

CURRICULUM VITAE

1. NAME: ERASTUS KIAMBI KANG'ETHE

2. PERMANENT ADDRESS C/O Miruriiri Secondary School
P.O. Box 46 Igoji
Meru Central, Kenya
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P.O. Box 34405 -00100
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3. PRESENT ADDRESS Department of Public
Health, Pharmacology and
Toxicology. P.O. Box 29053
Nairobi.

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4. PRESENT EMPLOYER University of Nairobi.
P.O. Box 30197 Nairobi.

5. PLACE OF BIRTH Meru Central District, Kenya.

6. DATE OF BIRTH 10th October 1953.

7. MARITAL STATUS Married with 3 children.

8. EDUCATION**SCHOOL****CERTIFICATE.***Universities*

1 University of Nairobi
1982-1987

Doctor of Philosophy
(Ph.D).

2. University of Bristol
1980 -1982

Master of Science in
Meat Science (M.Sc)

3. . University of Nairobi
1975-1979

Bachelor of Veterinary
Medicine (B.V.M.).

9. POSITIONS HELD

1. Professor, May 2009 to Date,
2. Associate Professor, June 1997-2009.
3. Senior Lecturer, April 1989- 1997
4. Lecturer, February 1982- 1989
- 5 Tutorial Fellow, October 1979- 1982
- 6 Graduate Research Assistant, July 1979 -Oct 1979

RESEARCH UNDERTAKEN

1. Zoonoses and Emerging Livestock Systems (2015-2018)

The aim is to obtain a proof-of-principle and provide design specifications and an implementation plan for a sustainable, integrated surveillance system in humans and livestock for endemic and emerging zoonoses in western Kenya. Baseline data will be obtained on zoonotic disease burdens and develop a quantitative understanding of the impact of the demographic, economic and social changes that are taking place in the smallholder livestock sector in the Lake Victoria basin on the epidemiology of zoonoses. This system is intended to be a model for a national program in Kenya and beyond, demonstrating the practicality and public health benefits of effective surveillance for zoonoses.

2. Environmental and Social Ecology of Human Infectious Diseases (2012 - 2017)

The project measure, map, monitor and mitigate drivers of the emergence of zoonotic and food-borne diseases through an expert-informed and stakeholder-led plan for tackling urban zoonoses in a One World One Health / Ecohealth framework. The project will facilitate a participatory prioritization of zoonoses based on rapid generation of evidence with communities in 3 key urban sub-ecosystems (city slums & dumps; peri-urban livestock production and associated value chains; and, areas of wildlife, livestock and human interactions); produce a map of "health factors" showing how ecological, social, economic and policy factors influence vulnerability of citizens to priority zoonoses. This is based on a conceptual framework developed in ecohealth urban agriculture projects by project partners and others; develop scenarios to understand how biogeophysical and other change is likely to play on the health factors that influence the priority zoonoses and what this means for the trends in zoonoses and critical control points for better managing them; facilitate a coalition of local stakeholders relevant to urban zoonoses control (including community, researchers, public and private sector) and stakeholders from advanced research institutes in the UK and elsewhere with expertise in understanding and managing zoonoses and produce an action plan led by local stakeholders but informed by experts and rapid assessments in vulnerable communities on how to tackle priority zoonoses in the short and

medium term. The project is a collaborative effort between a number of universities, research institutes in Kenya and Europe. It is funded by the Medical Research Council consortium.

3. Africa Food Project 2011 -2015

The project is funded by Ministry of Foreign Affairs Finland through the CGIAR centres to the tune of 10M Euros. The project will address mitigations of aflatoxin contamination of milk value chain by mapping feed flows and associated aflatoxin risks associated with feed. Devise new technologies of detection of the aflatoxin in milk and feeds as well as addressing the economic effects of aflatoxin in the milk value chain.

4. Capacity building to improve food safety in the feed-dairy Chain : 2010-2013

A project on strengthening capacity in hazard identification, risk assessment and communication in the feed –dairy chain in respect to biological contaminants (Aflatoxins, fumonisins and antimicrobials). This project is a collaborative study with KARI, Egerton University and MTT (AgriFood Research Institute, Finland) and EVIRA(Finnish Food Safety Authority). The project targets to determine the biological contaminants levels in animal feeds, milk and milk products, human exposure (pregnant mothers and children under 3 years) and Mycoflora diversity and their mycotoxigenic potential in the bench mark sites. Mitigation measures and technology application to minimize mycotoxin production and effects will be tested, up and out scaled. Project is funded by Finnish Government

5. Safe food Fair Food 2007-2010

Building capacity to improve the safety of animal source foods and ensure continued market access for poor farmers in sub Saharan Africa. A collaborative project covering 7 countries in Africa, ILRI, and German Institutes. Our thrust in proof of concept studies has been on contamination of beef carcasses from 3 local slaughterhouses with *E. coli* O157:H7. Project was funded by BMZ/GTZ Germany.

6. Assessment of health risks associated with untreated wastewater reuse for agriculture 2008-2009

Quality of wastewater used in urban agriculture was assessed using WHO/FAO guidelines, presence of parasitic eggs/worms/protozoa and trematodes, *Vibrio cholera*, *S. typhi* and microbial quality of vegetables grown using untreated waste water. Our results show low contamination at farm but along the market value chain contamination increases with increased in handling. Project was funded by IDRC-Canada

7. Aflatoxin B1 and M1 in animal feeds and Milk obtained from urban producers in four urban centres in Kenya. 2006- 2007

Studies were carried out in Nairobi, Nakuru, Nyeri, Machakos and Eldoret. Seventy two percent (315/439) of the milk from dairy farmers, 84% (71/85) from large and medium scale farmers and 99% (88/89) of the pasteurized marketed milk were positive for aflatoxin M1, and 20%, 35% and 31% of positive milk from dairy farmers, medium and large scale farmers and

market outlets respectively, exceeded the WHO/FAO levels of 0.05 μ g/Kg-1. Project was funded by IDRC,

8. Health risks associated with Cryptosporidiosis in urban smallholder dairy production in Dagoretti Kenya. 2006-2008

Risk analysis approach was used to assess the likelihood exposure to Crypto along the pathways in the housed. Vegetables were the most likely exposure routes if eaten raw and unwashed. HIV/AIDS patients though handling livestock were not found to be at any greater risk than other family members. *C. parvum*, *C. ryanae*, *C. undersoni* and *C. hominis* were isolated from cattle. Project was funded by IDRC.

9. Assessing health risks and benefits associated with urban agriculture 2005-2006

Assessment of health risks associated with livestock production systems especially dairy farming in urban set ups was carried out in Dagoretti Division funded by IDRC. Health risks assessed included *E. coli* O157:H7, *Mycobacterium bovis*, antibiotic residues, Cryptosporidiosis, **Aflatoxin M1 and B1** and Bovine brucellosis. The prevalence of AFM1 in milk was found to be 45.5% (178/391). The farmer prevalence was 43.5% (112/257), while that of non-farmer was 49.2% (66/134). There was however no statistical significant difference between the two categories. Of the 178 positive milk samples, 49% had aflatoxin levels exceeding 0.05mg Kg-1. The prevalence of AFB1 in the feed was found to be 98.6% (69/70) with 83% of the samples having aflatoxin B1 levels exceeding 10mg Kg -1. Only one feed sample had no traces of **AFB1**. Project funded by IDRC

10. Assessing and managing milk borne health risks for the benefit of consumers in Kenya (1997-2000).

Liberalization of milk marketing in Kenya meant introduction of new players who were not pasteurising milk (informal system). This brought out fears of health hazards due to milk borne zoonoses, mainly brucellosis, tuberculosis, *E. coli* O157:H7 and hazards due to antibiotic residues and selling of milk of unacceptable quality. The study was undertaken to assess these hazards and suggest ways of managing the risks if at all they exist. The project was funded by DFID. It was a collaborative study between the Ministry of livestock, ILRI and university of Nairobi.

11. Agro-ecosystem health approach to management of farming systems and development. 1998 -2001

This involved participatory action research with the communities in order for the communities to own and spearhead their own development agendas. This approach has been tested in Kiambu district of Kenya with commendable success. Projects with similar approach using EASH have been carried out in Uganda and Zambia with great success. Project funded by IDRC.

12. Prevalence and Control of Parasitic Zoonoses related to Meat.1995- 1997

Ante mortem diagnoses of bovine cysticercosis using antibodies to secretory glycoproteins in the sera of infected cattle have been validated in experimentally and naturally infected cattle. The test was able to detect infection with the cysts of *T. saginata* 7 weeks post infection in experimentally infected animals and 14 cysts in this group as opposed to 2 cysts in naturally infected animals. This was a collaborative work between CTVM- Edinburgh University, KARI and University of Nairobi.

13. Epidemiological investigations of vector borne zoonosis using insect blood meal analysis.1991- 1995

Vector borne zoonoses have invariably reservoir hosts where the pathogen multiplies without causing disease. Identification of the blood meals of disease vectors using enzyme immunoassays helps in the epidemiological study of the disease and plan methods of the control of both the vector and the reservoir host to minimise disease in the humans. Species specific conjugates to 34 animal species (ruminants, birds and reptiles) have been prepared for insect blood meal analyses. A study of blood meal sources of *Glossina pallidipes* and *Glossina longipennis* in Nguruman showed that blood meals were obtained from wildlife and rarely from cattle. Ostrich was found to be a new source not reported before. Project funded by EU and World Bank in ICIPE.

14. Slaughter hygiene 1991-1992.

Shelf life of meat greatly depends on the level of contamination after slaughter. In countries where refrigeration is not maintained throughout the marketing chain bacteria proliferation occurs rendering the meat spoilt. Understanding of the hygiene of meat slaughter and the level of contamination at every stage of slaughter process would help to improve on the slaughter process and eventually prolong the shelf life. A survey of 3 slaughterhouses around Nairobi has shown that contamination is high and the relevant authorities need to take action in order to minimize this and prolong shelf life. Project funded by NORAD.

15. Speciation of Meat Species.

Species identification of the origin of meat is important so as to diagnose fraudulent substitution of cheaper species of meat for more expensive meats, and also help to identify wild life species from domestic in order to protect endangered from protected and domestic animals. This is imperative because meat eating habits change from community to community, for reasons of health culture and or religion. This has been achieved using enzyme immunoassays to heat stable muscle antigens allowing speciation of fresh, cooked, canned meat and meat products. Project funded by NORAD and NCS&T Kenya.

CONSULTANCIES

(i). June 1993. Trypanosomosis Vector Control: - the role of biting flies in the transmission of

trypanosomosis to livestock in South- Western Marsabit District of Kenya. GTZ Marsabit Development Programme. Project no. 86.2532.9-01.

(ii). March 1995. Development of host specific enzyme linked immunosorbent assays (ELISA) for identifying blood meals from haematophagus insects (34 hosts considered) for International Center for Insect Physiology and Ecology (ICIPE).

(iii). July 1999. Development of enzyme linked immunosorbent assay (ELISA) for detection of beef in pork and pork in beef products for Kenya Bureau of Standards.

(iv). April 2002, Developing an immunodiffusion test for detecting fresh, cooked and autoclaved meats for use in bush meat identification. Project funded by WWF International for capacity building in Kenya Wild Life Services.

(v). August 2002, Contracted by ILRI to train village survey enumerators on PRA methodologies for FITCA/IDRC and CAPRI project and to make follow up evaluations on the village workshops.

(vi) August 2005, Contacted by VSF-Belgium to develop curriculum for Livestock training School, Marla Lou under the SSAARP.

(vii) . June 2007, contracted by NRI in conjunction with Mazingira Institute to carry out a participatory study on livestock for life in urban and peri-urban environs of Kenya (LLUPEK) :determining users, research priorities to translation of research outcomes into tangible benefits; a scoping study of urban livestock keepers in Kibera, Nairobi and Kisumu - report submitted to natural resources international ltd (UK)

(viii). September 2008. Contracted by ILRI to assess the role of public and private Veterinarians in disease surveillance in East and West Africa.

ix). April 2009 Contracted by FAO-Somalia Office to carry out an Assessment and building the capacity of export slaughterhouse in developing a HACCP plan in Somaliland and Puntland under Promoting an Internationally Competitive Somali Meat Industry (OSRO/SOM/608/EC).

x). January 2010. Contracted by ILRI to evaluate the adoption of participatory epidemiology in Veterinary schools in Kenya, Uganda Tanzania and Southern Sudan.

xi). July 2010. Contracted by ILRI to carry out focus group discussions in Southern Rift Valley districts of Kericho, Buret and Kipkelion on nutritional, economic and zoonotic roles of milk in smallholder dairy households.

xii) November 2010. Contracted by FAO to carry out a maize value chain analysis in regard to Aflatoxin contamination, make recommendations and develop a technical Cooperation project for the Ministries of Agriculture and Public Health and Sanitation.

xiii) June 2011, Contracted by FAO to record the road map taken by the KVB and KVA to

operationalize the CPD courses to inform the EAC on how to approach the development of VPH – CPD modules under the auspices of the FAO.

ix) 2012 contracted by FAO to develop policy and stakeholder recommendations for policy makers and regulators, addressing food borne pathogen contamination and antimicrobial resistance (AMR)

x) 2012 Contracted by IFPRI to identify villages where they would carry out nutritional survey on effects of aflatoxin (developmental studies) in children under 24 months and carry out a survey on baseline survey to assess storage of maize technologies and constraints in Meru and Makueni to mitigate aflatoxin contamination

xi) 2012 Contracted by ACDI/VOCA to examine the current key regulations in Kenya governing handling of contaminated grains with aflatoxins

TEACHING EXPERIENCE

(a). Undergraduates

(i). 4th Year veterinary Students

Food Microbiology and Spoilage, Meat Biochemistry, Meat Hygiene and Meat Inspection, Meat Science and Meat Technology

(ii). 5th Year Veterinary Students

Food Additives and Residues, Food Standards and Food hygiene Practical.

(b). Postgraduates

(i). Laboratory techniques

Protein separation and purification, electrophoresis in gels, immunoassay techniques: - (immunodiffusion, red cell immunoassay, enzyme immunoassays and immunoblotting techniques).

(ii). Lectures.

Food Quality Control and Food Environmental Toxicology and Applied Immunology.

POSTGRADUATE SUPERVISION

Successfully supervised 37M.Sc. and 5 PhD students and currently supervising 3M.Sc and 8 Ph.D. students

(a). M.Sc Students

1. Dr.Mosabi. M.M. (MVPH). 1990.

Title: Comparative study of Streptococcus agalactiae (Lancefield Group B) of bovine and human origin.

2. Dr. Gicheru. M.M. (MVPH). 1990.
Title: A comparative study of the Physico – Chemical Characteristics of the Thermostable Antigen the Hydatid Cyst fluid and fluid from the cyst of *Taenia hydatigena* (*Cysticercus tenuicollis* fluid).
3. Dr. Gacheru D.M. (MVPH). 1992.
Title: Species identification of heat-treated meats employing a Sandwich Enzyme Immunoassay And Characterisation of the Thermostable Muscle Antigen.
4. Dr. Thuita J.K. (MVPH). 1992.
Title: Influence of pH on the recovery of microorganisms from honey.
5. Dr. Omega, J.A. M.Sc. 1997
Title: Enzyme linked immunosorbent Assay for the detection of circulating *F.gigantica* antigens in the sera of experimentally infected sheep.
6. Dr. Kyokwijoka, B. MVPH 1997
Title: A cross sectional Survey of Organochlorine Pesticide residues in bovine tissues from Mpigi, Rakai and Mbarara districts of Uganda.
7. Wanzala Wycliffe M.Sc 1998
Title: Reliability of Antigen ELISA in the diagnosis of *T.saginata* Cysticercosis in cattle.
8. Dr. Aboge, G.O. M.Sc. 2002
Title: Detection of Antimicrobial residues in milk using CharmAIM-96 test
9. Dr. D.T. Kaitho (MVEE) 2003
Title: Community participatory epidemiology and modelling of contagious bovine pleurapneumonia in Turkana
10. Dr. E.O. Abworo (MVEE) 2008
Title: Evaluation of economic efficiency of tick borne control practices among smallholder dairy farmers in Kenya.
11. Dr. Joshua Onono (MVEE) 2007
Prevalence of *E. coli* 0157: H7 in cattle faeces and milk from urban smallholder dairy herds in Dagoretti Division
12. Dr. Christopher Ekuttan (MPH) 2007
A study of the prevalence of Brucellosis and antibiotic residues in milk and TB in dairy herds from urban smallholder dairy herds in Dagoretti Division
13. Kunyanga, Catherine Nkirote (MSc FST) 2008
A microbiological and Nutritional characterization of *Kirario*, an indigenous Kenyan

fermented porridge: Preparation, formulation and improvement.

14. Ann N Ngonde MPH 2006
Gender Segregated Perceptions and Behavior on Benefits and Selected Health Risks Associated with Urban Dairy Farming in Dagoretti Division, Nairobi.
15. Alice N, Njehu MVPH 2008
Assessment of potential health risks associated with urban livestock farming in Nakuru municipality: a case of bovine tuberculosis and aflatoxicosis.
16. Julie Ambia MPH 2008
Analysis Of Gender Associated Risk Factors for Cryptosporidiosis In Urban Dairy Farming In Dagoretti Division, Nairobi
17. Mohammed Hassan (MVEE) 2010
A participatory epidemiology of Cyptosporidiosis in calves and children in Malindi District Coast Province Kenya.
18. Jane K. Lwoyero MVPH 2009
The comparison of agreement between the diagnostic tests used on a study of human brucellosis in Kibera
19. Concepta Nyongesa MVPH 2009
Health risks posed by calves in transmission of zoonotic *cryptosporidium parvum* in urban smallholder dairy production in dagoretti division of Nairobi, Kenya
20. Joseph Gwaru Monda MVEE 2009
Transmission pathways of *Cryptosporidium parvum* in urban small holder dairy production, in Dagoretti division, Nairobi.
21. Flavien Kasse NDONGO MSC 2009
Husbandry practices and choice of breeds influencing safety of milk and milk products from smallholder dairy farms around Nairobi focusing on Brucellosis. University of Hohenheim, Germany
22. Gervasia M. M'Ibui MPH 2009
Health Risks Associated With Urban Smallholder Dairy Production: A Case for Bovine Cryptosporidiosis and Aflatoxin M₁ in Dagoretti Division, Nairobi, Kenya Kentatta University
23. Moenga MVEE 2010
Effect of climate change on livestock diseases in Kajiado District Kenya
24. Caroline W. Muneri MSc in Pathology and Microbiology

Assessment of health risks associated with urban agriculture: Reuse of Wastewater

25. Cameline Wanjiru Mwai MVPH
The risk of contamination of beef carcasses with *E.coli* O157:H7 in slaughter houses in Kenya.
26. Elisha Kimmutai Kutto MSC in Clinical Pathology and diagnosis
Bacteriological quality of kale and associated water: pathogenicity and antibiotic sensitivity of *salmonella* organisms in Nairobi and its environs
27. Anima Sirma MVPH
Dietary exposure to aflatoxin and fumonisins in Nandi district Kenya
28. Ayeiko Paul MVEE
An economic analysis of the contribution of rural livestock farming to household incomes and livelihoods: A case of Migori District, Kenya
28. Kelvin Kinyua, MVEE
A study of milk quality control by quality based payment system in smallholder farms in Limuru and Eldoret, Kenya
29. Saera Alberg, MSc university of Helsinki
Analysis of antibiotic residues in kenyan farm milk
30. Flavien Kasse Ndongo MSc University of Hohenheim, Germany
Husbandry practices and choice of breeds influencing safety of milk and milk products from smallholder dairy farms around Nairobi focusing on Brucellosis
31. Elizabeth Ouko MVEE
Dietary exposure to aflatoxin and fumonisins in Makueni and Makindu districts of Kenya
32. Christine Mburugu MPH
Fumonisin in animal feeds in Nandi District Kenya.
- 33 John Kago Macharia MSC FST
Risk assessment for *escherichia coli* O157:h7 in beef transportation value chain in Nairobi and Eldoret
34. Waweru A W, MVPM. University of Makerere
Evaluation of the Adoption of One Health approach in Kenya: Case study of the performance of the Zoonotic Disease Unit.
35. Gichuyia Mercy. Cianjoka. MVEE
Diversity, antimicrobial Resistance and epidemiology of Salmonella in Korogocho And Viwandani Slums

36. Ronoh Job Kipkemboi.; MVPM. University of Makerere
Community Perception of Peste Des Petit Ruminants in Marigat District, Kenya
37. Chepkwony M aurine. Cherotich. MVPH
Prevalence and drug resistance of *Campylobacter* isolated from livestock and rodents In
Korogocho and Viwandani Slums

{b} PhD Students.

38. J. Njenga Munene. (Ph.D). 1996
A comparative study on the natural and experimental Caprine and Bovine Besnoitiosis.
39. J.K.N. Kuria. (Ph.D). 1996.
Title: Pathogenesis and immune response to Caseous lymphadenitis in goats.
40. J. K. Gathumbi (Ph.D) 2002
Enzyme immunoassay and Enzyme immunohistochemical approaches to the diagnosis of
Aflatoxicosis.
41. T. Gitau. (Ph.D). 2003
Agroecosystem Health assessment in Kiambu District.
42. Teresa Tumwet PhD
Role of African leaf vegetables in immune boosting in a laboratory model

{C} Current students

i) MSC

43. Opiyo, T. (MVPH)
Title: Microbial quality of drinking water from 6 villages in Kiambu District.
- 44 . Gatwiri Murithi MPH
Aflatoxins in animal feeds and Milk in Makueni and Makindu district, Kenya
45. Macharia, James. K . MVVEE
Prevalence and antimicrobial resistance of *Escherichia Coli* isolated from animal , food
and the environment in Korogocho and Viwandani slums of Nairobi.
46. Salome N. Mukami Kithiia MVPH
Comparison of phenotypic and molecular characteristics of *E. coli* isolated from foods
and livestock in Viwandani and Korogocho.

ii) PhD

47. D.M.Senerwa. Ph.D.
Assesment of the economic cost of aflatoxins in the kenyan dairy value chain
48. Anima Sirma PhD
Risk Assessment of aflatoxins in the Kenyan feed-dairy value chain
49. Stella Gaichugi Kiambi PhD
Mapping dairy value chains to assess and quantify food safety risks in Nairobi, Kenya
50. Nicholas Mwenda, PhD
Investigation Of Physical and chemical methods for decontamination of aflatoxin contaminated maize for industrial purpose
51. Awuor, A O, PhD
Role of food preparation methods on aflatoxin mitigation: A Case study of Busia County
52. Kamano-Kamau, H. M. PhD.
An Investigation on the effect of low temperature plasma on aflatoxin development in Maize for increased food safety.
53. Winfred Muthini Kyalo PhD
Factors leading to low adoption of artisanal technologies at household level to mitigate exposure to aflatoxin
64. Lucy Cheroni Kiptanui, PhD
Prevalence of animal brucellosis, its risk factors and perception among livestock farmers in Nandi County, Kenya.

COLLABORATIVE RESEACH WITH: -

1. ICIPE: - on tsetse and other biting insects' blood meal analysis (1991-1996)
2. NVRC – KARI and CTVM -Edinburgh: - Ante mortem immunodiagnosis of cysticercosis using enzyme immunoassays (1996-1998). Project funded by EU.
3. International Livestock Research Institute (ILRI): -
 - 1). Public Health aspects of raw marketed milk in Kenya, Small Dairy holder Project, Funded by DFID (1998- 2001)
 - 2). Participatory research with six communities in Eastern Uganda on links between

sleeping sickness and natural resource endowment and use: What can communities do?
Project funded by IDRC (2002 – 2003)

- 3). Participatory research with four communities in Eastern Uganda on Natural resource management and use (2003-2004)
4. Characterization and assessing the benefits and risks of urban and peri-urban livestock production in Kampala city. In collaboration with ILRI, Makerere University, Universities of Nairobi, Guelph and Toronto. Project funded by IDRC and SIUPA (2002 -2003)
5. International cooperation centre for Agricultural Education, Nagoya University, Japan. Study on the effective south to south technology transfer to achieve sustainable community development: a case study of introducing agro-ecosystem health (AESH) methods and experiences to Zambia from Kenya and Uganda.(2003)

PUBLICATIONS

THESES

1. Kang'ethe, E.K. (1981).
Serological identification of the species of origin of animal meats.
M.Sc. Thesis, University of Bristol.
2. Kang'ethe E.K. (1987).
Species identification of fresh meat, heat-treated meat and internal organs using antisera to thermostable antigens.
PhD Thesis, University of Nairobi.

PAPERS IN REFERRED JOURNALS AND BOOKS

2017

94. Delia Grace; Johanna Lindahl; **Erastus Kang'ethe** and Jagger Harvey (2017). Detecting and preventing contamination of dairy cattle feed. In *Achieving Sustainable Production of Milk*, Volume 2. Edited by Nico van Belzen. Published by Burleigh Dodds, Science Publishers.
93. **E. K. Kang'ethe**, M. Gatwiri, . . AJ. Sirma, E. O. Ouko, C. K. Mburugu- Amusoti, P M. Kitala; G. J. Nduhiu, J. G. Nderitu, J. K. Mungatu, , V. Hietaniemi V. Joutsjoki and H J. Korhonen. (2017). Exposure of Kenyan population to aflatoxins in foods with special reference to Nandi and Makueni counties. *Food Quality and Safety*, 2017, 1, 131–137 doi:10.1093/fqs/fyx011

2016

92. Moenga, B; Muchemi,G, **Kang'ethe, E.K**; Kimenju J.W, Mutiga,E.R and Matete, G.O. (2016). Impact of climate change on the incidences of ruminant diseases in a pastoral area of Kajiado. *Afr. J. Agric. Res*, 10 2389-2396
91. Atherstone C, Grace D , Lindahl JF , **Kang'ethe EK** and Nelson F (2016) Assessing the impact of aflatoxin consumption on animal health and productivity. *AJFAND* **16**
90. Kiama TN, Lindahl JF, Sirma AJ, Senerwa DM, Waithanji EM, Ochungo PA , Poole EJ , **Kang'ethe EK** and D Grace (2016). Kenya dairy farmer perception of moulds and mycotoxins and implications for exposure to aflatoxins: a gendered analysis. *AJFAND* **16**
89. Senerwa DM, Sirma AJ, Mtimet N, **Kang'ethe E K** , Grace D and Lindahl JF (2016). Prevalence of aflatoxin in feeds and cow milk from five counties in Kenya. *AJFAND* **16**
88. Sirma AJ, Senerwa DM, Grace D , Makita K , Mtimet N , **Kang'ethe EK** and Lindahl J. F.(2016) Aflatoxin B1 Occurrence in Millet, Sorghum and Maize from four Agro-Ecological Zones in Kenya. *AJFAND* **16**
87. Lindahl, J, Grace, D, Harvey, J and **Kangethe E.K** (2016). Aflatoxins in East Africa: The importance of getting the full picture. *AJFAND* : **16** Special issue.
- <http://ajfand.net/Volume16/No3/index3.html>
86. Tobi E. Nagel, Benjamin K. Chan, Daniel De Vos, Ayman El-Shibiny, Erastus K. Kang'ethe, Angela Makumi and Jean-Paul Pirnay (2016). The Developing World Urgently Needs Phages to Combat Pathogenic Bacteria. *Frontiers in Microbiology*. *Front. Microbiol.*, 08 June 2016 | <http://dx.doi.org/10.3389/fmicb.2016.00882>
85. Grace, D; **Kang'ethe, E.K**; Lindahl, J; Atherstone, C; Nelson, F; Wesonga,T (2016).: Aflatoxin: Impact on Animal Health and Productivity, Building an Aflatoxin Safe East African Community. Technical Policy Paper no 4, USAID, IITA, ILRI and EAC.
84. Delia Grace, Kristina Roesel, **Erastus Kang'ethe**, Bassirou Bonfoh and Sophie Theis (2015). Gender Roles and Food Safety in 20 Informal Livestock and Fish Value Chains. CGIAR IFPRI Discussion Paper 01489 December 2015
83. Okoth, S. A; Nyongesa, B.; Joutsjoki, V.; Korhonen, H.; Ayugi, V.; **Kang'ethe E. K** (2016) Sclerotia Formation and Toxin Production in Large Sclerotial *Aspergillus flavus* Isolates from Kenya. *Advances in Microbiology*, 2016, 6, 47-56. <http://dx.doi.org/10.4236/aim.2016.61005>
82. Anima J Sirma, Elizabeth O Ouko , Gatwiri Murithi , Christine Mburugu , Isaac Mapenay , Jackson N Ombui , Hannu Korhonen and Kang'ethe, K, Erastus (2015). Prevalence of

aflatoxin contamination in cereals , Nandi County, Kenya. Int. J. Agric. Sc & Vet.Med.3 55-63

2015

81. Kago J; Roesel K; **Kang'ethe E.K**; Wangoh J; Makita K and Grace D (2015). A single slip may cause lasting injury: Beef in Kenya contaminated from the start. In Food Safety and Informal Markets, Edited by Roesel K and Grace D, Published by Routledge Pp 186-189.
80. Mwai C; Roesel K; Makita K; Arimi S.M; **Kang'ethe E.K** and Grace D (2015). Beef in export abattoirs not safer than that in local abattoirs. In Food Safety and Informal Markets, Edited by Roesel K and Grace D , Published by Routledge Pp 183-185 .
79. Ndongo F ; Roesel K ; Makita K ; Siegmund-Schulze M ; Piepho H-P ; Grace D ; **Kang'ethe E.K** ; Valle Zarate A (2015). Kenya's economic gain leading to health pain? In Food Safety and Informal Markets.Edited by Roesel K and Grace D, Published by Routledge Pp 150-154.
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- 43.**Kang'ethe, E.K**; Toutain B. and Maitima J. (2004) Feedback workshops: Discussions and action plans on recommendations made during FITCA-EMMC workshops by communities' on environment December 2003: Eastern Uganda
42. **Kang'ethe, E.K**. (2003). Stakeholders and organizations relevant for environmental monitoring and management in FITCA areas of Uganda. Report submitted to FITCA-EMMC, Nairobi.
- 41.**Kang'ethe, E.K**; Toutain, B; Maitima, J; Karuga, J; Mbogua, S and Mbuvi, D (2003).

- FITCA-EMMC workshops on information exchange and training with rural communities on environment: Western Kenya. Report and Recommendations.
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38. McDermott, J.j; Gitau T; Musoke, W.B; Ondit, M; Laker, C; Rutebuka, A. M and **Kang'ethe, E. K.** (2003). Links between sleeping sickness and natural resource endowment and use: what can communities do? In proceedings of Agro-ecosystem Health Conference in Ottawa, Canada
37. Mutsuyo K; **Kang'ethe, E.K**; Bantebya-Kyomuhendo, G and Samui, K. (2003). Research on effective South to South technology transfer to achieve sustainable community development: a case study of introducing agro-ecosystem health (AESH) methods and experiences to Zambia from Kenya and Uganda. Report Submitted to Toyota Foundation, Japan
- 36. Kang'ethe, E.K.** (2002)
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35. Omore, A; Arimi, S.M; **Kang'ethe, E.K**; McDermott, J.J; Staal, S; Ouma, E; Odhiambo, J; Aboge, G. O; Koroti, E and Koech, R. (2001)
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33. Omore, A.O.; McDermott, J.J.; Staal, S. J.; Arimi, S.M.; **Kang'ethe, E.K.** and Ouma, E.A. (2000). Analysis of public Health risks from consumption of informally marketed milk in sub-Saharan African countries. Proceedings of ISVEE California-Colorado, August 2000.

32. Aboge, G.O.; **Kang'ethe, E.K.**; Arimi, S.M.; Omore, A .O.; McDermott, J. J.; Kanja, L. W.; Macharia,J.K.; Nduhiu, J.G. and Githua, A.(2000).Antimicrobial agents detected in marketed milk in Kenya.
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31. **Kang'ethe, E. K.**; Arimi, S. M.; Omore, A. O.; McDermott, J.J.; Nduhiu, J.G.; Macharia, J. K.; and Githua, A. (2000)

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29. Njenga, J.; Bwangamoi, O.; Mutiga, E. R.; **Kang'ethe, E.K** and Mugeru, G. M. (2000).
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28. Thiuta, J. K.; **Kang'ethe, E. K.**; Arimi, S.M and Kaburia, H.F. A. (2000).
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- Proceedings of the Faculty of Veterinary Medicine Biennial scientific conference. 30th-31st August 2000.
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 20. Gitau T.; McDermott J.J., Waltner- Toews D., Gathuma J.M., **Kang'ethe E.K.**; Kimani V.W., Kilungo J.K., Muni R.K., Mwangi J.M. and Otieno G.O. (1998).
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 19. **Kang'ethe. E.K** and J.A.Onyango Abuje.(1997)
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International Workshop on Cystercosis held at Ondersteport Veterinary institute Pretoria South Africa 19th August -20th August 1997.
 18. Njenga- Munene, J; **Kang'ethe E.K.** and Mugeru,G.M. (1996).
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 17. **Kang'ethe, E.K.** (1995).
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16. **Kang'ethe, E. K;** H. Sasaki and L.H. Otieno. (1994).
Blood meal sources of *G.pallidipes* and *G.longipennis* from control and non-control areas and animal watering points in Nguruman, South Western Kenya. In the proceedings of the Satellite meeting on Tsetse behaviour and Ecology of the 3rd International Conference on Tropical Entomology, held on 6th - 9th November, Mombasa, Nairobi.
15. **Kang'ethe, E. K.** (1994)
.Approaches to Meat Species identification. Paper read at the National Veterinary Public Health Seminar held on 14th - 18th November, 1994 at EAST College, Embu.
14. **Kang'ethe E.K.** (1993).
Residues in Meat:- A Threat to the Meat Industry in Kenya. A Paper read at the National Veterinary Public Health Seminar held on 18th - 23rd July 1993 at Kakamega Golf Hotel.
13. **Kang'ethe E.K.** (1993).
The status of Cysticercosis and Hydatidosis in Central Province of Kenya and their Economic Impact. A Paper read at the National Veterinary Public Health Seminar held on 18th - 23rd July at Kakamega Golf Hotel.
12. **Kang'ethe E.K.** (1993).
Meat Speciation: Practical procedures and recommended methods. A paper read at the National Veterinary Public Health Seminar held on 18th -23rd July at Kakamega Golf Hotel.
11. **Kang'ethe E.K.** (1993).
Recent Advances in Meat Preservation. Paper read at the Kenya Veterinary Association Central Region Meeting held on 25-27th Feb, Meru.
10. Arimi, S.M.; Mosabi, J.M. and **Kang'ethe, E.K.** (1990).
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9. Mosabi, J.M.; Arimi, S.M and **Kang'ethe, E.K.** (1990).
Isolation of *Streptococcus agalactiae* from bulk milk using two selective media: Thallium Crystal Violet Toxin (TKT) agar and Rapid GBS medium. In the proceedings of the 2nd Faculty of Veterinary Medicine Annual Scientific Conference.19th - 21st Sept.1990. Kabete.Kenya.
8. **Kang'ethe, E.K.** (1990).
Determination of the molecular weight of partially purified thermostable muscle antigen using gel-filtration technique. In the proceedings of the 36th International Congress of Meat Science and Technology, 27th Aug.-1st Sept..1990, Havana. Cuba. pp 254-262.
7. Kayihura, M.; **Kang'ethe, E.K.**; Kaburia, H.F.A. and Arimi, S.M.(1989).

- Microbiological quality of Kenyan and imported honey. In the proceedings of the 1st Faculty of Veterinary Medicine Annual Scientific Conference. Kabete. Kenya. Bull. Anim. Hlth. and Prod .in Afr. Vol 1 203-206
6. **Kang'ethe, E.K.** (1989).
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 5. **Kang'ethe, E.K.** (1988).
Use of Enzyme immunoassay techniques in speciation of animal meats. Paper read at the Eastern and Southern Africa Regional Conference of Animal production society. 23rd-25th Nov. Nairobi. Kenya.
 4. **Kang'ethe, E.K.** (1987).
Serological identification of meat species. Paper read at the 2nd Annual Symposium of the Animal Production Society of Kenya, 26th-27th Nov. Kabete. Kenya.
 3. **Kang'ethe, E.K.** (1987).
An Approach to Food Hygiene and Quality Control in Developing Countries. Paper read at the National Veterinary Public Health Seminar, 15-19th June. AIC, Kabete. Kenya.
 2. **Kang'ethe, E.K.** and Lindqvist, K.J. (1987).
Species identification of Organs using Antisera to thermostable meat antigens. In the proceedings of the 33rd International Congress of Meat Science and Technology, 2nd-7th Aug. Helsinki. Finland. pp 377-378.
 1. Patterson, R.L.S, Jones, S.J. and **Kang'ethe, E.K.** (1983).
Immunological identification of Meat Species. In proceedings of the 29th European Meeting of Meat Research Workers, Italy Vol. 2 657-662.

CONFERENCES AND SEMINARS ATTENDED

1. 3rd Annual Medical Scientific Conference of KEMRI and KETRI, 1st - 5th Feb. 1982.
2. CEC Symposium on Biochemical identification of Meat Species. Brussels, Belgium. 27th - 29th Nov. 1984.
3. National Veterinary Public Health Seminar, AIC. Nairobi 15th -19th June 1987.
4. 33rd ICoMST, Helsinki, Finland. 6th -9th Aug. 1987.
5. National Food Control Seminar, Professional Centre, Nairobi. 6th - 9th Oct. 1987.
6. 2nd Annual Symposium of the Animal Production Society of Kenya. Kabete, Nairobi 26th -

27th Nov.1987.

7. Eastern and Southern Africa Regional Conference of Animal Production Society. Nairobi. Kenya. 23rd -25th Nov.1988.

8. 1st Faculty of Veterinary Medicine Annual Scientific Conference. Kabete, Kenya. 20th -22nd Sept.1989.

9. 2nd Faculty of Veterinary Annual Scientific Conference, Kabete, Kenya. 19th - 21st Sept.1990.

10. 36th ICoMST , Havana, Cuba. 27th -1st Sept.1990.

11. Kenya Veterinary Association Central Region Seminar. Meru, Kenya. 25th – 27th Feb.1993.

12. National Veterinary Public Health Seminar. Kakamega, Kenya. 18th -23rd July 1993.

13. National Veterinary Public health Seminar. EAST College Embu, Kenya. 14th - 18th Nov. 1994.

14. Satellite meeting on Tsetse Behaviour and Ecology of the 3rd International Conference on Tropical Entomology. Mombasa, Kenya. 6th - 9th Nov.1994.

15. Kenya Veterinary Association Central Region Seminar, Maua, Kenya. 30th -31st March 1995.

16. National Workshop to revise Tsetse distribution map of Kenya. KETRI, Muguga 17-18th April, 1996.

17. First Research Coordination meeting on improved attractants for enhancing the efficiency of Tsetse fly suppression operations and barrier systems used in Tsetse control\eradication campaign. KETRI, Muguga, 23rd - 27th Sept. 1996.

18. International Workshop on Cystercosis held at Onderstepoort Veterinary Institute, Pretoria, South Africa, from 18th- 20th August 1997.

19. Faculty of Veterinary Medicine Biennial Scientific Conference, University of Nairobi, Kabete Campus, 30th- 31st August 2000.

20 3rd All Africa Conference on Animal Agriculture and 11th Conference of the Egyptian Society of Animal Production. Alexandria, Egypt. Nov. 6th-9th. 2000.

21. Bushmeat Training Development Workshop, held at College of African Wildlife Management, Mweka, Moshi, Tanzania, on 7th--9th May 2002.

VISITS TO OTHER LABORATORIES

- (i) AFRC, Food Research Institute, Bristol Laboratory for 3 weeks in December 1984.
- (ii) Unilever Research Laboratories, Colworth, Bedfordshire. Dec.1984.
- (iii) AFRC, Food Research Institute, Bristol Laboratory for 4 weeks in August 1987.
- (iv) Ministry of Agriculture Fisheries and Food. Food Science Division, Great Westminster House. London 1987.
- (v) Norwich City College, Ipswich Road, Norwich, Norfolk. 1987.
- (vi) International Center of Insect Physiology and Ecology (ICIPE). August 1991- July 1992. On Sabbatical leave and from March to November 1993. During this period I was setting up an immunoassay procedure for identifying insect blood meals to incorporate it in the integrated tsetse management using applied research.
- (VI) University of Guelph, Department of Environmental Biology 1998 (June - August). Learning use of enzyme immunoassays for monitoring the presence of residues in the environment.

AWARDS

1. Institute of Food Science and Technology of U.K. **Maurice Ingram Memorial Prize** for an Outstanding Performance in M.Sc. in Advanced study and Research in Meat Science. 13th Jan. 1982.
2. International Livestock Research Institute, the **2002 Neville Clarke Award** for Outstanding Teamwork in Analysis of Milk- borne Public Health risks in milk markets in Kenya.
3. A certificate of recognition for the best Researcher in the Faculty of Veterinary Medicine, University of Nairobi for 2005-2006.

RESPONSIBILITIES

- (i) Member of the Editorial Committee of the Faculty of Veterinary Medicine Annual Scientific Conference.
- (ii) Co-coordinator of the Master of Veterinary Public Health (MVPH) Programme (1988-1991).
- (iii) Member of the Faculty of Veterinary Medicine Postgraduate Studies Committee (1993 –

2000).

- (iv) Chairman of the Department Planning, Programming, Budgeting and Finance Task Force Committee (PPBF) responsible for the 10 year Development Plan.
- (v) Associate Editor of the Kenya Veterinarian and currently member of the Editorial Committee
- (vi) Member of the Technical Committee on Meat and Meat Products, Kenya Bureau of Standards for six years and currently Chairman of Industry Committee on Meat and Meat products Kenya Bureau of Standards.
- (vii) Acting Section Head, Public Health Section, Department of Public Health Pharmacology and Toxicology, 1994 -1995.
- (viii) Chairman, Faculty of Veterinary Medicine, Post Graduate Studies Committee (1997-2000).
- (ix) Member of University of Nairobi / Kari MoU Steering Committee.

EXTERNAL EXAMINER

1. Makerere University, Department of Veterinary Public Health and Preventive Medicine, faculty of Veterinary Medicine, 1999- 2001.
2. Moi University –School of Health Sciences, Department of Environmental Health 2005- to date
3. Kenya Methodist University, Department of Applied Biology, 2007
4. University of Swaziland, School of health Sciences, Department of Environmental Health.,2007
5. Kenyatta University, School of Zoology
6. Jomo Kenyatta University of Agriculture and Technology. INTROMID

ASSOCIATIONS

- (i) Member Kenya Veterinary Association.
- (ii) Member Animal Production Society of Kenya.

23. COMMUNITY SERVICE

- 1). Member of Board of Governors of Miruriiri , Yururu Girls and Gikurune Secondary Schools. Appointed by the Minister for Education to help in advising the Head Teacher and the PTA on how to run the School.
- 2). Chairman of Muguru Community Water Project. Muguru is a Community based organization, which aims at providing water to its members in order to improve their welfare.
- 3). Secretary of the St. Peter's Methodist Church, for 4 years. Assisting the Pastor, the local church committee and the circuit in running the affairs of the Church.

ACADEMIC REFEREES

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