



# Department of Veterinary Pathology, Microbiology and Parasitology.

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**Two views of the Departmental Building**



## **Editorial**

### ***Editorial Team Members***

1. Prof. P.K. Gathumbi- Chairman
2. Dr. I. R. Mulei

## **Foreword**

This is the first issue of the Departmental newsletter and it endeavours to underscore the strategic direction of the Department in the period 2014-2018, in line with that of University of Nairobi.

The Department of Veterinary Pathology, Microbiology and Parasitology as an integral part of the College of Agriculture and Veterinary Sciences, subscribes to the Vision, Mission and Core values of the University of Nairobi and diligently finds ways to practically implement the strategic direction to the benefit of our customers, both internal and external and to enhance the University of Nairobi as a world class center of excellence. The move in this strategic direction is made possible by the collegiate guidance of the Chairman and the collective participation of all academic and technical staff motivated by the challenges and opportunities to serve and add value to our customers in meeting their wants and needs satisfactorily. In this regard, the department draws strength to carry on from the support of the Dean of the faculty, the Principal of the college and the officers of the University under the leadership of the office of the Vice – Chancellor. The department draws from the rich expertise it has, to form partnerships with external institutions in the Government of Kenya, research institutions in the country and any organizations that, in addition to mutual benefits, also help to add value to the achievements of the vision and mission of the University of Nairobi. To this end all members of the department are motivated to perform their assigned duties to

exceed the expectations of all our customers and in particular that the customers may spread a good word of the values they obtained from the department

### **Word from the Chairman (Prof. P.K. Gathumbi)**



In this first issue of the Departmental Newsletter, we are glad to present the strategic direction of the Department in the period 2014-2018. This newsletter will be released quarterly. The Department of Veterinary Pathology, Microbiology and Parasitology (VPMP) is as old as the Faculty of Veterinary Medicine (FVM), which was established at the commencement of training in Agriculture and Veterinary sciences in East Africa, to offer Diploma certificate in veterinary training in 1942. The department is part of the Faculty of Veterinary medicine and College of Agriculture and Veterinary Sciences (CAVS) of the University of Nairobi. In tandem with the Faculty and College, the department aspires to contribute towards: eradication of poverty and hunger; promoting gender equality, ensuring environmental sustainability; and fostering global partnerships/linkages for national development. In its quest to achieve all these, innovativeness will be the guiding principle in all its endeavors. The department is committed to quality training to produce competent and competitive graduates, quality scientific research, diagnostics, consultancy and outreach services to support the animal industry, food security and safety, animal and human welfare.

The vision of the department is: *To be a leading centre of excellence in research, training, diagnosis and consultancy in animal and zoonotic diseases; and environmental issues*

The mission of the department is: *To contribute to improved animal health and productivity, human health, poverty alleviation and environmental sustainability by providing relevant education, basic and applied research, consultancy, outreach and diagnostic services*

In this strategic plan period (2013-2016), the activities of the Department will focus around six strategic issues. These are: (1).Governance, Leadership and Culture, (2). Resources, Facilities and Infrastructure, (3). Teaching and Learning, (4). Research, Innovation and Technology, (5). Competitiveness and Image of the University, (6). Collaboration and Partnerships.

Arising from the strategic issues, the following six strategic objectives will be pursued during the plan period: (1). Efficient management of the department, (2). Growth of the department's resource base and enhanced productivity, (3). Production of quality and holistic graduates in diverse fields, (4). Contribution to the development of society through creation, storage, application and dissemination of knowledge, (5). Enhancing the competitiveness and image of the department, (6). Enhancing value-adding partnerships and collaborations.

## **Departmental History**

Training in Agriculture and Veterinary sciences started with a Diploma certificate in veterinary training in 1942. The degree program in Veterinary Sciences was launched in July 1962 when the Diploma awarding institution was made the Faculty of Veterinary Sciences of the University of East Africa, Makerere. With the dissolution of the University of East Africa in July 1970, following the strong urge for autonomy of the newly independent countries of East Africa, the Faculty of Agriculture was started at the campus to join the Faculty of Veterinary Sciences as part of the University of Nairobi. Department of Veterinary Pathology, Microbiology and Parasitology was among the first departments that started with set-up of the faculty.

Over time, the University expanded so that today it is divided into six constituent colleges. The College of Agriculture and Veterinary Sciences (CAVS) is one of the six (6) colleges which trace their origin to the enactment of the University of Nairobi Act, 1985. The College comprises two Faculties of Agriculture and Veterinary Medicine. The Faculty of Agriculture has four (4) departments whereas the Faculty of Veterinary Medicine has five (5) departments.

The Department of Veterinary Pathology Microbiology and Parasitology is located on Upper Kabete Campus on Loresho Ridge Road, off Kapenguria Road, approximately 2 kilometers from the main Nairobi-Kikuyu-Limuru Highway. It is approximately 15 kilometers North-West of

Nairobi City centre. It comprises the following sections: Pathology (gross-pathology, histopathology and clinical pathology), Microbiology (bacteriology, mycology, virology and immunology) and Parasitology (helminthology, entomology and protozoology). The Department also carries out diagnostic services on pathology, microbiology, and parasitology and runs a poultry clinic, and mycotoxin analysis.

### **Departmental leadership**

	<b>Name of Chairman</b>	<b>Period of tenure</b>
1	Prof. W.B. Martin	1966-1970
2	Prof. G.M. Mugeru	1970-1985
3	Prof. P.N. Nyaga	1985-1991
4	Prof. T.A. Ngatia	1992-1998
5	Prof. L.C. Beboru	1998-2004
6	Prof. N. Maingi	2004-2010
7	Prof. P.K. Gathumbi	2010 to date

Some members academic staff in the Department have also served as Dean of the Faculty of Veterinary Medicine namely; Prof. G.M. Mugeru in the periods 1972-1976, 1981-1985 and 1988-1991 and Prof. P. Kanyari from 2004-2008.

### **Academic Programs**

The department teaches courses in all the courses offered to undergraduate programs namely, , Bachelor of Veterinary Medicine (Years II to V), Bachelor of Science in Wildlife and Tourism Management , Bachelor of Science in Biomedical technology, Bachelor of Science in Fisheries and Aquaculture Management, and Bachelor of Science in Leather Technology.

The department also offers Masters and PhD programs in the following fields; Veterinary Pathology, Microbiology and Parasitology; Applied Microbiology with options in Bacteriology, Mycology, Virology and Industrial Microbiology; Applied Veterinary Parasitology; Veterinary Pathology and Diagnostics; Clinical Pathology and Laboratory diagnosis and Fish Science.

The department also collaborates with other faculties and departments to offer other courses as indicated;

- (i). MSc. in Veterinary Epidemiology and Economics (Faculty of Veterinary Medicine, Department of Public Health, Pharmacology and Toxicology)
- (ii). MSc. in Wildlife Health (Faculty of Veterinary Medicine; Department of Clinical Studies)
- (iii). MSc. in Animal Production (Faculty of Agriculture, Department of Animal Production)
- (iv). BSc. in Agriculture; Animal Science option (Faculty of Agriculture, Department of Animal Production)
- (v). BSc. in Biochemistry (Faculty of Human Medicine, Department of Biochemistry)
- (vi). BSc. in Agricultural Education and Extension, Faculty of Agriculture, Department of Agricultural Economics
- (vii). MSc. in Agricultural Information and Communication Management, Faculty of Agriculture, Department of Agricultural Economics

The department is involved in offering short-term training and exposure to middle level college students in Pathology, Parasitology, Microbiology and Immunology.

In order to expand its teaching base, the department will soon roll out new courses namely; MSc. in Poultry Health Management, BSc. in Microbiology, refresher courses in Laboratory diagnosis and refresher courses in Poultry disease diagnosis.

## **Research**

The department has a number of funded research programs namely

- 1) Diagnostic and control tools and strategies for *Taenia solium* cysticercosis – Funded by ASARECA and led by Prof. Maingi, N
- 2) Developing Capacity for implementing innovative Peste des Petits Ruminant (PPR) Control Strategies based on the – Funded by RUFORUM and led by Dr. Gitao, C.G.
- 3) Improvement of dairy productivity and marketing in sub-humid and pastoral areas of Kenya through improved dairy value Chain led by Dr. Gitao, C.G.
- 4) Enhancement of sustainable productivity of fish in lake Victoria through control of pollutants with emphasis on endocrine disruptors and microbial pathogens Funded by VicRes and led by Prof. Mbuthia, P.G.
- 5) Enhancing village chicken productivity through parasite management for effective Newcastle disease vaccination in Kenya- Funded by RUFORU and led by Prof. Bebora, L.C.

- 6) Controlling Infectious Bursal Disease through development of local vaccines and establishing effective vaccination programs - Funded by National Council for Research, Science, Technology and Innovations and led by Dr. Njagi, L.C
- 7) Enhancing sustainable livestock productivity and marketing through control of Rift Valley Fever- Funded by RUFORUM and led by Prof. Nyaga, P.N
- 8) Botanical Garden established under the Research project on evaluation of medicinal plant extracts for improved livelihoods, a case study for East Coast fever- Funded by KAPP and led by Prof. Gathumbi, P.K.

## **Diagnostics**

The department has a pool of qualified and professional manpower, both academic and technical, as well as support staff, protocols and techniques to service a viable laboratory for diagnosis and investigation of animal and human diseases. The manpower is comprised of qualified Microbiologists, Parasitologists, Pathologists, Immunologists, Fish and Poultry specialists. Due to this unique pool of talents, the department often serves as a reference center for the diagnosis of difficult cases.

The department has the required laboratory space and some major equipment to accommodate an efficient multidisciplinary laboratory diagnostic service. The department offers a full range of diagnostic services in areas of Bacteriology, Mycology and Aflatoxin analysis, Virology, Helminthology, Protozoology, Entomology, Histopathology, Clinical pathology, and necropsy of large and small animals, including poultry and fish.

The department currently carries out immunological tests for important diseases such as brucellosis and salmonellosis and has manpower capacity to develop diagnostic kits, biological reagents and vaccines.

## **Human Resources**

The department is composed of the teaching staff supported by a technical team. Currently there are five Professors, three Associate Professors, five senior lectures, seven lecturers and two tutorial fellows.

The technical team led by the chief technologists comprises of ten senior technologists and twelve junior technologists.



The department has one secretary, one driver and one cleaner.

### **Postgraduate students**

Currently, the department is hosting twenty three Post graduate students both at Masters and PhD levels as shown in the table below;

	<b>Post-graduate programme</b>	<b>MSc students</b>	<b>PhD students</b>
1	Veterinary Pathology and Microbiology	1	
2	Applied Veterinary Parasitology	4	2
3	Clinical Pathology and laboratory Diagnosis	2	
4	Veterinary Pathology and Diagnostics	4	1
5	Applied Microbiology	4	5

### **Physical Facilities**

The department has office space for its staff including laboratory working space.

Students are usually taught in two lecture theatres. The large pathology lecture theatre is capable of hosting seventy five students while the small lecture theatre has a capacity of twenty five. There is a post mortem room equipped to handle large and small animal autopsy . There are also bacteriology, virology, histopathology, electron microscope, media preparation, parasitology, and biochemistry and toxicology laboratories. There is a museum that hosts specimens for teaching.

The department has three animals facilities; an isolation unit that can house ten adult cattle, a laboratory animal unit that can house two hundred and fifty rabbits and a sheep and goat experimental house with a capacity of thirty.

### **Continuing Professional Development (CPD):**

The Department hosted the following CPD activities

- 1) Forensic Veterinary Science workshop on May 18, 2011
- 2) Trends in Veterinary Parasitology', August 10<sup>th</sup> and 11<sup>th</sup>, 2011

## **Upcoming events**

The department will be host a workshop on ‘ *Forensic science and welfare of birds of prey and their interface with the poultry industry*’ that will be held on 3<sup>rd</sup> July 2013 at the departments’ large pathology lecture theatre.