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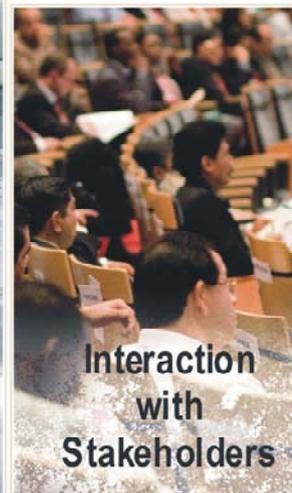
Organización  
Mundial  
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Animal



## Tool for the evaluation of Performance of Veterinary Services

*oie PVS Tool*

# PVS Evaluation Report



April  
2010

## Botswana

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**OIE - PVS EVALUATION**

**REPORT ON THE**

**VETERINARY SERVICES OF**

**BOTSWANA**

**(29<sup>th</sup> March – 9<sup>th</sup> April 2010)**

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Disclaimer

This evaluation has been conducted by an OIE PVS Evaluation Team authorised by the OIE. However, the views and the recommendations in this report are not necessarily those of the OIE.

The results of the evaluation remain confidential between the evaluated country and the OIE until such time that the country agrees to release the report and the terms of such release.



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## List of acronyms, abbreviations and/or special terms

BCA	Botswana College of Agriculture
BIP	Border Inspection Post
BMC	Botswana Meat Commission
BNVL	Botswana National Veterinary Laboratory
BSE	Bovine Spongiform Encephalopathy
BVI	Botswana Vaccine Institute
CE	Continuing education
CVO	Chief Veterinary Officer
DAP	Department of Animal Production
DAT	Disease Alert Team
DVO	District Veterinary Office
DVS	Department of Veterinary Services
EU	European Union
FMD	Foot and Mouth Disease
GIS	Geographical Information System
HPAI	Highly Pathogenic Avian influenza
LAC	Livestock Advisory Center
LITS	Livestock Identification and Traceability System
MITC	Meat Inspection Training Center
MoA	Ministry of Agriculture
MoF	Ministry of Fisheries
MoH	Ministry of Health
OIE	World Organisation for Animal Health
OIE-PVS	OIE Performance of Veterinary Services Evaluation Tool
PPR	Peste des Petits Ruminants
SADC	Southern African Development Community
SANAS	South African National Accreditation System
SDVO	Sub-district Veterinary Office
SOP	Standard Operating Procedure
SPS	Sanitary and Phyto Sanitary
TAHC	Terrestrial Animal Health Code
VMB	Veterinary Medicines and Biologics
VPH	Veterinary Public Health
VS	Veterinary Service(s)
VSB	Veterinary Statutory Body
WTO	World Trade Organisation



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## Acknowledgements

The OIE-PVS Team wishes to express its gratitude to the staff of the Botswana Department of Veterinary Services and the other agencies and departments/ministries, and to all the individuals who freely gave of their time and experience to assist in this evaluation.

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# PART I: EXECUTIVE SUMMARY

## I.1 Introduction

Today the development and growth of many countries depends on the performance of their agricultural policies and economies. This relates directly to the quality of their Veterinary Services (VS). Important roles for VS include veterinary public health, (including food-borne diseases), and regional and international market access for animals and animal products. To meet these opportunities and challenges, VS need to operate on scientifically based principles and be technically competent, independent and immune from political pressures.

Efforts to strengthen VS and to support their compliance with OIE international standards were the reason that OIE developed the Evaluation of the Performance of Veterinary Services (PVS) tool. The PVS tool is designed to assist VS to establish their current level of performance, to identify gaps and weaknesses regarding their ability to comply with OIE international standards, to form a shared vision with stakeholders (including the private sector), and to establish priorities and carry out strategic initiatives.

WTO Members such as Botswana are also bound by the provisions of the WTO-SPS Agreement. The SPS Agreement affirms the right of each member country to protect plant, animal and human life, but the Agreement also requires countries to base their actions on scientific principles. For animal health and zoonoses, the OIE is cited as the international reference organization for standards, guidelines and recommendations covering international trade in animals and animal products.

Implementing international standards, guidelines and recommendations developed through the OIE, including standards on quality and evaluation of VS, aims to ensure that international trade is conducted free of discrimination and unjustified technical restrictions.

The evaluation of Veterinary Services of the Republic of Botswana had the principal objective of identifying both strengths and gaps in capability against the criteria set out in the OIE Terrestrial Animal Health Code, using the OIE PVS tool.

The Government of Botswana requested an evaluation of the veterinary services (VS) of Botswana based on the OIE-PVS (Performance of Veterinary Services) method. The evaluation was conducted between 29 March and 9 April, 2010 by team of three independent OIE-approved evaluators and an observer from the OIE sub-regional office.

## I.2. Key findings of the evaluation

### *I.2.A Human, physical and financial resources*

Botswana has very competent Veterinary Services consisting essentially of a relatively small cadre of well trained veterinarians; with many technical personnel. The veterinarians were trained at internationally recognized veterinary faculties and many have specialized international post graduate training. Positions at the central, district and sub-district levels are clearly designated for veterinarians, but the available number of veterinarians in the field is quite limited and the vast majority of the direct contact with livestock and producers is done by a large staff of veterinary para-professionals. All veterinary para-professionals have received formal training in animal health but are not generally directly supervised by veterinarians during their field activities, in part because there are too many levels of sub-delegation between the district veterinarians and the veterinary para-professionals and non-technical staff performing field activities.

In addition, there are only two public sector veterinarians working in the important wildlife sector and relatively few private veterinarians working in the field with commercial farmers.

DVS has adequate and well managed physical resources at all levels. This includes a very good central laboratory with the capacity to handle a large number and variety of samples annually with good quality control systems and accreditations in place. DVS collects and maintains a large volume of high quality data within the various components of VS, including the laboratory, but the various electronic databases for BNVL, GIS, disease control and LITS are not integrated.

Operational and emergency funding of the VS are sustainable. However, the recent economic crisis, has affected capital investments, mainly on renewal of logistics.

### ***1.2.B Technical authority and capability***

Botswana has a well supplied and maintained central veterinary laboratory (BNVL) which provides its services free of charge. BNVL has broad capacity for veterinary diagnostics and veterinary public health and uses other laboratories for tests it cannot perform. The laboratory is ISO or SANAS accredited for a number of tests and quality assurance is in place.

Botswana has well established border inspection posts (BIPs) and all land borders are fenced to limit incursion of foreign livestock and wildlife. The BIPs are adequately staffed and linked by telecommunications and supervised by DVO veterinarians.

Botswana has an internationally recognized system for early detection and emergency response. Quarantine, zoning and border security activities are well executed. VS implement a variety of well planned disease prevention, control and eradication programmes. Ad hoc groups are used to deal with emerging issues.

Extensive surveillance is done for several diseases but is focused primarily on FMD in cattle but is constrained by the lack of veterinarians in the field.

Food safety inspection is in place and in progress at all levels of red meat slaughtering.

Controls are in place for Veterinary medicines and biological and residue testing is enforced for the beef export sector and regularly audited.

The risk analysis process is well understood by DVS but currently there is no one trained in risk analysis on the staff. It is recommended that someone be hired or trained in risk analysis.

### ***1.2.C Interaction with stakeholders***

As a beef exporting country, Botswana regularly attends regional (SADC) meetings and is an active member of the OIE and Codex Alimentarius.

Legal authority is established in the Veterinary Surgeons Act of 1973, which regulates all veterinarians. Under a new proposed act the current Veterinary Board will be replaced by the establishment of a Veterinary Statutory Body (VSB). The proposed VSB will expand the current Board and regulate both veterinarians and veterinary para-professionals.

Consultation with stakeholders is not formalised and occurs mainly on an ad hoc basis; however, there are well developed consumers groups organised under a national association. Producers are often consulted to organise animal health campaigns and sometimes to review gaps found during these campaigns. Extension workshops and other trainings are primarily given by veterinary para-professionals at the local level on a variety of subjects in their extension areas which provides more or

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less regular contact between veterinary para-professionals and farmers. Contact with veterinarians is highly variable but generally is rather limited.

### ***1.2.D Access to markets***

Veterinary legislation and regulations are adequately developed and implemented.

Botswana has long established export markets for beef in the region and Europe which is supported by VS with considerable resources. These markets have been maintained by ongoing compliance with OIE standards and certification of the specific requirements of the importing country. Botswana is an active member of the SADC Livestock Technical Committee which establishes trade protocols for regional trade.

Botswana has a good historical record of OIE notifications about different diseases and a history of transparency.

VS has successfully implemented strict control of animal movements to slaughter and between animal disease (FMD) control zones. An individual animal identification is in place for cattle; however, this traceability system is used mainly at the export abattoirs. Botswana has an extensive and long standing zoning system based on hundreds of kilometres of animal and wildlife control fences. Some of these zones are progressing toward FMD free-without-vaccination status.

Table 1. Summary of OIE/PVS evaluation results

PVS results summary of Botswana	Global Result
<b>I. HUMAN, PHYSICAL AND FINANCIAL RESOURCES</b>	
I.1.A. Staffing of Veterinarians and other professionals	2
I.1.B. Staffing of Veterinary paraprofessionals and other	3
I.2.A. Professional competencies of veterinarians	4
I.2.B. Competencies of veterinary paraprofessionals	4
I-3. Continuing education	3
I-4. Technical independence	4
I-5. Stability of structures and sustainability of policies	4
I-6.A. Internal coordination (chain of command)	4
I-6.B. External coordination	4
I-7. Physical resources	3
I-8. Operational funding	4
I-9. Emergency funding	3
I-10. Capital investment	3
I-11. Management of resources and operations	3
<b>II. TECHNICAL AUTHORITY AND CAPABILITY</b>	
II-1. Veterinary laboratory diagnosis	5
II-2. Laboratory Quality Assurance	5
II-3. Risk analysis	2
II-4. Quarantine and border security	4
II-5.A. Passive epidemiological surveillance	2
II-5.B. Active epidemiological surveillance	4
II-6. Early detection and emergency response	4
II-7. Disease prevention, control and eradication	3
II-8.A. Ante and post mortem inspection	2
II-8.B. Inspection of collection, processing & distribution	2
II-9. Veterinary medicines and veterinary biologicals	3
II-10. Residue testing	3
II-11. Emerging issues	3
II-12. Technical innovation	2
II.13. Animal welfare	2
<b>III. INTERACTION WITH STAKEHOLDERS</b>	
III-1. Communications	2
III-2. Consultation with stakeholders	2
III-3. Official representation	3
III-4. Accreditation/authorisation/delegation	3
III-5.A. Veterinary Statutory Body Authority	3
III-5.B. Veterinary Statutory Body Capacity	2
III-6. Participation of producers and other stakeholders	2
<b>IV. ACCESS TO MARKETS</b>	
IV-1. Preparation of legislation and regulations	4
IV-2. Stakeholder compliance with legislation & regulations	3
IV-3. International harmonisation	3
IV-4. International certification	3
IV-5. Equivalence and other types of sanitary agreements	3
IV-6.A. Animal identification and movement control	3
IV-6.B. Identification and traceability of animal products	3
IV-7. Transparency	4
IV-8. Zoning	5
IV-9. Compartmentalisation	2

## **I.3 Key recommendations**

### ***I.3.A Human, physical and financial resources***

More veterinarians should be recruited to work at the district and sub-district level. Alternatively, official delegations to allow accredited private veterinarians to participate in animal health programs, such as vaccination or surveillance sampling, could be established to promote more direct veterinary contact with livestock.

The shortfall of veterinarians in Botswana is estimated to be between 50 and 100 over the next 10 years (this includes replacing retiring veterinarians). This will require resources to train 5 to 10 veterinarians every year. This could be done in cooperation with the other countries in SADC using the forum of regional SADC meetings to address the region's need for veterinarians

Continuing education opportunities need to be available on a more regular basis to all veterinarians on staff.

Veterinary para-professionals are not effectively supervised by veterinarians in the field because of the many levels of sub-delegation. In the short term, better supervision of veterinary para-professionals by the available veterinarians should be undertaken. In the longer term, more field veterinarians should be hired. Within current budget constraints, evaluate the most efficient way to use current human resources to progressively decrease the number of support staff and replace them with fewer positions with more technical training. This could be done by not rehiring for positions after retirement.

A prospective assessment of future needs for veterinarians and veterinary para-professionals in Botswana and the region, should be done. Botswana may already be training an excessive number of veterinary para-professionals that may not find employment.

The separation of VS from the livestock production (DAP) enhances the technical independence of VS but there are concerns about the evolving role of Agricultural District Coordinators and reallocation of resources at the district level. Any changes to the VS structure should be reviewed to consider the impact on conformity with OIE quality standards.

The impact of forecasted decreased budget allocations on the long term VS strategic plan needs to be addressed. Budgets should be reviewed to ensure that the most efficient and cost effective management is achieved to diminish the impact on future operational funding.

The entire operational budget comes from the national budget and has been negatively impacted by the international economic crisis. Alternative funding sources should be investigated, including cost recovery for operational budget items, while preparing the new strategic plan.

Contingency and compensatory funding arrangements also come directly from the national budget. Historically, these funds have been readily available to handle disease outbreaks. However, independent funding mechanisms should be considered, possibly by setting up an emergency fund with some private sector contributions (exporting sector for instance) with, shared management similar to the funding mechanism used successfully in many countries in South America.

### **1.3.B Technical authority and capability**

The diagnostic laboratory system, in Botswana is very good but improvements in sample delivery from remote parts of the country are needed.

VS keep excellent records but much of this valuable data is paper based and not used to best advantage. The data should be computerized and made more accessible. Data management tools need to be developed to take advantage of the excellent data and allow analysis of the efficiency and effectiveness of current operations and resources. DVS also maintains a lot of high quality data in separate electronic databases (BNVL, GIS, DC and LITS); however, these databases are not integrated. In addition, most field data is paper based and remains at the district or sub-district level. The individual electronic databases should be made compatible so the data can be shared and integrated. Linking the three existing data bases (LITS, GIS, Laboratory and Epidemiology) would greatly enhance the utility of these data.

Review and investments in upgrading of the individual cattle identification system (LITS) is also needed and will take several years to fully execute. This could be used as an opportunity to develop a more unified system to allow full transfer of data between the several existing databases. Deficiencies in the animal identification and traceability system (LITS) result in systematic duplication between computerised and paper data with an excessively time consuming paper work for staff (duplicative paperwork probably account for more than half of their work load).

VS have established and implemented many procedures (SOPs) for border security and animal disease control zones, laboratory, inspection, drug expiry and stocks, etc.

The current active surveillance system should be broadened to include FMD surveillance in wildlife, small ruminants and pigs. Botswana has an internationally recognized system for early detection and emergency response. VS implement a variety of well planned disease prevention, control and eradication programmes. However, there is no effectiveness or cost benefit analysis of official vaccinations programs. The feasibility of partial cost recovery analysis and official delegation to private veterinarians by establishing appropriate legal framework, procedures and control should also be considered.

The food safety inspection in place at all levels of red meat slaughtering needs to be applied to slaughterhouses for national consumption and other sectors, such as poultry and dairy. A residue testing program for the national market and other sectors, such as poultry, should be implemented.

Progressive deregulation of drug retail may lead to progressive loss of control of VMBs at the farm level; this was raised in several EU (Field Veterinary Office) reports. Appropriately detailed regulation should be developed to balance accessibility and ensure comprehensive veterinary control.

Investments for training in risk analysis should be considered

It is recommended that within the VS a position, methodology or group specifically dedicated to emerging issues and risk analysis be established..

Ongoing upgrades to the vaccine production unit should continue to be supported and FMD vaccine innovation encouraged.

### ***1.3.C Interaction with stakeholders***

Communications and consultation with stakeholders can be improved by building on existing transparency and good will. Communicate with other governmental agencies such as Department of Animal Production and encourage individual stakeholders (e.g. small farmers, consumers) to be effectively organized. The lack of farmers' organizations for small holders should be addressed at the local level. The overall shortage of veterinarians in the field also impact communication with livestock owners. Participation of producers and other stakeholders need to be developed further and extension work tailored to substantially improve animal health and production.

Development of official delegation of appropriate regulatory functions (vaccination and surveillance sampling, for example) to an accredited private veterinary network should be considered.

### ***1.3.D Access to markets***

VS needs to further support its current export markets by a formal method to regularly update legislation. Drafted updates to the current legislation should be harmonized with international standards.

The deficiencies in the animal identification and traceability system have been discussed in several contexts but failure to make needed updates have the potential to seriously impact VS's capacity for international certification. The lack of veterinarians in the field creates difficulties implementing a certification process covering all the territory and all domains of activities.

Transparency is an important feature in the current VS structure but could be further enhanced with organized stakeholder consultation. The consultation process will also provide a mechanism to enhance compliance with national and international standards.

Animal identification and traceability issues present a serious challenge. The LITS system in use needs to be reviewed and the data management system linked to other existing VS databases for GIS, BNVL, epidemiology, movement permits, vaccines certificates, etc.. The system needs to be able to produce appropriate reports and generate needed movement permits and vaccination certificates.

Zoning is well understood utilized for more than 50 years to control FMD. Zoning could evolve progressively on the basis of risk analysis, with better communication and consultation with stakeholders.



## PART II: CONDUCT OF THE EVALUATION

### 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 has developed an evaluation tool called the OIE Tool for the Evaluation of Performance of Veterinary Services (OIE PVS Tool<sup>1</sup>) 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 indicators was used by the OIE Evaluation Team to help determine the level of advancement.

A glossary of terms is provided in Appendix 2.

The report follows the structure of the OIE PVS Tool and the reader is encouraged to consult that document to ensure that the context in which the evaluation has been conducted is understood.

The objective and scope of the OIE PVS evaluation includes all aspects relevant to the OIE Codes and the quality of Veterinary Services. However they were detailed before the mission in appendix 7 in order to take into account the mandate of the VS in the country and its context.

### II.2 Country information (geography, administration, agriculture and livestock)

#### II.2.A Geography

Botswana is a landlocked country in the Southern African region. It shares borders with the following countries: Namibia (west and northwest); Zambia (north); Zimbabwe (northeast) and South Africa (east and south). Botswana lies between 20 and 30 degrees east of Greenwich, and between latitudes 18 and 27 degrees south of the Equator. More than half of the country lies within the tropical zone, north of the Tropic of Capricorn. Roughly the size of Kenya or France, Botswana has a land area of about 581,730 km<sup>2</sup>.

The land is mainly flat with gentle undulations, occasional rocky outcrops. The country has the world's largest inland delta, the Okavango Delta, which has been declared a UNESCO World Heritage Site. About 80% of the country is covered by Kgalagadi sands and shrub savannah. The driest region, in the extreme southwest, has active sand dunes with very sparse vegetation.

The northern part of the country has a tropical climate with much higher rainfall per annum (500-700mm) than other regions. The eastern region has a semi-arid, sub-tropical climate with rainfall varying from 400-500mm per annum. The western region is the driest part of the country and in the extreme southwest contains the Kgalagadi Desert where the average annual mean rainfall is less than 250mm.

<sup>1</sup> Available at [http://www.oie.int/eng/oie/organisation/en\\_vet\\_eval\\_tool.htm?e1d2](http://www.oie.int/eng/oie/organisation/en_vet_eval_tool.htm?e1d2)

The rainy season lasts from November to March. January and February are generally regarded as the wettest months and October and April are transitional. Almost all the rainfall occurs during the summer months (November-March) while the winter period (May-July) accounts for only 10% of the annual rainfall.

The summer season is characterised by very hot days and nights, frequent rain and thunderstorms, usually cooling-off after the rain spells. Daytime temperatures can reach 35 degrees Celsius, or higher. The heat is tolerable, due to very low humidity. The winters are dry and cold, especially at night. Winter temperatures can fall to as low as 2 degrees Celsius, especially in the south-western region where occasional sub-zero temperatures have been recorded.

The major portion of the vegetation of the country is categorised as savannah of numerous sub-types. There are special habitats such as the aquatic grassland of the Okavango Delta in the northwest, grasslands in the Makgadikgadi salt pans in the north-central, and the deciduous forests of the Chobe District in the northeastern corner.

Botswana is known for its abundance and variety of wildlife, which occupy vast wilderness areas dedicated for their conservation. A large part of the country at 17% (104,460 km<sup>2</sup>) has been set aside for National Parks and Game, Forest and Private Reserves. The pastoral land includes virtually all that outside of National Parks, Game and Forest Reserves, major cities and towns).

As a result, Botswana has often been described as the last great reservoir of plains game in Africa. Most of Africa's large mammals are found here: lion, leopard, cheetah, elephant, giraffe, zebra, hippopotamus, rhinoceros, African buffalo, hyena, and at least twenty-two species of antelope.

## **II.2.B Administration**

The Republic of Botswana is the former British protectorate of Bechuanaland. Botswana became independent within the Commonwealth on 30 September 1966. Botswana is home to a relatively stable political system and has held democratic elections since independence in 1966.

Botswana has a rapidly developing market economy closely tied with the economy of South Africa. The country's economy is one of the most successful in Africa and the World Bank cites Botswana as one of the world's great development success stories (2009 estimated per capita nominal GDP is \$6,406 according to the IMF).

The judiciary is independent of the executive and the legislature. Botswana politics take place within a framework of a representative democratic republic, whereby the President of Botswana is both head of state and head of government, and of a multi-party system. Executive power is exercised by the government. Legislative power is vested in both the government and the Parliament of Botswana.

Botswana is divided into 10 administrative districts as follows:

1. Central District
2. Ghanzi District
3. Kgalagadi District
4. Kgatleng District
5. Kweneng District
6. North-East District
7. North-West District
8. South-East District
9. Southern District
10. Chobe District (Separated from North-West District)

Districts are then further divided into a total of 28 subdistricts based on population and economic activities; for example Kgatleng District has no subdistricts but the large

Central District has 8 subdistricts. Veterinary Services follow these administrative divisions, which is not necessarily optimal, as the animal population and livestock industry are not proportional to the human population.

### **II.2.C Agriculture**

Agriculture in Botswana is practiced primarily to feed the country, rather than for export, with the exception of cattle rearing. Agriculture still provides a livelihood for more than 80% of the population, but supplies only about 50% of food needs and accounts for only 3% of measured GDP, primarily through beef export. Subsistence farming and cattle rearing predominate.

Environmental factors constrain the types of crops and animals that can be raised in the country. Much of Botswana falls within the Kalahari Desert, with a dry and drought-prone climate. Only about 0.7% of total land area is arable. Crop production is further hampered by traditional farming methods, recurrent drought, erosion, and disease. Most of the land under cultivation is in the eastern region where the principal crops for domestic consumption are sorghum, corn (maize), and millet. According to Ministry of Agriculture statistics, the estimated total cereal production for 2009/2010 is 70,890 Metric Tons which represents 35% of the estimated national requirement of major cereals of 200,000 Metric Tons.

### **II.2.D Livestock**

Livestock industry is the dominant component of Botswana's agriculture but generates only 2.6% of total measured GDP. Botswana has a long standing export market for beef to South Africa and the European Union, but all other livestock sectors are marginal or in early stages of development. Botswana's dairy industry is developing but produces less than 50% of the quantity of fresh milk consumed in the country and almost the entire quantity of processed milk is imported (primarily from South Africa). The poultry sector which is relatively new, has developed and the country is now nearly self-sufficient in this commodity. Pork is mostly imported from South Africa.

Livestock farming systems in Botswana is dominated by traditional 'Cattle Post' production system. Recently, alternatives have been encouraged, including feedlots, dairying and specialist systems such as apiculture and ostriches as well as small stocks such as pigs and poultry.

The traditional "Cattle Post" production system uses unfenced communally held rangeland with central watering points. Tribal or communal land makes up about 70% of the country and is administered by local Land Boards. The cattle owner, or more often a herdsman, lives in a small dwelling near a borehole and tends and waters the livestock. The water is most commonly pumped from a borehole, but in areas where there is a shallow water table - such as in pans and dry river beds, water is taken from hand dug wells. The post generally has a holding kraal, which is traditionally made of thorn fence, or upright tree trunks dug into the ground. More modern kraals are commonly built with poles and wire - as in commercial ranching. The cattle are let out in the daytime, and may roam for several days, before returning for water. In winter, when temperatures are mild, and during the rainy season, cattle can wander far from their home kraal. Goats and sheep, are generally found closer to the kraals, and tend to return every night. The presence of large predators in some areas may require returning animals to the kraals at night. Cows with young calves tend to remain closer to the kraal also as they need to drink water more regularly than dry cows and other types of livestock. Cattle posts may also have horses and donkeys – which are used mainly for transport.

Botswana VS is oriented for rural development and beef export as part of the mission and vision of the Ministry of Agriculture.

The total value of livestock in Botswana is estimated to be 1 280 000 000 €. This rough estimate takes into account a conversion rate of 1 € for 8,5 Pula and average value of every species: cattle 3600 Pula, sheep 600 Pula, goat 500 Pula, Horse 3000 Pula, Donkey 400 Pula, Poultry 30 Pula.

One should note that cattle account for 83% of this total value, the growing poultry sector already accounts for 11%.



DISTRICTS

- |          |              |            |             |            |
|----------|--------------|------------|-------------|------------|
| ① CENTRE | ③ GHANZI     | ⑤ KGATLENG | ⑦ NGAMILAND | ⑨ NORD-EST |
| ② CHOBE  | ④ K GALAGADI | ⑥ KWENENG  | ⑧ NGWAKETSE | ⑩ SUD-EST  |

**Table 2. Data summary for geography, agriculture and livestock****Geographic features**

Climatic and/or agro-ecological zones	Rainfall (mm/year)	Topography	Km2	%
Sandveld	≤350	Total area	582 000	
Hardveld	400	Pasture lands		60
Aluvial planes	450	Arable land		0,7
Lacustrine	≤600	Forest		21
		Wetlands/deserts		45
		Highlands		

**Demographic data**

Human population		Livestock households/farms	
Total number	2 000 000	Total number	
Average density / km2	3	% intensive	15
% of urban	40 %	% agro-pastoral (mixed)	5 (?)
% of rural	60 %	% extensive	80 (?)

**Current livestock census data**

Animals species	Total Number	Intensive production system (% or no.)	Mixed production system (% or no.)	Extensive production system (% or no.)
Cattle	2 500 000	5000 dairy cattle, 10% beef feed lots	5	85
Sheep	170 000		95	5
Goats	724 000		97	3
Pigs	10 000	98		2
Equides	200 000			100
Poultry	40 000 000	97	3	

**Animal and animal product trade data (rate 1 € = 8,5 Pula)**

Animals and animal products	Average annual import (2009)		Average annual export (2009)	
	Quantity	Value	Quantity	Value
Dairy products	50 000 000 kg	20 000 000 €		
Beef products			29 000 tons	80 000 000 €
Cattle	1250 heads			
Small ruminants				
Pigs or products	medium			
Poultry or product	low			
TOTAL				

**Economic data (rate 1 € = 8,5 Pula)**

National GDP	20 000 000 000 €
National budget	2 000 000 000 €
Livestock GDP	400 000 000 €
Economic value of livestock population	1 280 000 000 €
Annual public sector contribution to agriculture	135 000 000 €
Annual budget of the Veterinary Services	37 000 000 €

(data collated from CIA, WB, FAO, Wikipedia, etc)

## II.3 Context of the evaluation

### II.3.A Availability of data related to the evaluation

A list of documents received before and during the PVS Evaluation mission by the Team is provided in Appendix 6. All documents listed in Appendix 6 are cross-referenced to the related critical competencies to support the level determined. Documents and pictures are also referenced in relation to each critical competency to support the related findings.

The table below provides a quick overview of the availability of the main categories of documents or data needed for the evaluation, taking into account the information required by the *OIE Terrestrial Code*.

As a first overview, one should note that all necessary data and records are available for the purpose of an external evaluation. This will be confirmed by the mission. However, data management does not provide an analysis of efficiency or distribution by geographical area or function, as required in the *OIE Terrestrial Code*.

**Table 3. Summary of data available for evaluation**

Main documents categories	Data available in the public domain	Data accessible only on site or on request	Data not available
→ <b>Animal census:</b>			
○ at 1st administrative level		X	
○ at 2 <sup>nd</sup> administrative level		X	
○ at 3rd administrative level			
○ per animal species		X	
○ per production systems		X	
→ <b>Organisations charts</b>			
○ Central levels of the VS		X	
○ 2 <sup>nd</sup> level of the VS		X	
○ 3 <sup>rd</sup> level of the VS			
→ <b>Job descriptions in the VS</b>			
○ Central levels of the VS		X	
○ 2 <sup>nd</sup> level of the VS		X	
○ 3 <sup>rd</sup> level of the VS		X	
→ <b>Legislations, regulations, decrees ...</b>			
○ Animal health and public health	X		
○ Veterinary practice	X		
○ Veterinary statutory body	X	X	
○ Veterinary medicines and biological	X		
○ Official delegation	X		
→ <b>Veterinary census</b>			
○ Global (public, private, vet, para-prof)		X	
○ Per level		X	
○ Per function			
→ <b>Census of logistics and infrastructures</b>		X	
→ <b>Activity reports</b>		X	
→ <b>Financial reports</b>		X	
→ <b>Animal health status reports</b>		X	
→ <b>Evaluation reports</b>		X	
→ <b>Procedures, registers, records, letters</b>		X	
...			

### **II.3.B General Organisation of the Veterinary Services**

#### **1. Central level**

The Department of Veterinary Services (DVS) within the Ministry of Agriculture (MoA), is the Competent Authority. In 2008, the former Department of Animal Health and Production was divided into two independent departments; the Department of Animal Production (DAP) and DVS. The head of DVS is a veterinarian and serves as Botswana's OIE Delegate.

The DVS has 6 technical divisions and 1 division in charge of administrative matters, including human resources, accounts and supplies (see organogram on next page). The 6 technical divisions are headed by Deputy Directors who are all veterinarians.

#### **2. Nationwide network**

A national reform is aligning the 17 former "veterinary districts" and some "clusters" to conform to the administrative layout of the country's 10 districts and 28 sub-districts.

The VS will thus include: 10 District Veterinary Offices (DVO) with 28 sub-districts veterinary offices, although 10 of the subdistricts will be housed with the DVO. All 10 DVOs are headed by veterinarians, but not all of the Sub-District Veterinary Offices (SDVOs) are headed by veterinarians and may be headed by a non-veterinary scientific officer.

The next administrative level is the cluster. Clusters are further divided into extension areas which are the operational field level for VS. However, the cluster does not yet seem fully established as an administrative system. Each SDVO generally has about 10 extension areas but this is considered too many for one SDVO to effectively supervise. To address this extension areas with relatively well-experienced personnel, technical officers are given the role of assisting several adjacent extension areas (thus forming a cluster). To the OIE PVS team, it seems that whether communication (reports and instructions) between an extension area and its SDVS is direct or via a cluster depends on the individual SDVS which may result in excessive variation and inconsistencies.

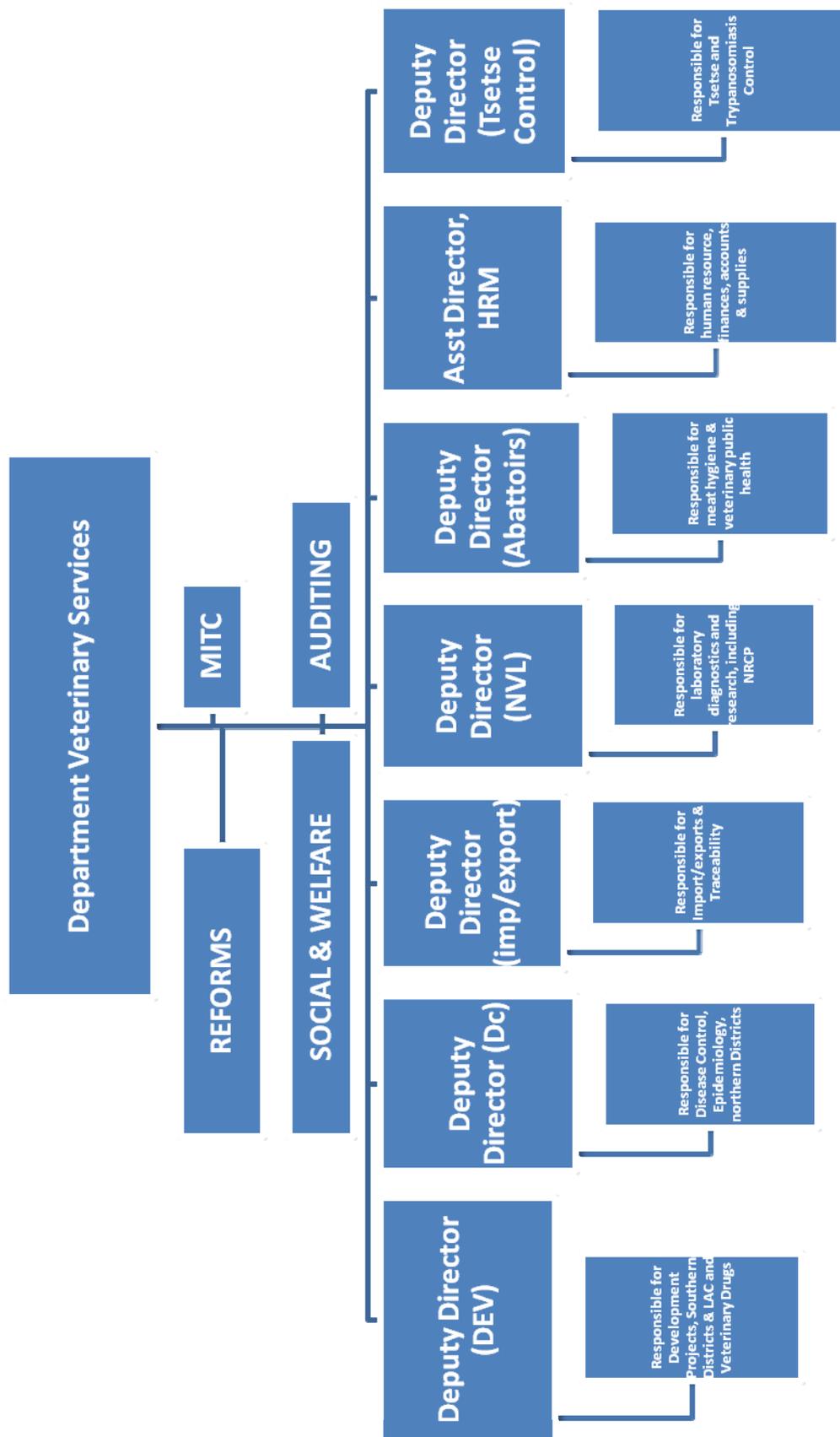
The field level of the VS organisation has 294 extension areas; each with at least one technical officer (veterinary para-professional) and one support (industrial-class) staff member. The extension areas serve farmers day-to-day needs directly at "crush-pens" (cattle handling facilities used cooperatively by neighbouring farmers).

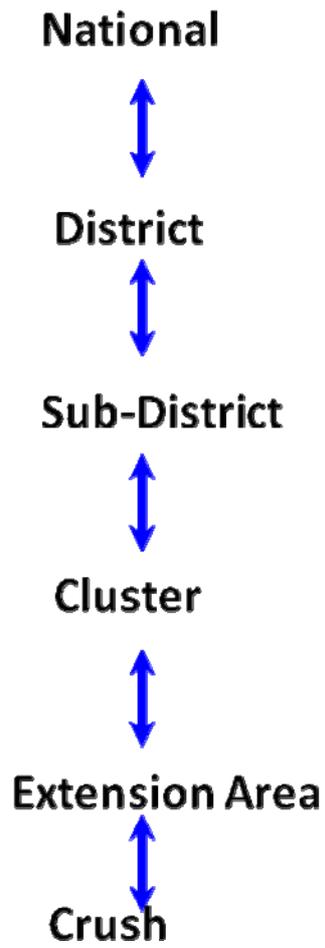
Veterinary medicine and biologicals are mainly retailed through public veterinary services via 35 Livestock Advisory Centres (LACs), generally located within the SDVOs or extension area offices.

SDVOs supervise a total of 56 internal checkpoints as part of the animal disease control zoning system. Administratively speaking, international border points report directly to the DVS. However, in practice most are supervised by the local SDVO.

#### **3. Veterinary Research and Laboratory Services**

The Botswana National Veterinary Laboratory (BNVL) in Gaborone is the only veterinary laboratory in Botswana. BNVL is supervised by the Deputy Director in charge of "Diagnosis, Research and Disease Investigation Division" of the DVS (see organogram on page 39). All specimens collected at extension areas, abattoirs and dairy plants are sent to the BNVL.





### II.3. Animal disease occurrence

Consultation of the OIE website provides information related to animal disease occurrence (see table 4).

**Table 4. Disease status of Botswana (WAHID, 2009)**

#### Diseases present in the Country

Disease	Domestic		Wild		Note
	Notifiable	Status	Notifiable	Status	
<a href="#">African horse sickness</a>	✓	Clinical Disease	✗	Suspected (not confirmed)	(not confirmed)
<a href="#">Blackleg</a>	✓	Clinical Disease		Not Applicable	
<a href="#">Bovine anaplasmosis</a>	✗	Confirmed infection (no clinical disease)	✗	No information	
<a href="#">Coccidiosis</a>	✗	Clinical Disease		Not Applicable	
<a href="#">Dourine</a>	✓	Confirmed infection (no clinical disease)	✗	No information	
<a href="#">Enterotoxaemia</a>	✗	Clinical Disease		Not Applicable	
<a href="#">Foot and mouth disease</a>	✓	Disease limited to one or more zones	✓	Not reported for this Period (since 2003 )	
<a href="#">Heartwater</a>	✗	Disease limited to one or more zones	✗	No information	
<a href="#">Lumpy skin disease</a>	✓	Clinical Disease	✗	No information	
<a href="#">Newcastle disease</a>	✓	Clinical Disease	✓	Not reported for this Period	
<a href="#">Other pasteurelloses</a>	✗	Clinical Disease		Not Applicable	
<a href="#">Rabies</a>	✓	Clinical Disease	✓	Clinical Disease	
<a href="#">Strangles</a>	✓	Clinical Disease		Not Applicable	
<a href="#">Toxoplasmosis</a>	✗	Clinical Disease	✗	No information	

## Diseases never reported

Disease	Notifiable	Type of surveillance	Note
<a href="#">Avian infect. laryngotracheitis</a>			
<a href="#">Bovine spongiform encephalopathy</a>		General surveillance	and targeted
<a href="#">Brucellosis (Brucella suis)</a>			
<a href="#">Classical swine fever</a>			
<a href="#">Crimean Congo haemorrhagic fever</a>		General surveillance	and targeted
<a href="#">Encephalomyelitis (West.)</a>			
<a href="#">Enzootic abortion (chlamydiosis)</a>			
<a href="#">Enzootic bovine leukosis</a>			
<a href="#">Equine encephalomyelitis (Eastern)</a>			
<a href="#">Equine infectious anaemia</a>			
<a href="#">Glanders</a>		Targeted Surveillance	
<a href="#">Highly path. avian influenza</a>		General surveillance	and targeted
<a href="#">Japanese encephalitis</a>			
<a href="#">Leishmaniosis</a>			
<a href="#">Myxomatosis</a>			
<a href="#">N. w. screwworm (C. hominivorax)</a>			
<a href="#">Nipah virus encephalitis</a>			
<a href="#">Peste des petits ruminants</a>		General Surveillance	
<a href="#">Rabbit haemorrhagic disease</a>			
<a href="#">Rift Valley fever</a>		General Surveillance	
<a href="#">Sheep pox and goat pox</a>			
<a href="#">Swine vesicular disease</a>			
<a href="#">Transmissible gastroenteritis</a>			
<a href="#">Tularemia</a>			
<a href="#">Venezuelan equ.encephalomyelitis</a>			
<a href="#">Vesicular stomatitis</a>		General Surveillance	
<a href="#">West Nile Fever</a>			

## II.4 Organisation of the evaluation

### II.4.A Timetable of the mission

Appendix 3 lists approximately 200 persons met.

Appendix 4 establishes the time table of the mission and details of around 120 facilities and locations visited by the OIE-PVS Team.

Appendix 5 describes the international air travel itinerary of team members.

The following map indicates the travels of the assessors who travelled a total of approximately 7200 km of road in addition to two internal flights during 8 days.



## **II.4.B Categories of sites and sampling for the evaluation**

The table 4 enumerates the different categories of sites relevant to the evaluation and the number of each of them in the country. It clarifies the number of them which were visited, compared to the suggested sampling framework (“ideal” sampling) established in OIE PVS manual.

Appendix 4 provides the detailed list of visited sites and meetings actually conducted.

### **1. Categories of sites**

Using the table format prepared by the OIE as a basis, the team clarified the categories of entities/sites relevant to the activities of Veterinary Services, including the terminology used in Botswana, both before the mission and during meetings with the DVS at the mission’s outset. The discussion with the DVS was effective and indispensable for the team to achieve a better picture of all the relevant entities and sites. For example, it was only through discussion with the PVS team that the DVS realized there is an organised consumer body in the country.

### **2. Sampling of sites**

The team adopted the following basic thinking concerning “ideal sampling”: 1) if the total number of sites within a category did not exceed 10, all sites should be visited; 2) if the total was over 10 but under 100, 10 sites should be visited; and 3) if the total exceeded 100, the target number to be visited was the square root of the total. For situations 2) and 3), geographical spread (randomness) to the extent possible should be respected in selecting sites to be visited.

In most categories, the number of sites actually sampled was smaller than the ideal. Once field visits started, when the team found that several sites within a category had similar levels of activities and were fairly homogeneous, the team decided to visit a lesser number than suggested by “ideal sampling”. While difficulties of physical access should not affect the sampling plan, due to time constraints such difficulties were sometimes a reason for visiting less than the numbers suggested by “ideal sampling”.

However, the sampling can be considered as adequate for the country. It took into account all agro-ecological zones in Botswana. Samples of all levels of the VS were visited and their staff interviewed, as well as all relevant other institutions and stakeholders.

Milk processing plants were not visited due to logistical constraints. The team was unable to meet with an adequate sampling of representatives of small farmers that account for 80% of the beef production and did not visit pig or small ruminant producers.

This was primarily because these sectors do not have farmers’ organisations that represent them. When consulting farmers’ organisations, the VS deals primarily with the commercial farmers’ organisation that represents only 20% of total production.

Table 4: Categories of sites to be sampled	Terminology or names used in the country	Number of sites	"Ideal" sampling	Actual sampling
<b>GEOGRAPHICAL ZONES OF THE COUNTRY</b>				
Climatic zones	<i>Sandvelt, Hardvelt, Aluvial plains and lacustrine</i>	4	4	4
Topographical zones				
Agro-ecological zones				
<b>ADMINISTRATIVE ORGANISATION OF THE COUNTRY</b>				
1st administrative level	<i>District</i>	10	10	10
2nd administrative level	<i>Sub-district</i>	28	10	21
3rd administrative level	<i>Villages</i>			
4th administrative level	<i>Wards (hamlets)</i>			
Urban entities	Cities and Towns	7	7	7
<b>VETERINARY SERVICES ORGANISATION AND STRUCTURE</b>				
Central (Federal/National) VS	Department of VS			
Internal division of the central VS	Divisions	7	7	7
1 <sup>st</sup> level of the VS	District Veterinary Office	10	10	6
2 <sup>nd</sup> level of the VS	Sub district Veterinary Office	28 ?	10	11
3 <sup>rd</sup> level of the VS	Clusters	55	10	2
Veterinary organisations (VSB, unions...)	VS board, BV association	2	2	2
<b>FIELD ANIMAL HEALTH NETWORK</b>				
Field level of the VS for animal health	Extension area	294	17	10
Private veterinary sector	Private veterinarians	14	10	4
Other sites (dip tank, crush pen....)	Crush pen	4500	67	3
<b>VETERINARY MEDICINES &amp; BIOLOGICALS</b>				
Production sector	Botswana Vaccine Institute	1	1	1
Import and wholesale sector	Medswana and Gaborony Vet Clinic	2	2	1
Retail sector	Livestock Advisory Centre (public)	35	10	7
Other partners involved	Pharmacies, private vets, drug shops	135	11	5
<b>VETERINARY LABORATORIES</b>				
National labs	BNVL	1	1	1
Regional and local labs		-		
Associated, accredited and other labs		-		
<b>ANIMAL AND ANIMAL PRODUCTS MOVEMENT CONTROL</b>				
Bordering countries	Namibia, Zimbabwe, Sth Africa, Zambia	4	4	4
Airports and ports border posts	Seretse, Francistown, Maun, Kasane	4	4	4
Main terrestrial border posts	Authorised for animals & food	9	9	9
Minor terrestrial border posts	Not authorised for animal & food	15	10	2
Quarantine stations for import	Quarantine Cp (green to red zone)	5/18	5/10	7
Internal check points	Veterinary / disease control gates	56	10	21
Live animal markets	LMCCs + loading ramps	2+100	2+10	1+8
Zones, compartments, export quarantines	zones (1 grey, 4 pink, 1 green)	6	6	6
<b>PUBLIC HEALTH INSPECTION OF ANIMALS AND ANIMAL PRODUCTS</b>				
Export slaughterhouse	BMC Francistown & Lobatse, Ostrich	2	2	2
National market slaughterhouses	Non export (municipal or private)	14	10	5
Local market slaughterhouse	Licensed slaughter slabs	64	10	2
Slaughter areas/slabs/points	Rural slaughter facilities	?		5
On farm or butcher's slaughtering sites	Wildlife on site and mobile slaughter	3 ?	3	0
Processing sites (milk, meat, eggs, etc)	Milk processing plants and on farms	14	10	0
Retail outlets (butcher, shop, restaurant)	Not under VS mandate	?		5

<b>TRAINING AND RESEARCH ORGANISATIONS</b>				
Veterinary university		0		
Veterinary paraprofessional schools	BCA and MITC (Lobatse)	2	2	2
Veterinary research organisations	BNVL and BCA	2	2	2
<b>STAKEHOLDERS' ORGANISATIONS</b>				
Agricultural Chamber / room /organisation	Botswana Agricultural Union	1	1	0
National livestock farmers organisations	Cattle, Poultry, Ostrich, Pig, Dairy, Shoats	6	5	5
Local (livestock) farmers organisations	Ghanzi, Sandveld, Southern Beef	50 ??	10	5
Consumers organisations	Botswana Consumer Council	1	1	1



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## PART III: RESULTS OF THE EVALUATION & GENERAL RECOMMENDATIONS

Veterinary services are recognised by OIE Member Countries as a '**global public good**' and it is essential that each Member Country acknowledges the importance of the roles and responsibilities of its veterinary services, and provides the veterinary services with the necessary resources, both human and financial, to carry out its tasks.

This OIE-PVS Evaluation examines 45 critical competencies classified under the 4 fundamental components.

### FUNDAMENTAL COMPONENTS

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

For each critical competency:

- the current level of advancement is established and shadowed in grey (15%) in the table;
- the evidences are referenced and listed in order to sustain the level of advancement, and then described in appendix 6;
- the findings are described;
- the strengths and weaknesses of the veterinary services are highlighted, and;
- some general recommendations are indicated, if relevant.



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

This component of the evaluation appraises the institutional and financial sustainability of the Veterinary Services as evidenced by the level of professional/technical and financial resources available and the capacity to mobilize these resources. It comprises eleven critical competencies:

#### Critical competencies:

Section I-1	Professional and technical staffing of the Veterinary Services A. Veterinary and other professionals (university qualification) B. Veterinary para-professionals and other technical personnel
Section I-2	Competencies of veterinarians and veterinary para-professionals A. Veterinary and other professionals (university qualification) B. Veterinary para-professionals and other technical personnel
Section I-3	Continuing education
Section I-4	Technical independence
Section I-5	Stability of structures and sustainability of policies
Section I-6	Coordination capability of the VS A. Internal coordination (chain of command) B. External coordination
Section I-7	Physical resources
Section I-8	Operational Funding
Section I-9	Emergency funding
Section I-10	Capital investment
Section I-11	Management of resources and operations

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*Terrestrial Code References:*

Points 1-6 and 13 of Article 1.3.3.2. on Fundamental principles of quality: Professional judgement / Independence / Impartiality / Integrity / Objectivity / General organisation / Human and financial resources.

Article 1.3.4.2. on Scope.

Point 1 of Article 1.3.4.3. on Evaluation criteria for the organisational structure of the Veterinary Services.

Article 1.3.4.5. on Evaluation criteria for human resources.

Point 1 of Article 1.3.4.6. on Evaluation criteria for material resources: Financial.

Article 1.3.4.12. on Evaluation of veterinary statutory body.

Points 1-3, 5 and 9 of Article 1.3.4.14. on Organisation and structure of VS / National information on human resources / Financial management information / Laboratory services / Performance assessment and audit programmes.

<b>I-1. Professional and technical staffing of the Veterinary Services</b>  <i>The appropriate staffing of the VS to allow for veterinary and technical functions to be undertaken efficiently and effectively.</i>  <b>A. Veterinary and other professionals (university qualification)</b>	<b>Levels of advancement</b>
	1. The majority of veterinary and other professional positions are not occupied by appropriately qualified personnel.
	2. The majority of veterinary and other professional positions are occupied by appropriately qualified personnel at central and state / provincial levels.
	3. The majority of veterinary and other professional positions are occupied by appropriately qualified personnel at local (field) level.
	4. There is a systematic approach to defining job descriptions and formal appointment procedures for veterinarians and other professionals.
5. There are effective management procedures for performance assessment of veterinarians and other professionals.	

Terrestrial Code reference(s): Annexe 1

**Evidence** (references of documents or pictures listed in appendix 6): H005

### **Findings:**

Presently there are 55 veterinarians in the public VS and 14 are in the private sector. The total number of veterinarians as reported to OIE was 109 (including veterinarians working in other administrations). Veterinarians are positioned at central, district and most sub-district levels. Since 2000 there is a staff performance review (performance development plan) set-up by government decision. Not all job descriptions are well detailed and are generally limited to grade (director, deputy director, veterinary officers, senior, principal I and II).

Not enough veterinarians are positioned in the field to allow them to have a direct knowledge of farmers and livestock. They intervene in the field at the request of veterinary para-professionals only. In consequence, these veterinarians are overloaded with multiple administrative activities as well as reviewing clinical diagnostics to support the veterinary para-professionals. They would benefit from more time to deal with planning and control programs rather than personnel and administrative management activities.

The role of private veterinarians in Botswana is slowly developing. However, until there is a clearer demarcation of activities to be retained in the public sector and veterinary para-professionals, they tend to concentrate their practice on pets. Private veterinarians complain about unfair competition with the public sector whose services are free. The price of veterinary drugs is partially subsidized, and authorised private activities after public working time, is authorized. The private veterinarians fear the possibility of sudden competition in specific sectors where they are invested (dairy, poultry, beef herd improvement) and from unregulated veterinary para-professionals. On the other hand, commercial farmers complain about lack of availability of veterinarians (private and public) in the field able to provide relevant professional diagnostic and services.

### **Strengths:**

- Positions at central, district and most sub-district levels are clearly designated for veterinarians
- Some private veterinarians (14) are working in the field with commercial farmers
- Veterinarians are present at export abattoirs

### **Weaknesses:**

- A few positions for veterinarians at central level (4) and sub-district levels are vacant
- Absence of veterinarians in the field does not comply with OIE guidelines
- Only two veterinarians are working in the Botswana's pre-eminent wildlife sector (2 public, 1 private).

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**Recommendations**

- Fill vacant positions at central and sub-districts levels with veterinarians
- Ensure that veterinarians working in the districts and sub-districts have time and resources to concentrate on planning and control
- Establish a clearer policy on the privatisation scheme relevant for the national context. Develop a framework to utilize the presence of veterinarians (private or public depending on regional availability) to more effectively implement and/or supervise all relevant field activities. This may involve accrediting private veterinarians via official delegations to do some tasks associated with animal health control programs, such as official vaccination or surveillance sampling.
- Consider increasing the numbers of veterinarians positioned in the wildlife, human health, and food inspection sectors.

<b>I-1. Professional and technical staffing of the Veterinary Services</b>	<b>Levels of advancement</b>
<i>The appropriate staffing of the VS to allow for veterinary and technical functions to be undertaken efficiently and effectively.</i>	1. The majority of technical positions are not occupied by personnel holding technical qualifications.
<b>B. Veterinary para-professionals and other technical personnel</b>	2. The majority of technical positions at central and state / provincial levels are occupied by personnel holding technical qualifications.
	3. The majority of technical positions at local (field) levels are occupied by personnel holding technical qualifications.
	4. The majority of technical positions are effectively supervised on a regular basis.
	5. There are effective management procedures for formal appointment and performance assessment of veterinary para-professionals.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H005

### **Findings:**

Approximately 730 veterinary para-professionals and other technical staff all categories are distributed in the field throughout the roughly 300 extension areas. In 2009, 513 veterinary para-professionals positions were reported in the OIE database. The veterinary para-professionals implement all field activities in animal health and identification, veterinary medicine delivery, border security and food inspection.

Approximately 2900 non-technical support staff work within VS. This includes drivers, secretaries, cleaners and guards, and a large number of “inoculators” (with a primary school education and no formal technical training) who perform most of the actual animal health activities under the supervision of veterinary para-professionals.

For instance, vaccination teams are usually composed of 5 non-technical staff with sometimes only one veterinary para-professional.

Inevitably, non-technical staff are often asked to perform functions for which they are not trained; inoculators are often asked by the veterinary para-professional to make “diagnosis” and to “report”. This situation was identified during the mission as problematic by both VS staff and farmers.

Veterinary para-professionals are not effectively supervised in the field by veterinarians (except in export slaughterhouses). They act quite independently under their own initiative and responsibility. veterinary para-professionals meet monthly to report to the DVO.

Moreover, in some areas veterinary para-professionals (usually the most qualified available) serve as the head of a cluster and supervise a number of extension area veterinary para-professionals and these veterinary para-professionals do not report directly to the DVO. This means that in some areas the field level staff does not interact with veterinarians on a regular basis.

However, at all levels, the veterinary para-professionals conscientiously fulfil their administrative duties and handle various forms, animal health registers, animal identification, treatments, drugs, food inspection, etc. as diligently as possible. As for the veterinarians that supervise them, much of their working time is spent on a large variety of administrative tasks.

### **Strengths:**

- veterinary para-professionals of all categories are positioned everywhere in the public sector and there is little room for illegal veterinary practice and illegal drug delivery.
- Administrative supervision and consistency of activities of all veterinary para-professionals is ensured by regular forms, registers and reports.

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**Weaknesses:**

- The field level of the VS relies almost entirely only veterinary para-professionals, including a large number of non-technical (“non qualified”) support staff contrary to the OIE Code.
- The veterinary para-professionals are not effectively supervised by veterinarians during their field activities.
- There are too many levels of sub-delegation of field activities. This leads to veterinary para-professionals in the clusters supervising veterinary para-professionals of extension areas, who in turn supervise “inoculators” without educational training.

**Recommendations:**

- Develop effective veterinary supervision of veterinary para-professionals in the main clusters. This will necessitate hiring of more veterinarians. Where there are budget constraints on human resources assess the efficiency of the current human resources management relative to workload and organisation. This could be done by progressively decreasing the number of support staff (i.e., by attrition with no replacement of staff after retirement to take into account the social impact of such a measure) and get farmers to provide more manpower during delivery of services.

<b>I-2. Competencies of veterinarians and veterinary para-professionals</b>	<b>Levels of advancement</b>
	<i>The capability of the VS to efficiently carry out their veterinary and technical functions; measured by the qualifications of their personnel in veterinary and technical positions<sup>2</sup>.</i>  <b>A. Professional competencies of veterinarians</b>
2. The veterinarians' practices, knowledge and attitudes are of a uniform standard that usually allow for accurate and appropriate clinical and administrative activities of the VS.	
3. The veterinarians' practices, knowledge and attitudes usually allow undertaking all professional/technical activities of the VS (e.g. epidemiological surveillance, early warning, public health, etc.).	
4. The veterinarians' practices, knowledge and attitudes usually allow undertaking specialized activities as may be needed by the VS.	
5. The veterinarians' practices, knowledge and attitudes are subject to regular updating, or international harmonisation, or evaluation.	

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H049, Pt 081

### **Findings:**

Botswana's VS recognises the value of veterinarians trained in faculties that meet international standards. Several veterinarians in VS have advanced degrees; PhD or MSc (H049). However, no veterinarians in public service are trained specifically in planning and control of public veterinary management but are currently implementing many such activities.

The shortfall of veterinarians in Botswana may be estimated at somewhere between 50 and 100 over the next 10 years. This means that resources will need to be allocated to train 5 to 10 veterinarians every year. Consulting and cooperation with the other countries in SADC may be helpful here.

### **Strengths:**

- Veterinarians trained at internationally recognised veterinary faculties
- VS has specialised veterinarians with international post graduates trainings

### **Weaknesses:**

- No specific training on public veterinary administration and management
- Planning to ensure adequate numbers of well qualified veterinarians should be addressed.

### **Recommendations:**

- Provide training for veterinarians in public veterinary administration
- Scope the future needs for veterinarians and establish a 10 year plan to support the training of the new veterinarians needed.
- Use the forum of regional SADC meetings to assess the regions prospective need for veterinarians and training institution prospects to ensure that future veterinarians achieve the same level of educational accomplishment as the current VS staff.
- Continue working within the regional OIE groups collaborating with veterinary faculty deans and the VSBs to address supply and demand challenges.

2 Not all professional positions require an academic degree. Nonetheless, the proportion of academic degrees serves as an indicator of professional excellence within the VS.

<b>B. Competencies of veterinary para-professionals</b>	<b>Levels of advancement</b>
	1. The majority of veterinary para-professionals have no formal entry-level training.
	2. The training of veterinary para-professionals is of a very variable standard and allows the development of only limited animal health competencies.
	3. The training of veterinary para-professionals is of a uniform standard that allows the development of only basic animal health competencies.
	4. The training of veterinary para-professionals is of a uniform standard that allows the development of some specialist animal health competencies (e.g. meat inspection).
5. The training of veterinary para-professionals is of a uniform standard and is subject to regular evaluation and/or updating.	

*Terrestrial Code* reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H 011,48,70,95; Pt 033

### **Findings:**

Training of veterinary para-professionals is undertaken at the Botswana College of Agriculture (BCA) which offers: two levels in animal health (certificate, and diploma); and a degree in animal science. In Lobatse, the Meat Inspection Training Center (MITC) provides specialised training in meat inspection to qualify veterinary para-professionals as meat inspectors. MITC is currently under DVS mandate but in the future may become part of the BCA. Some meat inspectors were also trained abroad (UK, etc).

Veterinary para-professionals do their best to deliver field services to farmers and are trained to do limited clinical examination and use “disease reporting forms” which are well designed and encourage good levels of diagnostic sampling. However, they cannot confirm a clinical diagnostic per se and would benefit from more direct access to veterinarians in the DVO or SDVO.

Some commercial farmers complained of the low skills of veterinary para-professionals pointing out that much of field work was done by staff known as “inoculators” with only a primary school education. This could be an opportunity to encourage use of private veterinarians, especially if an arrangement could be made for the private veterinarians to become accredited to do some of the official animal health program work.

### **Strengths:**

- All veterinary para-professionals have received a formal training in animal health

### **Weaknesses:**

- There is no mechanism in place to assess future needs for veterinary para-professionals in Botswana or the region. It may be that BCA is already training an excessive number of veterinary para-professionals that may not find jobs (with or outside government) which may pave way for development of illegal and uncontrolled veterinary activities by these unemployed veterinary para-professionals.

### **Recommendations:**

- Assess long term trends and the need for veterinary para-professionals within the VS in Botswana.
- Assess the need for veterinary para-professionals (numbers and level of training) in the SADC region as Botswana’s institutions may be able to provide training for the wider SADC region to fully utilize existing institutional capacity.
- Take this opportunity to enlarge the role of private veterinarians and develop a system to accredit them to do some of the official animal health program work.

<b>I-3. Continuing education (CE)<sup>3</sup></b>  <i>The capability of the VS to maintain and improve the competence of their personnel in terms of relevant information and understanding; measured in terms of the implementation of a relevant training programme.</i>	<b>Levels of advancement</b>
	1. The VS have no access to continuing veterinary, professional or technical CE.
	2. The VS have access to CE (internal and/or external programmes) 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 annually and updated as necessary, but it is implemented only for some categories of the relevant personnel.
	4. The VS have access to CE that is reviewed annually and updated as necessary, and it is implemented for all categories of the relevant personnel.
	5. The VS have up-to-date CE that is implemented for all relevant personnel and is submitted to periodic evaluation of effectiveness.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H012, 048, 067-69

### **Findings:**

There is an annual CE plan established by the DVS. CE is prioritised to fulfil requirements of trading partners (for instance at laboratory or export slaughterhouses). CE opportunities are developed independently by DVS and donor agencies are not a driving force.

Budget constraints have sometime limited the amount of CE but the Ministry of Agriculture does a good job in prioritizing its education budget to ensure the continued financing of training for students already started in long term programs such as for Masters or PhD degrees. However, this often limits the remaining resources to dedicate to general CE.

During the field visit, all field staff stated that they had done some CE, but often only many years ago. All of them were willing to learn more, many expressed interest in achieving an additional degree or specialization training.

In the current period of economical crisis, CE may be at risk and its lack of support could contribute to allowing the quality of the VS to decline on the medium term.

### **Strengths:**

- Plan for CE are established and not driven by donors agencies

### **Weaknesses:**

- Lack of dedicated CE funding does not enable the VS to meet their annual CE plans
- Currently CE is not geared to the needs of the local stakeholders
- No system to follow-up the effectiveness of CE is in place

### **Recommendations:**

- Involve staff and private veterinarians more in the design of CE plan
- Secure financial resources to insure better access of CE for to staff
- Develop an evaluation and follow-up of CE regarding its effectiveness in the activities of the VS (analyse of implementation of received training...).

<sup>3</sup> Continuing education includes Continuous Professional Development (CPD) for veterinary, professional and technical personnel.

<b>I-4. Technical independence</b>	<b>Levels of advancement</b>
<i>The capability of the VS to carry out their duties with autonomy and free from 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).</i>	1. The technical decisions made by the VS are generally not based on scientific considerations.
	2. The technical decisions take into account the scientific evidence, but are routinely modified to conform to non-scientific considerations.
	3. The technical decisions are based on scientific evidence but are subject to review and possible modification based on non-scientific considerations.
	4. The technical decisions are based only on scientific evidence and are not changed to meet non-scientific considerations.
	5. The technical decisions are made and implemented in full accordance with the country's OIE obligations (and with the country's WTO SPS Agreement obligations where applicable).

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H 054,55,

### **Findings:**

Botswana VS has qualified staff capable of enforcing legislation and have some standard operating (SOP) procedures in place. Several indications of technical independence of the VS have already been mentioned. For instance, at national level despite political pressures, VS closed a slaughterhouse that was not in compliance and a bull offered by Zambia to the President of Botswana was refused entry because it did not meet Botswana requirements.

At district level, the Coordinator of Ministry of Agriculture cannot interfere with the decisions of the DVO. He has no authority over the DVO and the resources of the DVO are thus independent.

Within VS salaries are comparable with the larger national economy and are considered generous in regional terms ensuring technical independence of the staff at all levels.

One possible emerging concern is the skill set of field veterinary para-professionals serving the well educated and capitalized commercial farmers. Such farmers are few in numbers but are emerging as important stakeholders in the future development of Botswana's agriculture. The lack of veterinarians in the field may impact the technical independence of the VS. However, this may also be an opportunity to broaden the role of private veterinarians within Botswana.

### **Strengths:**

- Procedures, records and legislation
- Competence of veterinarians
- Independent resources of the VS from other departments
- Reasonable level of salaries

### **Weaknesses:**

- Lack of veterinarians in the field to deal with stakeholders

### **Recommendations:**

- Increase presence/numbers of veterinarians in the field
- Carefully analyse further evolution of the Agricultural District Coordination in order to avoid loss of technical independence of the DVO (independent decision making and resources management) to ensure that competition for resources will not decrease the role of VS in field support of animal health programs.

<b>I-5. Stability of structures and sustainability of policies</b>	<b>Levels of advancement</b>
<i>The capability of the VS structure and/or leadership to implement and sustain policies over time.</i>	1. Substantial changes to the organisational structure and/or leadership of the public sector of the VS frequently occur (e.g. annually) resulting in lack of sustainability of policies.
	2. The organisational structure and/or leadership of the public sector of the VS is substantially changed each time there is a change in the political leadership and this has negative effects on sustainability of policies.
	3. Significant changes to the organisational structure and/or leadership of the public sector of the VS occur rarely, but this stability does not have a positive impact on the sustainability of policies.
	4. Some changes occur in the organisational structure and/or leadership of the public sector of the VS following a change in the political leadership, but these have little or no negative effect on sustainability of policies.
	5. The organisational structure and leadership of the public sector of the VS are generally stable. Modifications are based on an evaluation process, with positive effect on the sustainability of policies.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H 066,078,

### **Findings:**

Some positive changes have occurred in the past year to strengthen the VS structure and chain of command. In 2008, the animal production department (DAP) and veterinary services department were separated. This increased the technical independence and autonomy of VS. Since 2009, the authority for food inspection of slaughterhouses passed from the municipal council authority to the DVS authority. This action will apply more consistency and ensure compliance to food safety standards.

However, it was mentioned that future changes could reunify DAP and VS to conserve and concentrate resources of all agriculture departments, including VS, into a single budget under the direction of the Agriculture District Coordinator. Although it is well understood that this could enhance coordination between VS and DAP and that flexible management of physical resources may be necessary, such reforms could well have a negative impact on both technical independence and chain of command of the VS. Unfortunately, most similar experiences in the rest of the world (especially in developing countries) have led to poor quality and sidelining of the VS, with very negative consequences on animal production and health development. Full analysis of the consequences should be conducted prior to undertaking such a consolidation and assurances put in place to maintain the chain of communication and command within VS. If nothing else, this may have a negative impact on the valued export market.

Although the CVOs have changed regularly over the last past years (4 CVOs during the last 5 years) it is because they have been promoted within the Ministry of Agriculture taking with them a good understanding of the importance of VS. .

### **Strengths:**

- Positive changes in the VS structure in 2008 and 2009, giving VS core authority over food safety and separating VS from livestock production

### **Weaknesses:**

- External pressure (budget constraints, political reforms) for changes in the VS structure could lead to reclassification to a lower level 2,

### **Recommendations:**

- All changes to the VS structure should be seriously reviewed to ensure continued conformity with OIE standards.

<b>I-6. Coordination capability of the VS</b>  <i>The capability of the VS to coordinate its resources and activities (public and private sectors) with a clear chain of command, from the central level (CVO), to the field level of the VS in order to implement all national activities relevant for OIE Codes (i.e. surveillance, disease control and eradication, food safety and early detection and rapid response programs).</i>  <b>A. Internal coordination (chain of command)</b>	<b>Levels of advancement</b>
	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.
	4. There are internal coordination mechanisms and a clear and effective chain of command at the national level for most activities.
	5. There are internal coordination mechanisms and a clear and effective chain of command for all activities and these are periodically reviewed/audited and updated.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6):H002,3,4,34,64,65,96 Pe 126-128; Pt 075, PJP2, PJP40, PJP72, PJP96

### **Findings:**

There is a clear chain of command from the central level to the field level. At the moment, the new position of Coordinator of Ministry of Agriculture at district level has not been an interference with the DVO authority. However, a reform (or a rumour of reform) could strengthen the position of the Coordination by placing the global agriculture budget to the district under his control.

Some commercial farmers may support a more decentralised system because they have had better communication and easier consultation at the district level rather than central resources.

Decentralizing has been done in many countries in the region and experience has shown that decentralization efforts generally result in the marked deterioration of the VS with a failure to maintain the quality of ongoing animal health programs. Many countries have had to invest considerable resources to reverse the deterioration caused by decentralization. If this were to follow in Botswana it would be costly and imperil the export sector. Cost effective utilization of resources at the district and field level is important but never at the expense of a clear chain of command and access to a fully competent veterinary infrastructure.

### **Strengths:**

- The current chain of command is clear from central to field level providing good transfer of information and access to diagnostic and animal health programs to the field.

### **Weaknesses:**

- This chain of command is not submitted to audit and could have deficiencies
- This chain of command is questioned by political entities and in a time of tight budgets could be modified with severe long term consequences.

### **Recommendations:**

- Set up regular audit of the chain of command in order to maintain maximum efficiency.
- Focus the attention of the political decision makers and farm representatives on the fact that the current chain of command is pivotal to the trust of importers in the VS and conformity to OIE quality standards.

I-6. External coordination	Levels of advancement
<p><i>The capability of the VS to coordinate its resources and activities (public and private sectors) at all levels with other relevant authorities as appropriate, in order to implement all national activities relevant for OIE Codes (i.e. surveillance, disease control and eradication, food safety and early detection and rapid response programs). Relevant authorities include other ministries and competent authorities, national agencies and decentralised institutions.</i></p>	1. There is no external coordination.
	2. There are informal external coordination mechanisms for some activities, 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 for some activities and/or sectors.
	4. There are formal external coordination mechanisms with clearly described procedures or agreements at the national level for most activities, and these are uniformly implemented throughout the country.
	5. There are national external coordination mechanisms for all activities and these are periodically reviewed and updated.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H007,3-40,79-82,84; Pt 105

### **Findings:**

At national level, different committees are established and meetings regularly take place between DVS and MoH, Wildlife, Customs or Police. Several joint projects include the work DVS and MoH have done addressing the recent HPAI H5N1 and H1N1 issues and long term zoonotic tapeworm (“measles”) project at abattoirs. Ad hoc communication / cooperation on emerging issues, wildlife surveillance and border inspection are ongoing and serve as a strong foundation for future issues.

The OIE PVS team met with MoH and clearly confirmed the admirable level of cooperation and coordination between human and veterinary public health officials.

The OIE PVS team was told that the Army provides helicopter transport during outbreaks.

The OIE PVS team saw considerable evidence of coordination between the VS in the field with the police and customs agents at check points and border posts. However, formal documentation of procedures of such external coordination was not found in the field. Two weak points were identified at field level: a). The two veterinarians working in the Wildlife Department have never been tasked with monitoring or reporting suspicions of FMD in wildlife, although wildlife and the resident especially cape buffalo population is considered to be the main FMD reservoir for outbreaks in livestock; b) No DVS veterinary para-professionals in the field have been trained to identify livestock predator kills resulting in inefficient compensation to farmers. Unfortunately, the OIE PVS team was unable to meet with the Wildlife Department.

### **Strengths:**

- Clear practice of external coordination at central and field levels

### **Weaknesses:**

- Lack of formal field procedures to enhance external coordination
- Lack of apparent field coordination with wildlife department on FMD survey and predators

### **Recommendations:**

- Formalise external coordination through regulations, policies, SOPs, meetings, outreach development and reports.
- Develop coordination with wildlife on FMD and predators.

<b>I-7. Physical resources</b>	<b>Levels of advancement</b>
<i>The access of the VS to relevant physical resources including buildings, transport telecommunications, cold chain, and other relevant equipment (e.g. computers).</i>	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 regional levels, and maintenance and replacement of obsolete items occurs only occasionally.
	3. The VS have suitable physical resources at national, regional and some local levels and maintenance and replacement of obsolete items occurs only occasionally.
	4. The VS have suitable physical resources at all levels and these are regularly maintained.
	5. The VS have suitable physical resources at all levels (national, sub-national and local levels) and these are regularly maintained and updated as more advanced and sophisticated items become available.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): **Pe** 017,28,29,33,79,81-85,87-92,94,106,109,110; **Pt** 015,19,20,42,48,58-60,62,65; **PJP3**-9,21-24,35-39, 41, 45-47, 57-58, 99-104, 103-104, 106, 113-120, 123-124

### **Findings:**

At the central level, a dedicated division is in charge of VS infrastructure including buildings, the huge infrastructure of fences and quarantine camps, and staff housing in rural areas. This division shares responsibilities with other divisions based on geographical distribution. All other physical resources are renewed under general management rules of the government. For examples, all vehicles are intended to average 40 000 km per year and to be replaced after 5 years. If a vehicle is driven less than 40 000 km per year, it may be reassigned within MoA. At field level, this motivates VS to share vehicles so that they are not reassigned.

In general, the VS of Botswana enjoy a relatively good physical infrastructure.

- **Buildings** are quite good and currently well maintained at all levels. Some Border Inspection Posts do not yet have offices. The BNVL will need to renew its facilities in the near future.
- **Pick-up** trucks are the standard vehicle for all field staff, although only 324 are road-worthy in the fleet of 440 vehicles. The VS staff can access vehicles in the district fleet pool and maintenance is done under central authority. Last year the economic crisis had a negative impact on fleet maintenance frequently delaying repairs for several months. The DVS can use MoA's airplane if required during an emergency.
- **Telecommunication** is available at all levels. A national toll free number (17755) also exists.
- **Computers** (usually with internet access) are limited to districts, sub-districts and some clusters.
- **Cold chain** is available at district, sub-district and Livestock Advisory Centers (LAC) (drug delivery) levels with back-up generator if required. The cold chain is not supported in extension areas (field level).

### **Strengths:**

- DVS enjoys quite good physical resources at all levels
- DVS benefits from a general good management of physical resources with government

### **Weaknesses:**

- Physical resources depends exclusively on national budget allocations and has been impacted by the economic crisis

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- Data regarding the management of physical resources is primarily at the district level and does not lend itself to easy comprehensive analysis.

**Recommendations:**

- Reassess physical resource needs as part of the long term strategic plan for VS, in order to secure adequate maintenance with consideration of cost effective alternatives. Enhance efficiency by developing a way to optimize management of currently available data.
- Present physical resource data in a more comprehensive manner to allow better review and enhance transparency.
- Consider the financial benefit of transferring the ownership or management of the physical resources to the private sector through official delegation of appropriate field veterinary activities to private veterinarians.

<b>I-8. Operational Funding</b>  <i>The ability of the VS to access financial resources adequate for their continued operations, independent of political pressure.</i>	<b>Levels of advancement</b>
	1. Funding for the VS is neither stable nor clearly defined but depends on resources allocated irregularly.
	2. Funding for the VS is clearly defined and regular, but is inadequate for their required base operations (i.e. disease surveillance, early detection and rapid response and veterinary public health).
	3. Funding for the VS is clearly defined and regular, and is adequate for their base operations, but there is no provision for new or expanded operations.
	4. Funding for new or expanded operations is on a case-by-case basis, not always based on risk analysis and/or cost benefit analysis.
	5. Funding for all aspects of VS activities is adequate; all funding is provided under full transparency and allows for full technical independence, based on risk analysis and/or cost benefit analysis.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6):H059,

### **Findings:**

The government of Botswana provides a regular, sustainable and sizeable operational budget for the VS. The total budget (including part of capital investment) of the VS is around 37 millions € per year (current rate 1 € = 8,5 Pula).

New or expanded operations could not be identified per se, but as addressed under emerging issues, the VS are able to cope adequately with new threats as they emerge. For this reason the OIE PVS team considers the level of advancement for this critical competency to be at level 4.

Since 2008, the economical crisis has negatively impacted the VS budget (decreasing by a significant percent in 2008, 2009 and 2010), but not to the point which is critically impacting ongoing operations. If the budget continues to decrease, this could quickly drop the level of advancement down to level 3.

Despite nicely detailed budget records at all levels, the data management of the operational budget makes it difficult to analyze the capital distribution by areas and functions, evaluate cost efficiency, or do cost benefit analysis and analytic accountability. It is important to perform these functions in order to be able to communicate appropriately on budget issues.

### **Strengths:**

- Operational funding is stable, sustainable and entirely assumed by national budget

### **Weaknesses:**

- As the entire operational budget comes solely from the national budget, it is impacted negatively by the international economical crisis, without current alternative sources of funding.
- Current methods of data management do not lend themselves readily to accurate analysis (distribution, efficiency...)

### **Recommendations:**

- Establish software of data management that would take advantage of excellent budget records and undertake accurate analysis and communication on operational budget.
- Analyse other sources of funding, including cost recovery, as alternative or supplemental sources for the operational budget, when preparing the new strategic plan.

<b>I-9. Contingency and compensatory funding</b>	<b>Levels of advancement</b>
<i>The capability of the VS to access extraordinary financial resources in order to respond to emergency situations or emerging issues; measured by the ease of which contingency and compensatory funding (i.e. arrangements for compensation of producers in emergency situations) can be made available when required.</i>	1. No contingency and compensatory funding arrangements exist and there is no provision for emergency financial resources.
	2. Contingency and compensatory funding arrangements with limited resources have been established, but these are inadequate for expected emergency situations (including emerging issues).
	3. Contingency and compensatory funding arrangements with limited resources have been established; additional resources for emergencies may be approved but approval is through a political process.
	4. Contingency and compensatory funding arrangements with adequate resources have been established, but in an emergency situation, their operation must be agreed through a non-political process on a case-by-case basis.
	5. Contingency and compensatory funding arrangements with adequate resources have been established and their rules of operation documented and agreed with stakeholders.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H 061

**Findings:**

Within the annual national budget, a token amount for emergency fund is set aside to provide funding in case of emergency with approval of the cabinet. However, the national government can declare an emergency and provide funds in a timely manner on a case by case basis. Such funding has been mobilised for FMD and CBPP outbreaks in the past and has included funds for compensation for the livestock owners.

This mechanism is also expected to function in the case of other animal or zoonotic disease outbreaks, such as HPAI. DVS indicated that this funding could also be mobilised in needed in the case of Rift Valley Fever (currently an emerging issue in South Africa and Namibia which threatens other parts of the region).

**Strengths:**

- Availability of such contingency funding has historically been provided as a commitment of within the national budget and was quick mobilized as needed.

**Weaknesses:**

- Such funding relies completely on the national budget and is thus subject to a political approval process for each incident. There are no standing or reserve fund within VS for this purpose.
- Stakeholders have not been involved in the process and proactive stakeholder interaction regarding compensation and indemnity procedures may be beneficial.

**Recommendations:**

- Look for more independent, secure alternative emergency funding mechanisms such as through contribution from the private sector (exporting sector for instance) with shared oversight and management of the funds. Examples of such shared mechanism exist in South America (Brazil, Uruguay, etc.).

<b>I-10. Capital investment</b>	<b>Levels of advancement</b>
<i>The capability of the VS to access funding for basic and additional investments (material and non material) that lead to a sustained improvement in the VS operational infrastructure.</i>	1. There is no capability to establish, maintain or improve the operational infrastructure of the VS.
	2. The VS occasionally develops proposals and secures funding for the establishment, maintenance or improvement of operational infrastructure but this is normally through extraordinary allocations.
	3. The VS regularly secures funding for maintenance and improvements of operational infrastructure, through allocations from the national budget or from other sources, but there are constraints on the use of these allocations.
	4. The VS routinely secures adequate funding for the necessary maintenance and improvement in operational infrastructure.
	5. The VS systematically secures adequate funding for the necessary improvements in operational infrastructure, including with participation from stakeholders as required.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H059

### **Findings:**

Capital investment generally is not under direct control of the VS, but under the general control of the Ministry of Agriculture. The budget is assessed every year. The only capital investment directly under the responsibility of DVS covers buildings and fences used for animal disease control zoning. Historically the budget has been stable, but the recent worldwide economic crisis has impacted the budget. The decreased budget has negatively impacted the maintenance of vehicles which are indispensable for the field activities in this extensive territory. The building of some proposed structures (some BIPs, Maun DVO, etc) have been postponed. The BNVL needs updating and expansion which will probably face some similar constraints.

Good budget analysis supported by clear data management would be helpful to maximize the utilization of available funding. Distribution of capital investment by area, program and function, cost benefit and cost efficiency analysis are not clearly established and would be helpful in supporting good communication on strategic capital investment of the VS.

### **Strengths:**

- Capital investment has been readily available and stable for many years, and entirely assumed by national budget.

### **Weaknesses:**

- The economical crisis has negatively impacted capital investment
- No alternative source of capital investment is in place or been considered
- Current data management does not allow for targeting gaps in capital investment or permit needed analysis to ensure optimal utilization of available resources

### **Recommendations:**

- Establish software for data management to take optimal advantage of excellent budget records to support accurate analysis and enhance communication on capital investment.
- When preparing the new strategic plan, analyse possible mechanisms to create additional or alternative sources of funding for capital budget, including cost recovery plans, contribution from the export sector and/or privatisation of some activities.

<b>I-11. Management of resources and operations</b>	<b>Levels of advancement</b>
<i>The capability of the VS to document and manage their resources and operations in order to analyze, plan and improve both efficiency and effectiveness.</i>	1. The VS have some records or documented procedures, but these do not provide for adequate management of resources and operations.
	2. The VS routinely use records and/or documented procedures in the management of resources and some operations, but these do not provide for adequate management, analysis, control or planning.
	3. The VS have comprehensive records, documentation and management systems and they regularly use records and documented procedures in the management of resources and operations, providing for the control of effectiveness and the conduct of analysis and planning.
	4. The VS have adequate management skills, including the capacity to analyse and improve efficiency and effectiveness.
	5. The VS have fully effective management systems, which are regularly audited and permit a proactive continuous improvement of efficiency and effectiveness.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H018; Pe001-4,8,30-32,100,101,107,110-112; Pt 002-10,12-14,16-18,23-29,44,46,47,50,55-57,61,68,78-80,106; PJP 39-40, 73,75-76,87,97,101-102,105,107-113,119

### **Findings:**

VS captures a huge amount of data at each level: data forms, operations registers, animal census data, disease incident reports, animal movement documentation, border and zones movement, food inspection, and resources management (car logbook, drug stock, spares, etc). This documentation is usually summarized in monthly reports, aggregated at each level of the VS and unified into a national yearly report.

However, this data management is limited with little or no analysis of effectiveness and efficiency. The VS have a “gold mine” of good data which could be used to enhance management of operations and resources if appropriately computerised.

Too much time is spent doing repetitive administrative tasks and data accumulation without being able to take advantage of the information within the paperwork. Centralising the data in an integrated computerised data base bringing together all the animal identification, health and inspection would give VS the ability to more effectively evaluate the effectiveness of their activities.

Linking the three existing data bases (LITS, GIS, Laboratory and Epidemiology) would greatly enhance the utility of the data. The VS staff at central and district levels will need additional skill development in data management in order to be able to improve efficiency and effectiveness of data use.

VS have established and implemented many procedures (SOPs) for border security and animal disease control zones, laboratory, inspection, drug expiry and stocks, etc.

Deficiencies in the animal identification and traceability system (LITS) result in systematic duplication between computerised and paper data with an excessively time consuming paper work for staff (duplicative paperwork probably account for more than half of their work load).

### **Strengths:**

- Excellent data recorded and maintained at all levels within the VS
- SOPs regularly developed and implemented for most operations and resources

### **Weaknesses:**

- Paper data management is hampering technical activities of field staff.
- Computerised data management is not functioning properly
- Data bases of the VS are not compatible and unified

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**Recommendations:**

- Review LITS in order to create a fully unified integrated data base for VS with greater data access, easier data entry and management at all levels of the VS. Establish portals for data access by appropriate stakeholders.
- Build data management tools and train VS staff at the central and district levels to allow analysis of efficiency and effectiveness within their operations to allow maximum utilization of their resources.
- Develop communication tools on resources distribution (per area and per function) and on operations according to OIE requirement and for purpose of advocacy (cost benefit, efficiency).

### III.2. Fundamental component II: Technical authority and capability

This component of the evaluation appraises the authority and capability of the VS to develop and apply sanitary measures and science-based procedures supporting those measures. It comprises thirteen critical competencies

#### Critical competencies:

<b>Section II-1</b>	<b>Veterinary laboratory diagnosis</b>
<b>Section II-2</b>	<b>Laboratory quality assurance</b>
<b>Section II-3</b>	<b>Risk analysis</b>
<b>Section II-4</b>	<b>Quarantine and border security</b>
<b>Section II-5</b>	<b>Epidemiological surveillance</b>
	<b>A. Passive Epidemiological surveillance</b>
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<b>Section II-7</b>	<b>Disease prevention, control and eradication</b>
<b>Section II-8</b>	<b>Food safety</b>
	<b>A. Ante and post mortem inspection</b>
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<b>Section II-10</b>	<b>Residue testing</b>
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<b>Section II-13</b>	<b>Identification and Traceability</b>
	<b>A. Animal identification and movement control</b>
	<b>B. Identification and traceability of products of animal origin</b>
<b>Section II-14</b>	<b>Animal welfare</b>

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#### Terrestrial Code References:

Chapter 2.1. on Import risk analysis.

Points 6 and 8 of Article 3.1.2. on Fundamental principles of quality: 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 Functional capabilities and legislative support: Animal health and veterinary public health / Export/Import inspection.

Points 1-3 of Article 3.2.8. on Animal health controls: Animal health status / Animal health control / National animal disease reporting systems.

Points 1-5 of Article 3.2.9. on Veterinary public health controls: Food hygiene / Zoonoses / Chemical residue testing programmes / Veterinary medicines/ Integration between animal health controls and veterinary public health.

Sub-point f) of Point 4 of Article 3.2.10. on Veterinary Services administration: Formal linkages with sources of independent scientific expertise.

Points 2 and 5-7 of Article 3.2.14. on National information on human resources / Laboratory services / Functional capabilities and legislative support / Animal health and veterinary public health controls.

Chapters 6.7. to 6.11. on Antimicrobial resistance.

<b>II-1. Veterinary laboratory diagnosis</b>	<b>Levels of advancement</b>
<i>The authority and capability of the VS to identify and record pathogenic agents, including those relevant for public health that can adversely affect animals and animal products.</i>	1. Disease diagnosis is almost always conducted by clinical means only, with laboratory diagnostic capability being generally unavailable.
	2. For major zoonoses and diseases of national economic importance, the VS have access to and use a laboratory to obtain a correct diagnosis.
	3. For other zoonoses and diseases present in the country, the VS have access to and use a laboratory to obtain a correct diagnosis.
	4. For diseases of zoonotic or economic importance not present in the country, but known to 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 world, the VS have access to and use a network of national or international reference laboratories (e.g. an OIE Reference Laboratory) to obtain a correct diagnosis.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H001,2,13,14,32,Pe008; Pt 002-10,12-14,47,80,107; PJP 70-71, 113

### **Findings:**

BNVL is the only veterinary laboratory in Botswana. It is a public institution and provides its service free of charge. BNVL has five sections for veterinary diagnostics and three sections supporting veterinary public health (food hygiene [*external quality control*] for BMC, dairy hygiene and residue testing) and currently runs 64 diagnostic tests. Other tests (such as for mycobacterium) are sent to accredited or OIE reference laboratories in South Africa or elsewhere. BNVL process around 65 000 test per year, of which half are for food safety purposes. The BNVL premises and equipment are clearly well maintained capable of functioning at biosafety level 2 and 3.

The BNVL facility is becoming too small and will need to expand in the future. Discussions are being held in order to assess the option of establishing local laboratories in Francistown and Jwaneng to perform biochemistry and veterinary diagnostics for diseases of economic importance (such as heart water), which would help satisfy stakeholder complaints regarding delays in getting diagnostic results.

In principle, the time between sampling and reported results to the field level is supposed to be within two weeks but this is not always strictly followed. In case of suspected outbreak, this time appears to be much shorter (as mentioned in last FMD outbreak report).

A sampling submission guide with SOPs has been designed for field staff. At field level, veterinary para-professionals have sampling kits with disease record forms and registers.

BNVL has a data base to record sampling and results, with some links established with epidemiology section. BNVL produces a newsletter and a website for stakeholders, which include results of analysis.

BNVL is also in charge of research.

### **Strengths:**

- BNVL is recognised to be a very good lab.
- Sampling from the field are regular and well established

### **Weaknesses:**

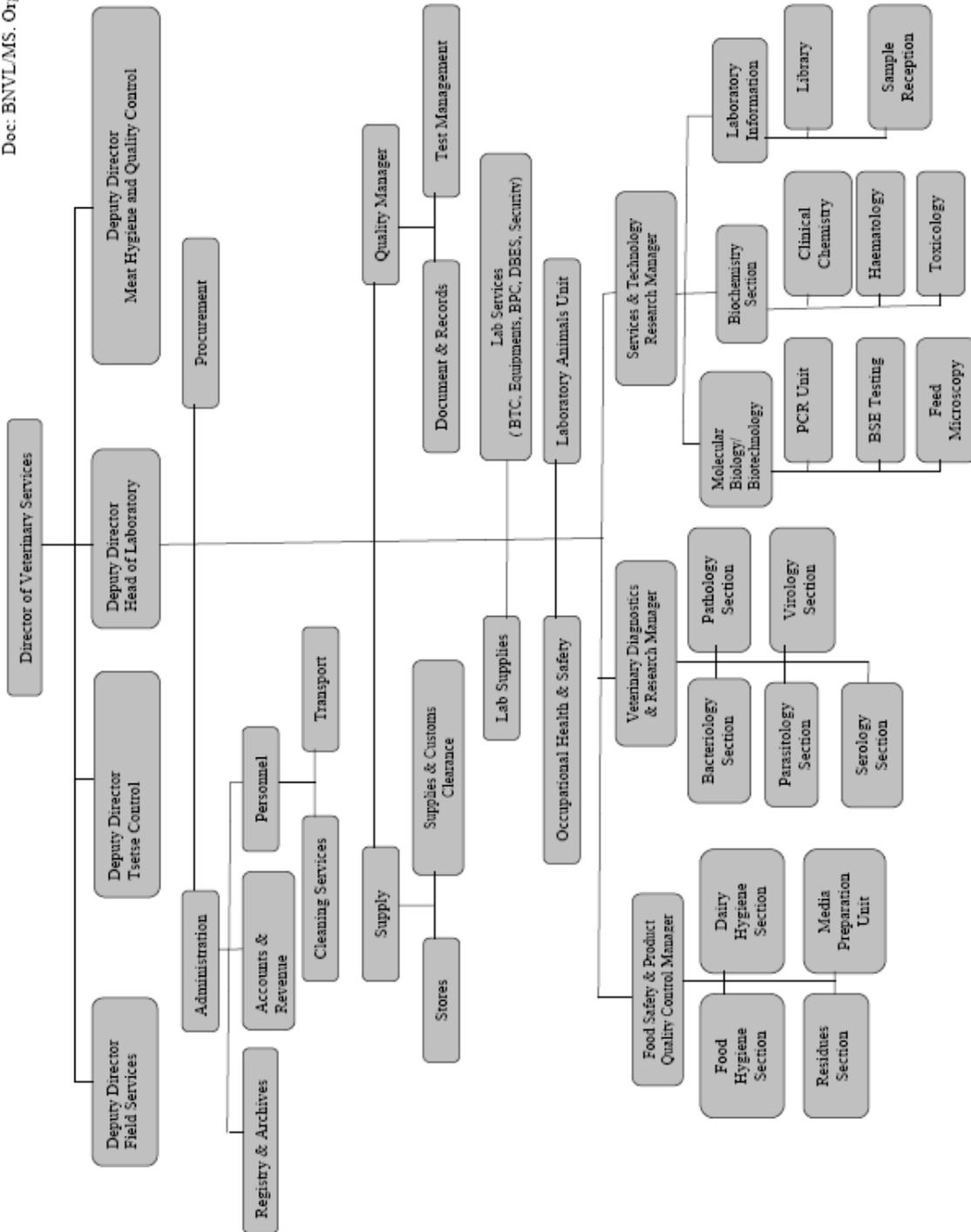
- Sampling access is difficult for some areas and productions systems and poultry and dairy farmers especially complain about receiving results late.
- BNVL data base is not integrated with epidemiology section, GIS and LITS databases
- BNVL has no financial autonomy to strengthen its structure and be more demand driven.

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**Recommendations:**

- Study possibility of improving sample handling and improve diagnostic turn -around times
- Review compatibility and integration of data bases between BNVL, GIS, DC and LITS.
- Develop cost recovery of some tests and develop financial autonomy.

Doc: BNVL/MS. Organogram 0020 LAB  
Revision: 06



<b>II-2. Laboratory Quality Assurance</b>	<b>Levels of advancement</b>
<i>The quality of laboratories (that conduct diagnostic testing or analysis for chemical residues, antimicrobial residues, toxins, or tests for, biological efficacy, etc.) as measured by the use of formal QA systems and participation in relevant proficiency testing programmes.</i>	1. No laboratories used by the public sector VS are using formal QA systems.
	2. Some laboratories used by the public sector VS are using formal QA systems.
	3. All laboratories used by the public sector VS are using formal QA systems.
	4. All the laboratories used by the public sector VS and most or all private laboratories are using formal QA systems.
	5. All the laboratories used by the public sector VS and most or all private laboratories are using formal QA programmes that meet OIE, ISO 17025, or equivalent QA standard guidelines.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H013,14, ISO certification, South African National Accreditation System certificates (SANAS)

### **Findings:**

BNVL is ISO accredited for 9 diagnostic tests and 1 test for residues; 12 food hygiene tests have been accredited by EU. The laboratory also holds several South African National Accreditation System certificates (SANAS).

OIE laboratory twinning programs exist for HPAI, Newcastle, CBPP and trichinellosis. BVNL is working toward becoming an OIE regional reference lab.

Other tests which are not ISO accredited follow formal laboratory quality management system.

Residues testing to meet EU specifications is currently subcontracted abroad while capacity is being developed.

### **Strengths:**

- ISO accreditations, SANAS accreditation, QA in place, twinning programs

### **Weaknesses:**

- Possible lack of resources for development and accreditation of new test procedures

### **Recommendations:**

- Analyse the need for new test procedures and accreditations on cost efficiency and demand driven basis prior to investing resources in their development.

<b>II-3. Risk analysis</b>	<b>Levels of advancement</b>
<i>The authority and capability of the VS to base its risk management decisions on a scientific assessment of the risks.</i>	1. Risk management decisions are not usually supported by scientific risk assessment.
	2. The VS compile and maintain data but do not have the capability to systematically assess risks. Some risk management decisions are based on scientific risk assessment.
	3. The VS can systematically compile and maintain relevant data and carry out risk assessment. Scientific principles and evidence, including risk assessment, generally provide the basis for risk management decisions.
	4. The VS systematically conduct risk assessments in compliance with relevant OIE standards, and base their risk management decisions on the outcomes of these risk assessments.
	5. The VS are consistent in basing sanitary decisions on risk analysis, and in communicating their procedures and outcomes internationally, meeting all their OIE obligations (including WTO SPS Agreement obligations where applicable).

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H042

**Findings:**

Risk analysis is handled by the animal disease control division using input from all appropriate divisions. Risk analysis is included in the FMD contingency plan. The risk analysis process is known, but there is not a clear position, job description or procedure which would support advancing to level 3. Currently no one on the staff has been trained in risk analysis (the person trained in risk analysis recently left VS and has not been replaced).

**Strengths:**

- Risk analysis process is understood by DVS as a shared task between divisions
- Risk analysis has been established for FMD and is discussed for other subjects

**Weaknesses:**

- There is no formal position, job description or established protocols for risk analysis
- The only staff trained in risk analysis is no longer with DVS

**Recommendations:**

- Train or hire new staff on risk analysis and share this training up to district level
- Establish a risk analysis position and formalize a standard risk assessment process.

<b>II-4. Quarantine and border security</b>	<b>Levels of advancement</b>
<i>The authority and capability of the VS to prevent the entry and spread of diseases and other hazards of animals and animal products.</i>	1. The VS cannot apply any type of quarantine or border security procedures for animals or animal products with their neighbouring countries or trading partners.
	2. The VS can establish and apply quarantine and border security procedures; however, these are generally based neither on international standards nor on a risk analysis.
	3. The VS can establish and apply quarantine and border security procedures based on international standards, but the procedures do not systematically address illegal activities relating to the import of animals and animal products.
	4. The VS can establish and apply quarantine and border security procedures which systematically address legal pathways and illegal activities.
	5. The VS work with their neighbouring countries and trading partners to establish, apply and audit quarantine and border security procedures which systematically address all risks identified.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H 002,3,45,46,74; Pe 094-102,12,110-114; Pt 022-32,52,63-74,96,97; PJP 27-34,52-56,73,83-90,94-95,114-117,140

### **Findings:**

Botswana has 28 border entry posts including 4 international airports. Border inspection posts (BIPs) are established in every border entry posts under the global custom facilities. Land borders are fenced to limit incursion of foreign livestock and wildlife. The BIPs are adequately staffed based during operational hours based on the level of activity at the crossing and supported by clear procedures. BIP staff includes veterinary paraprofessionals and gate keepers, working in close collaboration with customs and police. They are linked by telecommunications and supervised by DVO veterinarians. However, at some BIPs the appropriate physical infrastructure was inadequate or missing.

Import permits are issued free from the Import Export and Traceability Division. Imports and exports are duly recorded in registers at BIPs and the records are transmitted to DVO; however, the lack of computerisation hampers the transfer of information but the relatively low number of crossings makes the paper based system manageable. Computerization of high traffic crossing could rather easily be accomplished.

Import of live animals is strictly controlled, especially into the FMD free without vaccination zones. Facilities at the border crossings that allow import of livestock are equipped with facilities to off-load to examine and individually identify imported animals (bolus). Import of food of animal origin is also controlled; the primary products imported are dairy and pork.

Cross-border security committee meetings are held every year. Border security meetings are also held at district levels and joint border patrols with customs and police have been implemented.

Some farmers indicated that they knew of some illegal imports, especially from Zimbabwe and Zambia.

### **Strengths:**

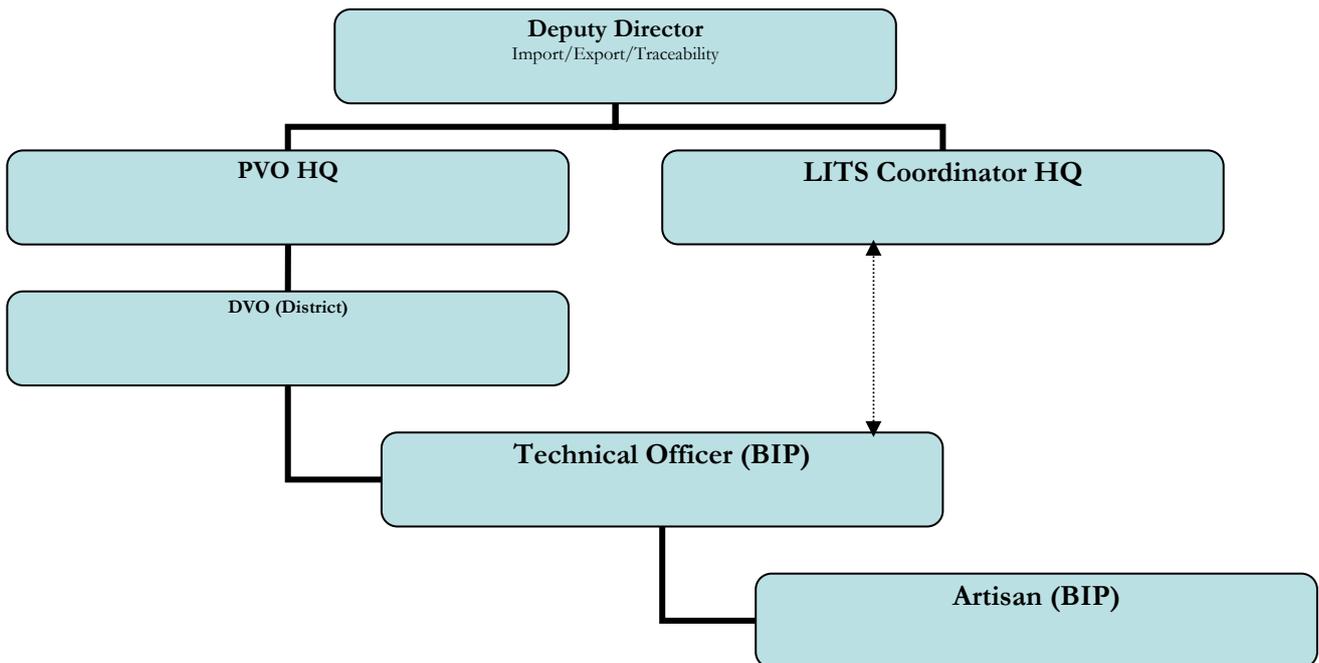
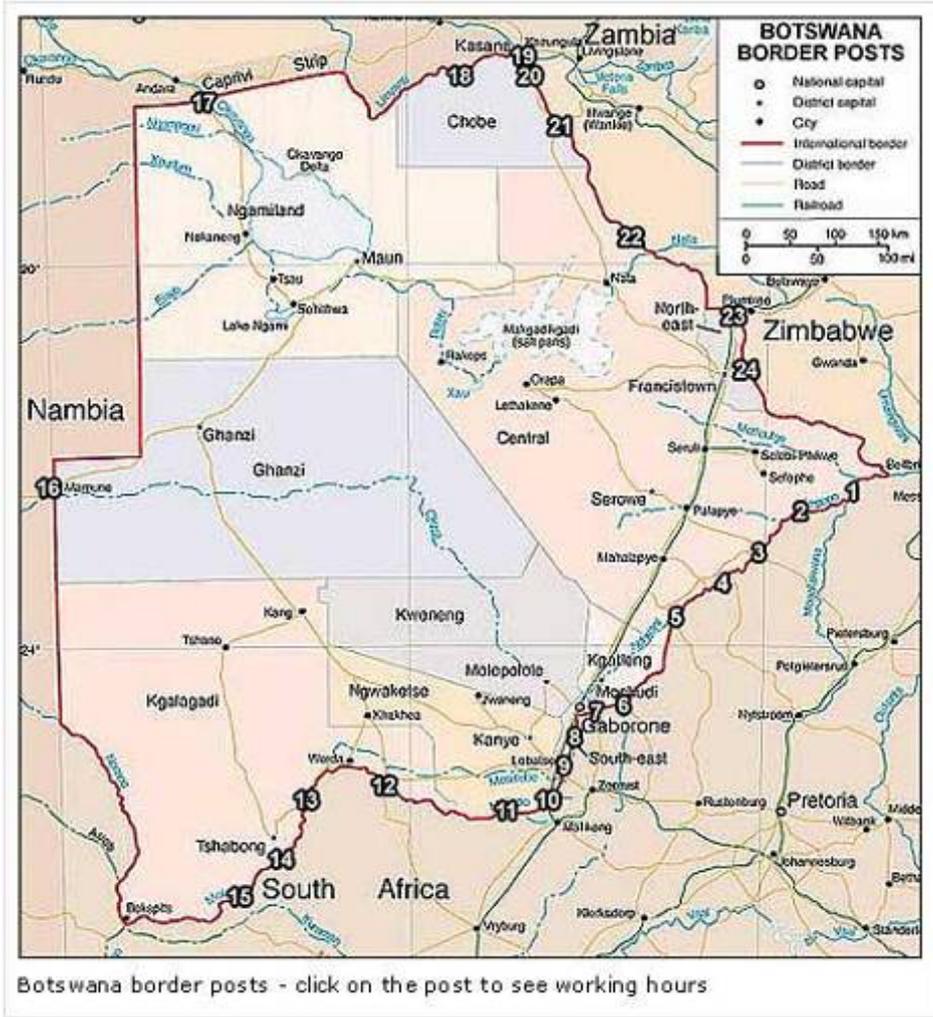
- Botswana BIPs resources and activities are effective
- All borders are fenced

### **Weaknesses:**

- BIPs have no computers systems
- Maintenance of fences is sometimes difficult (damaged by elephants or smugglers)
- There is no regular auditing of the system

**Recommendations:**

- Establish regular auditing of the BIPs system in order to update resources and operations



<b>II-5. Epidemiological surveillance</b>  <i>The authority and capability of the VS to determine, verify and report on the sanitary status of the animal populations under their mandate.</i>  <b>A. Passive epidemiological surveillance</b>	<b>Levels of advancement</b>
	1. The VS have no passive surveillance programme.
	2. The VS conduct passive surveillance for some relevant diseases and have the capacity to produce national reports on some diseases.
	3. The VS conduct passive surveillance in compliance with OIE standards for some relevant diseases at the national level through appropriate networks in the field, whereby samples from suspect cases are collected and sent for laboratory diagnosis with evidence of correct results obtained. The VS have a basic national disease reporting system.
	4. The VS conduct passive surveillance and report at the national level in compliance with OIE standards for most relevant diseases. Appropriate field networks are established for the collection of samples and submission for laboratory diagnosis of suspect cases with evidence of correct results obtained. Stakeholders are aware of and comply with their obligation to report the suspicion and occurrence of notifiable diseases to the VS.
5. The VS regularly report to stakeholders and the international community (where applicable) on the findings of passive surveillance programmes.	

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H015,20,83,85,91-93; Pe001-003; PJP113

### **Findings:**

CBPP and cysticercosis passive surveillance is conducted at slaughter.

FMD passive surveillance (physical examination and “mouthing”) is undertaken in quarantine camps and outbreak areas. Clear report forms and procedures are established for that purpose.

Passive surveillance for tuberculosis and brucellosis are undertaken annually in dairy cattle. Other notifiable diseases are only notified through the standard “disease report form”. The overall network of “passive surveillance network” is hampered by the lack of veterinarians in the field. VS relies too much on veterinary para-professionals, with many layers of sub-delegation to other veterinary para-professionals and even “inoculators”. There is inadequate field supervision by veterinarians which is not in compliance with OIE standards for appropriate passive surveillance. The OIE PVS team could not evaluate rigorously these programs due to lack of time.

### **Strengths:**

- Major relevant diseases are subjected to passive surveillance programs at a level that is currently acceptable for Botswana

### **Weaknesses:**

- The lack of veterinarians in the field limits the efficiency and efficacy of passive surveillance network and operations. This is especially true for emerging diseases and may have considerable impact in the medium and long term.

### **Recommendations:**

- Progressively increase the presence of veterinarians in the field
- Reinforce collaboration with stakeholders on passive surveillance
- Undertake specialised evaluation of passive surveillance programs and develop strategies to optimize passive surveillance and reporting from the field

<b>II-5. Epidemiological surveillance</b>	<b>Levels of advancement</b>
<i>The authority and capability of the VS to determine, verify and report on the sanitary status of the animal populations under their mandate.</i>	1. The VS have no active surveillance programme.
	2. The VS conduct active surveillance for some relevant diseases (of economic and zoonotic importance) but apply it only in a part of susceptible populations and/or do not update it regularly.
	3. The VS conduct active surveillance in compliance with scientific principles and OIE standards for some relevant diseases and apply it to all susceptible populations but do not update it regularly.
	4. The VS conduct active surveillance in compliance with scientific principles and OIE standards for some relevant diseases, apply it to all susceptible populations, update it regularly and report the results systematically.
	5. The VS conduct active surveillance for most or all relevant diseases and apply it to all susceptible populations. The surveillance programmes are evaluated and meet the country's OIE obligations.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6):H084-90; PJP1, 129-131

### **Findings:**

Several diseases are the subject of active surveillance plans:

- FMD active surveillance in disease free zone without vaccination and at all BIPs
- CBPP active surveillance through blood sampling and nasal swabs in Shakawe and Kasane
- BSE active surveillance at slaughterhouses
- Residue testing
- FMD post vaccination testing
- Newcastle disease and HPAI blood sampling on Ostrich farms
- Glanders testing (mullein) on horses.

DVS asserts that recent FMD outbreaks are generally the result of contact with infected wildlife and that FMD disease has never been seen in small ruminants and pigs; however, there are no active surveillance programs in wildlife, swine or small ruminants. The last FMD survey of wildlife was done in the 1990's, and apparently only focused on buffalo. Some studies were made in small ruminants and pigs, but without a clear scientific systematic and regular sampling plan.

Due to time constraints, the OIE PVS team was not able to rigorously evaluate these programs. Taking into account the high level of recognition of the DVS by international trading partners (including the EU), the OIE PVS team decided to qualify this critical competency at level 4. However, without future in-depth evaluation of the FMD active surveillance program the program may drop to level 2.

### **Strengths:**

- Effective and relevant programs of active surveillance are in place

### **Weaknesses:**

- No active FMD surveillance in wildlife, small ruminants or pigs.

Recommendations:

- Strictly monitor and reassess active FMD surveillance in all susceptible animal populations.

<b>II-6. Early detection and emergency response</b>	<b>Levels of advancement</b>
<i>The authority and capability of the VS to detect and respond rapidly to a sanitary emergency (such as a significant disease outbreak or food safety emergency).</i>	1. The VS have no field network or established procedure to determine whether a sanitary emergency 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 or not a sanitary emergency exists, but lack the necessary legal and financial support to respond appropriately.
	3. The VS have the legal framework and financial support to respond rapidly to sanitary emergencies, but the response is not coordinated through a chain of command.
	4. The VS have an established procedure to make timely decisions on whether or not a sanitary emergency exists. The VS have the legal framework and financial support to respond rapidly to sanitary emergencies through a chain of command. They have national contingency plans for some exotic diseases.
	5. The VS have national contingency plans for all diseases of concern through coordinated actions with all stakeholders through a chain of command.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H 016,19,35,52,91,92, PJP39-40,45-47,57-58, 72,114-117,123-124,

### **Findings:**

Botswana DVS has a good history of positively responding to animal disease outbreaks, with good capacity for containment and emergency response. The last FMD outbreaks (2007 and 2008) were rapidly contained, as was the CBPP outbreak in 1995

The disease alert team (DAT) has the capacity to be on site within 24 hours of case identification for an FMD outbreak.

A contingency plan for FMD is well established at national level.

HAI is addressed through a SADC regional emergency preparedness plan. However, lack of consultation and involvement of poultry sector and other stakeholders may hamper its efficacy or efficiency.

### **Strengths:**

- Internationally recognised good system in place

### **Weaknesses:**

- Lack of stakeholder consultation and participation
- An independent contingency fund and process is lacking

### **Recommendations:**

- Analyse possibility to involve stakeholders in funding and management of an emergency fund to become less dependent on political process for funding in the face of future budget constraints

<b>II-7. Disease prevention, control and eradication</b>	<b>Levels of advancement</b>
<i>The authority and capability of the VS to actively perform actions to prevent, control or eradicate OIE listed diseases and/or to demonstrate that the country or a zone are free of relevant diseases.</i>	1. The VS have no authority or capability to prevent, control or eradicate animal diseases.
	2. The VS implement prevention, control and eradication programmes for some diseases and/or in some areas with little or no scientific evaluation of their efficacy and efficiency.
	3. The VS implement prevention, control and eradication programmes for some diseases and/or in some areas with scientific evaluation of their efficacy and efficiency.
	4. The VS implement prevention, control and eradication programmes for all relevant diseases but with scientific evaluation of their efficacy and efficiency of only some programmes.
	5. The VS implement prevention, control and eradication programmes for all relevant diseases with scientific evaluation of their efficacy and efficiency consistent with relevant OIE international standards.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H043,44,86,91-93; Pe 031; Pt 050,53,76,79,106; PJP 3-9,24,34-38,41,45-47,57-58,75,85,107-117,123-125

### **Findings:**

DVS undertakes two to four official compulsory vaccination campaigns per year against (depending on the animal health status of the area):

- FMD of all cattle in FMD vaccination zones (three times a year for 500 000 cattle).
- Anthrax annually for all cattle: 2 500 000
- Brucellosis vaccination of all female bovines of 4 to 8 months ages: 200 000 per year
- Black leg vaccination of cattle less than 2 years old
- Rabies vaccination free of charge yearly of dogs and cats: 200 000 per year

There was recently an outbreak of FMD in a population of vaccinated cattle attributed to vaccine failure; although this not verified it created some controversy and conflict between BVI and VS. The quality of the vaccine was questioned, as was quality of vaccine management, maintenance of the cold chain at the LAC and application in the field by veterinary para-professionals.

Only FMD vaccination is submitted to post vaccination testing. The efficiency and effectiveness of other vaccinations are not analysed. Although records of vaccines and vaccinated animals are relatively detailed, they may vary from place to place. The vaccination records are not linked with the traceability system (LITS) and no individual or group certification of vaccination status can be provided. As previously stated there are many layers of sub-delegation from the DVO through veterinary para-professionals down to field operations such that the actual vaccination campaigns are done by 'inoculators' with minimal technical training.

Vaccines for cattle against pasteurellosis, botulism, lumpy skin, heart-water, entero-toxemia are distributed by the private sector and LAC with cost recovery, as well as vaccines for poultry, sheep and goats. Private veterinarians complain about unfair competition with the price subsidies at LAC.

### **Strengths:**

- Vaccination campaigns are well planned and organised by DVOs
- Vaccination campaigns appear to achieve high rates of coverage.

### **Weaknesses:**

- There is no post vaccination serological control on official vaccinations except for FMD
- There is no effectiveness and efficiency or cost benefit analysis of official vaccinations
- Campaigns are organised like a "military action" (as said by a DVO), and thus have the advantages and the disadvantages of such organisation: they are conducted rapidly and

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try to ensure blanket coverage, but they are not very flexible and do not consider the farmers' constraints or feedback.

**Recommendations:**

- Review official vaccination programs with cost-benefit analysis and for effectiveness.
- Analyse possibility of partial cost recovery and official delegation to private veterinarians of some of the animal health activities by official delegation.

II-8. Food safety	Levels of advancement
<p><i>The authority and capability of the VS to implement and manage the inspection of animals destined for slaughter at abattoirs and associated premises, including for assuring meat hygiene and for the collection of information relevant to livestock diseases and zoonoses. This competency also covers coordination with other authorities where there is shared responsibility for the functions.</i></p> <p><b>A. Ante and post mortem Inspection at abattoirs and associated premises (e.g. meat boning / cutting establishments and rendering plants).</b></p>	1. Ante- and post mortem inspection and collection of disease information (and coordination, as required) are generally not undertaken in conformity with international standards.
	2. Ante- and post mortem inspection and collection of disease information (and coordination, as required) are undertaken in conformity with international standards only at export premises.
	3. Ante- and post mortem inspection and collection of disease information (and coordination, as required) are undertaken in conformity with international standards for export premises and for major abattoirs producing meat for distribution throughout the national market.
	4. Ante- and post mortem inspection and collection of disease information (and coordination, as required) are undertaken in conformity with international standards for export premises and for all abattoirs producing meat for distribution in the national and local markets.
	5. Ante- and post mortem inspection and collection of disease information (and coordination, as required) are undertaken in conformity with international standards at all premises (including family and on farm slaughtering) and are subject to periodic audit of effectiveness.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H 002,3,6,17,23,53-55,71,91-93; Pe 22-27,45-49,105,132-134; **Pt 034-40,99-104**; **PJP** 42-44,48-51,61-2,64,77-79,121,125-128,134-135,137-139

### **Findings:**

Food inspection is under the authority of Meat Hygiene and Veterinary Public Health Division since 2008 (before it was under municipal council authority) with a clear chain of command.

Botswana Meat Commission (BMC) is a para-statal enterprise with the monopoly on red meat export facilities, currently with facilities in Francistown and Lobatse, with a third under renovation in Maun. These facilities are slaughterhouse, rendering and cutting (further processing) facilities, and comply with international standards. Another export abattoir accredited for the export of ostrich meat and used for other species and national consumption is also undergoing renovations.

A SADC food safety committee is starting to harmonise food inspection standards for the region. Botswana is now implementing the Livestock and Meat Industry Act of 2007 in non export slaughterhouses. VS regulate export facilities, non export facilities and rural slaughtering, as well as other facilities for poultry or other and species, including on farm and game. A process for licensing various classes of slaughterhouses, rural slaughter facilities and slaughter slabs is under way. There are approximately 14 municipal abattoirs (relatively poor infrastructures), 64 licensed private slaughter-slabs (small adequate infrastructures) and an undetermined number of rural slaughter areas (meat sold only in the locality). Food inspection is done by veterinary para-professionals with specific training (mainly given by MITC). Effective supervision at slaughter by veterinarians occurs only in export slaughterhouses. Export abattoirs are audited/inspected quarterly by the Abattoir Hygiene and Meat Quality Control Division, and their official veterinarians report directly to this authority. In municipal and private slaughterhouses, supervision is done by the DVOs at the request of the veterinary para-professionals. Regular food sampling (including hygiene surface and water) and diseases surveillance (BSE, CBPP, tuberculosis, cysticercosis, etc) is implemented throughout the system.

Movement permits are issued for animals headed to slaughter. Registers and certificate of consignments are recorded at all licensed abattoirs.

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The OIE PVS team identified the following problems; there is currently no inspection at poultry slaughter; at non-export abattoirs there was little stamping (grading/certification) of most carcasses, no destruction of condemned meat, and poor traceability bolus accountability at non-export slaughterhouses.

**Strengths:**

- Good infrastructures at export abattoir and licensed slaughter slabs
- Ante and post mortem is made at all levels of red meat slaughtering

**Weaknesses:**

- Lack of implementation of standards at non export abattoirs
- Lack of ante and post mortem inspection in poultry slaughterhouse

**Recommendations:**

- Develop a grading/identification system with at least three categories of stamps (export, non export, local) with abattoir identification numbers

<b>B. Inspection of collection, processing and distribution of products of animal origin</b>	<b>Levels of advancement</b>
<i>The authority and capability of the VS to implement, manage and coordinate food safety measures on processing and distribution of products of animals, including programmes for the prevention of specific foodborne zoonoses and general food safety programmes. This competency also covers coordination with other authorities where there is shared responsibility for the functions.</i>	1. Implementation, management, and coordination (as appropriate) are generally not undertaken in conformity with international standards.
	2. Implementation, management and coordination (as appropriate) are generally undertaken in conformity with international standards only for export purpose.
	3. Implementation, management and coordination (as appropriate) are generally undertaken in conformity with international standards only for export purpose and for products that are distributed throughout the national market.
	4. Implementation, management and coordination (as appropriate) are generally undertaken in conformity with international standards for export purpose and for products that are distributed throughout the national and local markets.
	5. Implementation, management and coordination (as appropriate) are undertaken in full conformity with international standards for products at all levels of distribution (including on farm-processing and farm gate sale).

[Note: This critical competency primarily refers to inspection of processed animal products and raw products other than meat (e.g. milk, honey etc.). It may in some countries be undertaken by an agency other than the VS.]

*Terrestrial Code* reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H008,17; Pe 132-134; Pt 008,91; Pjp 60,63.

### **Findings:**

Botswana exports canned meat to South Africa. Some controls are undertaken on milk and dairy products, but not implemented in conformity with international standards.

The OIE PVS team did not have enough time to review the processing of animal products and was unable to schedule a visit to a milk processing plant or non- BMC meat packaging. However the VS informed the team that traceability of meat was implemented for export to EU.

### **Strengths:**

- Traceability of meat is apparently implemented by BMC to meet the EU requirements for export.

### **Weaknesses:**

- Processed animal products for the national market are not yet fully submitted to inspection, although part of this inspection authority remains with the municipal authorities or Ministry of Health

### **Recommendations:**

- Develop a plan of control of processed food of animal origin

<b>II-9. Veterinary medicines and biologicals</b>  <i>The authority and capability of the VS to regulate veterinary medicines and veterinary biologicals, i.e the authorisation, registration, import, production, labelling, distribution, sale and use of these products.</i>	<b>Levels of advancement</b>
	1. The VS cannot regulate veterinary medicines and veterinary biologicals.
	2. The VS has some capability to exercise administrative control over veterinary medicines and veterinary biologicals.
	3. The VS exercise effective administrative control and implement quality standards for most aspects of the regulation of veterinary medicines and veterinary biologicals.
	4. The VS exercise comprehensive and effective regulatory control of veterinary medicines and veterinary biologicals.
	5. In addition to complete regulatory control, the VS systematically monitor for adverse reactions (pharmacovigilance) and take appropriate corrective steps. The control systems are subjected to periodic audit of effectiveness.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): E1; H005, 10, 22, 24, 25, 47, 72,77; Pe010-16,34-44,54-57,90-92; Pt020,82-86,94;PJP3-9,74,91-93,133

### **Findings:**

Authorisation and registration of veterinary medicines and biologicals (VMB) are implemented by the import/export Division of DVS. To be registered, the VMB should be already registered in South Africa, Zimbabwe or Namibia. Then the VMB can be authorised for import through registered companies (two wholesalers) or private veterinarians. Last year, SADC discussed regional authorisation. Total amount of drug imported in the country is relatively low.

Three categories of veterinary drugs are defined: prohibited, prescription and over the counter drugs. The list of prohibited drugs includes products such as growth hormones. However the determination of the prescription or over-the-counter status seems to depend more on market opportunities than on scientific risk analysis. For examples, tetracycline available over-the-counter (“because farmers need it and use it”) but penicillin is by prescription (“because private veterinarians use it for pets”).

Botswana Vaccine Institute (BVI) produces FMD and other vaccines using OIE quality standards. BVI is undergoing a major renovation and will enhance the quality of vaccine production.

Retail distribution of VMB is shared between the public sector (35 LAC’s within the DVS), private drug shops (135 licences) and private veterinarians (14). The three systems compete and each has its own deficiencies.

Despite good management, the LAC system regularly faces shortages or has products on the shelf beyond their expiration dates. The LAC does not have financial autonomy (although a 20% margin is applied to the purchasing price). However, the LAC provides accessibility to needed products in most remote areas of the country and is set up to maintain the cold chain for vaccines. At the time of the time visit, the LAC’s were practically empty as it was the start of the fiscal year and money for stock had not yet been allotted; however, other drug retailers had supplies on hand.

Private drug shops are starting to appear to compensate the shortage of drugs of LACs and anyone can get a licence without technical background or training. There is thus no way to control the usage of the products made available through these sources.

Retail sale of prescription drugs is only through veterinarians, limiting accessibility because of their small number. Private veterinarians complain of unfair price competition with public VS and drug shops. Farmers complain about higher prices of drugs outside the LAC system and poor accessibility to needed prescription drugs. It should also be noted that veterinary para-professionals in the extension areas cannot deliver any drugs to farmers.

This recent deregulation could quickly lead to a total loss of control of VMB by the VS, especially under budgetary constraint which will oblige them to sooner or later get rid of the LAC

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system. This loss of control will pave way for increasing antimicrobial drug resistance and the entry of low quality products in commercial retail channels. This may also limit future market opportunities in the organic niche market or possibly even threaten the valuable EU export market.

**Strengths:**

- No apparent illegal market currently, good quality VMB are available. There is apparently low consumption of veterinary drugs

**Weaknesses:**

- Progressive deregulation of drug retail could lead to loss of control of the VS
- EU inspection reports already mention the deficiencies of veterinary drug control and traceability at farm level

**Recommendations:**

- Establish a detailed regulation for veterinary drugs distribution and usage to control retail sale by allowing accessibility under comprehensive veterinary control

II-10. Residue Testing	Levels of advancement
<i>The capability of the VS to undertake residue testing programmes for veterinary medicines (e.g. antimicrobials and hormones), chemicals, pesticides, radionuclides, metals, etc.</i>	1. No residue testing programme for animal products exists in the country.
	2. Some residue testing programme is performed but only for selected animal products for export.
	3. A comprehensive residue testing programme is performed for all animal products for export and some for domestic use.
	4. A comprehensive residue testing programme is performed for all animal products for export and/or internal consumption.
	5. The residue testing programme is subject to routine quality assurance and regular evaluation.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): E1; H30,73; Pt 05; Pjp65-69

### **Findings:**

Residue testing is partially done at the BNVL and one test is accredited. Other specimens are sent to UK reference laboratories. Residue testing methodology and sampling plan is established to comply with EU requirements beef destined for the European market and includes residue testing in animal feed. This plan is regularly evaluated by the EU and the last evaluation took place last month with a positive conclusion.

Residue testing for the national consumption market is being introduced for implementation in 2010.

Veterinarians and veterinary para-professionals are aware of withdrawal periods.

### **Strengths:**

- Residue testing is enforced for export and regularly audited

### **Weaknesses:**

- BNVL lacks capacity in residue testing to deal with the new national plan

### **Recommendations:**

- Level 5 could be achieved in the short term if BNVL improves capacity for residue testing.

II-11. Emerging issues	Levels of advancement
<i>The authority and capability of the VS to identify in advance, and take appropriate action in response to likely emerging issues under their mandate relating to the sanitary status of the country, public health, the environment, or trade in animals and animal products.</i>	1. The VS do not have procedures to identify in advance likely emerging issues.
	2. The VS monitor and review developments at national and international levels relating to emerging issues.
	3. The VS assess the risks, costs and/or opportunities of the identified emerging issues, including preparation of appropriate national preparedness plans. The VS have some collaboration with stakeholders and other agencies (e.g. human health, wildlife, animal welfare and environment) on emerging issues.
	4. The VS implement, in coordination with stakeholders, prevention or control actions due to an adverse emerging issue, or beneficial actions from a positive emerging issue. The VS have well-developed formal collaboration with stakeholders and other agencies (e.g. human health, wildlife, animal welfare and environment) on emerging issues.
	5. The VS coordinate actions with neighbouring countries and trading partners to respond to emerging issues, including audits of each other's ability to detect and address emerging issues in their early stages.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H063,84;

### **Findings:**

During the meeting held with the DVS it was acknowledged that there was no formal post, group or methodology dedicated to emerging issues.

However, according to the DVS and OIE Sub-Regional Representative many emerging issues are discussed by ad-hoc groups in DVS, for example:

- PPR has been discussed in the regional context with laboratories.
- BSE and HPAI were handled in a timely manner on time.
- Bee diseases are under study because they exist in South Africa (American Foulbrood (AFB) was introduced into South Africa and Varriosis into Madagascar)
- Botswana was the first country to notify the presence of Epizootic Ulcerative Syndrome (EUS) of fish in the Zambezi-Chobe basin in 2006 to OIE. This is the first time the disease was diagnosed in Africa.
- the current outbreak of Rift Valley Fever in South Africa was mentioned by the VS in a press release.

### **Strengths:**

- DVS is able to build on earlier ad hoc groups used to address past emerging issues to handle new issues

### **Weaknesses:**

- No position, methodology or group specifically dedicated to emerging issues. The usefulness of a risk analysis staff member within the VS, as referred to earlier, would be useful.
- Absence of consultation with stakeholders could lead to missing some emerging issues or to opportunities to institute preventive measures

### **Recommendations:**

- Delegate covering emerging issues to a VS staff position to or specifically include this responsibility in the duties of the appropriate member of current VS staff
- Set-up methodology, group and consultation on emerging issues building on existing relationships

<b>II-12. Technical innovation<sup>4</sup></b>  <i>The capability of the VS to keep up-to-date with the latest scientific advances and to comply with the standards of the OIE (and Codex Alimentarius Commission where applicable).</i>	<b>Levels of advancement</b>
	1. The VS have only informal access to technical innovations, through personal contacts and external sources.
	2. The VS maintain a database of technical innovations and international standards, through subscriptions to scientific journals and electronic media.
	3. The VS have a specific programme to actively identify relevant technical innovations and international standards.
	4. The VS incorporate technical innovations and international standards into selected policies and procedures, in collaboration with stakeholders.
	5. The VS systematically implement relevant technical innovations and international standards.

*Terrestrial Code* reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): Pt001, Pjp 2-,59

### **Findings:**

Although BNVL and BCA are responsible for animal health research, and despite the proximity and close working relationship with DVS, the team did not find clear evidence of programs or positions related to technical innovation. Unfortunately the Team did not have time to visit the Agricultural Research Centre at Sebele very near to the BNVL and BCA where there is a strong component of livestock research.

BVI is building a new state of the art vaccine production facility and increasing research on new vaccine strains and enhancing vaccine purification

### **Strengths:**

- Technical innovation is the product of the obvious commitment and competence of the central DVS staff.

### **Weaknesses:**

- Absence of methodology, position or group specifically related to technical innovation could lead to missing opportunities and changes (obvious examples are: deficiencies of the LITS which appears now an outdated system, difficulties reviewing FMD zoning, difficulties reviewing vaccinations programs and their efficacy, efficiency and cost benefit)

### **Recommendations:**

- Make sure the investment in FMD vaccine innovation gets optimal application and apply the advances to production of other vaccines.

<sup>4</sup> Technical innovation includes new disease control methods, new types of vaccines and diagnostic tests, food safety technologies, and connections to electronic networks on disease information and food emergencies.

<b>II-13. Identification and traceability</b>	<b>Levels of advancement</b>
<i>The authority and capability of the VS, normally in coordination with stakeholders, to identify animals under their mandate and trace their history, location and distribution for the purpose of animal disease control, food safety, or trade or any other legal requirements under the VS/OIE mandate.</i>	1. The VS do not have the authority or the capability to identify animals or control their movements.
	2. The VS can identify some animals and control some movements, using traditional methods and/or actions designed and implemented to deal with a specific problem (e.g. to prevent robbery).
	3. The VS implement procedures for animal identification and movement control for specific animal sub populations as required for disease control, in accordance with relevant international standards.
<b>A Animal identification and movement control</b>	4. The VS implement all relevant animal identification and movement control procedures, in accordance with relevant international standards.
	5. The VS carry out periodic audits of the effectiveness of their identification and movement control systems.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H 009,21,75,79; Pe 005-7,9,32,58-79,95,96; Pt 045,51,57-59,79; PJP10-20, 24-33, 52-56, 98,140

### **Findings:**

For several decades the VS has successfully implemented strict control of animal movements between animal disease control zones to maintain beef exports to South Africa and Europe. A branding act exists. Transport permits are issued by DVS and verified at internal check points. In 2000, VS implemented an individual animal identification system using electronic boluses called the Livestock Identification and Traceability System (LITS). Cattle can be identified by the unique bolus number which is linked to branding and other physical identification to the livestock owners.

The export abattoirs use this traceability system but at non-export abattoirs and farm level, the boluses are not systematically checked after death. The system is managed by the Livestock Identification and Trace-back Division.

However, since 2003, the EU audit reports have warned VS of serious deficiencies with their traceability capacity. In 2010, the VS requested FAO to make an assessment of the LITS and proposed improvements. The OIE PVS team had access to the draft report contracted by FAO and considered the report to very accurately reflect the situation and clearly describe all the strengths and weaknesses of the LITS program and makes relevant proposals. However, a financial analysis remains to be done before undertaking the changes needed to improve and make the system sustainable.

### **Strengths:**

- Modern and comprehensive means of identification and traceability is in place for cattle
- Coherent animal movement control of all animal species and their products.

### **Weaknesses:**

- Bolus management is poor for fallen animals, on-farm slaughter, and slaughter slabs
- LITS is not linked to any other databases including GIS, BNVL and Epidemiology sections of the VS
- LITS cannot generate proper reports for individual animals, crushes, owners....
- LITS was intended to be able to electronically save all paper work (work permits, vaccination certificates, etc); however, that function is not currently operational
- The LITS field units frequently malfunction hindering timely completion of work by extension staff and interrupting the delivery of field services. This disrupts farmers' business activities and is a source of dissatisfaction.
- Other species are not covered by LITS

**Recommendations:**

- Completely review the data management system for LITS and develop ways to link this information with GIS, BNVL, epidemiology, movement permits, vaccines certificates, etc.
- Include other species in an identification and traceability system
- Rehabilitate the system in consultation with stakeholders

<b>B. Identification and traceability of products of animal origin.</b>	<b>Levels of advancement</b>
<i>The authority and capability of the VS, normally in coordination with stakeholders, to identify and trace products of animal origin for the purpose of food safety, animal health or trade.</i>	1. The VS do not have the authority or the capability to identify or trace products of animal origin.
	2. The VS can identify and trace some products of animal origin to deal with a specific problem (e.g. products originating from farms affected by a disease outbreak).
	3. The VS have implemented procedures to identify and trace some products of animal origin for food safety, animal health and trade purposes, in accordance with relevant international standards.
	4. The VS have implemented national programmes enabling them the identification and tracing of all products of animal origin, in accordance with relevant international standards.
	5. The VS periodically audit the effectiveness of their identification and traceability procedures.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H 041; Pt038-39

**Findings:**

VS have initiated traceability of meat for export to the EU. EU audit reports have indicated on several occasions that the traceability is not satisfactory. Of particular concern is that that system cannot substantiate that animals were held on the farm of origin for more than 40 days, which is one of the basic movement requirements in the export standards.

**Strengths:**

- LITS has been in place establishing a traceability system for products for export since 2000.

**Weaknesses:**

- LITS - current deficiencies limits the traceability of products of animal origin.

**Recommendations:**

- Consider alternative ways to implement traceability of meat, focusing on commercial farms.
- Evaluate the need and feasibility of developing appropriate traceability systems for other products as milk, poultry meat, etc.
- Review the LIT system as soon as possible and implement the new scheme in order to maintain level 3 and advance to level 4.

II-14. Animal Welfare	Levels of advancement
<i>The authority and capability of the VS to implement the animal welfare standards of the OIE as published in the Terrestrial Code.</i>	1. The OIE standards are generally not implemented.
	2. Some of the OIE standards are implemented, e.g. primarily for the export sector.
	3. All of the OIE standards are implemented but this is primarily for the export sector.
	4. All of the OIE standards are implemented, for the export and the domestic sector.
	5. The OIE standards are implemented and implementation is periodically subject to independent external evaluation.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): Pjp 22-23

**Findings:**

Exists only in outdated legislation; “cruelty to animal acts” is administered by police.

No legislation yet exists, but the requirements of EU are implemented for export.

During the team visit, transporters were interviewed and were aware of appropriate conditions for the transport of livestock.

**Strengths:**

- DVS has implemented activities in compliance with EU regulations

**Weaknesses:**

- Legislation, regulations and procedures will need to be established or updated

**Recommendations:**

- Establish clear legislation, regulation and procedures in consultation with stakeholders

### III.3. Fundamental component III: Interaction with stakeholders

This component of the evaluation appraises the capability of the VS to collaborate with and involve stakeholders in the implementation of programmes and activities. It comprises six critical competencies

#### Critical competencies:

<b>Section III-1</b>	<b>Communication</b>
<b>Section III-2</b>	<b>Consultation with stakeholders</b>
<b>Section III-3</b>	<b>Official representation</b>
<b>Section III-4</b>	<b>Accreditation / Authorisation / Delegation</b>
<b>Section III-5</b>	<b>Veterinary Statutory Body (VSB)</b>
	<b>A. VSB Authority</b>
	<b>B. VSB Capacity</b>
<b>Section III-6</b>	<b>Participation of producers and stakeholders in joint programmes</b>

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*Terrestrial Code References:*

Points 6, 8 and 12 of Article 3.1.2. on Fundamental principles of quality: 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 VS.

Sub-point b) of Point 2 of Article 3.2.6. on Administrative resources: Communications.

Article 3.2.11. on Participation in 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 Administrative details / Animal health and veterinary public health controls / Sources of independent scientific expertise.

III-1. Communications	Levels of advancement
<i>The capability of the VS to keep stakeholders informed, in a transparent, effective and timely manner, of VS activities and programmes, and of developments in animal health and food safety.</i>	1. The VS have no mechanism in place to inform stakeholders of VS activities and programmes.
	2. The VS have informal communication mechanisms.
	3. The VS maintain an official contact point for communications but it is not always up-to-date in providing information.
	4. The VS contact point for communications provides up-to-date information, accessible via the internet and other appropriate channels, on activities and programmes.
	5. The VS have a well developed communication plan, and actively and regularly circulate information to stakeholders.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H028,53,58,62,63; Pt 077 PJP76, 85, 132,136,

### **Findings:**

There is a communication unit within the MoA, which produces its own weekly bulletins for TV and radio and there are several farmers' magazines distributed throughout the country. Although VS does not have an official communication officer, the MoA has communication capacity that the DVS can use for communication about VS activities. It was mentioned that the CVO would act as a communication focal point when needed. The DVS was able to communicate very quickly to convene and invite farmers' organisations to a meeting with the evaluation team. The lack of communication seems related more to deficiencies in data management. For instance, clear presentation of VS resources and operations is lacking. Better communication would help to enhance understanding by potential importers, domestic stakeholders and would be more consistent with OIE standards.

### **Strengths:**

- Communication can be easily made through resources of the MoA facilitated by the good relationship with the CVO of VS
- Communication is easy within the national context (good infrastructure, low population density, well established personal relationships among CVO, DVOs and farmers organisations)

### **Weaknesses:**

- Lack of a formal communication focal point and communication strategy for VS

### **Recommendations:**

- Implement a formal communication strategy for VS
- Link communication with enhanced data management

<b>III-2. Consultation with stakeholders</b>	<b>Levels of advancement</b>
<i>The capability of the VS to consult effectively with stakeholders on VS activities and programmes, and on developments in animal health and food safety.</i>	1. The VS have no mechanisms for consultation with stakeholders.
	2. The VS maintain informal channels of consultation with stakeholders.
	3. The VS maintain a formal consultation mechanism with stakeholders.
	4. The VS regularly hold workshops and meetings with stakeholders.
	5. The VS actively consult with and solicit feedback from stakeholders regarding proposed and current activities and programmes, developments in animal health and food safety, interventions at the OIE (Codex Alimentarius Commission and WTO SPS Committee where applicable), and ways to improve their activities.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H053, Pt 021,41,

### **Findings:**

During the team's visit and interviews, all representatives of the farmers' organisations indicated that consultation was not formalised and was organised and based on ad hoc needs using only the VS perspective. Most stakeholders also complained about lack of permanent and formal consultation. However, the VS indicated that the legal democratic process in Botswana requires compulsory consultation of stakeholders and stakeholder consultation is clearly an important mission for MoA. The VS complained that farmers do not participate in consulting processes.

Although some consultation obviously occurs between VS and stakeholders, the evaluation team did not find evidences of a formal and regular mechanism of consultation between the VS and the stakeholders. If and when consultation occurs, it is probably mainly with the "private commercial farmers" and others engaged in the beef export sector. A clear constraint is that the vast majority of farmers are not organised because 80% of the livestock producers are small.

There are at least 20 consumers groups in Botswana, under the national umbrella of a national association; however, the closing meeting of the PVS mission was the first opportunity for these groups to meet with DVS.

However, taking into account the history and structure of the VS, consultation did not appear to be a priority but things are slowly changing. In the face of budget and resources challenges, it will need to be a priority for the VS to join forces with stakeholders and consumers.

### **Strengths:**

- Consultation is a clearly identified mission of the MoA

### **Weaknesses:**

- Lack of farmers organisations for small holders
- Lack of formal consultation processes

### **Recommendations:**

- Establish formal national, district and sub-district consultation processes with all categories of stakeholders, including consumers
- Communicate with other governmental agencies such as Department of Animal Production to encourage individual stakeholders (e.g. small farmers, consumers) to become effectively organised

III-3. Official representation	Levels of advancement
<i>The capability of the VS to regularly and actively participate in, coordinate and provide follow up on relevant meetings of regional and international organisations including the OIE (and Codex Alimentarius Commission and WTO SPS Committee where applicable).</i>	1. The VS do not participate in or follow up on relevant meetings of regional or international organisations.
	2. The VS sporadically participate in relevant meetings and/or make a limited contribution.
	3. The VS actively participate in the majority of relevant meetings.
	4. The VS consult with stakeholders and take into consideration their opinions in providing papers and making interventions in relevant meetings.
	5. The VS consult with stakeholders to ensure that strategic issues are identified, to provide leadership and to ensure coordination among national delegations as part of their participation in relevant meetings.

*Terrestrial Code* reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6):

**Findings:**

Botswana regularly attends International meetings including the OIE General Session. Although Botswana does not regularly submit written comments to OIE Specialist Commissions' standard setting process, the OIE Delegate contributes positively to the World Assembly including significant financial contribution.

Management of BMC mentioned that they are consulted by and provide comments for the Botswana WTO team. The BMC CEO normally accompanies the CVO to the OIE general session and Codex meetings. In addition, at least two Botswana experts, including former OIE Delegates, are members of OIE ad hoc and working groups

However, the other stakeholders, such as farmers' organisations, are not usually consulted in comment preparation process.

**Strengths:**

- Botswana, as a beef exporting country, is an active member of OIE and participates in SPS and Codex meetings

**Weaknesses:**

- DVS does not consult stakeholders, except BMC (which is a para-statal entity)

**Recommendations:**

- Use the annual SADC Livestock Committee meeting to prepare and submit comments to OIE Specialist Commission reports and *Terrestrial Code* topics that impact Botswana.
- Organise formal consultation and communication with stakeholders about representation at international meetings
- Maintain a record of participation in international organisations, including comments submitted on topics of interest or impact.

<b>III-4. Accreditation / authorisation / delegation</b>  <i>The authority and capability of the public sector of the VS to accredit / authorise / delegate the private sector (e.g. private veterinarians and laboratories), to carry out official tasks on its behalf.</i>	<b>Levels of advancement</b>
	1. The public sector of the VS has neither the authority nor the capability to accredit / authorise / delegate the private sector to carry out official tasks.
	2. The public sector of the VS has the authority and capability to accredit / authorise / delegate to the private sector, but there are no current accreditation / authorisation / delegation activities.
	3. The public sector of the VS develops accreditation / authorisation / delegation programmes for certain tasks, but these are not routinely reviewed.
	4. The public sector of the VS develops and implements accreditation / authorisation / delegation programmes, and these are routinely reviewed.
	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 stakeholders.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H 026,27,60,

**Findings:**

Although there is generally no official delegation currently implemented per se, the certification of wildlife (live animals) for export has already been officially delegated to private veterinarians. Private veterinarians are authorised to vaccinate small animals for rabies and issue official vaccination certificates. There are prospects for development of a private veterinarians' network.

**Strengths:**

- The concept of official delegation is well understood as a development tool by the VS

**Weaknesses:**

- Lack of veterinarians in the country to implement official delegation
- Lack of clear strategy for expanding the role of private veterinarians or development of a network of private veterinarians in the field

**Recommendations:**

- Develop a clear strategy to allow for the development of an expanded network of private veterinarians in the field, which will require an appropriate legal framework and budgetary support to allow official delegation to private veterinarians (official testing and vaccination as examples).

<b>III-5. Veterinary Statutory Body (VSB)</b>	<b>Levels of advancement</b>
<b>A. VSB Authority</b> <i>The VSB is an autonomous authority responsible for the regulation of the veterinarians and veterinary para-professionals. Its role is defined in the Terrestrial Code.</i>	1. There is no legislation establishing a VSB.
	2. The VSB regulates veterinarians only within certain sectors of the veterinary profession and/or do not systematically apply disciplinary measures.
	3. The VSB regulates veterinarians in all relevant sectors of the veterinary profession and apply disciplinary measures.
	4. The VSB regulates functions and competencies of veterinarians in all relevant sectors and veterinary para-professionals according to needs.
	5. The VSB regulates and apply disciplinary measures to veterinarians and veterinary para-professionals in all sectors throughout the country.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H050,

### **Findings:**

The Veterinary Surgeons Act of 1973 currently serves as the legal basis for the Veterinary Board. It regulates all veterinarians, which in the current context in Botswana, are mainly in the public sector. The Board currently includes an attorney for purpose of applying disciplinary measures. A new act has been presented to the parliament with a provision to establish a Veterinary Statutory Body (VSB) but has not yet been adopted. The VSB will remain as a governmental organisation and have the structure and functions stipulated in the OIE *Terrestrial Code* including a registrar. The proposed VSB will expand from the current three members to six to eight members and include three veterinarians chosen by the veterinary association. It will regulate both veterinarians and veterinary para-professionals. The new VSB has been designed using the South African model, and a consultancy was established to apply the model within the national context in Botswana.

### **Strengths:**

- Veterinary Board currently exists based on an Act which stipulates qualification of veterinary surgeon and contains disciplinary actions including penalties.
- It includes an attorney to be able to apply for disciplinary measures

### **Weaknesses:**

- It is not an independent organisation
- The new act is not yet published

### **Recommendations:**

- Implementation of the new act could advance the level to 4 or 5

<b>B. VSB Capacity</b>	<b>Levels of advancement</b>
<i>The capacity of the Veterinary Statutory Body (VSB) to implement its functions and objectives in conformity with the OIE standards.</i>	1. The VSB has no capacity to implement its functions and objectives.
	2. The VSB has the functional capacity to implement its main objectives.
	3. The VSB is an independent representative organisation with the functional capacity to implement all of its objectives.
	4. The VSB has a transparent process of decision making and conforms with OIE standards.
	5. The financial and institutional management of the VSB are submitted to external auditing.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6):

**Findings:**

The current board has the capacity to implement its main objectives.

The future act, as drafted, will establish the VSB as an independent body.

**Strengths:**

- Taking into account the relatively low number of veterinarians in Botswana, the current VB has enough capacity

**Weaknesses:**

- If the new VSB is to also regulate all veterinary para professionals, it will need to increase its capacity significantly.
- The new VSB will not be an independent body as required in the OIE standards

**Recommendations:**

- Allocate the necessary resources to cope with future challenges to avoid falling to level 1
- Implementing the planned semi-autonomous VSB independent from the government will allow advancing to level 3 or higher

<b>III-6. Participation of producers and other stakeholders in joint programmes</b>  <i>The capability of the VS and stakeholders to formulate and implement joint programmes in regard to animal health and food safety.</i>	<b>Levels of advancement</b>
	1. Producers and other stakeholders only comply and do not actively participate in programmes.
	2. Producers and other stakeholders are informed of programmes and assist the VS to deliver the programme in the field.
	3. Producers and other stakeholders are trained to participate in programmes and advise of needed improvements, and participate in early detection of diseases.
	4. Representatives of producers and other stakeholders negotiate with the VS on the organisation and delivery of programmes.
	5. Producers and other stakeholders are formally organised to participate in developing programmes in close collaboration with the VS.

*Terrestrial Code reference(s): Annexe 1*

**Evidences** (references of documents or pictures listed in appendix 6):H058, Pe 050-53,86,104,135;

### **Findings:**

During the field visits, it was clear that the producers do not participate actively in joint programs. They are only consulted to organise animal health campaigns and sometimes to review gaps found during these campaigns.

Some farmers benefit from workshops and other trainings at the local level on a variety of subjects. The extension work done on animal health or on animal production is primarily done by veterinary para-professionals in their extension areas. It is important to mention that this extension work is clearly understood by the veterinary para-professionals as a significant part of their mission.

Although the development of farmer organisations is considered to part of the mission of the MoA, it does not seem to be effectively executed for small holders.

### **Strengths:**

- Extension work is done by VS staff providing more or less regular contact between veterinary para-professionals and farmers, although contact with veterinarians is highly variable and tends to be limited.
- Farmers associations development is a mission of the MoA

### **Weaknesses:**

- Extension programs are not targeted or audited to assess improvements made to animal health and production through any joint programs involving farmers organisations
- Small holders are not organised in farmers associations and miss much needed extension contact

### **Recommendations:**

- Invest in organising small holder farmers to provide them with more extension programs/contact
- Involve farmers organisations in joint programs in order to better manage and develop resources of the VS
- Use extension programs as a tool to strengthen the existing network of field veterinarians to support and encourage development of private veterinary practices especially in the rural areas, institute official delegations to allow private veterinarians to offer more services under official delegation if necessary. Do not let extension activities for livestock to become completely separated from VS staff.

### III.4. Fundamental component IV: Access to markets

This component of the evaluation appraises the authority and capability of the VS to provide support in order to access, expand and retain regional and international markets for animals and animal products. It comprises nine critical competencies.

#### Critical competencies:

<b>Section IV-1</b>	<b>Preparation of legislation and regulations</b>
<b>Section IV-2</b>	<b>Implementation of legislation and regulations and Stakeholder compliance</b>
<b>Section IV-3</b>	<b>International harmonisation</b>
<b>Section IV-4</b>	<b>International certification</b>
<b>Section IV-5</b>	<b>Equivalence and other types of sanitary agreements</b>
<b>Section IV-7</b>	<b>Transparency</b>
<b>Section IV-8</b>	<b>Zoning</b>
<b>Section IV-9</b>	<b>Compartmentalisation</b>

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#### *Terrestrial Code* References:

Chapter 1.2.1. on Obligations and ethics in international trade: General obligations.

Chapter 1.2.2. on Certification procedures.

Article 1.3.4.7. on Functional capabilities and legislative support.

Article 1.3.4.11. on Participation in OIE activities.

Points 6 and 10 of Article 1.3.4.14. on Functional capabilities and legislative support / Membership of the OIE.

Chapter 1.3.5. on Zoning and compartmentalisation.

Chapter 1.3.6. on Guidelines for reaching a judgement of equivalence of sanitary measures.

Appendix 3.5.1. on Identification and traceability of live animals: General principles.

Sections 4.1. and 4.2. on Model international veterinary certificates for live animals and for products of animal origin.

<b>IV-1. Preparation of legislation and regulations</b>	<b>Levels of advancement</b>
<i>The authority and capability of the VS to actively participate in the preparation of national legislation and regulations in domains that are under their mandate, in order to warranty its quality with respect to principles of legal drafting and legal issues (internal quality) and its accessibility, acceptability, and technical, social and economical applicability (external quality).</i>	1. The VS have neither the authority nor the capability to participate in the preparation of national legislation and regulations, which result in legislation that is lacking or is outdated or of poor quality in most fields of VS activity.
	2. The VS have the authority and the capability to participate in the preparation of national legislation and regulations and can largely ensure their internal quality, but the legislation and regulations are often lacking in external quality.
	3. The VS have the authority and the capability to participate in the preparation of national legislation and regulations, with adequate internal and external quality in some fields of activity, but lack formal methodology to develop adequate national legislation and regulations regularly in all domains
	4. The VS have the authority and the capability to participate in the preparation of national legislation and regulations, with a relevant formal methodology to ensure adequate internal and external quality, involving stakeholder participation in most fields of activity
	5. The VS regularly evaluate and update their legislation and regulations to maintain relevance to evolving national and international contexts.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H051,71,72

**Findings:**

New regulations are regularly reviewed to implement additional areas of control, as was the case for incorporating the residue testing into the authority of VS. Consultation during the process of legislation development was demonstrated.

**Strengths:**

- Legislation and regulations are quite relevant in most domains

**Weaknesses:**

- Legislation and regulations are not regularly evaluated and updated to maintain relevance

**Recommendations:**

- Establish a formal methodology for regular evaluation and updating of legislation

<b>IV-2. Implementation of legislation and regulations and stakeholder compliance<sup>5</sup></b>  <i>The authority and capability of the VS to ensure that stakeholders are in compliance with legislation and regulations under the VS mandate.</i>	<b>Levels of advancement</b>
	1. The VS have no or very limited programmes or activities to ensure stakeholder compliance with relevant regulations.
	2. The VS implement a programme or activities comprising inspection and verification of compliance with regulations and recording instances of non-compliance, but generally cannot or do not take further action in most relevant fields of activity.
	3. Veterinary legislation is generally implemented. As required, the VS have a power to take legal action / to prosecute in instances of non –compliance in most relevant fields of activity.
	4. Veterinary legislation is implemented in all domains of veterinary competence and the VS work with stakeholders to minimise instances of non-compliance.
5. The compliance programme is regularly subjected to audit by the VS or external agencies.	

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): H033,54,55,71,72,74,76

**Findings:**

The VS implements regular controls to ensure compliance by stakeholders in all fields of activities. The team witnessed confiscated items at internal check points and BIPs, as well as condemned parts of carcasses in slaughter places.

Administrative decisions to close some non-complaint abattoirs are taken.

**Strengths:**

- The VS is almost fully public and which eases the process of compliance

**Weaknesses:**

- Stakeholders are not involved in order to minimise non compliance, except on an individual basis (where the VS discuss or warn them before applying sanctions).

**Recommendations:**

- Encourage more participation by stakeholders to minimise non-compliance, especially when implementing the proposed changes to veterinary legislation.

5 Legislation is the basis for sanitary measures, and includes all relevant laws, regulations and decrees, and associated technical processes and procedures.

<b>IV-3. International harmonisation</b>	<b>Levels of advancement</b>
<p><i>The authority and capability of the VS to be active in the international harmonisation of regulations and sanitary measures and to ensure that the national legislation and regulations under their mandate take account of relevant international standards, as appropriate.</i></p>	1. National legislation, regulations and sanitary measures under the mandate of the VS do not take account of international standards.
	2. The VS are aware of gaps, inconsistencies or non-conformities in national legislation, 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 legislation, regulations and sanitary measures with the aim of harmonising them, as appropriate, with international standards, but do not actively comment on the draft standards of relevant intergovernmental organisations.
	4. The VS are active in reviewing and commenting on the draft standards of relevant intergovernmental organisations.
	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 harmonise national legislation, regulations and sanitary measures.

*Terrestrial Code* reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): Pt001,

**Findings:**

Botswana is an active member of the SADC Livestock Technical Committee which deliberates on topical issues including as BSE and commodity based trade. Although there is no evidence that drafting regulations is based on such relevant international regulations.

VS uses the OIE *Terrestrial Code* and OIE technical manuals at all times and consults with these whenever confronted with a problem and applies the guidelines for decision making.

The terms of reference for the meat industry legislation are in compliance with OIE standards.

**Strengths:**

- Botswana, being a beef exporting country, harmonises its legislation to maintain its export markets

**Weaknesses:**

- Botswana could participate more actively in the process by keeping a record of proposals made during these meetings

**Recommendations:**

- Proposals of harmonizations made by Botswana should be recorded as evidence of international harmonization efforts.

<b>IV-4. International certification<sup>6</sup></b> <i>The authority and capability of the VS to certify animals, animal products, services and processes under their mandate, in accordance with the national legislation and regulations, and international standards.</i>	<b>Levels of advancement</b>
	1. The VS have neither the authority nor the capability to certify animals, animal products, services or processes.
	2. The VS have the authority to certify certain animals, animal products, services and processes, but are not always in compliance with the national legislation and regulations and international standards.
	3. The VS develop and carry out certification programmes for certain animals, animal products, services and processes under their mandate in compliance with international standards.
	4. The VS develop and carry out all relevant certification programmes for any animals, animal products, services and processes 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): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6):

**Findings:**

Botswana's VS regularly exports to many countries and have in place, relevant international certification processes, including quarantine export process if required. Botswana certifies the following for export:

- beef and beef products to the EU, Norway, South Africa and Reunion
- ostrich products, game trophies, hides and skins, pets to many countries
- live game animals and horses to SADC countries
- poultry and hatching eggs to Zimbabwe

However, certification by veterinarians is difficult to implement because of the lack of veterinarians in the field

**Strengths:**

- The international certification process is understood and properly applied

**Weaknesses:**

- The VS would have difficulties to implement a certification process covering all the territory and all domains of activities because of lack of veterinarians in the field.
- The certification process is not regularly audited by the VS, although EU evaluations could be considered as external audit of the certification process for beef exports

**Recommendations:**

- Develop an internal audit system of certification.
- Develop a field network of veterinarians (government and private) to pave the way for additional future certifications.

<sup>6</sup> Certification procedures should be based on relevant OIE and Codex Alimentarius standards.

<b>IV-5. Equivalence and other types of sanitary agreements</b>	<b>Levels of advancement</b>
<i>The authority and capability of the VS to negotiate, implement and maintain equivalence and other types of sanitary agreements with trading partners.</i>	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.
	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): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6):

**Findings:**

Within SADC there are well established trade protocols with an SPS Technical Annex that are fully endorsed and these sanitary agreements facilitate regional trade.

**Strengths:**

- The VS complies with sanitary agreements at the regional level

**Weaknesses:**

- There was no evidence that the VS actively seeks new agreements for products other than beef.

**Recommendations:**

- Organise consultation with stakeholders on this topic to determine if there are other livestock sectors with possible export development potential or interest.

IV-6. Transparency	Levels of advancement
<i>The authority and capability of the VS to notify the OIE of their sanitary status and other relevant matters (and to notify the WTO SPS Committee where applicable), in accordance with established procedures.</i>	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 inform stakeholders of changes in their regulations and decisions on the control of relevant diseases and of the country's sanitary status, and of changes in the regulations and sanitary status of other countries.
	5. The VS, in cooperation with their stakeholders, carry out audits of their transparency procedures.

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6):H 031,Pjp 76

**Findings:**

Botswana has a good historical record of OIE notification about different diseases, mainly FMD and CBPP. However, there are few if any notifications or available examples of communication with WTO/SPS

**Strengths:**

- As a beef exporting country, Botswana has a history of transparency which has enabled them to maintain export markets.

**Weaknesses:**

- Stakeholders are informed of the current status, but they are not formally consulted on their current or future needs

**Recommendations:**

- Strengthen consultation with stakeholders
- Conduct an audit of transparency procedures and use the outcome to strengthen involvement of stakeholders.
- Review the overall management of available data to develop a more effective way to communicate with stakeholders about the resources and operations of the VS

IV-7. Zoning	Levels of advancement
<i>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).</i>	1. The VS cannot establish disease free zones.
	2. As necessary, the VS can identify animal sub-populations with distinct health status suitable for zoning.
	3. The VS have implemented biosecurity measures that enable it to establish and maintain disease free zones for selected animals and animal products, as necessary.
	4. The VS collaborate with their stakeholders to define responsibilities and execute actions that enable it to establish and maintain disease free zones for selected animals and animal products, as necessary.
	5. The VS can demonstrate the scientific basis for any disease free zones and can gain recognition by trading partners that they meet the criteria established by the OIE (and by the WTO SPS Agreement where applicable).

Terrestrial Code reference(s): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6): Pe 58-79,95,96; PJP27-34,45-46,57-58,75,103-104,114-117,123-124

### **Findings:**

The application of zoning is critical in maintaining the beef exports markets. Failure to address the deficiencies identified in zoning and animal identification may imperil beef exports in the future.

Botswana is famous for its zoning system based on hundreds of kilometres of animal and wildlife control fences. There are approximately 20 FMD control zones which were progressively refined over the last 50 years to maintain their beef export markets. Since 2000, beef from the FMD free without vaccination zone has been recognised by OIE and supported exports to the EU. Taking into account this evidence, the OIE PVS team thus qualifies this critical competence at level 5.

FMD outbreaks are contained in disease free with vaccination zones. Some of these zones are progressing toward FMD free-without-vaccination status after years of monitoring.

Consultation with stakeholders does not occur and farmers complain of such situation because of the economic impact of lower prices for beef derived from the vaccination zones. This could lead to conflict and undermine the zoning process.

FMD outbreaks are often attributed to contact between wildlife (buffalo) and cattle. However, this has not been verified and there is no scientifically appropriate permanent active surveillance to detect circulation of the virus in wildlife. Nor is there permanent scientifically based active sero-surveillance in cattle to assess the effectiveness of FMD vaccination or to detect circulation of the virus in cattle or other susceptible species in the FMD infected or free with vaccination zones. Moreover, VS assert that pigs and small ruminants have not played a role and were never infected with FMD in any past outbreak; however, there is no scientific evidence to substantiate these claims.

Maintaining such extensive zoning measures for long time periods is challenging because people become less vigilant and the general public finds the control measures burdensome. It was obvious from the field trip that control gate staff did not have a clear and common interpretation of the hazards.

### **Strengths:**

- Zoning is well understood and applied with artificial barriers for more than 50 years.

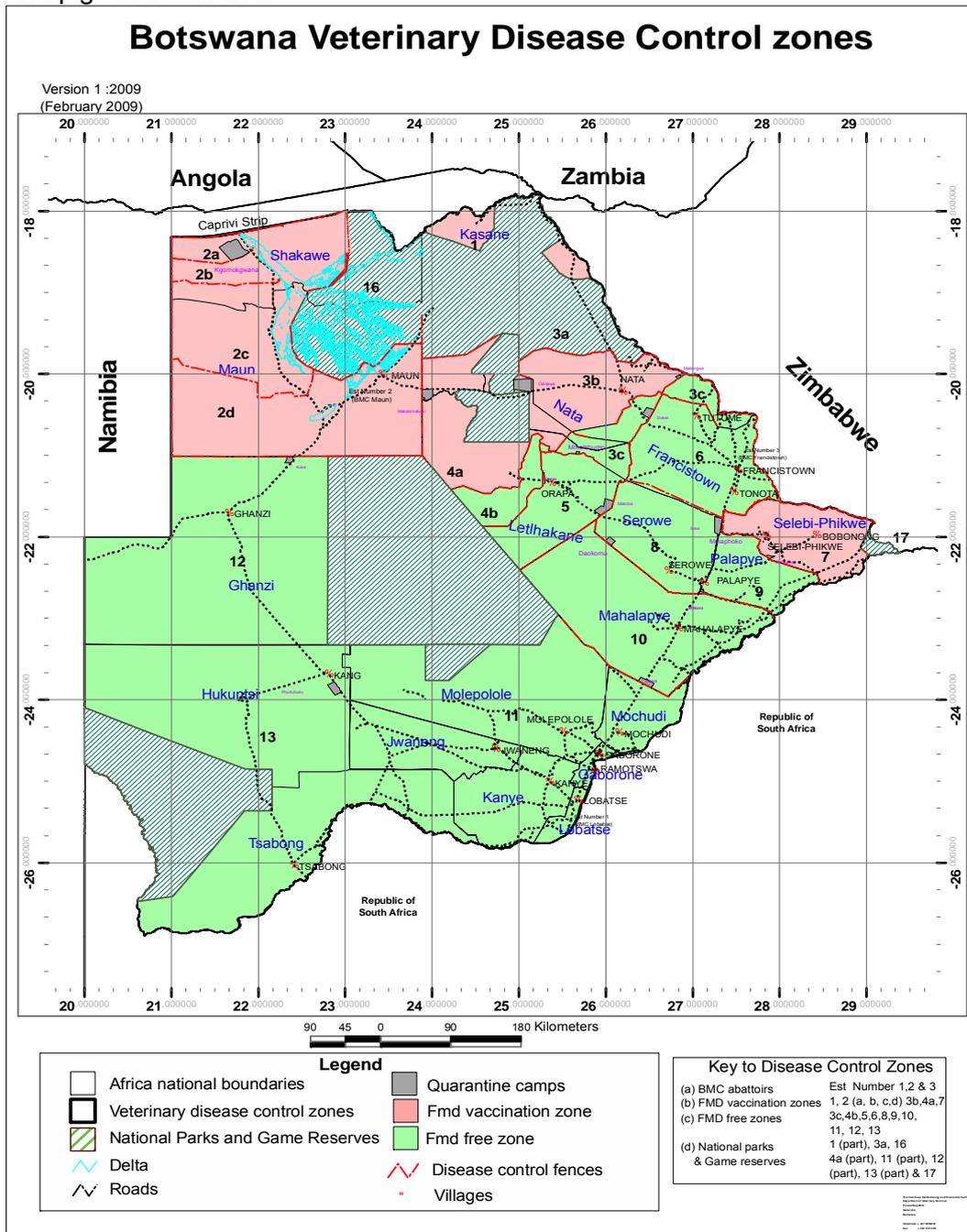
### **Weaknesses:**

- VS considers zoning to be unavoidable in Botswana. Little consideration or consultation with farmers' results in more discontent than necessary.
- Virus circulation in wildlife has not been investigated since the 1990's.
- Post vaccinal serological monitoring is not done in FMD vaccination zones.

- Virus circulation in small ruminants and pigs should be scientifically investigated to validate the assertion that they play no role in FMD virus circulation.

**Recommendations:**

- Zoning should evolve progressively on the basis of risk analysis, supported with better communication and consultation with stakeholders.
- FMD virus circulation should be monitored in wildlife on a scientific basis
- Post-FMD vaccination serological monitoring should be carried out and virus circulation in cattle should be investigated
- Scientifically evaluate the FMD status and possible epidemiologic role of small ruminants and pigs in Botswana.



<b>IV-8. Compartmentalisation</b> <i>The authority and capability of the VS to establish and maintain disease free compartments as necessary and in accordance with the criteria established by the OIE (and by the WTO SPS Agreement where applicable)</i>	<b>Levels of advancement</b>
	1. The VS cannot establish disease free compartments.
	2. As necessary, the VS can identify animal sub-populations with a distinct health status suitable for compartmentalisation.
	3. The VS have implemented biosecurity measures that enable it to establish and maintain disease free compartments for selected animals and animal products, as necessary.
	4. The VS collaborate with their stakeholders to define responsibilities and execute actions that enable it to establish and maintain disease free compartments for selected animals and animal products, as necessary.
	5. The VS can demonstrate the scientific basis for any disease free compartments and can gain 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): Annexe 1

**Evidences** (references of documents or pictures listed in appendix 6):

**Findings:**

The network of cattle quarantine camps may be viewed as form of compartmentalization. As part of the country's zoning program, the VS established 18 cattle quarantine camps (currently 5 are in use) to control animal movement into the higher health status zones. Although these quarantine camps are not used to achieve a higher health status, they clearly indicate that the VS are able to establish and maintain a form of compartments.

The quarantine camps are large tracts of land, usually double fenced and divided into several padlocks with a central borehole and crush pen. Animal are kept during 28 days and vaccinated against FMD at day 1, 14 and 28. However, the quarantine camp system would benefit from reorganisation to support movement of quarantined animals out of FMD infected or vaccination zones.

**Strengths:**

- The quarantine camp system is essentially a form of compartmentalisation.

**Weaknesses:**

- The quarantine camps do not allow movement of cattle from FMD infected or vaccination zones into disease free without vaccination zone.

**Recommendations:**

- Establishment of FMD free compartments and/or upgrading of the quarantine camp system should be carefully analysed on cost benefit basis with risk analysis.

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## PART IV: CONCLUSIONS

The OIE-PVS Mission went very well and the team was able to visit as many areas in the country as time would allow. The team found an admirable degree of cooperation and transparency at all levels. Botswana has very competent, stable and well educated cadre of veterinarians. However, the number of veterinarians is quite small and the vast majority of the direct contact with livestock is done by a large staff of veterinary para-professionals and non-technical staff.

DVS is generally well managed and resourced at all levels. However, they rely completely on national budget allocations and with the global economic slow-down may lead to future budget constraints. Possible cost recovery mechanisms and privatization of some functions through accredited private veterinarians should be considered.

VS resources are heavily committed to maintaining access their longstanding export beef market which presents both challenges and opportunities. VS focus primarily on the very demanding EU market but may not be seeking other opportunities for trade in Africa and other regions including the Middle East and Asia. Comprehensive review, including cost benefit analysis, of export goals should be done with a look to the future.

The current animal identification system (LITS) needs to be improved to continue to meet EU standards. The recent FAO draft report could serve as a valuable guide for reform. Any overhaul should also evaluate how to best utilize and integrate the animal identification system with the other databases, including epidemiologic and laboratory data, already in place.

The separation of the Department of Livestock Production from VS enhanced the technical independence of VS. However, the Agricultural District Coordinators put in place to reallocate constrained physical resources at the District level may compromise the current high level of technical independence of the DVO. Any future changes should be reviewed in terms of continuing ability to comply with OIE guidelines.

FMD surveillance in wildlife and other FMD susceptible species should be developed.

The food inspection program for domestic consumption should be brought up to the same standards found in export abattoirs.

With the help of MoA, VS should begin to work with all of their stakeholders. Currently, VS interacts primarily with export cattlemen, but could build on this network to work with the rapidly developing poultry and dairy sectors and the small holders who are not represented by any formal farmer organizations.



## PART V: APPENDICES

### Appendix 1: Terrestrial Code references for critical competencies

Critical Competences	Terrestrial Code references
<b>I.1.A</b> <b>I.1.B</b> <b>I.2.A</b> <b>I.2.B</b>	<ul style="list-style-type: none"> <li>➤ Points 1-5 of Article 3.1.2. on Fundamental principles of quality: Professional judgement / Independence / Impartiality / Integrity / Objectivity.</li> <li>➤ Points 6 and 13 of Article 3.1.2. on Fundamental principles of quality: General organisation / Human and financial resources.</li> <li>➤ Article 3.2.5. on Evaluation criteria for human resources.</li> <li>➤ Article 3.2.12. on Evaluation of the veterinary statutory body.</li> <li>➤ Points 1-2 and 5 of Article 3.2.14. on Organisation and structure of Veterinary Services / National information on human resources / Laboratory services.</li> </ul>
<b>I.3</b>	<ul style="list-style-type: none"> <li>➤ Points 1, 6 and 13 of Article 3.1.2. on Fundamental principles of quality: Professional judgement / General organization / Human and financial resources.</li> <li>➤ Article 3.2.5. on Evaluation criteria for human resources.</li> <li>➤ Sub-point d) of Point 4 of Article 3.2.10. on Veterinary Services administration: In-Service training and development programme for staff.</li> <li>➤ Point 9 of Article 3.2.14. on Performance assessment and audit programmes.</li> </ul>
<b>I.4</b>	<ul style="list-style-type: none"> <li>➤ Point 2 of Article 3.1.2. on Fundamental principles of quality: Independence</li> </ul>
<b>I.5</b>	<ul style="list-style-type: none"> <li>➤ Point 1 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services.</li> <li>➤ Point 9 of Article 3.2.14. on Performance assessment and audit programmes.</li> </ul>
<b>I.6.A</b> <b>I.6.B</b>	<ul style="list-style-type: none"> <li>➤ Points 6 and 8 of Article 3.1.2. on Fundamental principles of quality: General organisation / Procedures and Standards.</li> <li>➤ Article 3.2.2. on Scope.</li> <li>➤ Points 1 and 2 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services.</li> <li>➤ Point 4 of Article 3.2.10 on Performance assessment and audit programmes.</li> </ul>
<b>I.7</b>	<ul style="list-style-type: none"> <li>➤ 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”.</li> <li>➤ Points 2 and 3 of Article 3.2.6. on Evaluation criteria for material resources: Administrative / Technical.</li> <li>➤ Point 3 of Article 3.2.10. on Performance assessment and audit programmes: Compliance.</li> <li>➤ Point 4 of- Article 3.2.14. on Administrative details.</li> </ul>
<b>I.8</b> <b>I.9</b> <b>I.10</b>	<ul style="list-style-type: none"> <li>➤ Point 13 of Article 3.1.2. on Fundamental principles of quality: Human and financial resources.</li> <li>➤ Point 1 of Article 3.2.6. on Evaluation criteria for material resources: Financial.</li> <li>➤ Point 3 of Article 3.2.14. on Financial management information.</li> </ul>
<b>I.11</b>	<ul style="list-style-type: none"> <li>➤ Point 6, 10, 13 of Article 3.1.2. on Fundamental principles of quality: General organization, Documentation, Human and financial resources</li> <li>➤ Point 4 of Article 3.2.1. on General consideration</li> </ul>

	<ul style="list-style-type: none"> <li>➤ Point 1 of Article 3.2.2. on Scope</li> <li>➤ Article 3.2.6. on Evaluation criteria for material resources</li> <li>➤ Article 3.2.10. on Performance assessment and audit programme</li> </ul>
<b>II.1</b>	<ul style="list-style-type: none"> <li>➤ Point 8 of Article 3.1.2. on Fundamental principles of quality: Procedures and standards.</li> <li>➤ Point 3 of Article 3.2.6. on Evaluation criteria for material resources: Technical.</li> <li>➤ Point 5 of Article 3.2.14. on Laboratory services.</li> </ul>
<b>II.2</b>	<ul style="list-style-type: none"> <li>➤ Point 8 of Article 3.1.2. on Fundamental principles of quality: Procedures and standards.</li> <li>➤ Point 1 of Article 3.2.4. on Evaluation criteria for quality systems.</li> <li>➤ Point 3 of Article 3.2.6. on Evaluation criteria for material resources: Technical.</li> <li>➤ Point 5 of Article 3.2.14. on Laboratory services.</li> </ul>
<b>II.3</b>	<ul style="list-style-type: none"> <li>➤ Chapter 2.1. on Import risk analysis</li> </ul>
<b>II.4</b>	<ul style="list-style-type: none"> <li>➤ Point 8 of Article 3.1.2. on Fundamental principles of quality: Procedures and standards.</li> <li>➤ Point 2 of Article 3.2.7. on Functional capabilities and legislative support: Export/Import inspection.</li> <li>➤ Points 6 and 7 of Article 3.2.14. on Functional capabilities and legislative support and Animal health and veterinary public health controls.</li> </ul>
<b>II.5.A</b> <b>II.5.B</b>	<ul style="list-style-type: none"> <li>➤ Points 6 and 8 of Article 3.1.2. on Fundamental principles of quality: General organisation / Procedures and standards.</li> <li>➤ Points 1-3 of Article 3.2.8. on Animal health controls: Animal health status / Animal health control / National animal disease reporting systems.</li> <li>➤ Sub-points a) i), ii) and iii) of Point 7 of Article 3.2.14. on Animal health: Description of and sample reference data from any national animal disease reporting system controlled and operated or coordinated by the <a href="#">Veterinary Services</a> / 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 <a href="#">Veterinary Services</a> / Description and relevant data of current official control programmes including:... or eradication programmes for specific diseases.</li> </ul>
<b>II.6</b> <b>II.7</b>	<ul style="list-style-type: none"> <li>➤ Points 6 and 8 of Article 3.1.2. on Fundamental principles of quality: General organisation / Procedures and standards.</li> <li>➤ Points 1-3 of Article 3.2.8. on Animal health controls: Animal health status/Animal health control/National animal disease reporting systems.</li> <li>➤ Sub-point a) of Point 7 of Article 3.2.14. on Animal health and veterinary public health controls: Animal health.</li> </ul>
<b>II.8.A</b> <b>II.8.B</b>	<ul style="list-style-type: none"> <li>➤ Points 6 and 8 of Article 3.1.2. on Fundamental principles of quality: General organisation / Procedures and standards.</li> <li>➤ 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.</li> <li>➤ Points 2, 6 and 7 of Article 3.2.14. on National information on human resources / Functional capabilities and legislative support / Animal health and veterinary public health controls.</li> <li>➤ Chapter 6.2. on Control of biological hazards of animal health and public health importance through ante- and post-mortem meat inspection.</li> </ul>
<b>II.9</b>	<ul style="list-style-type: none"> <li>➤ Point 8 of Article 3.1.2. on Fundamental principles of quality: Procedures and standards.</li> <li>➤ Points 3 and 4 of Article 3.2.9. on Veterinary public health controls:</li> </ul>

	<p>Chemical residue testing programmes / Veterinary medicines.</p> <ul style="list-style-type: none"> <li>➤ 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”.</li> <li>➤ Chapters 6.7. to 6.11. on Antimicrobial resistance.</li> </ul>
<b>II.10</b>	<ul style="list-style-type: none"> <li>➤ Points 3 and 4 of Article 3.2.9. on Veterinary public health controls: Chemical residue testing programmes / Veterinary medicines.</li> <li>➤ Sub-points b) iii) and iv) of Point 7 of Article 3.2.14. on Veterinary public health: Chemical residue testing programmes / Veterinary medicines.</li> <li>➤ Chapters 6.7. to 6.11. on Antimicrobial resistance.</li> </ul>
<b>II.11</b>	<ul style="list-style-type: none"> <li>➤ Points 6 and 8 of Article 3.1.2. on Fundamental principles of quality: General Organisation / Procedures and standards.</li> <li>➤ Point 1 of Article 3.2.7. on Functional capabilities and legislative support: Animal health and veterinary public health.</li> </ul>
<b>II.12</b>	<ul style="list-style-type: none"> <li>➤ Points 6 and 8 of Article 3.1.2. on Fundamental principles of quality: General Organisation / Procedures and standards.</li> <li>➤ Point 3 of Article 3.2.8. on Animal health controls: National animal disease reporting systems.</li> <li>➤ Sub-point f) of Point 4 of Article 3.2.10. on Veterinary Services administration: Formal linkages with sources of independent scientific expertise.</li> <li>➤ Points 6 and 7 of Article 3.2.14. on Functional capabilities and legislative support / Animal health and veterinary public health controls.</li> </ul>
<b>II.13</b>	<ul style="list-style-type: none"> <li>➤ Chapter 7.1. Introduction to the recommendations for animal welfare</li> <li>➤ Chapter 7.2. Transport of animals by sea</li> <li>➤ Chapter 7.3. Transport of animals by land</li> <li>➤ Chapter 7.4. Transport of animals by air</li> <li>➤ Chapter 7.5. Slaughter of animals</li> <li>➤ Chapter 7.6. Killing of animals for disease control purposes</li> </ul>
<b>III.1</b>	<ul style="list-style-type: none"> <li>➤ Point 12 of Article 3.1.2. on Fundamental principles of quality: Communication.</li> <li>➤ Sub-point b) of Point 2 of Article 3.2.6. on Administrative resources: Communications.</li> <li>➤ Point 4 of Article 3.2.14. on Administrative details.</li> </ul>
<b>III.2</b>	<ul style="list-style-type: none"> <li>➤ Point 12 of Article 3.1.2. on Fundamental principles of quality: Communication.</li> <li>➤ Point 2 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services.</li> <li>➤ Point 4 and Sub-point g) of Point 9 of Article 3.2.14. on Administrative details and on Sources of independent scientific expertise.</li> </ul>
<b>III.3</b>	<ul style="list-style-type: none"> <li>➤ Article 3.2.11. on Participation on OIE activities.</li> <li>➤ Point 4 of Article 3.2.14. on Administrative details.</li> </ul>
<b>III.4</b>	<ul style="list-style-type: none"> <li>➤ Points 6 and 8 of Article 3.1.2. on Fundamental principles of quality: General organisation / Procedures and standards.</li> <li>➤ Point 7 of Article 3.2.3. on Evaluation criteria for the organisational structure of the Veterinary Services.</li> </ul>
<b>III.5.A</b> <b>III.5.B</b>	<ul style="list-style-type: none"> <li>➤ Point 9 of Article 3.2.1. on General considerations.</li> <li>➤ Article 3.2.12. on Evaluation of the veterinary statutory body.</li> </ul>
<b>III.6</b>	<ul style="list-style-type: none"> <li>➤ Article 3.2.11. on Participation on OIE activities.</li> <li>➤ Point 4 of Article 3.2.14. on Administrative details.</li> </ul>
<b>IV.1</b>	<ul style="list-style-type: none"> <li>➤ Points 6 and 8 of Article 3.1.2. on Fundamental principles of quality: General organisation / Procedures and standards.</li> <li>➤ Points 1 and 2 of Article 3.2.7. on Functional capabilities and</li> </ul>

	<p>legislative support: Animal health and veterinary public health / Export/import inspection.</p> <ul style="list-style-type: none"> <li>➤ Point 6 of Article 3.2.14. on Functional capabilities and legislative support.</li> </ul>
<b>IV.2</b>	<ul style="list-style-type: none"> <li>➤ Points 6 and 8 of Article 3.1.2. on Fundamental principles of quality: General organisation / Procedures and standards.</li> <li>➤ Points 1 and 2 of Article 3.2.7. on Functional capabilities and legislative support: Animal health and veterinary public health / Export/import inspection.</li> <li>➤ Point 6 of Article 3.2.14. on Functional capabilities and legislative support.</li> </ul>
<b>IV.3</b>	<ul style="list-style-type: none"> <li>➤ Article 3.2.11. on Participation in OIE activities.</li> <li>➤ Points 6 and 10 of Article 3.2.14. on Functional capabilities and legislative support and on Membership of the OIE.</li> </ul>
<b>IV.4</b>	<ul style="list-style-type: none"> <li>➤ Chapter 5.2. on Certification procedures.</li> <li>➤ Points 6 and 8 of Article 3.1.2. on Fundamental principles of quality: General organisation / Procedures and standards.</li> <li>➤ Point 2 of Article 3.2.7. on Functional capabilities and legislative support: Export/import inspection.</li> <li>➤ Sub-point b) of Point 6 of Article 3.2.14. on Functional capabilities and legislative support: Export/import inspection.</li> <li>➤ Chapters 5.10. to 5.12. on Model international veterinary certificates.</li> </ul>
<b>IV.5</b>	<ul style="list-style-type: none"> <li>➤ Point 6 of Article 3.1.2. on Fundamental principles of quality: General organisation.</li> <li>➤ Sub-point g) of Point 4 of Article 3.2.10. on Veterinary Services administration: Trade performance history.</li> <li>➤ Chapter 5.3. on OIE procedures relevant to the Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization.</li> </ul>
<b>IV.6.A</b> <b>IV.6.B</b>	<ul style="list-style-type: none"> <li>➤ Chapter 4.1. on General principles on identification and traceability of live animals.</li> <li>➤ Chapter 4.2. on Design and implementation of identification systems to achieve animal traceability.</li> </ul>
<b>IV.7</b>	<ul style="list-style-type: none"> <li>➤ Chapter 5.1. on General obligations related to certification.</li> <li>➤ Points 1 and 3 of Article 3.2.8. on Animal health controls: Animal health status / National animal disease reporting systems.</li> </ul>
<b>IV.8</b>	<ul style="list-style-type: none"> <li>➤ Chapter 4.3. on Zoning and compartmentalisation.</li> </ul>
<b>IV.9</b>	<ul style="list-style-type: none"> <li>➤ Chapter 4.3. on Zoning and compartmentalisation.</li> <li>➤ Chapter 4.4. on Application of compartmentalisation.</li> </ul>

## Appendix 2: Glossary of terms

Terms defined in the Terrestrial Code that are used in this publication are reprinted here for ease reference.

### ***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.

### ***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 in the whole territory.

### ***Emerging disease***

means a new infection resulting from the evolution or change of an existing pathogenic agent, a known infection spreading to a new geographic area or population, or a previously unrecognized pathogenic agent or disease diagnosed for the first time and which has a significant impact on animal or public health.

### ***Equivalence of sanitary measures***

means the state wherein the sanitary measure(s) proposed by the exporting country as an alternative to those of the importing country, achieve(s) the same level of protection.

### ***International veterinary certificate***

means a certificate, issued in conformity with the provisions of Chapter 5.2., 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.

### ***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 control programme***

means a programme which is approved, and managed or supervised by the Veterinary Authority of a country for the purpose of controlling a vector, pathogen or disease by specific measures applied throughout that country, or within a zone or compartment of that country.

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**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.

**Official veterinary control**

means the operations whereby the Veterinary Services, knowing the location of the animals and after taking appropriate actions to identify their owner or responsible keeper, are able to apply appropriate animal health measures, as required. This does not exclude other responsibilities of the Veterinary Services e.g. food safety.

**Risk analysis**

means the process composed of hazard identification, risk assessment, risk management and risk communication.

**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 to those who need to know so that action can be taken.

**Terrestrial Code**

means the OIE Terrestrial Animal Health Code.

**Veterinarian**

means a person 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 an OIE Member, comprising veterinarians, other professionals and para-professionals, 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 in the whole territory.

**Veterinary para-professional**

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 para-professional) in a territory, and delegated to them under the responsibility and direction of a veterinarian. The tasks for each category of veterinary para-professional 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 in the territory. The Veterinary Services are under the overall control and direction of the Veterinary Authority. Private sector organisations, veterinarians or veterinary paraprofessionals are normally accredited or approved to deliver functions by the Veterinary Authority.

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***Veterinary statutory body***

means an autonomous authority regulating veterinarians and veterinary para-professionals



### Appendix 3. List of persons met or interviewed

Note: The team apologises for any mistake in name writing and thanks for understanding.

Date	Name	Position	Institution	Location
<b>Opening meeting</b>				
29/03/10	Boweditswe Masilo	Department Animal Production	DAP	Gaborone
	Onkabetse G. Matho	General Manager	BVI	"
	Gaolathe Thobokwe	Chief Veterinary Officer	BVI	"
	Neo. Mapitse	Principal Veterinary Officer	DVS	"
	Kefentse Motshegwa	Tsetse and Tryp control	DVS	"
	Kobedi Segale	Disease control division	"	"
	K Mosielele	Department Animal Production	DAP	"
	Keeletile Segosebe	Import Export Traceability	DVS	"
	John Kgosiemang	Livestock Advisory Centre	DVS	"
	Lethogile Oarabile	Import Export and Traceability	"	"
	Kerapetse Sehularo	Meat Hygiene and Quality Control	"	"
Kekgonne Baipoledi	Deputy Director	BNVL	"	
<b>Field visits, meetings and interviews</b>				
30/03/10	Richard K. Tlotleng	Sample Reception	BNVL	Gaborone
	C. Marobela-Raborokgwe	Diagnostics	BNVL	"
	Thulie-C Losho	Food safety/residues	BNVL	"
	Lethogile Modisa	Support Service division	DVS	"
	Clifford Baba Habana	Administration and Human Resource	DVS	"
	Kerapetse Sehularo	Meat Hygiene and Quality Control division	DVS	"
	Mataba Tapela	Deputy Dean	BCA	"
	Esau Waugh	Animal Science and Prod	BCA	"
	M. Kolanyane	Reforms and Training	DVS	"
	Lethogile Oarabile	Import/ Export and Traceability division	DVS	"
	Kobedi Segale	Animal Disease control	DVS	"
	Eliot Fana	Product QC & reference lab	BVI	"
	Pierre Mure-Ravaud	Deputy general manager	BVI	"
	Dr. O. G. Matlho	BVI general manager	BVI	"
31/03/10	Ntema	VVP head	Extension area	Kang
	Christa Lewis	Private	slaughter slab	Ghanzi
	Sengwaketse O.	Veterinary officer	DVO	"
	Kuswane	Scientific officer	DVO LITS	"
	Dikolobe	Scientific officer	DVO disease control	"
	Agang Kebitsang	superintendent	DVS	Mahalapye
	Kabo Thankane	Meat hygiene		"
	B. Molojiwa	Senior tech asst		"
	A Buto	Chief tech officer	DVS	"
	Gape Moalosi	Meat hygiene		"
	Kelebogile Mosalagotla	Meat hygiene		"
	Bohitile Kealebale	Senior administrative asst		"
	Dr. Elisha Nyakarombo	S/P sub district Vet	DVS	Selibi-Phikwe
Lucricia Kethaetso	Meat hygiene technician		"	

	Joshua Manowe	Meat inspector		“
	Sithembiso Jeffrey	Intern, recent grad of BCA		“
	D. Dodzi	Livestock prod. / marketing	LMCC	“
	Dr. O. Thololwane	Vet with S/P office		“
	Gabalaswe Nesie	Senior tech asst-	quarantine camp	Sese
	Mr P.P.Phorabaeng	Chief Technical Officer	Sub-District Vet Office	Lobatse
	Mr Nametso Tshane	Auxiliary staff	LAC	“
	Mr O. Mobisakgomo	Auxiliary staff	Border Inspection Post	“
	Ms Boitumelo Kamodi	Auxiliary staff	Border Inspection Post	“
	Dr Mparamoto	Veterinary Officer	MITC & local abattoir	“
	Mr M.O. Gaosegelwe	Principal Scientific Officer	MITC & local abattoir	“
	Mr Molao Gaolaolwe	Support Staff	Extension Area	Sekoma
	Mr Nametso Tshane	Auxiliary staff	LAC	Lobatse
	Mr O. Mobisakgomo	Auxiliary staff	Border Inspection Pos	Pionner
	Ms Boitumelo Kamobi	Auxiliary staff	Border Inspection Pos	Pionner
	Dr Mparamoto	Veterinary Officer	MITC, local abattoir	Lobatse
	Mr M.O. Gaosegelwe	Principal Scientific Of.	“	Lobatse
	Mr Molao Gaolaolwe	Support Staff	Extension Area	Sekoma
	Frederik Maré	Pharmacist	private	Ghanzi
	J. Beukes	Cattle transporter	Ghanzi farmers assoc.	“
	C. Juan Rensburg	Farmer	“	“
	Kobus Strauss	Farmer and slaughter	“	“
	N Gowes	Farmer	“	“
	De Heeves	Farmer	“	“
	John Kempf	Farmer	“	“
	Burger	Merchant	Agrovet shop	“
	Benjamin Mokwaleng	VPP	Quarantine / Ext. area	Kuke
	Kebadile	Policeman	“	Gate
	Tlesseo	VPP	“	“
	Tshireletso Kgati	VPP	Extension area	Toteng
		veterinarian	DVO	Maun
		veterinarian	“	“
		Scientific officer	“	“
	Philip Wright	Farmer / chairman	Hainavelt farmers assoc	“
	Rob Jackson	Private veterinarian	Veterinary Board	“
	Ndzibi Mokhaleee	District agric coordinator	North East district	Francistown
	Nlingisisi Babayani	PVO	DVO north east	“
	Gabaitee Marumo	superintendent	DVO north east	“
	Neverson Sithole	SVO	“	“
	Olupot	Head veterinarian	BMC	“
	Mazhani B.	veterinarian	“	“
	Seima Dijeng	Veterinarian	“	“
	Aula Thabile Mason	Meat hygiene & quality control	Municipal abattoir	“
	Frederick Masalila	Chief meat inspector	City council abattoir	“
	K. R. Munger	Farmer	Tarti Farmers	“

01/04/10

			associat	
	Lekhoasa Setloboko	Private veterinarian	VetMed	“
	Mickel Mervin	retailer	Agrichem	“
	Dr Comfort Nkgowe	District Veterinary Officer	District Vet Office	Tsabong
	Dr David Kitosi	Agric District Coordinator		“
	Mr Selebatso Seitiso	Technical Officer	Sub-District Vet Office	Werda
	Mr Tito Morapedi	Assistant Customs Officer	Border Post	Bray
	Mr Tito Morapedi	Assistant Customs Of.	Border Post	Bray
02/04/2010	Namasiku Nsiwa	VPP certificate	Border Post	Pandamatenga
	Gabaeme Modikwa	Gate keeper	Border Post	“
05/04/2010	Gareutlwane Gaopatwe	Senior tech officer	Sub district	Nata
	T. Nthaga	Head	Quarantine camp	Odiakwe
06/04/2010	Aaron Tichaona	PVO	Sub district	Shakawe
	Chombo Boditse	VPP	Extension area	Sepopa
	Mr. O Mabutha	Regional coordinator	District agriculture dpt	Maun
	Ms. B. P. Otladisa	Principle tech officer		“
	T. Moruti	Assistant Commissioner	District Commissioner	“
	Johnson Ranko	Plant manager	Maun BMC	
	Dr. Eric Chikaka	Senior veterinarian	Subdistrict VS	Letlhakane
	M. Samaera	Principle scientific off.	Subdistrict VS	Letlhakane
	I.T. Ndzinge	Private veterinarian	Gaborone Vet Clinic	Gaborone
	Gift Mokgethi	Pharmacy Technician	Medswana	Gaborone
Donald Ngwenya	Sales staff	Medswana	Gaborone	
Shupi Mosinyi	Poultry farmer	Chini Holdings	Bokka	
07/04/2010	B. Kgosikoma	VPP	Border post	Mamuno
	Bangwa Makgana	Gate keeper	“	“
	Chris Kahuku	Superintendent	Subdistrict VS	Palapye
	M. Macheng	Deputy	Subdistrict VS	“
	Ms Mokane	LAC	Subdistrict VS	“
	Martin Mubu	Meat hygiene technician	Subdistrict VS	“
	M. F. Segadimo	owner	Slaughter slab butcher	“
	Benjamin Ntesamu	Superintendant	meat hygiene	Serowe
	Goiteohe Phiri	Principle tech officer	meat hygiene,	“
	Maikaelelo Rabasima	Senior tech officer,	meat hygiene	“
	Patrick Opelokgale	owner	Poultry slaughterhouse	“
	Innocent Morapedi	Cargo Supervisor	Air Botswana airport	Gaborone
	Emmanuel Adom	Principal Vet Officer	Sub-District	Lobatse
	Mark David Bing	Private vet / cattle farmer		Lobatse
	Motshudi Raborokgwe	CEO	BMC	Lobatse
	Setshego Phokoje	Veterinary Officer	Sub-District	Kanye
	Joseph Dintwa	Superintendant	District Vet Office	Kanye
	Mrs Rammidi	Agri District Coordinator	Southern District	Kanye
	Innocent Morapedi	Cargo Supervisor	Air Botswana Airport	Gaborone
	08/04/2010	John Kgosiemang		LAC warehouse
Modiri Siwawa			“	“
Neo Mapitse		Epidemiologist/WAHIS CP	Vet Epidemio Econo sect	“
Calistus Bodilenyane		Mapping technical assist	Vet Epidemio Econo sect	“
Anthony Dingalo		Principal technical officer	“	
Shenaz El Halabi	Director of public health	Ministry of Health		

S.S. Mokgweetsinyana	Deputy director	“	
Ignatus T. Ndzinge	Private veterinarian	Veterinary association	Gaborone
Gaseitsiwe M Sento	Private veterinarian	Veterinary association	“
Selinah Peter	chairperson	Consumer groups	“
Neo J. Mapitse	Private veterinarian	Veterinary association	“
Mrs Dambe	Attorney	Veterinary council	“
W.J. Herbst	Chairman	Dairy association	“
P. Barnard	Director	Nutri feeds	“
J. Agenbag	Animal Nutritionist	Nutri feeds	“
K Bisschoff	PPO		“
D Gwilliam	Manager	Ross Breeders	“
Philip Fisher		Cattle producers association	“
Martin Mannathoko		West. Sandveld Farmer Assoc	“
Dave Gilbert		Poultry association	“
Bismon Munakamwe		Ross breeders associatio	“
Schutte	Dairy farmer		Pitsane
Elvot Phindela	Dairy farmer		Gaborone
Simon Mahosi		Pork producer association	“
David Tsiane	Dairy farmer		“
E.M. Maphanyane	Chairman	Agriculture sector	“
M.P. Mokefane	Dairy farmer		“
Philip Baertse	Livestock owner		“
Totsalano Coyne	Dairy farmer		“
Roy Katse	Farmer		“
G.G. Midolhu	Pig farmer		“
Samuck Rmarchaiko	Dairy farmer		“
<b>Closing meeting</b>			
25 persons	See list scanned in annex		

### Appendix 4: Time table of the mission and list of facilities visited

Date	Assessor	Time	Location	Activities
29/03	BM + EFQ + JP + TI	8h 9h 14h 17h	Gaborone	Courtesy meeting Opening meeting: presentation of VS and of OIE PVS tool Organisation of the mission Report
30/03	BM + EFQ + JP + TI	8h 9h 10h 10h45 11h15 11h45 12h30 13h15 14h30	Gaborone	Interview of Botswana National Veterinary Laboratory Technical support services and drug regulation division Management division Meat hygiene and quality control division Livestock Advisory Council Botswana College of Agriculture Departmental training and reforms unit of DVS Import/export division Animal disease control division
	JP EFQ + TI	16h00 16h00		Botswana Vaccine Institute Botswana National Veterinary Laboratory
	EFQ+JP + TI	17h30		Livestock Identification and Traceability System
31/03	EFQ (700 km)	05h00 10h00 15h00 18h00	Gaborone Kang Ghanzi	Travel to Kang LAC + extension area Slaughter slab DVO + LAC Report writing
	TI + BM (600 km)	09:55 11:00 11:20 11:40 12:00 13:30 17:20 17:40	Lobatse  Sekoma	Sub-district Veterinary Office LAC Border Post Pioneer  Meat Inspection Training Centre Municipal abattoir Extension area
	JP (300 km)	AM          PM	Gaborone Kgatleng Dibete Mahalapye " " " " Selebi-Phikwe " " Sese " "	Botswana Ostrich Company Facility (closed) Cordon Fence Quarantine camp Pallaroad Extension office Pallaroad kgolta and tribal administration office FMD vaccination area Mahalapye sub- district office and LAC Mahalapye slaughter slab and retail butcher shop Serule disease control gate and game proof fence Selebi-Phikwe municipal abattoir Selebi-Phikwe sub district VS office and LAC Serule police check point and animal disease control barrier and cordon fence Sese veterinary quarantine camp Sese veterinary check point and drift fence Totomot municipal abattoir (not open at that time of day)
01/04	EFQ (300 km)	08h00 08h30 09h00 11h00 12h00 12h30 13h15 15h00	Ghanzi " " " " Kouke " Gate	Human pharmacy Private slaughter slab Ghanzi farmers association Drug shop Crush pen Extension area + quarantine camp Check point and fences Extension area

		16h00 18h15 20h00 23h00	Toteng Maun “ “	cluster Hainavelv farmers association Private veterinarian Report writing
	TI + BM (600 km)	08:00 10:30 10:45 11:00 11:20 12:50 13:10 15:00 16:00	Tsabong	District Veterinary Office Border Post McCharty's rust Crush pen Agricultural District Coordinator Extension area (Northern & Southern Tsabong) Werda Veterinary Office Border Post Bray Extension area Kokotsha(Agent was away, station closed) Extension area Khakhea(Agent was away, station closed)
	JP (100 km)	AM  PM	Francistown	Sub-district office, BMC slaughterhouse and rendering, regional VS LAC municipal abattoir Free holder cattle farm, game ranch, egg production facility, bull stud Tati Farmers Association Ramokgwebana international border post with Zimbabwe Francistown extension office Private veterinary practice Francistown fee Agrichem feed and OTC drugs retailer
02/04	EFQ (300 km)	06h00 07h00 10h00	Maun Makalamabedi Nata	Departure Check point zone free Report writing waiting team
	TI	8h00 10h15	Gaborone Francistown	Internal flight departure Internal flight arrival and airport border post overview
	JP + TI (200 km)	10h15	Dukwi Francistown	Dukwi quarantine gate Departure
	EFQ +JP+ TI (300 km)	14h00 17h00 18h00	Nata M Kasane	departure Border with Zimbabwe arrival
03/04	EFQ+JP+TI		Kasane	Rest and report writing
04/04	EFQ+JP+TI		Kasane	Rest and Border post Kasane
05/04	EFQ+JP+TI (600 km)	08h30 12h00	Kasane Nata	Departure Nata sub-district office Odiakwe veterinary quarantine camp Ngwasha veterinary disease control gate Makalambedi veterinary check point
		18h00	Maun	Arrival
06/04	EFQ (850 km)	05h30 07h30 10h30 11h30 12h30 14h00 19h00	Maun  Shakawe Mohembo  Sepopa Ghanzi	Departure Seokgwe-Konde gate (zone) Sub-district veterinary office border post Mohembo Rural slaughter area Extension area Lions farm
	JP (500 km)	AM  PM	North West	North-West district VS office North-West Regional Agricultural Office Maun BMC slaughterhouse (under renovation) North-West District Commissioner Office North West District Rural Administration Center Makalamabedi disease control gate Makoboxane veterinary disease control gate Boteti municipal slaughterhouse Maun sub-district VS office

				Letlhakane sub district VS office Daewoo disease control gate
	TI (100 km)	08h00 10h00 14h00 15h30 17h00	Maun Gaborone  Bokaa	Departure and airport border post overview Arrival and airport border post visit Private veterinary clinic Drug importer / distributor Farmer (mainly poultry with some dairy and sheep, goats)
07/04	EFQ (950 km)	05h30 08h30 21h00	Ghanzi Mamuno Gaborone	Departure Border post + sub district + butchery and slaughter area Arrival
	JP (600 km)	AM  PM	Central district	Palapye sub-district VS office and LAC Palapye slaughter slabs, butcher shop and retail outlets Palapye small poultry farm and slaughterhouse Copel Rancho poultry slaughter facility Martins Drift international border with South Africa Machaneng VS sub-district office
	TI (200 km)	08h15 09h45  12h25	Gaborone Lobatse  Kanye	Airport Gaborone border inspection Private veterinarian & SDVO Lobatse Botswana Meat Commission Regional Vet Office Kanye (SDVO Kanye, DVO Southern District, Agricultural District Coordinator, Extension area)
08/04	EFQ + BM	07h30 08h30	Gaborone	LAC warehouse Report writing
	JP + TI	07h30 08h30		GIS and epidemiology units Meeting with Ministry of Health
	EFQ+JP+TI	09h30 10h30 14h00		Veterinary Statutory Body and Veterinary association Farmers associations and consumer union Debriefing general meeting with CVO and divisions
09/04	EFQ+JP+TI EFQ+JP+TI+ BM	08h00 14h00	Gaborone	Report writing and power point presentation Closing meeting
10/04	EFQ+JP+TI	08h00 13h00	Gaborone	Report writing Departure



## Appendix 5: Air travail itinerary

ASSESSOR	DATE	From	To	Flight No.	Departure	Arrival
E. Fermet-Q	27/03	Lyon	Paris	AF 7645	17h00	18h10
		Paris	Johannesburg	AF 0990	23h20	10h55
	10/04	Johannesburg	Gaborone	SA 1765	14h15	15h20
		Gaborone	Johannesburg	SA 1766	15h45	16h50
		Johannesburg	Paris	AF 0995	19h30	06h05
		Paris	Lyon	AF 7640	07h30	08h40
J. Punderson	27/03	Washington	New-York	SA 7450	08h09	09h36
		New-York	Johannesburg	SA 204	11h15	08h15
	10/04	Johannesburg	Gaborone	SA 1763	09h20	10h25
		Gaborone	Johannesburg	SA 1176	13h05	14h10
		Johannesburg	Washington	SA 207	17h30	06h00
T. Ishibashi	27/03	Tokyo	Hong-Kong	CX 549	15h25	19h40
		Hong-Kong	Johannesburg	SA 287	23h50	07h15
	10/04	Johannesburg	Gaborone	SA 32	08h35	09h20
		Gaborone	Johannesburg	SA 37	13h00	13h50
		Johannesburg	Hong-Kong	SA 286	16h55	12h15
		Hong-Kong	Tokyo	CX 500	15h10	20h25



## Appendix 6: List of documents used in the PVS evaluation

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

Ref	Title	Author / Date / ISBN / Web	Related critical competences
<b>PRE-MISSION DOCUMENTS</b>			
H1	Description of VS for OIE PVS mission	DVS	
H-097	Disease of Animals Act Chapter 37:01		
H-098	Subsidiary legislations of Ch 37:01		
H-099	Veterinary Surgeons Act Chapter 61:04		
H-100	BMC Annual Report 2008		
E1	Residue testing audit of EU	FVO	II.9 and 10
<b>MISSION DOCUMENTS</b>			
H-002	<i>Presentation Power Point of the VS for mission</i>	CVO	I.6, II.1,4,8
H-003	<i>Organization structure of VS</i>		I.6, II.1,4,8
H-004	<i>DVS Staff list by Division</i>		I.6
H-005	<i>Draft job description of Sup &amp; Drug Div.</i>		I.1, II.9
H-006	<i>Staff placement Meat Hygiene Division</i>		II.8
H-007	<i>Food Control Act, 1993</i>		I.6-B (Art3)
H-008	<i>Labelling of pre packaged food regulation</i>		II.8.B
H-009	<i>Branding of cattle Charter 36:02</i>		IV.6-A
H-010	<i>BVI Annual Report</i>		II.9
H-011	<i>BCA Work and Prosper</i>		I.2-B
H-012	<i>BCA Training Courses at CICE 2010</i>		I.3
H-013	<i>National Vet Lab. Annual Report 2007</i>		II.1, II.2
H-014	<i>National Vet Lab Sample submission guide</i>		II.1,2
H-015	<i>Technical Guidelines for Integrated Disease surveillance</i>	Ministry of Health, Botswana	II.5
H-016	<i>Communication Strategy for Avian and Human Influenza</i>	Ministry of Health, Botswana	II.6
H-017	<i>Livestock and Meat Industrie, Charter 36:03s</i>		II.8
H-018	<i>SOP Manual</i>	Department of Vet Services	I.11
H-019	<i>FMD Contingency Plan Revision 2007</i>	Dep. Animal Health and Production	II.6
H-020	<i>FMD / CBPP Surveillance Sheet</i>		II.5-A
H-021	<i>A Review of the Botswana Livestock Identification and Traceability System (LITS)</i>	FAO	IV.6-A
H-022	<i>Disease of Animals Act (Cap 37:01) Diseases of Animals (Prohibition of Use of Anabolic Hormones and Thyrostatic Substances)</i>		II.10
H-023	<i>List of abattoir</i>		II.8-A
H-024	<i>List of companies authorised to deal in vet med products</i>		II.9
H-025	<i>List of vet med products dealt by MEDSWANA</i>		II.9
H-026	<i>Vaccination Program (pets) at private vet</i>		III.4

	<i>clinic</i>		
H-027	<i>Vaccination Programme (poultry) at private vet</i>		III.4
H-028	<i>Monthly Price Bulletin</i>		III.1
H-030	<i>Residue control programme</i>		II.10
H-031	<i>Report on FMD outbreak Shakawe, 26/06.2008</i>		IV.7
H-032	<i>Sample submission form &amp; lab report</i>		II.1
H-033	<i>Records of penalty</i>		IV.2
H-034	<i>Overview of Vet Services in NW Region</i>		I.6
H-035	<i>Minutes of Disease Control Committee Meeting</i>		II.6,7
H-036	<i>Communication from DVS to Revenue Service</i>		I.6-B
H-037	<i>Communication from Attorney-General to MOA</i>		I.6-B
H-038	<i>Questionnaire for human zoonoses</i>		I.6-B
H-039	<i>Report on disease in wildlife</i>		I.6-B
H-040	<i>Human-Animal Transmissible Disease Meeting Minutes</i>		I.6-B
H-041	<i>BMC Traceability Exercise on Finish Prod</i>		IV.6-B
H-042	<i>Risk Analysis report re Game and FMD</i>		II.3
H-043	<i>FMD Vaccination schedule</i>		II.7
H-044	<i>Vaccination Team Supervision Check Sheet</i>		II.7
H-045	<i>Update on Import/Export Protocol</i>		II.4
H-046	<i>Records at Border Post</i>		II.4
H-047	<i>Vet Drugs Price List at LAC</i>		II.9
H-048	<i>MITC leaflet &amp; record of courses/participants</i>		I.2-B, I-3
H-049	<i>Academic qualification of vet personnel</i>		I.2-A
H-050	<i>Veterinary Surgeons Bill, 2008</i>	Bill No. 32 of 2008	III.5-A
H-051	<i>Guidelines for Draft and Process Legislation</i>		IV.1
H-052	<i>SPINAP Contract Agreement</i>		II.6
H-053	<i>Invitation to meeting on slaughtering regulation</i>		II.8-A, III.1
H-054	<i>Notice to municipal abattoir on licence</i>		I.4, II.8, IV.2
H-055	<i>Notice to abattoir on closure</i>		I.4,II.8,IV.2
H-056	<i>Price structure of cattle by grade</i>		
H-057	<i>Cabinet memorandum on livestock &amp; Meat act</i>		IV.1
H-058	<i>BMC/DVS/BAMCU Workshop on permits</i>		III.1
H-059	<i>Statement of Recurrent Expenditure of MOA</i>		I.8
H-060	<i>Accreditation for certification for wildlife</i>		III.4
H-061	<i>Drafting of Cabinet Memorandum on FMD</i>		I.9
H-062	<i>Press releases on fresh raw milk &amp; AI</i>		III.1
H-063	<i>Notice to stations on RVF outbreak in SA</i>		III.1
H-064	<i>Meeting Invitation on Vet Medicinal Products</i>		I.6, II.9,
H-065	<i>List : Districts, Sub-Districts &amp; Extension Areas</i>		I.6

H-066	<i>Notice on Commencement of New Departments</i>		I.5
H-067	<i>Continuing Education: Records</i>		I.3
H-068	<i>Continuing Education: Plan</i>		I.3
H-069	<i>Continuing Education: Certificates</i>		I.3
H-070	<i>Diplomas</i>		I.2-B
H-071	<i>Publication of new Livestock and Meat Act</i>		II.8-A, IV.1, IV.2
H-072	<i>Publication of new Regulation</i>		II-9, IV.1, IV.2
H-073	<i>Instruction on sample submission for residue control plan (Export &amp; National)</i>		II.10
H-074	<i>Report on cattle destruction case</i>		II.4, IV.2
H-075	<i>Article on LITS review</i>	Agrinews Vol. 40, No.02 Feb, 2010 ISSN 1996-1693	IV.6
H-076	<i>Record of interactions for establishing cordon fence</i>		IV.1
H-077	<i>LAC Division Procurement plan</i>		II.9
H-078	<i>DVS Strategy Map 2009-2010</i>		I.5, I.6
H-079	<i>Communication re ID of certain cattle</i>		I.6-B, IV-6
H-080	<i>Communication re movement of antelopes</i>		I.6-B
H-081	<i>Minutes of meeting on game proof fence project</i>		I.6-B
H-082	<i>Communication re development of integrated one stop border facility</i>		I.6-B
H-083	<i>CBPP surveillance testing results</i>		II.5-A
H-084	<i>Communication re wildlife surveillance</i>		I.6-B, II.5-B, II-11
H-085	<i>TB test results</i>		II.5-A
H-086	<i>FMD sero-surveillance plan, design, result</i>		II.7
H-087	<i>Ostrich Sampling Frame</i>		II.5-B
H-088	<i>Sampling strategy for FMD in smallstocks</i>		II.5-B
H-089	<i>FMD clinical and sero surveillance</i>		II.5-B
H-090	<i>Surveillance for Equine Glanders</i>		II.5-B
H-091	<i>Monthly report of District Vet Office Tsabong</i>		II.5,6,7,8
H-092	<i>Monthly report of District Vet Office Kanye</i>		II.5,6,7,8
H-093	<i>Monthly report of District Vet Office Ghanzi</i>		II.5,6,7,8
H-094	<i>Southern Rural Training Center Training Programme</i>		III.6
H-095	<i>Organigram, MITC in Lobatse</i>		I.2.B
H-096	<i>Organogram District Vet Office Tsabong</i>		I.6
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Pe002	Disease report form step 2		I.11,II.5
Pe003	Register for disease reports follow-up		I.11,II.5
Pe004	Paper animal census		I.11
Pe005	Animal movement permit page 1		IV.6.A
Pe006	Animal movement permit page 2		IV.6.A
Pe007	Animal movement permit with LITS		IV.6.A
Pe008	Registers shelves in		I.11
Pe009	LITS equipment in extension area		IV.6.A

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Pe011	LAC expired vaccines		II.9
Pe012	LAC		II.9
Pe013	Expired vaccines		II.9
Pe014	Stock form for drugs in LAC		II.9
Pe015	Drug management in LAC		II.9
Pe016	LAC store		II.9
Pe017	Extension area premises		I.7
Pe018	Loading ramp		
Pe019	Crush pen		
Pe020	Concentration loading ramp		
Pe021	Concentration loading ramps 2		
Pe022	Slaughter slab license		II.8
Pe023	Rood condemnation certificate		II.8
Pe024	Private processing meat		II.8
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Pe030	Disease report register recopied at DVO		I.11
Pe031	Vaccination census form		I.11;II.7
Pe032	Bolus insertion form		I.11;IV.6.B
Pe033	DVO office		I.7
Pe034	LAC premises 2		II.9
Pe035	LAC opening hours		II.9
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Pe038	Expired drugs LAC		II.9
Pe039	Expired drug register		II.9
Pe040	Expired drug register		II.9
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Pe075	Register of disease free zone check point		IV.6.A; 8
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Pe081	Car of VS		I.7
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Pe087	DVO compound		I.7
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PJP4	BVI signage		
PJP5	BVI 1		
PJP6	BVI 2		
PJP7	BVI		
PJP8	BVI new facility		
PJP9	BVI personnel		
PJP10	LITS		
PJP11	LITS		
PJP12	ID bolus		
PJP13-4	Traceability		
PJP15	Traceability Certificate		
PJP16	Brand zone		
PJP17	LITS		
PJP18	Trace Block		
PJP19	LITS organogram		

PJP20	LITS		
PJP21	Ostrich slaughterhouse		
PJP22-3	Ostrich unloading		
PJP24	Check point and weight station		
PJP25	Cordon fence		
PJP26	Ostrich multiplication center		
PJP27	Veterinary checkpoint		
PJP28	Entrance to Diebete Quarantine Camp		
PJP29-31	Diebete Quarantine Camp		
PJP32-3	Quarantine Camp		
PJP34	Fencing		
PJP35-7	Crushpen		
PJP38	Pallaroad Extension Office		
PJP39	Subdistrict map		
PJP40	Pallaroad extension district map		
PJP41	Malahapye sub district office		
PJP42-3	Slaughter slab		
PJP44	Butcher shop		
PJP45	Approach to disease control gate		
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PJP48-50	BMC		
PJP51	Small poultry slaughter facility		
PJP52	Import permit		
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PJP54	Testing live cattle import		
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PJP110	Individual herd history- side A		
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PJP112	Case record and physical exam form		
PJP113	Lab results for previous case		
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P-t096	<i>Cargo area Airport Gaborone</i>		II-4
P-t097	<i>IATA manual at Airport Cargo desk</i>		II-4,IV-3
P-t098	<i>BMC file of inspection record</i>		II-8A

P-t099	<i>Disposition order by VS to exp abattoir</i>		II-8A
P-t100	<i>Notice of inspection by VS at exp abattoir</i>		II-8A
P-t101	<i>Degrading order by VS to exp abattoir</i>		II-8A
P-t102	<i>Disposition order by VS to exp abattoir</i>		II-8A
P-t103	<i>Report of exp abattoir inspection by VS</i>		II-8A
P-t104	<i>Notice about EU regulation at exp abattoir</i>		II-8A
P-t105	<i>Tapeworm warning poster</i>		I-6B
P-t106	<i>Monthly report of Kanye District</i>		I-11, II-7
P-t107	<i>Lab (not yet working) at DVO Kanye</i>		II-1
P-t109	<i>Post-mortem inspection facility at DVO Kanye</i>		II-1

## Appendix 7: Organisation of the OIE/PVS evaluation of the VS of Botswana

### **Assessors Team:**

- Team leader: Dr Eric Fernet-Quinet
- Technical experts: Dr Tomoko Ishibashi and Dr Julia Punderson
- Observer/Facilitator: Dr Bonaventure Mtei

### **References and Guidelines:**

- Terrestrial Animal Health Code (especially chapter 31 and 32)
- OIE/PVS tool for the evaluation of performance of VS
  - Human, financial and physical resources,
  - Technical capability and authority,
  - Interaction with stakeholders,
  - Access to the market.

### **Dates: 29<sup>th</sup> March – 9<sup>th</sup> April**

### **Language of the audit and reports: English**

**Services to be evaluated:** Veterinary services as defined in the Terrestrial Animal Health Code (TAHC).

- Not Inclusive of aquatic animals
- Not inclusive of other institutions / ministries responsible for activities of VS

**Activities to be analysed:** All activities related to animal and veterinary public health:

- Field activities:
  - Animal health (epidemiological surveillance, early detection, disease control, etc)
  - quarantine (all country borders),
  - veterinary public health (food safety, veterinary medicines and biological, residues, etc)
  - control and inspection,
  - others
- Data and communication
- Diagnostic laboratories
- Research
- Initial and continuous training
- Organisation and finance
- Others to be determined...

**Persons to be present:** provisional program established by email exchange

**Sites to be visited:** provisional program established by email exchange

### **Usual checking process:**

- Consultation of data and documents
- Comprehensive field trips
- Interviews and meetings with VS staff and stakeholders,
- Analysis of practical processes

### **Usual needs of assistance by the evaluated country**

- Completion of missing data as possible
- Translation of any relevant document if required
- Administrative authorisation to go on any sampled site
- Logistical facilities if possible

### **Reports:**

- a fact sheet or power point will be presented at the closing session
- a final report before one month after end of the mission will be sent to OIE for peer-review
- the current levels of advancement with strength, weakness and reference of each critical competence will be described by auditors,

- 
- general recommendations could be described on request or in agreement with the VS.

**Confidentiality and publishing of results**

The results of evaluation are confidential between the country and the OIE, they could be published only with agreement of the evaluated country.