	11	
Veterinary Officer	30	
Technicians	39	
Administrative	31	
Driver	8	
Project Coordination Unit		
Technical Officer (Livestock / Veterinary and Fisheries)	8	
Total	**313**	

ng Office)			
Quarantine Check Post	28*	Provincial training centre	7
Training Centre (Federal)	1	Local Livestock Service units	753***
Four Wheelers	55	Four Wheelers	75 for Vet hospitals +7 for the Training centre
Motor bikes	241 + 28 for Quarantine check post +4 for Training Centre	Motorbikes	350 for local service units +35 for provincial training centres

**17 quarantine check post operates through rented buildings*

*** Excludes National Animal Feed and Livestock Quality Management Laboratory with total human resource of 20 persons and Veterinary Standards and Drug Regulatory Laboratory with total human resource strength of 12 (Technical) 5 (Administrative) personnel.*

****150 operate through separate dedicated building and remaining units operate through local government office buildings.*

Source: DLS, Nepal

Table 3 A: Financial resources available to the Veterinary Authority in Nepal in recent years						
Fiscal Year	**National Budget**	**Agriculture Federal Budget**	**Livestock Budget**			
			Federal (DLS+ NLSIP)	**Conditional grant to Provinces (National Vaccination Program)**	**Conditional grant to Local levels (Livestock development, AI, Farmers' training, animal health, disease control)**	**Total**
2021/22	16,47,57,67 (00000, NR)	32,31,37 (00000, NR)	6,71,46 (00000, NR)	9,69 (00000, NR)	87,95 (00000, NR)	7,69,10 (00000, NR)
	12356.8 Million USD	242.4 Million USD	50.4 Million USD	0.7 Million USD	6.6 Million USD	57.7 Million USD
2022/23	17,93,83,73 (00000, NR)	48,16,03 (00000, NR)	5,82,99 (00000, NR)	5,57.48 (00000, NR)	1,03,70 (00000, NR)	7,56,29 (00000, NR)
	13453.8 Million USD	361.2 Million USD	43.7 Million USD	0.4 Million USD	7.8 Million USD	56.7 Million USD
2023/24	17,51,31,21 (00000, NR)	50,59,11 (00000, NR)	2,95,16 (00000, NR)	3,60 (00000, NR)	75,68 (00000, NR)	3,74,44 (00000, NR)
	13134.8 Million USD	379.4 Million USD	22.1 Million USD	0.3 Million USD	5.7 Million USD	28.1 Million USD

NB: 1NRs=0.0075 USD
NLSIP: National Livestock Sector Innovation Project (The World Bank)
The representation does not include separate budget of provincial and local governments.
Source: DLS

Table 3 B: Percent budget allotment				
Fiscal Year	**Salaries**	**Operational activities**	**Insurance premium subsidy**	**Programme ***
2021/22	26%	12%	38%	24%
2022/23	25%	13%	26%	36%
2023/24	25%	13%	23%	39%
*Includes both animal health and production-related programs. Source: DLS				

Table 3 C: Budget of Federal Animal Health and Animal Quarantine				
Fiscal Year	**Budget allotment**	**Ratio of Capital: Recurring**	**Percent total federal livestock budget**	**Percent of total federal agriculture budget**
2021/22	969232 (000, NR) 7.3 Million USD	50:50	12.6	2.99
2022/23	1020952 (000, NR) 7.7 Million USD	50:50	13.5	2.11
2023/24	1075416 (000, NR) 8.1 Million USD	50:50	28.7	2.125
1NRs=0.0075 USD Source: DLS				

Table 4: Record of first disease emergence in Nepal

Disease	First Reported	Disease	First Reported
ASF	2022	PRRS	2021
Glanders	2021		
LSD	2020		
Avian Influenza	2009		
PPR	1995		
FMD	1975 (in Elephants)		

Important zoonotic diseases in Nepal:

Zoonotic Influenza
Rabies
Japanese encephalitis
Leptospirosis
Brucellosis
Salmonellosis
Leishmaniasis
Zoonotic tuberculosis
Toxoplasmosis
Taeniasis/cysticercosis /Neurocysticercosis
Hydatidosis

Table 5: Animal diseases found in Nepal

Livestock		Poultry
FMD	CSF	Avian influenza
BQ	ASF	Coccidiosis
HS	LSD	Fowl Pox
Lumpy Jaw	Mastitis	IBD
Babesiosis	Brucellosis	ND
Theileriosis	Fasciliasis	Salmonellosis
PPR	Bovine Tuberculosis	Colibacillosis
Enterotoxemia	Sheep and Goat Pox	Fowl typhoid
Anthrax	Glanders	
Bovine Viral Diarrhoea		

Source: Various published papers

Table 6: VS institutional linkages	
Federal Ministry / Autonomous Federal Organizations / Provincial Ministry / Local Government	Institutions
Ministry of Agriculture and Livestock Development (Federal)	Animal Genetic Resources and Economic Analysis Division of the Department of Livestock Services with sections like (1) Livestock Data Management and Economic Analysis section, (2) Livestock Industry Development and Promotion section, (3) Fisheries Promotion and Conservation section
	Other specific sister institutions under the Department of Livestock Services, viz. NAFLQML: National Animal Feed and Livestock Quality Management Laboratory, RFSL: Rhizobium and Forage Seed Laboratory, National Livestock Breeding Office, National Livestock Resource Management and Promotion Office, Central Fisheries Promotion and Conservation Centre, Fisheries Human Resource Development and Technology Validation Centre, Natural Water Fisheries Promotion and Conservation Centre and Fish Pure Breed Conservation and Promotion Resource Centre
	Department of Food Technology and Quality Control (DFTQC)
	Department of Agriculture
	SAARC Regional Support Unit for TADs and EIDs
The Ministry of Health and Population	Epidemiology and Disease Control Division, Department of Health Services
	Department of Drug Administration
Ministry of Forest and Environment	Department of National Parks and Wildlife Conservation
Ministry of Industry, Commerce and Supplies	Nepal National Single Window, Department of Customs
Ministry of Education, Science and Technology	Forty-one secondary schools that provide Animal Science as an elective for students in Grades 8 to 12

	(Veterinary paraprofessional workforce for VS)
Universities offering graduate veterinary courses viz. Agriculture and Forestry University (AFU), Tribhuvan University (TU) and Purbanchal University (PU)	Affiliated veterinary colleges (1) Faculty of Animal Science, Veterinary Science and Fisheries, Rampur Campus, AFU (2) Institute of Agriculture and Animal Science (IAAS)-Paklihawa Campus, TU (3) Himalayan College of Agricultural Sciences & Technology (HICAST), PU (1) Nepal Polytechnic Institute (NPI), PU
Nepal Veterinary Council	
Nepal Agricultural Research Council (NARC)	
CTEVT - Council for Technical Education and Vocational Training (Training of Veterinary Technician workforce for VS)	
National Dairy Development Board	
National Cooperative Development Board	
Dairy Development Corporation	
Provincial Ministry of Land Management, Agriculture and Cooperatives (MOLMAC)	Provincial Directorate of Livestock and Fisheries Development
	77 Veterinary Hospital and Livestock Services Expert Centre
	Livestock Services Training Centre
	Livestock Farms
Local Government Organizations	Livestock Services facilities in 6 metropolitan cities, 11 sub-metropolitan cities, 276 municipalities, and 460 sub-municipalities
Food and Agriculture Organization of the United Nations (FAO -Nepal) with Emergency Centre for Transboundary Animal Diseases (ECTAD)	Projects: Immediate Technical Assistance for Animal Health Systems to Address Emerging and Priority Zoonotic Diseases and Health Threats in Nepal Support to Strengthen Preparedness and Response Capacity to Tackle Emerging and Neglected Zoonotic Disease: Glanders

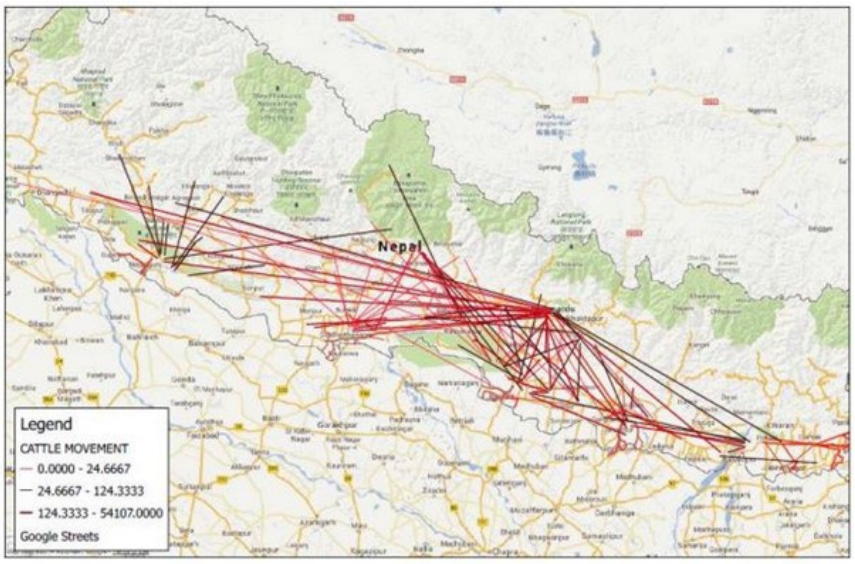
	Support to Operationalize the "One Health Strategy 2019" of the Government of Nepal Support to good dairy husbandry practices for dairy sector development
World Bank	Nepal Livestock Sector Innovation Project (NLSIP)
International Fund for Agricultural Development (IFAD)	Agricultural Sector Development Program
FHI360	Fleming Fund Country Grant for Nepal

Animal movement

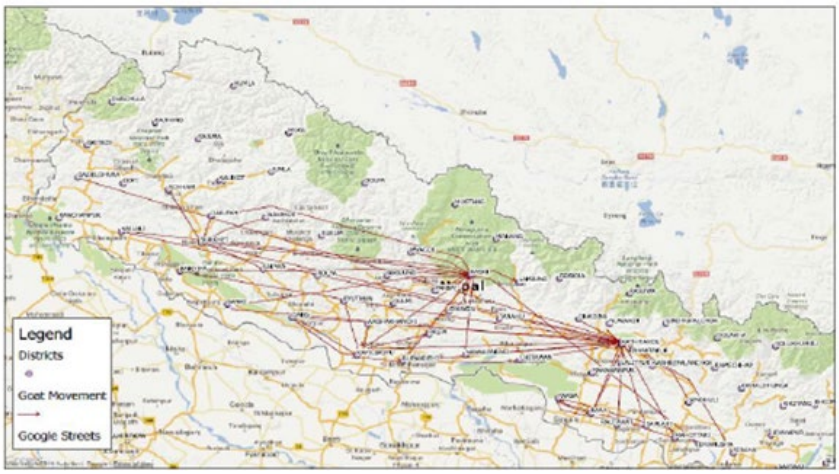
FAO conducted a value chain study in July-November 2013 in six selected districts, namely- Jhapa, Morang, Dhanusha, Parsa, Rupandehi, and Banke, and recorded that all together, 58,295 livestock heads per month enter through both formal and informal entry points through the Indo-Nepal border in the study districts. Banke reported the highest movement (30%), followed by Jhapa (22%), Rupandehi (19%), Dhanusha (14%), Parsa (9%) and Morang (6%).

The most commonly used trade routes for livestock movement were Rupedia-Jaispur (18%), Naxalbari-Nakalbanda (14%), Sunauli-Belahia (10%), Digalbank-Kumarkhod (6%), Pipron-Jatahi (5%), Bhailahi-Prasauni Bhata (5%), Sikti-Madubani(4%), Panitanki-Satighatta(4%), and Quari-Sorabhag, Galgaliya-Bhadrapur and Ranjitwa-Saigon (3% each). The mode of transportation is mostly on foot. Informal trade mostly took place during off hours.

The same study also reported that around 513-660 trucks loaded with buffaloes per month enter Kathmandu through the Nagdhunga checkpost. Parsa led the trade as the highest supplier to Kathmandu with 180-200 trucks, followed by Dhanusha (90-130 trucks), Nawalparasi (80-120), Bara (50-70), Rautahat (30-50), Sarlahi (30-40), Kapilvastu (28-30) and Banke (15-20).



Map 5: Indo-Nepal Cross-border Large Animal movement (Mostly illegal) as FAO 2013 Livestock Value Chain study.



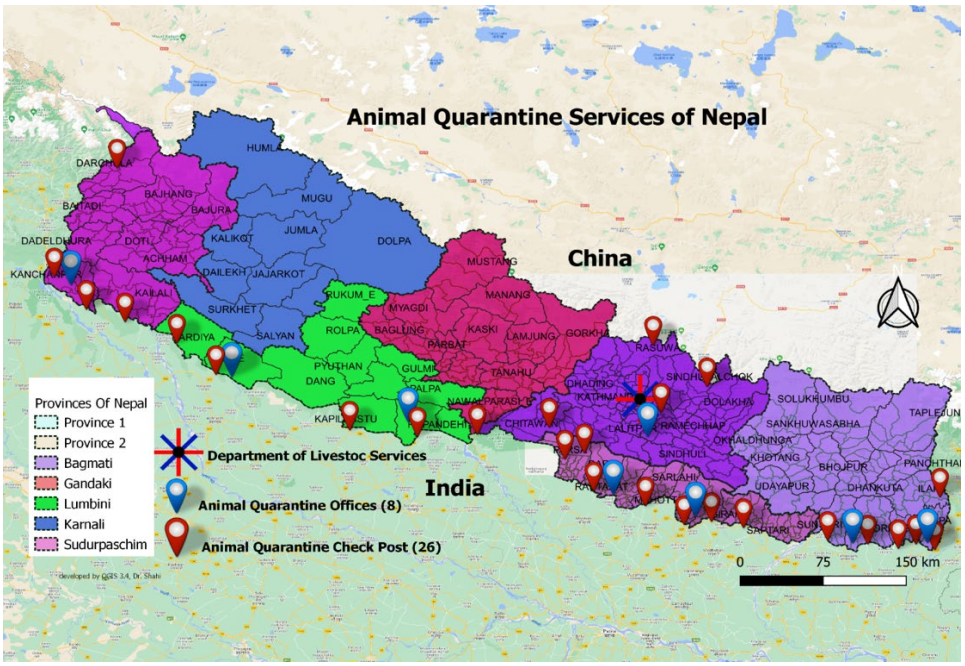
Map 6: Indo-Nepal Cross-border Small ruminant movement (Mostly illegal) as per FAO 2013 Livestock Value Chain study.

Import and export

The major livestock-related import commodities to Nepal include parent stock chicks, fish fry/fingerlings, table fish, livestock feed supplements and additives, disinfectants, and water sanitizers, veterinary biologicals, and live animals for breeding purposes. The major exporting commodities include dog chew (Churpi, a dairy product), wet blue leather, wool carpet, and buffalo meat. The summary status of export and import of livestock-related items in terms of value by mid-March 2021-22, as sourced from Economic Survey 2021/22, Ministry of Finance, Government of Nepal, are shown in the following table.

Goods	Import (NRs in 10 million)	Export (NRs in 10 million)
Live animals	146.3	0
Meat	4.2	1.8
Dairy products and livestock food products	146.6	5.3
Feed of Livestock	2013.9	512.8
Fish and sea creatures	112.0	0.0
Readymade fish meat	9.5	0.0
Leather	5.2	37.0
Wool	323.4	0.9

The Animal Quarantine Division (AQD) of VS maintains eight quarantine offices that manage twenty-six animal quarantine check posts.



Map 7: Map showing animal quarantine offices and check posts at border sites in Nepal

Appendix 4: Timetable of the mission; sites/ facilities visited and list of persons met or interviewed

Opening meeting

Date: 18 September 2023

Asses-sor(s)	Location & Jurisdiction	Institution – Agency – Group - Association	Person(s) met and interviewed	Position	Activities and CC Relevance
	Department of Livestock Services (DLS)	DLS	Dr. Umesh Dahal	Director General	
		DLS	Dr. Barun Kumar Sharma	Deputy Director General	
		DLS	Dr. Sulochana Shrestha	Deputy Director General	
		DLS	Dr. Prerana Sedhain Bhattarai	Deputy Director General	Over the zoom
		Nepal Livestock Sector Innovation Project (NLSIP)	Dr. Ram Nandan Tiwari	Project Director	
		National Animal Feed and Livestock Quality Management Laboratory	Dr. Surya Prasad Paudel	Chief	
		National Livestock Resources Management and Promotion Office	Dr. Madhav Prasad Aryal	Chief	
		Nepal Agriculture Research Council (NARC)	Dr. Doj Raj Khanal	Director, Livestock and Fisheries Division	
		Central Referral Veterinary Hospital	Dr. Tanka Prasad Prasai	Chief	
		National Animal Health Research Centre, NARC	Dr. Madhav Acharya	Chief	
		Directorate of Livestock and Fisheries Development, Bagamati Province	Dr. Gauriman Shrestha	Acting Director	Over the zoom
		Directorate of Livestock and Fisheries Development, Koshi Province	Dr. Pashupati Dhungana	Acting Director	Over the zoom
		Directorate of Livestock Development, Karnali Province	Krishna Prasad Pangeni	Acting Director	Over the zoom
		Ministry of Agriculture and Livestock Development (MoALD)	Dr. Nabin Ghimire	Senior Livestock Development Officer	

		MoALD	Dr. Jeetendra Man Shrestha	Senior Veterinary Officer	
		MoALD	Dr. Pradip Chandra Bhattarai	Senior Livestock Development Officer	
		MoALD	Dr. Tapendra Prasad Bohora	Senior Veterinary Officer	
		DLS	Chiranjibi Gautam	Under Secretary	
		DLS	Dr. Chandra Dhakal	Senior Livestock Development Officer	
		DLS	Dr. Mukul Upadhyaya	Senior Veterinary Officer	
		DLS	Dr. Sujan Rana	Senior Veterinary Officer	
		FMD and TADs Investigaton Laboratory	Dr. Krishna Raj Pandey	Chief	
		Veterinary Standards and Drug Regulatory Laboratory (VSDRL)	Dr. Mod Nath Gautam	Senior Veterinary Officer	
		Central Referral Veterinary Hospital	Dr. Arjun Aryal	Senior Veterinary Officer	
		Central Veterinary Laboratory	Dr. Ram Chandra Sapkota	Senior Veterinary Officer	
		National Vaccine Production Laboratory	Dr. Manish Man Shrestha	Senior Veterinary Officer	
		NLRMPO	Dr. Aabhas Poudel	Senior Livestock Development Officer	
		Livestock Services Training Centre, Koshi Province	Dr. Binay Shrestha	Chief	
		DLS	Shyam Sundar Yadav	Livestock Development Officer	
		VSDRL	Dr. Nabin Upadhyaya	Veterinary Officer	
		DLS	Dr. Chiranjibi Pantha	Veterinary Officer	
		DLS	Dr. Bikesh Raut	Veterinary Officer	
		DLS	Dr. Binod Sanjel	Veterinary Officer	
		DLS	Hari Singh Bhat	Veterinary Officer	
		DLS	Balaram Krishna Banjade	Livestock Development Officer	
		DLS	Nabaraj Shrestha	Veterinary Officer	
		DLS	Hem Raj Bohora	Livestock Development Officer	
		DLS	Amar Rawat	Animal Health Technician	
		FAO Nepal	Dr. Surendra Karki	National Technical Coordinator	
		WHO	Dr. Allison Gocotano	Team Lead, WHE	

Field visits, meetings, and interviews

Date(s): 19 to 28th September 2023

Asses-sor(s)	Location & Jurisdiction	Institution – Agency – Group - Association	Person(s) met and interviewed	Position	Activities and CC Relevance
HBNBMB	Kathmandu	Department of Food Technology and Quality Control (DFTQC)	Dr. Matina Joshi Vaidya	Director General	
		DFTQC	Mr. Shailesh Kumar Jha	Deputy Director General	
		DFTQC	Mr. Som Kant Rijal	Deputy Director General	
		DFTQC	Kamal Prasad Regmi	Senior Food Research Officer	
		DFTQC	Anup Halwai	Senior Food Research Officer	
		DFTQC	Sanjay Bhandari	Senior Food Research Officer	
		DFTQC	Mohan Krishna Maharjan	Senior Food Research Officer	
HBNBMB	Kathmandu	Epidemiology and Disease Control Division (EDCD), Department of Health Services (DoHS)	Dr. Rudra Prasad Marasini	Director	
		Do	Dr. Hemant Chandra Ojha	Senior Officer	
HBNBMB	Dhulikhel Municipality Ward-2 Kavre Bagmati Province	Setidevi Dairy Cooperative, Bagamati Province	Chaturbhuj Timilsina	Chairperson	
		Do	Harihar Adhikari	Manager	
		Do	Deepak Dhodari	Co-Manager	
HBNBMB	Kavre Bagmati Province	Veterinary Hospital and Livestock Services Expert Centre (VHLSEC) Kavre	Dr. Srija Wagle	Veterinary Officer	
		Do	Dr. Nishant Sharma Gelal	Livestock Development Officer	
HBNBMB	Kavre Bagmati Province	Dhulikhel Municipality	Dr. Charan Kamal Dhital	Veterinary Officer	
HBNBMB	Hetauda	Directorate of Livestock and Fisheries Development	Dr. Gauriman Shrestha	Acting Director	

	Bagmati Province				
		Do	Dr. Sabina Mishra	Livestock Development Officer	
HBMB	Chitwan National Park (CNP), Sauraha, Chitwan	Chitwan National Park	Dr. Bijaya Kumar Shrestha	Senior Veterinary Officer	
			Mr. Dinesh Dhakal	Veterinary Technician	
		National Trust for Nature Conservation (NTNC)	Dr. Amir Sadaula	Veterinary Officer	
		Do	Dr. Pradipa Silwal	Veterinary Officer	
		Do	Dr. Bikalpa Karki	Veterinary Officer	
		Do	Mr. Kiran Raj Rijal	Veterinary Technician	
HBMB	Agriculture and Forestry University (AFU), Rampur, Chitwan	Faculty of Animal Science, Veterinary Science and Fisheries (FAVF), AFU	Prof. Dr. Hom Bahadur Basnet	Dean	
		Do	Dr. Manoj Kumar Shah	Assistant Dean	
		Do	Dr. Dipesh Kumar Chhetri	Assistant Dean	
		Do	Dr. Parisha Thapa	Assistant Professor	
		Do	Dr. Amar Nath Chaudhary	Assistant Professor	
HBMB	Bharatpur, Chitwan	National Avian Laboratory (NAL)	Dr. Chet Narayan Kharel	Senior Veterinary Officer	
		Do	Dr. Parshuram Phuyal	Veterinary Officer	
		Do	Mr. Endu Ray Yadav	Veterinary Officer	
		Do	Mr. Teknath Dahal	Veterinary Technician	
		Do	Ms. Radha Bhusal		
		Do	Dr. Udaya Lal Khatri		
		Veterinary Hospital and Livestock Services Expert Centre (VHLSEC), Chitwan	Mr. Sushil KC	Chief (Senior Livestock Development Officer)	
		Do	Bhim Datt Bhatta	Officer (Level 6th)	
HB MB	Madi Municipality, Chitwan	Madi Veterinary Hospital	Dr. Amrit Pandey	Veterinary Officer	
			Mr. Shyam Khadka	Livestock Service Technician	
HBMB	Tanahun District Gandaki Province	Veterinary Hospital and Livestock Services Expert Centre, Tanahun	Dr. Rajesh Chaudhary	Chief	
			Dr. Roshan Gyawali	Veterinary Officer	
			Rudra Singh Thakuri		

			Regam Pokharel		
			Robinson Adhikary	Fisheries Development Officer	
HBMB		Directorate of Livestock and Fisheries Development, Gandaki Province	Dr Bal Kumar Shrestha	Acting Director General	
		Do	Dr Grisma Neupane	Chief, Livestock Service Training Centre (LSTC), Gandaki	
			Mr Shambhu Raj Pandey	Senior Livestock Development Officer, VHLSEC, Kaski	
			Dr Sapna Ghimire	Livestock Development Officer, Department of Livestock and Fisheries Development, Gandaki	
			Manish Devkota	Fishery Development Officer, LSTC, Gandaki	
HBMB	Gorkha District Gandaki Province	Veterinary Hospital and Livestock Services Expert Centre, Gorkha	Dr. Sharmila Kumal	Chief	
		Do	Lalmani Aryal		
		Do	Sudip BK		
		Do	Bishan Giri		
HBMB	Pokhara Gandaki Province	Ministry of Agriculture and Land Management, Gandaki Province	Mr Sahadev Prasad Humagain	Secretary	
		Do	Dr Shova Sharma	Senior Livestock Development Officer	
		National Livestock Breeding Office (NLBO)	Dr Jagadish Pandeya	Chief, NLBO	
		Do	Dr Khagendra Raj Sapkota	Senior Livestock Development Officer	
		Do	Dr Bishwanath Gautam	Do	
		Do	Dr Mahendra Malla	Livestock Development Officer	
		Do	Dr Bhaju Ram Mahato	Do	
		Do	Dr Sujata Regmi	Do	
		Do	Dhakamohan Adhikari	Junior Technical Assistant	
		Do	Mani Kumar Rai	Livestock Service Technician	
		Veterinary Laboratory, Pokhara	Dr Kiran Pandey	Chief	
		Do	Dr Ganesh K C	Veterinary Officer	

		Do	Dr Dilip Kumar Upadhayaya	Veterinary Officer	
		Do	Dr Anil Regmi	Veterinary Officer	
		Fishtail Group and Poultry Industry Pvt Ltd	Dr Kishor Acharya	Managing Director	
		Directorate of Livestock and Fisheries Development			
HBNBMB	Birgunj Parsa District Madhes Province	Animal Quarantine Office	Dr. Hareram Yadav	Senior Veterinary Officer	
		Do	Dr. Bikesh Kumar Raut	Veterinary Officer	
		Do	Dr. Bharat Shah	Veterinary Officer	
		Do	Dr. Mahesh Deubanjar	Veterinary Officer	
		Do	Ram Adhar Prasad Shah	Veterinary Technician	
NB	Janakpur Dhanusha District, Madhesh Province	Ministry of Land Management, Agriculture and Cooperatives (MOLMAC)	Dr Sharan Pandey	Secretary	
		Do	Dr Saroj Chaudhari	Senior Livestock Officer	
		Do	Dr. Shivnandan Yadav	Livestock Officer	
		Do	Dr. Ranjit Kumar Adhikari	Veterinary Officer	
		Do	Dr. Ram Pabitra Das	Veterinary Officer	
		Veterinary Hospital and Livestock Service Expert Centre (VHLSEC), Dhanusha	Dr.Sanjiv Thakur	Senior Veterinary Officer	
		Veterinary Laboratory, Janakpur	Dr.Rakesh Mohan Singh	Senior Veterinary Officer	
		Do	Dr Mukesh Nayak	Veterinary Officer	
		Do	Mr Laxmi Mandal	Veterinary Technician	
		Rizobium Laboratory (RL)	Dr. Gangaram Yadav	Veterinary Officer	
HBMB	Kathmandu	Federation of Animal Welfare, Nepal	Bikash Shrestha	Representative	
		Kathmandu Animal Treatment Centre	Bhishnu Phuyal	Representative	
		Do	Akash Dahal	Representative	
		Animal Nepal	Manju Gautam	Advocacy Officer	
		Sneha Care	Sanju Shrestha	Manager	
			Prastha Shrestha Pradhanang	Program Officer	
		Nepal Veterinary Association	Dr Ram Krishna Khatiwada	President	
		Veterinary Practitioners Association, Nepal	Dr Suraj Thapa	Vice President	

		National Animal Feed and Livestock Quality Management Laboratory (NAFLQML)	Dr Najuma Joshi	Livestock Development Officer	

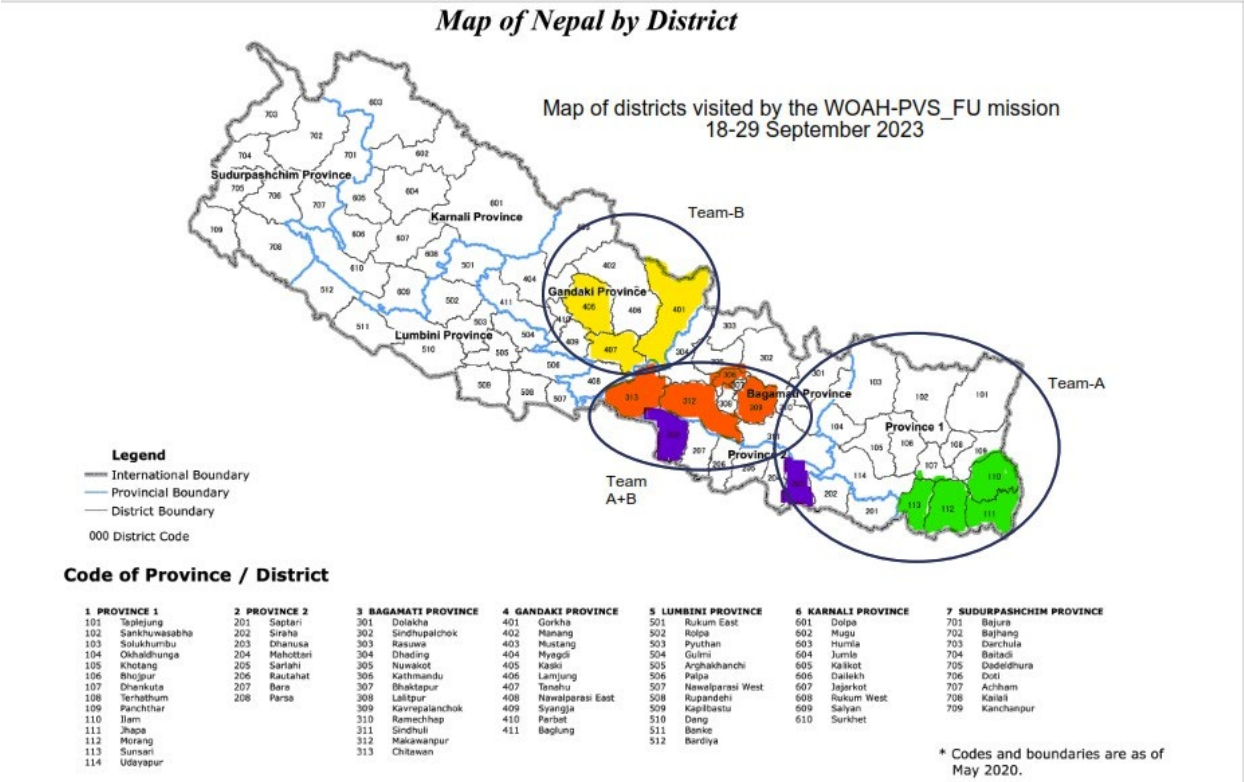
Closing meeting

Date: 28th September 2023

Asses-sor(s)	Location & Jurisdiction	Institution – Agency – Group - Association	Person(s) met and interviewed	Position	Activities and CC Relevance
	Kathmandu	DLS	Dr Umesh Dahal	Director General	
		DLS	Dr Barun Kumar Sharma	DDG	
		DLS	Dr Prerana Sedhain Bhattarai	DDG	
		NLSIP, World Bank	Dr Ram Nandan Tiwari	Project Coordinator	
		Central Veterinary Laboratory, DLS	Dr. Sharmila Chapagain	Chief	
		Do	Dr Ram Chandra Sapkota	Senior Veterinary Officer	
		Central Referral Veterinary Hospital and National Vaccine Production Laboratory, DLS	Dr Tanka Prasad Prasai	Chief	
		WHO	Dr Animesh Kayastha	--	
		WHO	Dr Paugat Sheema	NPO-IHM	

		Fleming Fund / FHI 360	Dr Ritu Amatya	PD	
		DLS	Dr Mukul Upadhaya	Senior Veterinary Officer	
		FMD/TADS IL, DLS	Dr Krishna raj Pandey	Senior Veterinary Officer	
		FAO-ECTAD	Dr Surendra Karki	National Coordinator	
		DLS	Dr Sujan Rana	Senior Veterinary Officer	
		DLS	Dr Sikesh Manadhar	Veterinary Officer	
		DLS	Dr Bikash Kumar Raut	Veterinary Officer	
		DLS	Dr Chandra Dhakal	Senior Livestock Development Officer	
		Ministry of Agriculture and Livestock Development	Dr Tapendra Prasad Bohara	Senior Veterinary Officer	
		National Animal Feed and Livestock Quality Management Laboratory (NAFLQML)	Dr Najuma Joshi	Livestock Development Officer	
		DLS	Dr Chiranjibi Pantha	Veterinary Officer	
		NLRMPO	Dr Aabhas Paudel	Senior Livestock Development Officer	
		DLS	Hari Singh Bhat	Veterinary Officer	
		DLS	Dr Barsha Thapa Magar	Veterinary Officer	
		DLS	Dr Binod Sanjel	Veterinary Officer	

MAP OF NEPAL INDICATING TRAVEL AND FIELD VISITS MADE DURING THE MISSION BY THE TEAM (I.E. INCLUDING SPLITTING OF THE TEAM FOR TRAVEL TO THE FIELD)



Field visits made during the mission by the Team A

Field visits made during the mission by the Team B

Appendix 5: Air travel itinerary

Assessor	Date	From	To	Flight no.	Departure	Arrival
Niksa BARISIC	16-09-23	Zagreb	Doha	QR 218	16:30	22:50
	17-09-23	Doha	Kathmandu	QR 648	00:15	07:45
Miftahul Islam BARBARUAH	17-09-23	Delhi	Kathmandu	AI 213	07:00	09:05
Mereke TAITUBAYEV	23-11-23	Astana	Dubai	FZ 1308	08:25	11:25
	24-11-23	Dubai	Kathmandu	FZ 0573	19:00	00:55
Hichem BOUZGHAIA	16-09-23	Tunis	Doha	QR 1400	16:00	23:25
	17-09-23	Doha	Kathmandu	QR 652	02:35	10:05

Appendix 6: List of documents used in the PVS evaluation

E = Electronic versionH = Hard copy versionP= Digital picture

Ref	Title	Author / Date / ISBN / Web	Related Critical Competencies / Appendix
PRE-MISSION DOCUMENTS			
P-1	Political and Administrative Map of Nepal	Government of Nepal	Appendix-3
E-1	Constitution of Nepal	Nepal Law Commission As per the Nepal Gazette Notification dated 20 September 2015	IV-1A; Appendix-3
E-2	Civil Services Act 1993	Nepal Law Commission	I-1A, I-1B
E-3	Nepal Civil Services Rules 1993	Nepal Law Commission	I-1A, I-1B, I-2A
E-4	Statistical Information on Nepalese Agriculture 2021-22	Ministry of Agriculture and Livestock Development	Appendix-3
E-5	Selected Indicators of Nepalese Agriculture	Ministry of Agriculture and Livestock Development	Appendix-3
E-6	National Population and Housing Census 2021 National Report	National Statistics Office	Appendix-3
E-7	Animal Health and Livestock Services Act 1999	Nepal Law Commission	II-3; II-4A; IV-3; IV-1A; IV-1B; IV-4;
E-8	Animal Health and Livestock Services Rules 2000	Nepal Law Commission	II-3; II-4A; IV-3; IV-1A; IV-1B; IV-4;
E-9	Nepal Veterinary Council Act 1999 and Nepal Veterinary Council Regulations. 2000	Nepal Law Commission / NVC	III-5; IV_1A;
E-10	Animal Slaughterhouse and Meat Inspection Act 1999	Nepal Law Commission	II-4A; II-7 A, B, IV-1A,
E-11	Animal Slaughterhouse and Meat inspection Regulation 2001	DLS	II-4A; II-7 A, B; IV-1A,
E-12	Feed Act 1976	Nepal Law Commission	II-11, IV-1A,
E-13	Feed Regulation 1984	Nepal Law Commission	II-11; IV-1A;
E-14	Food Rules 1970	Nepal Law Commission	II-7A; IV-1A;
E-15	Drugs Advisory Council and Drugs Advisory Committee formation Rules, 1970	Nepal Law Commission	II-8; IV-1A;
E-16	Drugs Act 1978	Nepal Law Commission	II-3; II-8; IV-1A;
E-17	Drug Registration Rules 1981	Nepal Law Commission	II-3; II-8; IV-1A;
E-18	Drug Investigation and Inspection Rules 1983	Nepal Law Commission	II-3; II-8; IV-1A;
E-19	Drug Category Rules 1986	Nepal Law Commission	II-8
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E-21	National Dairy Development Board Act 1992	Nepal Law Commission	III-1
E-22	National Guidelines for PPR control Program	DLS	II-2; II-6; II-4 A, B; III-1, IV-1A; IV-1 B;
E-23	One Health Strategy 2019 (Unofficial Translation)	DLS	I-6 B; II-2; II-IVA; II-4B; II-5; II-6; III-1
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E-24	Standard for Import Risk Analysis of Live Animal, Animal Products, and veterinary biologicals	DLS	II-2; II-3;
E-25	Model risk analysis report: IRA of Sheep and Goat Meat from Mongolia (Draft)	DLS	II-2; II-3; IV-4;
E-26	Animal Welfare Directives 2016	DLS	IV-1A; IV-1B;
E-27	Act Rules, guidelines, and SOPs related to animal quarantine (Nepali)	DLS	II-3; IV-1B;
E-28	Annual Technical Report (2021-22) Central Veterinary Laboratory	DLS	II-1 A, B, C; II-2; II-3; II-4 A, B; II-5; II-6; III-4;
E-29	Notice of Ministry of Industry, Commerce and Supplies related to restricted items for import and export (Under Subsection 1 of Section 3 of the Export-Import Control Act, 2013 (Nepali)	DLS	II-2; II-3; IV-3;
E-30	Report of the training to improve disease recognition and reporting capacity of veterinary Officers of the quarantine system - 24-26 August 2023 Pulchowk, Lalitpur Program organized by FAO in collaboration with DLS funded by USAID	DLS	I-3; II-2; II-3; II-4 A; IV-3;
E-31	Content of 3-day training to improve disease recognition and reporting capacity of veterinary officers of quarantine system - Program organized by FAO in collaboration with DLS funded by USAID	DLS	I-3; II-2; II-3; II-4A; IV-3;
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	Program organized by FAO in collaboration with DLS funded by USAID		
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E-34	Gazette notification of Poultry Feed Standards as per clause 10 of Feed Act (Nepali)	DLS	II-11; IV-1 B;
E-35	Directives on Export – Import Inspection and Quality certification system in Nepal - (2006)	Ministry of Agriculture and Cooperative, Government of Nepal	II-4 A; II-3; IV-1 A,B; IV-3;
E-36	Guidelines for the production, processing, and sale of meat products (2016) (Nepali)	Department of Food Technology and Quality Control	II-7A
E-37	Annual Bulletin 2021/22	Department of Food Technology and Quality Control	III-4;
E-38	Recruitment guideline for One Veterinarian per local level government (Nepali)	DLS	I-1A
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E-40	Local Level Human Resources (Fixed position) (Nepali)	DLS	I-1A, I-1B
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E-42	Investigation of Foot-and-Mouth Disease Outbreaks in Sindhuli, Dhanusha and Siraha district (2021)	DLS	II-2; IV-1 A; II-1 A, B, C; II-5; IV-2;
E-43	Investigation of highly pathogenic avian influenza outbreaks in Nepal in 2022	DLS	II-2; IV-1 A; II-1 A, B, C; II-5; II-6; IV-2;
E-44	Report on Rabies Joint Outbreak Investigation in Chauri deurali, Kavrepalanchowk (2021)	DLS	I-6 B; II-2; IV-1 A; II-1 A, B, C; II-5; II-6; IV-2;

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E-47	Curriculum of 1 year Junior Technician (JT) In Agriculture (Animal Science), 2016	CTEVT	I-2B
E-48	Nepal National Qualifications Framework	CTEVT	I-2B
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E-52	Risk-Based Strategic Plan (RBSP) for Control of Foot and Mouth Disease (As submitted in July 2023)-Main text	DLS	II-1 A, B, C; II-2; II-3; II-4 A, B; II-5; II-6; III-4; IV-1B; IV-2;
E-53	RBSP_FMD Workplan and activities (July 2023)	DLS	II-1 A, B, C; II-2; II-3; II-4 A,B; II-5; II-6; III-4; IV-1B; IV-2;
E-54	RBSP_FMD Matrix, Objectives, Indicators, targets (July 2023)	DLS	II-1 A, B, C; II-2; II-3; II-4 A,B; II-5; II-6; III-4; IV-1B; IV-2;
E-55	Evidence of formal meeting minutes of VS with goat sector stakeholders for prevention of illegal import and maintaining healthy stock during the festival (Nepali)	DLS	II-3; III-2, III-6
E-56	Final NVC study report on human resource forecast (Nepali)	NVC	I-1A
E-57	Skill Standard –Livestock Junior Technicians –Level 3	National Skill Testing Board, CTEVT	I-2B
E-58	Skill Standard –Junior Technical Assistants - Level 2	National Skill Testing Board, CTEVT	I-2B
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E-65	Human Resource Development Planning of Ministry of Livestock Development, HR Solution page of Nepal Administrative Staff College	NASC	I-1A
E-66	Brain drain of agriculture and veterinary graduates to abroad: evidence from Nepal,	Kattel and Sapkota Agric & Food Security (2018) 7:61	I-1A
E-67	Agriculture Development Strategy (ADS) 2015 to 2035	Ministry of Agricultural Development, Government of Nepal	I-1B; I-5;
E-68	Nepal Veterinary Council (Minimum Standard Requirements for B.V. Sc. & A.H. Degree) Regulation, 2006 (English Translation)	NVC	I-2A, III-5
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E-73	Mission Report of Joint External Evaluation of IHR Core Capacity (28th Nov –2nd December 2022)	WHO	I-1 A,B; II-1 A,B,C; II-2; II-4 A,B; II-5; II-6; III-1, III-3
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E-78	Deepa Devkota (2021) Determinants of livestock insurance adoption in Nepal	Cogent Food & Agriculture (Journal)	II-6; III-6
E-79	Good Husbandry Practices Implementation guide 2022 (Nepali)	DLS	III-1; II-9; II-11;
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E-83	National Livestock and poultry vaccination epi collect data	DLS	II-6;
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E-89	SOP for Control and Containment of Notifiable AI in Nepal 2017	DLS	I-9; I-4; II-5; II-6;
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E-91	National Action Plan on AMR	Ministry of Health and Population	I-6 B; II-9; IV-2;
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E-97	Additional clarification	DLS	I-7; I-9;
E-98	One Health research and training and government support for One Health in South Asia	Joanna S. McKenzie, Infection, Ecology and Epidemiology-The One Health Journal	I-2A; II-5; II-2;
E-99	Commercial Livestock Integrated Survey, 2021, Nepal	Ministry of Agriculture and Livestock Development, National Planning Commission & Central Bureau of Statistics	Appendix 3
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E-101	Livestock Sector in Nepal –PVS Opening meeting presentation of DLS	DLS	I-5; I-6 A; II-7 A; II-10; ii-12; III-7; Appendix 3
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E-110	Presentation by Nepal Veterinary Council (NVC)	Dr Manoj Kumar Shahi, Registrar, NVC	III-4; I-1 A; I-2 A; I-3; III-4; III-5;
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E-113	Presentation at CVL, Kathmandu	Dr Sharmila Chapagain	II-1 A, B, C; II-2; II-4 A, B; II-10;
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Appendix 7: Organisation of the WOAH PVS Evaluation of Nepal

Assessors Team	
Team leader:	**Hichem BOUZGHAIA**
Technical expert:	**Niksa BARISIC**
Expert trainee:	**Miftahul Islam BARBARUAH**
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Information of the mission	
Contact point in the country:	**Dr. Barun Kumar SHARMA**
Dates:	18– 29 September 2023
Language of report:	**English**
Language of the mission:	**English**
Subject of the evaluation	VS as defined in the Terrestrial Animal Health Code Not Inclusive of aquatic animals Inclusive of other institutions / ministries responsible for activities of VS
Analysis	
References and Guidelines:	○ Terrestrial Animal Health Code (especially Chapters 3.1. & 3.2.) ○ WOAH PVS Tool for the Evaluation of Performance of VS → Human, physical and financial resources → Technical authority and capability → Interaction with stakeholders → Access to markets
Activities analysed:	**All activities related to animal and veterinary public health** ○ Field activities: ▪ animal health (early detection, disease control, etc) ▪ quarantine (country borders) ▪ veterinary public health (food safety, veterinary drugs etc) ▪ others ○ Data and communication ○ Diagnostic laboratories ○ Research ○ Initial and continuous training ○ Organisation and finance
Procedure:	○ Consultation of data and documents ○ Comprehensive field trips ○ Interviews and meetings with VS staff and stakeholders ○ Analyse of practical processes

End of report