1.0 INTRODUCTION:

Department of Veterinary Pathology, Microbiology and Parasitology was among the first departments that started with set-up of Faculty of Veterinary Sciences of the University of East Africa, Makerere in 1962, which later evolved to Faculty of Veterinary Medicine in 1970, when University of Nairobi was established by an act of parliament.

The department 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 center. It comprises of the following sections: Pathology (gross-pathology, histopathology and clinical pathology), Microbiology (bacteriology, mycology, virology and immunology) and Parasitology (helminthology, entomology and protozoology); and carries out the following other services: diagnostic pathology, diagnostic microbiology, diagnostic parasitology, poultry clinic, and mycotoxin analysis.

The department is involved in:

(1) The teaching of both undergraduate (Bachelor of Veterinary Medicine, BSc. in Biomedical Technology and BSc. in Wildlife Management and Conservation) and postgraduate (MSc and PhD) students in the following disciplines: - Pathology, Clinical pathology, Microbiology, Immunology, Parasitology and Diagnostic pathology, and Fish Science.

(2) Servicing other departments through teaching some of their courses. These include departments within the Faculty of Veterinary Medicine (Animal Production, Public Health, and Clinical Studies), Faculty of Human Medicine (Biochemistry) and Faculty of Agriculture [Department of Agricultural Economics and Department of Land Resource Management of Agricultural Technology (LARMAT)].

(3) Carrying out problem-oriented research, which is geared towards improving animal health and production (domestic and wild, including poultry, fish and rabbits), human health, poverty alleviation and ensuring environmental sustainability; respective findings being disseminated to the general public via publications, workshops, seminars, conferences, farm visits and field days.

(4) Offering demand-driven diagnostic services in diseases of both domestic and wild animals, including poultry, fish and rabbits; and zoonotic diseases. These diagnostic
services also form part of the training component for both undergraduate and postgraduate students

2.0 COURSES OFFERED IN UNDERGRADUATE PROGRAMS.

The Department teaches courses on pathology, microbiology and parasitology in the following programs that are offered by the faculty of veterinary medicine: Bachelor of Veterinary Medicine, BSc. in Biomedical technology and BSc. in Wildlife management and Conservation. The department also services course in degree programs offered by Faculty of agriculture and faculty of medicine

COURSES OFFERED IN POSTGRADUATE PROGRAMS AND STUDENT ENROLLMENT

a) MSc PROGRAMS

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Students</th>
<th>Year Graduated</th>
<th>Programmes in the Department.</th>
<th>No. Graduated in 2011/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dr. Wilson Kuria Gachugia</td>
<td>-</td>
<td>MSc. in Vet Pathology and Microbiology</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Dr. Kyalo Micheal Makau</td>
<td>-</td>
<td>MSc. in Applied Vet. Parasitology</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Dr. Nyamweya Joel Makau</td>
<td>-</td>
<td>MSc. in Applied Vet. Parasitology</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Dr. Mwihia Evalyn Wanjiru</td>
<td>-</td>
<td>MSc. Clinical Pathology and Laboratory Diagnosis</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Thanda Carter</td>
<td>-</td>
<td>MSc. in Vet Pathology and Diagnostics</td>
<td>-</td>
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<tr>
<td>6</td>
<td>Dr. Kibore Benson</td>
<td>-</td>
<td>MSc. in Applied Microbiology</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>Dr. Mutua Victoria Ngo’ndu</td>
<td>-</td>
<td>MSc. in Applied Microbiology</td>
<td>-</td>
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<tr>
<td>8</td>
<td>Dr. Wagura D. Warui</td>
<td>-</td>
<td>MSc. in Applied Vet. Parasitology</td>
<td>-</td>
</tr>
<tr>
<td>9</td>
<td>Dr. Kamundia Patrick Waweru</td>
<td>MSc. in Fish Science</td>
<td>-</td>
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<tr>
<td>10</td>
<td>Dr. Chege Hanna Wambui</td>
<td>-</td>
<td>MSc. in Applied Vet. Parasitology</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>Dr. Maina S. Migwi</td>
<td>-</td>
<td>MSc. in Applied Microbiology</td>
<td>-</td>
</tr>
<tr>
<td>Name of the student</td>
<td>Year registered</td>
<td>Name of program</td>
<td>Year Graduated</td>
<td></td>
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<tr>
<td>1. Thomas Manyibe Nyariki</td>
<td>2008/2009</td>
<td>Vet Pathology and Diagnostics</td>
<td>ongoing</td>
<td></td>
</tr>
<tr>
<td>3. Dr. Vincent O. Obanda</td>
<td>Processing his registration</td>
<td>Applied Parasitology</td>
<td>ongoing</td>
<td></td>
</tr>
<tr>
<td>4. Benear A. Obanda</td>
<td>Processing his registration</td>
<td>Applied Microbiology</td>
<td>ongoing</td>
<td></td>
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<tr>
<td>5. Nkando Isabella Gacheri</td>
<td>Processing her registration</td>
<td>Applied Microbiology</td>
<td>On going</td>
<td></td>
</tr>
<tr>
<td>6. Dr. Mutinda Wanzila Usyu</td>
<td>Processing her registration</td>
<td>Applied Microbiology</td>
<td>On going</td>
<td></td>
</tr>
<tr>
<td>7. Dr. Donald Mukolwe Lubembe</td>
<td>Processing his registration</td>
<td>Applied Vet. Parasitology</td>
<td>On going</td>
<td></td>
</tr>
</tbody>
</table>
3.0 EXTERNAL EXAMINERS IN 2011/2012

3.1 Dr. Ciira Kiiukia- Jomo Kenyatta University- Kenya (Microbiology- semester I)
3.2 Dr. Joseph M. Nginyi- Kenya Agricultural Research Institute (Parasitology- Semester I)
3.3 Dr. Rubaire- Akiiki- Makerere University- Uganda (Parasitology- semester II)
3.4 Dr. Denis K. Byarugaba- Makerere University- Uganda (Microbiology- Semester II)
3.5 Prof. George Mwamengele- Sokoine University of Agriculture- Tanzania (Pathology- Semester II)

4.0 ONGOING RESEARCH PROGRAMS

5.1 P.G. Mbuthia attended 2nd Planning meeting for the project “Enhancement of Sustainable Productivity of Fish in Lake Victoria through control of pollutants with Emphasis on Endocrine Disruptors and Microbial pathogens” – VicRes Project. Held at Sunset Motel, Entebbe on 12th to 14th August 2011. All costs were met by the project, such as:
- 4.1 Air fare – USD 340.0
- 4.2 Per diem – USD 110 per day
- 4.3 Local travel – USD 35.0
- 4.4 Health insurance – USD 27.0
(Appendix 10A)

5.2 P.G. Mbuthia attended meeting Aquaculture Stakeholder’s in Kirinyaga County, held on 18th and 19th August 2011 for the project, Enhancing Sustainability and Commercialization of Aquaculture through Efficient Production, Value Addition, and Partnership Development”. All travel and per diem costs were met by the research grant.

5.0 RESEARCH RELATED ACHIEVEMENTS:

5.1 The department has established a successful tree nursery of medicinal plants (Figure 1) at University site at Ngong hills under the project on, ‘evaluation and commercialization of medicinal plants’ extracts for improved livelihoods: a case study of East Coast fever’. Funded by World Bank grant through Kenya Agricultural Productivity (KAPP) led by Prof. P.K. Gathumbi. From this project, medicinal plants seedlings were donated to CAVS tree planting activities and to tree planting activities in selected schools.

The department has established and maintained a successful botanical garden of medicinal plants at CAVS field station for conservation, teaching and recreational purposes under the project on, ‘Evaluation and commercialization of medicinal plants’ extracts for improved livelihoods: a case study of East Coast fever’. Funded by World bank grant through Kenya Agricultural Productivity (KAPP) led by Prof. P.K. Gathumbi (Figure 2)

6.5  Prof. L.C. Bebora, , Prof. N. Maingi, Prof. P.N. Nyaga, Dr. P.G. Mbuthia, Dr. C.O. Gor and Dr. L.W. Njagi, “Enhancing Village Chicken Productivity through Parasite Management for Effective Newcastle Disease Vaccination in Kenya”.

6.6 Dr. J.G. Maina, Dr. P.G. Mbuthia, Prof. E.G. Karuri, Dr. Sabina W., Prof. E.G. Karuri, Mr. George O. Owiti, Dr. Bethuel Omolo, Mr. Paul Orina, Ms Jane Ngugi, “Enhancing Sustainability and Commercialization of Aquaculture through best Production Practices, Value Addition and Partnership in Development”.

6.7 Dr. P.G. Mbuthia, “Enhancement of Sustainable Productivity of Fish in Lake Victoria through Control of Pollutants with Emphasis on Endocrine Disruptors and Microbial Pathogens”.

6.8 Prof. P.W.N. Kanyari, Dr. J.Kagira, Prof. J.R.L. Mhoma and Prof. Akiiki Rubaire “Characterizing and Assessing the benefits and Public Health Risks of Urban and Peri-Urban Livestock Production in Three Urban Settlements around Lake Victoria namely Kisumu, Entebbe and Mwanza”.

6.9 Prof. P.W.N. Kanyari, “Developing Reforms for promoting ASAL communities in drought mitigation and maximization of livestock resources for improved livelihoods through strategic linkages”.

6.91 Prof. P.K. Kanyari, “Diversitu and phlogeographic relations among ectoparasites of wild birds and small mammals in two mountain ranges (Kulal and Nyiru) from Northern Kenya”.

6.92 Dr. C.G. Gitao, a research on “Improvement Of Dairy Productivity And Marketing In Sub humid And Pastoral Areas Of Kenya Through Improved Dairy Value Chain” – 2010-2013 KAPAPCGS/CN/2010/LS/RC NO. O4, 2010-2013 (Appendix 8c)


6.94 Dr. C.G. Gitao together with other collaborating Institutions: Sokoine University of Agriculture; Ministry of livestock, Dept Veterinary Services; FAO; Networks East Africa, a research on “Developing capacity for implementing innovative PPR control strategies based on the Epidemiology and Socio-economic aspects of the disease in the East African region (RU/CFP/CGS/TADS/09/1
7.0 NEW RESEARCH GRANTS

7.1 Prof. P.W.N. Kanyari, “Diversity and phylogeographic relations among ectoparasites of wild birds and small mammals in two mountain ranges (Kulal and Nyiru) from Northern Kenya”

7.2 As a result of his visit to Romania in the month of September last year, the University of Nairobi, Faculty of Veterinary Medicine and the University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca, Romania signed an MoU.

The following two pieces of equipment were acquired:
- A Digital Microscope valued at KES 900,000.00
- A Stereo Microscope valued at KES 600,000.00

7.3 Prof. P.W.N. Kanyari, Post graduate Training Course: MSc in Veterinary Epidemiology and Public Health by Distance Learning.

7. Dr. J.K.N. Kuria was confirmed a collaborator in the SUBPROJECT “Developing 4reforms for Promoting ASAL Communities in Drought Mitigation and Maximisation of Livestock Resources for Improved Livelihoods through Strategic Linkages”, letter dated 20/01/2012.

8.0 Consultancies

9.1 Prof. N. Maingi attended a three days consultative, planning and write-shop at the Hilton Hotel in Nairobi from 7th to 9th November 2011. The meeting was organized by the Agro-biodiversity & Biotechnology Program (AGROBIO) of ASARECA. It brought together scientists from various countries who have been participating in eight (8) projects funded by ASARECA in the last three years. Prof. Maingi is the Principal Investigator for one of the projects titled Diagnostic and Control Tools and Strategies for Taenia solium cysticercosis.

The objectives of the meeting were:

1. To prepare manuscripts for publication of data collected under the projects. These are to be published as regional papers where more than one country is involved.
2. Prepare regional manuals, posters, pamphlets and other materials from the project.
3. Plan and agree on appropriate delivery pathways for the generated information products.
4. Plan on the next phase of the project since ASARECA has agreed to extend project activities up to 2013.
9.1 Dr. Githigia, S.M. National Consultant – Pig Sector Review in Kenya- Project of FAO –ECTAD Regional Office for East Africa, July – October 2010. Submitted a comprehensive report on the pig sector in Kenya after interacting with various stakeholders in the livestock industry in Kenya. The report included current policies and legal framework affecting the pig sector in Kenya. The strengths, potential and weaknesses of the industry were analyzed and a strategy for the pig industry formulated.

9.2 Dr. S.M. Githigia Appointed member to the taskforce on National Pig Development Strategy (NPDS) by PS Ministry of Livestock Development – June 2012

10.0 PUBLICATIONS


10.16 **Dr. L.W. Njagi**, Prof. P.N. Nyaga, Prof.L.C. Bebora, Dr. P.G.Mbuthia, and Uswege M. Minga a Research Article on “Effect of Immunosuppression on Newcastle Disease Virus Persistence in Ducks with Different Immune Status, International Scholarly Research Network ISRN Veterinary Science Vol.2012, Article ID 253809.” to verify the possibility of ducks being sources of Newcastle disease (ND) virus infection for chickens in mixed flocks 4th January, 2012. (Appendix 3)
10.17 **Prof. cooper J, Margaret Cooper and the Department of Veterinary Pathology Microbiology and Parasitology** “Companion Bsava on 29/1/2012 . hosted Prof. John cooper and his wife Margret a one-day Forensics Workshop in Kenya 25/01/2012. (Appendix 4)


10.21 **Prof. cooper J, Margaret Cooper and the Department of Veterinary Pathology Microbiology and Parasitology** “Companion Bsava on 29/1/2012 . hosted Prof. John cooper and his wife Margret a one-day Forensics Workshop in Kenya 25/01/2012.

10.21 **Prof. coopere J, Margaret Cooper and the Department of Veterinary Pathology Microbiology and Parasitology** “Companion Bsava on 29/1/2012 . hosted Prof. John cooper and his wife Margret a one-day Forensics Workshop in Kenya 25/01/2012.

10.21 **Dr. S.M. Githigia**, Sam Okuthe and Bouna Diop, FAO, 2012: ” *Pig Sector Kenya, FAO Animal Production and Health Livestock Country Reviews No. 3 Rome*


10.24 Ngugi M Piero, NJagi N Joan, Kibiti M Cromwell, Ngeranwa J Joseph, Njagi N M Eliud, Njue M Wilson, **Gathumbi K Peter** and, “Herbal management of Diabetes Mellitus; A rapidly expanding research avenue”

10.25 Ngugi M Piero, Murugi N Joan, Kibiti M Cromwell, Ngeranwa J Joseph, Njue M Wilson Maina Daniel, **Gathumbi K Peter** and Njagi N Eliud, “Hypoglycemic Activity of some Kenyan plants traditionally used to manage Diabetes Mellitus in Eastern Province.”


10.30 CM Gichohi, **PG Mbuthia**, RM Waruiru, TA Ngatia, PW Kamundia, M Nthenya and RO Otieno “Prevalence and intensity of Paracammalanus species infection in farmed and wild catfish”.

10.31 DN Karanja, TA Ngatia, JK Wabacha and LC Bebora, “Cases pig poisoning encountered naturally in smallholder farms in Nairobi and its environs.”


10.33 Chepkwony E.C., **Dr. C.G. Gitao** and Muchemi G.M. “Seroprevalence of Foot and Mouth Disease in the Somali Eco-System in Kenya.”

10.34 Purity N Nguhiu, Claire N Wamae, Japheth K Magambo, **Paul G Mbuthia**, Daniel C Chai and Dorcas S Yole, Gross and histopathological findings in Cercopithecus aethiops with experimental Cyclospora infection in Kenya


11.0 **WORKSHOPS AND CONFERENCES**
11.1 P.G. Mbuthia presented and participated CL Davis Pathology Workshop on Enhanced Diagnostic Veterinary pathology Capacity of Transboundary Diseases, held in United Nations Center in Addis Ababa, Ethiopia on 14th September 2011. All costs were met by CL Davis and ICOPHAI, such as:
   a. Air fare – USD 254.0
   b. Per diem and local travel – USD 510.0
   c. Health insurance – USD 27.0 (paid by me)

11.2 P.G. Mbuthia participated in 1st International Congress on pathogens at the Human-Animal Interface (ICOPHAI): Impact, Limitations and Needs in Developing Countries on 15-17th September 2011 at United Nations Conference Center Addis Ababa, Ethiopia

11.3 P.G. Mbuthia presented and participated in a 2-day course on Trends in veterinary parasitology, held in the Dept of Veterinary pathology, Microbiology and Parasitology on 10th and 11th August 2011. FVM, CAVS, Kabete. A CPD course.)

11.4 P.K. Gathumbi (2011): Ethnoveterinary medicine and its relevance to Kenya; economy and Food security presented in RESEARCH conference Egerton University SEPT. 22, 2011. All costs were paid by the project. (Travel 17,260/=, per diem 13,200/=, Accommodation 11,800/=, Total = Ksh. 42,260

11.5 P.K. Gathumbi attended a stakeholders meeting organized by Global Antibiotic Resistance partnership (GARP) on August, 23-24TH 2011 at Panafric Hotel to discuss the situational analysis on antibiotic Resistance and use in Kenya

11.6 P.K. Gathumbi presented and participated in a 2-day course on Trends in veterinary parasitology, held in the Dept of Veterinary pathology, Microbiology and Parasitology on 10th and 11th August 2011. FVM, CAVS, Kabete. A CPD course and presented a paper on parasitic disease of rabbit.

11.7 N. Maingi presented and participated in a Two-days Continuing Professional Development (CPD) workshop on Trends in Veterinary Parasitology, held at the Department of Veterinary Pathology, Microbiology & Parasitology, University of Nairobi, 10th and 11th August 2011

11.8 N. Maingi participated in a Five-day workshop at the Kenya School of Law from 12th to 16th September, 2011 to prepare Open and Distance Learning notes for the course AAS 204: Parasitology offered to BSc in Agricultural Education and Extension. The workshop was organized by the faculty of Agriculture in Conjunction with the College of Education and External Studies (CEES), University of Nairobi

11.9 N. Maingi participated in a One-day workshop on recent developments in the immunodiagnostics for Taenia solium cysticercosis in pigs using a lateral flow system as a “pen-side” test. The workshop was organized by ILRI under the auspices of the ASARECA – funded project on Diagnostic Tools and Strategies for Taenia solium cysticercosis and was held at ILRI on 21st September 2011.

11.11 R.M. Waruiru presented and participated in a Two-days Continuing Professional Development (CPD) workshop on Trends in Veterinary Parasitology, held at the Department of Veterinary Pathology, Microbiology & Parasitology, University of Nairobi, 10th and 11th August 2011 11.12 Dr. P.G. Mbuthia attended the 2nd Monitoring and Evaluation and Research activity for the VicRes project in Kenya at Homabay town.
Travel costs = 4950.00, Per diem = 34,500.00, Others = 10,550.00
Sub total - Ksh 50,000.00.

11.13 Dr. P.G. Mbuthia attended Ruforum Research in Mbeere, Eastern Province –
Questionnaires were administered and interacted with various stakeholders as well as interviewing indigenous chicken farmers.
Travel costs = Combined with Professor Bebora; Per diem = Ksh 18,000.00
Other consumables = Combined with Professor Bebora.
Subtotal - 18,000.00

11.14 Dr. P.G. Mbuthia attended VicRes Biennial conference in Munyonyo, Uganda -
Sponsored by
The Inter University Council for East Africa
a. Airticket – USD 340.00
b. Full board – USD 480.00
c. Others – USD 150.00
d. Local travel in Kenya(to and from the Airport) – USD 35
e. Health Insurance for the period – USD 30
Subtotal = USD 1035.00 x Ksh 90 = Ksh 93,150.00

11.15 During the Biennial forum our team presented a plenary paper entitled, “Endocrine disruptors and Microbial Pathogens in Lake Victoria in the East African Region”

11.16 Prof. L.C. Bebora attended regional dissemination workshop for “PREPARE PhD PROJECT”, held in Arusha, Tanzania from November 29th – 30th November, 2011.

11.17 Dr. Gitao C.G. attended a baseline survey on the KAPAP project from 15-22 Nov 2011 in Embu, Garissa and Meru.

11.18 Prof. P.K. Gathumbi attended a Technical Committee of Education and Quality Assurance retreat from 6th October to 8th October 2011 at Tigoni, Limuru.

11.19 Prof. P.K. Gathumbi attended the World Veterinary Congress from 10th to 14th October, 2011 in Cape Town.
11.20 Prof. P.K. Gathumbi served as a member of the working group to draft Natural Products Industry Policy, Bill and Institutional Framework(s) on 19th October, 2011.

11.21 Prof. P.K. Gathumbi, attended a RISE AFNNET workshop in Nairobi Node on 13th December, 2011

11.22 Prof. P.K. Gathumbi, invited to attend a stakeholders forum to provide input to the draft natural products industry policy on 14th March, 2012

11.23 Prof. P.K. Gathumbi was invited to attend Wangari Maathai Day together with world forestry day celebrated on March 21, 2012 at Freedom Corner.

11.24 Prof. P.K. Gathumbi attended a meeting to present the draft natural Products Industry Policy to NESC Social Affairs sub-committee on Tuesday March 20, 2012, at NESC Boardroom KICC, 4th floor.

11.25 Prof. P.K. Gathumbi was invited to attend National Economic and Social Council (NESC) meeting on The Natural Products Industry Policy – DRAFT at the Kenya School of Monetary Studies on 24/03/2012

11.26 Dr. P.G. Mbuthia was invited to Limnology and Wetland Ecosystems (LWE) DIDACTIC workshop form 7th – 11th February 2012 qt Lake Naivasha Country Club by UNESCO-IHE Institute for Water Education.

11.27 Dr. P.G. Mbuthia, was awarded with a certificate of participation in the Regional Seminar for OIE National Focal Points on Aquatic Animals, held in Accra (Ghana) 20 – 22 March 2012.

11.28 Prof P.W.N. Kanyari, hosted an Orientation Workshop at the College Boardroom with the Royal Veterinary College (RVC) London between 20th and 22nd March 2012.

11.29 Dr. S.M. Githigia, Sam Okuthe and Bouna Diop, FAO, 2012: ” Pig Sector Kenya, FAO Animal Production and Health Livestock Country Reviews No. 3 Rome.”

11.30 Prof. P.N. Nyaga, ANISE 2012: Invited to attend the a3rd annual influenza surveillance held at the crownie plaza, Nairobi 1 – 3rd February 2012

11.31 Prof. P.N. Nyaga, attended a one day seminar on /rift valley fever (RVF) held at ILRI on 2/02/2012 on the work done in Marigat and Thika on the Impact RVF outbreaks on the livelihoods of m=smallholder farmers.(Appendix 9b)

11.32 Prof. P.N.Nyaga attended committee meetings for the National Disaster preparedness Planning at the National Disaster Center 9NDOC), Nairobi. (Feb and March 2012

11.33 Prof. P.N. Nyaga attended a one week workshop at the University CCU between 12-16 March 2012, on GRANT PROPOSAL AND RESEARCH PROPOSAL WRITING TRAINING SEMINARY and was awarded with a certificate.(appendix 9d)
11.34 Prof. P.K. Gathumbi, attended a RISE AFNNET workshop in Nairobi Node on 13th December, 2011

11.35 Prof. P.K. Gathumbi, invited to attend a stakeholders forum to provide input to the draft natural products industry policy on 14th March, 2012.

11.36 Prof. P.K. Gathumbi was invited to attend Wangari Maathai Day together with world forestry day celebrated on March 21, 2012 at Freedom Corner.

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11.39 Dr. P.G. Mbuthia was invited to Limnology and Wetland Ecosystems (LWE) DIDACTIC workshop form 7th – 11th February 2012 at Lake Naivasha Country Club by UNESCO-IHE Institute for Water Education.

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11.41 Prof. P.W.N. Kanyari, hosted an Orientation Workshop at the College Boardroom with the Royal Veterinary College (RVC) London between 20th and 22nd March 2012.

11.42 Prof. P.N. Nyaga, ANISE 2012: Invited to attend the 3rd annual influenza surveillance held at the crownie plaza, Nairobi 1 – 3rd February 2012

11.43 Prof. P.N. Nyaga, attended a one day seminar on rift valley fever (RVF) held at ILRI on 2/02/2012 on the work done in Marigat and Thika on the Impact RVF outbreaks on the livelihoods of m=smallholder farmers.

11.44 Prof. P.N.Nyaga attended committee meetings for the National Disaster preparedness Planning at the National Disaster Center 9NDOC), Nairobi. (Feb and March 2012

11.45 Prof. P.N. Nyaga attended a one week workshop at the University CCU between 12-16 March 2012, on GRANT PROPOSAL AND RESEARCH PROPOSAL WRITING TRAINING SEMINARY and was awarded with a certificate

11.46 Prof. P.N. Nyaga, hosted a RUFORUM workshop on RUFORUM M&E System, at the Department of Veterinary Pathology, Microbiology & Parasitology, Museum room from 28th March to 30th March 2012.
11.47 **Prof. P.K. Gathumbi** was the Chairman of the University of Nairobi Faculty of Veterinary Medicine (FVM) 8th Biennial Scientific Conference and the 46th Kenya Veterinary Association Annual Scientific Conference held at the Safari Park Hotel, Nairobi, Kenya on April, 25 - 27 2012. In this conference, many academic members of staff at CAVS presented papers as highlighted in the attached book of Programme and Abstracts. In this conference members of the Department of Veterinary Pathology, Microbiology and Parasitology presented the following papers (p):


11.49 Manyibe T.N and Muriuki S, **Prof. P.K. Gathumbi**, Conservation medicine in the African context. (Abstract 047)

11.50 Gakuya DW, SG Kiama, JM Mbaria, PN Mbugua, PK Gathumbi, M Mathiu, “The potential use of moringa oleifera Lam as poultry feed supplement in Kenya.” (Abstract 021)

11.51 Cooper JE, Cooper ME, **Nyaga PN**, Gathumbi PK, Mbuthia PG, Njagi LW, Githigia SM, “Veterinary forensic medicine: an emerging and important discipline”. (Abstract 040)


11.53 Maina JG, **Mbuthia PG**, Ngugi JN; Karuri EG. “M. Effects of management practices and Economic stimulus program on fish production in Mwea Division of Kirinyaga County” (Abstract 022)

11.54 Nguihi-Mwangi, J Mbithi, PMF Wabacha, J.K. **Mbuthia PG** “The challenges of balancing between productivity and claw health of dairy cows in modernized husbandry in small holder farming units.” (Abstract 018)

11.55 **JKN Kuria** and Gathogo SM presented a paper on “**Dimorphic yeast fungi infections in beef cattle**” in the Joint Faculty of Veterinary Medicine (FVM) 8th Biennial Scientific Conference & 46th Kenya Veterinary Association (KVA) Annual Scientific Conference & Exhibition held at the Safari Park Hotel, Nairobi, from 25th – 27th April 2012.


11.62 Dr. C.G. Gitao and Chepkwony E.C. Foot and Mouth disease Manifestation from a “cattle boma” in South Sudan

11.63 Dr. C.G. Gitao and Field C, Experiences of camel health management in Botswana.

11.64 Dr. C.G. Gitao, Toroitch K.C. and Mbindyo C, “Dairy goat health problems affecting milk production in Meru, Nyeri and Embu counties” “The possible effects of camel milk on management of diabetes type I

11.65 Dr. C.G. Gitao, Kihu S and Maina S.M, Experimental infection of PPR in goats in Kenya

11.66 Akweya B, Kamau and Gitao C.G. The properties of potential camel lactobacilli cultures for yoghurt production


11.70 **P.N. Nyaga** Was the Moderator and facilitator for the Sector Specific Pandemic Preparedness Planning Workshop held on June 4th – 8th, 2012, Nakuru, Kenya (Appendix 11a)


11.72 The Department of Veterinary Pathology, Microbiology and Parasitology hosted a 5 days practical training for Diploma in Animal Health – Ahiti Ndomba.

11.73 The Department of Veterinary Pathology, Microbiology and Parasitology hosted USAID from the American people, FAO and the University of Georgia for a 5 days seminar on Basics of Field and Laboratory Diagnosis Train-the-Trainers Workshop on 23rd April to 27th April.

**12 NEW LINKAGES**

12.0 **Prof. P.N. Nyaga**, made contacts with Dr. Tabitha Kimani of FAO and her collaborators in Sweden on the possibility of linkage with the Swish scientist to use samples that we have collected to study effectiveness of RVF vaccination in targeted areas.

12.1 **Prof. P.N. Nyaga** liaised with Prof. Denis Byarugaba of Makerere university to have his PhD student visit our department in the future to learn procedures on pathogenesis evaluation for Newcastle disease.

12.2 **Prof. P.N. Nyaga** linkage with KEMRI-CDC/Kenya continues with the PhD student Dr. Peninah Munyua studies on Influenza epidemiology. (Appendix 9a)

12.3 **P.N. Nyaga** Linkage with KEMRI-CDC/Kenya continues with the PhD student Dr. Peninah Munyua studies on Influenza epidemiology. Will be travelling to Kisumu to visit the field sites July 1-3.

12.4 **P.N. Nyaga** Linkage with Dr. Mutinda of Mariakani Veterinary Investigation Laboratory continued regarding her studies with Infectious bursal disease (IBD).

**13 VISITORS TO THE DEPARTMENT IN THE DEPARTMENT IN 2011/2012**

13.1 Prof. V.O. Taiwo, Prof. B.O. Oke Faculty of Veterinary Medicine, University of Ibadan and Dr. K.O. Sectoan Department of Vet. Physiology, Biochem and Pharmacology on 16/8/2011

13.2 Prof. Patrick T. Rubaihayo, Makerere University, on 30/8/2011

13.3 Prof. B. Obujeni, Sadoku Nusria, Chah Kennedy and Agbo Feona of Federal University of Technology, Nigeria, Bob Pym of Australia, Rosemary N. Mwanza of Dlps office Hill Plaza, Dr. Rina Wangila of MOLD-DVS Kabete, on 21/10/2011
13.4 Dr. Christine Thuranira, Royal Veterinary College, on 11/11/2011

13.5 Dr. J.M. Randall VP Academic, University of Prince Edward Island, Canada on 19/01/2012

13.6 Dominic Travis of University of Minessota and Dr. Geoffrey Kabagambe of Kampala, 25/1/2012

13.7 Dr. Adrei Mihalca, Dragos Birton and Danico Gialuca of Romania on 1/2/2012

13.8 Dr’s. Kasongo Muteba, Ngulu Nsasi and Kasongo aseke of Lubumbashi, DRC. On 7/2/2012

13.9 Saad Maandi and Naabed Ahmed of Algeria on 14/02/2012

13.91 Dr. Sam Okuthe of FAO-ECTAD, E.A. and Edward Okoth of ILRI on 22/02/2012

13.92 Drs. Victor yamo, Ouko E.O, Sanyu Naluwooza, Johanna Lindstoke and Godfrey Kayobyo on 28/02/2012

13.93 Barbora Dervena and Corrie Brown of Athens USA on 25/4/2012

13.94 Kaboret Yalace of University of Dakar, Senegal on 27/4/2012.

3.95 Eng. Joel Sigei and Anthony Kibuja of Plenser Ltd on 18/06/2012

14 OUTREACH AND COMMUNITY SERVICE

14.1 Dr. Njagi L.W. had a research trip to Mbeere district for study lay-out and data collection between 11th and 12th November 2011.

14.2 Prof. P.K. Gathumbi is reviewing a Manuscript entitled “Histopathological changes in the Liver Tissue of Clarias batrachus treated with sago effluent” for Baraton University.

14.3 Prof. P.K. Gathumbi has been invited to be in the Editorial Board of the journal Biological Research published by Asia Publishers Pakistan.

14.4 John and Margret Cooper, who are associates in the Department, hosted a Workshop on Primate Pathology held in IPR, in November 2011.

14.5 Prof. L.C. Bebora is member of Livestock Committee, and Chairman of Pigs & Poulty Sub-committee; Agricultural Society of Kenya (ASK).

14.6 Prof. L.C. Bebora was nominated Judge for various classes of poultry, for ASK.

14.7 Prof. L.C. Bebora and others (including 2 Msc students) went to Mbeere to map out work plan and collect samples for the 2 Msc. students on RUFORUM funding – Drs.
Kemboi and Hannah Chege from November, 11th-12th, 2011. In the process, farmers had an opportunity to consult with them on various problems they were experiencing regarding poultry.

14.8 Prof. L.C. Bebora and others went to Rachuonyo to assess work carried out by a PhD student, Dr. Olwande from November 20-24. 2011. In the process, farmers had an opportunity to consult with them on various problems they were experiencing regarding poultry.

14.9 Prof. P.N. Nyaga linked with Dr. Mutinda of Mariakani Veterinary Investigation Laboratory continued rearding her studies with Infectious bursal disease (IBD)

15 LINKAGES ESTABLISHED OR CONTINUED

15.1 The University of Nairobi, Faculty of Veterinary Medicine and the University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca, Romania have signed an MoU for purposes of joint research projects among other collaborative activities. This initiative is as a result the visit to Romania by Prof. P.W.N. Kanyari in the month of September, 2011. At the moment, there is a visiting team of eight (8) from the Romanian University undertaking joint research work in the Northern part of Kenya. The fore mentioned team have brought with them the following two pieces of equipment:

- A Digital Microscope valued at KES 900,000.00
- A Stereo Microscope valued at KES 600,000.00


16 OTHERS

16.1 P.N. Nyaga Evaluated papers for Professorial appointment for Sokoine University of Agriculture, member of staff, “ Prof. L.J.M Kusiluka. (Appendix 14a)

16.2 P.N. Nyaga Serviced a course for the Department of Agricultural Economics (teaching and examinations), AIC 608: Statistics and research methods. (Appendix 14b)

16.3 P.N. Nyaga assessed MSc thesis by Dr. Victoria N. Mutua entitled, “Impact Of Formal and Informal Interventions In The Control Of Rift Valley Fever Disease In Thika and Marigat Districts Of Kenya”, completed and ready for submission. (Appendix 14c)

16.4 P.N. Nyaga Liaised with Prof. Denis Byarugaba of Makerere University and trained his PhD student on Newcastle disease virus pathogenicity indices
evaluation (Mean death time-MDT; intra cerebral pathogenicity index-ICPI; intravenous pathogenicity index – IVPI, Hemagglutination and hemagglutination inhibition tests (HA and HA) (Appendix 14d)

16.5 **Prof. P.K. Gathumbi**, was appointed to serve as a member of Management Committee of the Centre for Sustainable Dryland Ecosystems and Societies and also as a member of the Centre’s Research Development Sub-Committee. (Appendix 15a)

16.6 **Prof. P.K. Gathumbi**, participated and awarded with a certificate of attendance during the Faculty of Veterinary Medicine (FVM) 8th Biennial Scientific Conference & 46th Kenya Veterinary Association (KVA) Annual Scientific Conference & Exhibition held at the Safari Park Hotel, Nairobi, from 25th to 27th April 2012. (Appendix 15b)

16.7 **Prof. P.K. Gathumbi**, participated as Master of Ceremony in the Tree planting on World environment Day at the College of Agriculture and Veterinary Sciences on 5th June 2012. (Appendix 15c)

16.8 **Prof. P.N. Maingi**, appointed to assess of the research publications of Dr. S.O. Omotainse for readership position in veterinary pathology in the Department of Veterinary Pathology in Federal University of Agriculture Abeokuta, Nigeria. (Appendix 16a)

16.9 **Prof. P.N. Maingi**, invited by the Ministry of Higher Education, Science and Technology to review papers for the upcoming volume 3 Innovation Journal. (Appendix 16b)

16.91 **Dr. R.M Waruiru**, participated and awarded with a certificate of attendance during the Faculty of Veterinary Medicine (FVM) 8th Biennial Scientific Conference & 46th Kenya Veterinary Association (KVA) Annual Scientific Conference & Exhibition held at the Safari Park Hotel, Nairobi, from 25th to 27th April 2012. (Appendix 17)

16.92 **Dr. C.G. Gitao**, received an appreciation letter from RUFORUM for the concluded review of the RUFORUM M&E System. (Appendix 18a)

16.93 **Dr. C.G. Gitao**, attended the EAPP proposal writing workshop in Njoro, KARI 2nd to 4th May. (Appendix 18b)

16.94 **Mary Mutune, Mary M. Njeru and Ephantus M. Nyaga**, participated in a one day empowerment workshop on May 11th 2012 at the Clinical Studies seminar hall and awarded with certificates on Transformational Customer Care. (Appendix 19)

16.95 **Jackson Gachoka** and **Charity Gathenya**, participated in a one day training on Fire Safety on June 13, 2012 at the Clinical Studies Seminar Room as part
of the University’s preparedness for any fire disaster that may occur at the workplace. (Appendix 20)

16.96 Prof. P.K. Gathumbi, Jackson Gachoka and Rose Gitari participated in a two-day management training workshop on Managerial and leadership skills at the Clinical Studies Seminar Room on June 28 - 29 2012. (Appendix 21)

16.97 Prof. P.K. Gathumbi, invited as a reviewer for the Journal Avian Pathology. (Appendix 22)

16.98 Dr. S.M. Githigia, Internal Examiner Obonyo Fredrick Ojiambo ‘s MSc thesis Titled Epidemiology and public Health Importance of gastrointestinal helminthes and hemoparasites of pigs in Homabay District, Kenya. July 2011

16.99 Dr. S.M. Githigia Internal Examiner of Dr Kabaka Waweru MSc Thesis Titled Prevalence and risk factors for Gastrointestinal nematode infection and efficacies of anthelmintics in cattle in Mukurwe-ini and Nakuru Districts July 2011

16.70 Dr. S.M. Githigia, Internal Examiner of Dr Eric Emali Eshitera’s MSc Thesis titled Prevalence of porcine cysticercosis in free range pigs and the associated risk factors in Homa Bay District, Kenya November 2011

16.74 Member of board of examiners for the following
   i. Dr Eric Eshitera Emali – Msc Thesis March 2012
   ii. Dr Fredrick Ojiambo’s MSc Thesis August 2011
   iii. Dr Waweru Kabaka’s MSc Thesis August 2011

16.75 External Examiner – Department of Land Resources, Planning & Management 2010 – 2014 External examiner - Department of Land Resources and Animal Sciences, Department of Food Science and Technology Faculty of Agriculture Jomo Kenyatta University of Agriculture and Technology 2010 – 2014

17.0 TRAVELS

17.1 Dr Mbuthia travelled as an external examiner for Sokoine University of Agriculture – He was veterinary pathology examiner in the Dept of Pathology in the period 31-07-211 to 06-08-2011. I examined Bachelor of Veterinary Medicine students written, practical and oral examinations in General Pathology (2nd Year), Veterinary Pathology II (3rd year); and Veterinary Clinicals a practical/oral examination to 5th year BMM. All travel cost were paid by Sokoine University as follows:
   a. Air ticket - 340 USD
   b. Hotel costs (Bed and Breakfast) at Arc Hotel
   c. Local travel in Kenya (to and fro the Airport) – USD 35
d. Health Insurance for the period – USD 27  
e. Daily up keep allowance of Tshs 30,000/day  
f. Honorarium – Tshs 50000 per day while in Tanzania  

(Appendix 11)

6.0 MEMBERSHIP IN COMMITTEES

a) COLLEGE COMMITTEES

<table>
<thead>
<tr>
<th>No.</th>
<th>Committee</th>
<th>Chairman/Representative</th>
</tr>
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<tr>
<td>1.</td>
<td>College Management Board (CMB)</td>
<td>Prof. P.K. Gathumbi, Chairman of the Department</td>
</tr>
<tr>
<td>2.</td>
<td>College Exhibition Committee</td>
<td>Dr. J.N. Chege</td>
</tr>
<tr>
<td>3.</td>
<td>College Disposal Committee</td>
<td>Prof. P.K. Gathumbi</td>
</tr>
</tbody>
</table>

b) FACULTY COMMITTEES

<table>
<thead>
<tr>
<th>Faculty Committee</th>
<th>Departmental Representative</th>
<th>Department</th>
<th>Chairman, Faculty Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Postgraduate Studies Committee</td>
<td>Prof. L.C. Bebora, Dr. L.C. Njagi</td>
<td>Vet. Pathology, Vet. Pathology</td>
<td>Prof. L.C. Bebora</td>
</tr>
<tr>
<td>2. Curriculum Committee</td>
<td>Dr. R.M. Waruiru</td>
<td>Vet. Pathology, Vet. Pathology</td>
<td></td>
</tr>
<tr>
<td>3. Timetabling Committee</td>
<td>Dr. P.G. Mbuthia, Dr. D.K. Kagunya</td>
<td>Vet. Pathology, Vet. Pathology</td>
<td>Dr. P.G. Mbuthia</td>
</tr>
<tr>
<td>4. Student Attachment &amp; Projects Committee</td>
<td>Dr. S.M. Githigia</td>
<td>Vet. pathology</td>
<td></td>
</tr>
<tr>
<td>5. Faculty Biennial Scientific Conference</td>
<td>Dr. D.N. Karanja, Prof. P.K. Gathumbi</td>
<td>Vet. Pathology</td>
<td>Prof. P.K. Gathumbi</td>
</tr>
<tr>
<td>6. Module II Policy Guidelines Implementation Committee</td>
<td>Dr. M.O. Odongo</td>
<td>Vet. pathology</td>
<td></td>
</tr>
<tr>
<td>7. Veterinary Farm Management Committee</td>
<td>Prof. P.K. Gathumbi</td>
<td>Vet. Pathology</td>
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<tr>
<td>8. Library Committee</td>
<td>Dr. M.O. Odongo</td>
<td>Vet. pathology</td>
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c) OTHER COMMITTEES

<table>
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<tr>
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<th>Faculty of Agriculture environmental committee</th>
<th>Prof. P.K. Gathumbi</th>
<th>Vet. pathology</th>
</tr>
</thead>
</table>

7.0 CONSULTANCIES

14.1 **Prof. Bebora L.C.** – Consultative meeting of women scientists of University of on 14th July 2010, UoN, Council Chamber.

14.2 **Prof. Bebora L.C.** – Consultative meeting on how to strengthen and improve academic programmes and other related activities, attended by all professors on 6th Sept. 2010, UoN, Council Chamber.

14.3 **Prof. Bebora L.C.** Judging poultry classes at ASK, Nairobi Internal show, to be held from 27th September to 3rd October 2010, at Jamhuri Park, Nairobi. Also the Poultry and Pigs subcommittee chairman at the show.

14.4 **Prof. P.N. Nyaga** – Meeting on Rift Valley Fever (RVF) with Ministry of Livestock Development.

14.5 **Prof. Nyaga** carried out consultancy assignment for the East African Community on the assessment of animal-human health expertise in avian influenza, other zoonoses and transboundary animal diseases in October, 2010.

14.6 **Dr. Gitao C.G.** carried out consultancy training on, draught power of camel (training workshop) in Makindu. for KARI –KASAL 10-13th Nov 2010.

14.7 **Prof. Nyaga** carried out consultancy assignment for the East African Community on the assessment of animal-human health expertise in avian influenza, other zoonoses and transboundary animal diseases in October, 2010

14.8 **Dr. Gitao C.G.** carried out consultancy training on, draught power of camel (training workshop) in Makindu. for KARI –KASAL 10-13th Nov 2010
8.0 OTHER ACTIVITIES

15.1 Dr. P.G. Mbuthia – Was an External Examiner in Veterinary Pathology at SOKOINE UNIVERSITY OF AGRICULTURE, TANZANIA in the period June/July 2010

15.2 Dr. P.G. Mbuthia - served as an External Examiner for five (5) theses for Jomo Kenyatta University of Agriculture and Technology.

15.3 Dr. P.G. Mbuthia - served as an External Examiner for one (1) thesis for Makerere University, Uganda.

15.4 Dr. P.G. Mbuthia - Reviewed two (2) manuscripts for The Kenya Veterinarian journal.

15.5 Dr. P.G. Mbuthia - Has been given a letter for ‘Commendation for Good performance and Support of the faculty’ in my role as the “Chairman of the Timetabling Committee”.

15.6 Dr. P.G. Mbuthia - Has been given a letter for ‘Commendation for Good performance and Support of the faculty’ as a dedicated member of the “Faculty Curriculum Committee”.

15.7 Prof. P.K. Gathumbi – Chaired a successful 7th Biennial Scientific Conference Faculty of Veterinary Medicine and 4th Exhibition of College of Agriculture and Veterinary Sciences, 8th to 10th September, 2010.

15.8 Dr Mbuthia examined the following thesis:

a) Dr. Stephen Kitonga Mavuti MSc thesis entitled, “Prevalence, Intensity and Pathology Associated with Parasitic Infections in Ducks in Nairobi and its Environ” a student at University of Nairobi, November 2010.


c) Afayoa mathias MSc thesis entitled, “Lesions and Prevalence of Newcastle Disease in Chicken Presented for Necropsy at faculty of Veterinary Medicine, Makerere University” a student at Makerere University, October 2010.

d) Dr. Mbuthia received a certificate of attendance to the 7th Biennial scientific conference 8th to 10th September 2010 (Appendix 28)

15.10 Prof. P.K. Gathumbi, Prof P.N. Nyaga, Dr. J.N. Chege and Dr. Lucy Njagi, participated in arranging for a departmental seminar on forensic science by Prof. J. Cooper and Dr. Margaret Cooper on 24th November 2010.
15.11 **Professor Gathumbi** participated as a committee member, in activities of the management committee of the veterinary farm in October 2010

15.12 Professor Gathumbi participated as a committee member, in activities of the disposal committee of the College of Agriculture and Veterinary Sciences in October 2010

15.13 **Prof. Nyaga** reviewed a grant application research proposal for the South African National research Council in October 2010

15.14 **Prof. Nyaga** reviewed a manuscript for, ‘African Journal of Microbiology in October 2010

**NUMBER OF STAFF**

<table>
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<th>TITLE</th>
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<tr>
<td>Professor</td>
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<td>Associate Professor</td>
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<td>Junior Technologists</td>
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<tr>
<td>Cleaner</td>
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## 16.0 LIST OF MEMBERS OF ACADEMIC STAFF

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<tr>
<th>NAME</th>
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<tbody>
<tr>
<td>PROF. P.N. NYAGA</td>
<td>BVM, MPVM, PhD</td>
<td>Professor</td>
</tr>
<tr>
<td>PROF. W.K. MUNUYA</td>
<td>BVM, MSc., PhD</td>
<td>Professor (on contract)</td>
</tr>
<tr>
<td>PROF. P.N. KANYARI</td>
<td>BVM, MSc., PhD</td>
<td>Professor</td>
</tr>
<tr>
<td>PROF. T.A. NGATIA</td>
<td>BVM, MSc., PhD</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>PROF. B.A. KIMETO</td>
<td>BVM, MSc., PhD</td>
<td>Associate Professor (on contract)</td>
</tr>
<tr>
<td>PROF. L.C. BEBORA</td>
<td>BVM, MSc., PhD</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>PROF. P.K. GATHUMBI</td>
<td>BVM, MSc., PhD</td>
<td>Chairman/Associate Professor</td>
</tr>
<tr>
<td>PROF. N. MAINGI</td>
<td>BVM, MSc., PhD</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>PROF. P.G. MBUTHIA</td>
<td>BVM, MSc., PhD</td>
<td>Associate Professor</td>
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<tr>
<td>DR. C.G. GITAO</td>
<td>BVM, MSc., PhD</td>
<td>Senior Lecturer</td>
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<tr>
<td>DR. J.N. KURIA</td>
<td>BVM, MSc., PhD</td>
<td>Senior Lecturer</td>
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<td>DR. P.O. OKUMU</td>
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<tr>
<td>DR. I.R. MULEI</td>
<td>BVM</td>
<td>Tutorial Fellow</td>
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<tr>
<td>EZEKIEL H. WEDA</td>
<td>HND</td>
<td>Chief Technologist</td>
</tr>
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## 17.0 LIST OF MEMBERS OF TECHNICAL AND SUPPORT STAFF

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<td>JULIUS K. KIBE</td>
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<td>ROSE W. GITARI</td>
<td>BSc/HND</td>
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<td>MARY N. MUTUNE</td>
<td>HND</td>
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<td>VIRGINIA M. GICHOHI</td>
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<td>JOHN MUKIRI</td>
<td>HND</td>
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<td>DAVID M. GUCEMA</td>
<td>HND</td>
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<td>ANN K. MUNENE</td>
<td>HND</td>
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<tr>
<td>CHARITY W. GATHENYA</td>
<td>HND</td>
<td>Senior Technologist</td>
</tr>
<tr>
<td>REBECCA W. GITHINJI</td>
<td>HND</td>
<td>Senior technologist</td>
</tr>
<tr>
<td>EDITH A KEYA</td>
<td>HND</td>
<td>Junior Technologist IV</td>
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<tr>
<td>EPHANTUS M. NYAGA</td>
<td>HND</td>
<td>Junior Technologist IV</td>
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<tr>
<td>13. GEORGE DIMBU</td>
<td>HND</td>
<td>Junior Technologist IV</td>
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<tr>
<td>14. MARY M. NJERU</td>
<td>DIP</td>
<td>Secretary Grade A</td>
</tr>
<tr>
<td>15. JANE W. GACHIGUA</td>
<td>JLT</td>
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<td>16. RICHARD O. OTIENO</td>
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<td>Junior Technologist IV</td>
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<tr>
<td>17. JOHN M. KINYURU</td>
<td>JLT</td>
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<tr>
<td>18. MARY W. MURIAKIARA</td>
<td>CPE</td>
<td>Junior Technologist III</td>
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<td>19. PATRICK M. WAHOME</td>
<td>KCE</td>
<td>Junior Technologist III</td>
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<td>20. SAMUEL INDECHE</td>
<td>KCE</td>
<td>Junior Technologist III</td>
</tr>
<tr>
<td>21. ADIEL K. MURATHI</td>
<td>KCSE</td>
<td>Driver Grade IV</td>
</tr>
<tr>
<td>22. GORDON OTIENO</td>
<td>KCSE</td>
<td>Cleaner grade II (Contract)</td>
</tr>
</tbody>
</table>

18.0 IMAGES

Chairman Department of Veterinary pathology, Microbiology and Parasitology
Prof. P.K. Gathumbi

Figure 1 Medicinal plant tree nurseries at Ngong established under the project on, ‘evaluation and commercialization of medicinal plants’ extracts for improved livelihoods: a case study of East Coast fever’. Funded by World Bank grant through Kenya Agricultural Productivity (KAPP) led by Prof. P.K. Gathumbi, Department of Veterinary Pathology, Microbiology and Parasitology

Figure 2a and b Botanical garden of medicinal plants at CAVS field station established under the project on, ‘evaluation and commercialization of medicinal plants’ extracts for improved livelihoods: a case study of East Coast fever’.
Funded by World Bank grant through Kenya Agricultural Productivity (KAPP) lead by Prof. P.K. Gathumbi, Department of Veterinary Pathology, Microbiology and Parasitology

Figure 2a

Figure 2b