

UNIVERSITY OF NAIROBI
COLLEGE OF AGRICULTURE AND VETERINARY SCIENCES
DEPARTMENT OF VETERINARY PATHOLOGY, MICROBIOLOGY AND
PARASITOLOGY

ANNUAL REPORT 2011/2012

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

No.	Name of Students	Year Graduated	Programmes in the Department.	No. Graduated in 2011/ 2012
1	Dr. Wilson Kuria Gachugia	-	MSc. in Vet Pathology and Microbiology	-
2	Dr. Kyalo Micheal Makau	-	MSc. in Applied Vet. Parasitology	-
3	Dr. Nyamweya Joel Makau	-	MSc. in Applied Vet. Parasitology	-
4	Dr. Mwhia Evalyn Wanjiru	-	MSc. Clinical Pathology and Laboratory Diagnosis	-
5	Thanda Carter	-	MSc. in Vet Pathology and Diagnostics	-
6	Dr. Kibore Benson	-	MSc. in Applied Microbiology	-
7	Dr. Mutua Victoria Ngo'ndu	-	MSc. in Applied Microbiology	-
8	Dr. Wagura D. Warui	-	MSc. in Applied Vet. Parasitology	-
9	Dr. Kamundia Patrick Waweru	-	MSc. in Fish Science	-
10	Dr. Chege Hanna Wambui	-	MSc. in Applied Vet. Parasitology	-
11	Dr. Maina S. Migwi	-	MSc. in Applied Microbiology	-

12	Dr.Kemboi David Chebutai	-	MSc. in Applied Microbiology	-
13	Dr.Christine Mino Bindyo	-	MSc. in Applied Microbiology	-
14	Dr. Dhaval Shah	-	MSc. in Vet Pathology and Diagnostics	-
15	Dr. Paul Okumu Onyango		MSc. Clinical Pathology and Laboratory Diagnosis	-
17	Mubemba Benjamin (Foreign Student)	-	MSc. In Fish Science	-

b) PhD PROGRAMS

	Name of the student	Year registered	Name of program	Year Graduated
1.	Thomas Manyibe Nyariki	2008/2009	Vet Pathology and Diagnostics	ongoing
2.	Simon Mwangi Kihu	2010/2011	Applied Microbiology	ongoing
3.	Dr. Vincent O. Obanda	Processing his registration	Applied Parasitology	ongoing
4	Beneat A. Obanda	Processing his registration	Applied Microbiology	ongoing
5.	Nkando Isabella Gacheri	Processing her registration	Applied Microbiology	On going
6.	Dr. Mutinda Wanzila Usyu`	Processing her registration	Applied Microbiology	On going
7.	Dr. Donald Mukolwe Lubembe	Processing his registration	Applied Vet. Parasitology	On going

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)

6.3 Prof. E. Maingi , “*Diagnostic and Control Tools and Strategies for Taenia solium cysticercosis (ASARECA/AB/2009/01). Total funding: US\$ 521,859. Funding to University of Nairobi: US\$ 120,145*” .

6.5 Prof. L.C. Bebora , , Prof. N. Maingi, Prof. P.N. Nyaga, Dr. P.G. Muthia, 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. Muthia, 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. Muthia, “*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. 04, 2010-2013 (Appendix 8c)

6.93 Dr. C.G. Gitao, a proposal on “*Development of strategies for clean milk marketing and production in east Africa:EAAPP-OCGS-01-2011-18, 21st February, 2012.*

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 4 reforms 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.**
- 1. 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 frame work affecting the pig sector in Kenya. The strength, 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

10.1 Lucy W. Njagi. Paul G. Mbuthia. Phillip N. Nyaga. Lilly C. Bebora. Uswege M. Minga

(2011) Viral nucleoprotein localization and lesions of Newcastle disease in tissues of indigenous ducks *Trop Anim Health Prod DOI 10.1007/s 11250-011-9958-2*

10.2 John M. Kagira. Paul N. Kanyari. Samuel M. Githigia. N. Maingi. James C. Ng’ang’a. John M. Gachohi (2011) Risk factors associated with occurrence of nematodes in free range pigs in Busia District, Kenya *Trop Anim Health Prod DOI 10.1007/s11250-011-9951-9* .

10.3 Gakuya, F. Rossi, L., Ombui, J., Maingi, N., Muchemi, G., Ogara, W., Soriguer, R. and Alasaad, S. (2011). The course of the prey: *Sarcoptes* mite molecular analysis reveals potential prey-to-predator parasitic infestation in wild animals from Masai Mara, Kenya. *Parasites and Vectors* Article No. 1794326039587938 of 2011.

10.4 P. G. Mbuthia, L. W. Njagi, P. N. Nyaga, L. C. Bebora, U. Minga, Jens Peter Christensen & J. E. Olsen; (2011) Time course investigation of infection with a low virulent *Pasteurella multocida* strain in normal and immune-suppressed 12 week-old free range chickens: **DOI:10.1080/03079457.2011.623298.**

10.5 Sabuni Z A, Mbuthia P G, Maingi N, Nyaga P N, Njagi L W, Bebora L C and Michieka J N 2011. Prevalence of haemoparasites infection in indigenous chicken in Eastern Province of Kenya. *Livestock Research for Rural Development* 23(11)2011. <http://www.lrrd.org/lrrd23/11/sabu23238.htm>

10.6 J. M. Nguta, J.M. Mbaria, D.W. Gakuya, **P.K. Gathumbi**, J.D. Kabasa, S.G. Kiama. Biological screening of Kenyan Medicinal plants using *Artemia Salina L.* *Pharmacologyonline* 2: 458-478 (2011).

- 10.7 **Karanja D N**, Ngatia T A, Wabacha J K, Bebora L C and Ng'ang'a C J (2011). The pathogenic effects associated with natural gastrointestinal helminth infections in pigs in Kenya. *Bull Anim Hlth Prod Afr.* 59: 53-59
- 10.8 J.W. Aleri, A.N. Kipyegon, J.D. Mande, C.M. Mulei, and **D. N. Karanja**. Acute Respiratory Distress Syndrome Due to Babesiosis in a Dog: Case Report. *Research Journal of Animal Sciences* 5 (2): 14 – 16, 2011.
- 10.9 Muthee J.K., Mbaria J M, Thaiya A G, **Karanja D N** and Gakuya D W. Clinical, Haematological, Biochemical and Pathological Manifestations of Sub-Acute Toxicity of *Nicandra Physaloides*(L) Gaertn in calves. *Bull.Anim. Hith. Prod. Afr:* (2011).59 17-24.
- 10.10 Karanja D.N, Ngatia T.A, Wabacha J.K. & **Bebora L.C.** (2011): Cases of pig poisoning encountered naturally in small holder farms in Nairobi and its environs. *Kenya Veterinarian* 35(1): 52-55.
- 10.11 Kutto, Ngigi, Karanja D.N., Kange'the, **Bebora L.C.**, Lagarkvist, Mbuthia, Njagi and Okello (2011): Bacterial contamination of Kale along the value chain in Nairobi and its environs. Paper presented at the 10th African Crop Science Society Conference, 10th – 13th October 2011, at Maputo, Mozambique.
- 10.12 **Prof. John Cooper**, Dr. Margaret Cooper, Prof. P.K. Gathumbi, Prof. P.N. Nyaga, P.G. Mbuthia, L.W. Njagi, J. Mbaria, M.Ogeto, Laban Njoroge (2011) . A report on Veterinary Forensic Works. The bulletin of the Royal College of Pathologists 156:255 – 257.
- 10.13 P.G. Mbuthia, L.C. Njagi, P.N. Nyaga, L.C. Bebora, U.Minga, P. Christensen and J.E. Olsen (2011) Time – Course investigation of infection with a low virulent *Pasteurella multocida* strain in normal and immune- suppressed 12 -week -old free range chickens. *Avian Pathology* 40:629-637 (appendix 15)
- 10.14 **Dr.P.G. Mbuthia**, “*Risk (Predisposing) factors for non-infectious claw disorders in Dairy cows under varying zero Grazing Systems*”, in a book “A Birds-eye view of Veterinary Medicine edited by Carlos C. Perez-Marin, published February, 2012.(Appendix 1)
- 10.15 Obonyo F.O., **Prof. E.Maingi**, Githigia S.M. and Nga'ng'a C.J. 2012, Prevalence, intensity and spectrum of helminthes of free range pigs in Homabay District, Kenya. *Livestock Research for Rural Development, Volume 24, Article #48*. Retrieved March 14, 2012, from <http://www.Irrd.org/Irrd24/3/obon24048.htm> (Appendix 2)
- 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)
- 10.18 **Dr.P.G. Mbuthia**, “*Risk (Predisposing) factors for non-infectious claw disorders in Dairy cows under varying zero Grazing Systems*”, in a book “A Birds-eye view of Veterinary Medicine edited by Carlos C. Perez-Marin, published February, 2012
- 10.19 Obonyo F.O., **Prof. E.Maingi**, Githigia S.M. and Nga’ng’a C.J. 2012, Prevalence, intensity and spectrum of helminthes of free range pigs in Homabay District, Kenya. *Livestock Research for Rural Development, Volume 24, Article #48*. Retrieved March 14, 2012, from <http://www.Irrd.org/Irrd24/3/obon24048.htm>.
- 10.20 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.
- 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 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*
- 10.22 Gichohi, C.M., Mbuthia, P.G., **Waruiru, R.M.**, Ngatia, T.A., Kamundia, P.W., Mutune, M.N. & Otieno, R.O. (2011). Prevalence and intensity of *Paracamallanus* species infection in farmed and wild catfish. *The Kenya Veterinarian*, 35: 25-32.
- 10.23** Joseph Mwanzia Njguta, James M Mbaria, **Peter K Gathumbi**, Daniel Gakuya, John David Kabasa and Stephen Gitahi Kiama, “Ethnodiagnostic skills of the digo Community for malaria: a lead to traditional bioprospecting.”
- 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.”

10.26JM Nguta, JM Mbaria, DW Gakuya, **PK Gathumbi**, JD Kabasa and SG Kiama
“Biological screening of Kenya Medicinal plants using *Artemia Salina* L.
(ARTEMIIDAE).

10.27Njagi J.M., Ngugi M.P., Kibiti C,M, Ngeranwa N.J.J., Njagi, E.N.M, Mbiti W.N.,
Maina D. and **Gathumbi P.K.** Evaluation of anti diabetic effects of *Kleinia*
Squarrosa on alloxanized diabetic mice

10.28Njagi J.M. , Ngugi M.P, Kibiti C,M, Ngeranwa N.J.J, Njagi, E.N.M, Njue, M.W.,
Maina D., and **Gathumbi P.K.** Hypoglycemic effects of *Caesalpinia Volkensii*
on alloxan – induced diabetic mice

10.29AG Thaiyah, PN Nyaga, JM Maribei, **TA Ngatia**, JPM Kamau and JM Kinyuru, “
Acute, sub-chronic and chronic toxicity of *Solanum incanum* L in sheep in
Kenya.”

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

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

10.32Epaphras A Muse, Ramadhan B Matondo, Ebron D Karimuribo, Gerald
Misinzo, Mbyuzi O Albano and **George G Gitao**, Clinico-pathological findings
of the 2011 outbreak of Peste des Petits Ruminants (PPR) in Tandahimba District
Southern Sudan.

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

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

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

10.36Obonyo, F.O., Maingi, N., **Githigia, S.M.**, Ng’ang’a, C.J. (2012). Prevalence,
intensity and spectrum of helminths of free range pigs in Homabay District, Kenya

10.37Kenya Livestock Research for Rural Development 24 (03) 2012 Kagira, J.M.;
Kanyari, P.W.N.; **Githigia,S.M.**; Maingi,N.: Nganga, J.C.; Gachohi, J.M. (2011). Risk
factors associated with occurrence of nematodes in free range pigs in Busia District,
Kenya. Trop Anim Health Prod

11.0 WORKSHOPS AND CONFERENCES

11.1P.G. Mbutia 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. Mbutia 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. Mbutia 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.)

11.4P.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

11.5P.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

11.6P.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.

11.7N. 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

11.8N. 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

11.9N. Maingi participated in a One-day workshop on recent developments in the immunodiagnosics 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.

11.10P.N. Nyaga participated in the Kenya National Emergency Management workshop in June 20-24, 2011

11.11R.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 **11.12Dr. P.G. Mbutia** 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. Mbutia** 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. Mbutia** attended VicRes Biennial conference in Munyonyo, Uganda - 1ST LAKE VICTORIA RESEARCH INITIATIVE (VICRES) BIENNIAL FORUM 9-13TH OCTOBER 2011, AT MUNYONYO, KAMPALA 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**

11.15During 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.

11.18Prof. 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. Mbutia** 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. Mbutia**, 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 (NDOC), 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 RESEARACH 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.
- 11.37 **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.
- 11.38 **Prof. P.K. Gathumbi** was invited to attend National Economic and Social Council (NESC) meeting for the stakeholder's presentation of The Natural Products Industry Policy – DRAFT at the Kenya School of Monetary Studies on 24/03/2012
- 11.39 **Dr. P.G. Mbutia** 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.*
- 11.40 **Dr. P.G. Mbutia**, 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*
- 11.41 **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 a3rd 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 RESEARACH 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 Pahtology, Microbiology & Parasitology , Museum room from 28th March to 30th Marsrch 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):

11.48 Nguta, JM, JM Mbaria, DW Gakuya, **P.K. Gathumbi**, JD Kabasa and SG Kiama, “Cytotoxicity of antimalarial plant extracts from Kenyan biodiversity to the Brine Shrimp, *Artemia salina* L.(Artemiidae). (**Abstract 06**)

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 pultry 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**)

11.52 Kyalo MM, **PG Mbuthia, Maingi, PN. Nyaga, LW Njagi** “Occurrence and lesions associated with echinostoma Revolution in free-range indigenous chickens in Kenya.” (**Abstract 027**)

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 Nguhiu-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.

11.56 Mathenge, C.G., **Mbuthia, P.G., Waruiru, R.M., Ngatia, T.A., Mutune, M.N. & Otieno, R.O.** (2012). Prevalence, intensity and pathological lesions associated with *Contracaecum* species infection in farmed and wild catfish in the upper Tana river basin, Kenya.

- 11.57 Mavuti, S.K., Mbuthia, P.G., Waruiru, R.M., Njagi, L.W., Mutune, M.N., Otieno, R.O. & Msoffe, P.L.M. (2012). Prevalence of haemoparasites in free-range local ducks
- 11.58 Mavuti, S.K., Mbuthia, P.G., Waruiru, R.M., Njagi, L.W., Mutune, M.N., Otieno, R.O., Msoffe, P.L.M., Byarugaba, D.K. & Aning, G.K. (2012). Prevalence and pathology of *Echinophaga gallinacea* in free-range local ducks
- 11.59 Maina, A.N., Waruiru, R.M., Ngatia, T.A., Mbuthia, P.G. & Munyua, W.K. (2012). Gastrointestinal parasites and other endoparasites of indigenous chickens traded in Nairobi, Kenya
- 11.60 Waruiru, R.M., Nganga, J.C., Munyua, W.K., Mutune, M.N. & Otieno, R.O. (2012). Efficacy of copper oxide wire particles for the control of gastrointestinal nematode infections of indigenous goats
- 11.61 Waruiru, R.M., Munyua, W.K., Otieno, R.O., Mutune, M.N., Gichohi, V.M. & Gitari, R.N. (2012). Effects of medicated urea-molasses block supplementation on productivity and gastrointestinal nematode infections in sheep in Nyandarua District, Kenya
- 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, Toroitich 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 1
- 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
- 11.67 Manyibe TN, Gathumbi PK, Ngatia TA, Bebora LC, Muchemi G, “Historical perspectives of lesser flamingo mortalities in Kenya”.
- 11.68 Lubembe DM, Githigia SM, Chogo P, Athumani HM and Kitaa JM “Management of Bovine Papillomatosis using an Autogenous Vaccine”: A Case Study in Bukura Agricultural College, Western Kenya.
- 11.69 Nasimolo J, Kiama S, Makanya A, Prof. Gathumbi P, Kagira J “Trypanosome Migration to the Brain” a presentation at the 2nd East Africa Neurosciences Conference on 18 – 19 June 2012

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)

11.71 **P.N. Nyaga**, Attended the Kenya National Government Pandemic Disaster Response Planning Workshop held on 16th – 20 April 2012, Reef Hotel Mombasa, Kenya.

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 Munyai studies on Influenza epidemiology. (Appendix 9a)

12.3 *P.N. Nyaga Linkage with KEMRI-CDC/Kenya continues with the PhD student Dr. Peninah Munyai 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 Dips office Hill Plaza, Dr. Rina Wangila of MOLD-DVS Kabete, on 21/10/2011

- 13.4 Dr. Christine Thurania, 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 Minnesota 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 & Poultry 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 rearing her studies with Infectious bursal disease (IBD)

15 LINKAGES ESTABLISHED OR CONTINUED

15.1The 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

15.2Prof. P.N. Nyaga – Invitation to attend the Regional Conference on Building Capacity for improved food and livelihood Security 20th – 24th September 2010, Entebbe, Uganda.

16.0 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 Mbutia 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

1. College Management Board(CMB)	Prof. P.K. Gathumbi , Chairman of the Department
2. College Exhibition Committee 3. College Disposal committee	Dr. J.N. Chege Prof. P.K. Gathumbi

b) FACULTY COMMITTEES

	FACULTY COMMITTEE	DEPARTMENTAL REPRESENTATIVE	DEPARTMENT	CHAIRMAN, FACULTY COMMITTEE
1.	Postgraduate Studies Committee	Prof. L.C. Bebora Dr. L.C. Njagi	Vet. Pathology,	Prof. L.C. Bebora
2.	Curriculum Committee	Dr. R.M. Waruiru	Vet. Pathology Vet. pathology	
3.	Timetabling Committee	Dr. P.G. Mbuthia Dr. D.K. Kagunya	Vet. Pathology Vet. pathology	Dr. P.G. Mbuthia
4.	Student Attachment & Projects Committee	Dr. S.M. Githigia	Vet. pathology	
5.	Faculty Biennial Scientific Conference	Dr. D.N. Karanja Prof. P.K. Gathumbi	Vet. Pathology	Prof. P.K. Gathumbi
6.	Module II Policy Guidelines Implementation Committee	Dr. M.O. Odongo	Vet. pathology	
7.	Veterinary Farm Management Committee	Prof. P.K. Gathumbi	Vet. Pathology	
8.	Library Committee	Dr. M.O. Odongo	Vet. pathology	

9	Biosafety Committee	Dr. J.K. Gathumbi	Vet. pathology	
10	Exhibitions Committee	Dr. J.N. Chege	Vet. pathology	Dr. J.N. Chege
11	Grants, research and external liaison committee	Prof. P.K. Gathumbi	Vet. pathology	

c) OTHER COMMITTEES

1	Faculty of Agriculture environmental committee	Prof. P.K. Gathumbi	Vet. pathology	

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. Mbutia – Was an External Examiner in Veterinary Pathology at SOKOINE UNIVERSITY OF AGRICULTURE, TANZANIA in the period June/July 2010

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

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

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

15.5 Dr. P.G. Mbutia - 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. Mbutia - 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 Mbutia 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 Environs” a student at **University of Nairobi, November 2010**.

b) **George Ngondi Michuki** Ph.D. thesis entitled, “Metagenomic Characterization of vaginal Ecosystem and Association of Bacteriophage, Bifidobacterium and Oenococcus with Bacterial vaginosis in HIV infected Women” a student at **Jomo Kenyatta University of Agriculture and Technology, October, 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. Mbutia** 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

TITLE	NO
Professor	3
Associate Professor	5
Senior Lecturer	5
Lecturer	7
Tutorial Fellow	2
Chief Technologist	1
Senior Technologists	10
Secretary	1
Junior Technologists	8
Driver	1
Cleaner	1

16.0 LIST OF MEMBERS OF ACADEMIC STAFF

NAME	QUALIFICATION	DESIGNATION
1. PROF. P.N. NYAGA	BVM, MPVM, PhD	Professor
2. PROF. W.K. MUNYUA	BVM, MSc., PhD	Professor (on contract)
3. PROF. P.N. KANYARI	BVM, MSc., PhD	Professor
4. PROF. T.A. NGATIA	BVM, MSc., PhD	Associate Professor
5. PROF. B.A. KIMETO	BVM, MSc., PhD	Associate Professor (on contract)
6. PROF. L.C. BEBORA	BVM, MSc., PhD	Associate Professor
7. PROF. P.K. GATHUMBI	BVM, MSc., PhD	Chairman/Associate Professor
8. PROF. N. MAINGI		Associate Professor
9. PROF. P.G. MBUTHIA	BVM, MSc., PhD	Associate Professor
10. DR. C.G. GITAO	BVM, MSc., PhD	Senior Lecturer
11. DR. J.N. KURIA	BVM, MSc., PhD	Senior Lecturer
12. DR. R.M. WARUIRU	BVM, MSc., PhD	Senior Lecturer
13. DR. S.M. GITHIGIA	BVM, MSc., PhD	Senior Lecturer
14. DR. J.N. CHEGE	BVM, MSc., PhD	Senior Lecturer
15. DR. J.K. GATHUMBI	BVM, MSc., PhD	Lecturer
16. DR. L.W. NJAGI	BVM, MSc., PhD	Lecturer
17. DR. D.N. KARANJA	BVM, MSc., PhD	Lecturer
18. DR. J.M. AYUYA	BVM, MSc.	Lecturer
19. DR. M.O. ODONGO	BVM, MSc.	Lecturer
20. DR. D.K. KAGUNYA	BVM, MSc.	Lecturer
21. DR. E.S. KILELU	BVM, MSc.	Lecturer
22. DR. P.O. OKUMU	BVM, MSc.	Tutorial Fellow
23. DR. I.R. MULEI	BVM	Tutorial Fellow
24. EZEKIEL H. WEDA	BVM, MSc. HND	Chief Technologist

17.0 LIST OF MEMBERS OF TECHNICAL AND SUPPORT STAFF

NAME	QUALIFICATION	DESIGNATION
1. JULIUS K. KIBE	HND	Senior Technologist
2. ROSE W. GITARI	BSc/HND	Senior Technologist
3. MARY N. MUTUNE	HND	Senior Technologist
4. VIRGINIA M. GICHOHI	HND	Senior Technologist
5. JACKSON M. GACHOKA	HND	Senior Technologist
6. JOHN MUKIRI	HND	Senior Technologist
7. DAVID M. GUCEMA	HND	Senior Technologist
8. ANN K. MUNENE	HND	Senior Technologist
9. CHARITY W. GATHENYA	HND	Senior Technologist
10. REBECCA W. GITHINJI	HND	Senior technologist
11. EDITH A KEYA	HND	Junior Technologist IV
12. EPANTUS M. NYAGA	HND	Junior Technologist IV

13. GEORGE DIMBU	HND	Junior Technologist IV
14. MARY M. NJERU	DIP	Secretary Grade A
15. JANE W. GACHIGUA	JLT	Junior Technologist IV
16. RICHARD O. OTIENO	JLT	Junior Technologist IV
17. JOHN M. KINYURU	JLT	Junior Technologist IV
18. MARY W. MURIAKIARA	CPE	Junior Technologist III
19. PATRICK M. WAHOME	KCE	Junior Technologist III
20. SAMUEL INDECHE	KCE.	Junior Technologist III
21. ADIEL K. MURATHI	KCSE	Driver Grade IV
22. GORDON OTIENO	KCSE	Cleaner grade II (Contract)

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

