

TABLE OF CONTENTS

MISSION STATEMENT	2
FOREWORD BY THE CHIEF VETERINARY RESEARCH OFFICER	3
EXECUTIVE SUMMARY	4
INTRODUCTION	5
WORKSHOPS, RESEARCH MEETINGS, VISITS AND STUDIES	6
STAFF	9
TRANSPORT	10
INFRASTRUCTURE	11
PLANNED ACTIVITIES FOR 2009	11
LABORATORY AND FIELD ACTIVITIES	13
CONSTRAINTS	14
RECOMMENDATIONS	15
CENTRAL VETERINARY RESEARCH INSTITUTE FINANCIAL STATEMENT FOR 2008 ...	Error! Bookmark not defined.
APPENDICES	17
ACRONYMS	30

I. MISSION STATEMENT

The Central Veterinary Research Institute remains;

“COMMITTED TO THE PROVISION OF QUALITY SERVICES THROUGH THE CONTROL AND ERADICATION OF ANIMAL DISEASES OF NATIONAL, ECONOMIC AND PUBLIC HEALTH IMPORTANCE BY OFFERING QUALITY DIAGNOSTIC SERVICES, RESEARCH AND DEVELOPMENT

II. FOREWORD BY THE CHIEF VETERINARY RESEARCH OFFICER



It gives me much pleasure to present the Central Veterinary Research Institute Annual Report for the year 2008.

This report gives an account of the activities the Institute undertook during the year. Most of the activities centred on disease diagnosis. The Institute continued to carry out sero-surveillance in Contagious Bovine Pleuro-pneumonia (CBPP) and investigation of Foot and Mouth disease (FMD) outbreaks in Southern Province.

During the year, the Institute participated in various international fora. A number of members of staff ably represented the institute at various international workshops, seminars and meeting. The Institute also signed a number of Memorandums of Understandings with various cooperating partners. I am glad to report that the Institute was selected as a referral laboratory for Animal health under the Common Market for Eastern and Southern Africa.

The overall performance of the Institute improved by two folds compared to the year 2007. The Institute was involved in screening livestock that underwent translocations from various parts of the country, routine salmonella sampling and testing, routine diagnosis of various animal diseases and surveillance of CBPP, FMD, ECF and Avian Influenza

I would like to take this opportunity to convey my condolences to the Government of the Republic of Zambia and the people of Zambia on the untimely passing on of our Republic President, Dr. Levy Patrick Mwanawasa, and State Counsel. May his soul rest in everlasting peace.

Thank you,

Dr. S.H. Kabilika

III. EXECUTIVE SUMMARY

Government policy is to make agriculture the main stay of the economy.

The overall objective of the Department of Veterinary and Livestock Development is to improve the health and productive efficiency of the livestock sector in a sustainable manner and support the marketing of livestock and livestock products in order to contribute to alleviation of poverty, food security and income generation. The livestock sector's contribution to the agricultural GDP is currently estimated at 35 %.

Therefore, Veterinary Research aims at conducting research directed towards the nature of the disease, diagnosis, treatment, use of vaccines and drugs and research towards disease carrying pests. Thus, improve livestock productivity in the country. This results into poverty reduction, food security and income generation.

Generally, this report covers activities from January to December 2008.

During the year under review, about 69,856 samples were handled at the Institute. This showed 58.3% increase in sample collection when compared to 29,141 samples collected in the year 2007. This sample collection was achieved through prudent management of diagnostic activities at the institute.

However, the institute experienced power funding during the last half the year.

1. INTRODUCTION

This report covers a period extending from 1 January 2008 to 31 December 2008. The Pathology section received **399** submissions and **69,856 specimens** during the period under review.

The number of positive cases of Diseases of National Economic Importance (DNEI) and their distribution by province were as follows:

10 positive cases of CBPP from Southern Province; 38 positive cases of Canine Rabies from Copper belt, Luapula, Eastern, Southern and Central provinces; 6 positive cases of Bovine Rabies from Copperbelt, Western, Eastern, Southern and Central provinces; 2 cases of Caprine Rabies from Northern and Southern Provinces; 119 positive cases of FMD from Central Lusaka, Northern and Southern provinces; 1 positive case of Bovine Anthrax from Lusaka. There were no positive cases of African swine fever, Newcastle disease and Highly Pathogenic Avian Influenza (HPAI).

The major activities conducted during the period under review were Salmonella Sampling and Testing of all Poultry hatcheries and farms, and the routine diagnoses of other animal diseases. The section received samples from different provinces in Zambia via the Regional diagnostic laboratories and from individual farmers in Lusaka Province.

The Biochemistry and Toxicology Section received 41 samples during the period under review. Twelve samples tested positive for pesticide poisoning and 18 samples tested negative. One (1) urine sample was submitted for urinalysis. One (1) dip samples was submitted for strength and there were six (6) samples that were not analyzed for pesticide toxicity. This reflects 45.6% for positive samples and 68.4% for negative samples as compared to 84.8% for positive samples and 15.2% for negative samples in the year 2007.

The year 2008 was a productive year for the virology section. The section acquired some equipment under the World Bank, Avian and Human Influenza project, which came to an end on 31 December 2008. Though there was a reduction in the number of samples, the section was able to carry out tests for the samples that it received. The Avian Influenza surveillance in high-risk areas was one extra activity that the section carried out. Most of the samples that were submitted from the field were in bad state for laboratory analysis. This prompted the virology laboratory to send staff into the field to demonstrate the techniques in sample collection, handling, packaging and transportation. This activity helped set a base for effective surveillance.

Many samples were not analyzed a result of the bad state in which the samples reached the laboratory.

Virology sample break down

The Bacteriology Section received 23,583 samples during the period under review. The section also received some reagents for c-ELISA on Brucellosis from Weighbridge in the United Kingdom for kit Validation and testing.

The Parasitology Section received 3,523 samples. The samples comprised 514 blood smears, 329 lymph smears, 1 brain smear, 2669 sera and 10 Helminths samples

2. WORKSHOPS, RESEARCH MEETINGS, VISITS AND STUDIES

- The Pathology section was involved in the Routine Salmonella Sampling at the following poultry farms; Hybrid, Panda, Bokomo and Ross breeders.
- Dr Edgar Kayesa attended the DVLD 2007 Annual report compilation workshop at Tecla lodge and restaurant in Lusaka in February 2008.
- Dr Martha Hamasuki attended a meeting on enhancing the Codex Alimentarius activities in Zambia at the Ministry of Health in March 2008.
- Dr C Nyeleti was engaged by COMESA for consultancy in Sanitary and Phytosanitary (SPS) laboratories in COMESA member states from 7th – 25th March 2008.
- Dr Martha Hamasuki attended a Livestock Development plan meeting organized by DVLD at Fairview lodge in August 2008.
- Dr E Kayesa attended the 9th meeting of the Southern and Eastern Africa Rabies Group (SEARG) in Gaborone, Botswana from 25th-29th August 2008.
- Dr C Nyeleti attended the final project support African Union meeting for the control of epizootics from 10th-14th November 2008 in Vienna, Austria.
- Dr E Kayesa and Mr. Choonya travelled to Kalomo to collect samples for FMD from Golden Acres farm in December 2008.
- The pathology section held a section meeting on 15th December 2008 attended by Dr C Nyeleti, Dr M Hamasuki, Dr E Kayesa and Mr. S Nyirenda.
- Mrs. L. Sinyangwe attended a Biologists' orientation workshop at Kakumbi Research Station in Mfuwe as a resource person, which lasted a week. Mr. C. N. Choopa attended the workshop as a participant. This workshop took place in March 2008.

- Mr. Kizito M. Bukowa underwent a Third WHO/TDR and KARI-TRC capacity Strengthening introductory Course on Tsetse and Trypanosomosis held at Trypanosomosis Research Centre –KARI- Muguga, Kenya from 5th to 23rd May 2008. He also attended a Project Development Workshop held at the same institution from 26th to 30th May 2008, which was sponsored by WHO/TDR, KARI-TRC and BecAnet.
- A workshop financed by SLIP project on IFAT bench training took place from 11th to 15th July 2008 at Balmoral. Technicians from Chipata, Mazabuka and CVRI participated. The resource persons were from Centre for Ticks and Tick-Borne Diseases in Malawi.
- Mrs. L. Sinyangwe and the CVRO attended a SADC diagnostic subcommittee meeting in Maseru, Lesotho from 16th to 18th April 2008.
- Mrs. L. N. Sinyangwe, Mr. C. N. Choopa and Dr V. Mbao (AVPU) together with a team from Mazabuka Research attended a preparatory meeting of the SLIP project (IFAD) on 7th May 2008.
- Mrs. L. N. Sinyangwe and Dr. V. Mbao attended a SLIP planning workshop at IBIS Gardens, Chisamba from 27th to 28th May 2008.
- Mrs. L. N. Sinyangwe and CVRO attended the 10th Annual Eastern African Network for Trypanosomosis (EANETT) Conference at Sarova Whitesands Beach Resort & Spa, Mombasa in Kenya. The conference was from the 25th – 27th November 2008.
- Mr. Sikombe and Mr. Chibomba attended training in the diagnosis of Rift Valley Fever in February 2008.
- Dr Bwalya and Mr. Sikombe attended a two weeks training in Foot and Mouth Disease diagnosis at the Botswana Vaccine Institute, Gaborone, Botswana in March/ April 2008.
- The Virology section commenced the pre and post-vaccination surveillance for Foot and Mouth Disease. This is a programme funded by the European Union through FAO and shall continue into 2009.
- Dr Cheelo and Dr Bwalya were involved as resource persons in the training of field veterinary staff in Avian Influenza and Poultry diseases diagnosis and

control. This training programme was funded by FAO and was contracted to the University of Zambia, School of Veterinary Medicine.

- Dr. Bwalya and Dr Cheelo continued to be involved with the National task Force on Avian Influenza as members of the Secretariat. Dr Bwalya was also the laboratory focal person for the World Bank, Avian and Human Influenza project. These activities kept the officers busy and away from the laboratory most of the year. Mr. Sikombe was therefore in charge of the virology laboratory most of the year. All members of Staff from the Virologys section undertook several field trips to sample for Avian Influenza and FMD.
- Dr. Monga attended week long training in Detection of Mycotoxins and their toxigenic fungi in the food chain at Bari in Italy from 20th September to 3rd October, 2008.
- DR. G. Muuka attended a one month course on PCR- Molecular diagnosis in France.
- Dr. A. Kamulete attended courses on food Science in Egypt and Sweden respectively during the year.
- Mr. Christopher Simuntala and Dr. Kayesa Edgar attended a one day seminar on e-agriculture, from the 14th of July 2008 at Lusaka hotel. The meeting was based on meeting information and knowledge needs of the farmer through e-Agriculture.
- Mr. Lucas Mwambazi attended a seminar in Bamako Mali on the CBPP project.
- A team from the Bacteriology section went for the Contagious Bovine Pleuropneumonia testing and slaughter exercise in Livingstone and Kazungula Districts of Southern Province. This exercise was done in August 2008. During the exercise a total number of about 25,000 animals were tested.
- The bacteriology section carried some collaborative work with Weighbridge UK. Weighbridge UK sent us a kit for c-ELISA on Brucellosis to be validated. The kit was enough to examine 400 samples. This was in line with the proposal written on Brucellosis.
- Dr. Namukolo Muyamwa Left for his MSc. Control of Infectious Diseases Studies at the Royal Veterinary College in the United Kingdom in September 2008.
- Members of the Animal Vaccine Production Unit, comprising of Dr. M. Ziba, Mr. B. Muchanga, Mr. P. Hansingo, Mr. K. Ng'andu, Mr. O. Tembo, Mr. T Choolwe and Mr. Frank Banda, participated the National Science Technology Council

Anniversary match past and presentations that took place on the 10 – 14 November 2008.

- Dr. Namukolo Muyamwa, Mr. Mumbela, Mr. Benjamin Muchanga, Mr. O. Tembo, Mr. P. Malyango, Mr. T. Mumbuna and Mr. Zulu.
- Mr. Moono attended an international workshop in Quality Control of Pesticide Residues in food for human consumption that was held in Vienna, Austria from November 12th, 2008 to December 8th 2008.

3. STAFF

During the period under review, the Institute has 73 members of staff though some are out of the country for studies and attachment. Two new officers were received, Dr. Maureen Ziba (Research Scientist) and Mr. Harry Siwale (Buildings Officer)

Dr. L. Mataa (PVRO – vaccine) from AVPU was transferred to NALEIC.

Dr. C. Kubi (VRO – Parasitology) resigned from the institute.

Dr. V. Mbao (SVRO – Vaccine) was seconded to Malawi by the DVLD.

3.1 Staff Promotions

The following officers were promoted in acting positions;

Mr. Tingiya Sikombe	Acting Senior Research Scientist
Mr. Lucas Mwambazi	Acting Principal Laboratory Technician
Ms. Jane Mbewe	Acting Laboratory Technician
Ms. Beauty Mwanamoonga	Acting Laboratory Technician

3.2 Staff Confirmations

The following officers were confirmed;

Mr. Benjamin Muchanga	Research Scientist
Mr. Chivwele Choopa	Research Scientist

Most of the members of staff that were recruited in the last three years have not been confirmed.

3.3 Staff positions

- Correct salary scale disparities
A number of Veterinarians have been placed in the GSS06 salary Scale instead of being placed in the MDS 05 Salary Scale. The Ministry of Agriculture and Cooperatives explained that the affected members of staff were placed GSS 06 scale because the MDS 05 scale was full. However, the Central Veterinary Research Institute is appealing to the Directorate to assist in normalizing the salary scales of all members at CVRI who are currently placed in wrong salary scales.
- Fill vacant staff positions especially at senior levels
The Institute is also appealing to the directorate to fill senior positions at the Institute.

4. TRANSPORT

The institute continued to grapple with transport problems. The institute has only four vehicles that are currently running. Field activities undertaken by the institute were affected **the** period under review due to inadequate number vehicles to cater for the various activities. The demand for better transport cannot be over emphasized.

The institute has the following vehicles;

1. Ford Ranger	GRZ 715 BV	Runner
2. Mitsubishi Pajero	AAN 6584	Runner
3. Nissan Civilian	GRZ 644 BX	Runner
4. Nissan Hard body	ABM 877	Runner
5. Mitsubishi Pajero	GRZ 968BN	Non Runner
6. Toyota Surf	AAX 641	Non runner
7. Massey Ferguson Tractor	GRZ 13306	Runner
8. Caterpillar	GRZ 5-2-209	Non Runner.

The poor state of transport, office and other equipment for the Central Veterinary Research Institute cannot be overemphasized.

- More vehicles and fuel allocation are needed to especially for field and sample collection activities.

Road works.

- The access to the institute by workers, farmers and other stakeholders is very difficult due to the poor state of the access road. Delivery of samples to the institute is also difficult especially during the rainy season.
- The Government needs to carry out road works to this strategic Animal diagnostic Center and make it more accessible. This will aid in improving disease control measures and ultimately contribute to food security at both household and national level.

5. INFRASTRUCTURE

The institute managed to carry out rehabilitation works on the roof of the main building block. However, some rooms are still leaking and will be worked on. The institute also undertook the erection of a perimeter electrical fence for the entire institute. Furthermore, the institute carried out rehabilitation works of the main Pathology building. The cold room was also repaired. A new electric incinerator was installed under the World Bank, Avian Influenza project.

However, the Institute requires the following;

- New office furniture for officers.
The furniture in most offices and laboratories is obsolete and needs to be replaced.
- New computers and internet connections to offices.
The majority of offices do not have computers and internet connections. The majority of officers are now involved in research activities. The access to internet has been limited. Officers have to queue up to access the internet from three computers in the conference room. Some officers use the personal laptops to carry out government duties due non availability of adequate computers.
- New laboratory equipment
The Institute needs complete recapitalization in terms of laboratory equipment. The majority of laboratory equipment is very old and considered ancient in this new scientific Diaspora. The need for latest equipment in disease diagnosis has become an urgent issue. The country has continued to be faced with a number of livestock diseases that require fast track diagnosis and prevention measures.
- Office and laboratory renovations
Now that the roof has been renovated, the offices and laboratories at the institute require painting. In some cases, some offices require complete refurbishment.

6. PLANNED ACTIVITIES FOR 2009

6.1 Slip Project

6.2 COMESA Regional Reference Laboratory for Animal health activities:

- I. To assist in monitoring and compliance with regional animal diseases and pest requirements by countries as well as producer/processor enterprise, and oversee the appropriate certification process;
- II. To process selected samples of commodities for the purpose of maintaining a databank of animal disease causing agents and pests relevant to international trade;
- III. To validate and standardize diagnostic and reagents on behalf of National Laboratories;

- IV. To gather technical information with regards to Animal Health matters and make it available to member states and other interested parties
- V. To provide expert technical advice in meditation of disputes between an importing parties (country and expertise) and exporting parties(country and expertise) and provide credible scientific basis for resolution of such disputes; and
- VI. To assist Member States in carrying out Animal risk analysis, and
- VII. To perform any other such appropriate functions as the region may require

6.3 Avian Influenza activities

6.4 Salmonella sampling and testing

6.5 AFRA Project entitled RAF/5/057 " Strengthening Capacities for Diagnosis and Control of Transboundary Animal Diseases in Africa."

- I. Increased disease reporting to national authorities, OIE and other international organizations
- II. Improved animal health regarding Transboundary Animal Diseases with African countries
- III. Improved regional cooperation through regular periodic cross-border surveillance activities

6.6 Instituto de Tecnologie Agropecuria (INTA) and CVRI to promote cooperation in the following activities:

- I. joint research projects in Animal Health
 - II. Development and improvement of livestock disease diagnostic techniques
 - III. Conduct short term training courses, seminars and lectures as well as scientific and training meetings
 - IV. Exchange of scientists and technicians between INTA and CVRI
- Undertake

6.7 Coperation with Instituto Zooprofilattico Sperimentale dell' Abrizzo e del Molise "G. Caporale ". IZSA&M from Italy.

- I. Undertake joint research projects in Animal Health
- II. Animal Disease Diagnostics
- III. Exchange of materials like animal and environmental diagnostic samples cultures of pathogens
- IV. Environmental and molecular epidemiological studies of outbreaks identification and characterization of out breaks strain
- V. Development and implementation of diagnostic methods for animal diseases
- VI. Conduct short term training courses, seminars and lectures as well as scientific and training meetings
- VII. Exchange of scientists and technicians between INTA and CVRI

7. LABORATORY AND FIELD ACTIVITIES

7.1 The institute continued to perform routine laboratory diagnosis of the following diseases;

Disease	Test Applied
Rabies	Fluorescent Antibody Test(FAT)
FMD	3ABC Elisa
Avian Influenza	Elisa
Trypanosomosis	Microscopy/ Elisa
Heartwater	Blood slide microscopy
Babesiosis	Blood slide microscopy
Anaplasmosis	Blood slide microscopy
Theileriosis/ECF	Indirect Fluorescent Antibody Test (IFAT)
CBPP	Compliment fixation test

7.2 Quality Manual and SOPs :- The section during the year drew up a program for SOP and Quality manual review. The programs were partly followed due to other commitments by the quality management committee and the erratic fuel situation that affected attendances at the institute. The meetings were being postponed from time to time.

7.3 Equipment checks/ calibration and maintenance: - Through out the year thermometers were put in fridges and freezers in Parasitology, Bacteriology, Pathology and Biochemistry and toxicology sections. The equipment is helping to ensure that fridges and freezers operate at required temperatures. This is a Quality management system requirement.

8. CONSTRAINTS

The major constraint the Central Veterinary Research institute faced in 2008 was the poor and erratic funding from the treasury. Most of the activities of the institute relied on Government funding.

Other constraints included the following;

- **In the year under review there was a frequent** ZESCO load shedding. Due to the load shading of electric power by ZESCO, the various sections had always informed administration of the danger of reagents and/or biologicals getting spoiled as most of the times there was no diesel to run the standby generator.
- Poor transport. Despite the Institute acquiring a new vehicle, most institutional activities were negatively due to insufficient number of vehicles.
- Throughout the year there was no improvement at the rate at which the stores section purchased laboratory requirements. This hampered the rate at which activities in the laboratory were done.
- Limited fuel for laboratory and field activities. Most laboratory activities were affected as the standby generator had no fuel for prolonged periods.
- Limited stationery for office and laboratory use.
- Inadequate reagents for laboratory tests and sometimes no reagents for particular tests.
- .The accounts section took long to process claims even after the authorizing officer had given a go ahead. This had a negative impact on the moral of the officers.
- There was irregular supply of water to the institute.

9. RECOMMENDATIONS

- Painting of offices at the research Institute should be prioritized as **this** will help to uplift the general outlook of the institute.
- Procurement of vehicles and motorbikes for research, disease diagnosis and surveillance for all institutional activities. Administration should acquire more vehicles for the station. There should be vehicles specific for laboratory activities.
- Procurement of equipment for molecular **characterization** and routine diagnosis in the Institute. Most of the equipment currently under use is out dated and non functional. Good laboratory diagnosis requires good equipment.
- A good number of farmers are interested in dip wash analysis which could be another source of income for the institute. The section can take advantage of Thin Layer Chromatography to determine the dip strength; this can only be achieved by procuring common dips and making calibration curves for low, correct and over strength for each dip.
- Test such as urinalysis can also be done by simply purchasing dip sticks.
- The FMD pre/post-surveillance exercise might not draw results that can be used for policy decisions. The targeted sample size is about 600 from a population of over 200,000. This translates into percentage coverage of 0.003%, which is too insignificant for scientific interpretation. Management must seriously address this issue. There is need to acquire more FMD Elisa kits to increase **the** percentage coverage.
- The Avian Influenza surveillance revealed many shortcomings in our system of sample submission. Most of the samples that were submitted were not in good state for laboratory analysis. The complete disregard for the cold chain and proper packaging was a major concern. However, this experience was an important reference point in the re-training of field staff. The base is now set for effective surveillance.
- It is hoped that the Support Program for Integrated National Action Plan (SPINAP) project under AU/IBAR will continue with the surveillance programme for Avian Influenza.
- The institute intends to encourage section staff to improve their qualifications and or expertise by **carrying out** long-term studies like Masters or short courses for specialized diagnostics techniques.
- The Institute **should** endeavor to strengthen collaboration with the School of Veterinary Medicine, the University Teaching Hospital Virology laboratory, **Tropical Diseases for Regional Control (TDRC)** and other institutions locally and abroad.

- Administration should do the following;
 - i. Approach ZESCO management to consider the importance of the institute with regards to the materials it stores in the fridges and freezers.
 - ii. Put in place a proper backup system – diesel should always be available when there's a power failure from ZESCO
- More funds should be allocated to the Stores Section for the procurement of laboratory reagents and **consumable materials**.
- Accounts Section needs to be improved in terms of personnel and office equipment. This will assist the institute to be more responsive to its national mandate of disease diagnosis.
- The office of the chief needs to prioritize the procurement of major equipment required by each respective section. It also necessary for the Institute to have a distiller which is functional.
- The Water reticulation system should be improved.

10. APPENDICES

Appendix (I) Laboratory returns for scheduled diseases									
Disease/ Agent/ Condition	Animal Species	Type of Specimen/ Test	Source/ Origin	Number Submitted	No.(+)	No.(-)	Doubtful	Not Performed	
Theileriosis	Bovine	B/Smear							
			Chibombo	64	0	64	0	0	
			Mkushi	14	0	14	0	0	
			Mumbwa	19	4	15	0	0	
			Chongwe	5	0	5	0	0	
			Kafue	34	4	30	0	0	
			Lusaka	27	6	21	0	0	
			Kasama	12	2	10	0	0	
			Mazabuka	2	0	2	0	0	
			Monze	4	0	4	0	0	
Subtotal				181	16	165	0	0	
		L/Smear (Schizonts)					0	0	
			Kabwe	38	0	38	0	0	
			Mumbwa	20	0	20	0	0	
			Kafue	8	1	7	0	0	
			Lusaka	51	19	32	0	0	
	Caprine		Lusaka	1	1	0	0	0	
	Bovine		Kasama	12	2	10	0	0	
			Mwinilunga	14	6	8	0	0	
Subtotal				144	29	115	0	0	
		Sera (IFAT)							
			Chibombo	74	3	71	0	0	
			Chisamba	26	0	26	0	0	
			Kabwe	47	0	47	0	0	
			Mkushi	34	0	34	0	0	
			Mumbwa	8	2	6	0	0	

			Ndola	30	3	27	0	0
			Chongwe	10	0	10	0	0
			Lusaka	85	17	68	0	0
			Choma	344	37	307	0	0
			Kalomo	637	1	636	0	0
			Mazabuka	1015	26	989	0	0
			Monze	70	0	70	0	0
			Siavonga	6	0	6	0	0
			Sinazongwe	52	0	18	34	0
Subtotal				2438	89	2349	34	0
Anaplasmosis	Bovine	B/Smear						
			Lusaka	3	1	2	0	0
Subtotal				3	1	2	0	0
Heartwater	Bovine	Brain crush smear						
			Kapiri mposhi	1	0	1	0	0
			Choma	2	2	0	0	0
	Caprine		Lusaka	1	0	1	0	0
CBPP	Bovine	Sera						
			Chibombo	103	0	103	0	0
			Chisamba	26	0	26	0	0
			Mkushi	20	0	20	0	0
			Chongwe	10	0	10	0	0
			Lusaka	39	0	39	0	0
			Choma	433	0	433	0	0
			Kalomo	922	10	912	0	0
			Livingstone	71	0	71	0	0
			Mazabuka	1565	0	1418	147	0
			Monze	53	0	53	0	0
			Siavonga	6	0	6	0	0
			Sinazongwe	11	0	11	0	0
Subtotal				3259	10	3249	147	0
Tuberculosis	Bovine	Organs						
			Monze	2	0	2	0	0
			Mumbwa	2	0	2	0	0
Subtotal				4	0	4	0	0
Anthrax	Bovine							

			Lusaka	2	1	1	0	0
FMD	Bovine	ELISA						
			Chibombo	66	0	66	0	0
			Chisamba	26	1	25	0	0
			Mumbwa	17	5	8	4	0
			Chongwe	10	0	10	0	0
			Lusaka	76	14	54	8	0
			Mbala	2	0	0	2	0
			Nakonde	58	15	39	4	0
			Choma	302	30	258	14	0
			Kalomo	348	13	326	9	0
			Mazabuka	393	28	257	26	82
			Monze	43	1	42	0	0
			Kafue	57	11	36	2	8
			Mkushi	20	0	19	1	0
			Sinazongwe	18	1	13	4	0
	W/life		Namwala	21	0	21	0	0
ASF	Porcine	Whole blood						
			Kafue	7	0	7	0	0
HS								
Brucellosis	Bovine	Rose Bengal	Kabwe	3	0	3	0	0
			Lusaka	29	0	29	0	0
			Chongwe	41	0	41	0	0
			Monze	4	2	2	0	0
Subtotal				77	2	75	0	0
Black Quarter	Bovine	Organs						
			Isoka	3	3	0	0	0
			Kalomo	2	2	0	0	0
Subtotal				5	5	0	0	0
Dermatophytosis	Bovine	S/Scrappings	Solwezi	2	2	0	0	0
						0	0	0
Avian Influenza	Avian	Carcass	Nakonde	151	0	151	0	0

Appendix (II) Laboratory returns for Non scheduled diseases								
Helminthiasis								
	Avian	Fecal						
			Lusaka	1	0	1	0	0
	Caprine	Fecal						
			Lusaka	10	8	2	0	0
	Porcine	Fecal						
			Lusaka	1	0	1	0	0
	Bovine	Fecal						
			Lusaka	2	1	1	0	0
Omphalitis								
	Avian	Carcass	Kafue	20	20	0	0	0
			Lusaka	68	66	2	0	0
Subtotal				88	86	2	0	0
Salmonellosis								
	Avian	Swabs						
			Kitwe	3049	0	3049	0	0
			Chisamba	3000	0	3000	0	0
			Lusaka	15642	0	15642	0	0
Subtotal				21691	0	21691	0	0
OP Poisoning								
	Bovine	Organs						
			Chibombo	1	0	0	0	1
			Kabwe	1	0	1	0	0
			Lusaka	7	6	1	0	0
			Gwembe	2	0	2	0	0
Subtotal				11	6	5	0	1
	Porcine	Organs				0	0	0
			Kabwe	1	0	1	0	0
	Caprine		Lusaka	1	0	1	0	0
	Canine		Lusaka	3	1	2	0	0
	Avian		Gwembe	1	0	1	0	0

			Monze	5	0	5	0	0
Collibacillos								
	Avian	Organs				0	0	0
			Chisamba	3000	1134	1866	0	0
			Kitwe	3049	2068	981	0	0
			Lusaka	12437	7926	4511	0	0
			Kafue	23	23	0	0	0
		Carcass	Lusaka	3	3	0	0	0
	Porcine	Organs	Lusaka	2	2	0	0	0
	Ovine	Organs	Lusaka	1	1	0	0	0
	W/Life	Organs	Lusaka	1	0	1	0	0
	Bovine	Organs	Lusaka	2	1	1	0	0
Proteus						0	0	0
	Avian	Organs	Chisamba	3000	0	3000	0	0
			Kitwe	1500	455	1045	0	0
			Lusaka	10729	4146	6583	0	0
Klebsiella								
	Avian	organs	Chisamba	1500	100	1400	0	0
			Lusaka	2493	529	1964	0	0
Pseudomonas								
	Avian	organs	Kitwe	1549	1389	160	0	0
			Lusaka	880	10	870	0	0
Gumboro								
	Avian	Carcass	Lusaka	11	11	0	0	0
Yolk Sac Retention	Avian	Carcass	Lusaka	14	14	0	0	0
Gastroenteritis	Avian	Carcass	Lusaka	1	1	0	0	0
CRD(Macrosopic)	Avian	Carcass	Lusaka	5	5	0	0	0
Asphyxia	Avian	Carcass	Lusaka	12	1	11	0	0
Nutritional disorders	Avian	carcass	Lusaka	32	32	0	0	0
	Bovine	carcass	Lusaka	1	1	0	0	0

		e							
Sarcoptic Mange	Bovine	S/Scrapings	Solwezi	2	0	2	0	0	
Newcastle disease	Avian	Organs	Gwembe	2	0	2	0	0	
Pneumonia	Caprine	Carcass	Lusaka	1	1	0	0	0	
Appendix (III) Laboratory returns for Rabies									
RABIES									
	Bovine	FAT							
			Kapiri mposhi	2	1	1	0	0	
			Luanshya	2	2	0	0	0	
			Petauke	1	1	0	0	0	
			Lusaka	1	1	0	0	0	
			Mongu	1	0	1	0	0	
			Sesheke	1	1	0	0	0	
	Canine	FAT							
			Kapiri mposhi	2	2	0	0	0	
			Mumbwa	1	1	0	0	0	
			Serenje	1	1	0	0	0	
			Chingola	2	2	0	0	0	
			Kitwe	1	1	0	0	0	
			Luanshya	1	0	1	0	0	
			Ndola	3	2	1	0	0	
			Chadiza	1	1	0	0	0	
			Chipata	3	1	2	0	0	
			Mansa	1	1	0	0	0	
			Nchelenge	1	1	0	0	0	
			Samfya	1	1	0	0	0	
			Kafue	2	2	0	0	0	
			Luangwa	1	1	0	0	0	
			Lusaka	4	1	3	0	0	

			Mwinilunga	2	2	0	0	0
			Monze	3	3	0	0	0
			Mongu	2	2	0	0	0
			Sesheke	1	0	1	0	0
			Namwala	6	6	0	0	0
			Kabwe	8	7	1	0	0
			Subtotal	47	38	9	0	0
			Feline					
			Mongu	1	0	1	0	0
			Caprine					
			Sinazongwe	1	1	0	0	0
			Isoka	1	1	0	0	0
			Lusaka	1	0	1	0	0
			Subtotal	3	2	1	0	0
			W/Life					
			Kasama	1	0	0	0	1
			Lusaka	2	0	2	0	0
			Chongwe	1	0	1	0	0
			Chipata	1	1	0	0	0
			Subtotal	5	1	3	0	1
			Equine			0	0	0
			Lusaka	1	1	0	0	0

APPENDIX IV

Production figures for the year ending 31 December 2008

Product	Annual Target	Produced	Distributed	Balance in stock
Anthrax vaccine	300,000 doses	300 000	254 400	45600 DOSES
Black Quarter vaccine	350,000 doses	350 000	120 000	230000 DOSES
Haemorrhagic Septicaemia vaccine	300,000 doses	300 000	120 000	180000 DOSES
Rabies vaccine	150,000 doses	65000 DOSES	85 000	16000 DOSES
Soya inoculant	20,000 sachets	19 500	17 000	2500 sachets

APPENDIX V

STAFF LIST

Professional Staff	Position
Dr. Kabilika H.S.	Chief Veterinary Research Officer
Mrs. Munyama G.M.	Principal Research Scientist
Mrs. L.N. Sinyangwe	Principal Research Scientist
Dr. G. Monga	Principal Veterinary Research Officer
Dr. Nyeleti Charles	Principal Veterinary Research Officer
Dr. Mbao	Senior Veterinary Research officer
Dr. Gregory Bwalya	Senior Veterinary Research Officer
Dr Namukolo Muyamwa	Veterinary Research Officer
Dr Martha Hamasuki	Veterinary Research Officer
Dr Maputa A. Kamulete	Veterinary Research Officer
Dr Geoffrey M Muuka	Ag/Senior Veterinary Research Officer
Dr Edgar Kayesa	Research Scientist
Dr Mweene Cheelo	Research Scientist
Dr. Maureen Ziba	Research Scientist
Mr. Muchanga Benjamin	Research Scientist
Mr. Nchima Gilbert	Research Scientist
Mr. Choopa Chimwele	Research Scientist
Mr. Tingiya K.W.Sikombe	Research Scientist

Mr. Kizito Bukowa	Research Scientist
Technical Staff	Position
Mr. G. Moono	Chief Laboratory Technician
Mr. K B Ngandu	Principal Laboratory Technician
Mr. J Habaanyama	Principal Laboratory Technician
Mr. S Nyirenda	Principal Laboratory Technician
Mr. Chibomba Oliver	Senior Laboratory Technician
Miss. Mujonko Angela	Senior Laboratory Technician
Mrs. B. Mukakwa	Senior Laboratory Technician
Mr. Lucas Mwambazi	Senior Laboratory Technician
Mr. Banda Frank	Laboratory Technician
Mr. Mwanza Jackson	Laboratory Technician
Mr. Mtonga. S.	Laboratory Technician
Mr. Mutale Fredrick	Assistant Lab. Technician
Mr. Mooya L	Assistant Lab. Technician
Mr. Tembo O'Brien	Assistant Lab Technician
Mr. Mooya L	Assistant Lab Technician
Mr. B. Choonya	Assistant Lab Technician
Mr. Mubita C.S.	Assistant Lab Technician
Ms. Mbewe Jane	Assistant Lab. Technician
Ms. Alice Munkombwe	Laboratory Assistant

Administrative staff	Position
Mr. Tembo Tedious	Registry Clerk
Mr. Nasilele	Farm Manager
Ms Musalo Chilombo Aggie	Typist
Ms Makukula Josephine	Registry CDE
Mr. Shezongo Emmanuel	Registry CDE

Mr. Chirwa Jacob	Library Assistant
Mr. Harry Siwale	Buildings Officer

Mechanical Workshop /General workers	Position
Mr. Ng'andu Raphael	Mechanics
Mr. Mwangelwa Webster	CDE
Mr. Nyambe Martin	Driver
Mr. Choolwe Timothy	Driver
Mr. Mutakela S	Driver
Mr. Muyembe John	Security Guard
Mr. Zulu Enock	Electrical CDE
Mr. Chimpandu Benny	Water pump Attendant
Mr. Simweemba S.	Laboratory Attendant
Mr. Steven Mubita	Laboratory Attendant
Mr. Mumbuna Mwangala	Laboratory Attendant
Mr. Simweemba M.	Laboratory Attendant
Mr. Mulao Musiyalela	Water pump Attendant

Mr. Timothy Manyolo	Station Handy Man
Mr. Lovemore Muyembe	Herds man
Mr. Davy Chisakila	Plumber CDE
Mr. Raphael Siyanda	Herds man
Mr. Alfred Mwansa	Driver
Mr. John Muyembe	Watch man CDE
Ms. Vivien. H. Nzala	CDE
Ms Josephine M. Ngwenya	Office orderly
Mr. Everisto Miti	Watch man CDE
Mr. Stevy Mutakela	Driver
Mrs. H. Banda	Laboratory Attendant
Mr. Rikkie Umpuwo	Laboratory Attendant
Mr. B. Kanyanga	Laboratory Attendant

APPENDIX VI

Country Quality Management System implementation progress report (SADC)

No.	Activity	Yes	No	Comments/ Deadline
1	Management commitment	Yes		
2	Quality policy statement	Yes		
3	Quality budget approval		No	Centrally
4	Quality management system manager , in place	Yes		
5	Quality management committee - in place	Yes		
6	Quality manual – in place		No	Being finalized
7	Quality procedures manual – in place		No	Being done
8	SOPs and working instructions – in place		No	Being done
9	Training of key personnel in QMS – in place	Yes		Need for more
10	List of equipment – in place	Yes		
11	Equipment calibration program – in place		No	
12	Equipment verification program – in place	Yes		
13	Equipment maintenance program – in place	Yes		
14	Monitoring of environmental conditions		No	
15	Specimen and sample handling procedures	Yes		
16	System for complaints and non conforming	Yes		
17	Document control	Yes		
18	Inter laboratory comparison participation	Yes		
19	Quality management system implemented	Yes		

20	Internal audits		No	Planned
----	-----------------	--	----	---------

11. ACRONYMS

AVPU	Animal Vaccine Production Unit
AI	Avian Influenza
AU	African Union
B/Smear	Blood Smear
CBPP	Contagious Bovine Pleuropneumonia
CFT	Compliment Fixation test
COMESA	Common Market of Eastern and Southern Africa
CVRI	Central Veterinary Research Institute
CVRO	Chief Veterinary Research Officer
DNEI	Diseases of National Economic importance.
DVLD	Department of Veterinary and Livestock Development
ELISA	Enzyme Linked Immunosorbent Assay
EANETT	East Africa Network for Trypanomosis
EU	European Union
FAO	Food and Agriculture Organization
FAT	Fluorescent Antibody Technique
FMD	Foot and Mouth Disease
GRZ	Government of the Republic of Zambia
HPAI	Highly Pathogenic Avian Influenza
IBAR	Interafrican Bureau for Animal Resources
IFAT	Indirect Fluorescent Antibody Technique

L/Smear	Lymph Smear
NALEIC	National Livestock and Epidemiology Information Centre
PCR	Polymerase Chain Reaction
PTCB	Principal Tse-tse Control Biologist
PVRO	Principal Veterinary Research Officer
SADC	Southern African Development Community
SEARG	Southern and Eastern African Rabies Group
SLIP	Small Livestock Investment Project
SPS	Sanitary and Phytosanitary
SVRO	Senior Veterinary Research Officer
TADs	Transboundary Animal Diseases
TRC	Trypanosomosis Research Centre
TRD	Trypanosomosis Research Development
UK	United Kingdom
VRO	Veterinary Research Officer
WHO	World Health Organisation
ZESCO	Zambia Electricity Supply Corporation