PVS Pathway

OIE PVS Evaluation Follow-Up Mission Report

Nigeria

Human, Physical and Financial Resources | Technical Authority and Capability | Interaction with Interested Parties | Access to Markets




January – February 2019

Dr Victor Gongora (Team Leader)

Dr Susanne Münstermann (Technical Expert)

WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

OIE PVS EVALUATION FOLLOW-UP

REPORT OF THE

VETERINARY SERVICES OF

NIGERIA

(14 January – 1 February 2019)

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List of acronyms, abbreviations and/or special terms

ACSK	Animal Care Services Konsult
AD	Assistant Director
AH	Animal Health
AHCS	Animal Health and Clinical Services
ARIS	Animal Resources Information System
ASF	African Swine Fever
ASL	Africa Sustainable Livestock
AU-IBAR	African Union – Inter-African Bureau for Animal Resources
CBPP	Contagious Bovine Pleuro-Pneumonia
CC	Critical Competency
CE	Continuing education
CVO	Chief Veterinary Officer
CVON	Chief Veterinary Officer of Nigeria
DD	Deputy Director
DVM	Doctor in Veterinary Medicine
DVS (State)	Department of Veterinary Services at State level
DVS	Director of Veterinary Services – Chief Veterinary Officer (CVO)
ECOWAS	Economic Community of West African States
FAAN	Federal Airports Authority of Nigeria
FAO	Food and Agriculture Organisation of the United Nations
FCAHPT	Federal College of Animal Health and Production Technology
FCT	Federal Capital Territory
FDVPCS	Federal Department of Veterinary and Pest Control Services
FDLPCS	Federal Department Livestock Pest Control Services
FGN	Federal Government of Nigeria
FMD	Foot and Mouth Disease
FMoH	Federal Ministry of Health
FMST	Federal Ministry of Science and Technology
FSAN	Food Safety and Applied Nutrition Directorate (NAFDAC)
GDP	Gross Domestic Product
HPAI	Highly Pathogenic Avian influenza
LFN	Laws of the Federation of Nigeria
LGA	Local Government Area
LIMS	Laboratory Information Management System
LSD	Lumpy skin disease
MDAs	Ministries, Departments and Agencies
MMIA	Murtala Muhammed International Airport (Lagos)
MoU	Memorandum of Understanding
MSc	Master of Science
N	Naira (Nigerian currency)
NAAHHT	Nigerian Association of Animal Health and Husbandry Technologists
NADIS	National Animal Disease Information and Surveillance
NAFDAC	National Agency for Food and Drug Administration and Control
NAIA	Nnamdi Azikiwe International Airport (Abuja)
NAP	National Apiculture Platform
NAPRI	National Animal Production Research Institute

NAQS	Nigeria Agricultural Quarantine Services
NASHGODAN	National Sheep and Goat Development Association of Nigeria
NBUN	National Butchers Union of Nigeria
ND	Newcastle disease
NCDC	Nigeria Centre for Disease Control
NFELTP	Nigeria Field Epidemiology and Laboratory Training Programme
NG	Nigeria Government
NiNAS	Nigeria National Accreditation Service
NITR	Nigerian Institute for Trypanosomiasis and Onchocerciasis Research
NLDC	National Livestock Development Committee
NSP	National Strategic Plan
NVMA	Nigerian Veterinary Medical Association
NVRI	National Veterinary Research Institute
OIE PVS	OIE Performance of Veterinary Services Evaluation Tool
OIE	World Organisation for Animal Health
PACE	Pan-African programme for the Control of Epizootics
PAN	Poultry Association of Nigeria
PPR	Peste des Petits Ruminants
QAS	Quality Assurance and Standards
QMS	Quality Management System
QNS	Quality Networks Solution
RP	Rinderpest
SHEGOFAN	Sheep and Goat Farmers Association of Nigeria
SON	Standards Organisation of Nigeria
SOP	Standard Operation Procedure
SPS	Sanitary and Phyto-Sanitary (Agreement)
SVO	Senior Veterinary Officer
TAD	Trans-boundary Animal Disease
TB	Bovine tuberculosis
USD	United States Dollar
VCN	Veterinary Council of Nigeria
VMAP	Veterinary and Allied Products Directorate (NAFDAC)
VPH	Veterinary Public Health
VPP	Veterinary Paraprofessional
VS	Veterinary Service(s)
VSB	Veterinary Statutory Body
VTH	Veterinary Teaching Hospital
WAHO	West African Health Organisation
WB	World Bank
WHO	World Health Organisation
WTO	World Trade Organisation

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PART I: EXECUTIVE SUMMARY

I.1 Introduction

Following a request to the OIE from the Government of the Federal Republic of Nigeria, an evaluation of the Veterinary Services based on the *OIE PVS (Performance of Veterinary Services)* methodology was conducted in January 2019 by a team of two independent OIE certified PVS evaluators and two trainee evaluators.

The evaluation began with meetings with the Permanent Secretaries, Dr Abdulkadir Mu'azu (outgoing) and Dr Mohammed Bello Umar (incoming), the Chief Veterinary Officer of Nigeria and OIE Delegate, Dr Olaniran Alabi, and senior staff in the headquarters of the Federal Department of Veterinary and Pest Control Services (FDVPCS), followed by meetings with officers in the FDVPCS divisions.

The OIE PVS Team visited sites and institutions (public and private sector) in the Federal Capital Territory, Abuja and the different States and Local Government Areas (LGA) of Nigeria and discussed relevant matters with government officials, public and private sector veterinarians, livestock producers, traders, consumers and other stakeholders.

The mission concluded in Mararaba, Karulga, Nasarawa State with a closing meeting involving public and private stakeholders at which the overall findings of the evaluation were discussed.

Previous OIE PVS Pathway missions conducted in Nigeria are: a PVS Evaluation Mission in 2007, a Gap Analysis Mission in 2010 and a Veterinary Legislation Identification Mission in 2011.

For those with less familiarity with the Federal Republic of Nigeria, background information is provided in summary in Appendix 4 including 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

I.2.A Human, physical and financial resources

Main Findings

Since the 2007 OIE PVS Evaluation the livestock and veterinary departments are now in two separate departments of the Federal Ministry of Agriculture and Rural Development (FMARD). The Nigeria Agricultural Quarantine Services (NAQS) is also an agency under FMARD with its own legal statute (the NAQS Establishment Act (2018) and its Director General has been appointed. There are 11 veterinary educational establishments, 6 more than in 2007. These educational establishments are regulated by the Veterinary Council of Nigeria (VCN) and their curricula are aligned to international standards and to the OIE Day One competencies. There is a strong culture of continuing education in Nigeria with many institutions providing continuing education conferences and courses. The VCN reported that approximately 3000 veterinarians registered in 2018. The VCN does not have the mandate to register veterinary paraprofessionals (VPPs) but the proposed amended VCN Bill seeks to regulate VPPs as well as mandating continuing education. In Nigeria, the preferred and legal term for VPPs is animal health technologist. Private practice employs most of the veterinarians and VPPs.

The Veterinary Services (VS), Federal and State, are focused on disease prevention, surveillance and control and meat inspection. The Federal Department of Veterinary and Pest Control Services (FDVPCS) provides policy and guidance to the State VS. Since 2007, the Nigerian government has been more supportive of the agriculture sector and national agricultural reform policies have been established since 2010. Technical decisions are based on scientific considerations, but these may not always be implemented due to budgetary constraints, among others. There is a clear, structured chain of command from the State VS to the Federal VS. There is also good internal coordination among these entities as well as with the NAQS and the National Veterinary Research Institute, two other agencies under FMARD. However, internal communication with the sister Federal Department of Animal Production and Husbandry Services, was observed to be weak. External coordination with partners is frequent but mostly informal, with very little documentation.

Physical resources and operational funding are a major challenge for the State DVS. This ranges from infrastructure, internet access, equipment, power supply and vehicles to consumables and medicines. Most of the States VS visited during the mission reported that operational funding was not released despite approved annual budgets. The Federal VS provides some resources to the States VS; especially vaccines.

The Federal and State VS do not have ready access to emergency funding to enable rapid response to animal disease emergencies but there is a funding mechanism with a limited budget for outbreaks of HPAI.

I.2.B Technical authority and capability

The Nigerian laboratory network has increased considerably since the 2007 OIE PVS Evaluation and is now comprised of the National Veterinary Research Institute (NVRI), 23 satellite laboratories with 6 of these being regional laboratories, State laboratories in some of their veterinary hospitals, and the laboratories in the veterinary teaching hospitals of the 11 veterinary universities. There are 2 private laboratories. Quality Assurance is done at the NVRI as well as at the National Agency for Food and Drug Administration and Control (NAFDAC).

No formal risk analysis is being undertaken. This has not changed since 2007.

A major development since the 2007 OIE PVS Evaluation is that the powers of the NAQS have been reinforced through enactment of the NAQS (Establishment) Act (2018) and through the appointment in December 2018 of its Director General.

The National Animal Disease Information and Surveillance (NADIS) appears to have too many reporting forms, and is too detailed for the reporting done. There is currently little capacity to analyse data. Disease reporting is currently based on passive surveillance only as, given insufficient funds, there are no active surveillance programmes. While the existence of the Pan-African programme for the Control of Epizootics (PACE) surveillance structure is acknowledged, its functionality has largely stopped. Clinical diagnosis in the field or at clinics and hospitals is mostly not supported by laboratory diagnosis. Throughout the mission the issue of under-reporting and poor collaboration in terms of disease reporting and sample submission came up repeatedly.

Since 2007, the VS has strengthened its capacity for emergency disease control as there have been many outbreaks of Highly Pathogenic Avian Influenza (HPAI) and, recently, of Equine Influenza. There is no direct budget line for emergency response available to the FDVPCS. While disease control is the responsibility of State governments, the Federal government assists upon request. There are several national control programmes but these do not have the funding to operate along the lines of the

previous Rinderpest eradication campaign from which Nigeria achieved free status recognition from the OIE.

Food safety in Nigeria was not considered in the 2007 OIE PVS Evaluation. Product adulteration/substitution and illegal importation of animal products and veterinary medicines constitute major challenges within Nigeria's food safety system which is regulated by at least three different competent authorities, each with some degree of overlap in responsibilities. There are weaknesses in collaboration and co-ordination with poor communication among the various competent authorities leading to inefficiencies in resource utilisation and poor levels of control of food safety standards. The development of a National Policy on Food Safety and Implementation Strategy and the formulation of a Food Safety and Quality Bill (2017) are two recent initiatives to harmonise and improve the outdated and fragmented food safety system The VS has the mandate for ante- and post-mortem inspection at all slaughter facilities, but poor standards of hygiene make it difficult for the VS to implement their mandate effectively.

The regulation of veterinary medicines and biologicals has caused much contention in Nigeria. As with food safety, there are several competent authorities with conflicting or overlapping mandates for regulatory authority, once again leading to weaknesses and insufficient controls on sales and usage, particularly at the retail level. This situation raises concerns over the possibility of the presence of residues in animal products and the development of anti-microbial resistance (AMR).

The Nigeria National AMR Coordinating Body was established in 2016 at the NCDC. The results of the situation analysis conducted by the National AMR technical working group formed the basis for the National Action Plan for Antimicrobial Resistance (2017 – 2022). The mission team found general AMR awareness among medical and veterinary professionals.

Regulatory control over residues in animal products, as for food safety and veterinary medicines, has many competent authorities, including FDVPCS and NAFDAC. There are no official residue monitoring programmes nor formal animal product residue plans, although one residue plan for honey is being developed.

Nigeria is a member of the International Feed Industry Federation. Animal feed establishments are registered and licensed.

There is no National Animal Identification and Traceability System in place in Nigeria and no registration of livestock owners or livestock premises. Challenges to State authorities' attempts to control animal movement are the seasonal movement of cattle from north to south along the well-known transhumance routes, farmers/herdsmen conflicts, insurgencies and taxation. The responsibility for certification for import, export and also inter-State movement of livestock and its products and its traceability lies with FMARD at the Federal level.

FMARD (FDVPCS) set up a National Consultative Committee on Animal Welfare in 2012 to develop a Nigerian Animal Welfare Strategy Document to provide direction for future improvements in the welfare of animals. A draft Nigerian Animal Welfare Strategy document was produced in 2016. Institutions using animals for teaching, testing and research have set up their institutional animal use and care committees.

The 2007 OIE PVS Evaluation had only 8 CCs under the Technical Authority and Capability component ocompared to the 18 CCS in the 2019 Evaluation, making meaningful comparisons difficult. Key changes include the addition of food and feed safety, antimicrobial resistance and animal welfare.

I.2.C Interaction with stakeholders

Nigeria has a communication structure embedded in FMARD and in other VS institutions. However, the different communication units do not work in a unified manner leading to duplication of initiatives. More use of communication media and resources would require training and funding. The lack of a formal culture of documentation and oversight within the institutions leads to many good initiatives being unrecorded. While there is informal delegation of official disease control duties to private animal health professionals, there is fear that formalisation would lead to government not approving requests for staffing. With respect to the regulation of animal health professionals, the VCN has regulatory mandate over veterinarians, veterinary education and veterinary practising premises. However, it has no legal mandate over VPPs and for requiring continuing education from registered professionals. There are concerns over unsupervised and unregulated VPPs performing veterinary acts which are the sole prerogative of registered veterinarians. These concerns were also noted in the 2007 OIE Evaluation. The animal health and husbandry technologists are well organised within a strong legal entity and have proposed a regulatory body for themselves separate from the VCN but working in complementarity. Synergies can be created; joint programmes can be established; and trust built by formalising the relationship with the poultry and livestock associations which are strong organised bodies in Nigeria and have national presence and representation.

The Veterinary Clinical Services CC was not evaluated in 2007. The initiative to train and empower community animal health workers will strengthen clinical services availability in rural areas.

I.2.D Access to markets

The VS and other agencies have taken steps to strengthen their mandate with legal authority and competence. While Bills to modernise the systems were noted in the 2011 OIE Legilsation Mission, some of these Bills amending existing acts, notably the Animal Disease Control Bill, Meat Hygiene Bill and the Veterinary Council of Nigeria Bill, are still waiting to be passed into law. Nigeria is active in securing technical assistance and is quite responsive to the recommendations made for compliance toward international standards. ECOWAS membership strengthens Nigeria's position for equivalence agreements with other member states. Nigeria complies with notification obligations with transparency to international organisations. The FDVPCS has strengthened its international certification capacity with the creation of the Commodity Certification Unit in the Quality Assurance and Standards Division.

Zoning is not feasible, but the VS structure in place is adequate to support compartmentalisation if large integrated poultry companies commit to this venture.

Table 1: Summary of OIE PVS evaluation results

PVS summary results of 2019	Previous PVS Evaluation 2007	Result 2019
I. HUMAN, PHYSICAL AND FINANCIAL RESOURCES		
I.1.A. Staffing: Veterinarians and other professionals	NA	**2**
I.1.B. Staffing: Veterinary paraprofessionals	NA	**3**
I.2.A. Competency and education of veterinarians	3	**3**
I.2.B. Competency and education of veterinary paraprofessionals	3	**3**
I-3. Continuing education	3	**3**
I-4. Technical independence	3	**2**
I-5. Planning, sustainability and management of policies and programmes	4	**2**
I-6.A. Internal coordination (chain of command)	3	**3**
I-6.B. External coordination (including the One Health approach)		**2**
I-7. Physical resources and capital investment	NA	**1**
I-8. Operational funding	2	**2**
I-9. Emergency funding	2	**1**
II. TECHNICAL AUTHORITY AND CAPABILITY		
II-1.A. Access to veterinary laboratory diagnosis	3	**2**
II-1.B. Suitability of the national laboratory infrastructures	NA	**2**
II-1.C. Laboratory quality management systems	NA	**2**
II-2. Risk analysis and epidemiology	2	**1**
II-3. Quarantine and border security	2	**2**
II-4.A. Passive surveillance, early detection and epidemiological outbreak investigation	3	**2**
II-4.B. Active surveillance and monitoring		**1**
II-5. Emergency preparedness and response	3	**2**
II-6. Disease prevention, control and eradication	NA	**2**
II-7.A. Regulation, inspection, authorisation and supervision of establishments for production and processing of food of animal origin	NA	**2**
II-7.B. Ante- and post mortem inspection at slaughter facilities and associated premises	NA	**2**
II-8. Veterinary medicines and biologicals	2	**2**
II-9. Antimicrobial Resistance and Antimicrobial Use	NA	**2**
II-10. Residue testing, monitoring and management	NA	**2**
II-11. Animal feed safety	NA	**2**
II-12.A. Premises, herd, batch and animal identification, tracing and movement control	2	**1**
II-12.B. Identification, traceability and control of products of animal origin		**2**
II-13. Animal welfare	NA	**2**
III. INTERACTION WITH STAKEHOLDERS		
III-1. Communication	3	**3**
III-2. Consultation with stakeholders	2	**2**
III-3. Official representation and international collaboration	2	**3**
III-4. Accreditation/authorisation/delegation	2	**2**
III-5. Regulation of the profession by the Veterinary Statutory Body (VSB)	4	**3**
III-6. Participation of producers and other stakeholders in joint programmes	2	**2**
III-7. Veterinary clinical services	NA	**3**
IV. ACCESS TO MARKETS		
IV-1.A. Integrity and coverage of legislation and regulations	3	**3**
IV-1.B. Implementation of and compliance with legislation and regulations	1	**2**
IV-2. International harmonisation	2	**2**
IV-3. International certification	2	**2**
IV-5. Equivalence and other types of sanitary agreements	2	**3**
IV-6. Transparency	3	**3**
IV-7. Zoning	1	**NA**
IV-8. Compartmentalisation	2	**NA**

NA: Not Applicable

I.3 Key recommendations

I.3.A Human, physical and financial resources

To improve their human, physical and financial resources, the VS should consider the following recommendations:

- An assessment and prioritisation of manpower needs in the public Veterinary Services at Federal, State and LGA levels should be carried out to subsequently formulate a plan for addressing critical deficits to be filled as priority in the face of critical funding shortages. The presence of FDVPCS veterinarians at State level needs to be strengthened to support other federal activities in the veterinary domain such as food safety, veterinary products and import and exports. The FMARD should convene a dialogue session among all stakeholders (VCN, NVMA, NAAHHT, veterinary education establishments and FDVPCS) to comprehensively discuss the concerns of the NAAHHT as to their being able to regulate and represent themselves and at the same time be fully compliant with OIE standards. An agreement on the way forward should be the outcome of such a dialogue.
- Government advocacy is encouraged to increase financial support to these institutions, enhance field activities and maintain the FELTP training. The Nigerian Government should provide job descriptions for VPPS as these would guide training institutions on job market needs. VCN accreditation of VPP training institutions should be considered. The VS should conduct a training needs assessment and facilitate training of persons working in those areas of need, for example, training in risk analysis for the relevant officers at NAQS and FDVPCS. Continuing education credits should be introduced as a mandatory requirement for renewal of annual registration by the VCN.
- Establishment and strengthening of the national Single Window at ports and airports will improve processing of commodities and strengthen communication among MDAs. MDAs should also seek to improve relationships with one another.
- Continued commitment (financial, political will) from FGN and FMARD is required to implement the Agriculture Development Policy (2016 – 2020). Mechanisms to strengthen federal – state coordination of policy should be developed along with methods to maintain a quality records and database system at federal and state levels. World Bank, FAO and other partners may be proactively engaged to support identified gaps in policy formulation and implementation.
- Documentation of meetings and activities (taking of minutes and report writing) should be carried out routinely and mechanisms established for their regular and timely submission along the chain of command. Similarly, formal agreements should be established among the different FMARD VS institutions and their relevant MDAs. Again, documentation of meetings should become standard practice.
- Strong advocacy for Federal and State Governments to invest more in the livestock industry is required. States need to improve on the quality of engagement among themselves and motivate State governments to invest in agriculture and not depend solely on the federal government. It would be useful to revive and strengthen the veterinary drugs revolving fund in the States.
- There is need to prepare a generic Emergency Preparedness and Response Plan which can then be used as a basis for disease specific plans for prioritised transboundary diseases and zoonoses. A compensation plan needs to be included as an essential part of the emergency preparedness plan. Stakeholder buy-in for the emergency and compensation plans must be prioritised and funding strategies developed.

I.3.B Technical authority and capability

To improve their technical authority and capability, the VS should consider the following recommendations:

- State Ministries of Agriculture should allocate budgets to their VS laboratories and devise a sustainable mechanism to transport samples to NVRI or other specialised laboratories. Laboratories specialized for specific priority diseases need to be designated and funded. NVRI to be equipped to complete its QMS and obtain accreditation from NiNAS. It should set up a zoonoses division for AMR.
- Provide training in risk analysis and implement risk analysis as a means of making risk-based decisions for border control, disease surveillance and development of disease prevention and control plans.
- NAQS to develop SOPs for procedures at ports of entry and roles regarding issuance of movement permits at borders needs to be clarified. Responsibilities for livestock inspection at intra- and inter-state level need to be resolved and agreement reached on revenue collection.
- Strengthen the staff composition for data collection, compilation and analysis within the Epidemiology division of FDVPCS. Ensure that disease reporting data are summarised regularly (at least quarterly), published as reports and regularly circulated to all divisions and States VS.
- Analyse the surveillance structure, prioritising elements of the structure that are essential and calculating the investments needed to reactivate it. Awareness and education on the importance of surveillance should be instituted at veterinary educational establishments and provided to farmers. Establish a sustainable mechanism (Federal and State) for emergency response to sanitary emergencies.
- The Food Safety and Quality Bill needs to be passed into law and funding provided for the National Food Safety Management Committee. The FDVPCS should be designated as the competent authority for animal product processing establishments. Awareness on the need for improved hygiene and the need for ante-mortem and post-mortem inspection needs to be strengthened. Stronger cooperation is required with the Environmental inspectors and Water and Sanitation Inspectors on the public health risk of slaughter waste being disposed of into rivers and open sewers. Inter-sectoral and interdisciplinary collaboration, coordination and information-sharing on food safety and foodborne disease needs to be strengthened.
- A formal dialogue needs to be held among the key parties in the MOH, NAFDAC, FDVPCS, VCN to effectively resolve the issue of proper regulation of veterinary medicines and biologicals. Awareness and education among users of veterinary medicines, especially at rural levels, should be done.
- The AMR laboratory capacity at the NVRI, the designated national laboratory for AMR, needs to be built and sample submission strengthened. Awareness and education promoting prudent use of antibiotics and on food safety consequences of misuse of agro-chemicals and antimicrobials is required. Residue monitoring in large commercial establishments producing products for the national and export markets should be implemented.
- Creation of a national animal feed committee will bring about concerted action and best practice in the regulation of animal feed safety.
- An Animal Identification and Traceability System policy should be developed. Pilot projects on animal identification and traceability between FDAPHS and FDVPC at the FMARD need to be coordinated and streamlined, inviting participation of other stakeholders, for example, the Implementation Committee on the curtailment of cattle

rustling in Nigeria. Regulations for the registration of livestock owners, livestock identification, cattle loading and offloading permits and livestock movement control need to be prepared and enacted.

- The draft animal welfare strategy document should be finalised and animal welfare regulations enacted (e.g. slaughter of animals for human consumption or disease control, control of stray dog populations, welfare of animals in research and education, and issues in beef cattle and broiler chicken production systems) using existing legislation such as the Animal Diseases (and Control) Act, (2004) and the Criminal Code, (1990).

I.3.C Interaction with stakeholders

To improve their interaction with stakeholders, the VS should consider the following recommendations:

- Communication is mainly focused on animal health matters on an "as needed" basis. It will be beneficial to strengthen formal communication to provide updated feedback to stakeholders on a regular basis on the status of animal health matters in the country.
- The consultation process needs to be strengthened to allow and incorporate feedback from stakeholders in policy development to enhance buy-in and ultimately compliance with policies.
- The level of consultation with international and regional organisations needs to be maintained, if not improved. The FDVPCS should improve on national feedback on outcomes from international and regional meetings, especially on veterinary products, animal production and food safety to NAFDAC.
- It would be beneficial to develop a statutory regulation on accreditation of veterinary diagnosic laboratories both at federal and state level. This legislation should include official delegation to private veterinary laboratories.
- VCN, NVMA, veterinary education establishments and NAAPHT need to agree on a way forward on the regulation of animal health and husbandry technicians. The VCN should consider improving the maintenance of the Veterinary Register, keeping it comprehensive, validated and updated.
- FDVPCS needs to be proactive in the identification of programmes for partnership with stakeholders as very strong livestock industries and livestock groups exist. Once programmes are identified, formal joint partnerships should be established, especially with the poultry and animal feed sectors.
- An impact study should be conducted to define the extent of economic losses due to the presence of endemic diseases such as PPR, FMD and Newcastle Disease to illustrate the impacts on the livelihoods of the farmers of the country. This will provide scientific evidence to advocate for a stronger presence of Veterinary Services in the rural areas of the country. The use of the laboratory network needs to be strengthened to support clinical services by enhancing the pathway of collection and transport of samples.

I.3.D Access to markets

To improve their access to markets, the VS should consider the following recommendations:

- Strong advocacy should be raised to hasten approval by the National Assembly of the Animal Disease Control (Repeal and Re-enactment) Bill, (2018) and the Food Safety and Quality Bill (2017) as these will align the VS of Nigeria towards compliance with international standards. The penalties for an offence committed under the Act would also be increased (e.g. from N$250 to N$500,000). There is a need to improve on the development and enactment of regulations to define the powers, procedures and practices of the Veterinary Services. There is a need to establish a legal framework for veterinary diagnostic laboratories and the production of biologics. The draft Animal Diseases Control Bill has a section on Designated Official Laboratories addressing this deficiency. The policy of no vaccination for avian influenza should be strengthened by enabling legislation.
- Strategies should be developed to maintain Nigeria's strong presence in international fora as the results show active participation and beneficial outcomes. Committees or formal mechanisms for consultation on proposed international standards and guidelines should be established to encourage awareness and compliance.
- The international certification capacity of FDVPCS should be strengthened as importing countries require international certificates issued by the FDVPCS. A Certification Committee among relevant MDAs (NAQS, FDVPCS, NAFDAC, Forestry) to address import and export certification of animals and animal products should be created. This would support the single window strategy.
- The capacity at FDVPCS and NAQS should be developed to develop and use equivalence agreements especially in the West Africa region. The ECOWAS protocol on transhumance should also be implemented.
- The 80 notifiable animal diseases should be categorised into those that require immediate notification and those that are reportable within one month based on the OIE standards (Chapter 1.1 of the OIE Terrestrial Animal Health Code). This will improve notifications from the States, to the OIE, as well as improving the timeliness of disease response.

PART II: CONDUCT OF THE EVALUATION

At the request of the Government of the Federal Republic of Nigeria, the Director General of the OIE appointed an independent OIE PVS team consisting of Dr Victor Gongora (Team Leader), Dr Susanne Münstermann (Technical expert), Drs Grietjie De Klerk and Henry Wamwayi (Trainee Experts) to undertake an evaluation of the veterinary services of Nigeria. The evaluation was carried out on 14 January – 1 February 2019.

The evaluation was carried out with reference to the OIE standards contained in Chapters 3.1., 3.2., 3.3. and 3.4. of the OIE Terrestrial Animal Health Code (the Terrestrial Code), using an interim version of the OIE PVS Tool - 7th Edition, 2019[1]. Relevant Terrestrial Code references are provided for each critical competency in Appendix 2.

This report identifies the strengths and weaknesses of the veterinary services of Nigeria as referenced to the OIE standards. The report also makes some general recommendations for actions to improve performance.

II.1 OIE 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, the OIE provides an evaluation tool called the OIE Tool for the Evaluation of Performance of Veterinary Services (OIE PVS Tool[2]) 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 OIE PVS Team to help determine the level of advancement.

A glossary of terms is provided in Appendix 3.

The report follows the structure of the OIE PVS Tool incorporating the descriptions and levels of advancement for each critical competency.

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

[1] The final version of the OIE PVS Tool 7th Edition has been published in April 2019. The interim version used for the PVS Evaluation Follow-Up mission in Nigeria is very similar to the final version and the results of the mission should be considered as valid and comparable as those from missions undertaken with the final version.

II.2 Context of the evaluation

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

A list of documents received by the OIE PVS Team before and during the PVS Evaluation mission is provided in Appendix 7. All documents and pictures listed in Appendix 7 are referenced to relevant critical competencies and provide material evidence for the levels of advancement and related findings.

The following table provides an overview of the availability of the main categories of documents or data needed for the evaluation, taking into account the requirements set out in the OIE Terrestrial Code.

Table 2: Summary of data available for evaluation

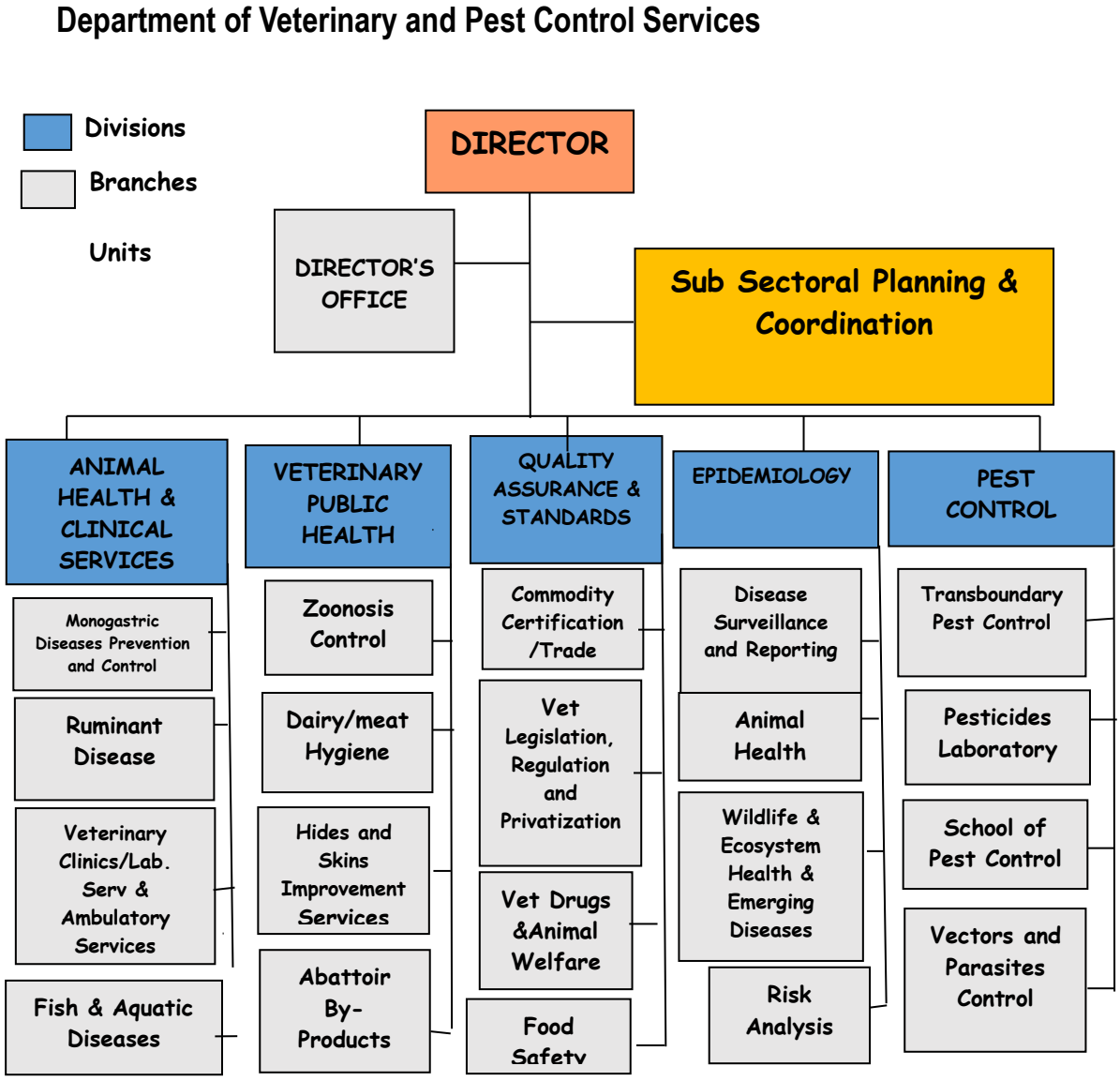
Main document categories	Data available in the public domain	Data accessible only on site or on request	Data not available
→ **Animal census:**			
○ at 1st administrative level		X	
○ at 2nd administrative level		X	
○ at 3rd administrative level			X
○ per animal species		X	
○ per production systems		X	
→ **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, paraprofessional)		X	
○ Per level		X	
○ Per function		X	
→ **Census of logistics and infrastructure**		X	
→ **Strategic plan(s)**	X		
→ **Operational plan(s)**		X	
→ **Activity reports**	X	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

Nigeria is a federation of 36 states and a Federal Capital Territory (FCT) operating under a three-tiered level of government: Federal, State and Local Government Area (LGA). Each of these levels of governance is autonomous in carrying out specified agricultural activities. The control of animal diseases is the responsibility of State Governments while the Federal Veterinary Services deal with national policy formulation and implementation. The Federal Government (FG) takes the lead for the control, management and eradication of transboundary animal diseases as well as other diseases of national importance especially when they assume epidemic proportions.

The Official Veterinary Services is a technical department, Federal Department of Veterinary and Pest Control Services (FDVPCS), in the Federal Ministry of Agriculture and Rural Development (FMARD) of Nigeria. Parastatal agencies in the FMARD involved in the veterinary domain are: The Nigeria Agricultural Quarantine Services (NAQS), the National Veterinary Research Institute (NVRI) in the Agricultural Research Council of Nigeria and the veterinary statutory body, the Veterinary Council of Nigeria (VCN). The FDVPCS, previously the Federal Department of Livestock and Pest Control Services (FDLPCS), was established as a department in July 2014 when the Livestock Department was re-structured, creating the Department of Animal Production and Husbandry Services and the Department of Veterinary and Pest Control Services. The FDVPCS functions as the policy adviser to the Government on all Animal Health, Safety and wholesomeness of food of animal origin for human consumption and Pest Control Services.

Figure 1: Organogram of the Department of Veterinary and Pest Control Services



The FDVPCS has offices in each of the 36 states and the FCT. The FCT has the office of the Chief Veterinary Officer; this office has five divisions: animal health and clinical services, epidemiology, public health, quality assurance and standards and pest control services. Each division has branches and units. Each state has a federal secretariat and a state secretariat which houses the government ministries. The Ministry of Agriculture in the state secretariats has the office of the Director of Veterinary Services with each office having the following personnel:

I. Area Veterinary Officers at the State and Zonal Levels
II. Divisional Livestock Officers at the LGAs
III. Abattoir workers/inspectors at the state level
IV. State Veterinary Hospitals and Clinics
V. Veterinary Clinics at the LGAs

At the Local Government level there is the office of the Director of Agriculture with each office having veterinary units; some LGAs may have veterinary clinics.

The country is subdivided into 6 geo-political zones: north central, north east, north west, south south, south east and south west. The NAQS and NVRI thus may have zonal offices in a particular zone to serve all the states within a geo-political zone. The states are also subdivided into geo-political zonal areas. Thus, offices may be placed in a LGA to administer all the LGAs within the designated area.

Other federal institutions involved in the official veterinary services are:

- NAQS: Niegria Agricultural Quarantine Services, a parastatal body in FMARD in charge of border control, interstate control posts and quarantine service.
- FDAPHS: Federal Department of Animal Production and Husbandry Services in FMARD
- NVRI: National Veterinary Research Institute in FMARD responsible for diagnosis and confirmation of animal diseases and vaccine production in Nigeria.
- VCN: Veterinary Council of Nigeria responsible for regulating the veterinary profession.
- NAFDAC: National Agency for Food and Drug Administration and Control in the Federal Ministry of Health (FMoH) in charge of food safety and registration and control of veterinary medicines and animal feed.

NAQS, with headquarters in the FCT at Abuja, operates the Agricultural Quarantine Services at airports (6), sea ports (7), land crossings (12), control posts (8) and quarantine stations (3) throughout the country – Table 3. It is a regulatory agency under FMARD. It was created to harmonise plants, veterinary and aquatic quarantine resources in Nigeria. The NAQS core mandates are to safeguard Nigeria's agricultural economy by preventing the introduction, establishment and spread of foreign pests and diseases of plants and animals or their products into and out of the country whilst promoting international trade. NAQS also undertakes emergency measures to control pest and pathogen incursions and disease outbreaks in collaboration with key stakeholders.

Table 3: Border Control Sites, Nigeria 2019

STATE	AIRPORT	SEAPORT	LAND BORDER	Quarantine stations (QS) and Interstate Control Posts (CP)
FCT, Abuja	*Nnamdi Azikiwe International Airport*			Sheda (QS)
Lagos	Murtala Mohammed International Airport, Ikeja	Tin-can Seaport Apapa Wharf PTML Cargo Lily Pond	Seme Border	
Ogun			Imeko Border Idiroko Border Ohumbe Border	Ibafo (QS)
Enugu	Enugu International Airport			
Port Harcourt	Port Harcourt International Airport	Onne Port NPA Wharf Area 1, Port Harcourt		

Cross river		Calabar Port	Ikom Border Mfum Border	
Delta		Warri Seaport		
Kwara			Chikanda Border	Bode Saadu CP
Kebbi			Kamba Border	
Sokoto			Illela Border	
Katsina			Jibia Border	
Jigawa			Maigatari Border	
Borno	*Maiduguri International Airport*		*Gamboru Ngala Border*	
Kano	*Mallam Aminu Kano International Airport*			Ungoggo (QS)
Benue				Makurdi CP Katsina Ala CP Orokam CP
Niger				Jebba CP
Kogi				Lokoja CP
Nasarawa				Gada Buki CP
Plateau				Riyom CP

The international airports mostly handle movement of pet animals but food animals and wildlife may also be processed. International trade of cattle occurs only in the approved cattle markets located at the land borders of Ilela, Jibia, Maigatari and Gamboru Ngala**.** Gamboru Ngala has been closed due to the insurgencies in the north east of the country. The porosity of the Nigerian border is well-recognised.

FDAPHS: The mandate of the Department is to coordinate livestock policies, livestock commodity value chains and to grow the country's animal resources. It is structured into five divisions (ruminants, poultry and pig, breeding and conservation, feed and feed security, grazing reserves and stock routes) and a planning and coordination unit. The FDAPHS is statutorily responsible for promoting the development of dairy, beef/meat and livestock markets, providing quality control services and managing quality control systems for livestock feed and raw materials used in livestock feed, developing and ensuring standard operating guidelines and rules in animal production, regulating livestock premises, feeds and feed mills.

NVRI: The public sector laboratory network is headed by the National Veterinary Research Institute (NVRI) located in Vom, Plateau State. The Institute operates satellite (outstation) laboratories in 23 States including the FCT which conduct animal disease investigation and diagnosis, treatment and control with vaccine dissemination in the States where they are located and the contiguous States. They also serve as collection centres for referral samples. Six of the laboratories serve as Zonal laboratories and the remaining 17 as State laboratories (see Table 4).

Table 4: NVRI's Outstation Laboratories

ZONE	ZONAL LABORATORY	STATE LABORATORY
North Central	Vom* (NVRI)	Abuja, Makurdi, Shendam
North East	Yola	Jalingo, Maiduguri, Yola, Bauchi
North West – 1	Kano	Kaduna, Kano, Katsina
North West – 2	Birnin Kebbi	Birnin Kebbi, Sokoto
South East	Umidike	Oji River, Umudike
South South	Calabar	Calabar, Uyo, Port Harcourt
South West	Akure	Akure, Benin, Ibadan, Ikire, Ilorin, Lagos

*Vom covers contiguous outstation laboratories

VCN: The Veterinary Council of Nigeria was first established through the Veterinary Surgeons Ordinance of 1952. In 1969, the Ordinance was re-enacted as the Veterinary Surgeons Decree. The decree went through many amendments all which were harmonised in the Veterinary Surgeons Act, Cap. 3, LFN, 2004. The VCN is a parastatal body of FMARD. The VCN regulates the standards of training and the practice of the veterinary professions in Nigeria. It also is planning to regulate veterinary paraprofessionals and has been working to train and accredit community animal health workers (CAHWs).

The Council registers the veterinarians qualified from Nigerian Universities and those from foreign Universities who need to sit examinations before registration. The VCN regulates the Veterinary Faculties in the universities evaluating their capacities and their curriculum every two years. The VCB, therefore, regulates the numbers of students to be admitted annually into the Veterinary Faculties and monitors examinations.

The VCN established a College of Veterinary Surgeons of Nigeria (CVSN) in 1962 for specialist training of clinicians. There are outlets at Zaria, Nsukka and Ibadan Universities to train members for admission to membership and fellowship Diploma of the College.

The Council is accommodated in its own building in Abuja. In 2010, the Council approved the establishment of State offices and this decentralisation policy commenced with the establishment of six zonal offices in the six geopolitical zones of Nigeria. Activities have commenced in all the zonal offices situated in Ibadan, Enugu, Port Harcourt, Gombe, Kaduna and Vom. The VCN is mainly funded by the Nigeria Government (NG and also generates revenue from registration fees, accreditation of veterinary faculties and rental of office space in their building. There is an elected President of the Council and an Executive Registrar who runs the day to day activities of the VCN assisted by support staff.

The VCN also regulates Veterinary Practicing Premises in accordance with the Veterinary Practicing Premises Registration Regulations, 2018. This Regulation was published in the official government gazette in January 2019.

The total number of veterinary practicing premises registered to date is seven hundred and one (701) with the total number registered in 2018 being one hundred and sixty-eight (168). The breakdown is as follows:

Veterinary Hospitals	3
Veterinary Clinic	35
Veterinary Pharmacy	85
Importer of Veterinary Drugs	20
Whole Salers	5
House calls	17
Manufacturer of two products line	1
Manufacturer of one product line	1
Manufacturer of one product	1
	168

NAFDAC: The National Agency for Food and Drug Administration and Control under the FMoH was established in 1993 and its legal framework today is the NAFDAC Act, CAP N1, Laws of the Federation of Nigeria (LFN), 2004. This Agency plays the lead role for regulating food safety systems in Nigeria. NAFDAC's has important food safety functions such as:

- WTO (SPS) Enquiry Point (EP) in Nigeria
- INFOSAN Focal Point
- WHO – International Health Regulations (IHR)
- Member of the Nigerian delegation to Codex meetings
- National Codex Committee (NCC) : Chair of the General Purposes Technical Committee of the National Codex Committee.
- The designated Rapid Alert System for Food and Feed focal point in Nigeria and therefore relates with European Union on Food matters.

NAFDAC operates at the Federal and State levels along with the state government agencies. At the local government level there are primary health care agencies responsible for street food vending and traditional markets, although they refer to NAFDAC for all cases that affect health.

NAFDAC has two directorates which concern veterinary services – the Food Safety and Applied Nutrition Directorate and the Veterinary Medicines and Allied Products Directorate (VMAP). Both of these directorates are located at Operational Office Isolo, Lagos. FSAN regulates food safety of food that is manufactured, imported, exported, distributed, sold, advertised and used in Nigeria. VMAP regulates and controls the importation, exportation, manufacture, advertisement, distribution, sale and use of Veterinary Medicines, Veterinary products, Pesticides and Agro-chemicals. Also included are Feeds, Feed additives and Pet food. The VMAP Directorate, headed by a Director, also conducts Industrial Outreach and research. The VMAP Directorate is structured into five (5) Divisions:

- Veterinary Medicine Division
- Animal Feeds & Premix Division
- Pesticides & Agro-Chemicals Division
- Inspection, Regulations & Stakeholders Division
- Veterinary Vaccines & Biologics Division

II.2.C Animal disease occurrence

The recent history of animal disease status in Nigeria as of January 2019:

- animal diseases eradicated nationally;
  Rinderpest
- animal diseases introduced to the country;
  HPAI H5N1 in 2006, 2014; HPAI H5N8 in 2016, 2019 ; Equine Influenza 2018
- emerging diseases in the last ten years;
  HPAI, Monkey Pox, Rift Valley Fever, Lassa Fever
- animal diseases of which the prevalence has increased in the last ten years.

  Contagious Bovine Pleuropneumonia (CBPP)
  Peste des Petits Ruminant (PPR)
  African Swine Fever (ASF)
  Foot and Mouth Disease (FMD)
  Canine Rabies
  Canine Distemper-Parvoviral complex
  Newcastle Disease (ND)
  African Horse Sickness
  Infectious Bursal Disease (IBD)

The Epidemiology Unit of the VS of Nigeria reported the following outbreaks:

Disease	2018	2017	2016
ASF	8	0	0
CBPP	41	9	4
FMD	27	85	3
HPAI	1	44	220
ND	28	20	7
PPR	68	55	12
Rabies	91	51	1
Brucellosis	5	2	0
Bovine TB	8	19	0
Total	277	275	247

Nigeria is transparent in its official disease six monthly reports. The information on Table 5 is taken from the 2018 report (January to December) on animal disease occurrence from the OIE website.

Nigeria does not report much data in its annual zoonoses report to the OIE. Reports on some diseases in humans of international significance include: monkey pox in 2017 (2 deaths, 68 cases); Ebola in 2014 (8 deaths, 20 cases) and HPAI in 2007 (1 death, 1 case). The Nigeria Centre for Disease control declared an outbreak of Lassa fever following an increase in the number of cases in January 2019. From 1 – 27 January 2019, a total of 213 confirmed human cases including 41 deaths were reported from sixteen states; 4 health care workers have been affected since the start of the outbreak.

Nigeria first reported HPAI (H5N1) in February 2006 making it the first country in Africa to report the presence of HPAI (H5N1). By 2008 the disease had spread to 25 Nigerian states. The disease was controlled in 2008 and in January 2013 Nigeria informed the OIE of its self-declaration of disease freedom. In December 2014, the HPAI (H5N1)

virus re-emerged but it was proven that this virus was different to the one in circulation in 2006 – 2008. This virus has also spread to 26 states and the FCT. In November 2016 another virus serotype of HPAI was detected: H5N8. This virus behaved more pathogenic than the H5N1. In January 2019, Nigeria reported the presence of HPAI (H5N8) in Bauchi State.

Table 5: Diseases present in Nigeria (OIE Report 2018)

	Domestic		Wild	
Disease	Notifiable	Status	Notifiable	Status
African horse sickness	✓	Disease present	✗	Disease present
African swine fever	✓	Disease present	✓	Disease present
Bovine tuberculosis	✓	Disease present	✗	Disease present
Brucellosis (Brucella abortus)	✓	Disease present	✗	Disease present
Contagious bov. pleuropneumonia	✓	Disease present	✗	Disease present
Contagious cap. pleuropneumonia	✓	Disease present	✗	Disease present
Equine influenza	✓	Disease present	✗	
Foot and mouth disease	✓	Disease present	✗	Disease present
Fowl typhoid	✓	Disease present	✗	Disease present
Haemorrhagic septicaemia	✓	Disease present	✗	Disease present
Highly path. avian influenza	✓	Disease present	✗	
Infec bursal disease (Gumboro)	✗	Disease present	✗	Disease present
Lumpy skin disease	✓	Disease present	✗	Disease present
Mycoplasmosis (M. gallisepticum)	✓	Disease present	✗	Disease present
Newcastle disease	✗	Disease present	✗	
Paratuberculosis	✓	Disease present	✗	Disease present
Peste des petits ruminants	✓	Disease present	✗	Disease present
Pullorum disease	✓	Disease present	✓	Disease present
Rabies	✓	Disease present	✗	Disease present
Rift Valley fever	✓	Disease present	✗	Disease present
Sheep pox and goat pox	✓	Disease present	✗	Disease present
Trichinellosis	✓	Disease present	✗	Disease present
Trypanosomosis	✓	Disease present	✗	Disease present
West Nile Fever	✓	Disease present	✗	Disease present

II.3 Organisation of the evaluation

II.3.A Timetable of the mission

Appendix 5 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 OIE PVS Team and Appendix 6 provides the air travel itinerary of team members.

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

Table 6 lists the categories of site relevant to the evaluation and the number of each category of site in the country. It indicates how many of the sites were visited, in comparison with the suggested sampling framework (“ideal” sampling) recommended in OIE PVS Manual.

Table 6: Site sampling

	Terminology or names used in the country	No. sites	"Ideal" sampling	Actual sampling
GEOGRAPHICAL ZONES OF THE COUNTRY				
Climatic zone	*Equatorial in South, tropical in centre, arid in North*	3	3	3
Topographical zone	*Tropical rainforest, coast, plateau, valleys, savannah, Sahel*	6	5	5
Agro-ecological zone	*Pastoral, agro-pastoral, crop*	3	3	3
ADMINISTRATIVE ORGANISATION OF THE COUNTRY				
1st administrative level	*Federal*	1	1	1
2nd administrative level	*States + Federal Capital Territory*	37	12	11
3rd administrative level	*Local Government Areas*	774	30	22
4th administrative level	*Villages*			
Urban entities	Cities			
VETERINARY SERVICES ORGANISATION AND STRUCTURE				
Central (Federal/National) VS	Federal Department of Veterinary and Pest Control Services	1	1	1
Internal division of the central VS	Animal Health Division; Public Health Division; Epidemiology Division; Quality Assurance and Standards Division; Pest Control Division	5	5	5
1st level of the VS	Directorate of Veterinary Services	37	12	11
2nd level of the VS	LGA	774	30	22
3rd level of the VS			-	-
Veterinary organisations (VSB, unions…)	VCN, NVMA, NBUN, PAN, SHEGOFAN…	15	10	8
FIELD ANIMAL HEALTH NETWORK				
Field level of the VS (animal health)				
Private veterinary sector				2
Other sites (dip tanks, crush pens….)				0
VETERINARY MEDICINES & BIOLOGICALS				
Production sector		?		1
Import and wholesale sector		?		2
Retail sector		?		8
Other partners involved	NAFDAC	1	1	1
VETERINARY LABORATORIES				
National, Regional and local labs	National Veterinary Research Institute (NVRI) and NVRI zonal laboratories	6	4	4
Associated, accredited and other labs	States (5) and University (5) Animal Care Services, Ibadan Diversay Solutions Ltd, Lagos.	12	8	12
ANIMAL AND ANIMAL PRODUCTS MOVEMENT CONTROL				
Bordering countries	Benin, Cameroon, Chad, Niger	4	3	3
Airports and seaports border posts	MMIA; Nnamdi Azikiwe International Airport; P.H International Airport; MAKIA, Ungogo Quarantine Station; Maiduguri International Airport. Onne; NPA 1 Area, P.H; Tin Can Island; Apapa	6 5	4 2	3 2

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 OIE 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 OIE 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.

III.1 Fundamental 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:

Terrestrial Code References:

Points 1-7, 9, 11 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.

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: “Where the Veterinary Services undergoing evaluation… than on the resource and infrastructural components of the services”.

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.

Article 3.2.10. on Performance assessment and audit programmes.

Article 3.2.12. on Evaluation of the veterinary statutory body.

Points 1-5 and 9 of Article 3.2.14. on Organisation and structure of Veterinary Services / National information on human resources / Financial management information / Administration details / Laboratory services / Performance assessment and audit programmes.

I-1 Professional and technical staffing of the Veterinary Services (VS) *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
	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 (2007) – Not applicable
- PVS Gap Analysis (2010) – Level 3 (5-year target)

Findings:

Agricultural development, including the control of animal diseases, is in the concurrent list (second schedule (part 2) of the Constitution of Nigeria (1999)). Thus, in the three-tier government system of Nigeria, veterinary staff are present at the Federal, State and Local government Area (LGA) levels. Federal professional staff are meant to be present at Central level at the Federal Capital Territory (FCT) and in each State with at least 1 or more persons, per state. The States also have their own animal health departments within the State Ministry responsible for Agriculture at the State Secretariat. The LGAs have animal health units in the Agriculture Offices as the local governments are responsible for the establishment, maintenance and regulation of slaughter houses, slaughter slabs and livestock markets.

There is no even distribution of staff as there are some States without Federal professionals. Staff shortages exist at Federal, State and Local Government levels. The Federal Ministry of Agriculture and Rural development (FMARD) has veterinarians in the Federal Department of Veterinary and Pest Control Services (FDVPCS), the Nigeria Agricultural Quarantine Service (NAQS) and the National Veterinary Research institute (NVRI).

There have been 8,834 veterinarians registered to date with the Veterinary Council of Nigeria since its establishment in 1952. However, the register has not been updated for a while and therefore this number might not be the actual number of active veterinarians; it might be more in the neighborhood of 3000 veterinarians who renewed their license in 2018. The majority of the registered veterinarians are in the private sector. The FDVPCS has a total of 115 veterinarians employed.

The State Governments have a variable number of veterinary and other professional staff in their Ministries of Agriculture and have veterinary personnel undertaking field activities in all the LGAs. All 36 States and the FCT have Directors of Veterinary Services (CVOs) who are

professional veterinarians responsible for the planning and supervision of disease prevention and control activities in the States. Besides veterinarians in the Ministries of Agriculture in the Nigeria Government, there are also veterinarians employed in other government Ministries, Departments and Agencies (MDAs) such as the National Agency for Food and Drug Administration and Control (NAFDAC), Nigeria Centre for Disease Control (NCDC), the Nigeria Police Force, the Nigerian Army and veterinary education establishments (universities and colleges). The Nigeria National Park Service also employs one wildlife veterinarian.

At all levels, vacancies in the professional staff cadres have been identified and proposals have been made on the need to fill these vacancies. These vacancies have not been addressed as the NG has not provided the required funds for implementation. However, while the vacancies identified do not prevent the performance of disease prevention and control activities at the three levels of government, the performance is sub-optimal and more staff would improve coverage and effectiveness.

Key Changes from 2007 to 2019*: Not applicable*

Strengths:

- Veterinarians employed by various MDAs
- FDVPCS staff present in each State
- NAQS staff posted at control posts, at headquarters in the FCT and at zonal offices in each of the six geo-political zones.
- NVRI has a sufficient number of highly qualified veterinarians, many with post-graduate qualifications in different disciplines.

Weaknesses:

- The number of veterinarians employed in the different MDAs, apart from the FMARD, at federal and state levels is not known.
- Inadequate number of veterinarians in FDVPCS at State level.
- Inadequate number of veterinarians in NAQS

Recommendations:

- Conduct an assessment and prioritisation of manpower needs in the public Veterinary Services at Federal, State and LGA levels and formulate a plan for addressing critical deficits.
- Strengthen presence of FDVPCS veterinarians at State level. Consideration should be given to strengthening at central level the management of federal representation and federal VS activities in the States – animal health, zoonoses, food safety and diagnostics.
- Provide NAQS full complement of veterinarians to adequately man all the control posts and quarantine facilities.

Evidence (as listed in Appendix 7): E5, E19, E20, E30, E43, E52, E78-83, P21-24, P51-52

B. Veterinary paraprofessionals	Levels of advancement
The appropriate level of staffing of the VS to allow for veterinary paraprofessional (according to the OIE definition) functions to be undertaken efficiently and effectively. *This covers OIE veterinary paraprofessional categories having trained at dedicated educational institutions with formal qualifications which are recognised by the government or the VSB.*	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 (2007) – Not applicable
- PVS Gap Analysis (2011) – Level 4 (5-year target)

Findings:

In 2007, all veterinary paraprofessionals (VPPs) were employed in the public sector. Currently, the country has more than 20,000 VPPs and only 116 are in the public sector at the FDVPCS. There are also VPPs in other MDAs, but the documentation of their numbers was not readily available. The VCN initiated the registration of VPPs on a voluntary basis. However, only 929 are voluntarily registered with the VCN. This is due to conflicting and on-going legal proposals about their registration by the VCN and by the National Association of Animal Health and Husbandry Technologists (NAAHHT).

The State and Local Governments have a variable number of VPPs undertaking field activities in all the LGAs.

VCN is strongly supporting a community animal health workers (CAHWs) scheme the aim of which is to have certified and licensed CAHWS at the community frontline level. This scheme is targeting secondary school leavers.

The Nigeria Veterinary Medical Association (NVMA) expressed concern that private sector VPPS were undertaking functions that should be performed by veterinarians at a lower cost and thus providing unfair competition for veterinary practitioners. On the other hand, the NAAHHT highlighted the lack of recognition of this cadre of personnel in the national legislation as well as in deliberations on the national veterinary services. They also considered their classification as VPPs as derogatory, preferring the term animal health and husbandry technologists.

An analysis of staffing numbers provided to the team revealed that the majority of positions at LGA level were filled with VPPs. However, this was verified in only one LGA, and there the positions were not completely filled.

Key Changes from 2007 to 2019*: Not applicable*

Strengths:

- Nigeria has many VPPs distributed throughout the country and engaged in disease prevention and control, meat inspection, quarantine, animal movement control and food safety at the Federal, State and LGA levels.
- Nigeria has many institutions for training VPPS.
- VPPs have their own strong and active association.

Weaknesses:

- The delayed enactment of the legislation to compel VPPs to be registered by the VCN or NAAHHT has resulted in the registration of only a small proportion of VPPs who are willing to be registered by the VCN.
- The apparent differences between the veterinary professionals and veterinary paraprofessional cadres has the potential to impact negatively on the delivery of veterinary services.

Recommendations:

A. The FMARD should convene a dialogue session among all stakeholders (VCN, NVMA, NAAHHT and FDVPCS) to comprehensively discuss the concerns of the NAAHHT and reach agreement on mechanisms for addressing them and to ensure that whatever outcome is reached it should be fully compliant with OIE standards.

B. Conduct assessment of VPPs staffing needs at LGAs as these are the frontline workers in contact with farmers.

C. Strengthen support for the CAHWS scheme.

Evidence (as listed in Appendix 7): E5, E19, E20, E30, E43, E52, E79-81, P21-24, P49, P51, P52

I-2 Competency and education of veterinarians and veterinary paraprofessionals *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. Veterinarians** *This references the OIE Day 1 and advanced competencies, and the OIE model core curricula for veterinarians*	**Levels of advancement**
	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 (2007) – Level 3
- PVS Gap Analysis (2011) – Level 3 (5 year target)

Findings:

There are 11 Faculties of Veterinary Medicine in Nigeria. Ten of these faculties are accredited by the Veterinary Council of Nigeria (VCN) while one is in the process of accreditation. All universities in Nigeria need to be accredited by the National University Commission and the VCN. The veterinary curriculum is the same in all the universities as the standards are set and audited for compliance and continued accreditation by the VCN. Veterinary curricula obtained from the five universities visited in the FCT and States – Abuja, FCT; Jos, Plateau State; Ibadan, Oyo State; Maiduguri, Borno State and Zaria, Kaduna State - confirmed the similarity in the provision of theoretical and practical training in a wide range of veterinary and related disciplines to undergraduate students. The deans and professional staff interviewed at the universities visited all stated awareness and implementation of the OIE recommendations on the competencies of graduating veterinarians (Day 1 Graduates). Tuition is free although the students pay a minimal fee for other boarding and lodging expenses.

The students all undergo training in pre-clinical, para-clinical and clinical subjects. During the clinical years, veterinary students can observe the practice of the veterinary profession and see cases of various diseases during ambulatory sessions, in field situations and at Veterinary Teaching Hospitals. However, insufficient funding for these practical programmes limits the exposure of students to clinical cases during the clinical years. In an innovative approach, the University of Jos has entered into a memorandum of understanding (MoU) with the Plateau State government. This enabled the University of Jos to operate the State Veterinary Hospital

in Jos, Plateau State as a Veterinary Teaching Hospital, providing exposure of students to actual clinical and laboratory practice.

It was also observed that even highly experienced veterinarians working at State and LGA levels have lost practice for some skills because of the insufficient operational funding over time to perform practical work.

All the Veterinary Faculties, except the University of Jos, currently enrol post graduate students at Master and Post Doctorate levels in various veterinary disciplines.

The VCN in 2012 approved the establishment of the College of Veterinary Surgeons of Nigeria for specialist training. This training is being done at selected universities such as Ahmadu Bello and Ibadan.

The Nigeria Field Epidemiology and Laboratory Training Programme (NFELTP) is a two-year in-service training programme in applied epidemiology and public health laboratory practice. This programme, supported by the Centre for Disease Control (USA), was created to be a long-term programme within the Nigeria Centre for Disease Control (NCDC)/Federal Ministry of Health and the Federal Ministry of Agriculture and Rural Development. Nigeria is among the first countries to incorporate the veterinary track in this programme. The mission observed that staff in various FDVPCS divisions either are past graduates or were currently enrolled in the field epidemiology programme.

Key Changes from 2007 to 2019:

- Number of Veterinary Faculties increased from 5 to 11 with 10 now being accredited by the VCN.
- Establishment of CVSN.
- Implementation of NFELTP.

Strengths:

- Nigeria has accredited Veterinary Faculties in each geo-political zone.
- The veterinary curricula at the universities are regulated by the VCN based on agreed standards and the curricula are periodically reviewed to maintain international guidelines and to maintain relevance with the changing needs of industry and society.
- Students from other African countries have graduated from the veterinary schools in Nigeria and successfully practice at home.
- The FMARD is an active supporter of the NFELTP which has to date graduated 223 persons in its two-year hands-on training.
- Nigeria has a large base of veterinary manpower

Weaknesses:

- Insufficient funding for the Universities to continuously update and improve the veterinary teaching facilities.
- Limited exposure of undergraduate students to clinical cases, laboratory diagnostic assays and field situations.
- Insufficient operational funding to enable veterinarians at State and LGA levels to continuously practice their professional skills.

Recommendations:

- Strengthen funding for veterinary education establishments.
- Share best practices for improvements such as the University of Jos' operating its teaching hospital through an agreement with the Plateau State Secretariat.

- Maintain the NFELTP ensuring training of Federal staff in the States as well as State veterinary staff.
- Enhance evidence-based advocacy with State Governments for the disbursement of operational funds to enable field activities.
- Strengthen OIE Day One competencies in veterinary curriculum.

Evidence (as listed in Appendix 7): E65, P35, P36, P64, P70, P88-90, P92

B. Veterinary paraprofessionals	Levels of advancement
This references the OIE Guidelines on Competencies for Veterinary Paraprofessionals, including categories of animal health (on farm, at markets or borders), veterinary public health (in slaughter establishments) and laboratory diagnostics who are recognised by the government or the VSB, having received formal training and qualfications from dedicated educational institutions.	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 (2007) - Level 3
- PVS Gap Analysis (2009) – Level 3 (5-year target)

Findings:

There are many institutions training veterinary paraprofessionals and awarding Ordinary Diplomas and Higher National Diplomas in animal health and veterinary laboratory technology in Nigeria. The Federal Government of Nigeria operates three main institutions for the training of veterinary paraprofessionals, namely: The Federal College of Animal Health Technology in Ibadan, Oyo State that is affiliated to the University of Ibadan and the Federal College of Veterinary and Medical Laboratory Technology and the Federal College of Animal Health and Production Technology that are both located within the National Veterinary Research Institute (NVRI) in Vom, Plateau State. There are also several State-run colleges of Agriculture that provide training for veterinary paraprofessionals. All these Nigeria Government institutions are accredited by the National Board for Technical Education. The accreditation is conducted every three years. The institutions utilize the same curriculum, which is also approved by the National Board for Technical Education who reviews the curricula about every 10 years.

Some of the colleges also conduct short-term on-demand certificate courses in cattle, sheep and goat production and poultry production.

Refresher training in specific areas is provided to veterinary paraprofessionals whenever staff gather to prepare for field activities.

A community animal health workers (CAHWs) scheme targeting secondary school leavers has been introduced and is being supported by the VCN. A group of selected veterinarians have undergone a “Training of Trainers” course and will in the next step, train future CAHWs using

a curriculum developed by the VCN. The CAHWs will receive a certificate and a license once trained and will subsequently be linked to a specific supervising veterinarian. Many NGOs expressed their interest in this programme at a meeting convened in 2018 by the VCN.

Key Changes from 2007 to 2019:

- The VCN is undertaking the voluntary registration of VPPs while awaiting the enactment of a legal framework to make registration for this cadre a legal requirement. However, there is the Animal Health and Husbandry Technologists (Registration) Bill, 2017 which also seeks to register the VPPs.
- The VCN has engaged in capacity building for VPPs since 2012.
- The introduction of a CAHW programme.

Strengths:

- About 40 institutions providing formal, standardised VPP training assured by NBTE accreditation and the setting of standards by VCN.
- Structure in place to provide certificate courses and other short courses, e.g. for butchers.
- Training institutions have farm, clinic and/or laboratories to provide hands-on training.
- A strong National Association of Animal Health and Husbandry Technologists (NAAHHT).

Weaknesses:

- Practical exposure may be limited in some institutions.
- VPPs set up private “livestock services” that are seen as competition by the veterinarians.
- The VPPS in practice are largely unsupervised by veterinarians.

Recommendations:

- Resolve scope of registration of VPPs provided by the two draft bills: amendment of the VCN Act and the Animal Health and Husbandry Technologists Bill.
- Consider VCN accreditation of VPP training institutions.
- The Nigerian Government should provide job descriptions for VPPS as these would guide training institutions on job market needs.

Evidence (as listed in Appendix 7): E65, P44, P54-55, P58-61, P64-65, P70

I-3 Continuing education (CE) *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
	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 (2007) - Level 3
- PVS Gap Analysis (2009) – Level 4 (5-year target)

Findings:

The Veterinary Council of Nigeria (VCN) initiated capacity building for veterinarians and veterinary paraprofessionals (VPPs) since 2012 by organising annual Continuing Education (CE) seminars on topical issues suggested by its members. Veterinary professionals and paraprofessionals registered with VCN are required to attend CE seminars at least once every two years.

The Nigeria Veterinary Medical Association (NVMA) and the National Association of Animal Health and Husbandry Technologists (NAAHHT) also provide CE conferences at their annual national general meetings. These annual meetings are held in different States in order to increase the attendance of participants from the venue State and surrounding States. Both provide proceedings of their respective conferences. Conferences organised by the NVMA often include the sharing of information on priority diseases of animals in Nigeria and on topical national and global issues, such as current disease outbreaks and antimicrobial resistance.

The veterinary faculties offer CE courses on behalf of the VCN, and independently, as well.

The Nigeria Centre for Disease Control (NCDC) through the Field Epidemiology and Laboratory Training Programme (FELTP) offers the Basic Frontline training - a competency-based field epidemiology training to frontline health care workers at Local Government level - to improve surveillance and response to priority disease as part of the Global Health Security Agenda and International Health Regulations core capacity requirements. The Nigeria Basic Frontline training was initiated in February 2016 and is currently running the 10th and 11th cohorts, simultaneously.

The FDVPCS provides specific refresher training to staff immediately prior to their participation in field activities for disease investigation and control of diseases. They also provide refresher training courses that are funded by the Federal Government of Nigeria for meat inspectors,

abattoir workers and butchers to update their skills and knowledge.

Key Changes from 2007 to 2019:

- Training of other stakeholders to improve their knowledge and skills in different aspects of animal health services.
- VCN annual CE conferences initiated in 2012.
- NCDC Basic Frontline Training under the NFELTP.

Strengths:

- Regular CE courses run by the VCN, NVMA, NAAHHT and universities.
- Availability of proceedings from the conferences.

Weaknesses:

- The training provided by the veterinary professional bodies caters for the general membership and does not accommodate specific needs of the Veterinary Authority, for example, risk analysis.
- CE not a requirement for registration by the VCN.

Recommendations:

- VS to conduct a training needs assessment and facilitate training of persons working in those areas of need, for example, training in risk analysis for the relevant officers at NAQS and FDVPCS.
- Include CE credits as a requirement for renewal of annual registration by the VCN.

Evidence (as listed in Appendix 7): E21, E92, P27-28, P31-21, P57

I-4 Technical independence *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 the OIE (and of the WTO SPS Agreement where applicable).*	Levels of advancement
	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 OIE 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 (2007) - Level 3
- PVS Gap Analysis (2019) – Level 3 (5 year target)

Findings:

Technical decisions are based on scientific considerations but may not be implemented because of impromptu changes in administrative policies at higher political levels, conflicting legislation, poor coordination among government agencies and socio-cultural considerations. Technical decisions may also not be implemented because of budgeting constraints – monies are approved but not released hence inability to act on sound technical decisions. NAQS and other Ministries, Departments and Agencies (MDAs), for example, Standards Organisation of Nigeria (SON), were removed from ports and borders in 2011 because of a Federal Government policy restraining their presence. However, in 2018 NAQS and other MDAs were re-instated to all ports and borders. At international airports NAQS officials have been removed by the Federal Airports Authority of Nigeria from their posts at the departure and arrival terminals and confined to the exit area of the cargo terminal.

The Council of the VCN and NAQS Board were disbanded in 2015 following the election of a new Government and have not been reappointed to date. Therefore, key decisions required from VCN and NAQS for the performance of their technical functions as mandated by law cannot be made due to delayed political decisions. Technical decisions by State Directors of veterinary Services (DVS) are sometimes overridden by administrative staff, stakeholders, commercial interests and higher echelons of the State Government. The mission team noted the remark frequently expressed at State level that if a political officer did not like the head of department then funds that could be released to that department are given to other departments.

The present Animal Diseases Control Act 2004 does not provide authority to the VS in some areas of the veterinary domain. Although a draft bill has been prepared incorporating the recommendations made by the OIE legislation mission in 2011, enactment has not occurred.

Additionally, very few regulations exist. Thus, the absence of a legal framework to support technical decisions and measures may compromise the decision-making power of the VS on technical issues.

Key Changes from 2007 to 2019:

- *NAQS, NAFDAC, SON removed from ports and borders in 2011*

Strengths:

- Well-trained and competent veterinary professionals to review and analyse scientific considerations for technical measures.
- Exercise of technical authority where mandate is clear and there is enabling legislation.

Weaknesses:

- While thoroughness is applied in technical decisions the follow-up to these may be incomplete thus introducing loopholes.
- Political decisions to streamline cargo clearance and passenger inspection processes impact negatively on VS Agencies performance at ports and borders.

Recommendations:

- Modernise Animal Diseases Control Act and prepare regulations.
- Appointment of VCN and NAQS Boards by the government.
- Strengthen NAQS through the establishment and launch of the national Single Window at ports and airports, improving relationship NAQS – Nigeria Customs Service (NCS) similar to Joint Committee between NAFDAC – NCS and lobbying for support from the Presidential Enabling Business Environment Council.

Evidence (as listed in Appendix 7): E14, E29, E35, E83, E84, E112

I-5 Planning, sustainability and management of policies and programmes *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
	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 covering most relevant areas. 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:

(Example only – team to complete)

- PVS Evaluation (2007) - Level 4 (Text in 2019 reworded from 2007)
- PVS Gap Analysis (2011) – Level 4 (5-year target)

Findings:

There have been changes in Ministers, Permanent Secretaries and CVOs, although the changes in CVOs have been mainly because of attaining the age of retirement from the public service. At the closing meeting of the OIE mission, there were four former chief veterinary officers present. While this shows that senior staff are appointed as CVOs close to retirement age, it also shows the support of past senior managers to the CVO currently in the post as well as to the FDVPCS. The changes in political officers and senior technical officers have had varying levels of impact on FMARD and FDVPCS policies and programmes with the impacts being more related to personality rather than to policy. The change in Minister brings about the need to re-appoint agricultural and livestock Boards. The Mission found that the Boards for VCN and NAQS were not in place as previous Boards that were dissolved following a change in the political leadership had not been re-appointed.

There is political will to diversify Nigeria's economy by developing the non-oil sector, particularly agriculture. To improve the performance of the agriculture sector, the FMARD's Agriculture Promotion Policy (2016 -2020) which builds on the Agriculture Transformation Agenda developed by the previous agriculture administration recognises the need to modernise the livestock sub-sector by improving the pest and disease control systems. It also identifies the need for providing incentives for modern infrastructure facilities (abattoirs and processing systems), among others. The FDVPCS in consultation with stakeholders also developed a policy and national strategy to combat avian influenza. This was supported by funding from the World Bank. Following the end of the World Bank supported project, the HPAI policy of non-vaccination, culling and the compensation of affected flock owners has been sustained over time with funding from the Federal Government of Nigeria. This was in line with a World Bank policy on sustainability of the HPAI initiative after the end of the World Bank project. In 2017, the FDVPCS led a broad consultative process with stakeholders that resulted in the development and validation of the National Strategy for the Control and Eradication of PPR in Nigeria.

Other priority diseases, however, such as Foot and Mouth Disease, Contagious Bovine Pleuropneumonia, African Swine fever and Newcastle Disease lack policies and strategies to facilitate their control. Opportunities for additional support from international technical and financial partners (especially FAO and World Bank) have not been fully exploited by FDVPCS.

The strong "One Health" initiative in Nigeria under the leadership of the Federal Ministry of Health has led to partnerships and the formulation of policies which serve to strengthen the VS, e.g. FDVPCS with NCDC and the National Policy on food Safety and its Implementation Strategy, 2014.

Key Changes from 2007 to 2019:

- Reformation of the agriculture sector in 2010 – 2011 through the Agriculture Transformation Agenda and the recent Agriculture Promotion Policy (2016 – 2020).
- Re-structuring of FDLPCS to FDAHHS and FDVPCS
- Dissolution of the VCN Board

Strengths:

- Government commitment to reform the agriculture sector in 2010 – 2011.
- Agriculture Development Policy (2016 – 2020) building on Agriculture Transformation Agenda.
- Project funding and goodwill from international partners.

Weaknesses:

- Federal – State coordination of policy can be challenging in matters contained in the concurrent list of the Constitution 1999.
- Absence of programme delivery infrastructure/unit at the federal and state levels delays implementation and donor funding.
- Data collection and evidence-based reporting remains weak.
- Vaccine for HPAI available at some vaccine outlets (illegal entry).

Recommendations:

- Continued commitment (political will, financial) from the Nigeria Government and FMARD to implement the Agriculture Development Policy (2016 – 2020), particularly in the livestock sector.
- Develop mechanisms to strengthen federal – state coordination of policy.

- Develop culture for data collection and analysis at federal and state levels. This will support lobbying for political will and financial commitment as will provide evidence for cost-benefit analysis.
- Proactively engage World Bank, FAO and other partners to support identified gaps in policy formulation and implementation.

Evidence (as listed in Appendix 7): E75, P79

I-6 Coordination capability of the Veterinary Services 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 OIE Codes (e.g. surveillance, disease control, food safety, emergency preparedness and response).*	Levels of advancement
	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 (2007) - Level 3 (1.6 A and 1.6 B considered as one in 2007)
- PVS Gap Analysis (2011) – Level 4 (5-year target)

Findings:

The Mission team was informed that there is a National Livestock Development Committee (NLDC) chaired by the Permanent Secretary of the FMARD which brings together technical stakeholders to coordinate inputs for key policy, strategy and other decisions on livestock development. This committee includes the CVO and other senior staff heading livestock Departments in the Federal Ministry. The recommendations of the NLDC are submitted to the National Council on Agriculture and Rural Development that is chaired by the Minister of FMARD and comprises all the State Commissioners of Agriculture as Members. No documentation on the above was obtained by the mission team.

The FDVPCS, headed by the CVO, has a physical presence and representation in all the 36 States and FCT. The FDVPCS representative at State level liaises with and supports the Director of Veterinary Services (DVS) in the Ministry of Agriculture at the State Secretariat to undertake disease control activities at the State level. Each State Government has several Local Government Areas (LGAs) under its jurisdiction and Area Veterinary Officers stationed in the Local Government Areas report to the DVS. The DVS in turn shares reports and information with the FDVPCS representative at the State level who reports directly to the Epidemiology Division of the FDVPCS in Abuja. These channels also serve to provide feedback between the different levels of the veterinary services. The State DVS also have direct communication with the CVO at FDVPCS. There is thus a clear chain of command in the Veterinary Services of Nigeria from the grassroots operators at the LGA Level to the State DVS and to CVO in the FDVPCS.

The CVO periodically convenes meetings of the State Directors of Veterinary Services and FDVPCS staff at the FCT to discuss issues relating to animal health in the country. However,

there were no minutes of these meetings available. There is no forum that enables the sharing of information and experiences among the DVS in the absence of the meetings convened by the CVO. There is also no mechanism for DVS in a particular geo-political zone to meet.

At the FDVPCS Headquarters, there are five technical divisions namely Quality Assurance and Standards; Epidemiology; Animal Health and Clinical Services; Veterinary Public Health; and Pest Control Services, each headed by a Divisional Director who reports to the CVO. A sub-sectoral planning and coordination unit operates under the office of the CVO. The coordination of disease control is domiciled in the Animal Health and Clinical Services Division while disease surveillance activities are coordinated by the Epidemiology Division. This arrangement may undermine the internal coordination required to effectively execute disease control and eradication programmes. The FDVPCS staff in Abuja should meet on a monthly basis but the mission team got the impression that this was more on an ad-hoc basis.

The other VS Agencies within the FMARD, namely FDAPHS, NAQS and NVRI, do not have an established mechanism for regular consultation with FDVPCS apart from the meetings convened by the FMARD for all its departments and agencies. However, the heads of these agencies can communicate directly with the CVO, if need arises, on disease notifications and other urgent technical matters. The OIE focal point for aquatic animal health is from the Federal Department for Fisheries, within FMARD. This is the only OIE focal point not within the FDVPCS.

Key Changes from 2007 to 2019:

- FDVPCS is separate from Animal Production and Husbandry which is in another department (FDAPHS) within FMARD.

Strengths:

- National committees that bring government stakeholders together: NCA, NLDC.
- Clear, structured chain of command from LGA to State to CVO and vice versa.
- FDVPCS, NAQS, NVRI and FDAPHS in the same line Ministry (FMARD).

Weaknesses:

- No evidence of minutes and reports of internal meetings.
- No regular consultation among the technical staff of the different VS institutions within FMARD: FDVPCS, NAQS, NVRI and FDAPHS.

Recommendations:

- Improve documentation of meetings and activities (taking of minutes and report writing) and establish mechanisms for their regular and timely submissions along the chain of command.
- Establish regular technical meetings at VS central office in the FCT among FDPCS divisions as well as with other FMARD agencies.

Evidence (as listed in Appendix 7): E23-26, E38, E51, E53, E75, E77, E94, P02-03, P05-06, P20, P62-63, P74

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 OIE 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
	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 (2007) - Level 3 (1.6 A and 1.6 B considered as one in 2007)
- PVS Gap Analysis (2011) – Level 3 (5-year target)

Findings:

The FDVPCS and the State VS Offices have a long-established tradition of the involvement of different stakeholders and institutions in the prevention, control and eradication of animal diseases. There are no written MoUs or agreements between the Veterinary Services and other Stakeholder institutions (except for the MoU between University of Jos and Plateau State VS) but there was clear evidence of coordination and collaboration among the stakeholders at all levels. This was exemplified by the confirmation of the State VS, the Universities, the technical training institutions, the NAQS, the VS related regulatory bodies (VCN and NAFDAC), the National Veterinary Medical Association and the National Sheep and Goat Farmers' Association, that they were represented in the formulation and validation of the national strategy for the control and eradication of PPR, among other policy and strategy processes.

Nigeria developed its multisectoral National Action Plan in line with the Global Action Plan on antimicrobial resistance (AMR) in 2017 using the "One Health" approach and enrolled in the Global Antimicrobial Resistance Surveillance System (GLASS). A National AMR coordinating body was established at the NCDC. This coordinating body includes representatives from the human health, animal health and environment. One of the strategies is the One Health

surveillance and research. The NCDC also leads in “One Health” disciplines in zoonoses and food borne disease surveillance, investigation and response. During the field work in Nigeria, the mission team split into two teams. Each of these teams, besides having Federal/State VS counterparts accompanying the teams, also had a representative from the NCDC. This effectively highlighted “One Health” as on all visits the composite team was introduced as “OIE, Federal/State VS and NCDC”.

The FDVPCS is also a key member of other “One Health” initiatives within the Federal Ministry of Health (FMoH) as they were involved with the formulation of the national food safety policy and the preparation of the National Food Safety and Quality Bill, 2017. However, there is need to improve communication with NAFDAC on food safety, veterinary products and animal feed, as NAFDAC is the competent authority for these areas.

NAQS being present at ports of entry and at interstate control posts must communicate on a regular, if not daily basis, with other Ministries, Departments and Agencies (MDAs) present at these posts, namely Standard Organisation of Nigeria (SON), NAFDAC, Nigeria Customs Service, Nigeria Police Force, State regulatory agencies, FAAN and Nigeria Ports Authority.

In addition to these mechanisms, networking and good personal relations between senior staff of the FDVPCS with staff in other MDAs contributes to the coordination of activities between the FDVPCS and other MDAs.

Key Changes from 2007 to 2019:

- MoU University of Jos and Plateau State VS.
- One Health body – National AMR coordinating body at NCDC since 2017.

Strengths:

- There are several well established and strong public institutions supporting veterinary services in Nigeria.
- NCDC as the lead agency in One Health disciplines in AMR, zoonoses and food borne diseases.

Weaknesses:

- No formal agreements between FDVPCS and other government MDAs.
- No documentation of meetings between FDVPCS and other government MDAs.
- Conflict over “turf”, for example, veterinary products competent authority.

Recommendations:

- FDVPCS to establish formal Agreements with FMoH, NAFDAC, NCDC, SON.
- Build capacity of the National AMR coordinating body at the NCDC on the veterinary side.
- NAQS to establish formal agreements with Nigeria Police Force, Nigeria Customs Services, Nigeria Ports Authority and FSAAN.

Evidence (as listed in Appendix 7): E14-15, E53, P25, P34, P39, P162-163

I-7 Physical resources and capital investment *The access of the VS to functional and well-kept physical resources including buildings, transportation, 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
	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 (2007) – Not applicable
- PVS Gap Analysis (2011) – Level 3 (5-year target)

Findings:

The state of physical resources available to the Veterinary Services at Federal, State and Local Government Areas differed from location to location. At the FDVPCS Headquarters in Abuja the physical facilities and equipment were relatively well maintained. There was a cold chain facility in good working condition. Staff at the FDVPCS appeared to be adequately supplied with appropriate IT equipment that is periodically updated. However, access to the internet was acknowledged as a key challenge. In addition, frequent electricity outages necessitate the use of a generator powered by diesel that is more expensive per litre than petrol in Nigeria.

The situation of the physical facilities and equipment in the States visited (FCT, Benue, Nasarawa, Plateau, Lagos, Oyo, Ogun, Cross River, Kaduna, Katsina, Borno) ranged from inadequate to moderately satisfactory. In all the States sampled, access to the internet and electricity supply was a major challenge. The condition of the facilities was determined by the commitment of the respective State Governments to funding the livestock sector. The Veterinary Services in Lagos State had relatively satisfactory facilities as the State Government considers the provision of veterinary services as a priority to safeguard public health and the safety of food of animal origin. Overall, the physical facilities and equipment as well as IT connectivity in all the States visited need to be improved to effectively support the provision of services. Except for Lagos State, the VS at the FCT and the States visited by the mission team did not have government vehicles for field work. Field work was done through the use of private vehicles or by the user of their service providing transportation.

The NVRI has relatively good physical facility and equipment at its main laboratory in Jos, Plateau State to carry out all the functions under its mandate. It has a well-equipped Central Veterinary Laboratory that is able to undertake the diagnosis of the priority diseases in Nigeria. However, the 23 satellite laboratories have issues of inadequate facilities, poor power availability and equipment.

The NAQS has its headquarters at Enugu House in Abuja, FCT and offices at ports of entry. It also has control posts and quarantine stations. As NAQS operates through zonal offices in the six geo-political zones, vehicles are essential for staff to visit the NAQS border and control posts in the zone as well as to move confiscated goods, for example, from the border post at Katsina State to the zonal office in Kano State for destruction. The control posts and quarantine station facilities need rehabilitation. The quarantine station at Shefa, FCT is a work in progress as investments started in 2010 but the station is still not functional as it depends on the periodic injection of funds to advance work on the installations. It requires a transformer for electricity. The recent enactment of the NAQS (Establishment) Act (2018) and the appointment of its Director General sets a strong foundation for NAQS to modernise the services it provides.

Insufficient government vehicles in all the institutions at the Federal and State levels is a severe constraint for the performance of their functions.

Key Changes from 2007 to 2011: *Not applicable*

Strengths:

- NAQS in a position to modernise the services it provides
- Officers perform to the best of their capacity despite poor facilities, no government vehicle, little equipment and scant consumables.

Weaknesses:

- Some facilities are dilapidated.
- No government vehicles for field work.
- Unreliable national power supply with many power outages.
- Dependence by States to receive financial support from Federal Government.

Recommendations:

- NAQS to secure funding to upgrade its facilities including vehicles and incinerators
- Advocacy for Federal and State Governments to invest more in the VS

Evidence (as listed in Appendix 7): E51, E77, E94, E96

I-8 Operational funding	Levels of advancement
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).	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 (2007) - Level 2
- PVS Gap Analysis (2011) – Level 3 (5-year target)

Findings:

The Federal Department of Veterinary and Pest Control Services (FDVPS) prepares and submits an annual budget of its activities to the parent Federal Ministry of Agriculture and Rural Development (FMARD). The budgeting process within the FDVPCS is coordinated by the Planning Division. The budgets are currently subject to a ceiling agreed between FMARD and the Federal Ministry of Budget and National Planning in line with national priorities outlined in the Agriculture Promotion Policy (2016 – 2020). Within FDVPCS, the budgets for the various activities are allocated based on needs and priorities that often include the operations of the animal health service centres, biosecurity, food safety and the purchase of vaccines for the prevention and control of PPR, CBPP, rabies and FMD. Although budgeting is done according to good management standards, the release of approved budgets for operations is outside the control of the VS, both at the Federal as well as at the State levels.

Operational funds for any field and laboratory work at state level are minimal to non-existent. The budget allocations released by the State Governments to the DVS for livestock disease control are often inadequate to meet the needs in the respective States. This compromises the efficiency and effectiveness of the activities of the VS at the field level.

The FDVPCS liaises with the State Government Directors of Veterinary Services to allocate funds from the Federal Government budgets to States to implement programmed activities at field level. This approach provides for complementarity and synergies between the Federal and State Governments in utilising the limited funds available. The service provided by the VS for disease prevention and control is a public good, hence, it cannot generate user fees. Services where fees can be collected are found in other Ministries, Departments and Agencies

(MDAs), namely, NAQS and NAFDAC, which are established service providers charging user fees. Some States allow the operation of a veterinary drug revolving fund but do not give it much importance hence its full potential in providing additional funds for veterinary services is not realized.

The Federal Government (FG) pays the salaries of all public officers directly and not through subventions to the respective MDAs. The oil boom triggered the neglect of agriculture by the FG and this contributed to low morale and little development of the sector. However, with the policy incentives initiated in 2011 through the Agriculture Transformation Agenda and the current Agriculture Promotion Policy (2016 – 2020), it is expected that strategies will be implemented to curtail food imports and increase foreign exchange earnings from agriculture using business principles. However, policy implementation is currently mainly directed towards crops, rather than to livestock.

The National Veterinary Research Institute (NVRI) conducts research and diagnosis of the priority animal diseases in Nigeria. The institute also produces and provides vaccines based on demand to the Federal and State governments as well as to private veterinarians and individual livestock owners. The NVRI has budget lines for both research and vaccine production. However, these are inadequate to enable the production of sufficient vaccine doses to meet the requirements for effective vaccination. Since States have to purchase vaccines additional to what are obtained from FDVPCS, and do not have funds, a vicious cycle has been established of low vaccine production because of low demand, while FDVPCS encourages NVRI to increase vaccine production.

Key Changes from 2007 to 2019:

- National policy to diversify from oil to non-oil sectors with investments in agriculture since 2010.

Strengths:

- Political will to transform agriculture.
- NAQS and NVRI in position to generate revenue.

Weaknesses:

- Poor investment in livestock and VS at States level.
- Increase in “quackery” and use of illegal drugs as VS confined to their stations with very little operational funds, vehicles and supplies.

Recommendations:

- Closer collaboration among States to improve quality of engagement among themselves and lobby State Governments to invest in livestock, not solely relying on the federal government.
- Develop strategy to revive and strengthen the Veterinary drugs revolving fund in the States.

Evidence (as listed in Appendix 7): E51-54, E71, E94, P74-75

I-9 Emergency funding	Levels of advancement
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.	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 (2007) - Level 2
- PVS Gap Analysis (2011) – Level 3 (5-year target)

Findings:

The Animal Diseases (Control) Act, (2004) states that compensation may be paid for animals slaughtered under the Act. Nigeria has 80 listed animal diseases which require immediate notification. There is also a list of priority transboundary diseases and another list of priority zoonoses. However, there is an emergency preparedness and response plan only for HPAI. This Plan includes strategies for compensation. Emergency response funding is not available in the FMARD or FDVPCS budgets. The FDVPCS thus does not have ready access to emergency funding to enable rapid response to animal disease emergencies except for outbreaks of HPAI. This situation is also replicated in the State Departments of Veterinary Services and at the National Veterinary Research Institute.

At the national level, emergency funds for natural disasters are provided by the National Emergency Management Agency. However, this Agency has no provisions for livestock calamities and no emergency funds have been disbursed from this source for livestock-related emergencies. Since 2006, a special fund exists for HPAI that provides for the culling of birds and compensation of the owners. The initial funding was provided through a World Bank intervention from 2007 to 2009 that supported 80% of the compensation costs while the Federal Government of Nigeria provided 20%. Following the resurgence of HPAI (H5N1) in 2014 and the occurrence of a new strain HPAI (H5N8) in 2016, the Federal Government of Nigeria covers 100% of the compensation costs. However, concerns were raised by stakeholders on the slow pace of compensation that discourages farmers from reporting outbreaks of suspected HPAI and re-investing in poultry enterprises. The NCDC also has funds for emergency interventions for outbreaks of zoonoses.

Whenever necessary, the FDVPCS appeals to the Federal Government of Nigeria and partner agencies for funding to support emergency interventions. Such was the case in the outbreaks of HPAI in 2007 – 2008 where the FGN provided emergency funds. Funding for emergencies is currently available from the FAO and World Bank (the Regional Disease Surveillance

System Enhancement (REDISSE) Project). In the recent (January 2019) outbreak of HPAI (H5N8) in Bauchi State FAO funding was secured to implement emergency response measures.

Nigeria reported the first occurrence of Equine Influenza A in January 2019. The disease event started on the 17 December 2018 and was confirmed on the 5 January 2019 when the polymerase chain reactionreagents were obtained by NVRI. State VS were put on alert for early detection and control. Further outbreaks were subsequently reported in donkeys and horses in other states.

Key Changes from 2007 to 2019:

- Experience of HPAI emergency response.
- Experience with zoonoses emergency response.
- Response to Equine Influenza outbreaks.

Strengths:

- Donor agencies present in country to collaborate and assist wit funding for emergency response.
- Funding support available for zoonosis emergency outbreaks through NCDC.
- FDVPCS has experience in identifying and securing funds for emergency response.
- Emergency funds for compensation (HPAI) disbursed by Federal Government.

Weaknesses:

- Emergency funding arrangements do not include compensation for diseases other than HPAI.
- Long delays in payment of compensation.

Recommendations:

- Prepare a generic Emergency Preparedness and Response Plan which can then be used for disease specific plans for prioritised animal diseases.
- Develop a compensation plan for prioritised animal diseases of economic and public health importance.

Evidence (as listed in Appendix 7): E51, E77, E94, E96, P30

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:

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 2.2. Criteria applied by the OIE for assessing safety of commodities.
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.
Article 3.4.12. on Human food production chain.
Points 2 and 5-7 of Article 3.2.14. on National information on human resources/Laboratory services/Veterinary legislation, regulations and functional capabilities/Animal health and veterinary public health controls.
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 animal.
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 hazards of animal health and public health importance in animal feed.
Chapters 6.7. to 6.11. on Antimicrobial resistance.
Chapter 7.1. Introduction to the recommendations for animal welfare.
Chapter 7.2. Transport of animals by sea.
Chapter 7.3. Transport of animals by land.
Chapter 7.4. Transport of animals by air.
Chapter 7.5. Slaughter of animals.
Chapter 7.6. 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 *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**
	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 *laboratory* to obtain a correct diagnosis.
	3. For animal *diseases* and *zoonoses* 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 laboratories (e.g. an OIE or FAO Reference Laboratory) to obtain a correct diagnosis.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

- PVS Evaluation (2007) - Level 3
- PVS Gap Analysis (2011) – Level 4 (5-year target)

Findings:

The Nigerian laboratory network comprises of the National Veterinary Research Institute (NVRI) in Vom, Plateau State and its 23 satellite laboratories in 10 States and FCT Abuja. Furthermore, there are 6 Regional laboratories. The Universities also have diagnostic capacity in the 11 Veterinary Teaching Hospitals. There are 2 private laboratories worth mentioning, namely Animal Care Laboratories with its well-equipped main office in Ogun State, 5 smaller offices in each of the six geo-political zones and Diversay Laboratory in Ogun State.

The NVRI is the centrepiece of this network which covers the country very well. However, it faces budgetary constraints like the other institutions of the Veterinary Services, thus, its management has to strategise in terms of fund allocation. This is done in favour of vaccine production to assist the FDVPCS to meet the needs of the country to vaccinate against the main economic diseases, except for FMD. The institute produces bacterial vaccines (Anthrax, Black Quarter, Haemorrhagic Septicaemia, Brucellosis, Fowl Typhoid, Fowl cholera, CBPP) and viral vaccines (Infectious bursal disease, 3 types of ND, PPR and Rabies). FMD and LSD vaccines are still under development, in the experimental stages and not yet commercialised. Vaccine is produced on demand. Annual production is very difficult to plan for NVRI, as demand for each vaccine might vary from year to year. The lead time for the vaccines in highest demand (CBPP, PPR, Anthrax, Black Quarter) is between 3 and 5 weeks.

Upgrading certain obsolete equipment for vaccine production to increase capacity has been a problem (e.g. labelling machine is currently not working, as service would have to come from the UK for which there are no funds, hence labelling is done manually). Furthermore, while the capacity to produce vaccines for ruminants is adequate and could even be upscaled, the

capacity to produce poultry vaccines is insufficient and poultry vaccines are being imported to the tune of USD 7 million annually. Therefore, the institute proposes to the Nigerian Government to privatise vaccine production. To facilitate this venture, the NVRI has already registered a company (Biological Company Ltd), hoping that an investor could be found. This would allow the institute to redistribute budget to research, diagnostic services and training.

Out of the 23 satellite laboratories that support the national laboratory network, the NVRI considers that only 6 are in good functioning condition to carry out diagnostic services. The other laboratories are mainly vaccine distribution centres or assist the State VS in disease investigation.

NVRI does not charge for testing for notifiable diseases, except from large commercial farmers.

Private laboratories like the six “Animal Care Service Laboratories”, of which one is located in each Zone, provide services such as in Abuja and Ibadan, mainly to poultry farmers (diagnosis of ND, infectious bursal disease, infectious bronchitis, Coryza, AI serology; bacteriology: salmonella, *E.coli*; antibiotic sensitivity testing). Their equipment is adequate for the needs of the clientele. The main laboratory in Ogun State conducts regular proficiency testing with the other laboratories and can conduct a full set of assays, including polymerase chain reaction. The Animal Care Laboratories also test feed samples for which they are well equipped and have a wide range of tests available. They offer these feed testing services to feed mills and to farmers for quality checking, as a lot of feed adulteration is recognised.

The Fleming Fund has carried out laboratory assessment on Veterinary Laboratories and is in the process of refurbishing 6 Veterinary Teaching Hospital laboratories and the Veterinary Public Health laboratory at the University of Ibadan. It also provides support to the Ahmadu Bello University and NVRI. With this support it is anticipated that NVRI can set up a Zoonoses division and can also actively participate in the AMR surveillance in the country under the National Action Plan for Health Security.

The State laboratories visited during the mission can only provide basic diagnostic services such as complete blood counts and parasitology, haemoparasites and gastrointestinal parasites., mainly due to lno power supply to run the equipment and insufficient consumables. Equipment is mainly old, in various states of disrepair and has not been calibrated for lengthy periods. Given this situation, State laboratories, to a certain extent, improvise, e.g. by using revenue from the “drug revolving fund” and collaborating with human hospitals and their laboratories to be able to provide their services.

Key Changes from 2007 to 2019:

- There are more laboratories: zonal laboratories from 5 to 6 with changes in location; State – from 5 to 17 and university laboratories from 5 to 11.

Strengths:

- Very good diagnostic services are available at the national reference laboratory, NVRI, and at a limited number of its zonal laboratories.
- The spatial distribution and coverage of the country by the laboratory network is very good.

Weaknesses:

- The capacity of NVRI’s Central Diagnostic Laboratory is underutilised because of the very small number of samples they receive from the States.
- Vaccine production is on demand and therefore very difficult to plan and introduce economies of scale.
- Poultry vaccine production capacity is not sufficient.
- Overall vaccine capacity cannot be upscaled due to technical problems at the

processing stages (filling machine, labelling machine etc).

- The diagnostic capacity at State level is minimal, although well trained veterinary personnel is available.

Recommendations:

- State Ministries of Agriculture to allocate budgets to its VS laboratories to guarantee at least basic upkeep and provision of diagnostic service.
- FDVPCS and State VS to device a sustainable mechanism to transport samples to NVRI or other specialised laboratories.
- Support NVRI to set up a zoonoses division for AMR.

Evidence (as listed in Appendix 7): E54-58, E83, E90, E96, P67-69, P91

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
	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 preproperate 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.

* For private laboratories the ranking is level 3

Results from Previous PVS Pathway Missions:

- PVS Evaluation (2007) – Not applicable
- PVS Gap Analysis (2009) – Level 2 (5-year target)

Findings:

The public laboratory network (see general description under II.1.A) is widespread throughout the country, but suffers from insufficient equipment, reagents and consumables. Furthermore, none of the 23 NVRI satellite laboratories have transport of their own. Well-trained manpower strength, however, is available throughout the network. A crucial deficit is the small number of samples that are taken to the satellite laboratories and to NVRI. The main reasons quoted are insufficient funds and the inavailability of a functioning system for the transport of samples. Currently, the NVRI receives 90% of its samples from private practice and only 10% from Government clinics and animal health personnel, a good indicator that diagnosis of diseases in the field is based on clinical suspicion and not on laboratory confirmation.

Communication between the network members is mainly by phone. There is no LIMS to link the network through an electronic database.

NVRI has a recommendable asset of very well-trained staff (40/180 hold a post doctoral regree) which is, due to the funding situation, grossly underutilised. Despite this difficult situation, staff participate in many training programmes, often supported by international partners, and the institute also organises short courses for Continuing Education (CE) of its

staff. Staff also work for the Veterinary Faculty, University of Jos, with whom a MoU has recently been signed. NVRI has excellent facilities for Avian influenza diagnosis and also features a modern BSL3 laboratory in which Rinderpest virus sequencing was undertaken, prior to its global eradication. This laboratory is currently decommissioned as maintenance by the Canadian counterpart is awaiting an Agreement to be signed by the FGN for subsequent inspection to be funded by the FGN.

The Central Diagnostic Laboratory within NVRI is the main recipient of samples from all over the country. However, the number of samples is declining,most being submitted by private clinics. Samples for post mortem are 80% from poultry, and total throughput is about 1000 samples per year. The Laboratory has a high sample turnaround time. The Central Diagnostic Laboratory features a separate Rabies laboratory where it can produce results in 2 hours and serology, microbiology, histology and clinical pathology laboratories.

Private laboratories are also well distributed (see II.1.A) but service mainly the commercial poultry sector and other commercial livestock enterprises. The level of advancement for private laboratories is ranked at level 3.

Key Changes from 2007 to 2019: *Not applicable*

Strengths:

- A network of laboratories is available throughout the country.
- The national reference laboratory NVRI is of high standard and able to perform all required testing.

Weaknesses:

- The services available at State and LGA level are minimal.
- Low numbers of samples submitted in general, but particularly to NVRI.

Recommendations:

- Develop a sustainable mechanism for sampling and sample submission including replenishment of transportation equipment (e.g. cooler boxes).
- Prioritise and designate some laboratories to specific diseases, e.g. PPR, and equip accordingly in order to distribute specific capacities in a wider geographic spread.
- Support the intention to commercialise NVRI's vaccine production so that NVRI can focus on research and diagnostics.

Evidence (as listed in Appendix 7): E54, E55-57, E69, E90, P66

C. Laboratory quality management systems (QMS) *The quality and reliability of veterinary laboratory testing servicing the public sector VS as assessed by the use of formal QMS including, but not limited to, attainment of ISO 17025 accreditation and participation in proficiency testing programmes.*	Levels of advancement
	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. All 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 systems, 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 (2007) – Not applicable
- PVS Gap Analysis (2009) – Not applicable

Findings:

The NVRI applies formal QMS in which it is guided by ISO guidelines. NVRI has a well-staffed Quality Assurance Technical department that oversees implementation of QMS. It has its own bacteriology, virology and physio-chemical laboratory. The Department has staff as Quality Managers in each of the NVRI divisions.

The Department carries out quarterly internal audits and in case of non-conformity, it guides the respective laboratory on how best to solve the problem. The staff of the department have received many trainings, also with the SON. There was one external audit of the Quality Assurance Technical department in the framework of an international training on laboratory management, however, no other such external audit has been done since or is being planned.

The NVRI carries out proficiency testing with international laboratories such as CIRAD, ANSES, the OIE reference laboratory in Padova, Italy, FAO, IAEA, PANVAC (e.g. just recently one proficiency testing was carried out on PPR) and have completed two OIE twinning programmes (rabies, FMD) while one on AI is still ongoing.

The QMS department also oversees that instruments and equipment are regularly calibrated and serviced. This, however, has often to be done by the manufacturers of the instruments, which currently cannot be done due to insufficient funds. Calibration of weights and pipettes is done in-house as far as possible, although some instruments are not available at the Institute for some calibration processes.

The QMS department also carries out testing for external clients on demand, e.g. on quality control of imported vaccines. NAFDAC carries out regular inspections of NVRI, particularly the QMS department.

Vaccines produced by NVRI are tested in-house following OIE guidelines but are also sent for quality control to AU-PANVAC. Imported vaccines must also have a PANVAC certificate and

are also tested by NAFDAC. To check on various parameters such as contaminants and residues, NAFDAC uses its own laboratories, 3 of which are ISO 17025 certified.

One of the largest private laboratories in the country, visited during the mission (Animal Care) which supports the livestock, poultry and animal feed sector also operates a QMS and is regularly inspected by SON and NAFDAC.

No QMS is applied at the satellite laboratories, however, the major NVRI satellite laboratories participate in proficiency testing carried out by NVRI.

The Nigerian National Accreditation Service (NiNAS) provides accreditation services to conformity assessment bodies in accordance with standards published by the International Organisation for Standardisation (ISO).

Key Changes from 2007 to 2019: *Not applicable*

Strengths:

- The national reference laboratory as well as private laboratories use a QMS.
- The Nigerian National Accreditation Service (NiNAS) is in Abuja and provides accreditation and training in ISO standards.

Weaknesses:

- NVRI applies ISO standards, but is not ISO 17025 accredited.

Recommendations:

- Complete the setting up of QMS.
- NVRI to obtain ISO or equivalent accreditation from NiNas for calibration and testing.
- Purchase the missing instruments to capacitate the QMS department to carry in-house calibration of equipment.

Evidence (as listed in Appendix 7): E54, E55-57, E90

II-2 Risk analysis and epidemiology *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
	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 OIE 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 (e.g. legal instrument) 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 (2007) - Level 2
- PVS Gap Analysis (2011) – Level 3 (5-year target)

Findings:

The situation as described in 2007 has not changed, though the Quarantine Services, formerly domiciled in the FMARD, have been transformed into an independent para-statal Agency, NAQS. This Agency, however, has received a Director General only in December 2018 and might now be better placed to reinforce border controls – one measure to control import of diseases into the country (see II.3).

Risk analysis as such is currently not being carried out in Nigeria for countries from which Nigeria imports animals and animal products. Risk analysis on transhumance is not carried out. Responsibilities for risk analysis regarding imports, North – South movement and inter-State movement should be clarified between competent authorities.

The epidemiology division of FDVPCS has staff with higher Degrees in epidemiology who are capable of conducting risk analysis. Several staff in the Department have participated in the Nigeria Field Epidemiology and Laboratory training programme supported by NCDC. One member of staff within the Epidemiology Unit has the mandate to carry out risk analysis.

The PPR National Strategy Plan requires a risk analysis on disease distribution and prevalence to be carried out to advance from Stage 1 to Stage 2. This activity should be a priority for FDVPCS for which it could use in-house capacity.

The Department referred to a risk analysis that had been carried out when an importer requested to import snails. Mention was also made of a risk analysis on Ebola that was performed on request of the Federal Ministry of Health. However, no documentation on any risk analysis that might have been carried out was provided.

Key Changes from 2007 to 2019:

- The creation of NAQS as an independent para-statal Agency.

Strengths:

- Trained epidemiologists in position at FDVCP and NAQS.

Weaknesses:

- No risk analysis is being done.

Recommendations:

- FDVCPS to organise refresher training in risk analysis for their staff in the epidemiology unit.
- Training in risk analysis for NAQS staff.
- Conduct a risk analysis for the National Strategic Plan on PPR to allow the country to move from Stage 1 to Stage 2.

Evidence (as listed in Appendix 7): E33, E37, E43, E58, E107

II-3 Quarantine and border security *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
	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 (2007) - Level 2
- PVS Gap Analysis (2009) – Level 3 (5-year target)

Findings:

Until 2008 animal quarantine was a responsibility of the then FDLPCS. Quarantine was then removed from the Department and placed into a department on its own, still under the FMARD. However, only in 2018 was this department accredited under the NAQS (Establishment) Act as an independent, para-statal Agency, NAQS. A Director General was appointed in December 2018 and received presidential assent in January 2019. The NAQS has offices in the six geopolitical zones: with the south-south office at Port Harcourt recently being opened.

The NAQS (Establishment) Act, (2018) does not stipulate that a risk assessment on plant, animals or aquatic resources imports shall be carried out in the country of origin, neither does the Animal Disease Control Bill (2018), hence the prevention of introduction of pests and pathogens into the country is not risk based but purely on control measures using the licensing, permit, inspection, approval and certification system, the mandate of which lies with FDVPCS.

The powers of the Agency have been reinforced under the 2018 Act and, in addition to controlling the international land – sea - airport borders, they are rehabilitating quarantine control posts along the West – East tangent (Jebba, Lokoja, Makurdi) with the objective of controlling the movement from north to south of pastoralist cattle and small ruminants. The mission team visited Makurdi post where rehabilitation of the quarantine station has progressed well.

However, an ongoing conflict over double taxation by State revenue collectors versus NAQS and State livestock inspectors has created a major obstacle. Even though the Nigeria Federal Government (NFG) has revoked double taxation on Federal roads, the Amalgamated Union of Foodstuff and Cattle Dealers of Nigeria decided that if these revenue collection posts are in place, they will not comply with the inspection posts requests to stop and have their documents and animals inspected. At the inspection point visited, only 20% of vehicles would stop for inspection while the other control points report that nearly 100% of vehicles refuse to stop.

NAQS, now empowered after the enactment of the NAQS Act, has started to negotiate with the Miyetti Allah Cattle Breeders Association of Nigeria on this issue. More generally, it has been realised that only advocacy with farmers and traders can resolve the conflict.

Some States expressed their concern over NAQS inspections at inter-state level as they would prefer them to concentrate on the international borders and leave the control at inter-state borders to the States.

Despite the efforts by NAQS and the FGN, the land borders with the neighbouring countries are porous and it is a well acknowledged fact that livestock travels on hoof across the green borders. Even if livestock on the hoof crosses a controlled border post and arrives without a valid Health Certificate, the mission was informed that they can be allowed entry and are directed to the nearest veterinary station (usually a livestock market) to obtain this permit, which can only be issued by the State VS. The mission was shown samples of health certificates for semen, horses, and meat and dairy products but not for live cattle.

NAQS officers reported that their presence was not desired at some stations such as seaports and airports by the respective authority (FAAN, NPA) managing these facilities. NAQS officers do not always have good and easy access to inspect departing and incoming goods, Challenges were observed in the division of tasks with the FDVPCS issuing import permits while NAQS must confirm the correctness of these permits at international borders without having the necessary background information, leading to difficulties in discovering non-conformities. SOPs for decision making on e.g. confiscation, destruction, quarantine – on farm or at quarantine station - are not available and lead to ad-hoc decisions when animals come to an international point of entry. In case of need to dispose of confiscated products, Lagos airport reported that the incinerator cannot be used.

NAFDAC officers who are also present at ports of entry handle products under their mandate: processed foods (fish and fish products, meat and meat products and milk and milk products) and drugs and biologicals. Products in non-compliance are held pending laboratory analysis which can be fast tracked to get results within 24 – 48 hours.

In the case of import of farm animals, quarantine is done on farm. In the case of Abuja Airport, the nearby Sheda Quarantine Station, under construction since 2010, would need completion to render it fully functional.

Key Changes from 2007 to 2019:

- Quarantine services have become a separate regulatory agency for phytosanitary and sanitary measures for plants, animals and aquatic resources under the Ministry of Agriculture and Rural Development - Nigeria Agriculture Quarantine Services (NAQS).
- Posts are manned by NAQS staff (veterinarians and paraprofessionals) supported by livestock staff, State Police and traffic police.

Strengths:

- Quarantine is a separate Agency and has been reinforced in its capacity with the appointment of the Director General, among others.
- NAQS shown to have high level of compliance with the Executive Order (EO1).
- Facilities at interstate control posts are being renovated with good results at the posts

visited.

Weaknesses:

- The Union action currently paralyse the inter-state inspection system.
- Ad-hoc decision at points of entry on measures for imported animals; very few SOPs.
- Working conditions for quarantine staff are sub-optimal in some seaports and airports.

Recommendations:

- Responsibilities for livestock inspection at intra- and inter-State level need to be clarified and agreement to be reached on revenue collection.
- Develop SOPs for procedures at point of entry – confiscate, destroy, allow entry, quarantine etc.
- Clarify roles regarding issuance of movement permits at borders and do not allow non-inspected animals to cross the border in search of a movement permit.
- Enforcement of the NAQS (Establishment) Act (2018) should also be pursued at seaport and airport stations to provide NAQS staff better working conditions.

Evidence (as listed in Appendix 7): P40-42, P46, P51-53.

II-4 Surveillance and early detection *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**
	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 (2007) – II.5A and B were combined, Level 3
- PVS Gap Analysis (2009) – Level 4 (5-year target)

Findings:

Disease reporting for all diseases is currently based on passive surveillance only. Farmers report to their local Area Veterinary Officer or Animal Health Superintendent or to the nearest veterinary clinic. In most States visited, the staff does not have vehicles or motorbikes to attend to reported cases. They use their private cars or transport provided by the farmers and farmers then need to pay for their services. Due to inadequate sampling material and little means for transportation of samples, clinical diagnosis of reported cases is mostly not supported by laboratory diagnosis. To exemplify this, a total of 421 samples were received at NVRI for diagnosis of PPR in 2018 of which 177 were positive, while 68 major outbreaks with many cases were reported in the National Animal Disease Information and Surveillance (NADIS).

Reporting forms are used to collect the information at field level on monthly abattoir report, monthly disease report, emergency disease report, monthly report form for surveillance agents and wildlife disease report forms These reporting forms were developed during the PACE project when there was a functioning network of surveillance agents in place. They appear to be too many and too detailed for the reporting that takes place these days.

Disease reporting from the field follows the three-tier structure of the country, i.e. from the Area Veterinary Officers to the Area Head of disease control to the DVS of the State or FCT to the Federal officer in the State. This officer compiles the data either electronically in an excel sheet, most often using his/her own computer, or in paper form and sends it to the Epidemiology Division in FDVPC to the Sanitary Information Management (WAHIS) Focal Point.

At Federal Department level the submissions from States are collated and, if necessary, transferred from paper form into electronic form, and verified. For data entry the ARIS 2 data base is used into which the electronic submissions can be uploaded. Monthly, quarterly, six-monthly and annual reports can be generated using NADIS.

During the mission such reports were, however, not available at FDVPCS level. The last annual report dates from December 2016. Currently, the task of data compilation and reporting to international organisations (OIE, AU-IBAR, WAHO) rests on one person, therefore, there is currently little capacity to analyse data and to determine trends, risks and disease distribution. Under-reporting of disease outbreak information also results in a reluctance to use the collected data for any risk analysis or risk assessment.

Public attitude to disease reporting is poor, if not opposed to reporting because of fear of VS intervention and loss of animals. Previous efforts by Federal and States governments to provide an incentive to farmers for reporting and sample taking have resulted in an attitude of expectancy. There are few initiatives to educate the communities on this, such as the outreach programme of the University of Ibadan.

The poor disease reporting by private clinics, private laboratories and Universities to the VS remains an issue. It was reported that Universities have published articles on disease outbreaks that they studied, but never reported on. The same goes for private clinics and laboratories. Meetings have been held to solve this issue. Collaboration between private clinics and Universities and the State VS, who must provide the disease reporting forms, does not always exist, but in the case of Ibadan University's Teaching Hospital, was just put in place, so forms are now available, and reports will be submitted.

Reporting to the OIE has been regular by 6-monthly reports during the past 5 years, the WAHIS Focal Point submits these reports to the OIE. Immediate notifications and early warning messages are submitted in a transparent way, as was demonstrated during the HPAI (H5N8) outbreak in Bauchi State which occurred during the mission (January 2019) and the Equine influenza A outbreak which occurred in donkeys in Sokoto State in December 2018 as a first occurrence of an OIE listed disease in the country.

Key Changes from 2007 to 2011:

- The effective epidemic-surveillance network established under PACE and utilised during HPAI crisis has become largely defunct.
- Disease reporting to the OIE has improved and has been regular during the past 5 years for 6-monthly reports and prompt for immediate notifications.
- Very few samples from passive surveillance submitted for laboratory diagnosis.

Strengths:

- A WAHIS Focal Point is in place and very active with regular reporting to OIE, AU-IBAR and WAHO.
- Some very dedicated field officers trying to collect data under difficult circumstances

Weaknesses:

- Diagnosis of reported cases is largely based on clinical observation and not supported by laboratory diagnosis.
- Inadequate mobility of surveillance agents and veterinary staff in general to respond to

farmers' reports on cases in livestock.

- Cumbersome reporting with little feedback on remarks and recommendations made on the forms by field officers.

Recommendations:

- Strengthen the staff composition for data collection, compilation and analysis within the Epidemiology division of FDVPCS.
- Simplify disease reporting formats and reduce number of forms.
- Consider developing an App for mobile phones to collect disease reports on simplified reporting formats.
- Ensure that disease reporting data are summarised regularly (at least quarterly), published as reports and regularly circulated to all divisions and States VS.
- Improve the internet connectivity and accessibility in the Department.
- Devise a sustainable system for transportation of samples from the field to the nearest laboratory or NVRI.

Evidence (as listed in Appendix 7): E1, E28, E45-46, E49-50, E60, E69, P19

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
	1. The VS have no active surveillance programme.
	2. The VS conduct active surveillance for one or a few *diseases, infections* or *hazard*s (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 OIE standards for some *diseases, infections* or *hazard*s, 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 OIE standards for some *diseases, infections* or *hazard*s 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 OIE reporting obligations.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

- PVS Evaluation (2007) – II.5A and B were combined, Level 3
- PVS Gap Analysis (2009) – Level 4 (5-year target)

Findings:

Currently, there are no active surveillance programmes, due mainly to insufficient funds but also due to there being no clearly defined animal disease control programmes for diseases other than PPR and HPAI.

It is acknowledged that a sound structure for active surveillance was set up during the PACE programme for Rinderpest until the country was recognised as free by the OIE in 2010. During the 2006 - 2008 HPAI crisis and its resurgence, the country used the wide network of surveillance agents and laboratories, some of which are still on site but do not have sufficient operational funding to carry out active surveillance on wild birds, live bird markets and poultry farms. Ongoing regular surveillance for HPAI was reported from Lagos State.

While the existence of the PACE surveillance structure is acknowledged, it's functionality has largely stopped. Surveillance points have been removed, particularly in the north of the country, often due to insurgencies and other security issues; others that are still in place have neither the means of transport nor operational funds. A restoration of a functioning structure might need an assessment of what is still in place and what would be needed as a minimum to embark on a new disease control programme, such as the PPR National Strategic Plan (NSP) which has a strong element of surveillance during all stages of the programme. It is

envisaged that once funding for the NSP becomes available, the surveillance points can be reactivated to carry out the necessary PPR surveillance.

There are also some singular surveys carried out as and when the need arises and funds are available, e.g. in 2013 survey in 6 States in the North-East and North-Centre;

It was observed that disease control activities reside in the Animal Health Division and the surveillance activities in the Epidemiology Division within the Department. Good internal coordination would be a prerequisite for any surveillance-based control programme to function.

A recent outbreak of Equine Influenza A in Sokoto has led to a communication campaign to all States to be on the alert for the disease in equids, but a systematic sampling for detection of antibodies was not mentioned. The communication has been effective as outbreaks have subsequently been reported in three other states: Kaduna, Bauchi and Kebbi.

It should be mentioned that the initiative to identify and to train Community Animal Health Workers (CAHW) could provide additional manpower to implement the surveillance part of any disease control programme.

Key Changes from 2007 to 2019:

- No ongoing national active surveillance programme.

Strengths:

- The surveillance structure built under the PACE project is partly still in place but not activated due to insufficient operational funds.

Weaknesses:

- The reactivation of the surveillance structure would require large investments
- No sustainable transportation system for samples in place.

Recommendations:

A. Establish a sustainable transportation system for sampling and sample submission to the nearest laboratory or NVRI.

B. Analyse the surveillance structure in its current form, taking into consideration staffing, availability of materials, consumables and means of transport.

C. Prioritise elements of the structure that are essential to reactivate it.

D. Calculate the investments needed to reactivate the structure and integrate in any forthcoming programme for funding by national, state or international budgets.

Evidence (as listed in Appendix 7): E28, E66, P53

II-5 Emergency preparedness and response *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
	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 (2007) - Level 3
- PVS Gap Analysis (2009) – Level 3 (5-year target)

Findings:

The "HPAI Emergency preparedness and action plan for surveillance and control" lists all the necessary steps to be undertaken for an early response in the event of an outbreak. The FDVPCS have successfully responded to HPAI outbreaks during the height of the crisis in 2006 and its re-emergence in 2015. However, these interventions were supported by well-resourced donor funded projects.

The FDVPCS has no emergency fund as such (see I.9) and would need to apply for assistance to the Federal Government through the Minister as the National Emergency Management Agency deals only with natural disasters.

However, in the case of an unexpected outbreak, like Equine influenza A reported in January 2019, quick response occurred and demonstrates that the capacity to detect and to respond to emerging threats is there, but action is informal and not documented, or following SOPs.

WhatsApp groups are in place to alert and disseminate information on outbreaks and on action taken and yet to be taken across the States.

A compensation plan exists for depopulation during HPAI outbreaks, however, farmers complain since the payments can take as long as 2 years. This is exemplified on the 2016 outbreaks in Lagos State and Kano State during which 768 infected premises were depopulated (3.4m birds and 2.7m eggs) and by end of 2016 only 276 farmers had received compensation. Compensation for depopulation for ASF outbreaks are given in kind not in cash.

The PPR National Strategic Plan does not contain a Contingency Plan for events of massive outbreaks with high mortality.

The REDISSE Project has a facility to assist in case of emergencies in the livestock or food safety sector. These funds could be released upon justified request to the World Bank.

Key Changes from 2007 to 2019:

- Re-occurrence of HPAI (H5N1) in 2015 and occurrence of HPAI (H5N8) in late 2016. Both viruses are still circulating.

Strengths:

- REDISSE project has emergency facility.
- Experience in disease response to animal disease of high economic importance and potential public health impact.

Weaknesses:

- No direct budget line for Emergency response available to the FDVPCS.

Recommendations:

- Establish sustainable mechanism (Federal and State) for emergency response to sanitary emergencies.
- Establish a separate budget line for emergency response.
- Integrate a Contingency Plan in the PPR NSP.

Evidence (as listed in Appendix 7): E2-3, E24, E26, E38-39, E51, E75

II-6 Disease prevention, control and eradication *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
	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 populations3, 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 nationwide 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 OIE 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 control or eradication programmes for all priority *diseases* with scientific evaluation of their efficacy and efficiency consistent with relevant OIE 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 (2007) – Not applicable
- PVS Gap Analysis (2009) – Level 3 (5-year target)

Findings 2019:

Disease control is the responsibility of the State government, while the Federal government develops policies and assists, upon request, to support the States, e.g. with the purchase of vaccines or in support of disease investigations or emergency response.

At Federal level, disease control and prevention fall under the responsibility of the Animal Health Division, which has four branches, namely Monogastric, Ruminant disease, Veterinary Clinics/Laboratory and Fish & Aquatic Diseases which is seen as a support unit to the Department of Fisheries and Aquaculture of the FMARD.

There are several national control programmes, namely CBPP, PPR, ASF, NCD in rural chicken and FMD. A disease control strategy exists only for PPR (National Strategic Plan, 2018) and HPAI (National Pandemic Influenza Preparedness and Response Plan, 2013). Strategies for CBPP and FMD existed but the team was informed that they were outdated and needed to be updated. All other diseases are covered by the general disease control policy in the Animal Disease Control Act 2004.

[3] One may need to cross-reference this CC with CCs on Zoning and Compartmentalisation as appropriate.

NVRI is the backbone for disease control programmes for ruminants as it produces most bacterial and viral vaccines, including CBPP, PPR, Anthrax, Haemorrhagic Septicaemia, Black quarter etc. However, capacity for poultry vaccine is insufficient and poultry vaccines are being imported to the tune of USD 7 million annually.

Surveillance data to inform the FDVPCS on disease distribution and prevalence are largely derived from passive surveillance (see II.4.A.and B). Given that at State level, due to insufficient funds and often adverse attitude of livestock owners to sample collection, DVSs indicated that diseases are under-reported. The Epidemiology Unit at FDVPCS acknowledge that the compiled reports do not reflect the true situation on the ground. This is exacerbated by the fact that very few samples are taken and sent to the laboratory network, particularly if this would involve long distance transport of the samples at a cost. Therefore, the majority of diagnoses from the field are based on clinical suspicion without laboratory confirmation.

Since the recent onset of the World Bank funded REDISSE project, the FDVPCS and selected States receive some support for active surveillance.

Disease reports from abattoirs and slaughter slabs are a good source of information, as veterinarians and VPPs are present in most slaughter facilities. However, their work is often hampered by the non-cooperation of butchers who expect payment for condemned carcasses (partial or whole) (see II.7.B).

Throughout the mission the issue of under-reporting and poor collaboration from private veterinarians, private laboratories and universities in terms of disease reporting and sample submission came up. Therefore, it can be concluded that more awareness of the importance of reporting is required. This awareness should be built starting at the University level for veterinarians and at the Technical Colleges for the VPPs.

A challenge to disease control in resident livestock populations in the southern part of the country is the annual transhumance of cattle from the northern parts during the dry season. These animals often introduce infectious diseases like PPR, CBPP, FMD, LSD into the resident populations. Currently, the control and inspection en route of these animals is difficult and rarely done (see II.12.A). Disease surveillance and control in the North East zone of the country is challenged by security issues arising from insurgencies and herdsman/farmers conflicts. In this regard the introduction of CAHWs appears to be a good initiative, using local agents recruited from the villages to carry out basic animal health services and disease reporting (see II.4.B).

Disease control by the VS is carried out mainly by routine vaccination using bacterial and viral vaccines produced by NVRI. States can place their orders for the various vaccines with NVRI which produces the vaccines on order. Distribution of vaccines is mainly done through the 23 NVRI satellite laboratories (see II.1.A). Recently, NVRI requested States to pay when collecting their order. Given that most States did not receive any operational budget in 2018, this led to drastic reduction in demand by States. States had to request FDVPCS for their assistance to provide them with vaccine. Vaccination campaigns are organised, and vaccine is administered free of charge. Some States indicated that they take a nominal charge to be able to purchase petrol for transport.

Type and quantity of vaccines are provided to the States based on their requests and not on the basis of a risk assessment of disease distribution, prevalence and anticipated highest impact of vaccination. Quantity of vaccines dispensed to States are not sufficient to cover 80% of the targeted population. Given the scarcity of funds, this appears not to be an optimal system to allocate vaccines.

The mission team observed in all States visited the erratic to non-existent power supply, while generators are usually available, petrol to run them is not. This leaves a big question mark on the efficiency of the cold chain for vaccine storage and distribution up to the point of use.

The consequence might be too little vaccine of unknown quality (due to problems of cold chain) being used to little or no effect. The effectiveness of any of the vaccination campaigns carried out is not checked, e.g. by post-vaccination sero-monitoring, except in some research studies.

Commercial poultry farmers usually purchase imported poultry vaccine and have their own private veterinarians carrying out the vaccinations. It was observed that the poultry sector is well organised, and the Poultry Association of Nigeria is a very strong producer organisation with representation in every State.

Disease control by treatment is challenged by the existence of many small “Agrovet shops” with all sorts of veterinary drugs and ointments, often not registered by NAFDAC and possibly of dubious quality or fake. These shops were seen by the team mainly in the north of the country. The owners of these Agrovet shops also deliver animal health services and are largely considered as quacks.

Some notes on the economically important diseases:

FMD: 4 serotypes circulate in Nigeria: Type O, A, SAT 1, SAT 2, the West African genepool is reflected in Nigeria. A trial vaccine has been produced at NVRI but is not yet commercialised and it appears that it will take a long time. FMD was detected in pigs in 2018 by researchers from the University of Ibadan, in an outbreak that was suspected to be ASF. In the absence of a vaccine, the control of FMD, which is widespread in the country, is by empirical treatment only.

HPAI: due to the outbreaks of HPAI in 2006 - 2007 and 2015 onwards, laboratory capacity for HPAI diagnostics is found at NVRI and elsewhere, particularly in private laboratories.. NVRI can do virus isolation (H5N1 and H5N8 virus strains were isolated) and has all necessary molecular techniques available. The country has a no-vaccination policy against avian influenza and can rapidly activate the emergency measures such as movement ban, biosecurity and stamping out measures that had been established during the main 2006 – 2007 HPAI crisis. This was ably demonstrated during a confirmed outbreak of HPAI (H5N8) in Bauchi State during the mission. AI surveillance is being carried out on a regular basis in Lagos State. However, there is constant debate on whether or not to allow vaccination because compensation in the event of an outbreak takes such a long time (claimed to be around 2 years) that farmers might lose theirenterprise. Vaccination is done by some commercial and backyard poultry producers, despite the “no vaccination” policy.

Equine Influenza: the country reported an outbreak of Equine Influenza in Sokoto State to the OIE in January 2019. A country wide sensitisation campaign is under way and currently efforts are undertaken to identify the influenza strain causing this first occurrence of the disease. While there is no general vaccination policy, Lagos State implements vaccination policy for its resident horses, using imported vaccine.

Rabies: rabies is a widespread problem and deaths in humans were reported in most of the States visited. Rabies vaccine is produced by NVRI, but distribution is limited by funding. The NVMA through its members, e.g. University of Ibadan, engages in annual free rabies vaccination on World Rabies Day in September. However, there is no nationwide strategy to curb rabies incidence. ECOWAS supports the “Society for Rabies in West Africa” with annual Conferences.

ASF: is a big threat to the pig production. In Lagos State, the State with the most extensive pig production, a stamping out policy is applied. However, no direct compensation is provided, only through other incentives like pig feed or disinfectant.

CBPP: the disease is believed to be endemic in the country, but goes largely unreported, for example during the year 2015 there was no single report on CBPP recorded as shown in the annual report of 2016.

***Key Changes from 2007 to 2019**: Not applicable*

Strengths:

- Most vaccines can be produced in-country at high quality.
- Vaccines are quality controlled in-house at NVRI and tested and certified at AU-PANVAC.
- A functioning reporting system is in place, but under-utilised

Weaknesses:

- The distribution of vaccines is not based on a risk assessment of distribution and prevalence of diseases and the effect of vaccine use on reduction of prevalence is not monitored.
- The effectiveness of vaccination campaigns is not assessed by post vaccination serology and regular checks of the cold chain.
- Disease diagnosis in the field is largely based on clinical signs only without laboratory confirmation, despite very good laboratories being available.
- Disease control in resident livestock populations is hampered by influx of pastoral cattle during the dry season, introducing diseases from other parts of the country.

Recommendations:

- Integrate courses on the importance of surveillance, laboratory diagnosis and disease reporting into the curriculum of Veterinary Schools and Technical Colleges.
- Consider introducing some cost recovery on vaccines in order to allow for larger quantities to be ordered and used.
- Carry out a study to critically assess the effectiveness of the cold chain in each State (see also PPR Annex) and assure its functionality before the next purchase of vaccines.
- FDVPCS should enhance their efforts to analyse the compiled field data at regular intervals in order to detect trends and disease patterns as a contribution to risk assessment and decision-making regarding distribution of scarce vaccines.
- The States should monitor the effectiveness of their vaccination campaigns by post vaccination sero-monitoring and disease surveillance in vaccinated populations.
- FDVPCS should present these data in report form regularly and distribute them to all Divisions (the eNewsletter was a good tool, but was discontinued and not replaced).
- FDVPCS should produce an annual report on the disease situation in the country in a timely manner and distribute it widely to all stakeholders.

Evidence (as listed in Appendix 7): E1, E31-32, E47, E63-68, E95, P20, P33, P48, P71

II-7 Animal production food safety *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
	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 (and coordination, as required) 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 (2007) – Not applicable
- PVS Gap Analysis (2009) – Level 3 (5-year target)

Findings:

An assessment of the Nigeria Food safety system conducted by the FMOH in 2010 showed an outdated and fragmented system. Government agencies that are involved in food safety include 5 federal ministries (FMOH, FMARD, Federal Ministry of the Environment, FMST and the Federal Ministry of Industry, Trade and Investment), their state ministries and relevant departments at the Local Government Areas. Enactment and implementation of food safety legislation is also fragmented among the three tiers of government. Recent initiatives to harmonise and improve the food safety system include the National Policy on Food Safety and its Implementation Strategy (2014) developed by the FMOH and the draft Food Safety and Quality Bill (2017) that is applicable to the Federation of Nigeria and establishes the National

Food Safety Council and the National Food Safety Management Committee (functional since 2010) for the official control of food and feed safety. The Bill also establishes the obligations of food and feed business operators and defines the functions and powers of institutions of federal and state governments with the objective of ensuring that food and feed safety risks are effectively managed. The Inter-Ministerial Committee on Food Safety and the National Food Safety Management Committee were created to enable the country to harmonise its food safety practices.

The National Agency for Food and Drug Administration and Control (NAFDAC), established in 1993, is the national food safety authority. It regulates and controls the manufacture, importation, exportation, distribution, sale and use of food and drugs, among other regulated products. All regulated products must be registered by NAFDAC. The Food Safety and Applied Nutrition Directorate is one of 14 directorates at NAFDAC. This directorate supports food safety programmes by ensuring food facilities adhere to good manufacturing practice. The mission team was informed by the FMOH that they regulate, through NAFDAC, processed and packaged food at food manufacturing and catering establishments. Food and meat processors are registered with NAFDAC and butchers are registered with the FMOH. NAFDAC has two internationally accredited food laboratories.

NAFDAC's food regulation activities also cover:

1. Licensing of food manufacturing premises;
2. Registration of food products and issuance of marketing authorisation;
3. Importation and exportation of food;
4. Inspection for GMP and GHP of food producing premises of foreign establishments whose products are to be imported into Nigeria;

NAFDAC's other important roles in Food Safety include:

- WTO (SPS) Enquiry Point (EP) in Nigeria (visit: www.spsenquirypointnigeria.net)
- INFOSAN Focal Point
- WHO – International Health Regulations (IHR)
- Member of the Nigerian delegation to Codex meetings
- Chair of the General Purposes Technical Committee of the National Codex Committee (NCC)
- NAFDAC is the designated Rapid Alert System for Food and Feed (RASFF) focal point in Nigeria and therefore relates with European union on Food matters
- Secretariat of Nigeria's National Food Safety Management Committee (NFSMC)

The FDVPCS has the Quality Assurance and Standards Division and the Public Health Division which regulate food safety, as well. The Quality Assurance and Standards Division addresses commodity certification, veterinary drugs and food whereas the Public Health Division addresses abattoirs and dairy and meat hygiene. Thus, the FDVPCS is in charge of ante mortem and post mortem inspection of meat, abattoirs, milk hygiene and honey. Meat at meat markets is a grey zone regarding competent authority for registration and inspection.

Key Changes from 2007 to 2019: *Not applicable*

Strengths:

- Unified policy and legislation on food safety as cited above at National Assembly.
- NAFDEC has national presence with ISO 17025 accredited food laboratories.

Weaknesses:

- Overlap of functions, absence of working collaboration and co-ordination with poor communication among Nigeria's food regulators and the overwhelming product adulteration/faking constitute a major challenge within Nigeria's food safety system.
- many processed foods are routinely smuggled into Nigeria (through land borders, by sea and by air) without passing through the registration process.
- Import risk assessment for processed food is deficient.

Recommendations:

- Finalisation of legislative approval for the Food Safety and Quality Bill.
- Funding for the National Food Safety Management Committee.
- The FDVPCS be the competent authority for animal product processing establishments.

Evidence (as listed in Appendix 7): E31-32, E84-88, E93, P8-14

B. *Ante-* and *post mortem* inspection at slaughter facilities and associated premises	Levels of advancement
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 carcases 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 paraprofessional 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.*	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 (2007) – Not applicable
- PVS Gap Analysis (2009) – Level 3 (5-year target)

Findings:

Responsibility for ante-mortem and post-mortem inspection lies with the FDVPCS at Federal level and with the States and LGAs at their level. At Federal level the Meat Hygiene Bill is awaiting its approval since 2001; the OIE legislation mission found this Bill still missing food safety requirements. States have their own legislative basis (Meat hygiene laws) for meat inspection.

FMoH's and NAFDAC's responsibilities commence at processed food and point of sale level. Butchers therefore have to register with FMoH. A food safety policy (2014) exists, that is being revised in view of reorganisation of the sector but is not yet approved. NAFDAC regulates processors of processed and packed food, oversees implementation of HACCP of food processors. To check on various parameters such as contaminants and residues, it uses its own laboratories, 3 of which are ISO 17025 certified.

Veterinarians and VPPs are present at abattoirs for ante- and post-mortem inspection. They record their findings in the "monthly abattoir report form". Information from these forms is collected monthly and forms part of disease reporting to FDVPCS. They need to make adjustment in the application of standards to the poor infrastructure of municipal abattoirs, which in some places lack electricity and even running water. The poor state in terms of maintenance of buildings, adherence to abattoir regulations by butchers, hygiene, animal

welfare and waste management was also highlighted in the 2018 Opening Workshop of the Africa Sustainable Livestock Project ASL 2050 (FAO).

CE and short refresher courses in meat inspection, animal handling and abattoir procedures are offered by the College of Animal Health and Production Technology in Vom.

Bigger abattoirs serve as marketing places for traders that bring large numbers of animals and sell / slaughter them off in small numbers. Animals can stay for one week or more and develop and manifest diseases such as PPR, CBPP, FMD while at the lairage, introducing the potential of a high risk of spreading the disease. All abattoirs/ slaughter slabs visited did not have isolation facilities.

Environmental contamination, particularly of water with liquid and solid slaughter waste is of great concern in the abattoirs/ slaughter slabs visited. One shining example of CSR[4] was seen in a Lagos abattoir which has installed a biogas converter for liquid waste into gas to be used by the processors of skins and hides and other offal. Lagos State is at the centre for slaughter of animals that have travelled from the north to the south for marketing. Lagos State has a throughput of 6000 heads of cattle and 3000 small ruminants per day, 12 public and 5 private abattoirs and slaughter slabs, The State has also used assistance of law enforcing agencies to clamp down on wide spread illegal slaughter, 20 such illegal slabs were closed and 250 people prosecuted. The State VS acknowledges that butchers need more training to upgrade their standards of slaughter and carcass handling.

Abattoirs are classed into A (automatized slaughter lines), B (semi-automatized), C (slaughter slabs). Countrywide, only a few abattoirs are in class A. In Ibadan, the DVS has closed 23 slaughter slabs (out of 30) and centralised slaughter in one class B abattoir. Slaughter takes place on the floor, but there is ample space, waste water removal and integration of the abattoir into a “village” with a market, a veterinary clinic, facilities for processing of the carcass and retail of the meat and by products In Lagos, an improved class B abattoir provides metal moveable platforms to improve from slaughter on the floor. During the mission it was not possible to see an operational class A abattoir, however, the DVS Lagos confirms that all private abattoirs in Lagos are class A.

Other States visited have only class C slaughter slabs (e.g. Cross River) with low throughput. The facilities visited, because of single animal slaughter, were clean and well kept, however, liquid waste management was poor.

In general terms, the buildings and installations provided for slaughter are not maintained and upgraded and therefore hygienic standards are variable and provide very poor conditions for thorough post-mortem meat inspection.

A major concern was expressed over disputes with butchers on condemned carcases (partial or whole) showing signs of disease. For different reasons, butchers / owners expect to receive compensation for condemned carcases.

Key Changes from 2007 to 2011: *Not applicable*

Strengths:

- VS are present at all categories of slaughter facilities to carry out ante-mortem and post-mortem inspection and to record findings.

Weaknesses:

- Difficult and poor hygienic conditions for VS to carry out their mandate.
- Poor acceptance for the need of ante-mortem and post-mortem.

[4] Corporate Social Responsibility

- Long stays in lairage with the possibility to manifest and contract disease.
- No isolation facilities in lairages.
- Dificulties with law enforcement.

Recommendations:

- Awareness creation with butchers, traders, people working in meat cutting, offal treatment on the need for improved hygiene and the need for ante-mortem and post-mortem inspection.
- CE for staff working at slaughter facilities to keep them abreast with disease recognition, particularly in the absence of laboratory confirmation.
- Stronger cooperation with the Environmental inspectors and Water and Sanitation Inspectors on the public health risk of liquid and solid slaughter waste being removed into rivers and open sewages.
- VS personnel to receive assistance from law enforcing authorities to be able to carry out their mandate, including carcase condemnation without paying compensation.

Evidence (as listed in Appendix 7): E15-18, E31-32, E44, E48, E93-94, P8-14, P17, P43, P50

II-8 Veterinary medicines and biologicals	Levels of advancement
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.*	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 (2007) – Level 2
- PVS Gap Analysis (2009) – Level 3 (5-year target)

Findings:

Veterinary medicines and biologicals are sold through veterinary retail outlets («Agro-vets») made up of agro-veterinary shops, pharmacies, general shops and open market veterinary shops. The agro-veterinary shops stock most classes of drugs including trypanocidals, anthelmintics, antibiotics, acaricides, agro-chemicals like fertilizers, vaccines and surgical materials. Many of the veterinary shop owners and sales persons in rural areas do not have professional qualification, although according to the Veterinary Practicing Premises Registration Regulation (2018) they should have it.

NAFDAC established the Veterinary Medicines and Allied Products Directorate (VMAP) in 2013 to regulate and control the manufacture and importation of veterinary medicines, veterinary products, pesticides and agro-chemicals, feeds, feed additives and pet food. This Directorate was established to more efficiently address issues of veterinary medicines regulation as both the VS and the VCN raised concerns of inadequate regulation, as noted in the 2011 Legislation Mission report. There are many informal veterinary retail outlets and NAFDAC does not have sufficient manpower to control all of them. To tackle the human drug quality problem in Nigeria, NAFDAC follows a uncompromising strategy of prosecutions and well-publicised seizures and burnings of drugs. While these efforts should be rightly celebrated, improving veterinary drug safety may require a different approach. Many retailers in Nigeria prescribe and sell veterinary drugs without the necessary licences – but it would achieve little to harshly prosecute such vendors when government support and regulation has been ineffective for so long.

The FDVPCS issues import permits for animal vaccines, infectious agents/specimens and other biological materials under the Animal Disease Control Act, (1988). There are plans to repeal the Animal Disease Control Act (1988) and to replace it with the amended Animal Disease Control Bill, (2018). This new draft, which is before the National Assembly, seeks to regulate the importation of veterinary medicines, veterinary biologics, pesticides, infectious agents and products of biotechnology into Nigeria.

The VCN, which also has responsibility for the distribution, sale and use of veterinary medicines, registers veterinary practicing premises. The Veterinary Practicing Premises Registration Regulations (2018) was published in the official gazette in January 2019. In 2018, the VCN registered the following:

Veterinary medical or Veterinary Pharmacy	85
Importer of Veterinary Drugs	20
Wholesalers	5
Manufacturer of two product lines	1
Manufacturer of one product line	1
Manufacturer of one product	1

The FMOH under the Pharmacy Act requires that pharmacies dispensing medicinal products including veterinary drugs must have a registered, licensed pharmacist on the premises. However, the Veterinary Practicing Premises Registration Regulation 2018 does not require to have a Pharmacist in a veterinary premises. The School of Pharmacy has included veterinary pharmacy in their curriculum.

Key Changes from 2007 to 2011:

- NAFDAC established the Directorate of Veterinary Products and Allied Products in 2013.
- VCN's Veterinary Practicing Premises Registration Regulations (2018) were published in the official Gazette in January 2019.

Strengths:

- Veterinary medicines and biologicals are under the supervision of veterinary surgeons whether at NAFDAC, VCN or FDVPCS.
- Veterinary medicines on sale at veterinary pharmacies with NAFDAC registration number help guarantee against fake drugs.
- NAFDAC monitors and enforces the entry and sale of illegally imported medicinal products.

Weaknesses:

- the principal stakeholders (NAFDAC, FDVPCS and VCN) are working at crossed purposes.
- Availability of prescription only medicines over the counter at most, if not all Agrovet stores.
- Many unlicensed vendors / retailers prescribing and selling prescription only medicines.

Recommendations:

- Establish a formal dialogue among the key parties in the MOH, NAFDAC, FDVPCS, VCN to effectively resolve the issue of proper regulation of veterinary medicines and biologicals.

- Conduct awareness and education among users, especially at rural levels.
- Review and revise legislation to define the precise roles and responsibilities of the respective competent authorities with a mandate for regulating the import, manufacture, distribution, storage, whoesale and retail sale and use of veterinary medicines and biologicals.
- Increase efforts to create awareness of the importance for compliance with rules relating to restrictions on the sale of prescription only medicines.

Evidence (as listed in Appendix 7): P1-7, P71, E33, E42, E99, E101

II-9 Antimicrobial Resistance (AMR) and Antimicrobial Use (AMU) *The authority and capability of the VS to manage AMU and AMR, 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
	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 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 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 (2007) – Not applicable
- PVS Gap Analysis (2011) – Not applicable

Findings:

Nigeria has a large market for pharmaceuticals. Manufacturers and importers have vertical distribution channels for wholesalers and retailers who have minimal government supervision. Thus, medicines (human and veterinary) are often sold in unregistered and unlicensed premises and, in many cases, by non-pharmacists. Other factors leading to irrational drug use in Nigeria are the shortage of licensed prescribers and medicines in some areas and the proliferation of under-regulated patent medicine vendors and hawkers in others. In the agricultural sector antimicrobials are liberally used therapeutically and for growth promotion by farmers who demand antimicrobials for real or presumed infections and procure them from unsanctioned sources even when they are not prescribed.

The Nigeria National AMR Coordinating Body was established in 2016 at the NCDC. Subsequent to this, a National AMR technical working group was created comprising stakeholders from human health, animal health, food animal production and environmental sectors. A situation analysis of AMR was conducted by this working group.

The results of the situation analysis formed the basis for the National Action Plan for Antimicrobial Resistance (2017 – 2022).

The mission team found general AMR awareness among health professionals in the medical and veterinary sectors. NAFDAC recently banned (December 2018) the use of antibiotics as growth promotants and mould inhibitors in animal feed. Most veterinary laboratories have microbiology capacity and routinely perform sensitivity testing. There is no national capacity to serotype Salmonella; all culture identification is done to Salmonella spp. only.

Key Changes from 2007 to 2011: *Not applicable*

Strengths:

- AMR focal point and "One Health" action plan in place.
- Availability of AMR training curriculum in universities.
- AMR situation analysis conducted.
- National AMR laboratory designated (NVRI).

Weaknesses:

- FDVPCS has insufficient funds to implement "One Health" disease surveillance activities.
- High level of smuggling of unregistered veterinary drugs and substantial counterfeit ("fake") drugs in circulation.
- There is no national reference laboratory for AMR and few quality-assured microbiology laboratories.

Recommendations:

- Build AMR diagnostic capacity at the NVRI, the designated national AMR laboratory, and strengthen sample submission.
- Implement awareness and education programmes with veterinary professionals, livestock associations and livestock farmers promoting antimicrobial stewardship and prudent use of antibiotics.

Evidence (as listed in Appendix 7): E22, E29, E33, E40-42, E99

II-10 Residue testing, monitoring and management *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
	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 (2007) – Not applicable
- PVS Gap Analysis (2009) – Level 3 (5-year target)

Findings:

The indiscriminate use of agro-chemicals and antimicrobials without regulation and control and veterinary supervision along with the poor awareness of the food safety consequences lead to residues violation in products of animal origin (food animals, bees, fish) in Nigeria. There is no national residue monitoring plan and programme for animal products. However, there are current initiatives to develop a national residue monitoring plan for honey. There are many regulatory MDAs with a mandate for residues: Ministry of the Environment, NAFDAC, FDVPCS and FDAPH. Maximum residues limits are not set by any of the MDAs but NAFDAC adopts the Codex Alientarius limits and, when necessary, those of the importing country.

NAFDAC regulates food (imported and local), chemicals (including heavy metals), agro-chemicals (pesticides) and veterinary medicines through its different directorates. To check on various parameters such as contaminants and residues, it uses its own food and drug laboratories, 3 of which are ISO 17025 certified.

At the FDVPCS, the Quality Assurance and Standards Division addresses commodity certification, veterinary biologics and food safety whereas the Public Health Division addresses abattoirs and dairy and meat hygiene.

While the Mission team was in Nigeria the FMARD's Federal Department of Extension Services and the National Association of Nigerian Traders held a sensitisation rally against illegal importation of staple foods and indiscriminate use of chemicals on food. MDAs that also participated included Nigeria Customs Srvices, SON and NAFDAC. This is important because while regulatory control may be exercised in legally imported and registered food, veterinary medicines, the availability of great quantities of illegal imports puts human health at risk.

Key Changes from 2007 to 2019: *Not applicable*

Strengths:

- National capacity to test for residues in accredited laboratories.
- Conduct of rallies with other MDAs to create awareness.
- Development of a national residue monitoring plan for honey.

Weaknesses:

- Illegal imports and their availability and accessibility undermine national programmes for safe food.
- Very little monitoring being done for residues in livestock value chain.

Recommendations:

- Strengthen veterinary supervision of antimicrobial use in animal production, especially in value chain products for export.
- Introduce residue monitoring in large commercial establishments producing animal products for the national and export market.
- Strengthen awareness and education on food safety consequences of misuse of agro-chemicals and antimicrobials.

Evidence (as listed in Appendix 7): E111-112, E117

II-11 Animal feed safety *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
	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 (2007) – Not applicable
- PVS Gap Analysis (2011) – Not applicable

Findings:

Animal feed in Nigeria is regulated by the Nigerian Institute of Animal Science (NIAS), NAFDAC, SON and the FMARD (FDVPCS and FDAPHS). There is an International Finance Corporation (a sister orgnaisation of the World Bank) 2018 – 2022 project to streamline the regulation of animal feed to remove overlapping or redundant regulatory requirements related to the standards and quality control mechanism. The project also supports reforms to better and more efficiently regulate animal feed in markets, and coordinate government agencies involved in regulating animal feed.

The Quality Assurance and Standards Division of the FDVPCS is responsible for animal feed safety but it presently is developing capacity to execute its responsibilities. NAFDAC is responsible for animal feed registration and every commercial feed sold must be registered. The registration is valid for five years. The VMAP Directorate of NAFDAC regulates the manufacture and distribution of feeds, feed ingredients and feed additives. NAFDAC has many guidelines for feed importation and registration of animal feed.

The Nigerian Institute of Animal Science (NIAS) along with NAFDAC and SON are addressing the area of feed quality regulation. The adulteration of the raw feed materials is a major problem.

The International Feed Industry Federation's (IFIF) pilot Train-The-Trainer programme under IFIF Global Animal Nutrition programme was held in Nigeria in 2015, in partnership with the NIAS. The objective was to train a body of Trainers on animal feed safety for an eventual self-regulation in the feed sector, through the implementation of the Codex Alimentarius Code of Practice on Good Animal feeding, using the IFIF/FAO Manual.

2015 data from NIAS showed that Nigeria has about 787 commercial feed mills which produced 3,300,000 tons of commercial feed. On-farm mixing is about 841,500 metric tonnes.

NAFDAC banned the use of antibiotics (growth promoter and mould inhibitor) in feed in December 2018.

The private veterinary laboratory, Animal Care Services Konsult, has a proximate/feed analysis laboratory for toxin level determination and proximate analysis of raw materials, feed ingredients and finished feeds.

Key Changes from 2007 to 2011: *Not applicable*

Strengths:

- Nigeria is a member of the International Feed Industry Federation.
- Legislation in place to register animal feed.
- Animal feed establishments are registered and licensed.
- Animal feed MDAs addressing feed quality.
- International Finance Corporation project to streamline regulation of animal feed.

Weaknesses:

- FDVPCS still developing capacity in animal feed regulation.
- Most feed is mixed on-farm and therefore not quality controlled.

Recommendations:

- Strengthen animal feed unit in FDVPCS with more staff.
- Creation of a national animal feed committee.

Evidence (as listed in Appendix 7): E62, E111, E114 – 116, P91,

II-12 Identification, traceability and movement control 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 animals, 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. 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 (2007) – Not applicable
- PVS Gap Analysis (2011) – Level 3 (5-year target)

Findings:

There is no National Animal Identification and Traceability System in place in Nigeria, but there are pilot projects undertaken both by FDVPCS (Animal Health Division) and by the Department of Animal Production and Husbandry Services.

States try to control animal movement at the intra-state and inter-state level through several control posts by inspection of movement permits and revenue collection. Generally, the intra-state control does not appear to be working. However, in some states such as Lagos State, it is claimed that there is full control of vehicles transporting cattle into the State. Only registered transport vehicles are permitted to enter Lagos City area; these actions are reinforced with the support of the police. Free roaming livestock is confiscated.

Issuance of movement permits takes place mainly at livestock markets by the livestock officers that are placed there. These permits are State permits for cattle being transported out of the market and indicate that the animal has been inspected and is fit to travel. Abattoirs do not necessarily request movement permits; however, some do.

If official veterinarians wanted or needed to trace animals back to their origin, it is claimed by many State DVS that traders or, in the case of the abattoir, butchers would know the origin of the animal and its owners. This system does appear very reliable for events linked to recent movements. Traditional methods of animal identification are available, and the VS could build on these to develop an animal identification system.

There is no registration of livestock owners or livestock premises. Indirectly, livestock owners could be identified through their respective associations, such as the Sheep and Goat Breeders or Cattle Associations. The National Sheep and Goat Farmers Association is currently encouraging their members to settle in “cluster farms” which are being set up mainly in the North on areas of around 40,000 acres grazing land with boreholes. They are meant to hold up to 2000 small ruminants. These types of farms would be ideal to register owners and animals. There is no legal instrument for the registration of poultry farms, though it is encouraged by both FMARD and the Poultry Association of Nigeria.

A major challenge to State authorities’ attempts to control animal movement is the seasonal movement of cattle from north to south along the well-known transhumance routes. These routes are also used by pastoralists from Eritrea, Sudan and Chad into the Northeast Nigeria and also from Mali, Niger into the Northwest Nigeria then from North to South in Nigeria. These movements increase the local resident cattle population manifold during the dry season in the States that lie on the transhumance routes. Not having means of identification and movement control puts resident populations at disease risk and triggers widespread herdsman-sedentary farmer conflicts. In the case of Oyo State, which has large grazing areas in the north of the state, cattle used to stay only for about 3 months and would then move into Benin. However, it was stated that Benin has closed its border for transhumant cattle, with the effect that cattle will stay for about 6 months in Oyo State, aggravating an already difficult situation.

Key Changes from 2007 to 2019: *Not applicable*

Strengths:

- The importance to establish a National Animal Identification and Traceability System has been realised by the FDVPCS.
- Some private farmers have implemented animal identification.
- Pilot projects on the National Animal Identification and Traceability System are ongoing.

Weaknesses:

- Pilot projects on the National Animal Identification and Traceability System are not coordinated, a national database is yet to be developed, preconditions like livestock owner registration are not yet legally enforceable.
- Effective movement control not possible in all parts of the country.

Recommendations:

- Coordinate and streamline pilot projects on the National Animal Identification and Traceability System between FDAPHS and FDVPC at the FMARD and with other stakeholders, for example, the Implementation Committee on the curtailment of cattle rustling in Nigeria.
- Create regulations for registration of livestock owners, livestock ownership identification, cattle loading and offloading permits and livestock movement control.

Evidence (as listed in Appendix 7): E27, E91, P15-16, P18

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. 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 (2007) – Not applicable
- PVS Gap Analysis (2009) – Level 3 (5-year target)

Findings:

There is as yet no national animal identification system in place in Nigeria, therefore the whole-of-chain traceability approach is not possible, except for big commercial poultry farms with an integrated or partially integrated system. However, the team did not visit such a farm. Integrated and partially integrated poultry enterprises may also include processing plants where broilers may be obtained from the enterprises' own farms or from contract farms.

Food safety and traceability of food of animal origin are still in their infancy in Nigeria (see also CC II.7). A national Food Safety Policy (2014) exists and it stipulates that the following institutions have a mandate for food safety:

- Federal Ministry of Health (here: NAFDAC/VMAP, NCDC)
- Federal Ministry of Agriculture and Rural Development (here: FDVPCS)
- Federal Ministry of Environment
- NAQS
- Federal Ministry of Science and Technology (here: SON)
- Federal Ministry of Industry, Trade and Investment,
- Nigerian Institute of Food Science and Technology
- Their respective state ministries and relevant Departments at the LGAs

Although the NCDC is not listed in the MDAs above, this institution serves as the oordinating agency in Nigeria for disease preparedness and response including food borne diseases. The National Food Safety Management Committee (NFSMC) and Inter-ministerial Committee on Food Safety were established with the approval of the National Policy on Food Safety and Its Implementation Strategy in 2016 by the National Health Council. However, the immediate responsibilities and the inter-sectoral cooperation of the different partners on the ground are obscure and overlapping.

The responsibility for certification for import, export and also inter-State movement of livestock and its products and its traceability lies with FMARD at the Federal level. There seems to be agreement by the States that a Meat Hygiene Bill (see II.7.B) is required as it would allow for proper controls on inter-State movements but there are differences in requirements among States regarding species and type of slaughter allowed. These differences are challenging to solve. The OIE Legislation mission made some recommendations in this regard. The new draft Meat Hygiene Bill incorporates the recommendations of the OIE Legislation mission.

Key Changes from 2007 to 2011: *Not applicable*

Strengths:

- Approval of the National Policy for Food Safety and its Implementation Strategy in 2016.
- Creation of the National Food Safety Management Committee (NFSMC) and the Inter-ministerial Committee on Food Safety.
- Foodborne disease outbreak investigations are carried out by NCDC in a robust and timely manner.

Weaknesses:

- A multi-sectoral response system for foodborne diseases and food safety emergencies is not established.

Recommendations:

- Revisit the recommendations on the Federal Meat Hygiene Bill by the OIE Legislation mission.
- Strengthen inter-sectoral and interdisciplinary collaboration, coordination and information-sharing on food safety and foodborne disease.

Evidence (as listed in Appendix 7): E48, E107, E108, P18

II-13 Animal welfare	Levels of advancement
The authority and capability of the VS to legislate and implement the animal welfare standards of the OIE as published in the Terrestrial Code. *This requires consultation and coordination with Competent Authorities, non-governmental organisations and other stakeholders, as appropriate.*	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 OIE standards, with limited stakeholder or public awareness.
	3. The national legislation and regulations on *animal welfare* cover most OIE 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 legislation and regulations, are being implemented in conformity with relevant international standards and are applied to most sectors and species with stakeholder and public awareness. Documented compliance programmes, including consequences for non-compliance are available.
	5. *Animal welfare* programmes, supported by suitable legislation and regulations, 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 (2007) – Not applicable
- PVS Gap Analysis (2009) – Level 1 (5-year target)

Findings:

Although legislation covering certain aspects of animal welfare exist in Nigeria (for example, the CriminalCode (1990)), there is very little policy or activity in animal welfare. The Animal Diseases (Control) Act 2004 includes some animal welfare provisions relating to the transport of animals such as limitations to the distance animals can be transported for slaughter, rest times for feeding and watering animals being transported for trade, and requirements for stocking density to allow adequate ventilation. The mission team saw no evidence that these were being enforced. Nigerian road safety officials issued information stating that the failure of traders and motorists to responsibly transport animals has been a major cause of road accidents in Nigeria and claimed that “animal welfare is directly related to safety of lives and properties on Nigerian highways.” Institutions using animals for teaching, testing and research have set up their institutional animal use and care committees to approve the use of animals in their institutions, for example, NVRI and faculties of veterinary medicine such as Ibadan and Ahmadu Bello.

FMARD (FDVPCS) set up a National Consultative Committee on Animal Welfare in 2012 to develop a Nigerian Animal Welfare Strategy Document to provide Federal, State and Local Governments with a direction for future improvements in the welfare of animals. A draft

Nigerian Animal Welfare Strategy document was produced in 2016.This strategy called for the establishment of a national animal welfare coordination group. Besides the strategy document, there was no evidence of the strategy being implemented or the draft document finalized.

The FMOH has a National Ethics Committee but there is an expressed need in Nigeria for there to be a separate veterinary ethics committee for animal-based studies. An organization named Animal Care and Use in Research, Education and Testing (ACURET) was incorporated in Nigeria in 2014 as a multinational, interdisciplinary, nongovernmental organization.

The FDVPCS OIE Focal person for animal welfare reported that the Department has no official collaboration with NGO's active in the animal welfare sector.

Key Changes from 2007 to 2011: *Not applicable*

Strengths:

- Animal ethics committees in institutions using animals for research, testing and teaching.
- There is a draft animal welfare strategy document.
- Professional stakeholders' interest in animal welfare legislation.

Weaknesses:

- Very little awareness and education at farmer level.
- Very little policy and activity on animal welfare.
- No collaboration with and support to NGO's active in animal welfare.

Recommendations:

- Finalise draft animal welfare strategy document.
- Enact animal welfare regulations (e.g. slaughter of animals for human consumption or disease control, control of stray dog populations, welfare of animals in research and education, and issues in beef cattle and broiler chicken production systems) using existing legislation such as the Animal Diseases (and Control) Act, 2004 and the Criminal Code, (1990).
- Institute national veterinary ethics committee similar to the one at FMOH.
- Awareness and education on animal welfare of farmers and other actors along the livestock value chain.

Evidence (as listed in Appendix 7): P38, E36, E98, E104-105

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:

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 OIE activities.
Article 3.2.12. on Evaluation of the veterinary statutory body.
Points 4, 7 and Sub-point g) of Point 9 of Article 3.2.14. on Administration details/Animal health 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	Levels of advancement
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 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.*	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 (2007) - Level 3
- PVS Gap Analysis (2011) – Level 4 (5-year target)

Findings:

The FMARD has a website (www.fmard.gov.ng) that is kept updated. The FDVPCS has a page on this website for its activities. The website also has a media page where information on news and events, press releases and newspaper reviews are accessible. Additionally, the Federal Department of Agricultural Extension Services, another technical department in FMARD, is mandated to provide channels for service and information delivery to all stakeholders in the commodity value chains, including partners and agencies within the national agricultural extension system. Thus, they serve as communication points in the State Ministries of Agriculture. The FDVPCS has a designated communication focal point in the Epidemiology Division. There is also a designated communication focal point for the REDISSE project. NAQS, NVRI and VVN also have their own website. NAQS has a Media, Communication and Strategies Division.

The FDVPCS uses communication means such as the FMARD websites, social media, radio, press releases, “town criers”, faith-based institutions as well as rallies and printed matter. National livestock and veterinary associations have State branches and they also assist to disseminate veterinary information to their State branches. This is important because at State level the stakeholders differ, and the information disseminated from the State may be deficient

There is no communication plan except for Highly Pathogenic Avian Influenza.

NAQS makes very little use of posters and other communication means at ports of entry. NVRI has no media on its website.

Given the unreliable electricity and constant power failures, in most offices the lights are not turned on. Although internet data is relatively cheap, accessibility can be difficult.

The status of information dissemination to farmers and livestock owners could not be verified but mention was made by a number of State officials in the North West and North East regions that due to insufficient funding and transport, contact with livestock owners is very limited and only possible if contact with government officials can be established by the livestock owners themselves. Leaflets and pamphlets containing disease and general animal health information for distribution to livestock owners were seen at the National Animal Production Research Institute (NAPRI) in Zaria and at the Nigerian Institute for Trypanosomiasis Research (NITR) in Kaduna.

Key Changes from 2007 to 2019:

- Social media strengthened.

Strengths:

- Designated communication focal points for OIE and REDISSE Project.
- Department of Agricultural Extension Services as a communication resource.
- NAQS, NVRI and VCN have their own website.
- Communication channels have been established and are utilised.

Weaknesses:

- Although Government officials and non-government stakeholders confirmed that meetings are held to disseminate information and discuss animal health issues, minutes are not readily available.

Recommendations:

- It will be beneficial to strengthen formal communication to provide updated feedback on a regular basis on the status of animal health matters in the country. The communication methods and material should be adapted to target stakeholders on all levels, including the livestock owners.
- Improve the capture, documentation feedback of the outcomes and recommendations of stakeholder meetings.
- Improve use of printed media at offices and work areas, especially for NAQS.
- Improve communication with livestock owners and develop relevant communication material.

Evidence (as listed in Appendix 7): E4, E23-26, E100, P16-17, P29, P81-87

III-2 Consultation with stakeholders *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 livestock farmer, meat sector, dairy sector and trading groups or associations, 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
	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 OIE, 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 (2007) - Level 2
- PVS Gap Analysis (2009) – Level 3 (5 year-target)

Findings:

Informal consultation between the FDVPCS (and FDAPHS) and the Poultry Association of Nigeria (PAN) on policies and other activities was confirmed by the President of the PAN, although minutes of such consultations were not available. Veterinary meat inspectors at abattoirs frequently have dialogue with State Butchers Union representatives on inspection issues. As the Union has an office in the same livestock market compound as the abattoir, communication is facilitated.

Projects usually have a built-in consultation mechanism and consultations do take place according to project guidelines and performance standards. An initiative such as the Nigeria Apiculture Platform (NAP) for the bee industry also allows for consultation.

National committees may be set up by government to resolve national issues such as the current farmers/herders conflict and cattle rustling, for example, the National Implementation Committee on Curtailment of Cattle Rustling in Nigeria that was set up by the Nigeria Police Force.

Once proposed legislation has been reviewed by the National Assembly, the Bill is gazetted to allow the general public to be aware of the proposed Bill as well as to provide the opportunity for representation. Public hearing is required of all proposed State bills.

Key Changes from 2007 to 2019:

- none

Strengths:

- National issues bring about establishment of national advisory committees e.g. herdsman/farmers Conflict, cattle rustling.
- Public hearings encouraged by some States before Bills are reviewed by the House of Assembly.

Weaknesses:

- No formal structure for stakeholder communication is in place.

Recommendations:

- Strengthen the consultation process to allow and incorporate feedback from stakeholders in policy development to enhance buy-in and ultimately compliance with policies.
- FDVPCS to increase consultations with the different livestock value chains.

Evidence (as listed in Appendix 7): E14, E23-26, E34, E1102, P50

III-3 Official representation and international collaboration *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 the OIE, Codex Alimentarius Commission, WTO SPS Committee, WHO, FAO and Regional Economic Communities.*	Levels of advancement
	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 (2007) - Level 2
- PVS Gap Analysis (2009) – Level 3 (5-year target)

Findings:

Nigeria is a member of the WTO, OIE and the Codex Alimentarius Commission. The FDVPCS has designated focal points for the eight OIE subject matter focal points. These focal points may be officers in other departments, for example, aquatic animal diseases and laboratories focal points. These focal points attend regional OIE meetings and participate actively. The CVO joined the Department July 2018 hence had not yet had the opportunity to attend the OIE General Session nor the Conference of the OIE Regional Commission for Africa. ECOWAS has the Regional Chief Veterinary Officers Committee as its advisory body for veterinary and food/feed standards. Nigeria as a member country of ECOWAS is a member of this committee.

The CODEX contact point is in the Standards Organisation of Nigeria.

The Federal Ministry of Industry, Trade and Investment is the notification authority for Nigeria to the WTO SPS Committee, and the national enquiry points are:

- Food safety: NAFDAC
- Animal health: FDVPCS

Nigeria notified 17 regular SPS measures to the WTO in the period from 1 January 2011 to 1 March 2017. Nigeria indicated that 14 of the notified measures were based on international standards.

Key Changes from 2007 to 2019:

- Improved WTO notifications.

Strengths:

- Active participation at international meetings.
- Focal points comply with international obligations.

Weaknesses:

- FDVPCS (has 6 of 8 OIE subject matter focal points, other two at NVRI and Federal Department of Fisheries) only attends international meetings when funding is provided externally.

Recommendations:

- Maintain and even improve the level of consultation with international and regional organisations.
- Provide feedback locally on outcomes from international and regional meetings, especially on veterinary products and animal production food safety to NAFDAC.

Evidence (as listed in Appendix 7): E14, E18, E98, E101

III-4 Accreditation/ authorisation/ delegation *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 its behalf, usually via a formal agreement (i.e. public-private partnership).*	Levels of advancement
	1. The public sector of the VS has neither the authority nor the capability to accredit/authorise/delegate official tasks to the private sector or NGOs.
	2. The public sector of the VS has the authority and 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 (2007) - Level 2
- PVS Gap Analysis (2009) – Level 4 (5-year target)

Findings:

Neither the current Animal Diseases (Control) Act (2004) nor the proposed revised version (2018) contain any powers for delegation of authority (sanitary mandate) to the private sector. However, the revised version does contemplate regulating the establishment of laboratories, registration of private laboratories and the sharing of samples and expertise within a labotaory network. The Nigeria Government, federal and state, engages the private sector in undertaking activities as necessary and provides them with field allowances as provided for the public staff during the implementation of disease prevention and control activities. This arrangement is informal but provides additional human resources for the performance of disease prevention and control activities. There is willingness for their continued use but there is concern that if sanitary mandate were legally established and practiced, States would find it more difficult to ask for additional staff.

The Animal Diseases (Control) Act, 2004 in article 21.1(k) states that the CVO or DVS, subject to approval by the Minister or Commissioner of Agriculture, may make regulations for the appointment of officers to carry out the provisions of any regulations made under the Act and conferring upon them all necessary powers. While this may provide for accreditation of veterinarians and veterinary paraprofessionals there is no mandate for the FDVPCS nor NVRI to accredit private laboratories. The proposed Animal Diseases (Control) Bill (2018), however, contemplates regulating the establishment of laboratories and their registration. Currently, no statutory regulation or formal agreement exists to accredit/authorise/delegate official tasks or sanitary mandate to the private sector or NGOs. There is, however, the willingness and

authority to do so, should the need arise. It was confirmed at Federal level that accreditation/authorisation will be implemented at State level if there is a need.

The concern was raised that if sanitary mandate were introduced, States would find it more difficult to ask for additional staff.

Key Changes from 2007 to 2019:

- *Animal Diseases Control Bill 2018 which includes regulation of laboratories and registration of private laboratories.*

Strengths:

- Experience using private sector officers to conduct official tasks though on an informal basis.

Weaknesses:

- Private veterinary diagnostic laboratories are not registered nor accredited by Government and quality of diagnostics is therefore not harmonised or evaluated.

Recommendations:

- CVON, and DVS where applicable, to develop a statutory regulation on accreditation
- Develop an accreditation system with enabling legislation for private veterinary laboratories performing diagnostics for priority disease such as PPR, FMD and AI.

Evidence (as listed in Appendix 7): E51, E72, E77, E94, P39, P65

III-5 Regulation of the profession by the Veterinary Statutory Body (VSB) *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
	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:

- PVS Evaluation (2007) - Level 4
- PVS Gap Analysis (2009) – Level 4 (5 year target)

Findings:

The Veterinary Council of Nigeria (VCN) is the veterinary statutory body for Nigeria. It was established in 1952 and it regulates veterinary practice, educational establishments, veterinary practising premises, registration of veterinarians and professional conduct in Nigeria under provisions made in the Veterinary Council of Nigeria Act, Cap V3, LFN, (2004). Further amendments to the Act have not been possible but a draft revised Bill is currently at the National Assembly. The revised Bill incorporates the regulation of veterinary paraprofessionals. In January 2019 the Veterinary Practising Premises Regulations (2019) was approved. The VCN is headquartered in Abuja, FCT and has zonal offices in each of the six geo-political zones of the country. There are plans tohave an offfcie in all the States.The Board, dissolved in 2015, is awaiting appointment. As it is not operational, decision making is blocked.

Once registered by the VCN, the veterinary surgeon (veterinarian) is free to practice in any State. The linkage of renewal of registration to Continuing Education is considered in the proposed Bill hence it is voluntary presently. The registered veterinarian needs to pay an annual fee for retention in the Register.

The Nigerian Association of Animal Health and Husbandry Technologists (NAAHHT) is a legal entity and has prepared a Bill for the establishment of a regulatory registration council for the Animal Health and Husbandry Technologists in Nigeria, similar in certain terms to the registration body for the veterinarians, the Veterinary Council of Nigeria. The NAAHHT believes that the VSB of Nigeria should not only be the VCN but also include the NAAHHT as a regulatory body for AAHHTs and, according to their proposal, also the veterinary education

establishments. In Nigeria, the nomenclature Animal Health and Husbandry technologist was an award by an arbitration court, following a dispute over role and nomenclature of the paraprofessionals in 1987. As this ruling has never been repealed, the NAAHHT is indifferent to the prefix “veterinary” and does not use it to designate their members or organisations.

Challenges faced by the VCN include disputes from the Pharmacists Council of Nigeria which claims that veterinary pharmacies need to be registered by them.

Key Changes from 2007 to 2019:

- Amendments made to VCN Act (2004), but new Bill not yet approved by National Assembly.
- Veterinary Practising Premises Regulations, (2018) approved by the National Assembly, received presidential assent and published in government gazette in January 2019.

Strengths:

- VCN has regulatory mandate over veterinarians, veterinary education establishments and veterinary practising premises.
- VCN has zonal offices and has plans to have offices in all States.
- VCN holds annual conferences.
- Strong functioning veterinary medical association and animal health and husbandry technologists’ association

Weaknesses:

- Council was dissolved in 2015 and not yet re-instated.
- VPPs are not under a regulatory body in Nigeria.
- Continuing education is not a legal requirement for annual registration.

Recommendations:

- VCN, Nigerian Veterinary Medical Association, NAAPHT and veterinary education establishments to agree on way forward on the regulation of animal health and husbandry technologists and Veterinary laboratory technicians.
- Revival of forum for dialogue between VCN and NAAHHT.
- VCN to have legal authority to require continuing education for their registration of professionals.
- Improve database of VCN registry keeping it comprehensive, validated and updated.

Evidence (as listed in Appendix 7): P26, P37, P59, E97, E106

III-6 Participation of producers and other stakeholders in joint programmes *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
	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 (2007) - Level 2
- PVS Gap Analysis (2009) – Level 4 (5-year target)

Findings:

The VS have established some joint programmes with various non-government stakeholders including interest groups and farmers associations but these are sporadic and sometimes at informal levels. Although at the federal level there was no evidence of joint programmes outside projects, at State level, many States have formal joint programmes with non-government stakeholders. Examples include:

- In Plateau State, the Veterinary Faculty has an MoU with the State Ministry of Agriculture to jointly manage the State's Veterinary Hospital.
- Oyo State Ministry of Agriculture joined with the National Butchers Union of Nigeria to demolish 23 slaughter slabs replacing these with the Ibadan Central Abattoir at Amosun Village.
- Lagos State Ministry of Agriculture had a joint programme with an NGO to build a biogas installation for waste removal

Key Changes from 2007 to 2019:

- More joint programmes

Strengths:

- National livestock, poultry and veterinary Associations with State chapters or zonal chapters with willingness to support initiatives by government and NGOs.

Weaknesses:

- Strength of joint programmes with non-government stakeholders not capitalised by the VS.
- Current joint programmes initiated by private sector rather than public sector.

Recommendations:

- The FDVPCS, NAQS and NVRI to formalise joint programmes with relevant national associations, especially with the poultry and animal feed sectors.
- FDVPCS to establish joint programmes with the NVMA to assist in times of emergency.
- FDVPCS to be proactive in the identification of programmes for partnership with stakeholders as very strong livestock industries and livestock groups exist.

Evidence (as listed in Appendix 7): E17, E73, P65

III-7 Veterinary clinical services	Levels of advancement
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.	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 (2007) – Not applicable
- PVS Gap Analysis (2009) – Not applicable

Findings 2019:

Clinical services are delivered by qualified veterinarians and veterinary paraprofessionals through veterinary hospitals and clinics (veterinary practising premises) in the public and private sectors. The public sector provides clinical services in each of the 36 states and FCT. There are three Federal Government veterinary medical centres situated in urban areas and six veterinary primary animal healthcare centres in the hinterland areas of the country. Each state has at least one hospital and many zonal veterinary clinics which serve several Local Government Areas (LGAs). Clinical services are also provided by veterinary teaching hospitals which serve the state in which they are located as well as contiguous states.

Hinterland/Rural areas in the respective states are mainly serviced by animal health paraprofessionals employed by the State Veterinary Services on State and LGA level under supervision of State veterinarians. There is an initiative to train community animal health workers. Infrastructure, access to consumables, drugs and vaccines as well as the means to verify clinical diagnosis by diagnostic tests are limited due to budget constraints. The availability and quality of anaesthetic drugs in the majority of public clinics could not be established. Some States have a drug-revolving fund, but this fund is not given the importance it merits. Inadequate transport for staff and veterinary medicines and vaccines is critically hampering the service delivery of veterinary services on farm level.

Private veterinary hospitals and clinics are located mostly in the large urban areas.

Infrastructure, equipment and service delivery of veterinary practices in the private sector varies from very basic to adequate. Due to insufficient funding, most public clinics have basic facilities. The number and sophistication of hospitals and clinics increase as one moves from North to South. This is due to population and livestock systems.

Key Changes from 2007 to 2019: *Not applicable*

Strengths:

- 11 veterinary schools (10 accredited and1 undergoing accreditation by VCN) training veterinarians and many technical schools training animal health technicians and laboratory technicians.
- The structure for delivery of clinical services at Federal, State and Local level is in place and functioning, albeit with great difficulties in the public sector.
- A strong veterinary medical association (NVMA) with chapters in every state and annaul conferences.

Weaknesses:

- The access to clinical services on farm/field level in rural areas is mostly limited to those provided by veterinary paraprofessionals, including community health workers.
- Treatment and confirmation of clinical diagnosis by diagnostic tests is not routinely done.
- Insurgencies cause closure of veterinary clinics and absence of veterinary personnel.
- Exposure of students to veterinary practice at the State veterinary hospitals and clinics is minimal given budgetary constraints.

Recommendations:

- Consider conducting an impact study to define the extent of economic losses due to the presence of 3 of endemic diseases such as PPR, FMD and Newcastle Disease to illustrate the effect on the livelihood of the farmers of the country. This will provide scientific evidence to motivate for a stronger presence of veterinary services in the rural areas of the country.
- Strengthen the use of the laboratories to support clinical services by enhancing the pathway of collection and transport of samples.

Evidence (as listed in Appendix 7): E89, E90

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:

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 OIE activities.

Points 6 and 10 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities/Membership of the OIE.

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 OIE procedures relevant to the Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization.

Chapters 5.10. to 5.12. on Model international veterinary certificates.

IV-1 Legislation and regulations *The effectiveness of veterinary legislation and regulations.* **A. Integrity and coverage of legislation and regulations** *The authority and capability of the VS to develop or 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 other legal drafting professionals, 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 covers stakeholder consultation relevant to veterinary legislation.*	Levels of advancement
	1. National veterinary legislation is lacking, out-dated or of poor quality. The VS do not have the authority or capability to develop or update legislation and regulations.
	2. Veterinary legislation and regulations cover some fields of the veterinary domain. The VS, working with legal professionals, have some authority and capability to develop or update national legislation and regulations.
	3. Veterinary legislation and regulations cover most fields, including in collaboration with relevant Competent Authorities. The VS, working in formal partnership with legal professionals, have the authority and capability to develop or update national legislation and regulations, including via consultation with stakeholders, to ensure its legal quality and applicability.
	4. The VS have national (and sub-national where relevant) veterinary legislation and regulations covering the entire veterinary domain. The VS have the authority and the capability to develop or update national (and sub-national) legislation and regulations, using a formal methodology which considers consultation with stakeholders, regulatory impact, legal quality and applicability, and international standards.
	5. The VS have comprehensive and current national (and sub-national where relevant) veterinary legislation and regulations that covers the entire veterinary domain. The VS regularly evaluate and update their legislation and regulations 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 (2007) – Level 3
- PVS Gap Analysis (2009) – Level 4 (5-year target)

Findings:

At the Federal Level, the legislation pertinent to the veterinary domain includes the Animal Diseases (Control) Act, Cap. A17, LFN, (2004), The National Agriculture Quarantine (Establishment) Act, (2018), signed into law in January 2019 and the Veterinary Surgeons Act, Cap. V3, LFN, (2004). There are two Bills before the National Assembly: The Animal Disease Control (Repeal and Re-enactment) Bill, (2018) and the Meat Hygiene Bill, (2018). The VCN also have a draft Bill to amend the existing Act to regulate VPPs and require CE for retention on the register of registered veterinary surgeons. There is also a National Policy on Food Safety and its Implementation Strategy (2014) developed by the Federal Ministry of Health (FMoH) and the Food Safety and Quality Bill, (2017). Apart from the Veterinary Practicing Premises Registration Regulations, (2018) published in the official gazette in January 2019, there are very few statutory instruments (regulations) derived from existing law.

Food safety, veterinary products and animal feed are regulated under the authority of the National Agency for Food and Drugs Administration and Control (NAFDAC), whose mandate is provided in the NAFDAC Act, Cap N1, LFN (2004). Unlike the VS, NAFDAC has made many regulations which are available on its webpage, www.nafdac.gov.ng. Animal feed is also

regulated by the Nigerian Institute of Animal Science (NIAS) through its Regulations for the Feed Milling Industry in Nigeria (2017).

The States exercise legislative power over various aspects of the veterinary domain based on the concurrent legislative list of the Constitution. Additionally, the Animal Diseases Control Act, 2004 gives the State Directors of Veterinary Services (DVS) powers similar to the Chief Veterinary Officer of Nigeria (CVON) to make regulations subject to the approval of the Minister of Agriculture or the State Commissioner of Agriculture, as the case may be. The States DVS interviewed during the mission informed that they were mostly involved in disease control and meat hygiene. The Legislative Council of the Local Government Area can make specific rules, for example, concerning the slaughter of animals.

The OIE Legislation Identification mission conducted in 2011 in Nigeria found notable gaps and deficiencies in the veterinary legislation relative to the requirements of the veterinary domain in Nigeria as well as to the OIE guidelines for veterinary legislation. Following this mission, the Animal Diseases Control draft bill was reviewed and updated to incorporate the recommendations of the OIE but this Bill has yet to be passed into law.

Key Changes from 2007 to 2019:

- OIE Legislation Identification mission conducted in January 2011.
- Amended Bills on disease control and meat hygiene are before the National Assembly.

Strengths:

- Two key pieces of federal legislation (Disease control, meat hygiene) are now before the National Assembly.
- Legal Units at FMARD, FDVPCS, NAQS.

Weaknesses:

- The current legal mandate of official veterinary services is mostly on import and export, disease control and meat hygiene.
- There are no regulations governing laboratory diagnostic testing and production of biologics.
- Drafting and approval of federal legislation in the veterinary domain is a slow process, especially when it emanates from non-members of the National Assembly.

Recommendations:

- Approval by the National Assembly and publishing in the Gazette of the Acts to the draft bills listed above.
- Development of supporting regulations for current Acts, especially Animal Diseases (Control) Act (2004), to define the powers, procedures and practices of the veterinary services at federal and state level.
- Preparation of legal framework for veterinary diagnostic laboratory and production of biologics.

Evidence (as listed in Appendix 7): E48, E61-62, E103, E111-113

B. Implementation of and compliance with legislation and regulations *The authority and capability of the VS to ensure compliance with legislation and regulations across the veterinary domain through communications and compliance 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
	1. The VS have no or very limited programmes or activities to communicate or ensure compliance with legislation and regulations.
	2. The VS implement some programmes or activities comprising targeted communications and awareness raising on stakeholder legal obligations, but conduct few inspection and compliance verification activities.
	3. *Veterinary legislation* is implemented through a programme of communications and awareness raising, and through formal, documented inspection and compliance verification activities. The VS undertake some legal action/initiate 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 dealing with non-compliance.
	5. Legislative or regulatory 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 (2007) – Level 1
- PVS Gap Analysis (2009) – Level 3 (5-year target)

Findings:

The Nigeria Agricultural Quarantine Services (NAQS) has inspectors at international airports, ports, land borders and interstate control posts. The State Directors of Veterinary Services (DVS) have a cadre of veterinary officers and animal health superintendents to conduct disease investigation and control and meat inspection at abattoirs, slaughter houses and slaughter slabs. The States also have officers at the livestock markets. The Local Government Area (LGA) Councils have animal health officers for meat hygiene at slaughter slabs under their jurisdiction. The quarantine and animal health inspectors are well trained, have a good knowledge of the law and work well with other government agencies present at the different ports. Inspectors at abattoirs and markets enforce the prohibition of the slaughter of donkeys and pregnant animals. Where enforcement may be an issue because of security, the police are called in to support the inspectors or the post may be closed. This is the case in Borno State where the land border with Cameroon, Gamboru Ngala, has been closed for the past ten years due to the insurrection. At land borders the NAQS maintains good relations with counterparts in the neighbouring countries of Cameroon, Chad, Niger and Benin. The harmonised ECOWAS International Transhumance Movement Certificate facilitates compliance at land borders.

There is a policy of no vaccination for Avian Influenza, but this is not enforced as many illegal avian influenza vaccines are available and poultry producers are vaccinating their birds against avian influenza.

Key Changes from 2007 to 2019:

- NAQS a parastatal Agency with its recently approved Act (in January 2019).
- Closure of the land border with Cameroon at Gamboru Ngala, Borno State due to Boko Haram insurgency.

Strengths:

- States and LGAs have adequate manpower for meat inspection duties.
- Good collaboration with Customs, Police and other Ministries, Departments and Agencies (MDAs) at posts where multiple (MDAs) are present.

Weaknesses:

- Current Animal Disease Act 2004 has weak penalties – N$250 or three months imprisonment for offences committed.
- Nigeria has large porous borders.
- Inadequate financial provisions by the Nigeria Government to support interventions (for example, culling in disease outbreaks).
- Few, if any, examples of attempts to improve compliance with legislation through the creation of awareness using communication tools.

Recommendations:

- Approval of Animal Disease Control (Repeal and Re-enactment) Bill, (2018) which has penalties of N$500,000 or five years imprisonment or both.
- Enforce the policy of no vaccination against avian influenza through enabling legislation.
- Federal and State VS may consider to develop and disseminate communication messages to create public awareness of legislation which is proving difficult to enforce.

Evidence (as listed in Appendix 7): P47, E20, E48, E103

IV-2 International harmonisation *The authority and capability of the VS to be active in the harmonisation of national regulations and sanitary measures to ensure they take into account international standards, and/or related regional directives or guidelines.*	Levels of advancement
	1. National regulations 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 regulations 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 regulations and *sanitary measures* in response.
	4. The VS harmonise their regulations 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, and use the standards to regularly harmonise national legislation, regulations and *sanitary measures*.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

- PVS Evaluation (2007) - Level 2
- PVS Gap Analysis (2009) – Level 5 (5-year target)

Findings:

Nigeria is a member of the more important standard setting bodies including the OIE, WHO, FAO/*Codex Alimentarius* and IAEA. On trade issues, Nigeria is a member of the WTO and Global System of Trade Preferences among Developing Countries and has established many bi-lateral trade agreements. Nigeria is also a member of ECOWAS and the African Union. Nigeria is active with SPS WTO notifications.

The FDVPCS actively participates in the OIE PVS pathway missions having completed PVS, Gap analysis and legislation evaluations. The NVRI participates in laboratory twinning programmes focussing on diagnostics for Foot and Mouth Disease, rabies and Avian Influenza. Recommendations from the OIE Legislatiion Identification Mission in 2011 were considered and incorporated into the new draft of the Animal Diseases Control Bill (2018). New Bills under consideration also reflect adherence to international standards.

The Chief Veterinary Officer of Nigeria (CVON) actively participates in regional and continental meetings of Chief Veterinary Officers convened by ECOWAS and the African Union to address harmonisation of sanitary measures in compliance with international standards and have a consolidated position on sanitary issues.

The VS has the capability to harmonise national regulations with international standards, but they have no control over when the measures are enacted.

Key Changes from 2007 to 2019:

- Revised institutional structure at FMARD including FDVPCS so staff more focused.

- PVS missions and Laboratory twinning programmes completed.

Strengths:

- CVON and veterinary staff are well aware of international standards.
- The competent authorities – FDVPCS, NVRI, NAQS – work together toward harmonisation with international standards.
- Regional and continental organisations to assist with harmonisation of sanitary measures.

Weaknesses:

- The three tier government levels in 36 states and 1 FCT makes harmonisation of federal legislation a slow process.
- Legislative reform can take extremely long.

Recommendations:

- Maintain active participation in international fora.
- Establish national committees for consultation on proposed international standards and guidelines, for example, on animal welfare, poultry issues.
- Lobby for approval of the Animal Diseases (Control) Bill, (2018).

Evidence (as listed in Appendix 7): E45, E64, E68

IV-3 International certification	Levels of advancement
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 legislation and regulations, 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.*	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 legislation and regulations, 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 (2007) - Level 2
- PVS Gap Analysis (2009) – Level 4 (5-year target)

Findings:

The Federal Department of Veterinary and Pest Control Services (FDVPCS), the Nigeria Agricultural Quarantine Services (NAQS), the National Agency for Food and Drug Administration and Control (NAFDAC) and the Federal Department of Forestry are involved in international certification for animals and animal products. FDVPCS is responsible for international certification of live animals (trade animals and pet animals), animal products including honey and hive products, and biologicals. NAQS, which is also the competent authority for plants and plant products, is responsible for import and export controls at the ports of entry. NAFDAC's functions also include regulation and control of the importation and exportation of food products of animal origin, veterinary products and animal feed.

International certification under FDVPCS is issued only from the office of the CVON. The officers endorse the health certificates and issue the necessary import / export permits with the appropriate sanitary conditions.

While NAQS functions in plant certification are well known, according to its statutory instrument, it also has authority to refuse to issue health certificates for animals and fish products on exportation. It is the purview of the FDVPCS to issue health certificates for the export of animals.

There is a harmonized ECOWAS international transhumance certificate to facilitate movement of grazing animals along corridors established by the Community. At the international land

border of Gamboru Ngala, however, the sample movement certificate seen was in French only and not the international transhumance certificate which is in French and English.

Key Changes from 2007 to 2019:

- Commodity Certification Branch at the FDVPCS.
- Establishment of NAQS.
- Nigerian Single Window for Trade.

Strengths:

- NAQS with Export Certification Value Chain and import and export requirements available on internet.
- FDVPCS has online import and export certificates templates and online payment is possible.

Weaknesses:

- Export Quarantine stations non-functional.

Recommendations:

- Create a Certification Committee among relevant Ministries, Departments and Agencies (NAQS, FDVPCS, NAFDAC, Forestry) to address import and export certification of animals and animal products.
- Strengthen international certification capacity of FDVPCS as importing countries require international certificates issued by the FDVPCS regardless of the certifying agency in the country of origin.
- Enforce the use of the ECOWAS international transhumance certificate.

Evidence (as listed in Appendix 7): P40-42, E6-8, E10-13

IV-4 Equivalence and other types of sanitary agreements	Levels of advancement
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:* *Members shall accept the sanitary or phytosanitary measures of other Members 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 objectively demonstrates to the importing Member that its measures achieve the importing Member's appropriate level of sanitary or phytosanitary protection. For this purpose, reasonable access shall be given, upon request, to the importing Member for inspection, testing and other relevant procedures.*	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 all matters relevant to animals, animal products and processes under their mandate. They publish their existing sanitary agreements in the public domain. 5. The VS actively work with stakeholders and take account of 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 (2007) - Level 2
- PVS Gap Analysis (2009) – Level 3 (5 year target)

Findings 2019:

The animal and animal products certification agencies have the authority to negotiate and approve equivalence and other types of sanitary agreements with trading partners, but to date no such agreements have been negotiated. There is an initiative to export frozen chicken to Ghana. FDVPCS is awaiting a response from Ghana.
Nigeria is a signatory of the Treaty of ECOWAS which stipulates the establishment of a common market and trade liberalization among member states. There is an ECOWAS protocol for the free movement of goods and services. There is also the ECOWAS regulation on transhumance and the model ECOWAS international transhumance certificate. Community Member States have been deficient in the application of these protocols. The current Herdsman/Farmers conflict has affected many Member States thus there is a recent impetus for Member States to enforce the protocols.

Apart from the above-mentioned ECOWAS treaty, formal and non-formal sanitary agreements exist with countries in West Africa such as Cameroon and Chad, allowing the circulation of live animals and certain products of animal origin between their territories.

Key Changes from 2007 to 2019:

- Stronger certification units at FDVPCS, NAQS and NAFDAC.

Strengths:

- The concept and utility of equivalence agreements is understood and applied by the certification authorities, FDVPCS and NAQS.
- ECOWAS supports regional integration and trade facilitation among member states.

Weaknesses:

- Transhumance protocol not fully implemented by member states.

Recommendations:

- Implement the ECOWAS protocol on transhumance.
- Further develop capacity at FDVPCS and NAQS to use equivalence agreements especially in the West Africa region.

Evidence (as listed in Appendix 7): E6-13

IV-5 Transparency	Levels of advancement
The authority and capability of the VS to notify the OIE, 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.	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, carries out reviews or audits of their notification procedures.

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

- PVS Evaluation (2007) - Level 3
- PVS Gap Analysis (2009) – Level 5 (5-year target)

Findings:

The experience of the OIE World Animal Health Information and Analysis Department (WAHIAD) with Nigeria's reporting activity 2005 – 2018 is:

- Very regular transparent reporting of six-monthly reports;
- Very good and reasonably transparent early warning reporting. No problems encountered.

There is a designated focal point for disease notification to the OIE. The focal point is very active and always submits reports on time. Where clarifications have been requested, information was immediately submitted (within 1 -2 days).

On its fifth Trade Policy Review (2017), Nigeria was commended for its active participation in the WTO. However, there were some areas in its notification commitments that were outstanding including TBT and SPS.

The Codex contact point is the Standards Organisation of Nigeria. The FMARD is a member of the National Codex Committee and its animal and animal products subcommittee.

A Joint External Evaluation of the IHR Core Capacities of the Fedderal Republic of Nigeira was conducted in July, 2017.

Key Changes from 2007 to 2019:

- Improvements in OIE and WTO notifications

Strengths:

- Nigeria complies with notification obligations
- Nigeria participates actively in the meetings of the international organisations.

Weaknesses:

- Disease reporting from the States to FDVPCS at the FCT is poor.

Recommendations:

- Categorise notifiable animal diseases (80 in schedule 1 of the Animal Disease (Control) Act, 1988) into those that require immediate notification and those that are reportable within one month. This will improve notifications within the country, to the OIE and improve disease response.

Evidence (as listed in Appendix 7): E14, E31-33, E44-45, E48, E101, P45, P80, P82

IV-6 Zoning	Levels of advancement
The authority and capability of the VS to establish and maintain disease free zones, as necessary and in accordance with the criteria established by the OIE (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).*	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 OIE standards.
	5. The VS can demonstrate the scientific basis for any disease free *zone* and have gained recognition by OIE and/or trading partners that they meet the criteria established by the OIE (and by the WTO SPS Agreement where applicable).

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

- PVS Evaluation (2007) - Level 1
- PVS Gap Analysis (2009) – Level 2 (5-year target)

Findings:

Non-applicable. The Nigerian Veterinary Services has not initiated any process to establish disease free zones.

Key Changes from 2007 to 2019:

- No change was observed since the 2017 PVS evaluation.

Strengths:

Weaknesses:

Recommendations:

Evidence (as listed in Appendix 7):

IV-7 Compartmentalisation	Levels of advancement
The authority and capability of the VS to establish and maintain disease free compartments in accordance with the criteria established by the OIE. *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)*	1. The VS do not have the authority or capability to initiate the establishment of disease free *compartments*.[5]
	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 animals 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 the OIE (and by the WTO SPS Agreement where applicable).

Terrestrial Code reference(s): Appendix 1

Results from Previous PVS Pathway Missions:

- PVS Evaluation (2007) - Level 2
- PVS Gap Analysis (2009) – Level 4 (5-year target)

Findings:

Not applicable at this stage

Key Changes from 2007 to 2019:

Strengths:

Weaknesses:

Recommendations:

Evidence (as listed in Appendix 7):

[5] If the VS has the authority and capability but chooses not to implement compartmentalization, this CC should be recorded as "not applicable at this stage"

PART IV: APPENDICES

Appendix 1:

PPR component of the PVS Evaluation Follow-Up Mission carried out in Nigeria from 14.1. to 1.2.2019[6]

Executive Summary

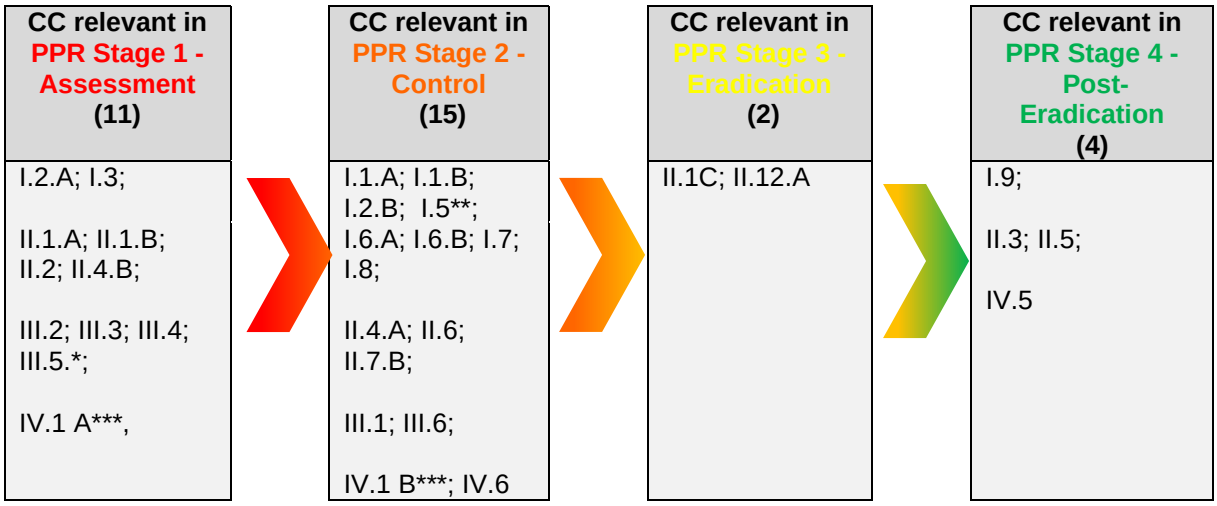
Introduction

The OIE has decided to offer PVS Evaluation or PVS Follow up Evaluation missions with specific content to its Member Countries, with the initial priority topic selected as PPR. This concept has received positive feed-back from OIE Member Countries and key partners including at the OIE PVS Pathway Think Tank Forum of April 2017, and via many consultations since, including at the OIE General Sessions of 2017 and 2018, and at OIE Regional Commissions' Conferences held around the world over this period.

This new approach aims at further enhancing the profile and impact of the PVS Pathway, as well as helping countries better manage their PPR control/eradication programmes via a systems approach. It is also fully consistent with OIE global high-level strategic priorities, including the declaration of PPR global eradication by 2030 supported by the adoption of the FAO-OIE Global Strategy for the Control and Eradication of PPR (GCES) in April 2015. The need to reinforce national Veterinary Services, in line with OIE standards on the quality of Veterinary Services, is an indispensable condition to the efficient and sustainable control of PPR and other small ruminant diseases, and this is well reflected in the GCES and the PPR Global Eradication Programme (PPR GEP), which serves as the first five-year implementation plan of the 15-year GCES.

The PVS/PPR specific content methodology builds on work already undertaken and agreed. Specifically, 32 of the 45 Critical Competencies currently identified in the PVS Tool, Seventh Edition 2018, were identified during the development of the GCES and associated PPR Monitoring and Assessment Tool (PMAT) as particularly relevant to PPR control and eradication efforts ('PPR-related CCs'). The 32 PPR related CCs were linked to different Stages of the GCES depending on their focus and objectives, as shown in the table below.

[6] This Appendix was prepared by Dr Susanne Münstermann with the collaboration of Dr Henry Wamwayi, PPR Experts in the OIE PVS Follow-Up mission.
*in this document VSB CC III.5 is presented as one, combining CC III.5 A and CC III.5.B from 6th Edition
**In the new 7th edition of PVS Tool CC I.5 replaces CCI.11 from the 6th Edition
***These CCs replace CC IV.1 and IV.2 of the 6th Edition



Following feedback from OIE members, partners and experts, the full integrity of the PVS Evaluation or Evaluation Follow Up mission and report, as reflecting a whole-of-system approach covering all areas of the veterinary domain and notably all diseases is being maintained – as occurred during the conduct of this mission and preparation of the mission report. The PPR specific content was not the main focus of the mission; rather, it was supplementary or additional to the standard mission and report. This is reflected in the report structure, with this PPR specific content appendix being supplementary to the main report.

PPR findings have not influenced in any greater or lesser way the levels of advancement awarded against the critical competencies in the main report, compared to a 'normal' mission, as the evaluation of levels needs to be consistently applied across countries who undertake PVS Evaluations, whether they receive the PPR supplement or not. Therefore, this Appendix alone comprises the PPR specific content component of the mission.

Findings

Brief on the present situation of PPR in Nigeria

The Federal Department of Veterinary and Pest Control Services (FDVPCS) describes the situation of PPR as endemic and widespread in the country. The exact distribution and prevalence in different parts of the country is, however, not known. Farmers are familiar with the disease and so are traders. Hence, when the disease appears either seasonally or in the context of north-south transhumance movement, farmers and traders attempt to sell off small ruminants before losing too many animals. These are the times when more diseased animals can be found in markets and at ante- and post-mortem inspections at abattoirs.

Brief on status of the country's participation in the GCES/GEP

Nigeria participated in the Regional Roadmap meeting organised by FAO/OIE and AU-IBAR for West African countries in Dakar, Senegal in May 2016. At this meeting the principles of the Global Control and Eradication Strategy (GCES) were explained, including the PPR Monitoring and Evaluation Tool (PMAT). Using the PMAT, the countries present at the meeting carried out a first self-assessment to determine the Stage they considered themselves to be at. The result of the self-assessment for Nigeria in 2016 is shown in the table below. Since then, Nigeria has not carried out any further PMAT self-assessment.

Two weeks after the Dakar Regional Roadmap meeting the National PPR Coordinator, Dr Ezenwa Nwakonobi from the Animal Health and Clinical Services Division of the FDVPCS, was appointed. Under his guidance many experts and stakeholders were contacted and consulted to develop the National Strategy for the Control of PPR in Nigeria (hereafter the National PPR Strategy). The Strategy document was finalised in March 2017. It took until December 2018 to publish the Strategy with funding provided by AU-IBAR. The document was then widely distributed within the Veterinary Services (VS) and to stakeholders.

The National PPR Strategy does not give a time plan for its implementation, as the intention was to develop annual Action Plans for its implementation. But this step has not been taken yet, neither have the PPR Coordination and Technical Committees, meant to guide implementation of the Strategy, been appointed. The need for urgent appointment of these committees became obvious during the initial stakeholders' meeting held at the start of the PVS mission, when the DFID funded project (Propcom Mai-karfi[7]) reported their activities on PPR control. Initiatives by the National Sheep and Goat Farmers Association, representing about 50,000 producers, such as the "cluster farming" approach, would also need to be integrated into the planning for the implementation of the National PPR Strategy.

The composition and Terms of Reference for the Coordination Committee were already drafted in June 2016 and are, therefore, already available for implementation. Guidance to set up and operationalise the Coordination Committees can also be taken from the Terms of Reference provided by the FAO/OIE PPR Secretariat, which were made available to the National Coordinator by the mission team.

No National PPR Strategy activities have as yet been carried out since the finalisation of the Strategy in 2017. The main reason was given as the lack of funding of the National Strategy. There are donor funded programmes being awaited, such as the World Bank's *Livestock Productivity and Resilience Support Project*, which has a component to support PPR control. The funding of the Strategy has also been requested in the FDVPCS Annual Budgets of 2017 and 2018 and implementation was outlined in the respective workplans by the Animal Health and Clinical Services Division, but funds were not adequate. The mission team gained the impression that a "Pan African Control of Epizootics (PACE) – like project" would be desired by FDVPCS to accelerate the implementation of the Strategy.

It is acknowledged that funding for the National Strategy has not been obtained from national or international sources. However, activities requiring little or no funding or those that could be combined with ongoing, funded activities, have not been embarked on. It is, therefore, understandable that the country was rated during this mission in January 2019, to be still in Stage 1, although, according to the Roadmap of 2016, it should have been towards the end of Stage 2, "control stage".

Country	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Nigeria	1		2			3			4		Status Free					

The PPR National Coordinator and his team carried out a PMAT self-evaluation, using the questionnaires for Stage 1 and Stage 2, during the period of this PVS PPR mission. This exercise was rated by the FDVPCS team as very useful and an eye opener. It greatly helped the team to understand that much has been achieved and that only three CCs need to be improved in order to move forward to Stage 2. The PVS PPR team had the impression that this realisation assisted in overcoming certain frustrations over the funding situation and helped to identify opportunities for carrying out activities even in the absence of full funding for implementation of the National PPR Strategy.

Narrative summary of the findings of the PPR component

The findings of the PPR component of this PVS mission can be summarised as follows:

[7] http://www.propcommaikarfi.org/who-we-are

CC relevant in PPR Stage 1 (11)	
√	8
x	**3**

CC relevant in PPR Stage 2 (15)	
√	4
X	**11**

CC relevant in PPR Stage 3 (2)	
√	0
x	2

CC relevant in PPR Stage 4 (4)	
√	1
x	**3**

Main findings for Fundamental Component I

There are generally many qualified staff, knowledgeable on PPR in position, veterinarians and Veterinary Para-Professionals (VPP) alike. Staff shortages were reported at the Federal and State levels and requests made to government for additional staff have, however, been unsuccessful. A critical review of these requests was suggested as asking for the filling of positions critical for the eradication of PPR only, might lead to greater success. The education of veterinarians and VPPs is of uniform standard, accredited by the Veterinary Council of Nigeria (VCN), however, it does not contain PPR as a specific topic or any reference to the GCES as a disease eradication strategy that Nigeria has committed to. Similarly, the Continuous Education (CE) courses on offer do not include a standard, specific training on PPR or the National PPR Strategy. There was, however, one training course on PPR organised by FDVPCS in 2016 for veterinarians and VPPs (see CC I.3).

A good internal coordination between the FDVPCS and the State Departments of Veterinary Services (SDVS) was observed, using different means of communication comprising of either physical meetings, emails or WhatsApp groups. This is generally a conducive environment for the implementation of the National PPR Strategy, with the Federal level providing policy and guidance for the implementation at the State level. However, a low level of internal communication was observed with the sister Federal Department of Animal Production and Husbandry Services, which engages in small ruminant husbandry activities.

Frequent but mostly informal communication and coordination with external partners was observed, as exemplified in the wide consultation during the formulation of the National PPR Strategy. However, even though the PPR Coordination Committee is not yet established, coordination with partners that are already involved in PPR control activities needs to be improved to harness synergies from the various interventions.

Physical resources and operational funding for PPR related activities are a major challenge for the State DVS. This ranges from infrastructure, internet access, equipment, power supply and vehicles to consumables and medicines. Operational funding was not released despite approved annual budgets to all States visited, except for Lagos State. In the context of PPR control the impact of major power outages on the cold chain is of particular concern.

Main findings for Fundamental Component II

The backbone for PPR diagnosis in Nigeria is the National Veterinary Research Institute (NVRI) in Vom, Plateau State, with its network of 23 satellite laboratories, and the 11 Veterinary Teaching Hospitals. The diagnostic capacity of the NVRI and at least 3 of its satellite laboratories is of high standard, however, due to poor sample submission, the laboratories and staff are largely under-utilised.

The NVRI currently produces an average of 2.8 million doses of PPR vaccine annually for an estimated national herd of 120 milion sheep and goats. This capacity could be increased if demand and funding would increase.

As reported above, Nigeria is currently in Stage 1, the “Assessment” Stage. However, it is also carrying out vaccination campaigns, an activity typically falling under Stage 2 “control stage”, but these vaccination campaigns are not embedded in a structured plan and their effectiveness is not evaluated. The States, currently mostly unable to fund vaccine purchase through their own budgets, apply to the FDVPCS for support to purchase vaccines, based on disease

reports. Since these are not a true reflection of the disease situation on the ground, the approach of vaccine distribution is not risk-based (see II.6).

FDVPCS would need to carry out a risk analysis, taking disease prevalence, distribution, animal movements, animal production and marketing systems, biosecurity, among others, into account. Some of the information is available and may require updating, specifically for small ruminants. The results of the risk analysis would lay the basis for deciding on the vaccination strategy to be applied at the start of Stage 2, the "Control Stage". This vaccination strategy would need to be explained in the *National Control Strategy* which initiates Stage 2.

Given the size of the country, the porous borders and the internal animal movements, which are largely uncontrolled, the vaccination strategy needs to be risk based, certain to have an impact and must be monitored.

Currently the disease situation is established solely from passive surveillance information and periodic research, and it is acknowledged that with this method the disease is grossly underreported and diagnosed mainly on the basis of clinical signs, as evidenced by as little as 431 PPR suspect samples received at NVRI in 2018. Passive surveillance data are also obtained from ante- and post-mortem inspections at abattoirs. Active surveillance, mainly due to insufficient funds, is not carried out routinely, although adequate numbers of Surveillance Agents are posted in the field. The collection and testing of serum samples from small ruminants during other field-based activities has not been practised.

Main findings for Fundamental Component III

Communication specifically on PPR was identified as inadequate. While communication Focal Points exist in FDVPCS and in some States, they cover all diseases and issues of general interest. Communication material on disease recognition, epidemiology, diagnosis, etc. was not seen during the mission, nor was material that could be used by the extension agents to raise awareness among the farmers. It was pointed out that such material exists with the international organisations and could easily be adapted to the national needs.

Main findings for Fundamental Component IV

The legal basis for the implementation of the National PPR Strategy exists in the Animal Disease Control Act (2004), of which a revised version (2018) is awaiting approval by the Federal Parliament. Once the Act is approved, appropriate regulations should be developed to support the implementation of the National PPR Strategy.

It was noted that Nigeria has a very good track record of reporting their animal health status and disease outbreaks to the OIE and AU-IBAR, although it was acknowledged that the number of outbreaks and cases reported for PPR do not reflect the reality on the ground.

Recommendations:

A brief summary of the recommendations, listed in detail in the body of this text, particularly those relevant to move from the current Stage 1 to Stage 2, is given below:

- FDVPCS should take appropriate measures to establish the national PPR Technical and Coordination Committees as a matter of priority and assure that people are appointed based on knowledge about PPR rather than by function;
- Identify staff shortages critical for the implementation of the National PPR Strategy, particularly epidemiologists with risk analysis experience and data analysts in support of the Divisions in charge of the Strategy, and take appropriate measures to fill them;
- FDVPCS should make an effort to operationalise the National PPR Strategy by addressing the three CCs not yet at level 3 in order to move the country from Stage 1 to Stage 2 of the PPR pathway:

  - CC I.3, Continuous education: introduce as a matter of priority, short courses on PPR recognition, clinical signs, epidemiology, control and reporting, for veterinarians and VPPs.
  - CC II.2, Risk analysis: identify disease distribution, risk hotspots and transmission pathways and define priority areas for control under Stage 2.
  - CC II.4.B, Active surveillance: focus on those priority areas to establish prevalence, disease distribution, risk hotspots and seasonal patterns. Consider joining this activity with on-going, funded activities, should no specific PPR surveillance funding be available.

- FDVPCS should enable NVRI to increase its PPR vaccine production in view of entering Stage 2,
  - When carrying out vaccinations, include pre- and post- vaccination samples for sero-monitoring of the effectiveness of the vaccinations; adjust vaccination strategy according to the results.
- FDVPCS to liaise and coordinate with NGOs, technical cooperation partners and the Federal Department of Animal Production and Husbandry Services, implementing PPR related activities to ensure they contribute to the objectives of the national PPR strategy;
- VCN and FDVPCS should make efforts to design and provide PPR specific CE programmes (covering disease recognition, diagnosis, epidemiology and control) for all categories of veterinary professionals and veterinary paraprofessionals in Nigeria;
- Federal and State VS should increase and broaden efforts to sensitise stakeholders including farmers and their associations on the National PPR Strategy and the commitment of Nigeria to eradicate the disease, and to harness the support of the producers;
- Improve dialogue, coordination and communication on the PPR Strategy between Departments, such as Animal Production and Husbandry Services of FMARD and Divisions of FDVCPS as well as with the State Veterinary Services, Universities and other veterinary training institutions.
- Provisions should be made for functional generators and the provision of adequate funds for diesel at key facilities (vaccine production and storage equipment, diagnostic equipment etc.), including provisions for the cold chain for vaccine delivery from manufacture to farmer;
- FMARD and State Governments to prioritize PPR control and eradication in line with the country's commitments to contributing to the global eradication of the disease and provide the requisite funding to enable effective operations including vaccine production and distribution and emergency funding, if required.

Conduct of the Evaluation

The results of the PPR specific assessment are reported separately in this Appendix of the PVS Evaluation Follow Up mission report, which can be used as a stand-alone document. The inputs that it brings are expected to assist with further PPR assessment and planning by Nigeria using the PMAT Tool, including at future regional roadmap and/or other national, regional or global PPR meetings, workshops or conferences.

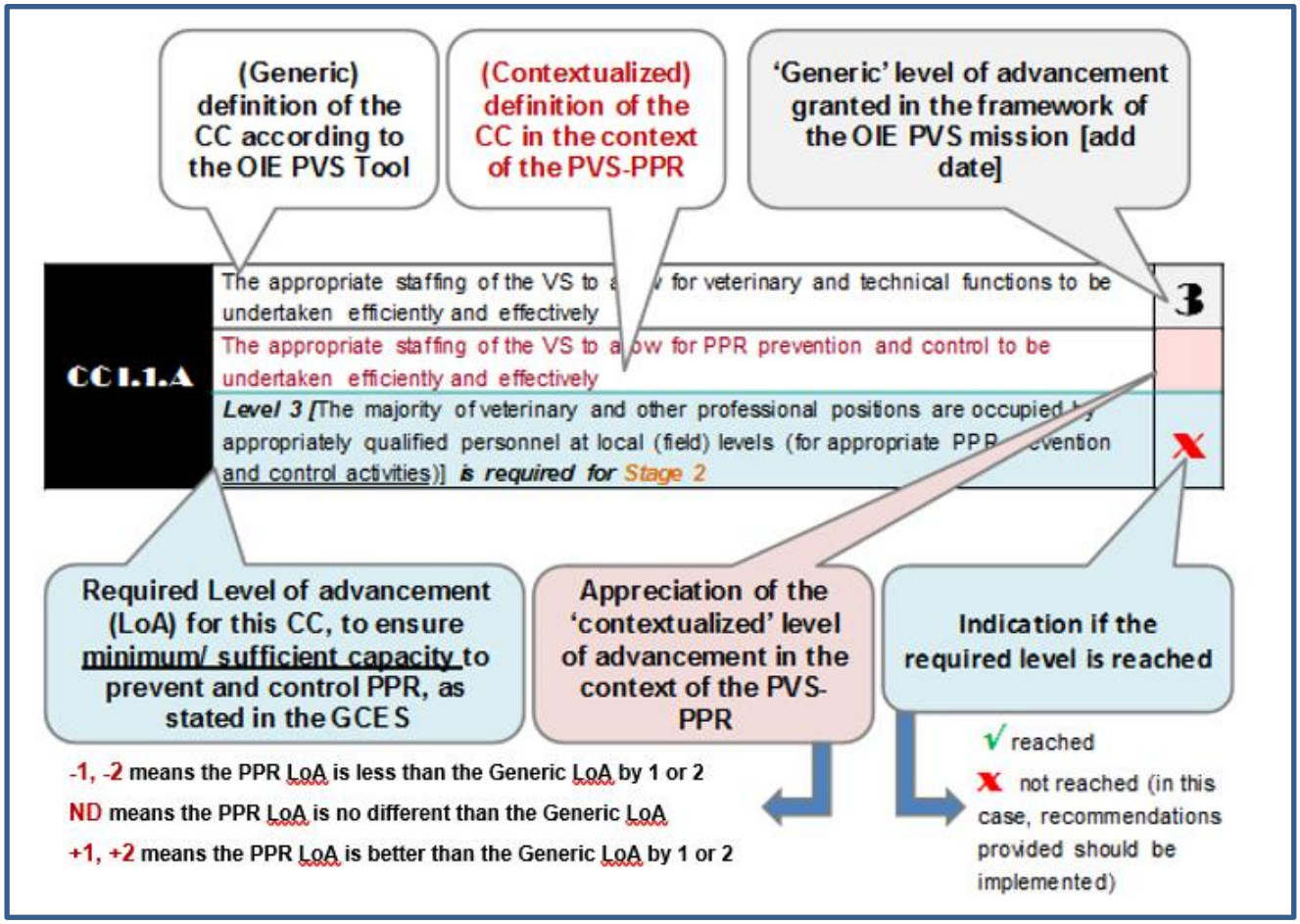
The PVS Team Leader provided a short briefing on the nature and conduct of the PPR specific element of the PVS Evaluation Follow Up mission at the opening meeting on 14 January 2019, with a view to reaching a common understanding among all participants of the mission.

The PPR specific assessment was supplementary or additional to the standard mission assessment and report. The PPR Specialist, Dr Susanne Münstermann, seconded by Dr Henry Wamwayi, served as team members for the generic PVS mission and used that participation as an opportunity to identify and explore PPR specific issues during the course of the mission's visits, meetings and activities. In addition, the PPR Specialist, supported by Dr. Henry Wamwayi, convened a separate PPR initial meeting on 15 January 2019 with relevant stakeholders to discuss specific issues on PPR control and eradication activities within the country in relation to the critical competencies being assessed. Participants at the workshop are identified in Annex 1.

Based on the information acquired, levels of advancement specific to PPR were determined for each of the 32 PPR related critical competencies. Any discrepancy between these PPR-specific levels of advancement and the generic levels of advancement of the main report are also included as "contextualised" levels of advancement (e.g. ND (no difference), -2, -1, +1, +2), to demonstrate where additional inputs to strengthen PPR elements of a particular critical competency may or may not be required. For example, if for the CC on Laboratory Diagnosis the PPR specific level of advancement is higher than the generic level of advancement (i.e. +1) it can be understood that a concerted effort to improve PPR diagnostics has taken place to advance it beyond the general VS performance in this area. However, if for example, with the CC on Stakeholder Consultation the PPR specific level of advancement (i.e. -1) is lower than the generic VS level of advancement, it is understood that consultation with PPR relevant stakeholders such as small ruminant farmer groups should be a focus as it lags behind consultation in other VS areas (e.g. with cattle, pig or poultry stakeholders).

Results of the Evaluation

The results presented here, follow the same format as for a generic PVS Report, proceeding CC by CC through the four pillars of the PVS Tool. A legend to interpret the results more easily is provided in the figure that follows:


(Generic) definition of the CC according to the OIE PVS Tool
(Contextualized) definition of the CC in the context of the PVS-PPR
'Generic' level of advancement granted in the framework of the OIE PVS mission [add date]
CC I.1.A
The appropriate staffing of the VS to a ...v for veterinary and technical functions to be undertaken efficiently and effectively
3
The appropriate staffing of the VS to allow for PPR prevention and control to be undertaken efficiently and effectively
Level 3 [The majority of veterinary and other professional positions are occupied by appropriately qualified personnel at local (field) levels (for appropriate PPR ...evention and control activities)] is required for Stage 2
X
Required Level of advancement (LoA) for this CC, to ensure minimum/ sufficient capacity to prevent and control PPR, as stated in the GCE S
Appreciation of the 'contextualized' level of advancement in the context of the PVS-PPR
Indication if the required level is reached
-1, -2 means the PPR LoA is less than the Generic LoA by 1 or 2
ND means the PPR LoA is no different than the Generic LoA
+1, +2 means the PPR LoA is better than the Generic LoA by 1 or 2
√ reached
X not reached (in this case, recommendations provided should be implemented)

Fundamental Component I -Human Physical and Financial Resources

CC I.1.A	The appropriate level of staffing of the VS to allow for veterinary and other professional functions to be undertaken efficiently and effectively	**2**
	The appropriate level of staffing of the VS to allow for PPR prevention and control to be undertaken efficiently and effectively	**+1**
	Level 3 [The majority of positions requiring veterinary or other professional skills are occupied by appropriately qualified professionals at local (field) levels. (for appropriate PPR prevention and control activities)] **is required for Stage 2**	√

Professional and technical staffing of the Veterinary Services (VS)- Veterinary and other professional (university qualified)

Findings:

The country has 8,834 veterinarians who are registered with the Veterinary Council of Nigeria. However, the register has not been updated for a while and therefore this number might not be the actual number of active veterinarians, it might be more in the neighbourhood of 3000 veterinarians who renewed their license in 2018, most of whom are in the private sector.

The Federal Department of Veterinary and Pest Control Services (FDVPCS) has a total of 177 veterinarians. The department has representation in the FCT and all the 36 State governments. The government engages the private sector in undertaking activities as necessary and provides them with field allowances during the implementation of disease prevention and control activities. This arrangement provides additional human resources for the performance of disease prevention and control activities. The public veterinary services do not formally contract the private sector to undertake public activities under a sanitary mandate.

The State Governments have a variable number of veterinary and other professional staff in their establishments. The States have veterinary personnel undertaking field activities in all the Local Government Areas (LGA). All 36 States have Directors of Veterinary Services who are senior veterinarians responsible for the planning and supervision of disease prevention and control activities in the States. At all levels, gaps in the professional staff cadres were identified by FDVPCS and additional staff have been requested. The positions have not been filled as the Federal and State Governments have not provided the required funds.

A national PPR Coordinator was appointed in 2016 to coordinate the implementation of PPR activities in the country.

The National Veterinary Research Institute (NVRI) and its 23 satellite laboratories have adequate professional and technical staff to undertake the functions within their mandate.

There is an established staff performance evaluation process that involves an assessment of the ability and timeliness of staff in submitting monthly activity reports, mission reports and other reports for specific assignments including PPR outbreak investigations and vaccinations. The results of the annual evaluations are considered by the Nigeria Public Service Commission in the promotion of staff.

Recommendations:

- In view of the limited availability of funds, the projected staff requirements should be reviewed, and prioritised with a view to filling positions critical for the implementation of the National PPR Strategy in the Federal and State Departments of Veterinary Services.
- In anticipation of the enactment of the Animal Diseases Control Bill (2018), FDVPCS should develop guidelines and procedures for implementation of sanitary mandate.
- FDVPCS should take appropriate measures to establish the national PPR Technical and Coordination Committees in line with the terms of reference provided by the FAO/OIE Global PPR Secretariat.

CC I.1.B	The appropriate level of staffing of the VS to allow for veterinary paraprofessional (according to the OIE definition) functions to be undertaken efficiently and effectively.	**2**
	The appropriate level of staffing of the VS to allow for PPR prevention and control to be undertaken efficiently and effectively.	**+1**
	Level 3 [The majority of positions requiring veterinary paraprofessional skills are occupied by personnel holding appropriate qualifications (for appropriate PPR prevention and control activities.) There is a variable level of veterinary supervision.)] **is required for Stage 2**	√

Veterinary para-professional and other technical personnel

Findings:

The country has many veterinary paraprofessionals (VPP). Due to the lack of a legal framework, there is no obligation for VPPs to be registered with the Veterinary Council of Nigeria (VCN), but 900 are voluntarily registered. The revision of the statutory instrument to facilitate this is on-going. The majority of VPPs are in the private sector.

The FDVPCS employs a total of 116 VPPs stationed at the Headquarters and in the 36 State and FCT Veterinary Offices. The government can also engage, if the need arises and funds are available, private VPPs to undertake activities as necessary and provides them with field allowances as provided for the public staff during the implementation of disease prevention and control activities. The State Governments have a variable number of VPPs in their establishments. The States have VPPs undertaking field activities in all the LGAs. There was no evidence of the systematic application of job descriptions in the assignment of duties to the paraprofessional cadres of staff.

A community animal health workers (CAHWs) scheme targeting secondary school leavers has been introduced and is being supported by the VCN. A group of selected veterinarians underwent a "Training of Trainers" (TOT) course and will in the next step, train future CAHWs using a curriculum developed by the VCN. The CAHWs will receive a Certificate and a license once trained and will subsequently be linked to a specific supervising veterinarian. Many NGOs expressed their interest in this programme during a meeting convened in 2018 by the VCN. The CAHWs could also be very useful for the implementation of the National PPR Strategy.

Recommendations:

- VCN, FDVPCS and other stakeholders to lobby for the enactment of laws to govern the registration, standards of practice and authorisation of tasks for Veterinary para-professionals in line with the OIE guidelines.
- Engagement of VPPs in PPR control and eradication activities should be guided by clearly documented job descriptions and/or terms of reference.

CC I.2.A	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.	3
	The capability of the VS to effectively carry out PPR veterinary and technical functions, as indicated by the level and quality of the qualifications of their personnel in veterinary and veterinary paraprofessional positions.	=
	Level 3 [The veterinarians' knowledge, skills and practices are sufficient for PPR activities of the VS (e.g. surveillance, treatment and control of animal disease, including conditions of public health significance)] **is required for Stage 1**	√

Competency and education of veterinarians

Findings:

There are 11 Faculties of Veterinary Medicine in Nigeria. Ten of these faculties are accredited by the VCN while one is in the process of accreditation. In practice, PPR is included in the core curriculum in each of these Universities in the para-clinical and clinical years. The teaching is the same in all the universities as the curriculum standards are set by the VCN. During the clinical years, veterinary students have the opportunity to see cases of PPR in field situations and at Veterinary Teaching Hospitals. Veterinary graduates, therefore, have knowledge on PPR clinical signs, diagnosis, epidemiology and control.

However, the veterinary curricula obtained from a sample of five Universities (Abuja, Jos, Ibadan, Maiduguri and Ahmadu Bello) did not explicitly outline the teaching content on PPR but it was taught under the subject "Special Pathology" that covers in detail the priority diseases of animals in Nigeria. Also, transboundary animal diseases are given very strong consideration under "medicine and preventive medicine".

PPR is an important disease of sheep and goats in Nigeria where it has been endemic for several decades. Most public and private veterinarians engaged in field activities have knowledge of PPR. However, specific knowledge on PPR is not a requirement for the hiring of veterinarians through formal interview processes.

Although the National PPR Strategy provides for the establishment of a National Coordination Committee and a National Technical Committee for PPR, the two committees have not yet been established. This provides the opportunity for FDVPCS to appoint members of these committees who have the technical knowledge, understanding and/or experience of PPR control in Nigeria and the ECOWAS region.

Recommendations:

- FDVPCS should accelerate the appointment of members of the PPR Technical and Coordination Committees taking into account their good understanding, knowledge and experience of PPR control.
- FDVPCS to collaborate with Universities on sensitisation of students in para-clinical and clinical years on the National PPR Strategy and the country's commitment to the eradication of PPR.

CC I.2.B	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.	3
	The capability of the VS to effectively carry out PPR veterinary and technical functions, as indicated by the level and quality of the qualifications of their personnel in veterinary and veterinary paraprofessional positions.	+1
	Level 3 [The training and qualifications of veterinary paraprofessionals is of a fairly uniform standard that allows the development of some specific competencies (for appropriate PPR prevention and control activities)] **is required for Stage 2**	√
Competency and education of veterinary paraprofessionals	**Findings:** There are many public and private institutions providing training for VPPs and awarding Ordinary Diplomas and Higher National Diplomas in animal health and veterinary laboratory technology in Nigeria. The Federal Government of Nigeria runs three main institutions for the training of VPPs namely: The Federal College of Animal Health Technology in Ibadan that is affiliated to the University of Ibadan; and the Federal College of Veterinary and Medical Laboratory Technology and the Federal College of Animal Health Technology both located within the NVRI compound in Vom, Plateau State. There are also several Federal and State Government-owned Colleges of Agriculture that provide training for VPPs. All these institutions are accredited by the National Board for Technical Education. The accreditation is carried out every three years. The institutions utilise the same curriculum, also approved by the National Board for Technical Education. The PVS mission was informed that the curricula for the training of VPPs includes modules on PPR although no curricula were provided to enable the verification of this. Some of the colleges also conduct short-term certificate courses in cattle, sheep and goat production and poultry production for interested persons. The National Board for Technical Education conducts reviews of the curricula after about 10 years to take into account the developments in knowledge and technology in the disciplines as well as the demands of industry and other end-users of the manpower trained by these institutions. In 2016, the FDVPCS organised specific training for VPPs on PPR recognition, clinical signs, sampling, packaging, vaccination, vaccine reconstitution and delivery. However, the VCN that is responsible for the organisation of Continuous Education programmes (CE) has not yet undertaken a specific CE activity on PPR for its registered personnel. The selection of veterinary paraprofessionals engaged in field activities does not necessarily involve a specific assessment of their capacity for undertaking PPR related activities. However, refresher training in specific areas is provided to veterinary paraprofessionals whenever staff gather to prepare for field activities. There is an established staff performance evaluation process that involves an assessment of the ability and timeliness of staff in submitting monthly activity reports, mission reports and other reports for specific assignments including PPR outbreak investigations and vaccinations. The results of the annual evaluations are taken into account by the Nigeria Public service Commission in the promotion of staff.	
	Recommendations: • VCN and FDVPCS, in collaboration with the Nigerian Association of Animal Health and Husbandry Technologists should liaise with the National Board for Technical Education to establish mechanisms to further improve and sustain the quality of education and training of Veterinary paraprofessionals. • FDVPCS to collaborate with the National Board for Technical Education for the sensitisation of its Technical Colleges on the National PPR Strategy and the country's commitment to the eradication of PPR.	

CC I.3	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.	2
	The capability of the VS to maintain, update and improve the knowledge, attitudes and skills of their personnel in terms of relevant PPR, through an ongoing staff training and development programme assessed on a regular basis for relevance and targeted skills development for PPR control and eradication.	=
	Level 3 [The VS have access to CE (for appropriate PPR prevention and control activities) that is reviewed and sometimes updated, but it is implemented only for some categories of veterinary professionals and paraprofessionals.] **is required for Stage 1**	✗
Continuing education	**Findings:** The VCN organises CE seminars on topical issues suggested by its members annually. Veterinary professionals and paraprofessionals registered with VCN are required to attend the CE seminars at least once every three years. However, the VCN has not yet organised a seminar on PPR although this was suggested by FDVPCS. Conferences organised by the Nigeria Veterinary Medical Association and the Nigerian Association of Animal Health and Husbandry Technologists often include the sharing of information on priority diseases of animals in Nigeria. Within this arrangement, PPR is often discussed among other priority diseases. In 2016, the FDVPCS with funding from the Government of Nigeria, trained paraprofessionals on the clinical signs, sampling, packaging of samples, vaccine reconstitution, vaccination, and vaccine delivery for PPR. This training has not been repeated since 2016 due to lack of financial support. Various trainings including those related to PPR recognition, prevention and control are also undertaken for public and private veterinary paraprofessionals. The trainings are organised annually subject to the availability of funds. Specific refresher training is also provided immediately prior to the participation of staff in field activities for disease investigation and control of PPR. Training courses funded by the Federal Government are also provided for butchers, meat inspectors and abattoir workers to update their skills and knowledge. However, there was no evidence provided that these cover PPR.	
	Recommendations: • VCN and FDVPCS should make efforts to design and provide PPR specific CE programmes (covering disease recognition, diagnosis, epidemiology and control) for all categories of veterinary professionals and VPPs in Nigeria. • Partner institutions such as FAO, NCDC and other stakeholders should be encouraged by FDVPCS to organise short courses on PPR.	

CC I.5	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.	2
	The capability of the VS leadership and organisation to develop, document and sustain strategic PPR policies and programmes, and also to report on, review and evolve them, as appropriate over time.	=
	Level 4 [PPR 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.] **is required for Stage 2**	✗
Planning, sustainability and management of policies and programmes	**Findings:** The Federal Ministry of Agriculture and Rural Development (FMARD) developed the Agriculture Promotion Policy (2016 - 2020) that recognises the need to promote pest and disease control services. In 2017, the FDVPCS led a broad consultative process with stakeholders that resulted in the development and validation of the National PPR Strategy and Action Plan for the first 5 years for the Control of PPR in Nigeria. The strategy has been printed and distributed to stakeholders including the State veterinary departments and NGOs and Sheep and Goats Producers' associations implementing small ruminants' improvement interventions. The Government of Nigeria thus has documented policies to support livestock development and a clearly articulated national strategy for PPR. However, the PPR strategy has not been operationalised through implementable programmes and projects that can be objectively monitored and assessed for progress. The on-going interventions on PPR are ad-hoc in nature and depend on the availability of funds from the Federal and State Governments, technical partners and NGOs. There are no specific procedures in place to coordinate, manage and document ongoing activities for PPR field operations. There are also currently no indicators or feedback mechanisms to enable the evaluation of these activities. It is thus difficult to systematically review and analyse PPR related activities in order to improve their efficiency and effectiveness. However, the interventions related to PPR are reported in the monthly animal health data reports submitted by the State veterinary offices to the Chief Veterinary Officer at the Federal level.	
	Recommendations: • FDVPCS should operationalise the national PPR Strategy by implementing the necessary actions to move the country from Stage 1 to Stage 2 of GCES. • FDVPCS to liaise and coordinate with NGOs and other partners implementing PPR related activities to ensure they contribute to the objectives of the national PPR strategy. • The National PPR Technical and Coordination Committee should be established and operationalised to enhance coordination, monitoring and evaluation of PPR activities.	

CC I.6.A	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 OIE Codes (e.g. surveillance, disease control, food safety, emergency preparedness and response).	3
	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 in order to implement all PPR activities	=
	Level 3 [There are internal coordination mechanisms and a clear and effective chain of command for PPR prevention, control and eradication activities] **is required for Stage 2**	√
Coordination capability of the Veterinary Services (Internal coordination (chain of command)	**Findings:** Administratively, Nigeria runs a Federal System with three strata of Government, namely the Federal (national) Government, 36 State Governments, 1 FCT and 174 LGAs. Each of these levels of governance is autonomous in carrying out designated agricultural activities. The control of animal diseases is the responsibility of State Governments while the Federal Veterinary Services deal with national policy formulation and guidance. The Federal Government takes the lead for the control, management and eradication of transboundary animal diseases as well as other diseases of national importance, especially when they assume epidemic proportions. The FDVPCS, headed by the Chief Veterinary Officer of Nigeria (CVON), has a physical presence and representation in all the 36 States. The FDVPCS representative at State level liaises with and supports the Director of Veterinary Services (DVS) in the State Government to undertake disease control activities at the State level. Each State Government has several LGAs under its jurisdiction and Veterinary Officers stationed in the LGAs report to the DVS. The DVS in turn shares reports and information with the FDVPCS representative at the State level who reports directly to the CVON. These channels also serve to provide feedback between the different levels of the VS. There is thus a clear chain of command in the VS of Nigeria from the grassroots operators at the LGA levels to the CVON in the FDVPCS. The CVON periodically convenes meetings of DVS and the staff at the FDVPCS to discuss issues relating to animal health in the country. There is no forum that enables the sharing of information and experiences between the State DVS in the absence of the meetings convened by the CVON. At the FDVPCS Headquarters, there are five technical divisions namely Animal Health and Clinical Services; Veterinary Public Health; Quality Assurance and Standards; Epidemiology and Pest Control Services. Each is headed by a Divisional Director who reports to the CVON. The Planning Unit is under the CVON. The coordination of disease control is domiciled in the Division of Animal Health and Clinical Services while disease surveillance, disease reporting and risk analysis are coordinated by the Epidemiology Division. This arrangement may undermine the internal coordination required to effectively implement the National PPR Strategy. A national PPR Coordinator has been appointed at the Federal Government level. However, the National PPR Coordination and Technical committees have not been established. The establishment and operationalisation of these committees would enhance the internal sharing of information and coordination of PPR related activities.	
	Recommendations: • Improve dialogue and coordination on the National PPR Strategy between the concerned divisions of FDVPCS, with the State Veterinary Services and between the different States. • FDVPCS to enhance communication and cooperation with the sister Federal Department of Animal Production and Husbandry Services for implementation of the National PPR Strategy.	
	The capability of the Veterinary Authority to coordinate its resources and activities at all levels with other government authorities with responsibilities within the	2

CC I.6.B	veterinary domain, in order to implement all national activities relevant to the OIE Codes, especially those not under the direct line authority of the Chief Veterinary Officer (or equivalent).	
	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 PPR activities	=
	Level 3 [There are formal external coordination mechanisms with clearly described procedures or agreements (e.g. Memoranda of Understanding) for PPR prevention, control and eradication activities at the national level.] **is required for Stage 2**	✗
Coordination capability of the VS (external coordination(including the One Health approach)	**Findings:** The FDVPCS as well as the State Departments of Veterinary Services have a long-established tradition of the involvement of different stakeholders and institutions in the prevention, control and eradication of animal diseases. There are few written MoUs or agreements between the Veterinary Services and the other stakeholder institutions but there was clear evidence of coordination and collaboration among the stakeholders at all levels. This was exemplified by the confirmation of the State Veterinary Services, the Universities, the Technical training institutions, the National Quarantine Services, the VS related regulatory bodies (VCN and NAFDAC), the National Veterinary Medical Association and the National Sheep and Goat Farmers' Association, that they were represented in the formulation and validation of the National PPR Strategy (among other policy and strategy processes). The National Livestock Development Committee chaired by the Director of FDVPCS/CVON of the FMARD brings together technical stakeholders to coordinate inputs for key policy, strategy and other decisions on livestock development. Membership includes CVON, Heads of Division of FDVPCS, State Directors of Veterinary Services, DG NAQS, Deans of Vet. Faculties, Directors of VTHs, NVRI, NAPRI and some NGOs. The recommendations of the National Livestock Development Committee are submitted to the National Council on Agriculture and Rural Development that is chaired by the Minister of Agriculture and Rural Development and comprises all the State Commissioners of Agriculture as Members. In addition to these mechanisms, networking and good personal relations between senior staff of the FDVPCS with staff in other agencies contributes to the coordination of activities between the FDVPCS and other public and private sector institutions (Police, Customs, NAQS, NAFDAC, private laboratories, NVMA, VCN etc.).	
	Recommendations: • Identify key stakeholders in sheep and goat production and health at State and LGA levels and establish mechanisms for collaboration and coordination of joint PPR projects/activities.	

CC I.7	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.	**1**
	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 to combat PPR.	**+1**
	Level 3 [The VS have suitable physical resources for PPR activities at national, state/provincial and some local levels but maintenance, as well as replacement of obsolete items, occurs irregularly.] **is required for Stage 2**	✗
Physical resources and capital investment	Findings: The state of physical resources available to the VS at Federal, State and LGA levels differed from location to location. At the FDVPCS, the physical facilities and equipment were relatively well maintained. There was a cold chain facility that allows the storage of vaccines awaiting dispatch to the States. Staff at the FDVPCS appeared to be adequately supplied with appropriate IT equipment that is periodically updated. However, access to the internet was acknowledged as a key challenge. In addition, frequent electricity outages necessitate the use of a generator powered by diesel that is more expensive per litre than petrol in Nigeria. The situation of the physical facilities and equipment in the States visited ranged from inadequate to moderately satisfactory. In all the States visited, access to the internet was a major challenge and often left to staff to overcome by, e.g., using mobile Wifi USB dongles. The state of the facilities was determined by the commitment of the respective State Governments to funding the livestock sector and the VS. The VS in Lagos State had relatively satisfactory facilities as the State Government considers the provision of veterinary services as a priority to safeguard public health and the safety of food of animal origin. Other States, however, had no facilities to support their services. Overall, the physical facilities and equipment as well as IT connectivity in all the States visited need major improvements to effectively support the provision of services. The NVRI that is mandated to carry out research, diagnosis, vaccine production and distribution, had relatively good physical facilities. The equipment at NVRI ranges from modern to antiquated but functional, However, challenges were often encountered in the servicing and calibration of equipment due to inadequate funding. This challenge particularly affects equipment that can only be serviced by foreign companies. NVRI has an appropriately equipped Central Veterinary Laboratory that can undertake the diagnosis of the priority diseases, including PPR. Availability of vehicles to carry out field work is another major challenge. Unless provided by projects, all the State VS visited did not have a single official vehicle for use. In addition, all the States visited experienced frequent power outages that affected the functioning of equipment including freezers. In some of the States, the freezers and refrigerators were not in working order. At the same time, there was inadequate funding to enable the purchase of diesel for generators. This situation presents challenges for the maintenance of cold chain equipment by the State VS and raises questions on the functional integrity of live attenuated PPR vaccines released for field use following storage in these facilities for varying periods of time.	

	Recommendations: • Support for the upgrading of obsolete equipment and maintenance/repair and servicing of existing equipment (cold chain, vaccine production, laboratory diagnostics, laboratory research) should be prioritised by the Federal and State Veterinary Services. • Provisions should be made for functional generators and the provision of adequate funds for diesel at key facilities (vaccine production and storage equipment, diagnostic equipment etc.). • Measures should be put in place to ensure the effectiveness of the cold chain facilities for the storage and delivery of PPR vaccines from NVRI to the various field locations. This should include the introduction of temperature sensors and vaccine vial monitors along the vaccine delivery chain and the collection and testing for potency of samples of PPR vaccines at different points of the delivery chain.

CC I.8	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).	**2**
	The ability of the VS to access operational resources adequate for their PPR planned and continued activities (e.g. salaries, contracts, fuel, vaccines, diagnostic reagents, personal protective equipment, per diem or allowances for field work).	**-1**
	Level 4 [Operational funding for new or expanded PPR operations is on a case-by-case basis, and not always based on risk analysis and/or cost benefit analysis] **is required for Stage 2**	✗

Operational funding	Findings: The FDVPCS prepares and submits an annual budget of its activities to the parent FMARD. The budgeting process within the FDVPCS is coordinated by the Sub-sectoral Planning Unit. The budgets are currently subject to a ceiling agreed by FMARD and the National Budget Planning Office in line with national priorities outlined in the Agriculture Promotion Policy (2016 – 2020). Within FDVPCS, the budgets for the various activities are allocated based on needs and priorities that often include the operations of the Federal Veterinary Offices in the States, biosecurity, food safety and the purchase of vaccines for the prevention and control of PPR, CBPP, rabies and FMD. The FDVPCS has a specific annual budget line for PPR that is used to procure PPR vaccines for distribution to the different States based on their disease reports. Since 2014, the allocated budget enabled the provision of an average of 2.6 million doses of PPR vaccine annually. In 2019, budgeting was done for 8.5 million doses of PPR vaccine. The vaccines are procured by FDVPCS and distributed to the State governments However, the vaccine doses procured annually are insufficient to effectively cover the estimated 120 million sheep and goats in Nigeria and their distribution is not based on any risk analysis. The FDVPCS liaises with the State DVS to allocate funds from the State Government budgets to implement field vaccination programmes. Some States purchase additional vaccines to complement the provisions by the FDVPCS. This approach provides for complementarity and synergies between the Federal and State Governments in the implementation of vaccination programmes. However, the budget allocations by the State Governments for livestock disease control, including PPR, are often inadequate. In all States visited, except Lagos State, the States had not received any operational budget for the 2017/2018 budget. Hence none of those States

	had been able to procure vaccines, including for PPR and were entirely dependent on provision of vaccine by FDVPCS. The NVRI has budget lines for both PPR research and PPR vaccine production. NVRI is also authorised to retain and re-invest 75% of its revenue in vaccine production. However, the production of PPR vaccine to the full capacity of NVRI is constrained by old equipment and a low demand for the vaccine.
	Recommendations: • FMARD to prioritise PPR control and eradication in line with the country's commitments to contributing to the global eradication of the disease and provide the requisite budget to enable effective operations. • The State Governments to review and enhance budgetary allocations and disbursements for PPR control and eradication to enhance demand for PPR vaccine produced by NVRI.

CC I.9	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.	1
	The capability of the VS to access extraordinary financial resources in order to respond to PPR (re)emergence, 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.	=
	Level 4 [Emergency funding arrangements with adequate resources have been established, their provision in PPR emergency situation must be agreed through a non-political process on a case-by-case basis] **is required for Stage 4**	✗
Emergency funding	**Findings:** The FDVPCS does not have ready access to emergency funding to enable rapid response to animal disease emergencies except for outbreaks of highly pathogenic avian influenza (HPAI). This situation is also replicated in the State Departments of Veterinary Services and at the NVRI. At the national level, emergency funds arye provided by the National Emergency Management Agency under the Ecological Fund. However, no emergency funds have been disbursed from this source for livestock related emergencies. Since 2006, a special fund exists for avian influenza that provides for the culling of birds and compensation of the owners that are supported by relevant legislation. There is no emergency fund for PPR. Whenever necessary, the FDVPCS appeals to partner agencies such as FAO for funding to support emergency interventions.	
	Recommendations: • FDVPCS to include a chapter on Contingency planning and funding when developing the National Control Plan for progression from stage 1 to 2 of the National PPR Strategy, • FDVPCS should proactively engage the decision makers in the FMARD with evidence and clear justifications for the allocation of emergency funds for the control of PPR.	

Fundamental Component II – Technical Authority and Capability

CC II.1.A	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.	2
	The authority and capability of the VS to access laboratory diagnosis in order to identify and report pathogenic and other hazardous agents particularly PPRV and those which must be differentiated from it.	+1
	Level 2 [For PPR, the VS have access to and use a laboratory to obtain a correct diagnosis] **is required for Stage 1**	√

Veterinary laboratory Diagnosis – Access to veterinary laboratory diagnosis

Findings:

The NVRI is the central laboratory and national reference laboratory for PPR which offers all the diagnostic services required. It can guarantee a turn-around time of 1 day for samples. However, NVRI receives very few samples (431 in 2018), giving evidence to the problem on the ground of insufficient funding and sometimes logistical challenges in the collection and transportation of samples to the laboratory. Manpower with specific knowledge and training in PPR diagnosis at NVRI is therefore grossly underutilised in the present situation.

NVRI has a dedicated Morbillivirus research laboratory with 6 scientific staff, mandated to carry out research and training, diagnosis and vaccine improvement. (see also II.1.B)

NVRI has a network of 23 satellite laboratories of which the team visited 4 (Abuja FCT, Calabar State, Zaria in Kaduna State and Borno State) and collaborates with the 11 Veterinary Teaching Hospitals of the Universities. However, the level of capacity in terms of equipment, reagents and consumables of the laboratories in this network varies greatly and NVRI considers that only about 6 of them are of a standard to carry out good diagnostic services for PPR.

A system of allocating disease specific responsibilities to laboratories other than NVRI, as was done during Rinderpest eradication, has not been established for PPR. However, NVRI could do it at least with the Sokoto, Ibadan and Zaria satellite laboratories.

NVRI is a member of the West African RESOLAB.

Samples from wildlife have not been tested for PPR, as was done for Rinderpest and wildlife samples collected during Rinderpest surveillance are no longer available. A survey in camels revealed antibodies and indicates PPR exposure in camels.

Recommendations:

- Conduct laboratory needs assessment as required in Stage 2 of the National PPR Strategy by utilising the expertise existing in the country (e.g. NVRI, Universities, NCDC)
- Officially designate additional laboratories as PPR diagnostic centres in order to expand the network of laboratories carrying out PPR diagnosis

CC II.1.B	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.	2
	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 with regard to PPR eradication.	+1
	Level 3 [The national laboratory system generally meets the needs of the VS PPR activities. Resources and organisation appear to be managed effectively and efficiently, but funding is insufficient for a sustainable system, and limits throughput. Some laboratory biosafety and biosecurity measures are in place] **is required in Stage 1**	√

Suitability of the national laboratory system

Findings:

The Central diagnostic laboratory of NVRI is the backbone to PPR diagnosis in the country, but the majority of the satellite laboratories are not up to standard. The system is currently not effective and not sustainable, as there is no regular supply of reagents (e.g. serology test kits) and consumables such as pipettes and tips, particularly at the level of the satellite laboratories.

NVRI uses three different ELISA kits (Pirbright, AU-PANVAC, IDvet) on the basis of availability. NVRI is equipped to do conventional and real-time PCR and virus isolation, share their strains with the depository in the International Atomic Energy Agency (IAEA), Seibersdorf, Austria and is collaborating with the French Agricultural Research and International Cooperation Organisation (CIRAD) for virus sequencing.

NVRI has made many attempts and efforts to encourage satellite laboratories to send samples, has even provided virus isolation transport media, but the response has been minimal, as satellite laboratories claim they have no funds for meeting the costs of transport of samples Hence, it is assumed that those that send samples have a special interest, e.g. research, but it is hardly ever done routinely.

Ongoing research on PPR at NVRI includes studies on the decay of antibodies after vaccination and on the thermostability of vaccines, research that has already been carried out by other research institutions in the region. Research resources could be channelled into activities that are required in Stage 1 or 2 of the PPR PMAT, so that the research can contribute to Nigeria's progress towards PPR eradication. NVRI research has also revealed serological evidence for PPR in camels in Nigeria.

Recommendations:

- Develop and institutionalise a mechanism to facilitate the rapid transport of samples from the field to the laboratories while ensuring sample integrity and, if required, forwarding to NVRI.
- Also explore possibilities to engage with partners such as the Veterinary Faculty at the University of Jos, sheep and goat producers' associations etc. to establish Public-Private-Partnerships to improve capacity to transport samples.
- Supply and replenish all 23 facilities of the NVRI laboratory network with sufficient sampling and packaging material and cold storage equipment for sample transport.
- Reassess research priorities for NVRI with a focus on supporting the implementation of the National PPR Strategy and progression to the next Stage (i.e. currently from Stage 1 to Stage 2).

CC II.1C	The quality and reliability of veterinary laboratory testing servicing the public sector VS as assessed by the use of formal QMS including, but not limited to, attainment of ISO 17025 accreditation and participation in proficiency testing programmes.	**2**
	The quality and reliability of laboratory testing servicing the public sector VS (that conduct PPR diagnostic testing.) as assessed by the use of formal QMS including, but not limited to, attainment of ISO 17025 accreditation and participation in proficiency testing programmes.	=
	Level 2 [One or more laboratories servicing the public sector VS for PPR diagnostic and PVE including the major national animal health reference laboratory, are using formal QMS.] **is required for Stage 3**	√
Laboratory quality management systems (QMS)	**Findings:** NVRI has an independent, well-staffed QM department which oversees implementation of QMS in the institute. The QMS department evaluates the PPR vaccine following the OIE vaccine quality standards as detailed in the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals. Batches of the NVRI PPR vaccine are sent regularly to AU-PANVAC for independent external quality assessments. The vaccine is registered by NAFDAC. NVRI participates in proficiency testing (PT) on PPR when organised by partner institutions and has recently carried out a PT with CIRAD for PPR. The NVRI QM department is working towards ISO accreditation by following the ISO guidelines for its Quality Control procedures. NVRI is regularly audited by the Standards Organisation of Nigeria (SON). NVRI has been recognised by the regional laboratory-network (Resolab) to be the regional reference laboratory for ECOWAS.	
	Recommendations: • Engage with an OIE Reference Laboratory in an OIE twinning project on PPR	

CC II.2	The authority and capability of the VS to base its risk management and risk communication measures on risk assessment, incorporating sound epidemiological principles	**1**
	The authority and capability of the VS to base its risk management and risk communication measures on risk assessment relating to PPR control, incorporating sound epidemiological principles	=
	Level 3 [The VS compile and maintain PPR data and have the policy and capability to carry out risk analysis, incorporating epidemiological principles. The majority of PPR risk management and risk communication measures are based on risk assessment] **is required for Stage 1**	✗
Risk analysis and epidemiology	**Findings:** A formal risk analysis as requested to move from Stage 1 to Stage 2 of the PPR PMAT has not been carried out. It is generally stated that PPR is endemic in all States of the country, with different levels of prevalence / severity. Information on outbreaks/cases are meant to be channelled through the data recording and information and surveillance, NADIS, from which epidemiological information could be extracted to assist the VS in making informed decisions on where to focus control efforts under Stage 2. However, due to inherent problems in the collection, collation and forwarding of the information through the reporting channels (see II.6 of the main PVS report), there is gross underreporting and the information available at FDVPCS and at State DVS levels does not reflect the disease situation on the ground. The only information about prevalence rates of PPR in some States that the team could find was a publication by NVRI on active surveillance in 12 States between 2010 and 2013. The incomplete information on the disease distribution is, however, only one aspect of why the continuous efforts of the VS to carry out annual vaccinations do not yield the desired results. The procurement and distribution of vaccines is the other main contributing factor. Disease control is the responsibility of the States. States budget for sufficient vaccine to carry out vaccination campaigns, but do not receive the full requested budget, if any, hence, they cannot buy sufficient vaccines. FDVPCS steps in where and when requested, supported by reports from the States on disease prevalence. This information, as explained above, is, however, not fully available. The combination of these two factors leads to a “watering can” distribution of vaccines across the nation, which yields only a short-term impact. Other information needed for a risk analysis might be available, e.g. livestock movement routes are well described, mapped and researched. The information might just need some updating for small ruminants which could be done by means of questionnaires to the States. Other key stakeholders such as livestock keepers and their associations, transporters, live markets, input suppliers and butchers are also well known and information on them can be found with the State VS. The human capacity to carry out risk analysis is available in the Epidemiology Unit of FDVPCS as well as in some Universities. So far, however, no attempt has been made to incorporate the available information into building a risk analysis approach.	
	Recommendations: • FDVPCS should collect the information already available (literature, Universities, NVRI, State disease reports), identify the gaps and carry out additional information gathering (e.g. a survey in States other than those already tested) to conduct a risk analysis as requested in the PPR PMAT to move from Stage 1 to Stage 2. • This risk analysis should focus on the disease distribution, movement patterns and feasibility to control movement in view of identifying areas with high prevalence or “hot spots” that could be targeted for the start of mass vaccination campaigns as requested in Stage 2.	

CC II.3	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.	**2**
	The authority and capability of the VS to operate to prevent the entry of PPR in animals into their country.	**-1**
	Level 3 [The VS can establish and apply quarantine and border security procedures based on PPR 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 small ruminants and their products] **is required for Stage 4**	✗
Quarantine and border security	**Findings:** The VS has established international health certificates for export of animals and animal products. The control of imports also requires import health certification and import risk analysis. The control of possession of these required documents, however, is a challenge. Movement permits are issued or checked mainly at major livestock markets. Veterinary control posts along major roads/routes are no longer functioning; they were last active during the HPAI crisis to control movement of poultry. This leads to continuous spread of PPR along the transhumant routes from north to south, as was reported by small ruminant owners in the south. One State reported that their officers were mistreated and even abducted when trying to stop livestock transporters and inspect their animals at an inter-state border. The NAQS, established since 2014 as a para-statal agency, has mounted control points across the country in the East–West transect, but their effectiveness is presently hampered by a dispute with the Amalgamated Cattle Transporters Union due to concerns of double taxation by NAQS and the State governments. At the Makurdi Control Post, visited by the team, about 20% of vehicles stop, whereas, according to information received, presently no vehicles stop at the other posts. Control and inspection of livestock movement within the country is therefore currently not fully functional. Movement of small ruminants from outside the country was reported to pass through unofficial border posts frequently.	
	Recommendations: • A solution to the apparent double taxation over veterinary inspection, carried out by State VS or by NAQS, and State revenue collectors along federal roads, should be found at the political Federal level • An agreement with the Police or Military to defend the VS when performing livestock inspection at control posts should be found at Federal level • Stricter controls along the borders and the major roads for transhumant small ruminants, with Police/Military support, should be established	

CC II.4.A	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 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.	**2**
	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 with regard to PPR 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 PPR in a timely manner.	=
	Level 3 [The VS have some passive surveillance capacity with some sample collection and laboratory testing with regard to PPR. 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 PPR.] **is required for Stage 2**	✗
Surveillance and early detection - Passive surveillance, early detection and epidemiological outbreak investigation	**Findings:** The States DVS, in general, have an asset of surveillance post agents employed, including epidemiologists. Passive surveillance data is gathered based on farmer reports to surveillance posts or collected at markets and abattoirs. However, due to major funding problems that lead to almost no transport/vehicle availability, State VS staff are unable to move on their own initiative. Farmers who seek their assistance need to provide transport. Consumables are also often in short supply, therefore, diagnosis of cases is largely based on clinical signs. Since PPR was said to be “widely spread” and endemic in all States visited, diseases other than PPR showing similar clinical signs might go unnoticed. The NVRI reports for 2018 the testing of 431 samples, of which only 177 were positive for PPR. The FDVPCS reported 12, 51 and 61 PPR outbreaks for 2016, 2017 and 2018 (January to September), respectively. In case of major PPR outbreaks, the State VS organise response teams. In order to overcome the problems mentioned, they might request the support from their Federal colleagues stationed in the State, to carry out an outbreak investigation. It was noted that in none of the States visited were there any information materials available for raising the awareness of farmers. In some States the mission was informed about farmers’ trainings or sensitisation meetings. However, also during those meetings, leaflets or other information materials were not distributed.	
	Recommendations: • FDVPCS to develop specific information materials on the need for farmers to report to the nearest veterinary officer or prescribed officer in the LGA and share with the States for distribution to stakeholders, particularly to Sheep and Goat Farmers’ Associations for their members. • For this purpose, make use of information materials already available with the international organisations or work through stakeholders that might have such materials. • Raise awareness at community level using appropriate fora on the importance of the recognition and reporting of PPR.	

CC II.4.B	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. 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.	**1**
	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 with regard to PPR. Surveillance targeting PPR to determine its prevalence, measure progress in PPR control or support the demonstration of PPR freedom (with passive surveillance), most often in the form of pre-planned surveys with structured sampling and laboratory testing.	=
	Level 3 [The VS conduct active surveillance using scientific principles and OIE standards for PPR, but it is not representative of the susceptible populations and/or is not updated regularly. The results are analysed and reported to stakeholders.] **is required for Stage 1**	✗
Surveillance and early detection - Active surveillance and monitoring	**Findings:** The VS does not conduct any active surveillance for PPR, except for some studies performed by researchers at NVRI some years back. PPR outbreaks are reported through passive surveillance, market inspections and abattoir ante- and post-mortem findings. These outbreaks are reported through the National Animal Disease Information and Surveillance (NADIS), using the ARIS 2 platform. The reporting system is severely constrained by the dire funding situation which makes surveillance agents and other veterinary and VPP personnel at field level immobile, with little or no computer and internet connection, reverting to paper-based reporting with the inherent delays and underreporting. The FDVPCS acknowledges that PPR and other diseases are grossly under-reported, although it is locally known that PPR is endemic, widespread, seasonal and severely impacting the local small farmers, particularly the women farmers. No surveillance in wildlife is carried out and no sentinel herds have been identified. Vaccination campaigns, where and when they can be organised when funds become available, are not used to take serum samples at the same time. It was noted that two different divisions within FDVPCS are in charge of disease control and surveillance. The former lies under the responsibility of the Animal Health and Clinical Services division, and the latter lies in the Epidemiology division.	
	Recommendations: • In the absence of specific funding for PPR surveillance, take advantage of existing initiatives (vaccination campaigns, AI investigations, field visits) to collect serum samples from small ruminants for PPR epidemiological investigations. • Assure close collaboration between the Animal Health and Clinical Services Division and the Epidemiology Division regarding the strategy and the budgeting for surveillance and for disease control, so that they go hand in hand. • Establish cooperative links with the Ministry of Environment, National Park Authorities and conservation NGOs to identify suitable National Parks with susceptible species, e.g. antelopes, and identify sentinel groups for sero-surveillance.	

CC II.5	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).	2
	The authority and capability of the VS to be prepared and respond rapidly to a sanitary emergency threat (such as a significant PPR outbreak).	=
	Level 4 [The VS have the legal framework and financial support to respond rapidly to PPR emergencies through an effective chain of command (e.g. establishment of a containment zone). The VS have national emergency management plans for PPR, linked to broader national disaster management arrangements, and these are regularly updated/tested such as through simulation exercises.] **is required for Stage 4**	✗
Emergency preparedness and response	**Findings:** The FDVPCS has the legal framework to respond to disease emergency outbreaks as was demonstrated during the HPAI outbreaks in 2006, 2014, 2016 and during our visit in January 2019. Funds and personnel were quickly mobilised for disease investigation, movement control, disinfection, biosecurity, depopulation and surveillance. Although PPR causes high losses and is spread throughout the country, it does not receive the same attention as HPAI and it also has no emergency funding. The disease is endemic, the seasonal patterns of its occurrence are well known, and mitigating measures are taken by farmers who tend to sell their animals as soon as they see the first signs of the disease, knowing well that there is no treatment, that vaccines are not easily available and, most importantly, no compensation is granted. The National PPR Control Strategy, 2017, does not include a contingency plan. The National Emergency Management Agency does not fund animal disease emergencies, hence any emergency budget would have to come from the Federal or State Ministries.	
	Recommendations: • Consider adding a chapter on Contingency planning to the National PPR Strategy, to be developed when moving to Stage 2 to cater for major outbreaks, e.g. in areas outside the initially targeted vaccination zones.	

CC II.6	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.	2
	The authority and capability of the VS to control or eradicate PPR 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.	=
	Level 3 [The VS implement prevention, control or eradication programmes for PPR in some areas or populations. There is variable epidemiological, risk-based planning and evaluation of efficacy and efficiency, with limited progress towards programme goals.] **is required for Stage 2**	✗

Disease prevention, control and eradication

Findings:

The National PPR Strategy describes the combination of risk assessment, laboratory capacity assessment, prevalence studies etc., that lay the foundation for a risk-based approach to strategic deployment of vaccine, combined with movement control and biosecurity.

Unfortunately, to date, the Strategy has not been implemented due to lack of funding. The vaccine is produced in-country at NVRI. Currently, the production averages 2.8 million doses/year, but production capacity can increase to 8 million doses. Production could be up-scaled to a much higher capacity with the introduction of newer equipment (e.g. multiple dispenser lines).

The average vaccine usage per year, due in part to low demand and in part to the unavailability of funds at State and Federal level to purchase vaccine, is quoted as 2.8 million doses. Given that the estimated population of small ruminants is 120 million, it becomes obvious that the current spread of this amount of vaccine across the country, to satisfy all the States that demand vaccine either from State budget or with support of the Federal budget, cannot achieve control of the disease.

Movement control, particularly along the east-west tangent to control seasonal transhumance from north to south is currently being put in place by the NAQS, but it is not operational due to conflict with the Amalgamated Cattle Transporters' Union about double taxation by State revenue collectors and, allegedly, the veterinary inspectors (see II.3).

FDVPCS had not carried out a self-assessment using the PMAT tool since the regional workshop in Dakar in 2015. Therefore, they did not have a clear appreciation of what had already been achieved regarding the prevention and control of the disease and what was yet to be accomplished to move forward to the next Stage in their National PPR Control Strategy. This was undertaken by FDVPCS during the PVS mission.

Recommendations:

- Perform the recommended risk analysis in view of determining areas of the country where targeted vaccination of small ruminants could be carried out as a priority.
- Define the vaccination strategy for the first area/s identified for mass targeted vaccination
- Plan for number of vaccines required, assure budget availability and order vaccine in good time from NVRI, as they can only produce vaccines on order.
- Take serum samples at vaccination, and if possible, also post-vaccination to determine the success of this first targeted vaccination.
- Analyse the data from pre- and post-vaccination serology and, if required, adjust the vaccination strategy accordingly.
- Carry out periodically, at least once per year, a self-evaluation using the PMAT tool.
- Encourage collaboration between ILRI and NVRI on transfer of technology for thermo-tolerant vaccine technology in order to mitigate cold chain problems (see CC I.7).

CC II.7.B	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 carcases 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 paraprofessional 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.	**2**
	The authority and capability of the VS to implement and manage the ante-mortem inspection of sheep and goats destined for slaughter and the post-mortem inspection of carcases 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 paraprofessional 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.	**-1**
	Level 4 [Ante- and post-mortem inspection with collection of PPR 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.] **is required for Stage 2**	✗
Animal production food safety - Ante- and post mortem inspection at slaughter facilities and associated premises	**Findings:** Ante- and post- mortem inspection of small ruminants is carried out in all Government and private abattoirs by State Veterinarians or paraprofessionals. The environment in which these officials perform their duties is, however, not conducive and often under very poor hygienic conditions. There is often opposition and aggression by butchers when inspection necessitates condemnation of organs or full carcasses. There is an attitude and expectation on the part of butchers that such condemnations should be compensated or otherwise not be taken away. Diseases such as PPR are often detected at ante- and post-mortem inspection and reported routinely through the “monthly abattoir report”. In known outbreak seasons it is a common sight to see PPR diseased small ruminants at abattoirs as livestock owners and traders try to sell animals before they succumb to the disease. In some abattoirs, traders arrive with large numbers of animals and sell them as and when business opportunities present themselves. It was reported to the mission that animals can stay for up to 10 days before all have been sold and slaughtered. Although it was reported that no animals leave the lairage other than for slaughter, this could not be verified. Hence there may be a good opportunity for disease spread, particularly as none of the abattoirs visited had an animal isolation facility There are no export abattoirs for small ruminants.	
	Recommendations: • State VS to increase control at entry points to lairage sections of abattoirs to prevent access by animals showing PPR like clinical signs. • Provide isolation facilities and enforce isolation measures as needed at abattoirs • Disinfect isolation and slaughter areas. • Enlist the support of law enforcement agencies in cases of aggression by butchers.	

CC II.12.A	The authority and capability of the VS, in coordination with producers and other stakeholders, to regulate the identification of animals, 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.	**1**
	The authority and capability of the VS, in coordination with producers and other stakeholders, to regulate the identification of animals, to trace their history and location(s), and to control domestic movements for the purpose of PPR control, food safety, trade or other legal requirements under the VS mandate.	**+1**
	Level 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 PPR control, in accordance with international standards.] **is required for Stage 3**	✗
Identification, traceability and movement control - Premises, herd, batch and animal identification, tracing and movement control	**Findings:** There is currently no national animal identification system in Nigeria. Individual cattle owners apply identification. A pilot project is being undertaken by the FDVPCS in collaboration with the Police for microchip identification, but none is in place for small ruminants. For traceability of diseased animals identified at abattoirs, it was stated that butchers and traders would be able to identify the owners of individual animals. This, however, could not be verified. It was also stated that the National Sheep and Goats Farmers' Association holds a register of its member farmers (over 50,000) which could be a starting point for a future identification of small ruminant farmers and their animals. As PPR is endemic and occurs frequently, there is generally no tracing back of diseased animals to their place of origin.	
	Recommendations: • Introduce a compulsory registration system of small ruminant owners e.g. through their associations. • Identify small ruminants at herd level if reared for slaughter and introduce individual identification for animals that are kept for genetic improvement. • If the planned Animal Identification and Traceability system for cattle makes progress, attempt to link small ruminant identification to the national Animal Identification and Traceability system	

Fundamental Component III – Interaction with stakeholders

CC III.1	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.	**2**
	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 regarding PPR, and of developments in PPR control	=
	Level 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 PPR events, activities and programmes, including during] **is required for Stage 2**	✗
Communication	**Findings:** The FDVPCS has a website listing its key objectives, describing its divisions and their main activities (https://fmard.gov.ng/l_page/about-us/). On this website there is a special area for the Regional Disease Surveillance Enhancement Project (REDISSE), but PPR is not mentioned as a special project, neither is there any reference to the National PPR Strategy. The Department has a contact point for communication who deals with all topics across the divisions. In addition, there is also a communication contact point for the REDISSE project and a communication plan for this project is being prepared. The FMARD also deploys media officers at the State Government levels to facilitate communication. At both the Federal and State levels, the mission could not find documented communication strategies or plans or even information leaflets for PPR. However, these were available for Avian Influenza and Trypanosomiasis. A communication plan for PPR, as envisaged under the National PPR Strategy, is yet to be developed. There were also no awareness creation and information materials developed on disease recognition, reporting and control, although this type of material can be found with FAO and OIE and could easily be adapted to Nigerian conditions. Currently communication on animal health issues including PPR appeared to be done on an ad-hoc basis. At the Federal Government level, communication within FDVPCS is done through monthly departmental seminars and email messages. Information sharing between the FDVPCS and the State DVS is through meetings convened between the CVON and all the State Directors of Veterinary Services. However, the minutes of these meetings were not provided to the team for verification of these meetings. At the State Government level, information on animal diseases, their surveillance and control is shared with stakeholders through different channels such as the mosques, churches, markets, radio and television channels, town criers etc. In Plateau State, the mission was informed that information on animal health related issues (including PPR) is usually conveyed through meetings between the DVS and the Divisional Animal Health Officers responsible for activities in the LGAs. In Oyo State the State VS have a communications officer who interviewed the mission members with a view to disseminating the information through local radio and television stations to create public awareness on the objectives of the evaluation. The use of social media and WhatsApp groups is common and successful for reporting recent events such as the equine influenza or HPAI outbreaks and could be replicated for PPR.	
	Recommendations: • FDVPCS should prepare and validate a communication plan with the communication needs for implementing the National PPR Strategy. • FDVPSC divisions should prepare PPR communication materials using sources such as OIE and FAO, adapting existing material to the situation in Nigeria, and sharing with the State VS. • State VS should engage in awareness raising in community fora on the importance of PPR and in sensitisation for the National PPR Strategy.	

CC III.2	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.	**2**
	The capability of the VS to consult effectively with non-government stakeholders on VS policies and programmes regarding PPR, and on developments in PPR control	**+1**
	Level 3 [The VS hold formal consultations with non-government stakeholders, usually represented by industry groups or associations in PPR activities.] **is required for Stage 1**	√
Consultation with stakeholders	**Findings:** The VS at the Federal and State levels demonstrated that they consult with and involve different stakeholders in formal fora on policies and programmes for PPR. This was confirmed by the VCN, the Universities, the Sheep and Goat Producer's Association, the Butchers Association and the National Veterinary Medical Association**).** However, the National Association of Animal Health and Husbandry Technologists expressed dissatisfaction over inadequate consultation and insufficient recognition of their roles in animal health services delivery by the public Veterinary Services and the related regulatory agencies. The formulation and validation of the National PPR Strategy involved representation from all these groups among others. The views of the stakeholders were incorporated into the strategy. Concern was expressed by an NGO representative and staff from one University that they were not kept updated on activities being undertaken to implement the National PPR Strategy following its validation, printing and distribution. In the absence of the PPR Coordination Committee, there are no mechanisms currently in place for the coordination of stakeholders involved in PPR activities at the different levels.	
	Recommendations: • FDVPCS to convene meetings with stakeholders involved in projects with a small ruminants' improvement component to highlight the importance and impacts of PPR and enlist their support for its control and eradication.	

CC III.3	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 the OIE, Codex Alimentarius Commission, WTO SPS Committee, WHO, FAO and Regional Economic Communities.	**3**
	The capability of the VS to regularly and actively participate, coordinate and provide follow-up on relevant meetings on PPR and activities of regional and international organisations including the OIE, FAO	=
	Level 3 [The VS actively participate in the majority of PPR relevant meetings and activities, and provide some feedback to national colleagues.**] is required for Stage 1**	√
Official representation and international collaboration	**Findings:** The FDVPCS regularly participates in the OIE General Assembly sessions where animal health standards and guidelines (including those on PPR) are discussed. The Chief Veterinary Officer of Nigeria also participates in the annual African CVOs' meetings convened by AU-IBAR since 2009 to discuss common African positions on animal health standards and guidelines, including those for PPR. Nigeria participated in the Global PPR Conference for the launch of the Global PPR Control and Eradication Strategy (GCES) held in Abidjan Cote d'Ivoire from 31st March to 2nd April 2015. Nigeria also participated in the first PPR Regional roadmap meeting for West Africa jointly organised by FAO, OIE, AU-IBAR and held in Dakar, Senegal in May 2016. During this meeting, Nigeria was included as a member of the Regional Advisory Group (RAG) for PPR (HO11), however, it has not actively assumed this role. The FDVPCS followed up on the recommendations of the Dakar meeting by convening stakeholders' workshops for the development and validation of the National PPR Strategy. However, the coordinated implementation of the strategy is yet to be initiated. While it was strongly recommended to countries during the Dakar meeting to periodically carry out a self-assessment using the PMAT tool, this has not been done in Nigeria since 2016. However, during the period of the PVS mission the PPR National Coordinator and his team successfully carried out a PMAT self-evaluation for Stages 1 and 2. A key weakness is the lack of feedback and updates to national stakeholders on the agreements and recommendations reached in regional and international fora to facilitate effective follow up by various actors at national level.	
	Recommendations: • FDVPCS to provide updates and regular feedback to national stakeholders on agreements and recommendations from regional and international fora for appropriate follow-up at national level.	

CC III.4	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 its behalf, usually via a formal agreement (i.e. public-private partnership).	2
	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 PPR on its behalf, usually via a formal agreement (i.e. public-private partnership).	=
	Level 3 [The public sector of the VS develops accreditation/authorisation/delegation programmes for PPR activities for certain tasks using formal agreements, but these activities are not routinely reviewed.**] is required for Stage 1**	✗
Accreditation / authorisation / delegation	**Findings:** The Federal and State VS in Nigeria work jointly with the private sector in delivering animal health interventions including vaccinations against PPR. The private sector participants (veterinary professionals and paraprofessionals) working in this arrangement are provided with field allowances similar to those provided to their public sector counterparts. There is no legal framework for the formal delegation of official tasks to the private sector, private veterinarians or NGOs. Thus, the public-private partnerships are not guided by contractual agreements that define the roles, responsibilities and obligations of the public and private sectors. There are currently no specific coordinated PPR surveillance and control activities that can be formally delegated to the private sector. The activities mainly comprise of ad-hoc vaccination against PPR with very few doses of vaccine administered relative to the number of animals in the target areas. Although there are several private veterinary diagnostic laboratories in some parts of the country, PPR diagnosis is undertaken mainly at NVRI in Vom.	
	Recommendations: • Once the amended Animal Diseases Control Bill (2018) is enacted, FDVPCS should develop guidelines and procedures for the formal implementation of public-private partnerships for PPR control and eradication activities.	

CC III.5	The authority and capacity of the VSB to effectively and independently maintain educational and professional standards for veterinarians and veterinary para-professionals. 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.	3
	The VSB is an autonomous regulatory body for veterinarians and veterinary para-professionals that can support PPR control and eradication activities The authority and capacity of the VSB to effectively and independently maintain its functions and objectives regarding PPR in conformity with OIE standards	=
	Level 3 [The VSB regulates veterinarians in all sectors of the veterinary profession setting educational standards and applying disciplinary measures**.] is required for Stage 1**	√
Regulation of the profession by the Veterinary Statutory Body (VSB)	**Findings:** The VCN effectively regulates veterinarians in all sectors of the profession. All veterinarians in Nigeria are required to register with VCN and undertake CE courses at least once every two years. VCN also approves curricula and accredits Veterinary Faculties. It also approves the veterinary related curricula of the Technical Colleges for training Technologists and Technicians. It is thus responsible for ensuring the maintenance of standards in veterinary education. However, the VCN Council was dissolved two years ago by the government and has not yet been re-appointed despite several requests by the FDVPCS to the relevant government authority. Currently, key decisions of the Council cannot be undertaken. The registration of Veterinary Technologists and other VPPs is not compulsory and VCN is undertaking their registration on a voluntary basis. So far only 900 VPPs have voluntarily registered with VCN. This situation potentially weakens the regulatory hold of VCN on VPPs.	
	Recommendations: • VCN to enhance advocacy for the necessary legislative frameworks to enable it to regulate all veterinarians and VPPs.	

CC III.6	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.	**2**
	The capability of the VS to develop joint programmes (public-private partnerships) with producers and non-government stakeholders with regard to PPR.	**=**
	Level 3 [Producers and other non-government stakeholders formally participate with the VS in the delivery of joint PPR programmes and advise of needed changes and improvements.] **is required for Stage 2**	✗
Participation of producers and other	**Findings:** Yet to be initiated by Government.	
	Recommendations: ➢ Not applicable	

Fundamental Component IV – Access to markets

CC IV.1.A	The authority and capability of the VS to develop or 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.	**3**
	The authority and capability of the VS to develop or update veterinary legislation on PPR 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.	=
	Level 3 [Veterinary legislation and regulations on PPR cover most fields, including in collaboration with relevant Competent Authorities. The VS, working in formal partnership with legal professionals, have the authority and capability to develop or update national legislation and regulations, including via consultation with stakeholders, to ensure its legal quality and applicability.**] is required for Stage 1**	√
Legislation and regulations Integrity and coverage of legislation and regulations	**Findings:** The FDVPCS has the legal authority and capability, supported by the Ministry's legal Department, to develop and upgrade legislation. The current Animal Disease Control Act of 1988, amended in 2004, has been revised and updated substantially over a long period and is currently in the National Assembly for final approval of the 2018 version. It will provide the VS with a much broader legal basis for its actions and measures to control diseases. PPR, however, is not specifically mentioned as a Government approved eradication programme.	
	Recommendations: • To complement the Animal Diseases Control Bill (2018), the CVO should consult and formulate regulations on PPR eradication and the National PPR Strategy as a priority. • These regulations should be widely distributed to stakeholders.	

CC IV.1 B	The authority and capability of the VS to ensure compliance with legislation and regulations across the veterinary domain through communications and compliance inspection activities.	2
	The authority and capability of the VS to ensure compliance with PPR legislation and regulations across the veterinary domain through communications and compliance inspection activities.	-1
	Level 3 [PPR legislation is implemented through a programme of communications and awareness raising, and through formal, documented inspection and compliance verification activities. The VS undertake some legal action/initiate prosecution in instances of non-compliance in most relevant fields of activity including PPR.] **is required for Stage 2**	✗
Implementation of and compliance with legislation and regulations	**Findings:** Although the legal basis for PPR control exists there is lack of a coordinated approach to PPR control as described in the National PPR Strategy. Movement control is weak and as such the most suitable opportunity to apply inspections and enforcement of the law is not utilised. The environment to do so is, however, not conducive as the authorities involved, such as the State veterinary inspectors and the NAQS veterinary inspection units along federal roads, work at cross purposes leading to non-compliance by livestock transporters and traders. As vaccination is not mandatory and PPR vaccine is generally difficult to obtain because of insufficient State or Federal funding, the VS cannot impose sanctions on non-vaccination of animals by their owners. The understanding of the benefits of vaccination and the awareness among farmers about the National PPR Strategy and the commitment of Nigeria to eradicate PPR did not appear to be very high.	
	Recommendations: • See II.4.A. • Improve communication on recognition of the disease and the impact it causes to encourage farmers to participate in State control programmes and to be proactive by reporting outbreaks. • FDVPCS to proactively enlist the support of law enforcement agencies to enforce disease prevention and control measures.	

CC IV.5	The authority and capability of the VS to notify the OIE, 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.	**3**
	The authority and capability of the VS to notify the OIE, WTO, trading partners and other relevant organisations of its PPR status, regulations and sanitary measures and systems, in accordance with established procedures, as applicable to international trade.	=
	Level 3 [The VS notify PPR in compliance with the procedures established by these organisations] **is required for Stage 4**	√
Transparency	**Findings:** The VS have a designated OIE Focal Person for disease reporting and have reported to the OIE and to AU-IBAR regularly, including on PPR. Where clarifications have been requested by the OIE, information were immediately submitted. The VS use the national disease reporting system which is based on ARIS 2. No active surveillance programmes are being undertaken for PPR and passive surveillance is at low levels with private veterinarians, Universities and laboratories not participating in the reporting system, hence the disease reporting to the international organisations does not reflect the disease situation on the ground. The VS acknowledge that the disease is underreported. The mission did not find evidence for cross-border exchange on disease information and harmonisation of disease control measures.	
	Recommendations: • Improve the disease reporting system in order to ensure a better reflection of the disease situation in the country to the International Organisations. • The CVON to liaise with counterparts in neighbouring countries and ECOWAS on mechanisms and modalities for enhancing cross-border cooperation and sharing of information on PPR prevention and control activities.	

CC IV.6	The authority and capability of the VS to establish and maintain disease free zones, as necessary and in accordance with the criteria established by the OIE (and by the WTO SPS Agreement where applicable).	N/A
	The authority and capability of the VS to establish and maintain PPR free zones, as necessary and in accordance with the criteria established by the OIE (and by the WTO SPS Agreement where applicable).	=
	Level 3 [The VS are implementing biosecurity and sanitary measures with the intention of establishing a PPR free zone for selected animals and animal products.] **is required for Stage 2**	
Zoning	**Findings:** The country has not yet started to implement the National PPR Strategy and therefore the distribution of PPR vaccine is based on demand from the States and the availability of funds. It is not based on a risk analysis or any other scientific considerations like disease distribution, level of prevalence (which is not being assessed for lack of active surveillance) or "hot spots". The concept of zoning has not yet been considered as a possible approach to strategic vaccination for eradication.	
	Recommendations: • When formulating the National Control Plan to move from Stage 1 to Stage 2, consider the Zoning approach as one possibility for targeted vaccination and the necessary biosecurity measures with a view to establishing PPR free zones.	

Conclusions

In the table below the number of Critical Competencies (CCs) that still need to be improved to accomplish each Stage are summarised.

These results suggest that Nigeria has sufficient capacity for 13 (out of 32) PPR related CCs. Capacity needs to be further built for 19 CCs, with time-line variations along the PPR pathway.

CC relevant in PPR Stage 1 (11)		CC relevant in PPR Stage 2 (15)		CC relevant in PPR Stage 3 (2)		CC relevant in PPR Stage 4 (4)	
√	8	√	4	√	0	√	1
X	**3**	X	**11**	X	2	X	**3**

Results of the PVS Follow Up evaluation with a focus on Veterinary Services capacity for PPR eradication

√ sufficient capacity achieved; X sufficient capacity still to be built

The majority of CCs scored equal to those in the generic PVS Follow-Up assessment (20/32), only 4 CCs rated at -1 to the generic CCs, including those that are not yet achieved to move from Stage 1 to Stage 2 (Risk analysis and Active surveillance).

Eight CCs rated +1 as compared to the main PVS assessment. Those were mainly in the area of appropriate staffing, knowledge and training, which were found to be appropriate for PPR. The NVRI with its diagnostic expertise and capacity to produce PPR vaccines in-country and which could upgrade its production once Stage 2 starts, also contributed to CCs I.7, II.1.A and B to be rated higher. Stakeholder consultation specifically for PPR was also rated positive, as evidenced in their engagement in the formulation of the National PPR Strategy.

During the PPR Roadmap meeting for West Africa, held in Dakar in May 2016, the country anticipated to move into Stage 2 in 2017. The FDVPCS appointed a PPR Coordinator and formulated a National PPR Strategy in 2017 but did not appoint and activate the Committees for its implementation. It also did not carry out a PMAT self-assessment to update and adjust their status or identify the activities still pending to move to Stage 2. In practical terms, the country carries out annual vaccination campaigns as requested by the States (typical activities of Stage 2). However, these activities are not embedded in a structured plan, neither is their effectiveness evaluated.

The PPR Coordinator and his team carried out a PMAT self-assessment during the period of this PVS PPR mission which confirmed the findings of this mission, i.e. that the country is still in Stage 1 (Assessment Stage) with three main CCs yet to be improved, namely CC I.3 “Continuous Education”, CC II.3 “Risk analysis” and CC II.5.B “Active Surveillance”. To move forward to Stage 2, sufficient information has to be gathered under these CCs to conclude the comprehensive epidemiological assessments required in Stage 1 and to formulate the “Risk based Control Strategy” which will have to be written for implementation under Stage 2. Furthermore, more specific short-term course training for veterinarians and VPPs on PPR is needed.

Greater competence in Risk Analysis (in combination with small ruminant value chain assessments) would assist the VS to better target PPR prevention and control activities.

Given the current budgetary constraints of the VS, particularly at State level, implementing these specific activities appear to be a very challenging task and it is understandable that FDVPCS would rather prefer a well-funded, PACE-like project to support them. The mission team believes that in the absence of a fully funded project, by using a well targeted approach

in coordination with other partners active in PPR control, information to advance these two CCs could be gathered in sufficient quantity to start developing the Strategy for Stage 2.

Looking ahead to entering Stage 2 with a risk-based control strategy, a few critical factors related to CCs rated at <3, should receive urgent attention.

Vaccination is the key tool in Stage 2, hence the vaccine quantities to start the targeted, risk-based control operations need to be well estimated and ordered in good time to allow NVRI to supply on demand. The vaccine cold chain, currently hampered by power outages, non-functional generators or those without fuel, lack of consumables (and their replenishment) such as cooler boxes and ice packs, must be addressed before the start of any vaccination campaign. Evaluation of the effectiveness of vaccination campaigns (including the collection and testing of pre and post-vaccination sera) is currently not implemented and should be made compulsory in order to have data as the basis for adjustments to vaccination strategies and addressing related technical problems.

Identifying the best strategy, location, size of target population and objectives (e.g. using zoning approach in line with OIE TAHC Chapter 4.3 or the “roll-back” geographical approach) will be a challenge and can only succeed if based on sufficient reliable data. Therefore, sensitisation on the PPR eradication commitment of State DVS and through them and other stakeholders, the sensitisation of livestock owners, traders, butchers and others in the value chain, is of utmost importance.

In conclusion, the PPR PVS team recommends that guidance be taken from the PMAT and the comprehensive list of activities described in the tool for each Stage. Regular self-assessment will assist in continuous monitoring of progress and challenges. This will allow for more specific and targeted application of limited funds to implement the National PPR Strategy.

Participants at the PPR specific workshop on 15 January 2019

Name	Title	Organisation
Dr Bala Muhammed	Director Vet	Blueblood Vet Ltd, Abuja FCT
Comrade M.K. Adam	General Secretary	National Sheep and Goats Development Association of Nigeria
Abdul Lateef Ahammad	President	National Sheep and Goats Development Association of Nigeria
Dr George Uzoaga	Assistant Director	FMARD, Abuja FCT
Ogheneovo Ugbebor	Senior Programme Manager	DFID/Propcom Makarfi; Northern Nigeria
Gbeaga Ariyo	Marketing Manager	DFID/Propcom Makarfi; Northern Nigeria
Dr Yakubu Y.Ago	Assistant Director	FMARD Abuja
Dr Charles Emejuru	SVO1	FMARD Abuja
Ochogwu Ajuma	Vet Officer	FMARD Abuja
Ezenwa Nwakonobi	Deputy Director AHCS	FMARD Abuja
Dooshima Kwange	Director	FMARD Abuja

Specific PPR evidence collected during the OIE PVS Follow-Up mission

Identify relevant evidence in the table using the designations applied to the evidence used in the general mission, i.e., H for hard copy version, E for electronic version, and P for digital photo

E1	National Strategy for the Control of PPR in Nigeria, 2017
E2	Dr Timonthy Woma, NVRI. Report on PPR, 2018
E3	Serological evidence of camel exposure to PPR, NVRI publication
E4	Serosurvey of PPR, 2015. NVRI publication
E5	Composition of the PPR Coordination Committee
E6	Terms of Reference for the PPR Coordination Committee (PPR Secretariat)
E7	FDVPCS budget for PPR activities as requested in 2017
E8	Workplan for implementation of PPR activities for 2018
E9	PMAT self-assessment for Stage 1 and 2, February 2019
H1	Roadmap Meeting for the Control and Eradication of Peste des Petits Ruminants for West Africa: Final Communique

Appendix 2: Terrestrial Code references for Critical Competencies

Critical Competences	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 9 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 9 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.
I-11	➢ Points 7, 11 and 14 of Article 3.1.2. on Fundamental principles of quality: General organisation / Documentation / Human and financial resources. ➢ Point 4 of Article 3.2.1. on General considerations.

	➢ Point 1 of Article 3.2.2. on Scope. ➢ Article 3.2.6. on Evaluation criteria for material resources. ➢ Article 3.2.10. on Performance assessment and audit programmes.
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 6 and 7 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 7 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 7 of Article 3.2.14. on Animal health 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 7 of Article 3.2.14. on Animal health 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, 6 and 7 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. ➢ Chapter 6.6 – The role of VS in food safety systems.
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 6 of Article 3.2.14. on Animal health 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 7 of Article 3.2.14. on Veterinary public health: Chemical residue testing programmes / Veterinary medicines. ➢ Chapter 2.2 – Criteria applied by the OIE 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 6.3. 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	➢ Section7 on Animal Welfare ➢ Farm animal welfare (including humane on farm, transport and slaughter conditions) - 7.2., 7.3., 7.4. 7.5., 7.6., 7.9., 7.10., 7.11, 7.13.; Use of animals in research and education- 7.8.; Stray Dog Population Control - 7.7.; Welfare of working equids- 7.12.
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 9 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 OIE 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 paraprofessionals.
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 7 of Article 3.2.14. on Animal health 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 6 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities. ➢ Chapter 3.4. on Veterinary legislation.
IV-2	➢ Point 6 of Article 3.1.2. on Fundamental principles of quality: Veterinary legislation. ➢ Article 3.2.11. on Participation in OIE activities. ➢ Points 6 and 10 of Article 3.2.14. on Veterinary legislation, regulations and functional capabilities/Membership of the OIE.
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 6 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 OIE 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 3: 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. Anthelmintic 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 OIE *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 OIE 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 OIE *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 OIE 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 4: Country information (geography, administration, agriculture and livestock)

Background information on Nigeria

The Federal Republic of Nigeria, located in West Africa, is bordered by Benin, Niger, Chad and Cameroon and has a coast on the Gulf of Guinea and the Atlantic Ocean. The geography ranges from lowlands in the south, mountains in the southeast, central hills and plateau and plains in the north. Nigeria's main rivers are the Niger, where it got its name from, and the Benue, the main tributary of the Niger. The climate is equatorial in the south, tropical in the central region and semi-arid in the north.

Nigeria has an area of 923,768 km² and a population of 192 million people (UN est. in 2017), making it the seventh most populous country in the world. A UN report projects that Nigeria would be the third most populous nation in the world by 2050, after China and India. The capital city, Abuja, is in the centre of the nation, while Lagos, the largest city, is the country's primary port and economic hub. The official language is English but Hausa, Igbo and Yoruba are widely spoken., it is estimated that Nigeria has about 250 different ethno-linguistic groups. Islam (41%) and Christianity (58%) are the country's major religions. The country is divided into thirty-six states and one Federal Capital Territory (FCT), which are further sub-divided into 774 Local Government Areas (LGAs).

Figure 2. Map of Nigeria

Table 3: Data summary for geography, agriculture and livestock

Geographic features

Climatic and/or agro-ecological zones	Rainfall (mm/year)
Sahel	600
Sudan savannah	1000
Guinea savannah – North	1500
Guinea savannah – South	2000
Humid forest	>2000
High altitude	>2000

Topography	Km2	%
Total area	923,768	100
Pasture lands	369,507	40
Arable land	341,720	37
Forest	66,788	7.23
Wetlands/deserts	27713/166,278	3/18
Highlands	9238	1

Demographic data

Human population		Livestock households/farms	
Total number	192 million	Total number	
Average density / km2	207	% intensive	
% of urban	48.6	% agro-pastoral (mixed)	
% of rural	51.4	% extensive	

Current livestock census data (2017)

Animals species	Total Number	Intensive production system (% or no.)	Mixed production system (% or no.)	Extensive production system (% or no.)
Bovine	20,057,095			Mainly extensive (pastoralist) with some intensive dairy farms
Caprine	78,038,709			Mainly extensive
Ovine	44,504,420			Mainly extensive
Porcine	7,949,306			Extensive and intensive systems
Equine	1,079,646			
Camel	279,677			Mainly extensive
Birds	233,317,527			Extensive and intensive systems
Bees	918,464			
Rabbit	4,855,667			

Animal and animal product trade data

Animals and animal products	Average annual import		Average annual export	
	Quantity	Value	Quantity	Value
Poultry meat	542 tonnes		(1)	(1)
Bovine meat	1362 tonnes		(1)	(1)
Pig meat	1044 tonnes		(1)	(1)
TOTAL				

(1) Non-significant trade

Economic data

National GDP	376.36 billion USD
National budget	N8.83 trillion
Livestock GDP	6 – 8%
Economic value of livestock population	
Annual public sector contribution to agriculture	4.6%
Annual budget of the Veterinary Services	N2,060,571,150

Appendix 5: Timetable of the mission; sites/ facilities visited, and list of persons met or interviewed

Opening meeting

Date: 14 January 2019

Asses-sor(s)	Location & Jurisdiction	Institution – Agency – Group - Association	Person(s) met and interviewed	Position	Activities and CC Relevance
Team	FCT, Abuja	FMARD	Dr Mohammed Bello Umar	Permanent Secretary (Incoming)	Courtesy visit
Team	FCT, Abuja	FMARD	Dr Abdulkadir Mu'azu	Permanent Secretary (Outgoing)	Courtesy visit
Team	FCT, Abuja	FDVPCS	Dr. Olaniran Alabi	CVON	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr. Dooshima Kwange	CVO (QAS)	Opening Meeting
Team	FCT, Abuja	FDVPCS	Ezenwa Nwakonobi	DD (AHCS)	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr. S.A. Anzaka	DD (VET Planning)	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr. Muh'd Ali gana	DD (VET. Public Health)	Opening Meeting
Team	FCT, Abuja	FDVPCS	El-Oji .A.	AD (Data)	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr Zainab Abdulkareem	SVO II (Epid)	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr. A.Y. Dakogi	AD (Planning)	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr. C.T Vakuru	Deputy Director (Epid)	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr Olasoju Taiwo	Technical Officer REDISSE	Opening Meeting
Team	FCT, Abuja	FDVPCS	Maureen R.T. Kajo	Comm/REDISSE	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr. Adedoyin	DD, Legislation	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr Salome Bawa	Assistant Director, Food Safety	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr. Chika Ikejiaku	SVO II Pest Control	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr Charles Emejuru	SVO I	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr. Chinyere Akujobi	Assistant Director	Opening Meeting

				Commodity Certification	
Team	FCT, Abuja	FDVPCS	Dr. Yakubu .Y. Ago	Assistant Director	Opening Meeting
Team	FCT, Abuja	FDVPCS	Adole, O.E	Assistant Director	Opening Meeting
Team	FCT, Abuja	FRCN, Abuja	Babalola E.	Manager	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr Ibrahim, Ayuba Sini	REDISSE/Response	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr Ochogwu, Ajuma	VET. Officer	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr Mabel Aworh	Assistant Director (Animal Welfare)	Opening Meeting
Team	FCT, Abuja	HRM	Isagudu Nicholas	CEO	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr Ihekerenma Okoli	Consultant (VET) ZOONOSES	Opening Meeting
Team	FCT, Abuja	NAQS	Dr. Akinjo Abiodun	Director NAQS	Opening Meeting
Team	FCT, Abuja	FDVPCS	Dr Ayuba Philip .N.	REDISSE/Lab	Opening Meeting
Team	FCT, Abuja	AFENET	Dr Ajani Oyetunji .G.	REDISSE Tech. Officer	Opening Meeting

Field visits, meetings and interviews

Date(s): 15th – 31st January 2019

Asses-sor(s)	Location & Jurisdiction	Institution – Agency – Group - Association	Person(s) met and interviewed	Position	Activities and CC Relevance
15th January 2019					
Team	FHA Nyanya-Abuja	ACSK Lab	Ameh Mary Ene	Cashier	Laboratory Diagnostic and feed
Team	FHA Nyanya-Abuja	ACSK Lab	Samaila S. Ishaku	Receptionist	Laboratory Diagnostic and feed
Team	FHA Nyanya-Abuja	ACSK Lab	Agada Abraham	I.T. Student	Laboratory Diagnostic and feed
Team	FHA Nyanya-Abuja	ACSK Lab	Muazu Sabo	Driver	Laboratory Diagnostic and feed
Team	FHA Nyanya-Abuja	ACSK Lab	Abdullahi Suleiman	Head, Feed Analysis Lab	Laboratory Diagnostic and feed
Team	FHA	ACSK Lab	Dr. Sani Sulaiman	FTCE	Laboratory

	Nyanya-Abuja				Diagnostic and feed
Team	FHA Nyanya-Abuja	ACSK Lab	Nwankwo .N. Anthony	Microbiologist	Laboratory Diagnostic and feed
Team	FHA Nyanya-Abuja	ACSK Lab	Dr. Agbato A. Olamide	Vet. Diagnostician	Laboratory Diagnostic and feed
Team	FHA Nyanya-Abuja	ACSK Lab	Dr. Bala. S. Reuben	Vet. Diagnostician	Laboratory Diagnostic and feed
Team	Nyanya, Abuja	Nyanya Vet Clinic	Dr. Zainab Abubakar	Veterinary Officer	Clinical services
Team	Nyanya, Abuja	Nyanya Vet Clinic	Dr. Mohammed Ibrahim Abdul	Veterinary Officer	Clinical services
Team	Nyanya, Abuja	Nyanya Vet Clinic	Dr. Haruna E. Shua	Veterinary Officer	Clinical services
Team	Nyanya, Abuja	Nyanya Vet Clinic	Dr. Ishaya Agang	Principal Vet. Officer	Clinical services
Team	Nyanya, Abuja	Nyanya Vet Clinic	Abdullahi Abdulmumini	Assist. Chief L/Stock	Clinical services
Team	GIZA Plaza, Mararaba, Nasarawa	BILDIMAN NIG.LTD	Mrs Patricia Bishmany	CEO	Feed depot
Team	GIZA Plaza, Mararaba, Nasarawa	ADACHE VET. CENTRE	Dr. Adache Anthony Stephen		Vet pharmacy
Team	FCT, Abuja	Veterinary Council of Nig.	Dr Josiah T.Kantiyok	Acting Register	VCN
Team	FCT, Abuja	Veterinary Council of Nig.	Dr. Fadipe E. Oladotun	Interim College Secretary	VCN
Team	FCT, Abuja	Veterinary Council of Nig.	Mr. Omoroje Ali. U. Egbule	Head of Administration	VCN
Team	FCT, Abuja	Veterinary Council of Nig.	Mr. Jacob Olobaniyi	Head of Accounts	VCN
Team	FCT, Abuja	NVMA	Dr. Ezekwesili Augustina	Asst. Sec. Gen	NVMA
Team	FCT, Abuja	NVMA	Dr. Ibrahim Ado Shehu	National Vice	NVMA

		(Jigawa State)		President	
Team	FCT, Abuja	NVMA (Kogi State)	Dr. Femi Kayose	Kogi Chapter, Chairman	NVMA
Team	FCT, Abuja	NVMA (FCT Chapter)	Dr. Bala Moh'd	Chairman	NVMA
Team	FCT, Abuja	NVMA	Dr. Fadipe Oladotun	Secretary General	NVMA
Team	FCT, Abuja	VETSARK.COM Lagos State	Mene Blessing	Coo/Co-Founder	NVMA
Team	FCT, Abuja	NVMA Zaria, Kaduna	Dr. Mansur S. D.	Fin. Sec. NVMA	NVMA
Team	FCT, Abuja	Blueblood Vet. LTD	Dr. Muhammed	Director/ Vet	PPR stakeholders
Team	FCT, Abuja	NASHGODAN	Comrade, M.K. Adam	General Secretary (Kano State)	PPR stakeholders
Team	FCT, Abuja	NASHGODAN	Abdul Lateef Ahammad	President	PPR stakeholders
Team	FCT, Abuja	FMARD, Abuja	Dr. George Uzoaga	Assist. Director	PPR stakeholders
Team	FCT, Abuja	DFID/PropCom Makarfi	Ogheneovo Ugbebor	Snr. Programme Mgr. Northern Nigeria	PPR stakeholders
Team	FCT, Abuja	DFID/PropCom	Gbeaga Ariyo	Marketing Manager Northern Nigeria	PPR stakeholders
Team	FCT, Abuja	FMARD Abuja	Dr. Yakubu Y. Ago	Assist. Director	PPR stakeholders
Team	FCT, Abuja	FMARD	Dr. Charles Emejuru	SVO1	PPR stakeholders
Team	FCT, Abuja	FMARD Abuja	Dr Ochogwu Ajuma	Vet. Officer	PPR stakeholders
Team	FCT, Abuja	FMARD	Dr Ezenwa Nwakonobi	Dep. Director AHCS	PPR stakeholders
16th January 2019					
Team	FCT, Abuja	FMOH /FDS	M. O Lawal	Director food and drug	Stakeholder One Health

				services	
Team	FCT, Abuja	FMOH/ FDS	Orume Lawani Beatrice	CP/DVD	Stakeholder One Health
Team	FCT, Abuja	FMOH/ FDS	Adeladan Adenike Omolade	Senior pharmacist	Stakeholder One Health
Team	FCT, Abuja	FMOH/ FDS	Aina Olubukomok	Senior pharmacist	Stakeholder One Health
Team	FCT, Abuja	FMOH/ FDS Food Safety and Quality Programme	Femi Stephen	Senior scientific officer	Stakeholder One Health
Team	FCT, Abuja	FMOH/ FDS	Chuka Juliet	Senior pharmacist	Stakeholder One Health
Team	FCT, Abuja	FMOH/ FDS DFDS	Isaac Ibrahim		Stakeholder One Health
Team	FCT, Abuja	FMOH – One Health	Dr Omede Ogu	SMO – One Health	Stakeholder One Health
Team	FCT, Abuja	FMOH –Epid/ One Health	Wakaso Semiratu	SOI	Stakeholder One Health
Team	FCT, Abuja	FMOH/EPID	Ismaila M. Shinkafi	CSO	Stakeholder One Health
Team	FCT, Abuja	FMOH/EPID	Zainab Aliyu	LS II	Stakeholder One Health
Team	FCT, Abuja	FMOH/EPID	Umaru Inuwa	PEHO I	Stakeholder One Health
Team	FCT, Abuja	FMOH/EPID	Sanni Adeniyi O. H	D.D Zonosis	Stakeholder One Health
HW, VG	FCT, Abuja	Apiary, National Children Park and Zoo			Apiary visit
GDK	Kubwa, Abuja	El-mond, Vet	Dr. Solu Sodunke	Veterinarian	Clinical services
GDK	Kubwa, Abuja	El-mond Vet. Services	Dr. Monday Ozeamiren	Veterinarian	Clinical services
17th January 2019					
SM, HW	FCT, Abuja	FMARD/VPCS	Dooshima Kwange	Director	Clinical services
SM, HW	Makurdi, Benue state	Ministry of Agriculture and Natural Resources	Dr. Imenger Orduen	Senior Vet. Officer	Clinical services
SM,	Markurdi,	Ministry of	Melai Mnena	Meat	Modern market

HW	Benue state	Agriculture and Natural Resources		inspector	abattoir
SM, HW	Markurdi, Benue state	Ministry of Agriculture and Natural Resources	Agmile H. Katherine	Meat inspector	Modern market abattoir
SM, HW	Markurdi, Benue state	Ministry of Agriculture and Natural Resources	Nyam Godiom Tarkimbi		Modern market abattoir
SM, HW	Markurdi, Benue state	Ministry of Agriculture and Natural Resources	Chief Okeke Nwabodo		Modern market abattoir
SM, HW	Markurdi, Benue state	NAQS	Dr. AUDU G.S	ZONAL COORDINATOR	Policy
SM, HW	Markurdi, Benue state	NAQS	E. A ATSER	SC KASTINA ALA	Policy
SM, HW	Markurdi, Benue state	FMARD	AJAI MICHEAL	CAHAT	Policy
SM, HW	Markurdi, Benue state	MANR, Markurdi	DR. GABRIEL T. AMASE	PVO	Policy
SM, HW	Markurdi, Benue state	NAQS	VINCENT ABWO	AS QII	Policy
SM, HW	Markurdi, Benue state	NAQS	Nyitilo Stephen	AS QI	Policy
SM, HW	Markurdi, Benue state	AOI	Admin	AOI	Policy
SM, HW	Markurdi, Benue state	PS MANR	Lady Helen M.	Permanent secretary	Policy
SM, HW	Markurdi, Benue state	INFORMATION OFFICER	Stephen Ifoli	Principal information officer	Policy
SM, HW	Markurdi, Benue state	DA	Thomas Umongo	DA	Policy
SM, HW	Markurdi, Benue state	NAQS	ZACHARIA A. VEGHER	Adhoc	Control Point
SM, HW	Markurdi, Benue state	NAQS	THOMAS TERSOD	Quarantine asst.	Control Point
SM, HW	Markurdi, Benue state	NAQS	TONDU NYAM	Quarantine asst.	Control Point

SM, HW	Markurdi, Benue state	NAQS	UDOJI JOHN	Quarantine asst.	Control Point
SM, HW	Markurdi, Benue state	NAQS	SENDE MIMI	Quarantine asst.	Control Point
SM, HW	Markurdi, Benue state	NAQS	AWANGE IVEREN	Inspection officer	Control Point
SM, HW	Markurdi, Benue state	NAQS	EDU MARY	Adhoc	Control Point
SM, HW	Markurdi, Benue state	NAQS	ADAGA KAMWAN	Inspection officer	Control Point
SM, HW	Markurdi, Benue state	NAQS	AGUDOH IORKOHOL	Inspection officer	Control Point
SM, HW	Markurdi, Benue state	NAQS	YERE PIUS M	Inspection officer	Control Point
SM, HW	Markurdi, Benue state	NAQS	IBRAHIM ANRUNYA	Police	Control Point
SM, HW	Markurdi, Benue state	NAQS	HUSSAINI MUSA	Police	Control Point
GDK, VG	FCT, Abuja	NAQS	Dr. Achuzia A. A	ACGQ (DD)	Policy
GDK, VG	FCT, Abuja	NAQS	Dr. O. J. Awobiyi	ACGQ (DD)	Policy
GDK, VG	FCT, Abuja	NAQS	Dr. B. M Lawal	SVO	Policy
GDK, VG	FCT, Abuja	NAQS	Dr. Maimuna Habib	LMS	Policy
GDK, VG	FCT, Abuja	NAQS	Mr Ibikunle A. O	Principal livestock dev. Officer(PLDO)	Policy
GDK, VG	FCT, Abuja	NAQS	Ukpai I.	ACLS(Proc.)	Policy
GDK, VG	FCT, Abuja	NAQS	Dr. O. J Awobiyi	ACGQ (DD)	Port of entry
GDK, VG	NAIA, Abuja	NAQS	Dr. Achuzia A. A	ACGQ (DD)	Port of entry
GDK, VG	NAIA, Abuja	NAQS	Dr. A. Akinjo	DCGQ (Director)	Port of entry
GDK, VG	NAIA, Abuja	NAQS	Ugbah Felix	CSQ	Port of entry
GDK, VG	NAIA, Abuja	NAQS	Adeoye K Adebayo	CSO	Port of entry

GDK, VG	NAIA, Abuja	NAQS	Oluwadare Olufemi	SCFO	Port of entry
GDK, VG	NAIA, Abuja	NAQS	Raji M. A	SI	Port of entry
GDK, VG	NAIA, Abuja	NAQS	Igomu M.	D. Controller	Port of entry
GDK, VG	NAIA, Abuja	NAQS	Obaje	Director	Port of entry
GDK, VG	NAIA, Abuja	NAQS	Dansuleiman	Asst. Compt.	Port of entry
GDK, VG	NAIA, Abuja	NAQS	Mr Akpanger J. V	Asst. Controller	Port of entry
GDK, VG	NAIA, Abuja	NAQS	Garkon T	CA HHT	Port of entry
GDK, VG	NAIA, Abuja	NAQS	Chris Ogene	DSQ	Port of entry
GDK, VG	NAIA, Abuja	NAQS	Batula Olalekan F.	DSQ	Port of entry
GDK, VG	NAIA, Abuja	NAQS	Efefiom E. Eyo	DSQ	Port of entry
GDK, VG	Sheda, Abuja	NAQS	Bahalio Siza	ACAHT	Quarantine station
GDK, VG	Sheda, Abuja	NAQS	John Okewu	Security Guide	Quarantine station
GDK, VG	Sheda, Abuja	NAQS	Achanya Henry	Security Guide	Quarantine station
GDK, VG	Sheda, Abuja	NAQS	Danladi Tongkat	Security Guide	Quarantine station
GDK, VG	NAIA, Abuja	NAFDAC	Bature James	ACRO	Port of entry
GDK, VG	NAIA, Abuja	NAFDAC	Aisha Shelleng Elayo	SRO	Port of entry
18th January 2019					
GDK, VG	University of Abuja	University of Abuja	Prof. CBI Alawa	Professor	Education
GDK, VG	University of Abuja	University of Abuja	Prof. Simon M.K	Professor	Education
GDK, VG	University of Abuja	University of Abuja	Dr G.K. Omaga	Senior Lecturer	Education
GDK,	University of Abuja	University of Abuja	Dr Oladele G.M.	Associate Professor	Education

VG					
GDK, VG	University of Abuja	University of Abuja	Dr Olabode H.O.K.	Senior Lecturer	Education
GDK, VG	University of Abuja	University of Abuja	Israel Orokpo	Senior Chief Technologist	Education
GDK, VG	University of Abuja	University of Abuja	Prof. J.A. Ameh	Professor/ Director VTH	Education
GDK, VG	University of Abuja	University of Abuja	Prof. W.D. Nafamda	Professor/ Dean	Education
GDK, VG	University of Abuja	University of Abuja	Dr Idoko S. Idoko	Lecturer 1	Education
GDK, VG	University of Abuja	University of Abuja	Hakeem Onigbayo	Senior Chief Technologist	Education
GDK, VG	University of Abuja	Public Health Laboratory	David Dantong	Chief Medical Scientist	Education
GDK, VG	University of Abuja	Parasitology Laboratory	Onyekanilu Lilian	Senior Technologist	Education
GDK, VG	University of Abuja	University of Abuja	Fwangle J.L.	Senior Chief Technologist	Education
GDK, VG	University of Abuja	University of Abuja	Yakubu Sulai	SEO Admin.	Education
GDK, VG	University of Abuja	University of Abuja	Afodia T. Philip		Education
GDK, VG	University of Abuja	University of Abuja	James Obaje	Library Officer	Education
GDK, VG	University of Abuja	University of Abuja	Popoola Grace Oluwafumilola	Senior Laboratory Technologist	Education
GDK, VG	University of Abuja	University of Abuja	Dr Casmir Ifeanyi	Senior Chief Laboratory Technologist	Education
GDK, VG	University of Abuja	University of Abuja	Adamu Mohammed	Senior Chief Technologist	Education
GDK, VG	University of Abuja	University of Abuja	Ahmed Sanusi	Chief Technologist	Education
GDK, VG	University of Abuja	University of Abuja	Isah Alhasan	Senior Confidential secretary	Education
GDK, VG	University of Abuja	University of Abuja	Tags S. Zachariya	Senior Chief Technologist	Education
GDK, VG	University of Abuja	Public Health Laboratory	Helen Dagah	Principal Technologist	Education

GDK, VG	University of Abuja	Parasitology Laboratory	Bukola Aworlo	Senior Technologist	Education
GDK, VG	University of Abuja	University of Abuja	Dr Abalaka S.E.	Ag HOD, VET. Pathology	Education
GDK, VG	University of Abuja	University of Abuja	Dr Ajagbe O.A.	Lecturer 1	Education
GDK, VG	University of Abuja	University of Abuja	Florence Onuh	Chief Technologist	Education
GDK, VG	University of Abuja	University of Abuja	Linda Ajogi	Assistance Technologist	Education
GDK, VG	University of Abuja	University of Abuja	Arit Etim O.	Senior Technologist	Education
GDK, VG	University of Abuja	University of Abuja	Daniel Umoru	Technologist	Education
GDK, VG	University of Abuja	University of Abuja	Bulus L. Timothy	Caretaker	Education
GDK, VG	University of Abuja	University of Abuja	Drisu Isaiah O.	Driver	Education
GDK, VG	University of Abuja	University of Abuja	Mary Adams	Secretary	Education
GDK, VG	University of Abuja	University of Abuja	Yusuf Shaibu	Senior Caretaker	Education
GDK, VG	University of Abuja	Public Health Laboratory	Gagare Alhassan	Herdsman	Education
GDK, VG	DEI-DEI FCT	International Livestock Market, ARDS, FCTA	Prof. Mambo Y. Mohammed	Manager	Livestock Market
GDK, VG	DEI-DEI FCT	International Livestock Market, ARDS, FCTA	Ibrahim Aliyu Bissalla	Assistant Manager	Livestock Market
GDK, VG	DEI-DEI FCT	International Livestock Market, ARDS, FCTA	Wada S. Pawa	Secretary for the Market	Livestock Market
GDK, VG	DE-IDEI FCT	DEI-DEI VET. Clinic and Abattoir	Dr Jimada Mohammed Bello	Veterinary Officer	Livestock Market
GDK, VG	FCT Abuja	A and Shine Honey Processor	Ademola Adeshina	Chairman	Stakeholders
GDK, VG	FCT Abuja	Delta State, NAP	Sunday Ojenima	Chairman	Stakeholders
GDK, VG	FCT Abuja	NAP	Kingsley Geah	Member	Stakeholders
GDK, VG	FCT Abuja	Pidam Farms	Isaac O.M. Uduwe	Member	Stakeholders
GDK,	FCT Abuja	Agripreneur	AVM O.C.	Chairman	Stakeholders

VG		Const. limited	Obierika		
GDK, VG	FCT Abuja	Grass Root	Musa Philemon	Secretary	Stakeholders
GDK, VG	FCT Abuja	Delta State, NAP	Davidson Dibie	Secretary	Stakeholders
GDK, VG	FCT Abuja	Delta State, NAP	Ben Moseri	Member	Stakeholders
GDK, VG	FCT Abuja	Private Extension Service	Samaru Abdulazeez	CEO/ Founder	Stakeholders
GDK, VG	FCT Abuja	Grass Root Bee keeper, Association	Dagunduro Gideon	President GBAN	Stakeholders
GDK, VG	FCT Abuja	Centre for Apiculture Research and Development	ObianujuOkpo	Director	Stakeholders
GDK, VG	FCT Abuja	VPCS, FMARD	Dr Chinyere Akujobi	Assistant Director	Stakeholders
GDK, VG	FCT Abuja	Mustard Seed Foundation, Kuje	Rev. Paul Udoh	President	Stakeholders
GDK, VG	FCT Abuja	Local Bee Farmers, L.C.F. Jinger, Kuje	IrimiyaTashi	Local Bee Farmer	Stakeholders
GDK, VG	FCT Abuja	Nigeria Apiculture Platform	Ekuri Innocent Ntui	Admin. Manager , NAP	Stakeholders
GDK, VG	FCT Abuja	Grass Root Bee Keeper	Basseyltah B.	V. Presedent	Stakeholders
GDK, VG	FCT Abuja	Tobah Agro Global ENT., Abia	Rev. Fr. Tobias Ukeh	Member	Stakeholders
GDK, VG	FCT Abuja	Agripreneur Consult NIG LIT-NAP	Mrs Uche Obierika	Director	Stakeholders
GDK, VG	FCT Abuja	FMARD, Veterinary and Pest Control Services	Idoniboye B. Tami	NAP-Member	Stakeholders
GDK, VG	FCT Abuja	Centre for Apiculture Research and Development, UNN, Nsukka	Obianujuokpo	Director	Stakeholders
GDK, VG	FCT Abuja	Private Extension Services, Zamfara	Abdul-azeez Garba Samaru	CEO	Stakeholders
GDK, VG	FCT Abuja	NAP (Bee Farmer) Delta State	Ben moseri	Member	Stakeholders
GDK, VG	FCT Abuja	NAP Bee Farmer Delta State	Davidson Dibie	Secretary	Stakeholders
GDK,	FCT Abuja	Federal University of Technology,	Odili Austine S.	Student	Stakeholders

VG		Owerri Delta State			
GDK, VG	FCT Abuja	Aku-Jofran Global Concept LTD. Enugu State	Okpo Ifeany chukwu	Chairman	Stakeholders
GDK, VG	FCT Abuja	NIG. Grass Root Bee Keeper FCT.	Ilesanmi B. Daniel	Vice President	Stakeholders
GDK, VG	FCT Abuja	Grass Root Bee Keeper Association of NIG.	Elumezie Samuel	Secretary	Stakeholders
GDK, VG	FCT Abuja	Grass Root Bee Keeper Association of NIG	Joanna Raymond	Chairlady	Stakeholders
GDK, VG	FCT Abuja	Grass Root Bee Keeper Association of NIG	Alhassan Mohammed	Chairman	Stakeholders
GDK, VG	FCT Abuja	Grass Root Bee Keeper Association of NIG	Adesanmi Olorundare	Secretary	Stakeholders
GDK, VG	FCT Abuja	PAN	Isaac Oteng	Technical Officer	Stakeholders
GDK, VG	FCT Abuja	PAN	Dr Idris Ademole		Stakeholders
GDK, VG	FCT Abuja	PAN	Onallo S. Akpa	Director General	Stakeholders
GDK, VG	FCT Abuja	PAN	Chima Wilson	Chairman FCT, PAN	Stakeholders
GDK, VG	FCT Abuja	PAN	Dr Joseph Onwualu	PRO, FCT PAN	Stakeholders
SM, HW	FCT Abuja	FMARD	Zainab Abdulkareem	Senior VET. Officer	One Health
SM, HW	FCT Abuja	NFELTP/NCDC	Oyegoke Ademola	Senior Dental Officer	One Health
SM, HW	FCT Abuja	NFELTP/NCDC	Omomoh Emmanuel	Resident	One Health
SM, HW	FCT Abuja	NFELTP/NCDC	Mfon-Obong Paul	Pub. Health Physician/ Resident	One Health
SM, HW	FCT Abuja	NFELTP/NCDC	Adaora Ejikeme	Resident, NFELTP. Field Epidemiologist	One Health
SM, HW	FCT Abuja	NCDC	Ogambode Oladipo	Assistant Director	One Health
SM,	FCT Abuja	NCDC	Dr Abiodun Egman	Epidemiologist	One Health

HW					
SM, HW	FCT Abuja	NCDC	AdesolaYinka-Ogunleye	Monkey pox and Zoonosis Lead	One Health
SM, HW	FCT Abuja	NCDC	Dr Oyeladun Okunromede	Field Epidemiologist	One Health
SM, HW	FCT Abuja	NCDC/ACDC	Dennis Bunyoga	Public Health Officer	One Health
SM, HW	FCT Abuja	NCDC	Robinson Unaji	Epidemiologist	One Health
SM, HW	FCT Abuja	NCDC	Dr Joshua Obasanya	Director	One Health
SM, HW	FCT Abuja	NRL/ NCDC Lab	Nwando Mba	Director (NRL)	One Health
19th January 2019					
Team	Maitama, Abuja	Blueblood Vet Clinic	Dr Ndanusa Amina	Resident VET.	Clinical services
21st January 2019					
Team	Vom, Plateau State	NVRI, VOM	Dr. David Shamaki	Chief Executive Director	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Konzing Leviticus	Principal Vet Officer	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Steven Dowoh	Federal Epidemiology Officer	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr, Jwander Lukad	Chief Vet. Offier	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Luka Pam D	Chief Vet. Research officer	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Timothy Y. Woma	Chief Vet. Officer	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. James S. Ahmed	Principal Vet. Officer	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Ishaya S. Tekki	Principal Vet. Officer	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Bawa J. L.	Director Admin.	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Chukwevedo A. A	Director Quality Assurance	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Odugbo O. M	Director Production	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Maryam Muhammed	Director Planning	Laboratory

Team	Vom, Plateau State	NVRI,VOM P	Mr. Idoko Aneri	Director Financial & Account	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Reuben Ocholi	Director Of Research	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Philip Okewole	Director Diagnostic	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Titus Barko	Ass Director Planning	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Lawal U. Muhammed	Head Division Extension	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Ndudim Ogo	Head of Division	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Gimba Haruna	Head bacterial Vaccine Production	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Tony Joannis	Regional Lab. For AI & TAD	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Hussani Ularmu	Virology Research Div.	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Sati Ngulukum	HOD Bacterial Research	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Leo Shedua	HOD Quality Central	Laboratory
Team	Vom, Plateau State	NVRI, VOM	Dr. Bwala Dauda	Ag. HOD Viral Vaccine Production	Laboratory
Team	Vom, Plateau State	BICOT PROJECT	Mr. Tauna, Z. A	Ass. Director	Research
Team	Vom, Plateau State	BICOT PROJECT	Mr. Dagan S.J.	Chief Scientific Officer	Research
22nd January 2019					
Team	DADIN-KOWA JOS PLATEAU STATE	FMARD	Mr. Akwashiki Harunna	State Director	Physical resources
Team	DADIN-KOWA JOS PLATEAU STATE	FMARD	Dr. Joseph Kpason	Plateau State Epid. Officer	Physical resources
Team	DADIN-KOWA JOS	FMARD	Dr. Steven Dowoh	Fed. Epid. Officer	Physical resources

	PLATEAU STATE				
Team	DADIN-KOWA JOS PLATEAU STATE	FMARD	Dr. Ibrahim, Ayuba Sini	Former Epid. Officer	Physical resources
Team	Jos, Plateau State	University of Jos	Prof. Lami Lombin	Dean Faculty of Vet. Med.	Education vet
Team	Jos, Plateau State	University of Jos	Dr. Uchendu Chidiebere	HOD Physiology, Pharmacology	Education vet
Team	Jos, Plateau State	University of Jos	Dr. Sunday Akau Hena	HOD Anatomy	Education vet
Team	Jos, Plateau State	University of Jos	Prof. Gideon D. Mshelia	HOD Theriogenology	Education vet
Team	Jos, Plateau State	University of Jos	Dr. Pwaveno H. Bamaiyi	Ag. HOD Public Health	Education vet
Team	Jos, Plateau State	University of Jos	Dr. Babalola Samuel A.	Ag HOD Vet. Med. Surgery & Radiology	Education vet
Team	Jos, Plateau State	University of Jos	Dr. Dogo, Goni Abraham	HOD Vet. Parastology and Entomology	Education vet
Team	Jos, Plateau State	University of Jos	Dr. David O. Oshadu	Staff Vet. Parastology & Entomology	Education vet
Team	Jos, Plateau State	University of Jos	Dr. Buba D. M	Staff Vet. Microbiology & Pathology	Education vet
Team	Jos, Plateau State	University of Jos	Dr. Patrobas Maryam	Staff Vet. Parastology & Entomology	Education vet
Team	Jos, Plateau State	University of Jos	Dr. Makchit Galadima	Staff Vet. Med. & surgery Radiololgy	Education vet
Team	Jos, Plateau State	University of Jos	Dr. Otolorin, G.R	Staff Vet. Public Health & Preventive Med.	Education vet
Team	Jos, Plateau State	University of Jos	Dr. Adanu W.A.	Staff Vet. Public Health & Preventive Med.	Education vet

Team	Jos, Plateau State	University of Jos	Dr. Karaye Gloria	Staff Vet. Parasitology & Entomology	Education vet
Team	Jos, Plateau State	University of Jos	Dr. Oviwighose	Staff Vet. Physiology & Biochemistry	Education vet
Team	Jos, Plateau State	University of Jos	Mrs Rebecca Adamu	Staff Advancement officer	Education vet
Team	Jos, Plateau State	University of Jos	Mr. Aaron Kuje	Staff Advancement Officer	Education vet
Team	Jos, Plateau State	University of Jos	Mrs. Naomi Embaga	Project officer	Education vet
Team	Jos, Plateau State	Mins. Of Agric & Natural Resource	Dr. Shase-et Sipak	Director of vet. services	Physical resources
Team	Jos, Plateau State	Mins. Of Agric & Natural Resource	Dr. Nenbut John Dakyahas	Deputy Director disease control	Physical resources
Team	Jos, Plateau State	Mins. Of Agric & Natural Resource			Physical resources
Team	Vom, Plateau State	FCAHPT	Dr. S.A Baniyigyi	Deputy Provost	Education VPP
Team	Vom, Plateau State	FCAHPT	Dr. N. J. Zwandor	Senior lecturer	Education VPP
Team	Vom, Plateau State	FCAHPT	Dr. C. J. Bot	Director Vet. Hospital Service	Education VPP
Team	Vom, Plateau State	FCAHPT	Dr. N.B Kugul	Lecturer	Education VPP
Team	Vom, Plateau State	Integrated Dairies			Dairy Farm Dairy outlet
23rd January 2019					
GDK, VG	FCT, Abuja	FDAPHS	Mrs Omagbemi A. Funke	Director AHS	Animal production
GDK, VG	FCT, Abuja	FDAPHS	Onipe A. CLDO(AB&C)	Desk (breeding)	Animal production
GDK, VG	FCT, Abuja	FDAPHS	Olonimoyo F. AD(AF&FS)	AD (Feed)	Animal production
GDK, VG	FCT, Abuja	FDAPHS	Adeoye A. BEEF VALUATION	Desk Officer (Beef)	Animal production
GDK, VG	FCT, Abuja	FDAPHS	Victor Egbon	AD. Monogastric	Animal production

GDK, VG	FCT, Abuja	FDAPHS	Ibraim U. Wali	Assistant director	Animal production
GDK, VG	FCT, Abuja	FDAPHS	James Igbekoye	Assistant director Range and Pastoral services (HOD)	Animal production
24th January 2019					
SM, HW	Ogere Remo, Ogun State	Animal Care Konsult	DR OLATUNDE AGBATO	PRESIDENT	Lab private
SM, HW	Ogere Remo, Ogun State	Animal Care Konsult	DR OPEYEMI A. AGBATO	EXECUTIVE DIRECTOR OPERATION	Lab private
SM, HW	Ogere Remo, Ogun State	Animal Care Konsult	AGBOOLA BABATUNDE	LAB&EXTENSION OFFICER	Lab private
SM, HW	Ogere Remo, Ogun State	Animal Care Konsult	DR ADEBOWALE	DIAGNOSTITIAN	Lab private
SM, HW	Ogere Remo, Ogun State	Animal Care Konsult	ADEYEMI ADELASOYE	DATA MANAGER	Lab private
SM, HW	Ogere Remo, Ogun State	Animal Care Konsult	DR ANIFOWOSE O.P	DEPUTY MANAGER	Lab private
SM, HW	Ogere Remo, Ogun State	Animal Care Konsult	DR OLAKUNLE TIAMIYU	DIAGNOSTITIAN	Lab private
SM, HW	Ogere Remo, Ogun State	Animal Care Konsult	DR FEMI OLADITAN	VET. OFFICER	Lab private
SM, HW	Ogere Remo, Ogun State	Animal Care Konsult	SANI LATIFAH	ANALYST	Lab private
SM, HW	Ogere Remo, Ogun State	Animal Care Konsult	BABATUNDE A.S	ANALYST	Lab private
SM, HW	Ogere Remo, Ogun State	Animal Care Konsult	OLUSEUN OYINLOLA	HEAD TRAINING SCH.	Lab private
SM, HW	Ogere Remo, Ogun State	Animal Care Konsult	OGUNJEBI TAIWO	RECEPTIONIST	Lab private
SM, HW	Mokola, Ibadan , Oyo State	State Ministry of Agriculture	DR BAKARE O.O	VET. OFFICER	Physical resources
SM, HW	Mokola, Ibadan , Oyo State	State Ministry of Agriculture	DR KAREEM A	EPIDEMIOLOGY OFFICER	Physical resources
SM, HW	Mokola, Ibadan , Oyo State	State Ministry of Agriculture	DR ADENIRAN L.M	MONITORING OFFICER	Physical resources
SM, HW	Mokola, Ibadan , Oyo State	FEDEAL DEPT OF VET &PEST CONTROL	DR KAKULU F.O	FEDERAL EPIDEMIOLOGY	Physical resources

		SERVICES		OFFICER	
SM, HW	Mokola, Ibadan , Oyo State	State Ministry of Agriculture	DR LADAPO A.A	ZONAL PROJECT OFFICER,SAKI	Physical resources
SM, HW	Mokola, Ibadan , Oyo State	State Ministry of Agriculture	DR M.O OLAOYE	ZONAL PROGRAMME OFFICER	Physical resources
SM, HW	Mokola, Ibadan , Oyo State	FRONTLINE AGRO VET SERVICES	DR TEMIDAYO BAKARE	MANAGING DIRECTOR	Physical resources
SM, HW	Mokola, Ibadan , Oyo State	State Ministry of Agriculture	MR ADESOJI OLUSEGUN	STATE INFORMATION	Physical resources
SM, HW	Mokola, Ibadan , Oyo State	FEDEAL DEPT OF VET &PEST CONTROL SERVICES	DR SITO OLUWAMODUPE	VET PUBLIC HEALTH OFFICER	Physical resources
SM, HW	Mokola, Ibadan , Oyo State	State Ministry of Agriculture	DR LAYIDE SADIA AZEEZ	CONTROL POST, CATTLE MARKET OFFICER	Physical resources
SM, HW	Mokola, Ibadan , Oyo State	FEDERAL COLLEGE OF ANIMAL HEALTH & PRODUCTION	DR ADEJUYIGA A,D	CHAIRMAN NVMA	Education VPP
SM, HW	Mokola, Ibadan , Oyo State	State Ministry of Agriculture	DR E.A AJIBADE	ZONAL PROGRAMME OFFICER	Education VPP
SM, HW	Mokola, Ibadan , Oyo State	NIGERIA ASSOC. OF ANIMAL HEALTH & HUSBANDARY	AKINGBOYE K.A	STATE CHAIRMAN	Education VPP
SM, HW	Mokola, Ibadan , Oyo State	NIGERIA ASSOC. OF ANIMAL HEALTH & HUSBANDARY	AJIKOBI A.A	STATE SECRETARY	Education VPP
SM, HW	Mokola, Ibadan , Oyo State	FEDERAL COLLEGE OF ANIMAL HEALTH & PRODUCTION	LAMIDI B. KEHINDE	UNIT SECRETARY	Education VPP
SM, HW	Mokola, Ibadan , Oyo State	FEDERAL COLLEGE OF ANIMAL HEALTH & PRODUCTION	AZEEZ F.A	UNIT CHAIRMAN	Education VPP
SM, HW	Mokola, Ibadan , Oyo State	FEDERAL COLLEGE OF ANIMAL HEALTH & PRODUCTION	OLUWADARE O.P	GENERAL SECRETARY ,ANIMAL HEALTH TECHNOLOGIST ASSOCIATION	Education VPP
SM, HW	Mokola, Ibadan , Oyo State	ANIMAL WELFARE VET SERVICES	DR BOLAJI OLAOMO	PRESIDENT APVMP	Clinic

SM, HW	Mokola, Ibadan , Oyo State	State Ministry of Agriculture	ADEGBOYE B,J	TECHNOLOGIST	Clinic
SM, HW	Mokola, Ibadan , Oyo State	State Ministry of Agriculture	DR AKIBU S.A	ZONAL OFFICER IBADAN	Clinic
SM, HW	Mokola, Ibadan , Oyo State	State Ministry of Agriculture	DR LAWAL ABDURRAZZAQ	STATE VET PUBLIC HEALTH OFFICER	Clinic
SM, HW	Mokola, Ibadan , Oyo State	State Ministry of Agriculture	DR IBITOYE M.M	DEP, DIRECTOR OF VET SERVICES	Clinic
SM, HW	Mokola, Ibadan , Oyo State	VCN	DR ADETOLA ADEDEJI	SENIOR ASSISTANT REGRISTRAR	VSB
SM, HW	Mokola, Ibadan , Oyo State	NVRI, IBADAN LAB	DR I.A FARAMOLE	VETERIARY RESEARCH OFFICER	Laboratory
SM, HW	Ibadan, Oyo State	University of Ibadan	DR O.A ADEDIRAN	HOD VET PARASITOLOGY	Education Vet
SM, HW	Ibadan, Oyo State	University of Ibadan	DR ADENIKE OLATUNJI	SUB- DEAN PG	Education Vet
SM, HW	Ibadan, Oyo State	University of Ibadan	PROF S.I B CADMUS	VPHPM	Education Vet
SM, HW	Ibadan, Oyo State	University of Ibadan	DR OLUFUNKE OLADAVIES	HOD VET PHYSIOLOGY	Education Vet
SM, HW	Ibadan, Oyo State	University of Ibadan	PROF B.O EMIKPE	HOD BIOCHEMISTRY	Education Vet
SM, HW	Ibadan, Oyo State	University of Ibadan	PROF OMOLADE OLADELE	DIRECTOR VTH	Education Vet
SM, HW	Ibadan, Oyo State	University of Ibadan	DR O.W LEIGH	HOD THERIOGENOLOGY	Education Vet
SM, HW	Ibadan, Oyo State	University of Ibadan	DR B.O OLUGASA	DIRECTOR CCPZ	Education Vet
SM, HW	Ibadan, Oyo State	University of Ibadan	DR O.T JEREMIAH	REP,HOD VET MEDICINE	Education Vet
SM, HW	Ibadan, Oyo State	University of Ibadan	DR KAKULU F.O	PRINCIPAL VETERINARY OFFICER	Education Vet
SM, HW	Ibadan, Oyo State	University of Ibadan	PROF P.C OZEGBE	HOD VET ANATOMY	Education Vet
SM, HW	Ibadan, Oyo State	University of Ibadan	DR I.O OLATOYE	VTH	Education Vet

SM, HW	Ibadan, Oyo State	University of Ibadan	DR SARUMOH	SVO	Education Vet
SM, HW	Ibadan, Oyo State	University of Ibadan	DR O.O ESAN	VTH	Education Vet
SM, HW	Ibadan, Oyo State	University of Ibadan	DR O.T ADEREMI	DEPUTY DIRECTOR, VTH	Education Vet
GDK, VG	Maiduguri, Borno State	NAQS	Umar S. Adegbe	Chief Animal Health Tech	Port of entry
GDK, VG	Maiduguri, Borno State	FDVPCS	Dr. Ibrahim Baba S.	Fed. Epid. Officer	Physical resources
GDK, VG	Maiduguri, Borno State	M.A.R.F.D.	Dr. D. H. Gadzama	Dep. DVS	Physical resources
GDK, VG	Maiduguri, Borno State	M.A.R.F.D	Dr. Bello B. Dandang	DVS	Physical resources
GDK, VG	Maiduguri, Borno State	V.T.H UNIMAID	Bukar Ahmed	Medical record	Clinic
GDK, VG	Maiduguri, Borno State	V.T.H UNIMAID	Modu Grema	Medical laboratory technician	Clinic
GDK, VG	Maiduguri, Borno State	V.T.H UNIMAID	I. A. Girgiri	Vet. Anatomy	Clinic
GDK, VG	Maiduguri, Borno State	V.T.H UNIMAID	Dr A. Abba	Asst. lecturer	Clinic
GDK, VG	Maiduguri, Borno State	V.T.H UNIMAID	Dr Ezema Kingsley	Asst. lecturer	Clinic
GDK, VG	Maiduguri, Borno State	V.T.H UNIMAID	Dr Nanacha Igbokwe	Senior lecturer/ consultant	Clinic
GDK, VG	Maiduguri, Borno State	V.T.H UNIMAID	Dr Mbursa Chiroma	Lecturer II	Clinic
GDK, VG	Maiduguri, Borno State	V.T.H UNIMAID	Funke B. Samuel	Technologis t	Clinic
GDK, VG	Maiduguri, Borno State	V.T.H UNIMAID	Babagana Grema	Executive officer	Clinic
GDK, VG	Maiduguri, Borno State	V.T.H UNIMAID	Yusuf Baba Gana	Technologis t	Clinic
GDK, VG	Maiduguri, Borno State	V.T.H UNIMAID	Kav Alkali	Med. Lab. Assistant	Clinic
GDK, VG	Maiduguri, Borno State	V.T.H UNIMAID	Alhassan M. Abdullahi	Animal Health Supritendan t	Clinic
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr. Shuabu Giddo	Senior lecturer	Education Vet

GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr M. B. Malize	Senior lecturer	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr A. D.Ed-Yuguda	Professor	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr Naphtali Atsaanda	Reader	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr Sule Adamu G	Senior lecturer	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	M. A. Umar	Professor	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr F. Brisebe	Senior lecturer	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr. A. R. Mustapha	Senior lecturer	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr M. B. Abubakar	Reader	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr Lawan Adama	Senior lecturer	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr Ahmed Yahaya	Reader	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr. Saidu I. Ndulde	Sub-Dean / senior lecturer	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr. A. O Tyjani	Senior lecturer	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr. Umar A	Admin sec.	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr. Kefas D. Malgwi	Asst. lecturer	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr. M. B Umar	Resident Clinician	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr. A. A Haruna	Asst. lecturer	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr. M. K Adam	Surgery	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr. S. H. Mshelia	Resident clinician	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Usman Yakubu	Med. Lab. Sci.	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Dr. H. P Mana	Resident clinician	Education Vet
GDK, VG	Maiduguri, Borno State	University of Maiduguri	Prof. B. P. Bokko	Director VTH	Education Vet

GDK, VG	Maiduguri, Borno State	University of Maiduguri	Yusuf Jairus	Lab. Technologist	Education Vet
25th January 2019					
GDK, VG	Maiduguri, Borno State	Control Post	Ali Yarimo	Second in charge	Control Post
GDK, VG	Maiduguri, Borno State	Control Post	Ahmed Saleh	Incharge	Control Post
GDK, VG	Maiduguri, Borno State	Control Post	Umar Saidu	Second incharge	Control Post
GDK, VG	Maiduguri, Borno State	Control Post	Alh. Sani Bawa	Ranch Range Attendant	Control Post
GDK, VG	Maiduguri, Borno State	NVMA	Dr. Nuhd Abbak	Chairman	Stakeholder
GDK, VG	Maiduguri, Borno State	NVMA	Dr. A. A Haruna	Sec. Gen.	Stakeholder
GDK, VG	Maiduguri, Borno State	NVMA	Dr. M. R Umar	P.R.O	Stakeholder
GDK, VG	Maiduguri, Borno State	Vet. Hospital Maiduguri	Dr. Musa A. B	CVMO	Clinical services
GDK, VG	Maiduguri, Borno State	Vet. Hospital Maiduguri	Dr. B. B Daadung	DVS- Borno	Clinical services
GDK, VG	Maiduguri, Borno State	Vet. Hospital Maiduguri	Dr. Goji Lalai	Head of postmortem	Clinical services
GDK, VG	Maiduguri, Borno State	Vet. Hospital Maiduguri	Dr. Adamu Ali	H.O.D Lab.	Clinical services
GDK, VG	Maiduguri, Borno State	Vet. Hospital Maiduguri	Dr. Yohama Wakirwa	H.O.D Pharmacy	Clinical services
GDK, VG	Maiduguri, Borno State	Vet. Hospital Maiduguri	Dr. Kwante D. C	H.O.D Large Animal Clinic	Clinical services
GDK, VG	Maiduguri, Borno State	Vet. Hospital Maiduguri	Dr. Hassan Yakubu	H.O.D Avian Dept.	Clinical services
GDK, VG	Maiduguri, Borno State	Vet. Hospital Maiduguri	Dr. Peter Solomon	H.O.D small animal unit	Clinical services
GDK, VG	Maiduguri, Borno State	Central abattoir	Balama Abba	Representative Abattior Manager	Abattoir
GDK, VG	Maiduguri, Borno State	Central abattoir	Dr. Bello B. Dandang	DVS- Borno	Abattoir
GDK, VG	Maiduguri, Borno State	Central abattoir	Dr. Bello G.	C.V.O Borno	Abattoir
GDK, VG	Maiduguri, Borno State	FVPCS	Dr. Ibrahim Baba S.	Epidemioloy officer	Abattoir

GDK, VG	Maiduguri, Borno State	Vet. Public. Health Office Maiduguri Abattior	Dr. Abubakar A. I	ACVO	Abattoir
GDK, VG	Maiduguri, Borno State	Abattior/Chairman Butchers Ass.	Alh. Abubakar Kula	Chairman Butchers Association of the abattior	Stakeholder
SM, HW	Lagos State	State Ministry of Agriculture	Oni S. Bamisaye	Director Planning and policy	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	ONI S. BAMISAYE	DIRECTOR PLANNING AND POLICY	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	MRS AYOADE A.F	DIRECTOR AGRIC. SERVICES	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	DR ADEYEMI M. O.	DEP. DIRECTOR VET. SERVICES	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	MRS EMOAKPAE O. I	DIRECTOR FISHERIES	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	DR IDRIS A.	C.V.O	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	DR ENEBELI O. A	A.C.V.O	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	DR (MRS) OJIRI H.B	A.C.V.O	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	DR OLORITUN K.M	A.C.V.O	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	DR OMILEYE A.O	S.V.O 1	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	DR AKAKPO F.A	S.V.O 1	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	DR (MRS) OGUNLEYE M.O	S.V.O 1	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	DR SARUMON M.B	S.V.O 1	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	DR AWELE ONAGA	S.V.O 1	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	YUSUF R.O	PLS 1	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	BANKOLE O. B	PL 1	Physical resources
SM, HW	Lagos State	State Ministry of Agriculture	BAMIDELE B. D	PLS 2	Physical resources

SM, HW	Lagos State	Nigeria Vet. Medical Assoc.	Dr Aroso O.	Chairman	Physical resources
SM, HW	Lagos State	Poultry Association	Egbebe Godwin	Chairman	Stakeholder
SM, HW	Lagos State	Nigeria Assoc Of Animal Health And Husbandry Tech	Oluwadare O.P	National Secretary	Stakeholder
SM, HW	MMIA, Lagos State	NAQS, MMIA	Dr Akinjo Abiodun	Director Naqs	Port of entry
SM, HW	MMIA, Lagos State	NAQS	Dr Gano A. I.	Station Cordinator	Port of entry
SM, HW	MMIA, Lagos State	NAQS, MMIA	Dr Hussaini Musa Ahmed	Vet. Officer	Port of entry
SM, HW	MMIA, Lagos State	NAQS, MMIA	Awoyelu Femi	P.R.O.	Port of entry
SM, HW	MMIA, Lagos State	NAQS, MMIA	Peterside H. E	Vet. Officer	Port of entry
SM, HW	MMIA, Lagos State	NAQS, MMIA	Nwabude F.	Duty Officer	Port of entry
SM, HW	Lagos, Lagos	NAFDAC	Dr Bukar Usman	Director VMAP	Vet products
SM, HW	Lagos, Lagos	NAFDAC	DR BUKAR USMAN	DIRECTOR VMAP	Vet products
SM, HW	Lagos, Lagos	NAFDAC	DR GBENGA F.	SA DIRECTOR GENERAL	Vet products
SM, HW	Lagos, Lagos	NAFDAC	DR NNAKWE E.O	DEP DIRECTOR VMAP	Vet products
SM, HW	Lagos, Lagos	NAFDAC	PHARM. OKANLAWON A.S.	ASSIST. DIRECTOR VMAP	Vet products
SM, HW	Lagos, Lagos	NAFDAC	DR TUNDE SIGBEKU	ASSIST. DIRECTOR VMAP	Vet products
SM, HW	Lagos, Lagos	NAFDAC	DR M.I. SANI	DEP. DIRECTOR VMAP	Vet products
SM, HW	Lagos, Lagos	NAFDAC	DR BARBARA CHUKWU	ASSIST. DIRECTOR VMAP	Vet products
SM, HW	Lagos, Lagos	NAFDAC	DR IDAYAT M.	ASSIST. DIRECTOR VMAP	Vet products
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	PST EFFIOM ASUQUO	FARM OWNER	Stakeholder
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	PST EMMANUEL EKPENYI	FARM OWNER	Stakeholder

SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	OFON ESHIET UDOM	FARM OWNER	Stakeholder
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	PATRICK EDEM	FARM OWNER	Stakeholder
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	UMO EDEM	FARM OWNER	Stakeholder
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	B. EPHRAIM	FARM OWNER	Stakeholder
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	VICTORIA E. OKON	FARM OWNER	Stakeholder
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	EKPENYONG BASSEY	FARM OWNER	Stakeholder
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	ITA OKON EDET	FARM OWNER	Stakeholder
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	P. EFFIONG	FARM OWNER	Stakeholder
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	OKE OKE	FARM MANAGER	Stakeholder
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	ETIM BASSEY	FARM OWNER	Stakeholder
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	EDET EDEM NYONG	FARM OWNER	Stakeholder
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	VICTOR EYO EPHRAIM	FARM OWNER	Stakeholder
SM, HW	Akpabuyo, Cross river State	Sheep and Goat Association	DR MBA E. I	VET. OFFICER	Stakeholder
27th January 2019					
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Dr Bassey Ekong	Director Of Vet. Services	Resources
SM, HW	Calabar, Cross River State	NATIONAL VET. RESEARCH INSTITUTE	Dr Taama Louisa	Chief Vet. Research Officer	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Dr Obi Patrick O.	Princ. Vet Officer Ii	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Dr Isek Thomas	Senior Vet. Officer	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Mrs Becky Y. A.	Chief Animal Health Tech.	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Mr Bartholomew I. A.	Chief Med. Lab Tech	Resources

SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Effiong E. Okon	Princ. Executive Officer I	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Okpe Cecilia A.	Chief Med. Lab Tech	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Effion Helen O.	Chief Med. Lab Tech	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Edet Bassey M	Chief Store Officer	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Akpe A. Effiong	Senr Animal Health Tech	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Emmanuel E. Okon	Chief Ex. Officer	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Joel A. Ebuk	Med Lab Scienc	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Veronica C. Obi	Chief Animal Health Tech.	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Esther Lawrence	Princ. Animal Health Tech.	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Lawrence Ibok	Princ. Executive Officer I	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Eyo E. Itam	Princ Animal Health Tech.	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Edak Asuquo Okon	Princ Med Lab Tech Ii	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Etim Grace Asuquo	S.E.O	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Francess A. Ita	Chief Animal Health Tech.	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Ubi Ejika	Acat	Resources
SM, HW	Calabar, Cross River State	Ministry Of Agric CRS	Francis Besong	Acat	Resources
SM, HW	Lagos State	Lagos State Butchers Assoc.	Alabi B. K	Chairman	Stakeholder
SM, HW	Lagos State	Lagos State Butchers Assoc.	Ibrahim Yahaya	Member	Stakeholder
SM,	Ijaiye-Ojokoro,	NMBA Lagos Chapter	Pastor Elija Oladumni	Chairman	Stakeholder

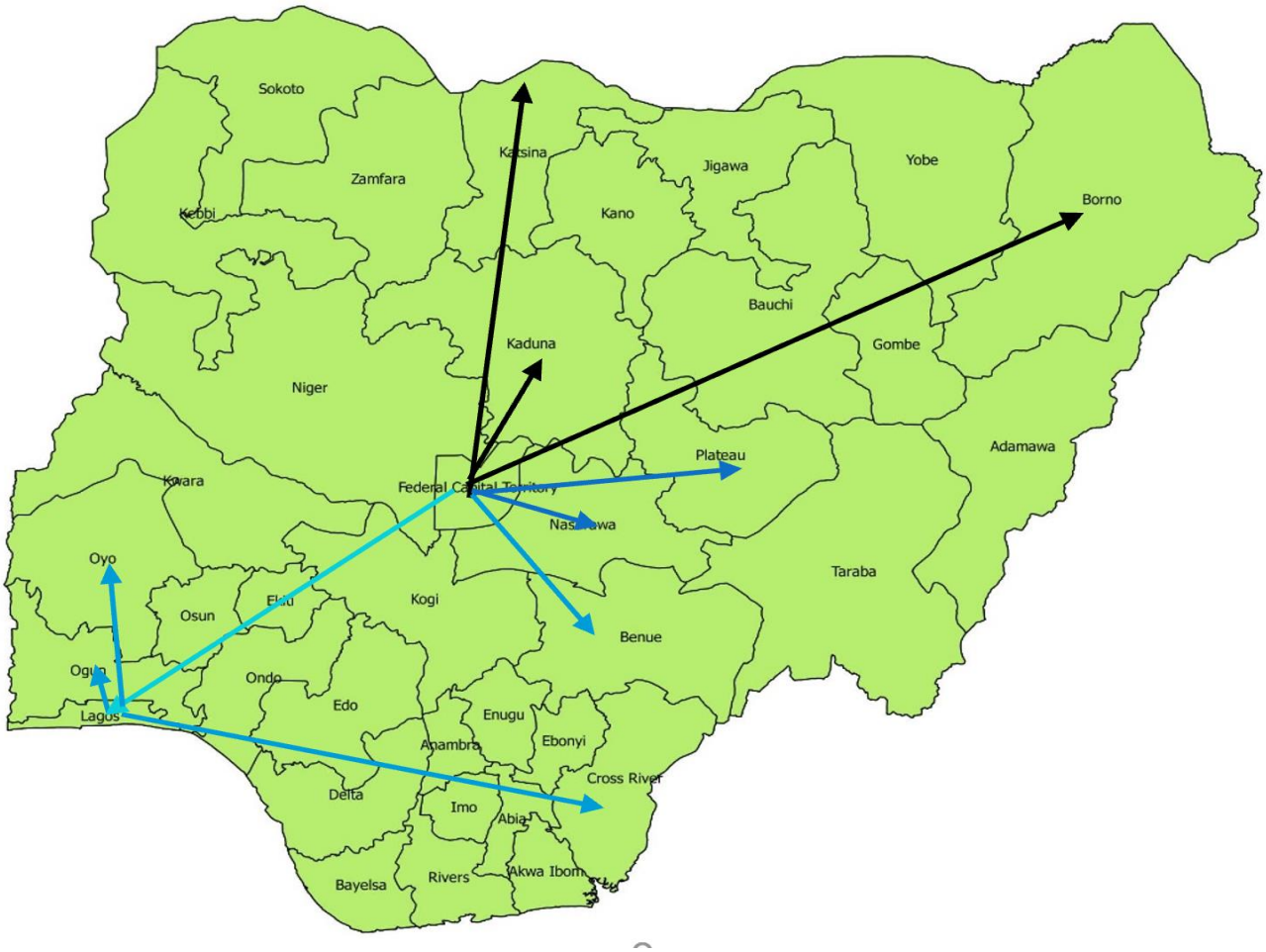
HW	Lagos				
SM, HW	Matori Apapa, Lagos	C.P.S. NIG. LTD	Lanre Bashorun	C.E.O	Stakeholder
28th January 2019					
GDK, VG	Kaduna North LGA	Department of Agriculture	Saleh Shuaibu	Chairman	Physical resources
GDK, VG	Kaduna North LGA	Department of Agriculture	Hannatu C. Ishaku	Deputy Director Admin	Physical resources
GDK, VG	Kaduna North LGA	Department of Agriculture	Maria C. Zomo	Director Agric	Physical resources
GDK, VG	Kaduna North LGA	Department of Agriculture	Ramatu Yunusa	Dd H/Econs	Physical resources
GDK, VG	Kaduna North LGA	Department of Agriculture	Bege Kayit	Dd/ Vet	Physical resources
GDK, VG	Kaduna North LGA	Department of Agriculture	Dr Suleiman Salisu	Head Of Clinic M/Gari	Physical resources
GDK, VG	Kaduna North LGA	Department of Agriculture	Dr Ibrahim N. Muhammed	Doctor M/Gari Clinic	Physical resources
GDK, VG	Kaduna, Kaduna State	MOAF-KADUNA	Dr Dogo S.T.	Director Veterinary Services	Policy
GDK, VG	Kaduna, Kaduna State	MAOF-KADUNA	Dr Habiba Tukur	DDVCS	Policy
GDK, VG	Kaduna, Kaduna State	MAOF-KADUNA	Dr Pakachi Z.S.	Zonal Director Kaduna	Policy
GDK, VG	Kaduna, Kaduna State	MAOF-KADUNA	Dr Abel W.C.	Desk Officer Avian Influenza	Policy
GDK, VG	Kaduna, Kaduna State	College of Agriculture and Animal Science	Prof. Suleiman	Provost	Education VPP
GDK, VG	Kaduna, Kaduna State	College of Agriculture and Animal Science		Deputy Provost	Education VPP
GDK, VG	Kaduna, Kaduna State	College of Agriculture and Animal Science	Dr A.T. Tinau	Lecturer	Education VPP
GDK, VG	Kaduna, Kaduna State	College of Agriculture and Animal Science	Aliyu Muhammed	Hod Basic Science	Education VPP
GDK, VG	Kaduna, Kaduna State	College of Agriculture and Animal Science	Dr B.M. Mustapha	Veterinary Clinic, Head Of Unit	Education VPP
GDK, VG	Kaduna, Kaduna State	College of Agriculture and Animal Science	Dr Abubakar A. Adeile	Parasitologist, Lecturer/Clinician	Education VPP
GDK, VG	Kaduna, Kaduna State	College of Agriculture and Animal Science	Dr Murke N Salke	Cattle Unit	Education VPP

GDK, VG	Kaduna, Kaduna State	College of Agriculture and Animal Science	Dr Fatima H. Bukar	H.O.D. Animal Health	Education VPP
GDK, VG	Kaduna, Kaduna State	NVRI	Dr Shekaro	Head Of Lab	Laboratory
GDK, VG	Kaduna, Kaduna State	NITR	Dr A.C. Igweh	DG/CEO	Research
GDK, VG	Kaduna, Kaduna State	NITR	A.A. Ibrahim	Administrative Officer	Research
GDK, VG	Kaduna, Kaduna State	NITR	Yahaya Shuaibu	Research Officer	Research
GDK, VG	Kaduna, Kaduna State	NITR	Ibrahim Zakari	Dhrm	Research
GDK, VG	Kaduna, Kaduna State	NITR	Wyorkson, M.A.	Ag DIRECTOR ICT	Research
GDK, VG	Kaduna, Kaduna State	NITR	Caleb Garba	HEAD F&A	Research
GDK, VG	Kaduna, Kaduna State	NITR	Dr Hudu O. Osue	DRPMESSD	Research
GDK, VG	Kaduna, Kaduna State	NITR	Dr A.O. Fajinmi	AATRD	Research
GDK, VG	Zaria, Kaduna State	Ahmadu Bello University	Jacob K.P. Kwaga	Dean/ Professor	Education vet
GDK, VG	Zaria, Kaduna State	Ahmadu Bello University	Oluyinka O. Okubanjo	Deputy Dean/ Professor	Education vet
GDK, VG	Zaria, Kaduna State	Ahmadu Bello University	B.M. Jahun	Director VTH	Education vet
GDK, VG	Zaria, Kaduna State	Ahmadu Bello University	M. Bello	H.O.D VPH	Education vet
GDK, VG	Zaria, Kaduna State	Ahmadu Bello University	S.B. Oladele	H.O.D Vet pathology	Education vet
GDK, VG	Zaria, Kaduna State	Ahmadu Bello University	T. Dzenda	H.O.D Vet physiology	Education vet
GDK, VG	Zaria, Kaduna State	Ahmadu Bello University	L. Allam	H.O.D Therio/production	Education vet
GDK, VG	Zaria, Kaduna State	Ahmadu Bello University	M. Mamman	H.O.D Pharmacology	Education vet
GDK, VG	Zaria, Kaduna State	Ahmadu Bello University	Bisalla Mohammed	Professor	Education vet
GDK, VG	Zaria, Kaduna	Ahmadu Bello University	Anthony K.B. Sackey	Professor	Education vet

	State				
GDK, VG	Zaria, Kaduna State	NAPRI	Prof. C.A.M. Lakpani	Director	Research
GDK, VG	Zaria, Kaduna State	NAPRI	Prof. A.K. Mohammad	Head Animal Health	Research
GDK, VG	Zaria, Kaduna State	NAPRI	Dr. Z.M. Wunti	Research Vet.	Research
GDK, VG	Zaria, Kaduna State	NAPRI	Dr. M.O. Otu	Research Vet.	Research
SM, HW	Calabar, Cross River State	Pandrillus Rehabilitation and Breeding Center	Dr Liza Gadsby	Founder + Director	Conservation
SM, HW	Calabar, Cross River State	Pandrillus Rehabilitation and Breeding Center	Raphael Asiba	Mgt Trainee	Conservation
SM, HW	Calabar, Cross River State	FED. MINISTRY OF AGRIC	Mr Iwara Edet	Director	Policy
SM, HW	Calabar, Cross River State	NAQS	Dr O. J Awobiyi	Deputy Director Naqs	Policy
SM, HW	Calabar, Cross River State	NAQS	Ezenobi Ugo	Chief Agric. Supt. Naqs	Quarantine
SM, HW	Calabar, Cross River State	NAQS	Mr Ukam	Fmard Officer	Quarantine
SM, HW	Calabar, Cross River State	Nigeria Custom Service	Koko A. B.	Officer In Charge Marine	Stakeholder Port of entry
SM, HW	Calabar, Cross River State	Nigeria Custom Service	Oshi M. O	Officer In Charge Fou	Stakeholder Port of entry
29th January 2019					
GDK, VG	Katsina, Katsina State	MANR	Dr Isa Abba	Director Of Veterinary Services	Physical resources
GDK, VG	Katsina, Katsina State	MANR	Dr Abubakar Usman	Ad/ Vet	Physical resources
GDK, VG	Katsina, Katsina State	FMARD	Dr Ari Abdulkadir	Federal Epid. Officer	Physical resources
GDK, VG	Katsina, Katsina State	MOA-KATSINA	Abdullahi Nuhu	Ad-Hide & Skin	Physical resources
GDK, VG	Katsina, Katsina State	MOA-KATSINA	Musa Sani	Higher Vet. Lab Technician	Physical resources
30th January 2019					
GDK, VG	Manama Nigeria-Niger Border	NAQS	Dr Achuzia A.	Acgq (Dd)	Port of entry

GDK, VG	Manama Nigeria-Niger Border	NAQS	Mr. Sheman Avay	Cahht	Port of entry
GDK, VG	Manama Nigeria-Niger Border	NAQS	Mr Adedoku Adeyemi	Hls	Port of entry
GDK, VG	Manama Nigeria-Niger Border	NAQS	Anka Yusuf Sani	Sah & Ht	Port of entry
GDK, VG	Manama Nigeria-Niger Border	NAQS	Auwalu Muhammed	Plant Naqs	Port of entry
GDK, VG	Manama Nigeria-Niger Border	NAQS	Mustapha Suleiman	Plant Naqs	Port of entry
GDK, VG	Manama Nigeria-Niger Border	NAQS	Lawal Zakari	Plant Naqs	Port of entry
GDK, VG	Manama Nigeria-Niger Border	NAQS	Bello Nababi	Animal Naqs	Port of entry
GDK, VG	Manama Nigeria-Niger Border	NAQS	Ounsakin Charles	Plant Naqs	Port of entry
GDK, VG	Manama Nigeria-Niger Border	Livestock market			Movement control
SM, HW	FCT Abuja	World Bank	Adetunji Oredipe	Senior Agric Econs.	Stakeholder NGO
SM, HW	FCT Abuja	World Bank	Noel Chibaka	Senior Health Specialist	Stakeholder NGO
SM, HW	FCT Abuja	FAO	Helen Okon	National Consultant Media	Stakeholder NGO
SM, HW	FCT Abuja	FAO	Adeole Akinrinlole	Pro Officer	Stakeholder NGO
SM, HW	FCT Abuja	FAO	Alphonsus Onwuemeka	NPP	Stakeholder NGO
SM, HW	FCT Abuja	FAO	Mawuli Sablali	FAO Org.	Stakeholder NGO
SM, HW	FCT Abuja	FAO	Emmanuel Odeme	National Facilitator ASL 2050	Stakeholder NGO

MAP OF THE COUNTRY INDICATING TRAVEL AND FIELD VISITS MADE DURING THE MISSION BY THE TEAM
(I.E. INCLUDING SPLITTING OF THE TEAM FOR TRAVEL TO THE FIELD)
The team visited the FCT and ten of thirty-six States in five of the six geo-political zones.
The States visited were: Nasarawa, Benue, Plateau, Borno, Kaduna, Katsina, Lagos, Oyo, Ogun and Cross River.
The team was split in two, one visited the States in the North and the other the States in the South.



Closing meeting

Date: 1st February 2019

Asses-sor(s)	Location & Jurisdiction	Institution – Agency – Group - Association	Person(s) met and interviewed	Position	Activities and CC Relevance
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	Former Director VPCS	Dr. Junaid Maina	Former Director FDVPCS	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	Former Director VPCS	Dr. Joseph Nyager	Former Director FDVPCS	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	Former Director VPCS	Dr. Abdulganiyu Abubakar	Former Director FDVPCS	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	Former Director VPCS	Dr. Gideon Mshelbwala	Former Director FDVPCS	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	Director VPSC	Dr. Olaniran Alabi	Director FDVPCS	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. Dooshima Kwange	Director	Closing meeting
SM, GDK,	Mararaba, Karulga,	FMARD	Ako Eleojo		Closing

VG	Nasarawa State		Joseph		meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	Fisheries Department	Abubakar Ibrahim		Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	ABU Zaria	Prof. Okubanjo Oluyinka Oluseyi	Dean representative	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	University of Ibadan	Prof. Olupade James Olukayode	Dean	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	University of Jos	Mshelia Gideon Dauda	Dean representative	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	University Of Maiduguri	Dr. Saidu I. Ngulde	Dean representative	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	VCN	Dr. Josiah Kantiok	Registrar	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	University of Abuja	Prof. James Ameh	Director VTH	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	NVRI	Dr. David Shamaki	Executive Director	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	NAQS	Dr. Achuzia Anthony Afam		Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	NAQS	Dr. Akinjo Abiodun	Director	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FCAHPT, VOM	Dr. Banyigyi Samu Aforo		Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. Ezenwa Nwakonobi	Deputy Director	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD/	Dr. James Balami	Deputy Director	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. Samuel Anzaku	Deputy Director	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. Ali-Gana Muhammed	Deputy Director	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. Adamu Yakubu Dakogi	Assistant Director	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. Adedoyin Adeniyi	Deputy Director	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Mr. Aliyu Chafe	Assistant Director	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. Ndahi Muapu	Assistant Director	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	Livestock & Nomadic	Dr. Isaac Odoma		Closing meeting

		Settlement			
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	State Ministry of Agriculture, Benue State	Dr. Edward O. Amali	DVS	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	State Ministry of Agriculture, Cross River State	Dr. Bassey Ekong	DVS	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	MANR	Dr. Philip Obioran O.		Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	State Ministry of Agriculture, FCT, Abuja	Dr. Adulugba Regina	DVS	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	State Ministry of Agriculture, Kaduna	Dr. Dogo Samuel	DVS	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	State Ministry of Agriculture, Lagos	Dr. Macaulay Rasheed Molade	DVS	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	State Ministry of Agriculture, Oyo State	Dr. (Mrs.) Ibitoye Mofoluwake Moriyike	DVS	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	State Ministry of Agriculture, Plateau State	Dr. Sipak D. Shase-et	DVS	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	State Ministry of Agriculture, Sokoto State	Dr. Shaibu saidu Gatawa	DVS	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	NAAHT	Mr. Oluwadare O. Paul		Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	National Association of Sheep and Goats	Comrade Adam Muhammed Kabir		Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	Priviate Vet.	Dr. Suliat Y. Adeleke		Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	Blueblood Vet Clinic	Dr. Bala Muhammed	Private vet	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	El-Mound Vet Clinic	Dr. Monday a E. Ojeamiren	Private vet	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. Olasuju Taiwo	Senior Veterinary officer	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. Timothy Ajani	Assistant Director	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. Maryam I. Buba	Senior Veterinary officer	Closing meeting

SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. Philip Ayuba	Senior Veterinary officer	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Mrs. Maureen R.T. Kajo	Communication officer REDISSE Project	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD/	Dr. Zainab Abdulkareem	Senior Veterinary officer	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. Elias Bitrus	Senior Veterinary officer	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	NVRI	Dr. Tony Joannis	Head Regional Lab.	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD/	Miss. Lydia Nyam	Scientific Officer	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Miss. Safiya Adejo		Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Mr. Isa Abubakar	Driver	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Mrs. Chinyere Odinka	Admin staff	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Mr. Muhammed Lawal	Admin staff	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. El – oji Adamu Abdu	Assistant director	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. C.T, Vakuru	Deputy Director	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Haruna Monday	Driver	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Mr. Daniel Atuman	Accountant	Closing meeting
SM, GDK, VG	Mararaba, Karulga, Nasarawa State	FMARD	Dr. Ibrahim, Ayuba Sini	Epidemiologist	Closing meeting

Appendix 6: Air travel itinerary

Assessor	Date	From	To	Flight no.	Departure	Arrival
Victor Gongora	10 Jan 19	Belize	Miami	AA 1419	12 :42	15 :50
	11 Jan 19	Miami	Frankfurt	LH 463	16:55	08:10
	12 Jan 19	Frankfurt	Abuja	LH 594	11:15	17:30
	2 Feb 19	Abuja	Frankfurt	LH 595	23:10	06:35
	3 Feb 19	Frankfurt	Miami	LH 462	10:15	15:00
	4 Feb 19	Miami	Belize	AA2476	10 :30	11 :47
Grietjie De Klerk	11 Jan 19	Johannesburg	Addis Abeba	ET 858	23:00	05:25
	12 Jan 19	Addis Abeba	Abuja	ET 911	09:20	12:00
	2 Feb 19	Abuja	Addis Abeba	ET 910	13:25	20:15
	2 Feb 19	Addis Abeba	Johannesburg	ET 859	23:30	03:55
Henry Wamwayi	13 Jan 19	Nairobi	Addis Abeba	ET 309	05:00	07:15
	13 Jan 19	Addis Abeba	Abuja	ET 911	09:20	12:00
	1 Feb 19	Abuja	Addis Abeba	ET 910	13:25	20:15
	1 Feb 19	Addis Abeba	Nairobi	ET 308	23:15	01:20
Susanne Munstermann	12 Jan 19	Frankfurt	Abuja	LH 594	11:15	17:30
	2 Feb 19	Abuja	Frankfurt	LH 595	23:10	06:35

Appendix 7: List of documents used in the PVS evaluation

E = Electronic version H = Hard copy version P= Digital picture

REF	DOCUMENT	AUTHOR	COMPETENCY
E01	PPR National Strategy Program	FDVPCS	II.6, II.4A
E02	Disease outbreak detail template	FDVPCS	II.5
E03	Emergency disease reporting template	FDVPCS	II.5
E04	Some IEC materials in animal health communication	FDVPCS	III.1
E05	Quality Assurance Division Staff List	FDVPCS	I.1A , 1.1B
E06	Sample Certificate For Dog Import Export 001	FDVPCS	IV.3
E07	Sample Certificate For Dog Import Export 002	FDVPCS	IV.3
E08	Sample Certificate For Dog Import Export 003	FDVPCS	IV.3
E09	Sample Certificate For Dog Import Export 004	FDVPCS	IV.4
E10	Sample Certificate For Dog Import Export 005	FDVPCS	IV.3
E11	Sample Certificate For Importation Of Dairy Products (2)	FDVPCS	IV.3
E12	Sample Certificate For Importation Of Dairy Products (3)	FDVPCS	IV.3
E13	Sample Certificate For Importation Of Dairy Products	FDVPCS	IV.3
E14	Joint External Evaluation of IHR Core Capacities	FMoH	I.4, I.6B, III.2, III.3, IV.5
E15	National Action Plan for Health Security (2018-2022)	FMoH	I.6B,11.7B
E16	National Food Safety and Quality Bill_ Final Version	FMoH	I.6B,11.7B
E17	National Policy on food safety and its implementation strategy	FMoH	III.6, 11.7B
E18	Concept Note on Zoonotic Disease outbreaks in Nigeria	FMoH	II.7B,111.3
E19	MoH Epidemiology Devision Organogram_2019	FMoH	I.1A, I.1B
E20	Number of veterinary practicing premises	VCN	I.1A, I.1B, IV.1B
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