

# PVS Gap Analysis Report

## Ghana



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# **PVS Gap Analysis report**

**GHANA**

**8 – 16 August 2011**

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## LIST OF ACRONYMS, ABBREVIATIONS AND/OR SPECIAL TERMS

AHS	African Horse Sickness
BIP(s)	Border inspection post(s)
CAHW	Community Animal Health Worker
CBPP	Contagious bovine pleuropneumonia
CVL	Central Veterinary Laboratory
CVO	Chief Veterinary Officer
DVS	Director of Veterinary Services – Chief Veterinary Officer (CVO)
FMD	Foot and Mouth Disease
GDP	Gross domestic product
GVMA	Ghana Veterinary Medical Association
HPAI	Highly Pathogenic Avian influenza
MoFA	Ministry of Food and Agriculture
MoH	Ministry of Health
MTEF	Medium Term Expenditure Framework
OIE	World Organisation for Animal Health
OIE PVS	OIE Tool for the Evaluation of Performance of Veterinary Services (OIE PVS Tool)
PACE	Pan African Programme for the Control of Epizootics
PATTEC	Pan African Tsetse and Trypanosomiasis Eradication Campaign
PPR	Peste de petits ruminants
QA	Quality Assurance (system)
SOP(s)	Standard Operation Procedure(s)
TB	Tuberculosis bovine
UES	Unified Extension System
VCG	Veterinary Council of Ghana
VS	Veterinary Service(s)
VSD	Veterinary Services Department of the Ministry of Food and Agriculture
VPH	Veterinary Public Health
VSb	Veterinary Statutory Body (see OIE Code)

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## ACKNOWLEDGEMENT

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The mission is particularly grateful to Dr.Mark-Hansen, the Director of Veterinary Services, and Dr.Frank Okyere, focal point for the PVS GAP Analysis mission.





## EXECUTIVE SUMMARY

The PVS Gap Analysis report provides a five-year programme for the sustainable strengthening of a country's national VS in accordance to the OIE quality standards, suitably adapted to national priorities and constraints. In Ghana, the PVS Gap Analysis follows a PVS evaluation mission of the VS conducted in November 2008. The report is based on the following:

- Defining, together with the Veterinary Services, and in accordance with national priorities and constraints, the expected result for the critical competencies of the OIE PVS tool;
- Determining the activities to be carried out in order to achieve the expected results for the critical competencies;
- Determining, with the help of information, data or interviews, the tasks and human, physical and financial resources required to implement these activities to enable the Veterinary Services to function appropriately.

Ghana requested an OIE-PVS Gap Analysis mission in a letter sent to the OIE Director General on April 27<sup>th</sup>, 2009. The mission was carried out from 7 to 16 August 2011 by a team of three OIE certified experts: Dr Bouna DIOP, Team Leader, Dr Chris Daborn and Dr Herbert Schneider, Technical experts.

### National priorities and targeted levels

At the beginning of the mission, the following national priorities in terms of livestock, animal health, and veterinary public health policies and Veterinary Services organisation, have been identified with the Director and the key senior officers of the Veterinary Services Directorate (VSD) of the Ministry of Food and Agriculture (MoFA).

#### Policy on livestock development and trade:

- Finalize Livestock Development Document (drafted 2 years ago) with reference to the animal health sector, particular emphasis on the poultry industry.
- Promote local livestock production for import-substitution, especially in the poultry sector.

#### Technical priorities in **Animal Health**:

- Review and enact new legislation on animal health and disease control in accordance with OIE standards
  - Strengthen capacity to prevent the spread of relevant transboundary animal diseases and zoonoses
  - Control PPR & CBPP
  - Strengthen the “One Health” approach.

#### Technical priorities in **Veterinary Public Health**:

- Enact appropriate legislation to enable the VS to perform all functions relative to meat inspection at all administrative levels.

#### Policy on organisational structure and management of the **Veterinary Services**:

- Ensure an effective chain of command throughout the VS to meet OIE standards.
- Meet OIE standards relevant to the establishment, authority and capacity of the Veterinary Council of Ghana (VCG) and provide the necessary legal instruments.

The targeted levels of advancement for each critical competency relevant to the national context (listed in table 6 within the body of the report) were identified, recognising national priorities and constraints. Strategies to strengthen competencies in the key areas [pillars] of

Trade, Animal Health, Veterinary Public Health, Veterinary Laboratories and Management and Regulatory Services and key actions in support of those strategies are given as follows.

## **1. Strengthening competencies for international trade**

### **1.1 Strategy**

Ghana is a net importer of live animals, meat and other livestock and poultry products, therefore the Veterinary Services directorate (VSD) has to establish and apply strengthened quarantine and border security procedures based on international standards. The VSD has also to initiate a pilot animal identification programme in order to strengthen animal movement control in particular cattle within the country.

### **1.2 Main recommended activities**

- Replace the three rented Border Inspection Points [BIP's] at Accra International Airport, Tema & Takoradi Harbours with own structures under VS control and rehabilitate the eight land BIP's (Paga, Mognori, Kupulima, Hamile, Leklebi, Dafor, Elubo, Dorma, Ahenkro & Aflao),
- Design processes and write SOPs for all procedures, including disinfection strategies,
- Carry out a study to assess and improve the current animal ID and movement control.

## **2. Strengthening competencies for animal health**

### **2.1 Strategy**

The VSD raises competency levels for disease surveillance, early disease detection / emergency response and disease prevention, control and eradication by creating effective and informed field networks conducting regulatory tests establishing the necessary legal framework and financial support and strengthening the VSD chain of command.

### **2.2 Main recommended activities**

- Review the role and organisational structure of the VSD Epidemiology Unit;
- Review of the location, purpose and function of the large body of veterinary paraprofessionals employed by the VSD to ensure that an appropriate number are positioned within the surveillance network, under the clear direction of the District and Regional Veterinary Officers;
- Develop relevant active surveillance programmes for selected diseases such as TB, brucellosis, and AHS;
- Carry out assessment of the efficacy and cost-benefits of existing control and prevention programmes and update where necessary;
- Review and develop procedures, informed by detailed SOPs, for the early detection of sanitary emergencies, inclusive of an emergency fund, updated legal framework and strengthened stakeholders' involvement;
- Develop wider use of electronic reporting channels;
- Investigate possibilities and opportunities for delegated activities to private veterinarians to perform veterinary services on behalf of the official VS such as vaccination, surveillance etc.

## **3. Strengthening competencies for Veterinary public health**

### **3.1 strategy**

MoFA to effect the speedy enactment of the drafted meat inspection legislation giving the VSD the mandate to execute meat inspection functions. Improve VSD involvement in the regulation of veterinary medicines and biological which fall under the Ghana Food and Drug Board authority.

### **3.2 Main recommended activities**

- Rehabilitate the two main abattoirs at Accra & Kumasi and improve the eight regional abattoirs;
- Upgrade ante and post mortem inspection standards to meet international accepted standards of food safety and hygiene as appropriate for the national market;
- Encourage Regional and District Authorities to adopt model designs for abattoirs/slaughter facilities;
- Review VSD role in the regulation of veterinary medicines and biologicals.

## **4. Strengthening competencies for Veterinary laboratories**

### **4.1 Strategy**

Upgrade and update technical capacity of selected laboratory personnel in the 3zonal laboratories and institute formal Quality Assurance Systems.

### **4.2 Main recommended activities**

- Upgrade and update technical capacity of selected laboratory personnel in the 3zonal laboratories to undertake specified diagnostic procedures and investigations;
- Provide updated SOPs and relevant and regular updated continuous education for all laboratory personnel;
- Upgrade the veterinary laboratory in Accra to enable improved diagnostic performance for serology, animal microbiology and PCR;
- Rehabilitate the 5 Regional laboratories;
- Identify reference laboratories for “twinning” purposes;
- Identify and initiate an appropriate QA system for each of the 3 zonal laboratories.

## **5. Strengthening competencies for general management and regulatory services**

### **5.1 Strategy**

Re-establish a clear chain of command between the Director of VS in Accra and the field staff and strengthen the authority and capacity of the Veterinary Council of Ghana (VCG) to meet international obligations in accordance with OIE standards.

### **5.2 Main recommended activities**

- Put in place a system that restores direct technical and administrative lines of coordination of responsibilities between Central, Regional and District Veterinary staff;
- Strengthen the authority and capacity of the Veterinary Council of Ghana (VCG) in all aspects of regulating the veterinary profession in Ghana;
- Institute formal agreements to address the practice of rendering private veterinary services by public veterinarians ( moonlighting);
- Encourage and support responsible government authorities to promulgate the “Veterinary Surgeons Bill, 2010” as a matter of urgency;
- Investigate possibilities and opportunities for delegation procedures to the private veterinary sector to perform veterinary services on behalf of the official VS;
- Update the veterinary legislation to provide an enabling environment for public veterinary practice;
- Develop formal continuing education programmes in order to improve the competencies of the veterinary personnel.

**Conclusion**

The PVS Gap Analysis has highlighted the national priorities and defined appropriated strategies to strengthen the Ghanaian VS. The global budget to strengthen the quality of the VS in compliance with OIE standards during the next five years is estimated around 41.3millions USD. The annual budget is estimated around 8.1millions USD and the exceptional budget 0.9 million USD. The annual budget represents only 1.0 % of the livestock GDP.

## METHODOLOGY OF THE PVS GAP ANALYSIS MISSION

A PVS Gap Analysis mission facilitates the definition of a country's Veterinary Services' objectives in terms of compliance with OIE quality standards, suitably adapted to national constraints and priorities. The country PVS Gap Analysis report includes an indicative annual budget and one exceptional budget (for exceptional investments), when relevant, consolidated to propose an indicative 5 year budget for the Veterinary Services. In practice, this means:

- Defining, together with the Veterinary Services, and in accordance with national priorities and constraints, the expected result (i.e. level of advancement defined in the OIE PVS tool) at the end of the five-year period for the critical competencies of the OIE PVS tool which are relevant to the national context;
- Determining the activities to be carried out in order to achieve the expected results for the critical competencies of the OIE PVS Tool which are relevant to the national context of the country;
- Determining, with the help of information, data or interviews, the tasks and human, physical and financial resources required to implement these activities to enable the Veterinary Services to function appropriately.

### I The PVS Gap Analysis process

#### I.1 Background information

Following a request to the OIE from its government, an evaluation of the Veterinary Services of Ghana using the OIE PVS Tool for the evaluation of Performance of Veterinary Services, based on OIE international standards on quality of Veterinary Services<sup>1</sup>, was conducted in November 2008 by a team of independent OIE certified experts.

In order to adequately understand the objectives of the country, as well as the figures presented in the PVS Gap Analysis report, it is important to have access to some key information. A part of this information comes from the country PVS evaluation report, other parts come from other sources.

##### I.1.A Country details

The Republic of Ghana is located in West Africa bordering Côte d'Ivoire to the west, Burkina Faso to the north, Togo to the east and the Atlantic Ocean (Gulf of Guinea) to the south. In 2009, the human population was estimated at 24.02 million. The country spans an area of 238,500 km<sup>2</sup>.

Table n°1 - Current livestock census data

Animals species	Total Number
Cattle	1,438,000
Sheep	3,642,000
Goats	4,625,000
Pigs	521,000
Poultry	43,320,000

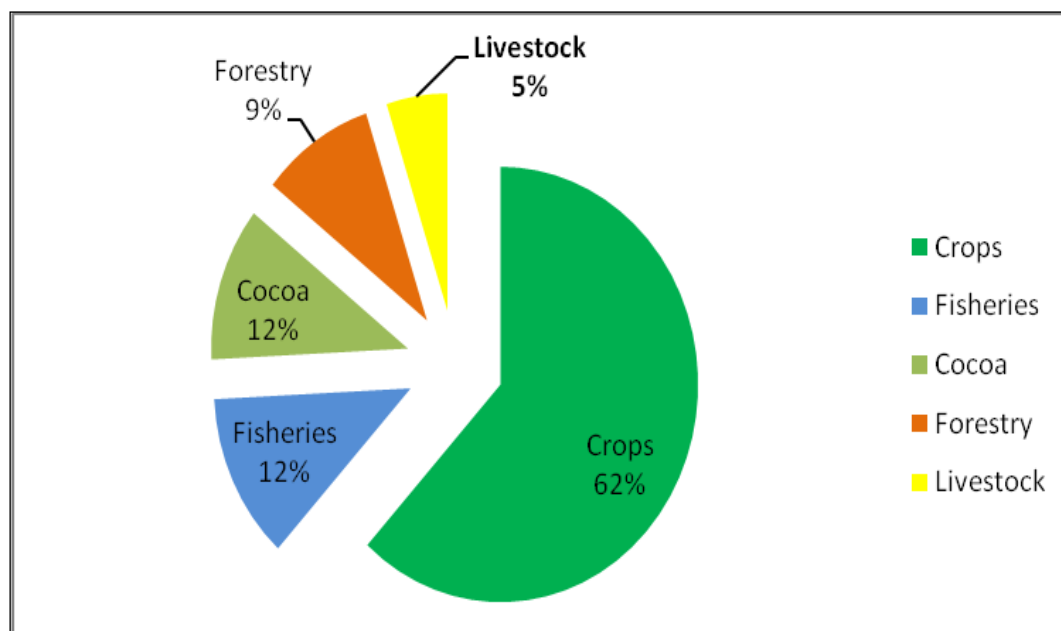
Source: Agriculture in Ghana: Facts & Figures (2009), Ministry of Food and Agriculture, Statistics, Research and Information Directorate, Dec. 2010

<sup>1</sup> Section 3 of the OIE Terrestrial Animal Health Code:  
[http://www.oie.int/index.php?id=169&L=0&htmfile=titre\\_1.3.htm](http://www.oie.int/index.php?id=169&L=0&htmfile=titre_1.3.htm)

As the last census was undertaken during 1996, the above figures can only be considered as very crude estimates.

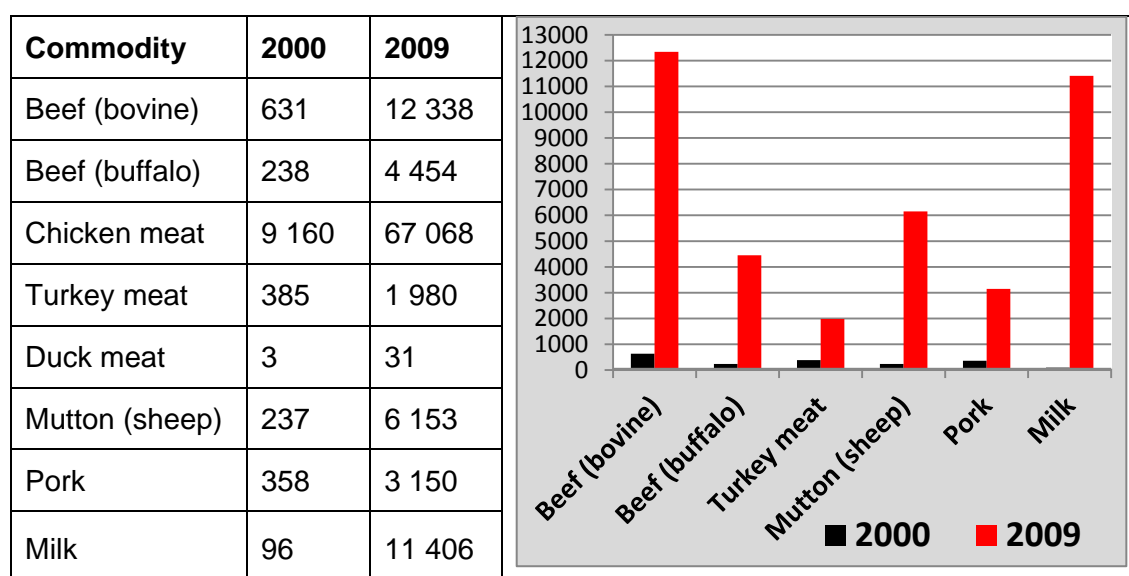
According to 2009 statistics by the Ministry of Food and Agriculture<sup>2</sup>, agriculture in Ghana comprises the following sub-sectors:

**FIGURE 1: GHANA Agricultural sub-sectors by GDP (%) in 2009**



Principal **export commodities** are: cocoa, timber, horticultural products, fish and fish products, game and wildlife products. **No exports of livestock or livestock products are recorded.**

**FIGURE 2: Imports of livestock and poultry products for 2000 and 2009 (metric tons)<sup>3</sup>**



<sup>2</sup>Agriculture in Ghana: Facts & Figures (2009), Ministry of Food and Agriculture, Statistics, Research and Information Directorate, Dec. 2010

<sup>3</sup> Agriculture in Ghana: Facts & Figures (2009), Ministry of Food and Agriculture, Statistics, Research and Information Directorate, Dec. 2010

On the import side, high volume **imports of livestock and poultry products** are recorded since 2000. Comparing the 2009 data with those of 2000, massive increases are evident, especially for poultry, beef and dairy products.

The flow of trade from Lagos, Nigeria in the east to Abidjan on the coast of Cote d'Ivoire in the west forms the major corridor for West African Trade and passes through southern Ghana.

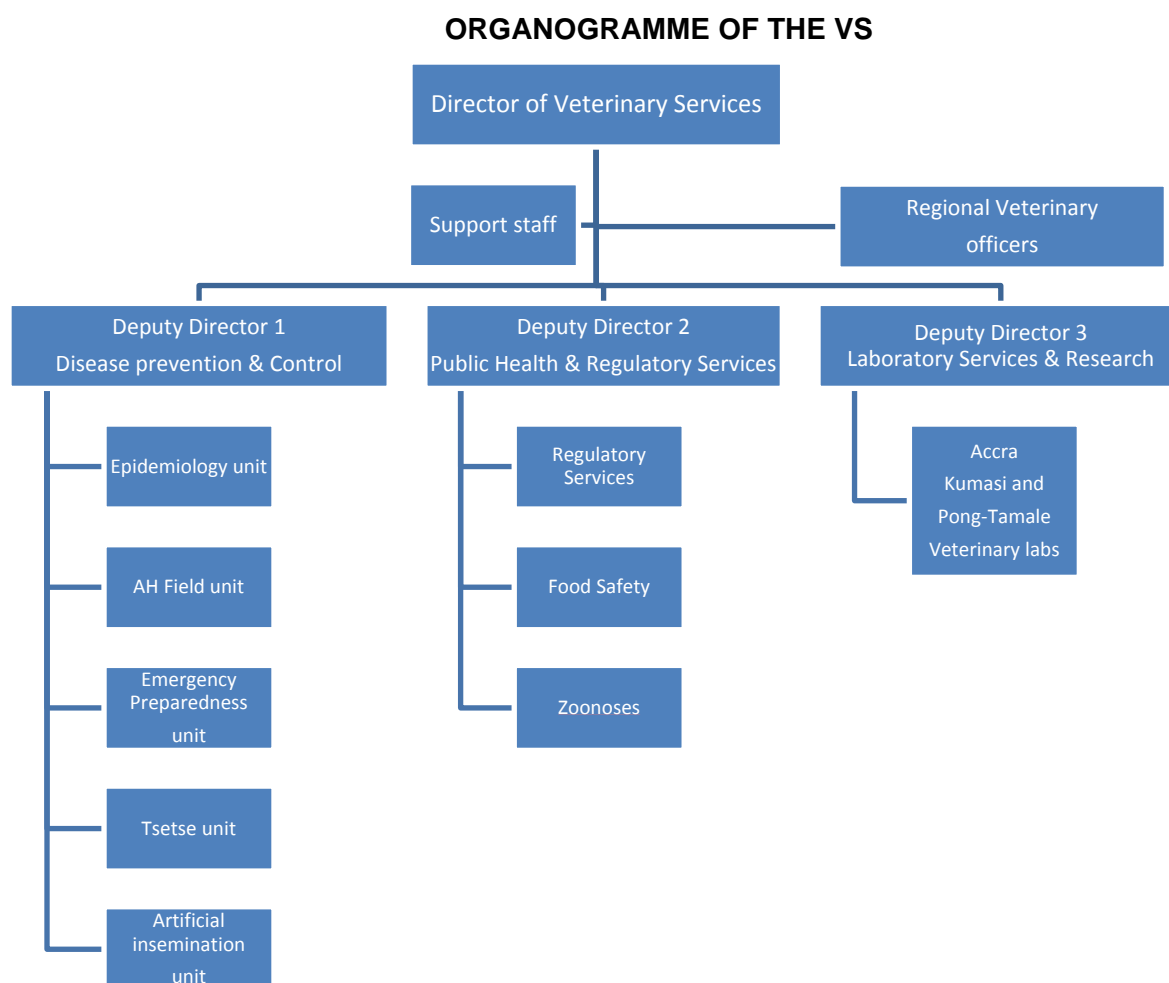
The nature of this trade pathway has the potential to spread disease. There are no detailed data on the animal/poultry markets in the country and routes of domestic poultry and poultry products in Ghana. Poultry and poultry products are commonly transported by itinerant sellers (by foot), bicycles/motor bikes, passenger vehicles and buses or boats/canoes on rivers.

**Table n°2 - Animal and animal product trade data**

<b>Animals and animal products</b>	<b>Average annual import (metric tons)</b>	<b>Average annual export (metric tons)</b>
Beef (bovine)	12,338	0
Beef (buffalo)	4,454	0
Mutton (sheep)	6,153	0
Chicken meat	67,068	0
Turkey meat	1,980	0
Duck meat	31	0
Pork	3,150	0
Milk	11,406	0

Source: Agriculture in Ghana: Facts & Figures (2009), Ministry of Food and Agriculture, Statistics, Research and Information Directorate, Dec. 2010

### I.1.B Current organisation of the Veterinary Services



The VSD falls under the Ministry of Food and Agriculture [MoFA], which is made up of 4 line directorates and 8 technical directorates with 10 regional and 169 district directorates. The VSD is aligned with the MoFA at Central, Regional and District Levels with the Regional and District Offices directed by MoFA Administrations.

There is a division of labour at the VSD HQ from the DVS to 3 Deputy Directors responsible for Disease Prevention and Control, [inclusive of animal health programmes]; Public Health and Regulatory Services [inclusive of overseeing importations at the airport and harbour]; and Laboratory Services and Research. The epidemiology unit, under the Deputy Director Disease Prevention and Control, has an outreach on par with the Laboratories with 4 zonal offices staffed by trained veterinary epidemiologists.

The VSD staff in Accra includes OIE focal points on veterinary medicines and biologicals and on communication.

The Regional Veterinary Officers who are mostly ranked as Deputy Directors have no particular line officer in the VSD HQ with the responsibility to co-ordinate their activities. The Regional and District Veterinary Officers are under the technical and administrative control of Ministry of Food and Agriculture Regional and District Administrations headed by a Regional and District Directors of Agriculture respectively.



## I.1.C List of entities or sites related to Veterinary Services activities

Table n°3 - List of entities or sites related to VS activities

	Terminology or names used in the country	Number of sites
<b>GEOGRAPHICAL ZONES OF THE COUNTRY</b>		
Climatic zones	<i>Tropical: hot &amp; humid, hot &amp; dry, warm</i>	3
Topographical zones	<i>Flat plains, low hills &amp; few rivers</i>	3
Agro-ecological zones	<i>Rain Forest, Deciduous Forest, Transitional, Coastal, Guinea Savanna, Sudan Savanna</i>	6
<b>ADMINISTRATIVE ORGANISATION OF THE COUNTRY</b>		
1st administrative level	<i>Region</i>	10
2nd administrative level	<i>District</i>	171
3rd administrative level	<i>Zonal councils &amp; area councils</i>	108 & 626
4th administrative level	<i>Unit committees</i>	1,600
Urban entities	<i>Town</i>	58
<b>VETERINARY SERVICES ORGANISATION AND STRUCTURE</b>		
Central (Federal/National) VS	National Veterinary Service	1
Internal division of the central VS	Disease prevention & control; Public health & Regulatory services; Laboratory services & Research	3
1st level of the VS	Regional Veterinary offices	10
2nd level of the VS	District veterinary offices	59
Veterinary organisations (VSB, unions...)	Veterinary Council of Ghana, Ghana Veterinary Medical Association	1 + 1
<b>FIELD ANIMAL HEALTH NETWORK</b>		
Field level of the VS for animal health	NA	
Private veterinary sector	Private veterinarians	18
Other sites (dip tank, crush pen....)	NA	
<b>VETERINARY MEDICINES &amp; BIOLOGICALS</b>		
Production sector		0
Import and wholesale sector	Chemico, Reiss & Co, MARIDAV, Frankatson, Pharmavet, MULTIVET, MADAVET, Gokals, Emkhat, Dahama Ventures, Agrovat, Livestock and Agrivet Services, GAFCO, VETCOM Ventures, HUGE, INTERGROW LTD, BEROSA, OWFORD Ventures, Dannex	20
<b>VETERINARY LABORATORIES</b>		
National labs		0
Regional and local labs	Accra, Pong-Tamale, Kumasi, Techiman, Ho, Takoradi, Dormaa-Ahenkro and Koforidua	8
Associated, accredited and other labs	NA	
<b>ANIMAL AND ANIMAL PRODUCTS MOVEMENT CONTROL</b>		
Bordering countries	Côte d'Ivoire, Burkina Faso and Togo	3
Airports and ports border posts	Tema Harbour, Accra International Airport & Takoradi Harbour	3
Main terrestrial border posts	Paga, Mognori, Kupulima, Hamile, Leklebi-Dafor, Elubo, Dormaa-Ahenkro & Aflao	8
Minor terrestrial border posts		0
Quarantine stations for import		0
Internal check points	NA	
Live animal markets	NA	
Zones, compartments, export quarantines		0
<b>PUBLIC HEALTH INSPECTION OF ANIMALS AND ANIMAL PRODUCTS</b>		
Export slaughterhouse		0
National market slaughterhouses	Accra, Kumasi	2
Local market slaughterhouse	Takoradi, Tamale, Sunyani, Bolgatanga, Wa, Ho, Koforidua & Cape Coast	8
Slaughter areas/slabs/points	NA	
On farm or butcher's slaughtering sites	NA	
Processing sites (milk, meat, eggs, etc)	NA	
Retail outlets (butchers, shops, restaurants)	NA	

TRAINING AND RESEARCH ORGANISATIONS		
Veterinary university	Legon/Accra; Kumasi, Pong Tamale Veterinary College	3
Veterinary paraprofessional schools		
Veterinary research organisations	Animal Research Institute	1
STAKEHOLDERS' ORGANISATIONS		
Agricultural Chamber / room /organisation		
National livestock farmers organisations	Ghana National Association of Farmers and Fishermen Ghana Poultry Farmers Association Ghana Butchers Association Cattle Dealers Association	4
Local (livestock) farmers organisations	NA	
Other stakeholder organisations	NA	
Consumers organisations	Consumers Association of Ghana	1

NA: Not available

### 1.1.D Summary results of the OIE PVS evaluation

A performance assessment of the Veterinary Service using the OIE PVS Tool was conducted from 3 to 15 November, 2008 by an OIE supported PVS Evaluation Mission.

Key findings of the PVS included:

- The placing of veterinary personnel under the structure of the “Unified Extension System” (UES) seriously downgraded the capacity of veterinary professional and para-professional staff to deliver critically important clinical services
- Significant weaknesses in resourcing, notably inadequate transport and insufficient operational funds, adversely affected VS capacity to undertake effective and sustainable epidemio-surveillance and disease control activities

Key recommendations included:

- Form a “National Livestock Development Board” to draft “Livestock Development Policy” detailing and prioritising activities that mobilise the sector’s productive capacity
- Restructure the VS independent of the UES and resource it adequately
- Rejoin Animal Production and Animal Health into one effective technical unit
- Contract out selected VSD activities to the private sector and mobilise community based delivery systems

## 1.2 Methodology

Following a request to the OIE from its government, a PVS Gap Analysis mission based on the outcomes of the OIE PVS report was conducted from 8 to 17 August 2011 by a team of independent OIE certified experts: Dr Bouna Diop as team leader, Dr Chris Daborn and Dr Herbert Schneider as technical experts.

### 1.2.A Organisation of the mission

The mission was organised in advance by the team of experts and the VSD of Ghana as follows:

**Table n°4 - Agenda of the mission**

Day (D)		Purpose of the meeting	Participants
8 August		Opening meeting Definition of the national priorities and the levels of advancement	OIE Delegate, heads of technical units of VS
9 August		Definition of the national priorities and the levels of advancement	OIE Delegate and heads of technical units of VS
10 August	a.m.	Technical meeting on Veterinary Public Health inspection Technical meeting on border security inspection	Heads of relevant units of VS Heads of relevant units of VS and Head of customs services.
	p.m.	Technical meeting on inspection of veterinary products and residues Meeting on the territorial organisation of central and decentralized Veterinary Services	Heads of relevant units of VS and Head of human pharmacy services Heads of relevant units of VS
11 August	a.m.	Technical meeting on veterinary and technical training (3) Technical meeting on laboratories (4)	Heads of relevant units of VS and education institutions involved Heads of relevant units of VS and main laboratories used
	p.m.	Technical meeting on the veterinary services field network	Heads of relevant units of VS and representatives of veterinary practitioners & the VCG
12 August		Meetings with resource persons from cross-cutting departments: finance, legislation, personnel management	Heads of relevant Units of VS and heads of departments responsible for the national budget, finance civil service, etc.
13 - 14 August		First synthesis of findings by the team of experts	The experts
15 August	a.m.	Plenary meeting for the preliminary presentation of the proposed objectives and activities	OIE Delegate and heads of all technical units
	p.m.	Collection of additional information & finalisation of the PVS Gap Analysis	The experts
16 August	p.m.	Final Meeting	OIE Delegate and heads of all technical units

### 1.2.B Estimation of resources needed

A logical approach to estimating the budget for strengthening the Veterinary Services is used. This approach is as follows:

The Veterinary Services should have the financial resources sufficient to carry out essential tasks and duties, and be able to adapt to changes in health status. The budget for field activities (for government staff and officially delegated private veterinarians) must allow for planned activities, but should also support a flexible approach necessary to allow immediate responses when these are required. The amount of expenditure for each activity should be adjusted according to the national constraints, human resources (number and public/private split), priorities and trends in animal health and changes of animal health status.

The budget is developed for specific activities so that the desired level of advancement may be achieved as determined by the objectives, situation and characteristics of the country. The necessary tasks and resources required are identified and budgeted. Priorities are set out to provide assistance with the actual allocation of funds - these will need to be finalised by the Veterinary Services during operational planning.

In some chapters, the specific additional resources required are described in more detail: this includes items such as the inspection and control of veterinary medicines, increased laboratory capacity, support of international trade access and cross-cutting communication. In other chapters, the additional resources required may appear very low: for example direct spending on 'animal health' may only be the purchase of vaccine for a control programme - so the budget appears low for this component as other fixed costs are covered elsewhere – salaries, communications, training, etc.

The overall budget analysis (Chapter VI) synthesises the different budget lines: on-going investment, salaries, repairs and maintenance, operations, etc. This budget demonstrates the effectiveness of the PVS Gap Analysis, its sustainability and also identifies the need to incorporate the programme into the quality control policy of the Veterinary Services.

### **Notes**

The international currency used in this report for the estimation of costs and the budget is the USD (US dollars). The exchange rate is 1 USD for 1.5 GH¢ (Ghana Cedi).

In Ghana the annual renewal rate of buildings/facilities, transport and equipment has been determined as such:

- 5 % of construction cost for building maintenance
- 20 % of purchasing value for cars and 4X4 vehicles
- 33 % of purchasing value for motorbikes
- 25% of purchasing value for cold chain
- 20 % of purchasing value for laboratory equipment
- 33 % of purchasing value for telecommunication and computer equipment sets.

### ***1.2.C Organisation of the report***

The desired levels of advancement for each critical competency were identified, recognising national priorities and constraints, in discussion with the Veterinary Services of Ghana. A PVS Gap Analysis was then completed to facilitate their compliance with recognised international standards as determined by the OIE. The following chapters indicate the resources and activities necessary to strengthen the Veterinary Services. The chapters follow a logical order identifying priorities, recognising constraints and issues, assessing processes and resources necessary and providing a work-plan for improvement.

Chapter II.2 of the methodology part sets out the levels of advancement to be reached as decided by the Veterinary Services in discussion with the PVS Gap Analysis mission team.

The first four chapters of the part presenting the PVS Gap Analysis set out the objectives to be achieved, identifying the needs to strengthen the technical independence and coordination of the Veterinary Services.

- Chapter I sets the standards required for International trade in animals and animal products. Establishing the levels of advancement required for exports sets the target for strengthening the Veterinary Services.
- Chapter II addresses animal health issues, the recognised core mission of any Veterinary Services.
- Chapter III considers veterinary public health, specifically food safety, veterinary medicines and biologicals and zoonoses.
- Chapter IV considers the capability and capacity of veterinary laboratories, as required by the three preceding chapters.

Chapter V makes recommendations on the general management of the Veterinary Services and the related regulatory services, including both the public and private components, aiming to provide coordination and technical independence in line with OIE standards. Both the organisational structure of the national (public) Veterinary Services, including central and decentralised structures and the role of private veterinary practices are defined. This chapter is usually the major component of the budget as it includes the salaries, operations and investment for the national Veterinary Services and also for field activities. This chapter also identifies the reinforcement of cross-cutting skills (communication, legislation, education, etc.) required to run effective Veterinary Services in the country.

Chapter VI presents the Budget for strengthening the Veterinary Services and provide an analysis of this budget compared with GDP (national, agriculture and livestock), national budget (total, agriculture, Veterinary Services), value of national livestock and of imported and exported animal products.

## II National and international priorities and expected levels of advancement

Considering the current situation of the livestock industry, the production of animal products and trade, and the animal health situation described in the above sections, national priorities were identified for the Veterinary Services Department (VSD) of the Ministry of Food and Agriculture for four areas as summarised in the following table:

**Table n°5 - Table for listing national priorities**

Category of priorities	National priorities	Explanatory comments (importance for the country)
Policy on <b>livestock development (LD)</b> and trade	<b>LD1:</b> Finalize Livestock Development Document (drafted 2 years ago) with reference to the animal health sector, particular emphasis on the poultry industry <b>LD2:</b> Promote local livestock production for import-substitution, especially in the poultry sectors	Develop participation of all relevant stakeholders  Ensure involvement of the VSD
Technical priorities in <b>Animal Health (AH)</b>	<b>AH1:</b> Review and enact new legislation on animal health and disease control in accordance with OIE standards <b>AH2:</b> Strengthen capacity to prevent the spread of relevant transboundary animal diseases and zoonoses <b>AH3:</b> Control PPR & CBPP <b>AH4:</b> Strengthen the “One Health” approach	Existing Act dates to 1952/1961 and is in urgent need of review to meet OIE standard Revitalize epidemiological network established through PACE. Better involvement of livestock owners in disease reporting Public/private veterinary partnership development Improve surveillance on prevalence of neglected diseases (brucellosis)
Technical priorities in <b>Veterinary Public Health (VPH)</b>	<b>VPH1:</b> Enact appropriate legislation to enable the VS to perform all functions relative to meat inspection at all administrative levels	Finalize current discussions on meat inspection services to be rendered by Veterinary Services
Policy on organisational structure and management of the <b>Veterinary Services (VS)</b>	<b>VS1:</b> Ensure an effective chain of command throughout the VS <b>VS2:</b> Meet OIE standards relevant to the establishment, authority and capacity of the VCG and provide the necessary legal instruments	Update VCG 1992 relevant legislation, to meet OIE standards on the performance and quality of Veterinary Services Two new veterinary schools have been established and need for VCG active involvement

## II.2 Level of advancement

The expected levels of advancement discussed and agreed with the Ghana VS team are set out in Table 2 below. It should be noted that in November 2008 (OIE PVS mission in Ghana), the OIE PVS Tool included 40 Critical Competencies whereas the current PVS evaluation framework covers 46 Critical Competencies. Consequently “current” levels of advancement formally assessed through a PVS process were not available (NA) for 6 critical competencies.

**Table n°6 - Levels of advancement**

Critical competencies	Level of advancement		National priorities			
	current	expected	Organisational structure of VS	Livestock development	Animal health	Veterinary public health
<b>Chapter I: Human, physical and financial resources</b>						
I.1. Professional and technical staffing of the Veterinary Services						
I.1.A. Veterinarians and other professionals	4	4	X	X	X	X
I.1.B. Veterinary para-professionals and other technical staff	3	3	X	X	X	X
I.2. Competencies of veterinarians and veterinary para-professionals						
I.2.A. Professional competencies of veterinarians	3	4		X	X	X
I.2.B. Competencies of veterinary para-professionals	3	4		X	X	X
I.3. Continuing education	2	4		X	X	X
I.4. Technical independence	4	4		X	X	X
I.5. Stability of structures and sustainability of policies	4	4		X	X	X
I.6. Coordination capability of the Veterinary Services						
I.6.A. Internal coordination (chain of command)	3	4		X	X	X
I.6.B. External coordination	NA	3		X	X	X
I.7. Physical resources	2	3	X		X	X
I.8. Operational funding	2	4	X		X	X
I.9. Emergency funding	3	4	X		X	X
I.10. Capital investment	2	3	X		X	X
I.11. Management of resources and operations	NA	4	X		X	X
<b>Chapter 2. Technical authority and capability</b>						
II.1 Veterinary laboratory diagnosis	2	4			X	X
II.2 Laboratory quality assurance	1	3			X	X
II.3 Risk analysis	2	3			X	
II.4 Quarantine and border security	1	3			X	
II.5 Epidemiological surveillance						
II.5.A. Passive epidemiological surveillance	2	4			X	
II.5.B. Active epidemiological surveillance	2	4			X	
II.6 Early detection and emergency response	2	4			X	
II.7 Disease prevention, control and eradication	3	4			X	
II.8 Food safety						
II.8.A. Ante and post mortem inspection	1	3				X
II.8.B. Inspection of collection, processing and distribution	NA	1				X
II.9 Veterinary medicines and biologicals	2	2				X
II.10 Residue testing	1	1				X
II.11 Emerging issues	2	3			X	X
II.12 Technical innovation	1	2			X	X
II.13 Identification and traceability						
II.13.A. Animal identification and movement control	1	2			X	X
II.13.B. Identification and traceability of products of animal origin	NA	1				X
II.14 Animal welfare	NA	2			X	
<b>Chapter 3. Interaction with stakeholders</b>						
III.1 Communications	2	4	X			
III.2 Consultation with stakeholders	2	4	X			
III.3 Official representation	3	4	X			



III.4 Accreditation / authorisation / delegation	2	4	X			
III.5 Veterinary Statutory Body						
II.5.A. VSB authority	3	3	X			
II.5.B. VSB capacity	NA	2	X			
III.6 Participation of producers and stakeholders in joint programmes	2	3		X	X	X
<b>Chapter 4. Access to markets</b>						
IV.1 Preparation of legislation and regulations	2	2		X	X	
IV.2 Implementation of legislation and regulation; and stakeholder compliance	2	2		X	X	
IV.3 International harmonisation	2	4		X	X	
IV.4 International certification	2	3			X	
IV.5 Equivalence and other types of sanitary agreements	2	2			X	
IV.6 Transparency	3	4		X		
IV.7 Zoning	1	1		X		
IV.8 Compartmentalisation	1	2		X		

### II.3 Impact and significance

As indicated in the National Priorities, the development of a viable livestock industry is a developing priority for the VS (LD1).

However, given the overall “National Policy Objectives” and “Key Expenditure Focus Areas”, as documented in the “Medium Term Expenditure Framework (MTEF) for 2011-2013 of the Ministry of Food & Agriculture<sup>4</sup>, **no national priorities have been identified for the livestock sector and thus no expenditure is budgeted.**

Transboundary animal diseases, as well as zoonoses, place health of especially the rural population at risk.

The present institutional and legal constraints in respect of food safety limit the local supply of safe food of animal origin.

The relatively small and underdeveloped livestock industry limits the development of any form of export markets for animal products and results in an over-reliance on imports of food of animal origin. In this context the substitution of poultry product imports through the development of local production is a priority.

<sup>4</sup> MTEF for 2011-2013 and Annual Estimates for 2011: Central Government Budget Item 12, Ministry of Finance





## PVS GAP ANALYSIS

### I Strengthening competencies for international trade

The purpose of this section is to explain the proposed activities in the field of international trade development, for both imports and exports.

This will include the activities presented in Critical Competency Cards II.4, II.13, IV.4, IV.5, IV.6, IV.7 and IV.8. If necessary, links could be made with the important cross-cutting competencies dealt with in the 5<sup>th</sup> pillar of the PVS Gap Analysis on Management of Veterinary Services (e.g. Chapter V.2 of the report) in the 2<sup>nd</sup> pillar on Animal Health or in the 3<sup>rd</sup> pillar on Veterinary Public Health.

#### I.1 *Strategy and activities*

Whilst there is no international export trade in livestock or livestock products there is a large and expanding import trade, notably for cattle, small ruminants and poultry which are subject to inspection procedures at the point of entry. Therefore the Veterinary Services directorate (VSD) has to establish and apply strengthened quarantine and border security procedures based on international standards.

Although for the next five years, the VS of Ghana does not intend to access the international export market for the national products there is a sound argument for investing in the strengthening of VS competencies to support local trade, particularly the poultry industry, in preparation for the time when Ghana is ready to engage in international trade for livestock and livestock products. Therefore, the VSD will consult relevant stakeholders on need for veterinary health certification for the envisaged export of poultry and poultry products to potential markets.

The flow of trade from Nigeria to Cote d'Ivoire passing through southern Ghana has the potential to spread disease and need to be controlled.

As Ghana has no major processing establishments for food of animal origin at present, no measures are contemplated or envisaged to institute measures to identify and trace products of animal origin in the foreseeable future.

The VSD indicated that no zoning measures for animal disease control for export of animals or animal products are envisaged in the medium to long term. As the development of the poultry sector, specifically aimed at import substitution of poultry products, is a national priority (LD 2), the bio-security benefits for the industry obtained from practising compartmentalisation needs to be investigated. An ideal approach would be to develop, in close collaboration with private poultry sector stakeholders, a framework and guidelines for compartmentalisation which can be piloted before adopting on a wider scale

Consultation and cooperation with neighbouring countries need to be strengthened in particular in the framework of ECOWAS.

The proposed strategy for the trade pillar will be based on the:

- Strengthening of quarantine and border security,
- Improvement of animal movement control.

##### I.1.A *Strengthening quarantine and border security*

There is permanent VSD staff assigned to the airport and 2 seaports, occupying rented facilities, 8 established land border posts and 4 quarantine stations located along each of the major borders. The number and location of the quarantine stations

seem to be adequate however they are in a seriously deteriorated state (lack of necessary facilities for watering, housing and feeding).

It was not possible during the course of the PVS Gap Analysis mission to gather information regarding the trading flow in each of these BIPs. It is however the basis for an appropriate identification of the needs based on a risk analysis.

However, discussions with VSD staff highlighted the importance to have their own facilities at the airport and seaports; and to maintain the 8 actual land BIPs for the next 5 years to monitor the transhumance activities.

### *1.1.B Improvement of animal movement control*

With regard to animal movement and traceability, the VSD intends to improve internal animal movement control. Since animal identification is a costly process, the VSD has to carry out a study to assess current animal ID and movement control (permit) system and initiate a pilot animal identification programme which will focus individual identification of cattle. This programme aims also to deal with this as well as to prevent of animal robbery.

Regarding the flow of trade animals from Nigeria to Cote d'Ivoire that passing through Ghana, the VSD will initiate consultations with neighbouring countries in order to improve their control.

## **1.2 Human resources**

At present the VSD employs 3 veterinarians at the sea and airport(s), assisted by 6 veterinary paraprofessionals. At the remaining land border posts only veterinary paraprofessionals are deployed, working under the supervision of a district veterinarian, the total number being 12. Documentation related to this supervision were not available during the mission.

The below table resents the estimated needs in terms of human resources for BIPs. In order to be able to apply quarantine and border security procedures based on national legislation and regulation; and international standards, the VSD needs a total of 8 veterinarians and 47 veterinary paraprofessionals.

**Table n°7 - Number of human resources needed for the border inspection posts**

				Number of staff / shift			Human resources (full time equivalent)		
	No of border posts	No of days / year	No of shifts / day	No of veterinarians / shift	No of Other university degree / shift	No of veterinary para- professionals / shift	Veterinarians	Other university degree	Veterinary para professionals
<b>Border posts</b>							<b>7,3</b>		<b>46,7</b>
<i>Capital seaport</i>	1	365	1	2		8	2,9	-	11,7
<i>Other seaport</i>	1	365	1	1		6	1,5	-	8,8
<i>Intern airport</i>	1	365	2	1		5	2,9	-	14,6
<i>Terrestrial b. post</i>	8	365	1			1	-	-	11,7

The human resources needed for animal identification and movement control will be part of the field veterinary network and are therefore not considered here.

In order to implement all needed activities, and considering the actual lack of professional competencies, a specific continuing education programme will have to be set up on the following topics:

- Border inspection for all veterinarians (3 days / year) and veterinary para-professionals (1 day / year) in order to be fully aware of the procedures related to the inspection of imported livestock or livestock products; and the regulation to be enforced;
- Animal identification and traceability for the veterinarians of the field veterinary network (80 man-days)
- International certification for the 6 veterinarians (2 days / year) at the capital seaport and the international airport.

### ***1.3 Physical resources***

The required investment in BIPs will lead to the following:

- Building of 90m<sup>2</sup> of office at Accra International Airport, Tema & Takoradi Harbours;
- Maintenance of the 8 land BIPs (estimated at 240m<sup>2</sup>)
- Upgrade the four land BIP's which have existing quarantine facilities (Paga, Mognori, Kupulima, Hamile). As this represents specific equipment, this has not been budgeted in the PVS Gap Analysis.

Apart from these facilities, DVS will need to be provided 3 motorbikes, 2 cars, 11 office and telecommunication equipment sets and a set of specific equipment for each of the 8 land BIPs.

Moreover, in order to start the process of animal identification, it is envisaged to ear tag 50% of cattle population in five years (around 144,000 per year). A database for animal identification will be established in the DVS.

### ***1.4 Financial resources***

The global annual budget for this pillar is around 713,500USD including:

- 271,500 USD for consumable expenses, mainly linked with identification activities;
- 375,000 USD for human resources (salaries and continuing education);
- 42,000 USD for the material investment.

Additionally, an exceptional budget of 55,000 USD will be needed mainly to organise expert missions to review the efficiency of the BIPs network; identify a relevant identification system; set up the certification procedures and develop appropriate media to support VSD transparency;.

Table n°8 - Sub-Total for strengthening competencies for international trade

SUB-TOTAL TRADE						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)	240	330				
Existing building to be maintained (m2)	240	240	25	1	6 000	
Existing building to be renovated (m2)			200	10		
Building to be built (m2)		90	500	25	1 800	36 000
Transport						
Number of motorbikes		3	3 000	3	3 000	
Number of cars	1	2	27 000	5	10 800	
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set		11	2 500	3	9 167	
Office equipment set		11	1 470	3	5 390	
Other specific equipment						
Other specific equipment for trade (1)					4 167	
Other specific equipment for trade (2)					1 500	
<b>Sub-total Material investments</b>					<b>41 823</b>	<b>36 000</b>
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)	-	-	3 300			
Continuing education (man-days / year)	-	172,0	148		25 445	
National expertise (days/5 years)		40,0	271			10 840
International expertise (weeks/5 years)		4,0	9 550			38 200
Special funds (/ 5 years) for ...		-				
<b>Sub-total non material expenditure</b>					<b>25 445</b>	<b>49 040</b>
<b>Salaries / year</b>						
Veterinarians	3,0	8,0	11 000		88 000	
Other university degree	-	-	11 000			
Veterinary para-professionals	18,0	47,0	6 100		286 700	
Support staff	-	-	4 000			
<b>Sub-total Salaries</b>					<b>374 700</b>	
<b>Consumable resources / year</b>						
Administration			20%		74 940	
Travel allowances						
staff within the country (man-days) / year	-	-	121			
drivers within the country (man-days) / year	-	-	45			
staff abroad (man-weeks) / year	-	1	3 369		3 369	
Transport fees						
Km or miles Motorbikes / year	-	27 000	0,10		2 781	
Km or miles cars / year	18 000	36 000	0,25		8 899	
Km or miles 4x4 vehicle / year	-	-	0,31			
km or miles / year	-	-				
km or miles / year	-	-				
Specific costs						
Targeted specific communication	-	1			5 000	
Consultation (number of 1 day meetings)	-	16			16 000	
Kits / reagents / vaccines	-	-				
Other costs for trade (1)	-	144 501			160 500	
Other costs for trade (2)	-	-				
<b>Sub-total Consumable resources</b>					<b>271 489</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>713 457</b>	<b>85 040</b>
<b>Total in</b>	<b>GHc</b>				<b>1 070 186</b>	<b>127 560</b>

## II Strengthening competencies for animal health

The purpose of this section is to explain the activities proposed in the field of animal health.

These activities are chiefly those presented in the Critical Competency Cards II.5A, II.5B, II.6; II.7 and II.14. If necessary, links could be made with the important cross-cutting competencies dealt with in the 5<sup>th</sup> pillar of the PVS Gap Analysis Tool on Management of Veterinary Services (i.e. Chapter V.2 of the report).

### II.1 Strategy and activities

A core function of the VSD is to control notifiable diseases. These are listed with the related surveillance activities, vaccination regimes, and control measures in the following table.

**Table n°9 - List of diseases and related activities**

Table II.5 List of diseases and related activities

Animal Health : CC's II.5.A; II.5.B; II.6; II.7 and II.14

Disease	Schedule d		Surveillance				Vaccination	Treatment	Culling	Quarantine
Scheduled	Yes	No	Passive		Active		Doses (2010)			
			yes	no	yes	no				
FMD	X		X			X	None	None	None	None
CBPP	X		X				148 176	None	None	None
Anthrax	X			X		X	81 018		None	None
Rabies	X			X		X	119 125	None	None	Suspects only
TB	X		X			X	None	None	Yes	None
Brucellosis	X		X			X	S-19 - 0	None	None	None
ASF	X		X			X	None	None	None	None
NCD	X		X			X	10 131 057	None	None	None
PPR	X		X				378 890	None	None	None
AI		X			X		None	None	Yes	Yes
IBD	X			X		X	5 140	None	None	
Dermatophilosis	X		X		X		None	Yes	None	None
Mange	X		X			X	None	Yes	None	None
Tryp	X		X			X	15 972	Yes	None	None
Rinderpest		X			X					
Haem Sept	X		X				0	None	None	None
Black leg		X					11 388	None	None	None
Fowl pox		X					2 340 492	None	None	None
Marek's		X					11 000	None	None	None
AHS		X			X		?	None	None	None

Over the years, a number of animal health campaigns has been conducted but due to under resourcing these have not been sustained or have been limited to some districts only.

In order to provide evidence based information on the occurrence of livestock disease in Ghana and to certify, where necessary, freedom from specified diseases, a well resourced, properly designed and cost-effectively delivered animal disease surveillance system is

required. The following strategy and activities have been developed with the VSD in order to achieve this goal. However, it is of utmost importance to carry out an assessment of the efficacy and cost-benefits of existing control and prevention programmes, especially in respect of CBPP, and ensure new programmes are subject to the same degree of assessment inclusive of need and tangible benefits arising

Following discussions with senior management staff of the VSD, it was decided to focus on the following activities during the next five years:

- Passive surveillance should be strengthened mainly for diseases such as FMD, CBPP, PPR, TB, brucellosis, rabies, anthrax, ASF, NCD, dermatophilosis, trypanosomias and haemorrhagic septicaemia.
- Active surveillance programmes following a risk assessment and in collaboration with key stakeholders and Public health (for zoonotic diseases) should be developed for TB, brucellosis (bovine and caprine) and AHS.
- Contingency plans should be prepared for HPAI and rinderpest in order to ensure early detection and rapid response
- Maintain and update where necessary control programmes for the following selected diseases and targeted animal population:
  - CBPP: 900 000 cattle to be vaccinated yearly;
  - PPR: 4 million small ruminants to be vaccinated yearly;
  - Rabies: 15 000 dogs and cats to be vaccinated yearly in the main cities;
  - NCD: 34 million poultry to be vaccinated yearly;
  - Anthrax: 500 000 ruminants to be vaccinated yearly;
  - HS: 50 000 cattle to be vaccinated yearly;
  - Black leg: 100 000 cattle to be vaccinated yearly.

These activities will be carried out by a public field veterinary network appropriately resourced, under the clear direction of the VSD Epidemiology unit which will be in charge of:

- Developing SOPs for all relevant aspects of surveillance that include guidance on disease recognition and sampling procedures;
- Providing contract work to private veterinarians to undertake active surveillance for diseases requiring active involvement of frontline staff such as TB and brucellosis<sup>5</sup>;
- Developing contingency plans to respond to the incursion or suspicion of emerging disease, in particular HPAI and rinderpest, for the early detection of sanitary emergencies.
- Updating the legal framework to ensure that all necessary responses are legally enforceable and ensure that the due authorities are aware of their roles and able to apply such enforcement.

The role and organisational structure of the VSD Epidemiology Unit will be reviewed, and revised as needed, in order that it functions as an integrated component of the VS and has demonstrable cost effectiveness at coordinating the field surveillance networks. Following this review, the public VS human and technical capacity at field level will be strengthened to establish effective and informed field networks for disease surveillance, reporting sample collection and submission for laboratory diagnosis of suspect cases with evidence of correct results obtained. In the framework of this PVS Gap Analysis, the human and physical resources related to the VSD Epidemiology Unit will be conserved in the 5<sup>th</sup> Pillar (General Management and Regulatory Services).

The field network will allow the VSD to be provided with accurate reports at the national level in compliance with OIE standards and will facilitate the collection and submission of samples for laboratory diagnosis of suspect case.

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<sup>5</sup> This activity will involve a limited population of cattle.

The strategy will have to address the weaknesses in the chain of command, legal framework and resourcing in order to achieve a significant improvement in performance and quality of the veterinary services delivered. The VSD will therefore need to adopt a more pro-active and effective management style. A positive commitment on behalf of the VSD to achieve the required enhanced management impact will be needed in order to justify the significant monetary investment that the improved level of services will entail. There is currently a high level of expenditure for importing all types of livestock product requirements that could be directed at enabling and resourcing local production of livestock and livestock products, for which a fully functioning VS would be essential to provide the necessary animal health and inspection services.

Moreover, in order to ensure a smooth functioning of this network, VSD will have to proactively adopt modern communication technology, such as the use of mobile phones and netbook computers, to enhance the quantity and quality of surveillance data being reported by frontline staff and managed by District Veterinary Offices; develop and disseminate appropriate awareness campaigns for stakeholders, using all forms of printed and electronic media; provide incentives to motivate disease reporting by frontline staff, inclusive of the private sector, such as effective feedback and support mechanisms; and ensure the establishment of an emergency fund that can be rapidly accessed to provide necessary financial support in the face of an emergency situation.

## **II.2 Human resources**

In order to determine the required number of professionals to implement in the field the abovementioned activities, it is important to assess the workload that these activities will represent based on the following five steps:

### **A. Estimation of number of Veterinary Livestock Unit (VLU)<sup>6</sup>**

The VSD was able to provide the PVS Gap Analysis team with the figures of the last animal census per district. The final results for Ghana are presented in the below table:

Bovines	Small ruminants	Porcines	Equines, Asines, Camelides	Poultry	Equivalent number of VLU
1 437 664	8 261 828	520 941	20 057	43 330 204	2 859 449

<sup>6</sup>VLU is an equivalence unit for the estimate of veterinary cost and care (workload). This unit establishes equivalence between species. The number of VLUs in a country is calculated as being equivalent to the number of cattle + 0.1 x the number of small ruminants + 0.5 x the number of horses and dromedaries + 0.3 x the number of donkeys + 0.2 x the number of pigs + 0.01 x the number of poultry.



## B. Estimation of minimum number of Field Veterinary Posts to undertake official activities

Number of working days necessary to undertake all official activities related to individual animals					
Campaign or dates (duration)	Activity	Species	Targeted number of animals <i>b</i>	Average animals per day <i>c</i>	Total number of days <i>d = (b/c)</i>
All year	Yearly cattle vaccination (CBPP, Anthrax, HS, Black leg), including identification of 140000 cattle/year	cattle	900 000	500	1 800
April to July	Yearly small ruminants vaccination (PPR, Anthrax)	sheep, goats	4 000 000	1 000	4 000
All year	NCD vaccination	poultry	34 000 000	1 500	22 667
All year	Rabies vaccination	dogs	15 000	300	50
					<b>28 517</b>

Number of working days necessary for official visit of sites (food inspection, village training, farm surveys...)					
Campaign or dates (duration)	Activity	Type of site to visit	Number of visits per year <i>e</i>	Number of days per visit <i>f</i>	Total number of days <i>g = (e*f)</i>
All year	yearly visit in each village for surveillance	villages	4410	1,00	4410
All year	Food safety inspection 10 slaughterhouses, 4 milk processing	Facilities	3169	1,00	3169
					<b>7 579</b>

Total number of working days necessary to implement all official activities	$h = (d+g)$	36096
Number of working days available yearly to undertake official activities	<i>i</i>	500
Minimum number of Field Veterinary Posts	$j = (h/i)$	72
Maximum number of VLU per Field Veterinary Post	$k = (a/j)$	39 609

In the table above, the different animal health control programmes are listed and the number of working days for a veterinarian is estimated:

- Vaccination against CBPP will concern 900,000 cattle every year with around 1,000 animals vaccinated per day ;
- Vaccination against PPR will concern small ruminants with around 1,000 animals vaccinated per day, and one vaccination per year:
- Vaccination against NCD will concern 34,000,000 poultry with around 1,500 animals vaccinated per day:
- Vaccination against rabies will concern 15,000 dogs with around 300 animals vaccinated per day.

The total working days required for these actions are around 36,096. The minimum number of field veterinary posts (FVP) is around **72** considering that a FVP (public or private) is a post with one veterinarian and two veterinary para-professional in charge of field activities (animal care, vaccination campaigns, etc).



### C. Estimation of accessibility of the Field Veterinary Network

Administrative level	Area in Km <sup>2</sup> or sq mile	Number of VLU	Number of villages	Number of households or groups	Number of VLU / Km <sup>2</sup> or sq mile	Minimum number of FVPs*	Accessibility to minimum number of FVPs*	Proposed optimum number of FVPs*	Accessibility to optimum number of FVPs*
	$l$	$m = (a)$	$n$	$o$	$p = m/l$	$q = (m/k)$	$r = \sqrt{((0.5^*)/q)}$	$s$	$t = \sqrt{((0.5^*)/s)}$
Bawku East	2097	107 910	78	45234	51.46	3	20	1	32
Frafra (Bongo-Bolga)	1940	89 128	65	37361	45.9	2	21	1	31
Kassena/Nankana	1700	50 978	37	21369	30.0	1	26	1	29
Bulsu	1960	58 417	42	24488	29.8	1	26	1	31
Bawku West	979	38 010	28	15933	38.8	1	23	1	22
Sissala	7130	56 443	6	10135	7.9	1	50	1	60
Wa	5460	222 226	25	39902	40.7	6	22	2	37
Lawra	900	32 602	4	5854	36.2	1	23	1	21
Jirapa/Lambussie	1810	85 876	10	15419	47.4	2	20	1	30
Nadowli	2920	51 937	6	9325	17.8	1	33	1	38
Tamale	750	63 759	14	26892	85.0	2	15	1	19
Tolon/Kumbungu	2410	39 632	9	16716	16.4	1	35	1	35
Savelugu	2200	77 741	17	32789	35.3	2	24	1	33
East Mamprusi	3060	58 841	13	24817	19.2	1	32	1	39
West Mamprusi	4810	36 535	8	15409	7.6	1	51	1	49
Gushiegu	6000	30 600	7	12906	5.1	1	62	1	55
Yendi	4140	26 619	6	11227	6.4	1	55	1	45
Zabzgu	2310	25 095	6	10584	10.9	1	43	1	34
Saboba	2810	41 738	9	17604	14.9	1	37	1	37
Nanumba	3900	21 543	5	9086	5.5	1	60	1	44
E/Gonja	12955	23 457	5	9893	1.8	1	105	1	80
C/Gonja	17440	46 370	10	19557	2.7	1	86	1	93
W/Gonja (Bole)	10904	90 420	20	38136	8.3	2	49	1	74
Asunafo	2120	5 210	4	9886	2.5	0	90	0	103
Asutifi	1550	3 854	3	7313	2.5	0	89	0	88
Atebubu	5990	34 157	25	64810	5.7	1	59	1	55
Berekum	920	4 362	3	8277	4.7	0	65	0	68
Dormaa	2050	13 798	10	26180	6.7	0	54	1	32
Jaman	1600	10 200	7	19354	6.4	0	56	1	28
Kintampo	6540	31 341	23	59466	4.8	1	64	1	57
Nkoranza	2340	6 100	4	11573	2.6	0	87	1	34
Sene	7000	14 803	11	28087	2.1	0	97	1	59
Sunyani	1360	27 300	20	51798	20.1	1	31	1	26
Tano	1220	9 626	7	18264	7.9	0	50	0	78
Techiman	960	8 140	6	15445	8.5	0	48	0	69
Wenchi	5000	11 781	8	22354	2.4	0	92	1	50
Adansi East	1020	1 918	12	9229	1.9	0	103	0	71
Adansi West	950	4 768	30	22945	5.0	0	63	0	69
Afigya Sekyere	780	4 749	30	22850	6.1	0	57	0	62
Ahafo Ano North	1220	3 753	24	18059	3.1	0	80	0	78
Ahafo Ano South	570	2 187	14	10525	3.8	0	72	0	53
Amansie East	1870	4 634	29	22301	2.5	0	89	0	97
Amansie West	1280	3 406	22	16390	2.7	0	86	0	80
Asante Akim North	1260	5 795	37	27884	4.6	0	66	0	79
Asante Akim South	1080	6 172	39	29701	5.7	0	59	0	73
Atwima	2460	31 325	199	150737	12.7	1	39	1	35
Bosomtwi Kwamwowa	620	8 277	53	39829	13.4	0	39	0	56
Ejisu Juaben	650	12 222	78	58813	18.8	0	32	1	18
Ejura Sekyere Odumas	1350	8 353	53	40195	6.2	0	57	0	82
Kwabre	250	6 091	39	29307	24.4	0	29	0	35
Kumasi	220	10 117	64	48685	46.0	0	21	1	10
Offinso	1350	16 043	102	77199	11.9	0	41	1	26
Sekyere East	4510	4 948	31	23810	1.1	0	134	0	150
Sekyere West	2390	7 128	45	34300	3.0	0	81	0	109
Afram plains	5260	17 613	50	30446	3.3	0	77	1	51
Akwapin North	610	17 613	50	30446	28.9	0	26	1	17
Akwapin South	360	17 613	50	30446	48.9	0	20	1	13
Asuogyaman	640	17 613	50	30446	27.5	0	27	1	18
Birim North	1250	17 613	50	30446	14.1	0	37	1	25
Birim South	1090	17 613	50	30446	16.2	0	33	1	23
East Akim	1510	17 613	50	30446	11.7	0	41	1	27
Fante Akwa	1150	17 613	50	30446	15.3	0	36	1	24
Kwaebibirem	1210	17 613	50	30446	14.6	0	37	1	25
Kwahu South	1860	17 613	50	30446	9.5	0	46	1	30
Manya Krobo	950	17 613	50	30446	18.5	0	33	1	22
New Juaben	200	17 613	50	30446	88.1	0	15	1	10
Suhum Kraboa Coaltar	940	17 613	50	30446	18.7	0	33	1	22
West Akim	700	17 313	50	30446	24.7	0	28	1	19
Yilo Krobo	580	17 613	50	30446	30.4	0	26	1	17
Accra Metro	300	101 539	198	247589	338.5	3	8	1	12
Tema	440	60 400	118	147277	137.3	2	12	1	15
Dangme East	640	35 008	68	85361	54.7	1	19	1	18
Dangme West	1680	38 474	75	93813	22.9	1	29	1	29
Ga	600	21 561	42	52573	35.9	1	23	1	17
Ho/ Kpando	3770	70 559	76	52244	18.7	2	33	1	43
Hohoe	1140	46 173	49	34188	40.5	1	22	1	24
Juapong(Adidome/2)	730	77 206	83	57166	105.8	2	14	1	19
Sogakope	640	48 000	51	35541	75.0	1	16	1	18
Adidome(Adidome/2)	730	55 372	59	41000	75.9	1	16	1	19
Denu(Keta/Ketu)	1700	14 628	16	10831	8.6	0	48	1	29
Akatsi	820	27 497	29	20360	33.5	1	24	1	20
Jasikan/Kadjebe	2560	28 982	31	21460	11.3	1	42	1	36
Nkwanta	5480	24 174	26	17899	4.4	1	67	1	52
Kete-Krachi	2860	74 159	80	55132	25.9	2	28	1	38
Abura-Asebu	380	4 402	36	20290	11.6	0	41	1	14
Agona	540	11 639	95	53644	21.6	0	30	1	16
Ajumako	480	2 314	19	10667	4.8	0	64	0	49
Asikuma	850	2 307	19	10632	2.7	0	85	0	65
Awutu Effutu Senya	780	14 423	118	66476	18.5	0	33	1	20
Cape Coast	122	4 331	35	19961	35.5	0	24	0	25
Gomoa	850	7 800	64	35949	9.2	0	46	0	65
K.E.E.A.(Komenda)	380	4 710	39	21709	12.4	0	40	0	44
Lower Denkyira (Twifo)	1370	7 760	64	35767	5.7	0	59	0	83
Mfantiman	510	6 556	54	30216	12.9	0	39	0	50
Upper Denkyira	1000	5 502	45	25357	5.5	0	60	0	71
Assin	2300	7 618	62	35109	3.3	0	77	0	107
Ahanta East / Shama	385	24 075	140	104689	62.5	1	18	1	14
Ahanta West	591	2 685	16	11674	4.5	0	66	0	54
Mpohor Wassa East	1880	2 051	12	8918	1.1	0	135	0	97
Wassa Amenfi	4747	3 400	20	14786	0.7	0	166	0	154
Nzema East	2194	9 010	54	40482	4.1	0	69	1	33
Jomoro	1344	6 596	38	28683	4.9	0	64	1	26
Wassa West	2610	12 598	73	54783	4.8	0	64	1	36
Aowin Suaman	3095	6 219	36	27044	2.0	0	99	0	124
Sefwi Wiawso	1900	6 336	37	27553	3.3	0	77	0	97
Juabeso	4496	16 797	98	73040	3.7	0	73	1	47
Bibiani	850	4 252	25	18488	5.0	0	63	0	65
<b>Total</b>	<b>239 119</b>	<b>2 859 449</b>	<b>4410</b>	<b>3701240</b>	<b>12.0</b>	<b>72</b>	<b>41</b>	<b>77</b>	<b>39</b>

According to the table above, the accessibility of the field veterinary network is around 39 km, which is considered acceptable in Ghana. Therefore the network would be organised around **77 FVP**. Each FVP would take care of 37,000 VLUs and 57 villages.

#### D. Estimation of the annual distances to undertake official activities

Table below estimates the number of kilometres needed for all the animal health programmes and per FVP. This allows estimating the budget for transport of FVP

Type of official activity		Type of site to visit	Number of visits per year	Average return distance FVP to site	Vehicles involved in the visit		Budget (Km)
		x	y = (d)	z	Type	Number	ac = (y*z*ab)
<b>Official activities related to individual animals</b>							
All year	Yearly cattle vaccination (CBPP, Anthrax, HS, Black leg), including identification of 140000 cattle/year	villages	1 800	39	moto	2	140 400
April to July	Yearly small ruminants vaccination (PPR, Anthrax)	villages + house	4 000	39	moto	2	312 000
All year	NCD vaccination	farms + household	22 667	39	moto	1	884 000
All year	Rabies vaccination	clinics + household	50	39	moto	1	1 950
<b>Official activities related to visiting sites</b>							
All year	yearly visit in each village for surveillance	villages	4 410	39	moto	1	171 990
All year	Food safety inspection 10 slaughterhouses, 4 milk processing units, 24 veterinary medicines importing	Facilities	3 169	39	moto	1	123 591
<b>Total annual distance to be covered by the national field veterinary network</b>						<b>ad = total (ac)</b>	<b>1 633 931</b>
<b>National average distance per Field Veterinary Post</b>						<b>ae = (ad/s)</b>	<b>21 110</b>

The total number of kilometres per year is around 1,800,000 at national level and 21,150 at per field veterinary post.

#### E. Estimation of human, physical and financial resources.

Table below estimates the budget needed for a FVP including:

- One veterinarian and two veterinary paraprofessional;
- Maintenance of the buildings;
- Equipment (motorcycles, telecommunication equipment, office equipment etc);
- Expenses of transport for 21,150 km per year.

Around 34,000 USD are necessary to cover all these expenses for one FVP. Taking into account 250 to 500 working days per year, the cost for one working day is around 68 to 136 USD. For around 77 FVP, the needed income is around 2.62 M USD.

Budget line	Designation of units	Number of units <i>af</i>	Unit cost <i>ag</i>	Nb of years for amortisation <i>ah</i>	Annual cost per FVP <i>ai = (af*ag/ah)</i>	Total for field network
<b>Human resources (Full Time Equivalent)</b>					<b>23 200</b>	<i>staff</i> <i>aj = (af*s)</i>
Veterinarian	net income per year	1	11 000	-	11 000	77,4
Veterinary para-professional	net income per year	2	6 100	-	12 200	154,8
Support staff	net income per year			-		
<b>Physical resources</b>					<b>4 147</b>	<i>units</i> <i>ak = (af*s)</i>
Buildings	m <sup>2</sup> to maintain	30	25	-	750	2322
Transport	Moto	2	3 000	3	2 000	154,8
Telecommunication set		1	2 500	3	833	77,4
Office set		1	1 470	3	490	77,4
Cold chain		2	100	5	40	154,8
Other Equipment		1	100	3	33	77,4
<b>Functioning</b>					<b>6 751</b>	<i>amounts</i> <i>al = (ai*s)</i>
Transport fees		21 110	0,10	-	2 111	163 393
				-		
Administrative/social costs	lump sum % on net income	20%		-	4 640	359 136
Other				-		
				-		
<b>Total cost of a Field Veterinary Post</b>					<b>34 098</b>	
<b>Total cost for Field Veterinary Network</b>						<b>2 639 161</b>

Discussions with the DVS revealed that it is possible that the number of districts will continue to increase<sup>7</sup> in the future with Local Authorities establishing a veterinary service office in each additional district. However, it will be difficult to achieve the ideal of a FVP in each district over the next five years. Therefore it is proposed to increase the 59 District Veterinary Offices up to 77. In collaboration with relevant authorities, the DVS will define the appropriate coverage of the 171 districts by the 77 District Veterinary Offices. This means each district VS will have a jurisdiction over 2 or 3 districts.

In order to reinforce professional competencies of the field staff, a specific continuing education programme is planned involved in epidemiology (50 working-days/year over the five years).

Funds will need to be committed for the building/renting of 18 new structures. It was not possible during the PVS Gap Analysis mission to assess the need for new buildings at district level. A more precise study is recommended.

The number of private veterinarians remains small (18) and the majority of them are based in Accra. The VS Directorate is willing to investigate possibilities and opportunities for delegated activities to private veterinarians to perform veterinary services on behalf of the official VS such as vaccination, surveillance, meat inspection etc. The programme includes a budget for delegated activities estimated around 280,000 USD.

The staffing requirement for the coordination of all the activities is covered under the section Management of Veterinary Services.

<sup>7</sup> Since the OIE PVS mission in November 2008, the number of districts has been increased from 169 to 171

**In conclusion:**

To cover the Ghana territory, around 77 FVP are necessary (with one veterinarian and two veterinary paraprofessionals). Currently, only 59 District Veterinary Offices exist. Premises must be found for the FVP in other districts. The issue will be addressed by the DVS in collaboration with relevant authorities.

**II.3. Physical resources**

The physical resources for the field veterinary network include mainly:

- Around 1,770 m<sup>2</sup> of building (maintenance of the 59 District Veterinary Offices)
- 77 telecommunication equipment sets
- 77 office equipment sets
- 154 motorbikes
- Other small equipment.

**II.4. Financial resources**

Estimation of the budget for vaccines

The total budget for vaccines is around 2,196,950 USD.

**Table n°10 - Estimation of the budget for vaccines**

Diseases	Animal species	Number of vaccines per year	Prices of vaccines		Annual budget USD
			GH¢	USD	
CBPP	Cattle	900,000	0.2	0.13	117,000
PPR	Sheep and Goats	4,000,000	0.1	0.07	280,000
Anthrax	Cattle, Sheep, Goats	500,000	0.2	0.13	65,000
NCD	Poultry	34,000,000	0.07	0.05	1,700,000
Rabies	Dog, Cats	15,000	0.5	0.33	4,950
Haemorrhagic septicaemia	Cattle	50,000	0.3	0.20	10,000
Blackleg	Cattle	100,000	0.3	0.20	20,000
<b>Total</b>					<b>2,196,950</b>

The total budget for Animal health is around **5,004,000USD** per year including 2,824,000 USD for consumable expenses, mainly linked with purchase of vaccines.

Table n°11 - Sub-Total for strengthening competencies for animal health

SUB-TOTAL ANIMAL HEALTH						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)	-	1 770				
Existing building to be maintained (m2)	-	1 770	25	1	44 250	
Existing building to be renovated (m2)	-	-	200	10		
Building to be built (m2)	-	-	500	25		
Transport						
Number of motorbikes	-	154	3 000	3	154 000	
Number of cars	-	-	27 000	5		
Number of 4x4 vehicles	-	-	34 000	5		
	-	-				
Telecommunication equipment set	-	77	2 500	3	64 167	
Office equipment set	-	77	1 470	3	37 730	
Other specific equipment						
Other equipment for Animal Health (1)					3 080	
Other equipment for Animal Health (2)					2 567	
<b>Sub-total Material investments</b>					<b>305 793</b>	
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)	-	-	3 300			
Continuing education (man-days / year)	-	50,0	148		7 397	
National expertise (days/5 years)		-	271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...		-				
<b>Sub-total non material expenditure</b>					<b>7 397</b>	
<b>Salaries / year</b>						
Veterinarians	-	77,0	11 000		847 000	
Other university degree	-	-	11 000			
Veterinary para-professionals	-	154,0	6 100		939 400	
Support staff	-	-	4 000			
<b>Sub-total Salaries</b>					<b>1 786 400</b>	
<b>Consumable resources / year</b>						
Administration			20%		357 280	
Travel allowances						
staff within the country (man-days) / year	-	689	121		83 369	
drivers within the country (man-days) / year	-	-	45			
staff abroad (man-weeks) / year	-	-	3 369			
Transport fees						
Km or miles Motorbikes / year		1 386 000	0,10		142 758	
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication	-	3			11 000	
Consultation (number of 1 day meetings)	-	20			20 000	
Kits / reagents / vaccines					1 799 950	
Other costs for Animal Health (1)					130 000	
Other costs for Animal Health (2)					280 000	
<b>Sub-total Consumable resources</b>					<b>2 824 357</b>	
<b>Delegated activities / year</b>						
					80 000	
<b>Sub-total Delegated activities</b>					<b>80 000</b>	
<b>Total in</b>	<b>USD</b>				<b>5 003 947</b>	
<b>Total in</b>	<b>GHc</b>				<b>7 505 921</b>	



### III Strengthening competencies for veterinary public health

The purpose of this section is to explain the proposed activities in the field of food safety, veterinary medicines and biological (veterinary products) and residue testing.

This will chiefly include the activities presented in the Critical Competency Cards II.8A, II.8B, II.9 and II.10. If necessary, links could be made with the important cross-cutting competencies developed in the 5<sup>th</sup> pillar of the PVS Gap Analysis Tool on Management of Veterinary Services (e.g. Chapter V.2 of the report).

This will chiefly include the activities presented in the Critical Competency Cards II.8, II.9 and II.10.

#### III.1 Strategy and activities

##### III.1.A Food safety

The VSD does not have the authority, as required by OIE standards, to manage meat inspection activities. The Disease of Animals Act of 1961 does not include public health authority for meat inspection. A draft meat inspection law has been in existence since 2004 but has not yet been enacted. Under the current system, the Ministry of Health (MoH) has the primary authority for this function.

In the current situation, the largest slaughterhouse in the country is manned only by technical positions with minimal oversight by veterinarians with no VS programs for food borne disease in place. This is further compounded by the fact that the majority of slaughtering in the country is done at smaller local slaughter slabs which are typically not inspected and the facilities generally have minimal access to running water or appropriate disposal of waste products.

Proposed strategy: provide the VS with the mandate and capacity to undertake ante and post mortem inspection and collection of disease information (and coordination, as required) in conformity with international standards.

To achieve the stated strategy the following activities and tasks are necessary;

- MoFA to effect the speedy enactment of the drafted meat inspection legislation giving the VSD the authority to execute meat inspection functions.
- Upgrade and improve the slaughter facilities at the two export abattoirs, [Accra & Kumasi] and the eight regional abattoirs [Takoradi, Tamale, Sunyani, Bolgatanga, Wa, Ho, Koforidia, and Cape Coast].
- Compile SOPs for *ante* and *post mortem* inspection, based on international standards as appropriate for needs.
- Provide the necessary human and technical resources to execute the required functions.
- Provide appropriate specific training at regular intervals.

The MTEF made budgetary provision in the 2011 annual budget of the Veterinary Department to advocate for the construction of slaughter houses / slabs in all districts. In terms of this priority, the VSD should participate in the development of model designs for abattoirs / slaughter facilities suited to regional and district demand.

NB. As Ghana has no traceability systems practised by the private commercial sector for products of animal origin and these are not anticipated to be in place in the foreseeable future, the VSD indicated that Inspection of the collection, processing and distribution of products of animal origin as per CC.II.8.B is not applicable at this stage.

### *III.2.B Veterinary medicines and biologicals*

The VSD of Ghana has a very limited involvement regarding the regulation of veterinary medicines and biologicals. The regulatory activity is limited to the issuing of import permits on demand, with no risk analysis process being applied.

The Ghana Food and Drug Board is the responsible government agency for registration of veterinary medicines and no change is anticipated in the next 5 years, as no amendments to existing legislation, in order to empower the VS to regulate veterinary medicines and biologicals, is contemplated.

The VSD indicated that meeting “international standards for the quality and control of veterinary medicines and biologicals” is considered to be important; however this seems to be at this stage an unattainable goal. The VSD thus proposed no change in the current PVS level of advancement and is unable to execute any regulatory functions in the short to medium term.

The OIE Focal Point on Veterinary Medicines should, however, be actively involved in monitoring further possibilities and opportunities in order to address the need to apply international standards for control and quality.

### *III.2.C Residue testing*

An inquiry<sup>8</sup> showed that more than 35% of the samples of raw milk are contaminated with one or more antibiotics residues in Ghana and it follows that this risk should be very high for meat as well. There is no residue testing programme in the veterinary laboratories. As the livestock sector plays a relatively minor role in the national economy, with the export of animal products not considered a priority, no change to this situation is anticipated by the VSD.

To be able to progress it is however necessary to determine the requirements for the establishment of a residue testing programme for selected animal products. The VSD thus plans to formulate a methodology and undertake a pilot trial to determine antimicrobial levels in poultry products.

### *III.2.D Zoonoses*

Although several zoonoses (tuberculosis, anthrax, brucellosis and cysticercosis) have been observed in Ghana, there are no routine national programmes for the control and eradication of zoonotic diseases.

The VSD has inadequate resources to undertake national zoonotic disease surveillance and the capacity of the VSD laboratories to undertake confirmatory diagnosis is inadequate.

In the next 5 years, surveillance and control of zoonotic diseases will be improved through improvement of food inspection and active surveillance for TB and brucellosis in particular as well as strengthening coordination between VSD and Public Health.

## **III.2 Human resources**

Human resources are detailed in annexed Cost Estimation Cards of corresponding Critical Competency Cards II.8.A, II.8.B, II.9 and II.10.

The VSD will employ 2 veterinarians and 4 veterinary paraprofessionals for meat inspection at the Accra & Kumasi abattoirs. The human resources needed for the eight regional abattoirs will be part of the field veterinary network and are therefore not considered here.

A veterinarian is designated OIE Focal Point on Veterinary Medicines.

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<sup>8</sup>ANING et al. Risk exposure to marketed milk with antimicrobial residues in Ghana. Open Food Science Journal, 2007, 1-5.



In order to reinforce professional competencies, a specific continuing education programme is planned involved in:

- Meat inspection for 10 veterinarians and 20 veterinary paraprofessionals (1 day/year);
- Veterinary medicine for the OIE Focal Point on Veterinary Medicines (2 days/year).

### **III.3 Physical resources**

Physical resources are detailed in annexed Cost Estimation Cards of corresponding Critical Competency Cards II.8.A, II.8.B, II.9 and II.10.

The **two** principal abattoirs at Accra and Kumasi have to be rehabilitated and maintained.

The **eight** regional abattoirs, being Takoradi, Tamale, Sunyani, Bolgatanga, Wa, Ho, Koforidia, Cape Coast have to be upgraded and improved to execute veterinary meat inspections.

Other physical resources include 1 motorbike, 1 telecommunication equipment set and one office equipment set for each of the two principal abattoirs and 1 telecommunication and office equipment sets for the OIE Focal Point on Veterinary Medicines.

### **III.4 Financial resources**

Physical resources are detailed in annexed Cost Estimation Cards of corresponding Critical Competency Cards II.8.A, II.8.B, II.9 and II.10.

Consumables for analysis related to residues are been estimated around 9,000 USD per year.

Annual budget for Veterinary public health is estimated around 135,500 USD.

Table n°12 - Sub-Total for strengthening competencies for veterinary public health

SUB-TOTAL VETERINARY PUBLIC HEALTH						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)		1 800				
Existing building to be maintained (m2)	-	1 800	25	1	45 000	
Existing building to be renovated (m2)	-	-	200	10		
Building to be built (m2)	-	-	500	25		
Transport						
Number of motorbikes	-	2	3 000	3	2 000	
Number of cars	-	-	27 000	5		
Number of 4x4 vehicles	-	-	34 000	5		
-	-	-				
-	-	-				
Telecommunication equipment set	-	3	2 500	3	2 500	
Office equipment set	-	3	1 470	3	1 470	
Other specific equipment						
Other equipment for Vet. Public Health (1)						
Other equipment for Vet. Public Health (2)						
Sub-total Material investments					50 970	
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)	-	-	3 300			
Continuing education (man-days / year)	-	32,0	148		4 734	
National expertise (days/5 years)		-	271			
International expertise (weeks/5 years)		-	9 550			
Special funds (/ 5 years) for ...		-				
Sub-total non material expenditure					4 734	
<b>Salaries / year</b>						
Veterinarians	-	3,0	11 000		33 000	
Other university degree	-	-	11 000			
Veterinary para-professionals	-	4,0	6 100		24 400	
Support staff	-	-	4 000			
Sub-total Salaries					57 400	
<b>Consumable resources / year</b>						
Administration			20%		11 480	
Travel allowances						
staff within the country (man-days) / year	-	-	121			
drivers within the country (man-days) / year	-	-	45			
staff abroad (man-weeks) / year	-	-	3 369			
Transport fees						
Km or miles Motorbikes / year		18 000	0,10		1 854	
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication	-	-				
Consultation (number of 1 day meetings)	-	-				
Kits / reagents / vaccines	-	-				
Other costs for Vet. Public Health (1)					9 000	
Other costs for Vet. Public Health (2)						
Sub-total Consumable resources					22 334	
<b>Delegated activities / year</b>						
Sub-total Delegated activities						
Total in	USD				135 438	
Total in	GHc				203 157	

## IV Strengthening competencies for veterinary laboratories

The purpose of this section is to explain the proposed activities in the field of veterinary laboratories: Critical Competency Cards II.1 and II.2.

### IV.1 Strategy and activities

The VS in Ghana has a good physical network of laboratories with three main laboratories at Accra, Pong-Tamale and Kumasi serving zonal needs and 5 laboratories at Techiman, Ho, Takoradi, Dormaa-Ahenkro and Koforidua serving regional needs. The buildings are not in very good condition both in Accra and in other localities. As a consequence of donor support to enable the VS to prepare for and then counter the HPAI outbreak that occurred in 2007, there has been a substantial amount of new equipment and materials supplied. The EU funded Avian Influenza Project for example supported the procurement of some €111,600.00 worth of laboratory equipment including real time PCR equipment. This equipment has facilitated the analysis of a range of samples as indicated in the following table showing the activity in one year for the Accra Laboratory.

Sample type	Number samples analysed
Blood for Haematology	380
Faecal for helminthology	215
Skin scrapings	150
Rabies	108
Feed for Aflatoxin	68
Poultry pm	1560
Large animal pm	357
Bacteriology	150
Avian influenza	1650
ASF	56
CBPP	150
FMD	540
RVF	155
IB	580
NCD I2 Vaccine production	5,860.000

Capacity in PCR is limited to detect influenza virus group H5 in Accra. Although well supplied with updated equipment the laboratories suffer the problem of accessing recurrent funds for the purchase of materials and reagents. There is no real policy to carry out regulatory tests to follow the prevalence of the main animal diseases.

There are at the present time no laboratory quality assurance or outside accreditation programs in place at any level within the VSD laboratory system. Addressing this deficiency should be accorded a high level of priority and the necessary resources and training need to be provided.

The strategy to strengthen the competencies of the veterinary laboratories will be based on:

- i. The strengthening of technical capacities of the existing laboratories. The following actions will be undertaken :
  - Upgrade the premises of laboratory veterinary in Accra for serology, animal microbiology and PCR
  - Upgrade and update technical capacity of selected laboratory personnel in the 3Zonal laboratories Accra, Pong-Tamale and Kumasi to undertake specified diagnostic procedures and investigations.
  - Capacity building for specific skills to include conventional and on-line in-service training, practical attachments and scholarships for formal studies to MSc and PhD levels.

- Provide relevant and regular updated continuous education for selected laboratory personnel;
  - Develop updated SOP's for all procedures;
  - Ensure consistent supply of all required reagents to undertake all required investigations and tests;
  - Identify reference laboratories for “twinning” purposes in order to increase diagnostic capacity and proficiency.
- ii. The development of laboratory quality assurance at the Accra, Pong-Tamale and Kumasi zonal laboratories. The following actions will be undertaken :
- Nominate and train a QA manager for each of the 3 zonal laboratories;
  - Develop an appropriate QA system in compliance with the norm ISO 17025 for each of the 3 zonal laboratories with the support of an international expert;
  - Put in place an effective Monitoring and Evaluation system for the introduced QA system.

## IV.2 Human resources

At present the eight veterinary laboratories employ 11 veterinarians and 33 veterinary paraprofessionals. The table below details required staffing levels for the veterinary laboratory network in Ghana

**Table n°13 - Estimation of veterinary laboratory staff**

Laboratory	Required staff		
	Veterinarian	Veterinary paraprofessional	Support staff
Accra	5	7	4
Pong Tamale	5	7	3
Kumasi	3	4	4
Techiman	1	2	3
Ho	1	2	3
Takoradi	1	2	3
Kofindua	1	2	3
Dormaa-Ahenkro	1	2	3
<b>Total</b>	<b>18</b>	<b>28</b>	<b>26</b>

In order to strengthen professional competencies, the programme will support the implementation of a continuing education programme on the following topics:

- Laboratory diagnostic (1 day/year for 18 veterinarians)
- PCR capacity (3 days/year for 2 veterinarians)
- QA system (5 days/year for the three QA Managers).

Specialised training to MSc and PhD levels will be provided to two veterinarians.

## IV.3 Physical resources

The laboratories have been well supplied with updated equipment from the EU funded Avian Influenza Programme. The principal requirement is for a recurrent budget to supply materials and reagents as needed.

Modification of laboratory premises in Accra is also required in order to strengthen PCR capacity.

During the mission, it was not possible to assess the need for buildings maintenance.

Each of the three zonal laboratories will need to be provided on vehicle (4x4), one motorbike, one office equipment set and one telecommunication equipment set. Each of the 5 regional laboratories (Techiman, Ho, Takoradi, Dormaa-Ahenkro and Koforidua) will be provided with one motorbike, one office equipment set and one telecommunication equipment set.

#### ***IV.4 Financial resources***

The annual budget for the three zonal and the five regional laboratories is estimated around 737,000 USD out of which:

- 40,600 USD for equipment;
- 472,800 USD for staff salaries and 5,800USD for their continuing education;
- 218,000 USD for consumables (administration, reagents, inspection and education).

An exceptional budget of 155,300USD is required for the modification of laboratory premises in Accra, equivalent of 20man-months specialized training and 6 weeks of international expertise over the next five years.

Table n°14 - Sub-Total for strengthening competencies for veterinary laboratories

SUB-TOTAL VETERINARY LABORATORIES						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)		80				
Existing building to be maintained (m2)	-	-	25	1		
Existing building to be renovated (m2)	-	-	200	10		
Building to be built (m2)		80	500	25	1 600	32 000
Transport						
Number of motorbikes	-	8	3 000	3	8 000	
Number of cars	-	-	27 000	5		
Number of 4x4 vehicles	2	3	34 000	5	20 400	
	-	-				
	-	-				
Telecommunication equipment set	-	8	2 500	3	6 667	
Office equipment set	3	8	1 470	3	3 920	
Other specific equipment						
Other equipment for Vet. laboratories (1)						
Other equipment for Vet. laboratories (2)						
<b>Sub-total Material investments</b>					<b>40 587</b>	<b>32 000</b>
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)	-	20,0	3 300			66 000
Continuing education (man-days / year)	-	39,0	148		5 769	
National expertise (days/5 years)		-	271			
International expertise (weeks/5 years)		6,0	9 550			57 300
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>5 769</b>	<b>123 300</b>
<b>Salaries / year</b>						
Veterinarians	11,0	18,0	11 000		198 000	
Other university degree	-	-	11 000			
Veterinary para-professionals	33,0	28,0	6 100		170 800	
Support staff	-	26,0	4 000		104 000	
<b>Sub-total Salaries</b>					<b>472 800</b>	
<b>Consumable resources / year</b>						
Administration			20%		94 560	
Travel allowances						
staff within the country (man-days) / year			121		20 328	
drivers within the country (man-days) / year			45		1 080	
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year		72 000	0,10		7 416	
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year	48 000	72 000	0,31		22 248	
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication	-	-				
Consultation (number of 1 day meetings)	-	-				
Kits / reagents / vaccines	-	1			60 000	
Other costs for Vet. laboratories (1)					7 000	
Other costs for Vet. laboratories (2)					5 000	
<b>Sub-total Consumable resources</b>					<b>217 632</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>736 788</b>	<b>155 300</b>
<b>Total in</b>	<b>GHc</b>				<b>1 105 182</b>	<b>232 950</b>

## **V Strengthening competencies for general management and regulatory services**

The purpose of this section is to explain the proposed organisation in functional terms:

- Central leadership and chain of command of the country's Veterinary Services;
- Coordination of operational levels at a relevant decentralised level;
- Operational level of the National network including delegated activities being granted a lesser or greater share.

### ***V.1 General organisation of the Veterinary Services***

The revision of the internal organisation of the Veterinary Services to effect the required administrative changes in accordance with OIE standards is a priority. It's absolutely necessary to re-establish a clear chain of command between the Director of Veterinary Services in Accra and the field staff (veterinarian and veterinary para-professional) at regional and district levels that are placed under the technical and administrative control of the Regional and District Directors of Agriculture. The current system, which has been in place since the introduction of the Unified Extension System (UES) in 1997 has hampered the ability of the VS to deliver quality animal health services in Ghana.

At central level, the forthcoming retirements of a number of senior veterinarians, in the face of insufficient replacement of veterinarians, may seriously affect adequate coordination and leadership of the Directorate of Veterinary Services. The current policy of recruiting selected retired veterinarians on a contract basis will need to be continued until there are sufficient numbers of graduates from the new veterinary colleges.

At regional level, the 10 Regional Veterinary Offices, in charge of coordinating the field veterinary network, will be maintained and upgraded. Each Regional Veterinary Office will include one veterinarian and one support staff.

#### ***V.1.A Technical independence***

The capacity of the Veterinary Services to carry out their duties with autonomy and freedom from commercial, financial, hierarchical and political influences has been assessed at level 4. The objective is to maintain this level that means that the VS will continue to base technical decisions only on identified and recorded scientific evidence, not to be changed to meet non-scientific considerations.

The level of remuneration of public veterinarians and other university degree holders, as well as of veterinary para-professional staff, is low compared with medical officers, who receive a generous array of allowances that significantly increase their comparative rate of pay. In order to provide adequate remuneration for VS staff, necessary to maintain their technical independence, it is necessary to review the terms and conditions of VSD employment with particular reference to salary scales and allowances creating an "on par" status with that of the medical profession. It is also necessary to provide opportunities for upgrading and career advancement through participation in local and/or overseas training.

In this report, annual salary scales are estimated as follows:

- 11,000 USD for a veterinarian and a university degree
- 6,000 USD for a veterinary para-professional
- 4,000 USD for a support staff.

To maintain the technical independence of the VS, it will be necessary to:

- i. Maintain and improve the competence of VS staff. Action to be undertaken include:

- Develop formal standard operation procedures (SOPs) to assist veterinary staff to make evidence based technical decisions.
  - Provide structured continual education in particular on risk analysis
  - Update the veterinary legislation (see CC IV.1) to provide an enabling environment for public veterinary practice;
  - Maintain records (data base) of all technical decisions made.
- ii. Improve the level of remuneration of public veterinarians and other veterinary staff. Actions to be undertaken include:
- Undertake a VS staff salary and allowances review in comparison to equivalent professions
  - Determine equitable rates and explore available means and ways to place the earnings of VS staff on par and make the case for a general increase in salaries paid.

The existence of chain of command will also contribute to consolidate the technical independence of the VS.

### *V.I.B Coordination*

The VS is able to coordinate public sector resources and activities with a clear chain of command, at the central level (the Chief Veterinary Officer) but not at the regional and district offices [field level] of the VS which fall under the technical and administrative control of district administrations. As a consequence the VS is seriously impeded in implementing national activities relevant for OIE Codes (i.e. surveillance, disease control and eradication, food safety and early detection and rapid response programmes). The principal cause of this impediment is the Unified Extension System [UES] introduced in the 90's that fallaciously equated the VS with other agricultural service sectors rather than recognising the unique "quasi medical" functions performed by the VS and the imperative need to manage those functions by a centralised rather than a devolved administration

A clear and effective chain of command should be re-established at national VS level that addresses the negative impact brought about by the introduction of the Unified Extension System [UES] sectoral reform, and markedly improves internal coordination.

Actions to be taken include the following:

- Initiate discussions with relevant political authorities to affect the required administrative changes to restore direct technical and administrative lines of coordination of responsibilities between Central, Regional and District Veterinary staff in accordance with OIE standards.
- Provide SOP's for coordination requirements for VS functions and responsibilities with District and Regional Authorities.
- Formalize, provide a legal basis and coordinate linkages between District Veterinary Personnel and Community Livestock Workers.
- Ensure compliance with the required timely submission of comprehensive disease surveillance and incident data from district level to Accra VS HQ (see CC II.5).

Improvement of external coordination between the VS and other sectors or institutions requires formalizing of existing mechanisms, by entering into agreements with clearly described procedures and responsibilities, with all relevant stakeholders, in particular with Regional and District Administrative Authorities, in order to meet OIE standards. Actions to be developed include the following:



- Establish formal coordination procedures and mechanisms with the Ghana Food & Drugs Board for the regulation and control of veterinary medicines and biologicals.
- Institute formal agreements to restore to the VS those the functions carried out by other government authorities in contravention of OIE standards i.e. meat inspection by the Ministry of Health.
- Coordinate and formalize contracted services protocols with representative veterinary private sector organisations: Ghana Veterinary Medical Association (GVMA), Privatised Veterinary Association (PVA) and Veterinary Medical Technical Association of Ghana (VEMTAG).
- Establish formal platforms for private sector and civil society engagement with MoFA in order to improve institutional coordination for agricultural development
- Improve the exchange of data between the VSD and the different institutions/organisations involved in veterinary services activities.

### *V.I.C Veterinary practice organisation and policy*

There is an existing situation that sees “an institutional blind eye” turned to public veterinarians engaging in private veterinary practice is which is often delivered in direct and unfair competition to private veterinarians. The current complement of 18 private veterinarians and an unreported number of private veterinary paraprofessionals suffer from the unfair competition from public sector colleagues as well as the lack of government contracts to deliver services on behalf of the public VS. As a consequence the level of income earned from delivering clinical and preventive services by private veterinarians and veterinary para-professionals, particularly in peri-urban and rural locations, is totally inadequate. The amount earned is well below the level needed to maintain them in full time delivery of clinical services – a necessary prerequisite for the private sector to make a meaningful contribution to the operation of an efficient, reliable and comprehensive animal health field veterinary network.

The strategy should be to create an enabling and harmonised environment for the rational division of labour between the public and private VS which broadly places the responsibility for delivering private good services and specified public good services by the private sector with regulation by the public sector.

In order to implement the actions in support of the stated strategy the authority and capacity of the VCG needs to be strengthened in all aspects in order for it to play, in conjunction with the VSD, an effective, and where appropriate, a leading role. Specifically:

- Maintain and upgrade the functional capacity of the VCG to meet OIE standards
- Upgrade the existing administrative infra-structure of the VCG to meet modern demands for administration, communication and extension. VCG building (around 150 m<sup>2</sup>) will be renovated.
- Investigate personnel needs to provide for effective administration (Assistant Registrar/veterinarian, data typist, analyst and driver).
- Provide necessary office communication equipment to execute day-to-day activities.
- Provide necessary transport to execute visitations, veterinary facility inspections, and disciplinary investigations.

Once strengthened the VCG should engage with the VSD in driving forward the following actions:

- Encourage and support responsible government authorities to enact the

- “Veterinary Surgeons Bill, 2010” as a matter of priority.
- VCG to enter into discussions with the newly created veterinary schools at Legon and Kumasi, with emphasis on meeting all necessary levels of professional competency and capacity, given that the GVB is the final authority in all matters pertaining to the regulation of the veterinary profession in Ghana.
- Strengthen disciplinary procedures for veterinarians.
- Investigate, within the framework of the next 5 years, the possibility of placing the regulation of identified groups of veterinary para-professionals under the jurisdiction of the VCG. This action should be developed in consultation with the Veterinary Medical Technical Association of Ghana (VEMTAG).
- Consult, to identify best practice approaches, with other national Veterinary Statutory Bodies (VSB) e. g. Nigeria Veterinary Council, Veterinary Council of Namibia, South African Veterinary Council.

### *V.1.D Official delegation*

The VSD has not delegated any activities to be conducted on its behalf by the private sector. Furthermore the VSD has made no effective response to the engagement, by public sector veterinarians, in the delivery of private good services [see section V.1.B above]

The VS will progressively develop and implement official delegation programmes which are routinely reviewed in order to accredit / authorise / delegate the private sector (e.g. private veterinarians and laboratories), to carry out official tasks on its behalf.

To achieve this objective, the following actions will be developed:

- Investigate possibilities and opportunities for the delegation of procedures to the private veterinary sector to perform veterinary services on behalf of the official VS (permanent / temporary delegations – specific task delegations such as vaccinations – general delegations such as surveillance, meat inspection).
- Update the legislative and regulatory framework in order to provide for the intended delegated activities
- Define roles and responsibilities of the public VS at central, regional and district levels for the implementation and supervision of delegated activities.
- Provide specific authorization and documentation procedures, including scope, by sector (e.g. dairy and poultry) and by responsibilities, as well as a time frame (including regular review).
- Issue delegated authority document, containing information such as name, personal identification number, purpose and scope of tasks, date issued and date of expiry (validity).

A provisional annual budget for delegated activities has been estimated around 280,000 USD. The required annual budget should be readjusted after implementation and evaluation of the two first years.

## **V.2 Cross-cutting competencies of the Veterinary Services**

### *V.2.A Initial training*

#### **Initial training for veterinarians**

Current staffing levels are inadequate which will be exacerbated by the forthcoming retirements of number of senior veterinarians in particular at central level.

In response to this situation the VSD needs to undertake an assessment of the required number of veterinarians in the public VS and an identification of veterinary professional (s) for upgrading of skills (specialized knowledge), based on need.

In addition, the following actions will be undertaken:

- Specialised training will be organised for 8 in-service veterinarians to the University of Ghana on “Field epidemiology and laboratory training Course” under the “One Health” concept (duration 20 months) during the first three years.
- International specialized training in the field of VPH to be undertaken, one veterinarian/year.

### **Initial training for veterinary para-professionals**

Veterinary para-professionals will be trained for the development of specialist animal health competencies in meat inspection and participatory epidemiology approaches. In this regard, it's planned to:

- Train **ten** senior veterinary para-professionals over the five years, at the newly established Veterinary Schools.
- Train all veterinary para-professionals at the FVP locally in participatory epidemiology approach (see CC II.5.A) and meat inspection (see CC II.8A).

### *V.2.B Continuing education*

Formal continuing education (CE) programme should be developed by the VSD in collaboration with the VCG in order to strengthen improve the competencies of the veterinary personnel. Actions to be undertaken include the following:

- Consultation should be developed with the VCG and the two Veterinary Schools in Ghana in order to develop a structured CE programme (see CC.1.3).
- Research availability and type of relevant CE content from in-country, regional and continental sources
- Identify categories of relevant veterinary personnel to be trained, including CE content based on need;
- Develop and Implement structured continuing education (CE) courses for identified personnel with the collaboration of a national expertise;
- Review and update, where necessary CE activities for all relevant personnel on an annual basis;
- Implement CE as described under the respective CC's.

The VCG may also consider linking CE to a mandatory “points scheme” necessary for continued registration as a veterinarian or veterinary para-professional.

The CE programme distributed in different CC has been estimated at 2,245 man-days for the next five years.

### *V.2.C Management of operations and resources*

The current Directorate of VS staff includes administrative and financial officers in charge of the management of operations and resources. Records and documented procedures are used in the management of resources and some operations, but they do not allow adequate management, analysis, control or planning.

Adequate physical facilities exist for the VS at central level. The condition of VS buildings at regional and district levels does not seem to be documented and it was not possible during the mission to do a comprehensive inventory of VS facilities and to determine investments required.

Provision and use of transport remain a major constraint at Regional and District levels of the VS.

Therefore, the VSD has to carry out an inventory of VS facilities in the country and implement throughout the VS an administrative and financial management system, addressing *inter alia*:

- Comprehensive records, documentation and management systems;
- Provide SOPs for all relevant systems;

Other actions include:

- Apply and ensure compliance with governmental financial requirements (treasury instructions and tender requirements);
- Maintain detailed records of operational accounts, district treasury records (monthly financial statements) and disbursements (as provided for in Treasury Instructions);
- Ensure the timely maintenance of all infrastructural facilities throughout the VS;
- Provide CE for the administrative cadres for regular management skills updates (Ghana Institute of Management and Public Administration).
- Institute a performance assessment system to improve efficiency and effectiveness of services being rendered.

#### V.2.D Communication

The VSD does not at present have a functioning communications unit, though during the period of support from the Pan-African Programme for the Control of Epizootics [PACE] programme the VSD produced some first class information materials.

An animal health communication unit should be created within the VS structure in order to improve internal communication and to provide up-to-date information, accessible via the Internet and other appropriate channels, on activities and programmes to stakeholders.

Actions to be undertaken include the following:

- Assign two veterinary personal including the OIE focal point for communication to this unit. And provide them with adequate training on communication
- Develop a VS communication programme that is regularly updated.
- Provide the necessary capacity to enable the execution of required functions including installation of fast internet connections in each VS regional and district offices.
- Develop a VS Information website and/or hyperlink to the MoFA website.
- Collaborate with the Ghana Veterinary Medical Association (GVMA) to produce regular newsletters.

#### V.2.E Consultations with stakeholders

The VSD maintains only informal consultation mechanisms with stakeholders. For example there is no forum such as a livestock development forum, where representatives of all facets of the livestock sector can meet, to share problems and experiences, on a regular basis.

At central level, the VSD has to establish formal consultations, on a quarterly basis with GCV, GVMA and VEMTAG.

Regarding livestock stakeholders, appropriate consultation mechanisms need to be developed taking into consideration the level of organization. Poultry producers, pig producers and market trader associations which had positive links with the VSD could be assisted to boost their organisations and to develop formal consultation mechanisms. It is also necessary to identify and address the challenges to the formation of a national livestock forum representative of all stakeholders in the livestock sector.

The VSD has to support the initiative, by the veterinary private sector to form its own association.

#### V.2.F *Official representation*

The VSD has been actively participating in relevant OIE meetings (annual OIE General Session and OIE Regional Commission for Africa every two years) as well as meetings organised by FAO, AU-IBAR and ECOWAS. Regarding meetings related to *Codex Alimentarius* Commission and WTO SPS Committee, the VSD's involvement needs to be improved at national level by integrating the national committees.

The VSD should improve preparation and participation to OIE meetings and other international and regional meetings. Actions to be developed include the following:

- Strengthen consultation with stakeholders
- Ensure appropriate dissemination of relevant documentations for stakeholder comments and main results of the international and regional meetings.
- Provide opportunity(ies) to allow stakeholder participation at relevant international meetings.
- Ensure integration of the VSD in *Codex Alimentarius* and WTO SPS national committees.

#### V.2.G *Joint programmes*

There have been, in the programme to stamp out HPAI, some good examples of participation by stakeholders in programmes delivered by the VS. However this approach is not as yet generally applied to programmes involving other classes of livestock.

Through consultations, the VSD should improve involvement of relevant livestock stakeholders in implanting animal diseases control programmes such as CBPP and PPR control programmes.

Actions to be undertaken include:

- Carry out producers and livestock stakeholders' sensitisation to participate in joint programmes
- Promote information sharing with stakeholders.
- Develop community based animal disease early warning system through the use of participatory epidemiology tools
- Support voluntary vaccinations programmes.

**NB:**Community level sensitisation on tsetse fly and trypanosomiasis control for 3,000 beneficiaries included in the 2011 budgetary allocations.

#### V.2.H *Legislation*

The present level regarding participation in the preparation of national legislation and regulation remains unchanged at this stage. The MTEF made budgetary provision in the 2011 annual budget of the MoAF to facilitate the review and enactment of relevant laws and regulations that provide an enabling environment for private sector and civil society agricultural activities.

At this stage there is no indication of any new legislation being drafted. However, the VSD has to sensitize MoFA to effect the speedy enactment of the "Veterinary Surgeons Bill, 2010" and the meat inspection legislation giving the VSD the authority to execute meat inspection functions.

The VSD has also to appoint a focal point in charge of veterinary legislation who will be responsible to compile the national legislation and regulations relevant to VS activities.

The ability to implement inspection and verification of compliance with regulations relating to animals and animal products also remains unchanged at this stage. The 50-year old Animal Disease Act, 83 of 1961, is still applicable and in force, with actions to be taken in cases of non-compliances with the provisions of the Act being no longer enforceable.

The implementation of updated legislation coupled with the re-establishment of the chain of command as well as the improvement of communication and consultation with stakeholders will progressively ensure compliance with animal health and food safety regulations under the VS mandate.

### **V.3 *Human resources***

Human resources are shared between the VS Directorate in Accra and the 10 Regional Veterinary Offices.

Table 15 gives an estimate of the breakdown of human resources and details are described in the relevant critical competency cards and cost estimation cards in annexes.

**Table n°15 - Estimation of human resources for Management and Regulatory Services**

Sectors	PVS Critical competency	Human resources (full time equivalent)			
		Public (full time equivalent)			
		Veterinarians	Other university degree	Veterinary para-professionals	Support staff
<b>Coordination of the VS</b>	<b>I.6A/I.6B</b>	<b>33,0</b>	<b>2,0</b>	<b>2,0</b>	<b>28,0</b>
<b>Central level</b>		<b>23,0</b>	<b>2,0</b>	<b>2,0</b>	<b>18,0</b>
<b>Head of VS</b>					
Director		1,0			
Deputy Director		3,0			
Animal health communication unit		2,0			
<b>General Cross-cutting competencies</b>					
Administrative assistant					3,0
Accountant					3,0
Typiste					2,0
Librarian					2,0
Driver					4,0
Receptionist, sweepers, store personnel					4,0
<b>Animal health</b>					
Epidemiology and economic unit		4,0		2,0	
Tse Tse control unit		4,0			
Field unit		2,0			
Emergency preparedness unit		2,0			
Artificial insemination unit			2,0		
<b>Veterinary pharmacy and veterinary medicines</b>					
OIE focal point		1,0			
<b>Veterinary public health</b>					
Coordination with other institutions and consultation with beneficiaries		1,0			
Food safety		1,0			
Zoonoses		1,0			
<b>International relations</b>					
Coordination of border posts and international alerts		1,0			
<b>Deconcentrated Level of coordination</b>	<b>I.6A/I.6B</b>	<b>10,0</b>			<b>10,0</b>
<b>1st level of deconcentrated coordination</b>					
Regional Veterinary Offices (10)		10,0			10,0
<b>2nd level of deconcentrated coordination</b>					
<b>Legislation and regulation</b>	<b>IV.1 IV.2</b>	<b>1,0</b>			
Regulatory services		1,0			
<b>Communication</b>	<b>III.1</b>				
<b>Risk analysis / Emerging issue / technical innovation</b>	<b>II.3 II.11 II.12</b>	<b>2,0</b>			
Risk analysis unit		2,0			

A dedicated risk analysis section will be established within the Epidemiology unit at the VS Directorate.

Each of the 10 Regional Veterinary Offices will have one veterinarian and 1 support staff.

The total staff for management and regulatory is 36 veterinarians, 2 other university degree, 2 veterinary para-professionals and 28 support staffs.



The budget includes five men-days/years for travel allowances within the country for 36 veterinarians and 20 other university degrees.

There are two key issues concerning staffing for the AH service. Firstly some 42 key senior veterinarians are due to retire within the next five years and the Vet Faculties will not be producing graduates for another 3 years. Secondly there is an apparent public sector staffs complement of some 590 veterinary para-professionals. It is not known where and how these staffs are deployed.

There is a policy of offering contract terms to retired veterinarians and this policy will need to be continued for at least 3 years to come.

It has already been recommended that a review of the location, purpose and function of the veterinary para-professionals be undertaken. Although many of these are also due to retire it is seen that there should be an adequate complement remaining to occupy required positions.

#### ***V.4 Physical resources***

The relevant physical resources have been determined as follows:

- The VSD requires 24 telecommunication equipment sets, 36 office equipment sets, 8 cars and 3 4x4 vehicles.
- Each of the 10 Regional Veterinary Offices will need 1 telecommunication set, 2 office equipment set and 1 4x4 vehicle.

The total physical resources required is represented by 34 telecommunication sets, 56 office equipment sets, 8 cars and 13 4x4 vehicles.

#### ***V.5 Financial resources***

The annual budget for strengthening management and regulatory services is around 1,483,000USD.

Human resources represent around 565,200 USD.

The investment requires around 207,700USD per year.

An exceptional budget of 727,600 USD is required to finance:

- Upgrading the existing administrative infra-structure of the VCG;
- 211 months of specialised training on field epidemiology, risk analysis, etc;
- 60 man-days of national expertise on communication, SOPs.



Table n°16 - Sub-Total General management and regulatory services

SUB-TOTAL MANAGEMENT OF VETERINARY SERVICES						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)		150				
Existing building to be maintained (m2)	-	-	25	1		
Existing building to be renovated (m2)	-	150	200	10	3 000	15 000
Building to be built (m2)	-	-	500	25		
Transport						
Number of motorbikes	-	-	3 000	3		
Number of cars	-	9	27 000	5	48 600	
Number of 4x4 vehicles	1	14	34 000	5	95 200	
	-	-				
	-	-				
Telecommunication equipment set	-	36	2 500	3	30 000	
Office equipment set	1	60	1 470	3	29 400	
Other specific equipment						
Other equipment for management of VS (1)					1 500	
Other equipment for management of VS (2)						
<b>Sub-total Material investments</b>					<b>207 700</b>	<b>15 000</b>
<b>Non material expenditure</b>						
Training						
Initial training						
Specialised training (man-months / 5 years)	-	211,0	3 300			696 300
Continuing education (man-days / year)	-	34,0	148		5 030	
National expertise (days/5 years)		60,0	271			16 260
International expertise (weeks/5 years)		-	9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>5 030</b>	<b>712 560</b>
<b>Salaries / year</b>						
Veterinarians	1,0	37,0	11 000		407 000	
Other university degree	-	2,0	11 000		22 000	
Veterinary para-professionals	-	2,0	6 100		12 200	
Support staff	-	31,0	4 000		124 000	
<b>Sub-total Salaries</b>					<b>565 200</b>	
<b>Consumable resources / year</b>						
Administration			20%		113 040	
Travel allowances						
staff within the country (man-days) / year	-	400	121		48 400	
drivers within the country (man-days) / year	-	60	45		2 700	
staff abroad (man-weeks) / year	-	14	3 369		47 166	
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year		162 000	0,25		40 046	
Km or miles 4x4 vehicle / year	24 000	336 000	0,31		103 824	
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication	-	5 000			10 000	
Consultation (number of 1 day meetings)	-	40			40 000	
Kits / reagents / vaccines	-	-				
Other costs for VS management (1)					200 000	
Other costs for VS management (2)						
<b>Sub-total Consumable resources</b>					<b>605 176</b>	
<b>Delegated activities / year</b>						
					100 000	
<b>Sub-total Delegated activities</b>					<b>100 000</b>	
<b>Total in</b>	<b>USD</b>				<b>1 483 106</b>	<b>727 560</b>
<b>Total in</b>	<b>GHc</b>				<b>2 224 659</b>	<b>1 091 340</b>



## VI Global budget analysis

The global budget to strengthen the quality of the VS in compliance with OIE standards during the next five years is estimated around **41.3millions USD** (table 21).

The annual budget is estimated around **8.1 million USD** and the exceptional budget **0.9 million USD**.

The estimated budgetGAPrepresentsalmost10 times the current budget of the VSD (around 848,140 USD). However, it should be noted that the VSD's budget does not include the provisions for the 10 Regional Veterinary Offices and the 59 District Veterinary Offices. The budgets for decentralized veterinary offices were not available during the mission.

### VI.1. Operational funding

Operational budget including consumables (19.7millions USD), training and international and national expertise (1.1 million USD), delegated activities (0.9 million USD) and salaries (16.3millions USD) is estimated around 38millions USD over the 5 years and represents around 92% of the budget.

Concerning the staff, the following table gives the total staff needed for the VS of Ghana.

**Table n°17 - Estimation of the staffing required for the Veterinary Services**

Total estimation of the staffing required for the Veterinary Services							
	Trade	Animal health	Veterinary Public Health	Veterinary laboratories	Delegated activities	General management	Total
Veterinarians	8	77	3	18		37	143
Other university degree						2	2
Veterinary para-professionals	47	154	4	28		2	235
Support staff				26		31	57

### VI.2. Capital investment

Capital investment is estimated around 3.3millions USD over the next five years, including an annual budget of 0.6 million USD and an exceptional budget of 83,000 USD.

It was not possible during the PVS GAP Analysis mission to assess the need for renovation and new building at district level. A more precise study is recommended

The table 17 gives an inventory of the physical resources required for the VS.

**Table n°18 - Physical resources required for the VS per pillar**

	Trade	Animal health	Veterinary Public Health	Veterinary laboratories	General management	Total
<b>Buildings (m2)</b>	<b>330</b>	<b>1 770</b>	<b>1 800</b>	<b>80</b>	<b>150</b>	<b>4 130</b>
Existing building to be maintained (m2)	240	1 770	1800			3 810
Existing building to be renovated (m2)	-				150	150
Building to be built (m2)	90			80		170
<b>Transport</b>						
Number of motorbikes	3	154	2	8		167
Number of cars	2				9	11
Number of 4x4 vehicles	-			3	14	17
	-					
<b>Telecommunication equipment set</b>	<b>11</b>	<b>77</b>	<b>3</b>	<b>8</b>	<b>36</b>	<b>135</b>
<b>Office equipment set</b>	<b>11</b>	<b>77</b>	<b>3</b>	<b>8</b>	<b>60</b>	<b>159</b>
<b>Other specific equipment in ref. currency</b>	<b>5 667</b>	<b>5 647</b>			<b>1 500</b>	<b>12 813</b>

Table n°19 - Total budget

TOTAL BUDGET									
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget	Total budget for 5 years	% annual budget	% total budget for 5 years
<b>Material investments</b>									
Buildings (m2)	240	4 130							
Existing building to be maintained (m2)	240	3 810	25	1	95 250		476 250	1%	
Existing building to be renovated (m2)	-	150	200	10	3 000	15 000	30 000	0%	2%
Building to be built (m2)	-	170	500	25	3 400	68 000	85 000	0%	7%
Transport									
Number of motorbikes	-	167	3 000	3	167 000		835 000	2%	
Number of cars	1	11	27 000	5	59 400		297 000	1%	
Number of 4x4 vehicles	3	17	34 000	5	115 600		578 000	1%	
-	-	-							
Telecommunication equipment set	-	135	2 500	3	112 500		562 500	1%	
Office equipment set	4	159	1 470	3	77 910		389 550	1%	
Other specific equipment									
Other equipment					8 747		43 733	0%	
Other equipment					4 067		20 333	0%	
<b>Sub-total Material investments</b>					<b>646 873</b>	<b>83 000</b>	<b>3 317 367</b>	<b>8%</b>	<b>9%</b>
<b>Non material expenditure</b>									
Training									
Initial training									
Specialised training (man-months / 5 years)	-	231,0	3 300			762 300	762 300		79%
Continuing education (man-days / year)	-	327,0	148		48 374		241 871	1%	
National expertise (days/5 years)		100,0	271			27 100	27 100		3%
International expertise (weeks/5 years)		10,0	9 550			95 500	95 500		10%
Special funds									
<b>Sub-total non material expenditure</b>					<b>48 374</b>	<b>884 900</b>	<b>1 126 771</b>	<b>1%</b>	<b>91%</b>
<b>Salaries / year</b>									
Veterinarians	15,0	143,0	11 000		1 573 000		7 865 000	19%	
Other university degree	-	2,0	11 000		22 000		110 000	0%	
Veterinary para-professionals	51,0	235,0	6 100		1 433 500		7 167 500	18%	
Support staff	-	57,0	4 000		228 000		1 140 000	3%	
<b>Sub-total Salaries</b>					<b>3 256 500</b>		<b>16 282 500</b>	<b>40%</b>	
<b>Consumable resources / year</b>									
Administration			20%		651 300		3 256 500	8%	
Travel allowances									
staff within the country (man-days) / year	-	1 089	121		152 097		760 485	2%	
drivers within the country (man-days) / year	-	60	45		3 780		18 900	0%	
staff abroad (man-weeks) / year	-	15	3 369		50 535		252 675	1%	
Transport fees									
Km or miles Motorbikes / year		1 503 000	0,10		154 809		774 045	2%	
Km or miles cars / year	18 000	198 000	0,25		48 946		244 728	1%	
Km or miles 4x4 vehicle / year	72 000	408 000	0,31		126 072		630 360	2%	
km or miles / year									
km or miles / year									
Specific costs									
Targeted specific communication	-	5 004			26 000		130 000	0%	
Consultation (number of 1 day meetings)	-	76			76 000		380 000	1%	
Kits / reagents / vaccines	-	1			1 859 950		9 299 750	23%	
Other costs					506 500		2 532 500	6%	
Other costs					285 000		1 425 000	4%	
<b>Sub-total Consumable resources</b>					<b>3 940 989</b>		<b>19 704 943</b>	<b>49%</b>	
<b>Delegated activities / year</b>									
Specific delegated activities					80 000		400 000	1%	
Other activities or global estimation					100 000		500 000	1%	
<b>Sub-total Delegated activities</b>					<b>180 000</b>		<b>900 000</b>	<b>2%</b>	
<b>Total in</b>	<b>USD</b>				<b>8 072 736</b>	<b>967 900</b>	<b>41 331 581</b>	<b>100%</b>	<b>100%</b>
<b>Total in</b>	<b>GHc</b>				<b>12 109 104</b>	<b>1 451 850</b>			

### VI.3 Profitability and sustainability

#### VI.3.A Analysis related to national economy and budget

##### Importance of the budget in national economy and livestock economy

	Current budget of the VS (ref. currency)	Annual budget of the Gap analysis (ref. currency)
Annual amount	848 140	8 072 736
Budget of VS / Livestock GDP	0,13%	1%
Budget of VS / VLU	0,30	2,82
Budget of VS / Ministry of Agriculture (current)	0,77%	7%
Budget of VS / National budget (current)	0,02%	0%

Livestock GDP / National GDP	2%
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#### VI.3.B Analysis of distribution per pillar

Table n°20 - Annual budget per pillar

ANNUAL BUDGET PER PILLAR						
Resources and Budget lines	Trade	Animal health	Veterinary Public Health	Veterinary laboratories	General management	Total
<b>Material investments</b>						
Sub-total Material investments	41 823	305 793	50 970	40587	207 700	646 873
%	6%	47%	8%	6%	32%	100%
<b>Non material expenditure</b>						
Sub-total non material expenditure	25 445	7 397	4 734	5769	5 030	48 374
%	53%	15%	10%	12%	10%	100%
<b>Salaries / year</b>						
Sub-total Salaries	374 700	1 786 400	57 400	472800	565 200	3 256 500
%	12%	55%	2%	15%	17%	100%
<b>Consumable resources / year</b>						
Sub-total Consumable resources	271 489	2 824 357	22 334	217632	605 176	3 940 989
%	7%	72%	1%	6%	15%	100%
<b>Delegated activities / year</b>						
Sub-total Delegated activities		80 000			100 000	180 000
%		44%			56%	100%
<b>Total in USD</b>	<b>713 457</b>	<b>5 003 947</b>	<b>135 438</b>	<b>736 788</b>	<b>1 483 106</b>	<b>8 072 736</b>
%	9%	62%	2%	9%	18%	100%
<b>Total in GHc</b>	<b>1 070 186</b>	<b>7 505 921</b>	<b>203 157</b>	<b>1 105 182</b>	<b>2 224 659</b>	<b>12 109 104</b>



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## CONCLUSION

The PVS Gap analysis report for Ghana has defined strategies, activities and budget in terms of compliance with OIE quality standards, suitably adapted to national constraints and priorities, with a sustainable budget. During the next five years, this budget is estimated at around 41.3 millions USD. The annual budget is around 8.1 millions USD and the exceptional budget 0.9 million USD. The annual budget represents only 1.0 % of the livestock GDP.

The revision of the internal organization of the Veterinary Services to re-establish a clear chain of command between the central level and the field staff in accordance with OIE standards is a priority. The field veterinary network is mainly based on public veterinarians and veterinary para-professionals. It is proposed to increase the number of District Veterinary Offices from 59 to 77. Collaboration and consultation between public VS and private veterinarians mainly based in Accra needs to be developed.

External coordination between the VS and other sectors or institutions in particular with Ghana Food & Drugs Board should be improved for the regulation and control of veterinary medicines and biologicals.

The authority of the VCG should be strengthened in all aspects of regulating the veterinary profession in Ghana.

MoFA to pursue the speedy enactment of the newly drafted legislation to enable the VSD to execute meat inspection functions

Other actions aiming to strengthen the VS include:

- Establish and apply quarantine and border security procedures based on international standards.
- Carry out a study to assess current animal ID and movement control system in order to design an improved system with the objective to ear tag 140 000 bovines per year
- Strengthen passive surveillance mainly for diseases such as FMD, CBPP, PPR, TB, brucellosis, rabies, anthrax, ASF, NCD, dermatophilosis, trypanosomias and haemorrhagic septicaemia.
- Develop a plan to carry out regulatory tests to follow the prevalence of diseases such as: TB, brucellosis, and AHS.
- Maintain, and update where necessary, control programmes for selected diseases with CBPP & PPR being a priority, followed by rabies, NCD, ASF, anthrax, HS and blackleg.
- Upgrade and update technical capacity of selected laboratory personnel in the 3 zonal laboratories Accra, Pong-Tamale and Kumasi to undertake specified diagnostic procedures and investigations.

Adequate physical facilities exist for the VS at central level. Funds will need to be committed for the rehabilitation of the Veterinary District Offices.





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## APPENDICES

### Critical Competency Cards and corresponding Cost Estimation Cards



## Trade 1 - II.4. Quarantine and border security

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
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 <sup>9</sup> 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.	
3. Description of the activity	
Strategy	Whilst there is no international export trade in livestock or livestock products there is a large and expanding import trade, notably for cattle, small ruminants and poultry which are subject to inspection procedures at the point of entry. Therefore the VSD has to establish and apply strengthened quarantine and border security procedures based on international standards.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Thanks to national and international expertise, design a survey of the flow of animals and animal products entering the country through each BIPS. This survey should enable the VSD to identify which are the major border posts to be rehabilitated and equipped</li> <li>Design an appropriate database that will allow the VS to monitor the trading pattern and adapt their strategy to a real risk analysis</li> <li>Replace existing rented facilities with own structures under VS control at <b>three</b> existing BIP.s (Tema Harbour, Accra International Airport &amp; Takoradi Harbour) based on international standards</li> <li>Rehabilitate and upgrade the other <b>eight</b> existing land BIP.s – 4 of which have existing quarantine facilities, being Paga, Mognori, Kupulima, Hamile</li> <li>Establish holding facilities (poultry and small ruminants) at <b>four</b> BIPs – Leklebi Dafor, Elubo, Dorma, Ahenkro &amp; Aflao.</li> <li>Strengthen Immigration /Customs Departments information sharing and coordination of activities (no special cost)</li> <li>Design processes and write SOPs for all procedures, including disinfection strategies.</li> <li>Maintain / refurbish office facilities at all designated BIP's (all 3 facilities at ports of entry and VS facilities at all other 8 BIP,s)</li> <li>Develop laboratory support to enable the VSD to analysis samples taken from various consignments– (see C.C. II.1 for details and budget).</li> </ul>
Objectively verifiable indicators	BIP,s established – inspection records – seizure and confiscation data
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	3 days continuing education for BIP veterinarians in quarantine and border inspection procedures in line with OIE international standards. 1 day of continuing education for each veterinary para-professional on documentary and identity checks
Legislation (IV.1, 2, 3)	Ensure that the role of VS on border control be adequately recognized in the updated legislation
Communication (III.1)	Provide import requirements to stakeholders (website)
Consultation (III.2)	Regular consultations with Immigration and Custom officials
Official representation (III.3)	
Management of resources and operations (I.11)	

<sup>9</sup> Illegal activities include attempts to gain entry for animals or animal products other than through legal entry points and/or using certification and/or other procedures not meeting the country's requirements.

TRADE - 1 / CC: II.4. Quarantine and border security						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)	240	330				
Existing building to be maintained (m2)	240	240	25	1	6 000	
Existing building to be renovated (m2)			200	10		
Building to be built (m2)		90	500	25	1 800	36 000
Transport						
Number of motorbikes		3	3 000	3	3 000	
Number of cars	1	2	27 000	5	10 800	
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set		11	2 500	3	9 167	
Office equipment set		11	1 470	3	5 390	
Other specific equipment						
Equipment for land border post		8	1 000	3	2 667	
Database		1	4 500	3	1 500	
<b>Sub-total Material investments</b>					<b>40 323</b>	<b>36 000</b>
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)		71,0	148		10 503	
National expertise (days/5 years)		20,0	271			5 420
International expertise (weeks/5 years)		2,0	9 550			19 100
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>10 503</b>	<b>24 520</b>
<b>Salaries / year</b>						
Veterinarians	3,0	8,0	11 000		88 000	
Other university degree			11 000			
Veterinary para-professionals	18,0	47,0	6 100		286 700	
Support staff			4 000			
<b>Sub-total Salaries</b>					<b>374 700</b>	
<b>Consumable resources / year</b>						
Administration			20%		74 940	
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year		27 000	0,10		2 781	
Km or miles cars / year	18 000	36 000	0,25		8 899	
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)		4	1 000		4 000	
Kits / reagents / vaccines						
Sampling and shipment at border posts		500	25		12 500	
<b>Sub-total Consumable resources</b>					<b>103 120</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>528 647</b>	<b>60 520</b>
<b>Total in</b>	<b>GHc</b>				<b>792 970</b>	<b>90 780</b>

## Trade 2 - II.13. Identification and traceability

### II.13.A. Animal identification and movement control

1. Specific objective (Critical Competency)	
<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 animals disease control, food safety, or trade or any other legal requirements under the VS/OIE mandate.</i>	
2. Result (Expected level of advancement)	
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 subpopulations as required for disease control, in accordance with relevant international standards.	
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 system.	
3. Description of the activity	
Strategy	Since animal identification is a costly process, the VSD has to carry out a study to assess current animal ID and movement control (permit) system and initiate a pilot animal identification programme which will focus individual identification of cattle. This programme aims also to deal with this as well as to prevent of animal robbery.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Carry out study to assess current animal ID and movement control (permit) system with support of international and national expertise</li> <li>• Design a pilot improved system focusing cattle and using an ear tag system for individual animal ID.:</li> <li>• Implement the animal ID system targeting 144,000 cattle per year.</li> </ul>
Objectively verifiable indicators	Study report Pilot animal ID system Number of animals
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	85 days/year for the veterinary field staff
Legislation (IV.1, 2, 3)	Based on the results of study, the veterinary legislation should be updated
Communication (III.1)	Communication with stakeholders and general public needed
Consultation (III.2)	Ensure that consultations with key stakeholders and institutions relevant to animal ID take place
Official representation (III.3)	
Management of resources and operations (I.11)	Data management system and procedures to be established

TRADE - 2 / CC: II.13. Identification and traceability						
A. Animal identification and movement control						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
Database		1	4 500	3	1 500	
<b>Sub-total Material investments</b>					<b>1 500</b>	
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)		85,0	148		12 574	
National expertise (days/5 years)		20,0	271			5 420
International expertise (weeks/5 years)		2,0	9 550			19 100
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>12 574</b>	<b>24 520</b>
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)		3	1 000		3 000	
Kits / reagents / vaccines						
Ear tags (144,000/year)		144 000	1		144 000	
<b>Sub-total Consumable resources</b>					<b>147 000</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>161 074</b>	<b>24 520</b>
<b>Total in</b>	<b>GHC</b>				<b>241 612</b>	<b>36 780</b>

## Trade 3 - II.13. Identification and traceability

### II.13.B. Identification and traceability of products of animal origin

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
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 or 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.	
3. Description of the activity	
Strategy	<b>Note: This competency was not assessed by the 2008 PVS Evaluation Mission</b>  <b>No action is envisaged at this stage by the VSD</b>
Description of the tasks (chronological)	
Objectively verifiable indicators	
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

## Trade 4 - IV.4. International certification<sup>10</sup>

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
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.	
3. Description of the activity	
Strategy	Although for the next five years, the VS of Ghana does not intend to access the international export market for the national products there is a sound argument for investing in the strengthening of VS competencies to support local trade, particularly the poultry industry, in preparation for the time when Ghana is ready to engage in international trade for livestock and livestock products. The VS to focus on the development of processes and the resourcing of staff to carry out certification programmes for local marketing of poultry and poultry products under their mandate in compliance with international standards in anticipation of possible future export trade.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Develop and institute (including capacity building) a certification programme for the envisaged trade in poultry and poultry products with the support of a national expert.</li> </ul>
Objectively verifiable indicators	Veterinary Health Certificates – records of certificates issued – programmes developed
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	12 men-days CE to train relevant staff in certification programmes for poultry and poultry products
Legislation (IV.1, 2, 3)	Revise / introduce legislation as necessary
Communication (III.1)	
Consultation (III.2)	Consultations with relevant stakeholders on need for veterinary health certification for local production and marketing of poultry and/ or poultry products to internal markets
Official representation (III.3)	
Management of resources and operations (I.11)	

<sup>10</sup> Certification procedures should be based on relevant OIE and Codex Alimentarius standards.



TRADE - 4 / CC: IV.4. International certification						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)		12,0	148		1 775	
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>1 775</b>	
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)		3	1 000		3 000	
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					<b>3 000</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>4 775</b>	
<b>Total in</b>	<b>GHC</b>				<b>7 163</b>	

## Trade 5 - IV.5. Equivalence and other types of sanitary agreements

### 1. Specific objective (Critical Competency)

*The authority and capability of the VS to negotiate, implement and maintain equivalence and other types of sanitary agreements with trading partners.*

### 2. Result (Expected level of advancement)

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.

### 3. Description of the activity

Strategy	Level to remain unchanged at this stage
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Record all existing equivalence and other types of sanitary agreements with trading partners and determine present-day relevance, applicability and need</li> <li>Update / re-negotiate such agreements where necessary and implement accordingly</li> </ul>
Objectively verifiable indicators	Existing equivalence and sanitary agreements – minutes of trade discussions

### 4. Possible link with cross-cutting competencies

Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	Communicate with relevant stakeholders
Consultation (III.2)	Consultation with trading partners
Official representation (III.3)	
Management of resources and operations (I.11)	

TRADE-5 /CC: IV.5. Equivalence and other types of sanitary agreements						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year		1	3 369		3 369	
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)		3	1 000		3 000	
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					6 369	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>6 369</b>	
<b>Total in</b>	<b>GHC</b>				<b>9 554</b>	

## Trade 6 - IV.6. Transparency

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
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.	
3. Description of the activity	
Strategy	Through its Communication Unit and using appropriated communication tools (website, media etc), the VSD will regularly inform stakeholders on all relevant issues or decisions.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Organize regular information exchanges with stakeholders by an appropriate forum</li> <li>Develop appropriate media for informing stakeholders, inclusive of leaflets, posters, bulletins and a website that informs stakeholders on changes</li> <li>Address the very slow internet speeds at VSD HQ, and, where appropriate, regional offices</li> </ul>
Objectively verifiable indicators	Records of meetings – decision records
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	Communication with stakeholders as appropriate
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

TRADE - 6 / CC: IV.6. Transparency						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
Targeted specific communication		1	5 000		5 000	
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
Leaflets, posters, bulletins production/year		1	4 000		4 000	
<b>Sub-total Consumable resources</b>					9 000	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>9 000</b>	
<b>Total in</b>	<b>GHC</b>				<b>13 500</b>	

## Trade 7 - IV.7. Zoning

### 1. Specific objective (Critical Competency)

*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).*

### 2. Result (Expected level of advancement)

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).

### 3. Description of the activity

Strategy	<b>No change in level planned at this stage</b>
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>No zoning contemplated at this stage</li> </ul>
Objectively verifiable indicators	

### 4. Possible link with cross-cutting competencies

Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

## Trade 8 - IV.8. Compartmentalisation

<b>1. Specific objective (Critical Competency)</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>2. Result (Expected level 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).	
<b>3. Description of the activity</b>	
Strategy	Capacity created for the VS to identify, in consultation with relevant stakeholders, animal sub-populations [particularly poultry] with a distinct health status that would be suitable for compartmentalisation
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>The VSD to develop framework and guidelines in close collaboration with private sector stakeholders for the identification of animal sub-populations with a distinct health status that would be suitable for compartmentalisation</li> </ul>
Objectively verifiable indicators	Developed policy framework
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	4 men-days training for VS staff in compartmentalisation
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	3 one-day meeting with private sector stakeholders
Official representation (III.3)	
Management of resources and operations (I.11)	

TRADE - 8 / CC: IV.8. Compartmentalisation						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)		4,0	148		592	
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>592</b>	
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)		3	1 000		3 000	
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					<b>3 000</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>3 592</b>	
<b>Total in</b>	<b>GHc</b>				<b>5 388</b>	



## AH 1 - II.5. Epidemiological surveillance

### II.5.A. Passive epidemiological surveillance

#### 1. Specific objective (Critical Competency)

*The authority and capability of the VS to determine, verify and report on the sanitary status of the animal populations under their mandate.*

#### 2. Result (Expected level of advancement)

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.

#### 3. Description of the activity

Strategy	Establish effective field networks to provide accurate reports at the national level in compliance with OIE standards and to facilitate the collection and submission of samples for laboratory diagnosis of suspect case mainly for diseases such as FMD, CBPP, PPR, TB, brucellosis, rabies, anthrax, ASF, NCD, dermatophilosis, trypanosomias and haemorrhagic septicaemia
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Review the role and organisational structure of the VS Epidemiology Unit with due consideration to its integration within the VS and the cost benefit of its output</li> <li>Review of the location, purpose and function of the large body of veterinary paraprofessionals employed by the VSD to ensure that an appropriate number are positioned within the surveillance network, under the clear direction of the District and Regional Veterinary Officers</li> <li>Strengthen the public VS human and technical capacity at field level in order to comply with OIE standards</li> <li>Develop and implement SOP's for all relevant aspects of passive surveillance</li> <li>Provide all necessary sampling and diagnostic equipment to facilitate surveillance activities at local and regional (country) levels to facilitate a transition from substantially clinical diagnosis to a substantially evidence based diagnosis for disease reporting.</li> <li>Develop and disseminate appropriate awareness campaigns for stakeholders, using all forms of printed and electronic media.</li> <li>Proactively adopt modern communication technology, such as the use of mobile phones and netbook computers, to enhance the quantity and quality of surveillance data being reported by frontline staff and managed by District Veterinary Offices</li> <li>Provide incentives to motivate disease reporting by frontline staff, inclusive of the private sector, such as effective feedback and support mechanisms.</li> <li>Improve private veterinary sector involvement</li> <li>Involve all relevant stakeholders, including Community Animal Health Workers (CAHW), in the passive field surveillance network, through creating an enabling supervisory environment</li> <li>Address efficacy of timely reporting of surveillance activities at laid down intervals.</li> </ul>
Objectively verifiable indicators	Surveillance data and reports – Meeting records with stakeholders – Meat inspection reports

#### 4. Possible link with cross-cutting competencies

Continuing Education (I.3)	50 man-days/year on participatory epidemiology approach
Legislation (IV.1, 2, 3)	
Communication (III.1)	Communicate with livestock owners, herders, CAHW
Consultation (III.2)	
Official representation (III.3)	5 one-day meeting/year with livestock owners, herders, CAHW
Management of resources and operations (I.11)	

ANIMAL HEALTH - 1 / CC: II.5.A. Passive epidemiological surveillance						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)		50,0	148		7 397	
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>7 397</b>	
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)		5	1 000		5 000	
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					<b>5 000</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>12 397</b>	
<b>Total in</b>	<b>GHC</b>				<b>18 595</b>	

## AH 2 - II.5. Epidemiological surveillance

### II.5.B. Active epidemiological surveillance

#### 1. Specific objective (Critical Competency)

*The authority and capability of the VS to determine, verify and report on the sanitary status of the animal populations under their mandate.*

#### 2. Result (Expected level of advancement)

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.

#### 3. Description of the activity

Strategy	Develop active surveillance programmes in compliance with OIE standards for TB, brucellosis (bovine), and AHS in collaboration with key stakeholders and Public health (for zoonotic diseases).
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Develop relevant surveillance protocol for the following diseases: TB, brucellosis (bovine and caprine), and AHS following a risk assessment.</li> <li>• Strengthen the public VS human and technical capacity at field level in order to comply with OIE standards</li> <li>• Develop and implement SOP,s for all relevant aspects of active surveillance</li> <li>• Improve private veterinary sector involvement</li> <li>• Adopt modern communication technology to enhance quantity and quality of surveillance data being reported and managed</li> </ul>
Objectively verifiable indicators	Surveillance and laboratory data

#### 4. Possible link with cross-cutting competencies

Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	Feedback of surveillance data to stakeholders
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

ANIMAL HEALTH - 2 / CC: II.5.B. Active epidemiological surveillance						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year		150	121		18 150	
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
Sampling and testing		2 000	5		10 000	
<b>Sub-total Consumable resources</b>					28 150	
<b>Delegated activities / year</b>						
TB and brucellosis active surveillance		1	30 000		30 000	
<b>Sub-total Delegated activities</b>					30 000	
<b>Total in</b>	<b>USD</b>				<b>58 150</b>	
<b>Total in</b>	<b>GHc</b>				<b>87 225</b>	

## AH 3 - II.6. Early detection and emergency response

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
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.	
3. Description of the activity	
Strategy	Strengthened authority and capability of the VS [chain of command, legal framework, financial support and procedures] to detect early and make an adequately response to sanitary emergencies with national contingency plans in place for some exotic diseases.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Establish a task force to develop procedures and SOPs for early detection of sanitary emergencies</li> <li>• Update legal framework that ensure that all necessary responses are legally enforceable.</li> <li>• Strengthen chain of command to meet all sanitary emergency situations</li> <li>• Strengthen stakeholders' involvement through awareness campaigns and training</li> <li>• Ensure rapid access to necessary financial support</li> <li>• Update/prepare generic contingency plan to respond to the incursion or suspicion of emerging disease</li> </ul>
Objectively verifiable indicators	National contingency plans – SOP's for decision taking processes – applicable legal instruments
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	Draft, implement and enforce applicable legislation
Communication (III.1)	Communicate with relevant stakeholders outside the VS
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

ANIMAL HEALTH - 3 / CC: II.6. Early detection and emergency response						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year		77	121		9 317	
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication		1	5 000		5 000	
Consultation (number of 1 day meetings)		5	1 000		5 000	
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					19 317	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>19 317</b>	
<b>Total in</b>	<b>Ghc</b>				<b>28 976</b>	

## AH 4 - II.7. Disease prevention, control and eradication

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
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 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.	
3. Description of the activity	
Strategy	Carry out assessment of existing control and prevention programmes, especially in respect of CBPP, in respect of their efficacy and cost-benefits. Maintain and update where necessary control programmes for selected diseases with CBPP & PPR being a priority, followed by Rabies, NCD, , Anthrax, , HS and black leg.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Prepare and implement annual control programme for selected diseases</li> <li>• Ensure that any new envisaged (to-be) implemented disease control and prevention programmes are assessed based on need and tangible benefits arising</li> <li>• Evaluate existing therapeutic and prophylactic agents in use (vaccines) as to their safety, efficacy, stability, cost effectiveness, immunogenicity</li> <li>• Undertake a fundamental review of the delivery of veterinary services in Ghana to develop strategies that resolve the negative impact of the UES and empower the adoption of new effective and sustainable practices</li> <li>• Initiate a dialogue to develop consensus within the profession concerning the incorporation of private / public / community partnership approaches as a fundamental component of any new approach</li> </ul> <p>Provision is made in the MTEF 2011 budgetary allocation for the following tasks:</p> <ul style="list-style-type: none"> <li>• Introduce a sustained programme of vaccination of all livestock</li> <li>• Tsetse and Trypanosomiasis Eradication Project :               <ul style="list-style-type: none"> <li>• train 80 tsetse control teams in the production and maintenance of suppressing devices</li> <li>• train 15 Technical staff in the treatment of affected animals for trypanosomiasis</li> <li>• treat 15 000 cattle for trypanosomiasis in over 200 project communities by Dec 2011</li> <li>• maintain 15 000 tsetse screens and targets</li> </ul> </li> </ul>
Objectively verifiable indicators	SOP's – vaccination reports – disease control activities
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	Key stakeholders and general public to be informed
Consultation (III.2)	one-day meeting with livestock owners to be organised in each region
Official representation (III.3)	
Management of resources and operations (I.11)	

ANIMAL HEALTH - 4 / CC: II.7. Disease prevention, control and eradication						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)		1 770				
Existing building to be maintained (m2)		1 770	25	1	44 250	
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes		154	3 000	3	154 000	
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set		77	2 500	3	64 167	
Office equipment set		77	1 470	3	37 730	
Other specific equipment						
cold chain		154	100	5	3 080	
Other field equipment		77	100	3	2 567	
<b>Sub-total Material investments</b>					<b>305 793</b>	
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						
<b>Salaries / year</b>						
Veterinarians		77,0	11 000		847 000	
Other university degree			11 000			
Veterinary para-professionals		154,0	6 100		939 400	
Support staff			4 000			
<b>Sub-total Salaries</b>					<b>1 786 400</b>	
<b>Consumable resources / year</b>						
Administration			20%		357 280	
Travel allowances						
staff within the country (man-days) / year		462	121		55 902	
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year		1 386 000	0,10		142 758	
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication		1	3 000		3 000	
Consultation (number of 1 day meetings)		10	1 000		10 000	
Kits / reagents / vaccines		1	1 799 950		1 799 950	
previous line: other vaccines) CBPP vaccines	148 176	900 000	0		117 000	
PPR vaccines	378 890	4 000 000	0		280 000	
<b>Sub-total Consumable resources</b>					<b>2 765 890</b>	
<b>Delegated activities / year</b>						
CBPP & PPR vaccination		1	50 000		50 000	
<b>Sub-total Delegated activities</b>					<b>50 000</b>	
<b>Total in</b>	<b>USD</b>				<b>4 908 083</b>	
<b>Total in</b>	<b>GHc</b>				<b>7 362 125</b>	



## AH 5 - II.14. Animal welfare

1. Specific objective (Critical Competency)	
<i>The authority and capability of the VS to implement the animal welfare standards of the OIE as published in the Terrestrial Code.</i>	
2. Result (Expected level of advancement)	
1. OIE standards are generally not implemented.	
2. Some of OIE standards are implemented, e.g. primarily for the export sector.	
3. All of OIE standards are implemented but this is primarily for the export sector.	
4. All of OIE standards are implemented for the export and the domestic sector.	
5. OIE standards are implemented and implementation is periodically subject to independent external evaluation.	
3. Description of the activity	
Strategy	<p><b>This competency was not assessed by the 2008 PVS Evaluation Mission</b></p> <p>Identify, with view to implementation, those OIE standards of welfare that could be applicable to the Ghanaian social, cultural, religious and political environment</p>
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Task the OIE Focal Point for Animal Welfare to compile a Manual and SOP,s for implementation in identified animal species with relevant issues of welfare concern</li> </ul>
Objectively verifiable indicators	Focal Point activity reports – records of inspections, audits and corrective actions
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	Prepare legal framework and apply OIE standards of welfare that could be applicable to the Ghanaian social, cultural, religious and political environment
Communication (III.1)	Awareness campaign involving all stakeholders, with particular emphasis on the creation of strong public-private partnerships
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

ANIMAL HEALTH - 5 / CC: II.14. Animal Welfare						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication		1	3 000		3 000	
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
Awareness campaign materials		1	3 000		3 000	
<b>Sub-total Consumable resources</b>					6 000	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>6 000</b>	
<b>Total in</b>	<b>GHc</b>				<b>9 000</b>	

## VPH 1 - II.8. Food safety

### II.8.A. Ante and post mortem inspection at abattoirs and associated premises (e.g. meat boning / cutting establishments and rendering plants)

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
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.	
3. Description of the activity	
Strategy	Provide the VS with the mandate and capacity to undertake ante- and post mortem and collection of disease information (and coordination, as required) in conformity with international standards.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• MoFA to effect the speedy enactment of the drafted meat inspection legislation giving the VSD the authority to execute meat inspection functions.</li> <li>• Upgrade and improve the slaughter facilities at the two export abattoirs, [Accra &amp; Kumasi] and the eight regional abattoirs [Takoradi, Tamale, Sunyani, Bolgatanga, Wa, Ho, Koforidua, and Cape Coast].</li> <li>• Compile SOPs for ante and post mortem inspection, based on international standards as appropriate for needs.</li> <li>• Provide the necessary human and technical resources to execute the required functions.</li> <li>• Provide appropriate specific training at regular intervals.</li> </ul>
Objectively verifiable indicators	Meat inspection legislation – ante and post mortem inspection facilities in place
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	30 men-days CE on meat inspection per year
Legislation (IV.1, 2, 3)	Ministry of Food and Agriculture to pursue the speedy enactment of the newly drafted legislation to enable the VS to execute meat inspection functions
Communication (III.1)	Regular communication with stakeholders (e.g livestock owners / traders)
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	Applicable

VETERINARY PUBLIC HEALTH - 1 / CC: II.8. Food safety:						
A. Ante and post mortem inspection at abattoirs and associated premises						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)		1 800				
Existing building to be maintained (m2)		1 800	25	1	45 000	
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes		2	3 000	3	2 000	
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set		2	2 500	3	1 667	
Office equipment set		2	1 470	3	980	
Other specific equipment						
<b>Sub-total Material investments</b>					<b>49 647</b>	
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)		30,0	148		4 438	
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>4 438</b>	
<b>Salaries / year</b>						
Veterinarians	-	2,0	11 000		22 000	
Other university degree			11 000			
Veterinary para-professionals		4,0	6 100		24 400	
Support staff			4 000			
<b>Sub-total Salaries</b>					<b>46 400</b>	
<b>Consumable resources / year</b>						
Administration			20%		9 280	
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year		18 000	0,10		1 854	
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					<b>11 134</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>111 619</b>	
<b>Total in</b>	<b>GHc</b>				<b>167 428</b>	

## VPH 2 - II.8. Food safety

### II.8.B. Inspection of collection, processing and distribution of products of animal origin

1. Specific objective (Critical Competency)	
<i>The authority and capability of the VS to implement manage and coordinate food safety measures on collection, processing and distribution of products of animals, including programmes for the prevention of specific food-borne zoonoses and general food safety programmes. This competency also covers coordination with other authorities where there is shared responsibility for the functions.</i>	
2. Result (Expected level of advancement)	
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 purposes.	
3. Implementation, management and coordination (as appropriate) are generally undertaken in conformity with international standards only for export purposes 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 only for export purposes 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)	
3. Description of the activity	
Strategy	<b>Note: This competency was not assessed by the 2008 PVS Evaluation Mission</b>  <b>No activity is presently envisaged</b>
Description of the tasks (chronological)	
Objectively verifiable indicators	
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

## VPH 3 - II.9. Veterinary medicines and biologicals

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
1. The VS cannot regulate veterinary medicines and veterinary biologicals.	
2. The VS have 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 reaction (pharmacovigilance) and take appropriate corrective steps. The control systems are subjected to periodic audit of effectiveness.	
3. Description of the activity	
Strategy	No change in level envisaged at this stage
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Food and Drug Board are the responsible government agency for registration of veterinary medicines</li> <li>The VS is only involved by issuing import licenses and no enabling legislation for the VS is under discussion at this stage</li> </ul>
Objectively verifiable indicators	
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	Regular consultation with other responsible government institutions
Official representation (III.3)	
Management of resources and operations (I.11)	

VETERINARY PUBLIC HEALTH - 3 / CC: II.9. Veterinary medicines and biologicals						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set		1	2 500	3	833	
Office equipment set		1	1 470	3	490	
Other specific equipment						
<b>Sub-total Material investments</b>					<b>1 323</b>	
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)		2,0	148		296	
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>296</b>	
<b>Salaries / year</b>						
Veterinarians		1,0	11 000		11 000	
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>					<b>11 000</b>	
<b>Consumable resources / year</b>						
Administration			20%		2 200	
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					<b>2 200</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>14 819</b>	
<b>Total in</b>	<b>GHc</b>				<b>22 229</b>	

## VPH 4 - II.10. Residue testing

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
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.	
3. Description of the activity	
Strategy of the activity	<p style="text-align: center;"><b>No change in level is envisaged at present</b></p> <p>To be able to progress it is necessary to determine the requirements for the establishment of a residue testing programme for selected animal products</p>
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Formulate a methodology and undertake a pilot trial to determine antimicrobial levels in poultry products</li> </ul>
Objectively verifiable indicators	
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	Limited applicability



VETERINARY PUBLIC HEALTH - 4 / CC: II.10. Residue testing						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
Provision for residue testing		300	30		9 000	
<b>Sub-total Consumable resources</b>					<b>9 000</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>9 000</b>	
<b>Total in</b>	<b>GHc</b>				<b>13 500</b>	

## LAB 1 - II.1. Veterinary laboratory diagnosis

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
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.	
3. Description of the activity	
Strategy	The VS have to strengthen the technical capacities of the 3 zonal laboratories
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Upgrade the premises of laboratory veterinary in Accra for serology, animal microbiology and PCR</li> <li>• Upgrade and update technical capacity of selected laboratory personnel in the 3 Zonal laboratories Accra, Pong-Tamale and Kumasi to undertake specified diagnostic procedures and investigations.</li> <li>• Capacity building for specific skills to include conventional and on-line in-service training, practical attachments and scholarships for formal studies to MSc and PhD levels.</li> <li>• Provide relevant and regular updated continuous education for selected laboratory personnel;</li> <li>• Develop updated SOP's for all procedures;</li> <li>• Ensure consistent supply of all required reagents to undertake all required investigations and tests;</li> <li>• Identify reference laboratories for "twinning" purposes in order to increase diagnostic capacity and proficiency</li> </ul>
Objectively verifiable indicators	Laboratory reports – investigation results – list of tests executed – diseases and zoonoses investigated
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	24 men-days CE to strengthen technical competencies for laboratory personnel
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	Applicable

VETERINARY LABORATORIES - 1 / CC: II.1. Veterinary laboratory diagnosis						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)		80				
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)		80	500	25	1 600	32 000
Transport						
Number of motorbikes	-	8	3 000	3	8 000	
Number of cars			27 000	5		
Number of 4x4 vehicles	2	3	34 000	5	20 400	
Telecommunication equipment set		8	2 500	3	6 667	
Office equipment set	3	8	1 470	3	3 920	
Other specific equipment						
<b>Sub-total Material investments</b>					<b>40 587</b>	<b>32 000</b>
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)		20,0	3 300			66 000
Continuing education (man-days / year)		24,0	148		3 550	
National expertise (days/5 years)			271			
International expertise (weeks/5 years)		2,0	9 550			19 100
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>3 550</b>	<b>85 100</b>
<b>Salaries / year</b>						
Veterinarians	11,0	18,0	11 000		198 000	
Other university degree			11 000			
Veterinary para-professionals	33,0	28,0	6 100		170 800	
Support staff	-	26,0	4 000		104 000	
<b>Sub-total Salaries</b>					<b>472 800</b>	
<b>Consumable resources / year</b>						
Administration			20%		94 560	
Travel allowances						
staff within the country (man-days) / year		138	121		16 698	
drivers within the country (man-days) / year		24	45		1 080	
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year		72 000	0,10		7 416	
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year	48 000	72 000	0,31		22 248	
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines		1	60 000		60 000	
Lab sampling equipment for BIP		4	1 000		4 000	
Provision for sample shipping		1	5 000		5 000	
<b>Sub-total Consumable resources</b>					<b>211 002</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>727 939</b>	<b>117 100</b>
<b>Total in</b>	<b>GHc</b>				<b>1 091 909</b>	<b>175 650</b>

## LAB 2 - II.2. Laboratory quality assurance

1. Specific objective (Critical Competency)	
<i>The quality of laboratories (that conduct diagnosis testing and 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>	
2. Result (Expected level of advancement)	
1. No laboratories used by the public sector VS are using formal quality assurance systems.	
2. Some laboratories used by the public sector VS are using formal quality assurance systems.	
3. All laboratories used by the public sector VS are using formal quality assurance systems.	
4. All the laboratories used by the public sector VS and most or all private laboratories are using formal quality assurance systems.	
5. All the laboratories used by the public sector VS and most or all private laboratories are using formal quality assurance programmes that meet OIE, ISO 17025, or equivalent QA standard guidelines.	
3. Description of the activity	
Strategy	<b>This competency was not assessed by the 2008 PVS Evaluation Mission</b>
	The VS to identify suitable Quality Assurance Systems in compliance with the norm ISO 17025 for the 3 zonal laboratories: <ul style="list-style-type: none"> <li>- Accra</li> <li>- Pong-Tamale</li> <li>- Kumasi</li> </ul>
	<ul style="list-style-type: none"> <li>• Nominate and train a QA manager for each of the 3 zonal laboratories;</li> <li>• Develop an appropriate QA system for the 3 zonal laboratories with the support of an international expert;</li> <li>• Put in place an effective Monitoring and Evaluation system for the introduced QA system.</li> </ul>
	QA System in operation – inspection records – verification data
Objectively verifiable indicators	
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	15 men-days CE on QA System
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	Applicable

VETERINARY LABORATORIES - 2 / CC: II.2. Laboratory quality assurance						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)		15,0	148		2 219	
National expertise (days/5 years)			271			
International expertise (weeks/5 years)		4,0	9 550			38 200
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>2 219</b>	<b>38 200</b>
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year		30	121		3 630	
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
Consumable for proficiency tests		3	1 000		3 000	
<b>Sub-total Consumable resources</b>					<b>6 630</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>8 849</b>	<b>38 200</b>
<b>Total in</b>	<b>GHc</b>				<b>13 274</b>	<b>57 300</b>

## MVS 1 – I.1. Professional and technical staffing of the Veterinary Services

### I.1.A. Veterinary and other professionals (university qualifications)

1. Specific objective (Critical Competency)	
<i>The appropriate staffing of the VS to allow for veterinary and technical functions to be undertaken efficiently and effectively..</i>	
2. Result (Expected level of advancement)	
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 the 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.
3. Description of the activity	
Strategy	The VS carries out an assessment of the situation of veterinarians and other professionals in the country in consultation with the VCG and progressively applies relevant procedures to manage the staff.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Undertake an assessment of the situation of veterinarians and other professionals in the public VS</li> <li>• Develop SOPs for all aspects related to the management of the human resources</li> <li>• Develop a human resources plan to address the inadequate staffing of veterinarians in some regions and districts and to anticipate the coming retirements</li> <li>• Establish a data base for human resources of VS</li> </ul>
Objectively verifiable indicators	Assessment report Human resources plan Database
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	Database to manage human resources

## MVS 1 – I.1. Professional and technical staffing of the Veterinary Services

### I.1.B. Veterinary para-professionals and other technical staff

<b>1. Specific objective (Critical Competency)</b>	
<i>The appropriate staffing of the VS to allow for veterinary and technical functions to be undertaken efficiently and effectively.</i>	
<b>2. Result (Expected level of advancement)</b>	
1.	The majority of technical positions are not occupied by personnel holding technical qualifications.
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 the local (field) level are occupied by personnel holding technical qualifications.
4.	There 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.
<b>3. Description of the activity</b>	
Strategy	The VS carries out an assessment of the situation of veterinary para-professionals in the country in consultation with the VCG and progressively applies relevant procedures to manage the staff.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Undertake an assessment of the situation of veterinary para-professionals in the country</li> <li>• Develop SOPs for all aspects related to the management of the veterinary para-professionals</li> <li>• Develop a human resources plan to address the inadequate staffing of veterinary para-professionals at central, regional and district levels</li> <li>• Establish a date base for human resources of VS</li> <li>• Improve the supervision of veterinary para-professionals</li> </ul>
Objectively verifiable indicators	Assessment report Human resources plan
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

## MVS 1 – I.2. Competencies of veterinarians and veterinary para-professionals

### I.2.A. Professional competencies of veterinarians

<b>1. Specific objective (Critical Competency)</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.</i>	
<b>2. Result (Expected level of advancement)</b>	
1. The veterinarians' practices, knowledge and attitudes are of a variable standard that usually allow for elementary clinical and administrative activities of the VS.	
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.	
<b>3. Description of the activity</b>	
Strategy	The VSD identify veterinary professional(s) for upgrading of skills (specialized knowledge), based on need and ability
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Finance in-service training for 4 veterinarians at the University of Ghana to undertake the "Field epidemiology and laboratory training course" under the "One Health" concept (duration 20 months).</li> <li>International specialized training in the field of VPH to be undertaken, 2 veterinarians (duration 10 months).</li> </ul>
Objectively verifiable indicators	Veterinarians trained – qualifications obtained – course contents
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	



MANAGEMENT OF VETERINARY SERVICES - 1 / I.2.A. Professional competencies of veterinarians						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Initial training (nb of students / year)			13 800			
Specialised training (man-months / 5 years)		100,0	3 300			330 000
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						<b>330 000</b>
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year		2	3 369		6 738	
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					<b>6 738</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>6 738</b>	<b>330 000</b>
<b>Total in</b>	<b>GHC</b>				<b>10 107</b>	<b>495 000</b>

## MVS 2 - I.2. Competencies of veterinarians and veterinary para-professionals

### I.2.B. Competencies of veterinary para-professionals

<b>1. Specific objective (Critical Competency)</b>	
<i>The capability of VS to efficiently carry out their veterinary and technical functions; measured by the qualifications of their personnel in veterinary and technical positions.</i>	
<b>2. Result (Expected level 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.	
<b>3. Description of the activity</b>	
Strategy	The VS adopts approaches that will improve the skills of veterinary para-professionals for the development of specialist animal health competencies in participatory epidemiology approaches (see CC II.5.A) and meat inspection (see CC II.8.A)
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Train five senior veterinary paraprofessionals over the five years, at the newly established Veterinary Schools (duration 18 months)</li> <li>• Train veterinary paraprofessionals locally in participatory epidemiology approach (see CC II.5.A ) and meat inspection (see CC ,</li> </ul>
Objectively verifiable indicators	Veterinary paraprofessionals trained – course contents – qualifications obtained
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	The VSD identify veterinary professional(s) for upgrading of skills (specialized knowledge), based on need and ability
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

MANAGEMENT OF VETERINARY SERVICES - 2 / I.2.B. Competencies of veterinary para-professionals						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Initial training (nb of students / year)			2 000			
Specialised training (man-months / 5 years)		90,0	3 300			297 000
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						297 000
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>						
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>					<b>297 000</b>
<b>Total in</b>	<b>GHC</b>					<b>445 500</b>

## MVS 3 - I.3. Continuing education

<b>1. Specific objective (Critical Competency)</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>2. Result (Expected level of advancement)</b>	
1. The VS have no access to continuing veterinary, professional or technical continuing education.	
2. The VS have access to continuing education (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 continuing education 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 continuing education 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 continuing education that is implemented for all relevant personnel and is submitted to periodic evaluation of effectiveness.	
<b>3. Description of the activity</b>	
Strategy	The VSD develops a formal CE programme in collaboration with the VCG and the two Veterinary Schools in Ghana in order to strengthen the skills of the staff in specific fields such as epidemiology, meat inspection, animal identification etc mainly estimated in different CC. .
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Research availability and type of relevant CE content from in-country, regional and continental sources</li> <li>• Identify categories of relevant veterinary personnel to be trained, including CE content based on need;</li> <li>• Develop and Implement structured continuing education (CE) courses for identified personnel with the collaboration of a national expertise;</li> <li>• Review and update, where necessary CE activities for all relevant personnel on an annual basis;</li> <li>• Implement CE as described under the respective CC's.</li> <li>• Consider linking CE to a mandatory "points scheme" necessary for continued registration as a veterinarian or veterinary para-professional</li> </ul>
Objectively verifiable indicators	CE courses offered – attendance records – course contents
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	Total CE programme distributed in different CC has been estimated at 2,245 man-days
Legislation (IV.1, 2, 3)	Possible mandatory CE points scheme developed by the VCG necessary for continued registration as a veterinarian or veterinary para-professional
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

## MVS 4 - I.4. Technical independence

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
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).	
3. Description of the activity	
Strategy	To maintain the technical independence of the VS, it will be necessary to (i) maintain and improve the competence of VS staff and (2) to improve the level of remuneration of public veterinarians and other veterinary
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Develop formal standard operation procedures (SOPs) to assist veterinary staff to make evidence based technical decisions.</li> <li>• Provide structured continual education in particular on risk analysis</li> <li>• Update the veterinary legislation (see CC IV.1) to provide an enabling environment for public veterinary practice;</li> <li>• Maintain records (data base) of all technical decisions made.</li> <li>• Undertake a VS staff salary and allowances review in comparison to equivalent professions</li> <li>• Determine equitable rates and explore available means and ways to place the earnings of VS staff on par and make the case for a general increase in salaries paid.</li> <li>• Re-establish a chain of command between the VSD in Accra and the field staff at regional and district levels (see CC I.6.A)</li> <li>• Provide veterinary staff with opportunities for upgrading through participation in local and/or overseas training</li> </ul>
Objectively verifiable indicators	SOPs Records of technical decisions
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	Continual education will improve the competence of VS staff
Legislation (IV.1, 2, 3)	Updated veterinary legislation will provide an enabling environment for public veterinary practice
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

## MVS 5 - I.5. Stability of structures and sustainability of policies

1. Specific objective (Critical Competency)	
<i>The capability of the VS structure and/or leadership to implement and sustain policies over time.</i>	
2. Result (Expected level of advancement)	
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.	
3. Description of the activity	
Strategy	Continue to maintain the organisational structure and leadership of the public VSD to effectively sustain policies being in place, irrespective of changes in political leadership
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Maintain an effective organisational structure and leadership of the public sector of the VSD</li> </ul>
Objectively verifiable indicators	VSD Organogramme – record staff appointments , transfers and resignations etc
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

## MVS 6 - I.6. Coordination capability of the Veterinary Services

### I.6.A. Internal coordination (chain of command)

1. Specific objective (Critical Competency)	
<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 (the Chief Veterinary Officer) 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 programmes).</i>	
2. Result (Expected level of advancement)	
1. There is no formal internal coordination and the chain of command is not clear.	
2. There are internal coordination mechanisms for some activities but the chain of command is not clear.	
3. There are internal coordination mechanisms and a clear and effective chain of command for some activities.	
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.	
3. Description of the activity	
Strategy	Re-establish a clear and effective chain of command at national VS level that addresses the negative impact brought about by the introduction of the Unified Extension System [UES] sectoral reform, and markedly improves internal coordination between the VSD and the Regional and District Veterinary offices.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Initiate discussions with relevant political authorities to affect the required administrative changes in accordance with OIE standards</li> <li>• Put in place a system that restores direct technical and administrative lines of coordination of responsibilities between central, regional and district VSD Staff.</li> <li>• Provide SOP's for coordination requirements for VSD functions and responsibilities with district and regional authorities</li> <li>• Ensure timely compliance with the required submission of comprehensive disease surveillance and incident data from district level to Accra VSD HQ (see CC II.5)</li> </ul>
Objectively verifiable indicators	Minutes of discussions – decisions taken regarding VSD Organogramme
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	Applicable
Official representation (III.3)	
Management of resources and operations (I.11)	Regional administrative provisions

MANAGEMENT OF VETERINARY SERVICES - 6 /I-6.A. Coordination capability of the Veterinary Services: Internal coordination (chain of command)						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars		8	27 000	5	43 200	
Number of 4x4 vehicles		13	34 000	5	88 400	
Telecommunication equipment set		34	2 500	3	28 333	
Office equipment set		56	1 470	3	27 440	
Other specific equipment						
<b>Sub-total Material investments</b>					<b>187 373</b>	
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)		30,0	271			8 130
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						<b>8 130</b>
<b>Salaries / year</b>						
Veterinarians		36,0	11 000		396 000	
Other university degree		2,0	11 000		22 000	
Veterinary para-professionals		2,0	6 100		12 200	
Support staff		28,0	4 000		112 000	
<b>Sub-total Salaries</b>					<b>542 200</b>	
<b>Consumable resources / year</b>						
Administration			20%		108 440	
Travel allowances						
staff within the country (man-days) / year		190	121		22 990	
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year		144 000	0,25		35 597	
Km or miles 4x4 vehicle / year		312 000	0,31		96 408	
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					<b>263 435</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>993 008</b>	<b>8 130</b>
<b>Total in</b>	<b>GHC</b>				<b>1 489 512</b>	<b>12 195</b>



## MVS 6 - I.6. Coordination capability of the Veterinary Services

### I.6.B. External coordination

1. Specific objective (Critical Competency)	
<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 programmes).</i></p> <p><i>Relevant authorities include other ministries and competent authorities, national agencies and decentralised institutions.</i></p>	
2. Result (Expected level of advancement)	
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.	
3. Description of the activity	
Strategy	<p style="text-align: center;"><b>This competency was not assessed by the 2008 PVS Evaluation Mission</b></p> <p>Coordination mechanisms, with all relevant stakeholders, in particular with Regional and District Administrative Authorities, formalised in order to meet OIE standards</p>
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Establish formal coordination procedures and mechanisms with the Ghana Food &amp; Drugs Board for the regulation and control of veterinary medicines and biologicals</li> <li>Institute formal agreements (such as. addressing the practice of rendering private veterinary services by public veterinarians [moonlighting]; or in respect to functions carried out by other government authorities (Ministry of Health) such as meat inspection )</li> <li>Coordinate and formalize coordination agreements with representative veterinary private sector organisations (Ghana Veterinary Medical Association - GVMA, Privatised Veterinary Association. - PVA and Veterinary Medical Technical Association of Ghana – VEMTAG.</li> <li>Improve institutional coordination for agricultural development: establish formal platforms for private sector and civil society engagement with MoAF (Budgetary allocation to the MoAF as a whole in terms of the 2011 Budget allocation.</li> <li>Improve exchange of data between the VSD and the different institutions/organisations involved in veterinary services activities.</li> </ul>
Objectively verifiable indicators	<p>Agreements signed between the VSD and relevant national institutions/organisations</p> <p>Proceedings of consultation</p>
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	4 one-day meetings per year for consultation between VSD and relevant national institutions/organisations
Official representation (III.3)	
Management of resources and operations (I.11)	

## MVS 7 - I.7.Physical resources

<b>1. Specific objective (Critical Competency)</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>	
<b>2. Result (Expected level of advancement)</b>	
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.
<b>3. Description of the activity</b>	
Strategy	Apply the Gap analysis plan. This requires commitment of the Government and decentralized authorities and eventually the support of donors..
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Carry out an inventory of equipment needs from central to regional and district levels</li> <li>• Develop an annual plan for maintenance and replacement of obsolete veterinary physical resources.</li> <li>• Explore with relevant authorities possible funding for the maintenance and replacement plan.</li> </ul>
Objectively verifiable indicators	Inventory of the resources at central, regional and district levels. Maintenance and replacement plan Resources mobilised
<b>4- Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	Database for building and equipments

## MVS 8 - I.8.Operational funding

<b>1. Specific objective (Critical Competency)</b>	
<i>The ability of the VS to access financial resources adequate for their continued operations, independent of political pressure.</i>	
<b>2. Result (Expected level 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.	
<b>3. Description of the activity</b>	
Strategy	Introduce more initiatives such as the “tagging of funds” and “20% reclaim of revenue earned” to supplement general expenditure of VS activity as authorised by directive issued from the Ministry of finances.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Develop guidelines to support the Regional and District veterinary offices in defining their budget</li> <li>• Develop transparent procedures for all revenue-generating activities that contributes to the cost of VS</li> <li>• Explore with relevant authorities possible additional financial resources for operations</li> </ul>
Objectively verifiable indicators	Guidelines and procedures developed Resources generated Budget allocated
<b>4- Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	Consultation with relevant authorities
Official representation (III.3)	
Management of resources and operations (I.11)	Required procedures to be developed Database for operations

## MVS 9 - I.9. Emergency funding

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
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 disease 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.
3. Description of the activity	
Strategy	Initiate discussions with relevant authorities including Ministry of Finances to agree on an appropriate mechanism that enables the VSD to access immediate emergency funds with a clear channel by which additional funding can be accessed as required.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Document the mechanism by which emergency funds were made available to the VSD during the HPAI crisis</li> <li>Carry out an assessment of adequate resources required to address emergency situation</li> <li>Develop/update in consultation with key stakeholders policy on compensation of producers in emergency situations</li> <li>Initiate discussions with relevant authorities about establishment of facility that enables the VSD to access immediate emergency funds.</li> </ul>
Objectively verifiable indicators	Assessment report Compensation policy Decisions taken by relevant authorities
4- Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	Legislation and regulatory framework updated
Communication (III.1)	Information of stakeholders
Consultation (III.2)	Consultation with stakeholders
Official representation (III.3)	
Management of resources and operations (I.11)	Required procedures to be developed

## MVS 10 - I.10.Capital investment

<b>1. Specific objective (Critical Competency)</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>	
<b>2. Result (Expected level of advancement)</b>	
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.	
<b>3. Description of the activity</b>	
Strategy	Initiate discussions with relevant authorities including Ministry of Finances to allow the VSD to access required funding for basic and additional investments
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Carry out an assessment of needs for basic and additional investments at central, regional and district levels</li> <li>Explore with relevant authorities possible funding for basic and additional investments</li> </ul>
Objectively verifiable indicators	Assessment report Budget for basic and additional investments
<b>4- Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	Consultation with relevant authorities
Official representation (III.3)	
Management of resources and operations (I.11)	Database for basic and additional investments

## MVS 11 - I.11. Management of resources and operations

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
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.	
3. Description of the activity	
<b>This competency was not assessed by the 2008 PVS Evaluation Mission</b>	
Strategy	The current Directorate of VS staff includes administrative and financial officers in charge of the management of operations and resources. Records and documented procedures are used in the management of resources and some operations, but they do not allow adequate management, analysis, control or planning. Therefore, the VSD has to carry out an inventory of VS facilities in the country and implement throughout the VS an administrative and financial management system,
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Provide CE for the administrative cadres for regular management skills updates (Ghana Institute of Management and Public Administration)</li> <li>• Institute a performance assessment system to improve efficiency and effectiveness of service rendering</li> <li>• Implement throughout the VSD an administrative and financial management system, addressing inter alia:               <ul style="list-style-type: none"> <li>- Comprehensive record, documentation and management systems;</li> <li>- Provide SOP,s for all relevant systems</li> <li>- Apply and ensure compliance with governmental financial requirements (treasury instructions and tender requirements)</li> <li>- Maintain detailed records of operational accounts, district treasury records (monthly financial statements) and disbursements (as provided for in Treasury Instructions)</li> <li>- Provide training for the implementation at all administrative units (down to district veterinary level)</li> <li>- Ensure the timely maintenance of all infrastructural facilities throughout the VSD</li> <li>- Control physical resources and maintain a regularly updated asset register</li> </ul> </li> <li>• Analyse and improve efficiency and effectiveness</li> </ul>
Objectively verifiable indicators	Updated inventory of VS facilities SOPs Records of operational accounts
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	12 men-days/year planned for CE to strengthen management skills
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	Database to be established

MANAGEMENT OF VETERINARY SERVICES - 8 / I-11. Management of resources and operations						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
Database		1	4 500	3	1 500	
<b>Sub-total Material investments</b>					<b>1 500</b>	
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)		12.0	148		1 775	
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>1 775</b>	
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>						
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>3 275</b>	
<b>Total in</b>	<b>GHc</b>				<b>4 913</b>	

## MVS 12 - II.3. Risk analysis

<b>1. Specific objective (Critical Competency)</b>	
<i>The authority and capability of the VS to base its risk management decisions on a scientific assessment of the risks.</i>	
<b>2. Result (Expected level of advancement)</b>	
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).	
<b>3. Description of the activity</b>	
Strategy	Establish a dedicated risk analysis unit within the Veterinary Epidemiology Section at VSD HQ.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Two VSD staff to undergo a formal training course in risk analysis at a recognised centre of excellence e. g. Reading, UK</li> <li>• Put in place long term disease surveillance programmes to acquire quality disease and animal information for the creation of useable livestock information databases</li> <li>• Subject all import risk analyses decisions to the required scientific risk management procedures</li> <li>• Provide information (risk assessment reports) to decision makers and interested parties in the importing and exporting countries at regular intervals for use in risk communication and risk management (OIE Code Chapter 2.2.7)</li> <li>• Update the legislative authority and make it more specific in support of sustained national surveillance programs</li> </ul>
Objectively verifiable indicators	Risk analysis unit in operation – records of risk assessments made – import decisions
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	10 men-days/year planned for CE on risk analysis for the 10 Regional Veterinary Officers
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	



MANAGEMENT OF VETERINARY SERVICES - 9 / II-3. Risk analysis						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)		20,0	3 300			66 000
Continuing education (man-days / year)		10,0	148		1 479	
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>1 479</b>	<b>66 000</b>
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>						
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>1 479</b>	<b>66 000</b>
<b>Total in</b>	<b>GHc</b>				<b>2 219</b>	<b>99 000</b>

## MVS 13 - II.11. Emerging issues

<b>1. Specific objective (Critical Competency)</b>	
<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>	
<b>2. Result (Expected level of advancement)</b>	
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 other agencies (e.g. human health, wildlife, and environment) and with stakeholders 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 other agencies (e.g. human health, wildlife and environment) and with stakeholders 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.	
<b>3. Description of the activity</b>	
Strategy	Task the Risk Analysis Unit with the required actions and document / compile information on emerging issues
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Refer to necessary actions under CC I.6</li> <li>• Encourage and collaborate with the GVMA) and PVA in identifying veterinary issues of concern</li> </ul>
Objectively verifiable indicators	Identified emerging issues – records of preparedness plans
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

## MVS 14 - II.12. Technical innovation

<b>1. Specific objective (Critical Competency)</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>2. Result (Expected level 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.	
<b>3. Description of the activity</b>	
Strategy	Identify policies and procedures to incorporate technical innovations eg. “digital pen “; mobile technology and “cellphone SMS reporting” , “web based data base animal resource management”.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Enhance efficacy of livestock disease surveillance, e-reporting and information management (see CC II.5 A)</li> <li>• Involve relevant stakeholders</li> <li>• Implement technical innovations where evaluations indicated usefulness, based on cost-benefit and appropriateness</li> </ul>
Objectively verifiable indicators	Records of investigations – implementation results
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

## MVS 15 - III.1. Communications

<b>1. Specific objective (Critical Competency)</b>	
<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>	
<b>2. Result (Expected level of advancement)</b>	
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.	
<b>3. Description of the activity</b>	
Strategy	The VS establishes an animal health communication unit within its structure in order to provide up-to-date information, accessible via the Internet and other appropriate channels, on activities and programmes.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Assign two veterinary personal including the OIE focal point for communication to this unit and provide them with adequate training on communication</li> <li>• Develop a VS communication programme that is regularly updated.</li> <li>• Provide the necessary capacity to enable the execution of required functions including installation of fast internet connections in each VS regional and district offices.</li> <li>• Develop a VS Information website and/or hyperlink to the MoFA website.</li> <li>• Collaborate with the Ghana Veterinary Medical Association (GVMA) to produce regular newsletters.</li> <li>• Use mass communication systems and electronic media for livestock extension delivery that responds to practical gender needs (radio programmes, information vans).</li> </ul>
Objectively verifiable indicators	VS communication programme Website, Newsletters
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	10 days/year to strengthen communication skills
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

MANAGEMENT OF VETERINARY SERVICES - 12 / III-1. Communications						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes		1	3 000	3		
Number of cars			27 000	5	5 400	
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set		1	2 500	3	833	
Office equipment set		2	1 470	3	980	
Other specific equipment						
<b>Sub-total Material investments</b>					<b>7 213</b>	
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)		10,0	148		1 479	
National expertise (days/5 years)		30,0	271			8 130
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>1 479</b>	<b>8 130</b>
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year		30	121		3 630	
drivers within the country (man-days) / year		15	45		675	
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year		18 000	0,25		4 450	
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
General communication		5 000	2		10 000	
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					<b>18 755</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>27 447</b>	<b>8 130</b>
<b>Total in</b>	<b>GHc</b>				<b>41 171</b>	<b>12 195</b>

## MVS 16 - III.2. Consultation with stakeholders

<b>1. Specific objective (Critical Competency)</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>	
<b>2. Result (Expected level of advancement)</b>	
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.	
<b>3. Description of the activity</b>	
Strategy	At central level, the VSD has to establish formal consultations with GCV, GVMA and VENTAG. Regarding livestock stakeholders, appropriate consultation mechanisms need to be developed taking into consideration the level of organization. It is also necessary to identify and address the challenges to the formation of a national livestock forum representative of all stakeholders in the livestock sector. The VSD has to support the initiative, by the veterinary private sector to form its own association.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Establish protocol with GCV, GVMA and VENTAG regarding regularity and modalities of consultative workshops/meetings.</li> <li>• Provide support to the poultry producers, pig producers and market trader associations and establish formal consultation mechanisms.</li> <li>• Carry out a feasibility study for the formation of a national livestock forum, representative of all stakeholders.</li> </ul>
Objectively verifiable indicators	Approved protocols, meeting reports/proceedings
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	Communication with relevant stakeholders to be strengthened
Consultation (III.2)	20 one-day meetings planned each year
Official representation (III.3)	
Management of resources and operations (I.11)	

MANAGEMENT OF VETERINARY SERVICES - 13 /						
III-2. Consultation with stakeholders						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)		20	1 000		20 000	
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					20 000	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>20 000</b>	
<b>Total in</b>	<b>GHc</b>				<b>30 000</b>	

## MVS 17 - III.3. Official representation

<b>1. Specific objective (Critical Competency)</b>	
<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>	
<b>2. Result (Expected level of advancement)</b>	
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 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.	
<b>3. Description of the activity</b>	
Strategy	The VSD should improve preparation and participation to OIE meetings and other international and regional meetings.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• List the relevant meetings that require VSD participation and provide justifications for submission to the MoFA.</li> <li>• Strengthen consultation with stakeholders</li> <li>• Ensure appropriate dissemination of relevant documentations for stakeholder comments and main results of the international and regional meetings.</li> <li>• Provide opportunity (ies) to allow stakeholder participation at selected meetings.</li> <li>• Ensure integration of the VSD in <i>Codex Alimentarius</i> and WTO SPS national committees.</li> </ul>
Objectively verifiable indicators	Meeting proceedings/reports Stakeholders' comments
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	Consultations with stakeholders to be developed prior to participation to international and regional relevant meetings
Official representation (III.3)	
Management of resources and operations (I.11)	



MANAGEMENT OF VETERINARY SERVICES - 14 /						
III-3. Official representation						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year		6	3 369		20 214	
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)		3	1 000		3 000	
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					23 214	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>23 214</b>	
<b>Total in</b>	<b>GHc</b>				<b>34 821</b>	

## MVS 18 - III.4. Accreditation / authorisation / delegation

<b>1. Specific objective (Critical Competency)</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>2. Result (Expected level 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.	
<b>3. Description of the activity</b>	
Strategy	The public VSD undertakes the necessary actions to investigate possibilities to develop and implement accreditation / authorisation / delegation programmes, which are routinely reviewed
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Investigate possibilities and opportunities for delegation procedures to the private veterinary sector to perform veterinary services on behalf of the official VSD (Permanent / temporary delegations – specific task delegations such as vaccinations – general delegations such as surveillance, meat inspection)</li> <li>Identify legal framework for intended delegations and implement</li> <li>Provide specific authorization and documentation procedures, including of scope, sector (e.g dairy and poultry) and responsibilities, as well as time frame (including regular review)</li> <li>Issue accreditation/authorisation/delegation document, containing information such as name, personal identification number, purpose and scope of tasks, date issued and date of expiry (validity)</li> <li>Establish a policy setting out a code of practice to reduce the potential for conflicts of interest between private veterinarians and public veterinarians engaged in private veterinary practice.</li> </ul>
Objectively verifiable indicators	Delegated procedures – documented delegations – authorization documents
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	Legislation to be updated
Communication (III.1)	
Consultation (III.2)	2 consultations (1 day/each) with private veterinarians
Official representation (III.3)	
Management of resources and operations (I.11)	

MANAGEMENT OF VETERINARY SERVICES - 15 / III-4. Accreditation / Authorisation / Delegation						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>						
<b>Delegated activities / year</b>						
Specific delegated activities					80 000	
Other activities or global estimation		20 000	5		100 000	
<b>Sub-total Delegated activities</b>					180 000	
<b>Total in</b>	<b>USD</b>				<b>180 000</b>	
<b>Total in</b>	<b>GHc</b>				<b>270 000</b>	

## MVS 19 - III.5. Veterinary Statutory Body (VSB)

### III.5.A. VSB authority

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
1. There is no legislation establishing a Veterinary Statutory Body.	
2. The VSB regulates veterinarians only within certain sectors of the veterinary profession and/or does not systematically apply disciplinary measures.	
3. The VSB regulates veterinarians in all relevant sectors of the veterinary profession and applies 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 applies disciplinary measures to veterinarians and veterinary para-professionals in all sectors throughout the country.	
3. Description of the activity	
Strategy	Strengthen the authority of the Veterinary Council of Ghana (VCG) in all aspects of regulating the veterinary profession in Ghana Support enactment of the new "Veterinary Surgeons Bill, 2010", at present at the Office of the Attorney-General, awaiting promulgation, as a high priority
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>VCG to enter into discussions with the newly created veterinary schools at Legon and Kumasi, with emphasis on meeting all necessary levels of professional competency and capacity, given that the VCG is the final authority in all matters pertaining to the regulation of the veterinary profession in Ghana</li> <li>Encourage and support responsible government authorities to promulgate the "Veterinary Surgeons Bill, 2010" as a matter of priority.</li> <li>Re-enforce disciplinary procedures for veterinarians</li> <li>Consult with other national VSB.s (e. g. Nigeria Veterinary Council, Veterinary Council of Namibia, South African Veterinary Council).</li> </ul>
Objectively verifiable indicators	
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

MANAGEMENT OF VETERINARY SERVICES - 16 / III-5. Veterinary Statutory Body A. VSB authority						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
LCD equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year		4	3 369		13 476	
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					13 476	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>13 476</b>	
<b>Total in</b>	<b>GHc</b>				<b>20 214</b>	

## MVS 19 - III.5. Veterinary Statutory Body (VSB)

### III.5.B. VSB capacity

<b>1. Specific objective (Critical Competency)</b>	
<i>The capacity of the VSB to implement its functions and objectives in conformity with OIE standards.</i>	
<b>2. Result (Expected level of advancement)</b>	
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 to OIE standards.	
5. The financial and institutional management of the VSB is submitted to external auditing.	
<b>3. Description of the activity</b>	
Strategy	<p style="text-align: center;"><b>This competency was not assessed by the 2008 PVS Evaluation Mission</b></p> <p>Maintain and upgrade existing functional capacity of the Veterinary Council of Ghana (VCG) to meet OIE standards</p>
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Upgrade the existing administrative infra-structure of the VCG to meet modern demands for administration, communication and extension</li> <li>• Investigate personnel needs to provide for effective administration (Assistant Registrar/veterinarian, data typist, analyst and driver).</li> <li>• Provide necessary office communication equipment to execute day-to-day activities</li> <li>• Provide necessary transport to e. g. execute visitations, veterinary facility inspections, disciplinary investigations.</li> </ul>
Objectively verifiable indicators	
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

MANAGEMENT OF VETERINARY SERVICES - 17 / III-5. Veterinary Statutory Body B. VSB capacity						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)		150				
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)		150	200	10	3 000	15 000
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles	1	1	34 000	5	6 800	
Telecommunication equipment set		1	2 500	3	833	
Office equipment set	1	2	1 470	3	980	
Other specific equipment						
<b>Sub-total Material investments</b>					<b>11 613</b>	<b>15 000</b>
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)		1,0	3 300			3 300
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						<b>3 300</b>
<b>Salaries / year</b>						
Veterinarians	1,0	1,0	11 000		11 000	
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff		3,0	4 000		12 000	
<b>Sub-total Salaries</b>					<b>23 000</b>	
<b>Consumable resources / year</b>						
Administration			20%		4 600	
Travel allowances						
staff within the country (man-days) / year		180	121		21 780	
drivers within the country (man-days) / year		45	45		2 025	
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year	24 000	24 000	0,31		7 416	
km or miles / year						
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					<b>35 821</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>70 434</b>	<b>18 300</b>
<b>Total in</b>	<b>GHc</b>				<b>105 652</b>	<b>27 450</b>

## MVS 20 - III.6. Participation of producers and other stakeholders in joint programmes

<b>1. Specific objective (Critical Competency)</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>2. Result (Expected level 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 programmes 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.	
<b>3. Description of the activity</b>	
Strategy	Through consultations, the VSD should improve involvement of relevant livestock stakeholders in implanting animal diseases control programmes such as CBPP and PPR control programmes.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Carry out producers and livestock stakeholders' sensitisation to participate in join programmes</li> <li>• Promote information sharing with stakeholders.</li> <li>• Develop community based animal disease early warning system through the use of participatory epidemiology tools</li> <li>• Support voluntary vaccination programmes.</li> </ul>
Objectively verifiable indicators	Joint programmes
<b>4. Possible link with cross-cutting competencies</b>	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	Communication with stakeholders to be strengthened
Consultation (III.2)	Consultation with stakeholders to be strengthened
Official representation (III.3)	
Management of resources and operations (I.11)	



MANAGEMENT OF VETERINARY SERVICES - 18 / III-6. Participation of producers and other stakeholders in joint programmes						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)		10	1 000		10 000	
Kits / reagents / vaccines						
bsidy for voluntary vaccinations programmes		1	200 000		200 000	
<b>Sub-total Consumable resources</b>					<b>210 000</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>210 000</b>	
<b>Total in</b>	<b>GHc</b>				<b>315 000</b>	

## MVS 21 - IV.1. Preparation of legislation and regulations

1. Specific objective (Critical Competency)	
<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 warrant 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>	
2. Result (Expected level of advancement)	
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.	
3. Description of the activity	
Strategy	<p><b>Level remains unchanged at this stage</b></p> <p>At this stage there is no indication of any new legislation being drafted. At this stage there is no indication of any new legislation being drafted. However, the VSD has to sensitize MoFA to effect the speedy enactment of the "Veterinary Surgeons Bill, 2010" and the meat inspection legislation giving the VSD the authority to execute meat inspection functions.</p>
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Appoint a VSD focal point in charge of veterinary legislation</li> <li>• Compile national legislation and regulations relevant to VS activities</li> <li>• Publish the new or updated legislation.</li> </ul>
Objectively verifiable indicators	New or updated legislation
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	Compilation of legislation and regulations relevant to VS
Communication (III.1)	
Consultation (III.2)	3 meetings (1 day) for consultations per year included
Official representation (III.3)	
Management of resources and operations (I.11)	

MANAGEMENT OF VETERINARY SERVICES - 19 / CC: IV.1. Preparation of legislation and regulations						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)		2.0	148		296	
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>					<b>296</b>	
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year			3 369			
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)		3	1 000		3 000	
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					<b>3 000</b>	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>3 296</b>	
<b>Total in</b>	<b>GHc</b>				<b>4 944</b>	

## MVS 22 - IV.2. Implementation of legislation and regulations and stakeholder compliance

1. Specific objective (Critical Competency)	
<i>The authority and capability of the VS to ensure that stakeholders are in compliance with legislation and regulations under the VS mandate.</i>	
2. Result (Expected level of advancement)	
1. The VS have no or very limited programmes or activities to ensure stakeholder compliance with relevant legislation and regulations.	
2. The VS implement a programme or activities comprising inspection and verification of compliance with legislation and 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 / initiate prosecution in instance 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.	
3. Description of the activity	
	<b>Level to remain unchanged at this stage</b>
Strategy	The adoption of new legislation coupled with the re-establishment of the chain of command as well as the improvement of communication and consultation with stakeholders will progressively ensure compliance with animal health and food safety regulations under the VS mandate.
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>Stakeholders to be aware of and comply with their obligation to report the suspicion and occurrence of notifiable diseases to the VS.</li> <li>Maintain a record of all cases of non-compliance and actions taken.</li> </ul>
Objectively verifiable indicators	Record of all cases of non-compliance and actions taken
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication III.1)	Stakeholders to be aware about relevant legislation
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

## MVS 23 - IV.3. International harmonisation

1. Specific objective (Critical Competency)	
<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>	
2. Result (Expected level of advancement)	
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 <sup>11</sup> , and use the standards to harmonise national legislation, regulations and sanitary measures.	
3. Description of the activity	
Strategy	The improvement of critical competencies as planned in this programme will allow the VSD to actively reviews and actively comments on draft standards produced by relevant inter-governmental organisations
Description of the tasks (chronological)	<ul style="list-style-type: none"> <li>• Develop collaboration with relevant specialized agencies within Ghana</li> <li>• Discuss and formulate responses to draft standards proposed by international standard setting organisations</li> <li>• Organise meetings with neighboring countries to improve the control of trade animals from Nigeria to Cote d'Ivoire that passing through Ghana</li> </ul>
Objectively verifiable indicators	VSD comments Proceedings of meetings with neighbouring countries
4. Possible link with cross-cutting competencies	
Continuing Education (I.3)	
Legislation (IV.1, 2, 3)	
Communication (III.1)	
Consultation (III.2)	
Official representation (III.3)	
Management of resources and operations (I.11)	

<sup>11</sup> A country could be active in international standard setting without actively pursuing national changes. The importance of this element is to promote national change.

MANAGEMENT OF VETERINARY SERVICES - 21 / IV-3. International harmonisation						
Resources and Budget lines	Current Number	Required Number	Unit Cost	Nb of years for amortisation	Annual Budget	Exceptional Budget
<b>Material investments</b>						
Buildings (m2)						
Existing building to be maintained (m2)			25	1		
Existing building to be renovated (m2)			200	10		
Building to be built (m2)			500	25		
Transport						
Number of motorbikes			3 000	3		
Number of cars			27 000	5		
Number of 4x4 vehicles			34 000	5		
Telecommunication equipment set			2 500	3		
Office equipment set			1 470	3		
Other specific equipment						
<b>Sub-total Material investments</b>						
<b>Non material expenditure</b>						
Training						
Specialised training (man-months / 5 years)			3 300			
Continuing education (man-days / year)			148			
National expertise (days/5 years)			271			
International expertise (weeks/5 years)			9 550			
Special funds (/ 5 years) for ...						
<b>Sub-total non material expenditure</b>						
<b>Salaries / year</b>						
Veterinarians			11 000			
Other university degree			11 000			
Veterinary para-professionals			6 100			
Support staff			4 000			
<b>Sub-total Salaries</b>						
<b>Consumable resources / year</b>						
Administration			20%			
Travel allowances						
staff within the country (man-days) / year			121			
drivers within the country (man-days) / year			45			
staff abroad (man-weeks) / year		2	3 369		6 738	
Transport fees						
Km or miles Motorbikes / year			0,10			
Km or miles cars / year			0,25			
Km or miles 4x4 vehicle / year			0,31			
km or miles / year						
Specific costs						
Targeted specific communication						
Consultation (number of 1 day meetings)						
Kits / reagents / vaccines						
<b>Sub-total Consumable resources</b>					6 738	
<b>Delegated activities / year</b>						
<b>Sub-total Delegated activities</b>						
<b>Total in</b>	<b>USD</b>				<b>6 738</b>	
<b>Total in</b>	<b>GHc</b>				<b>10 107</b>	